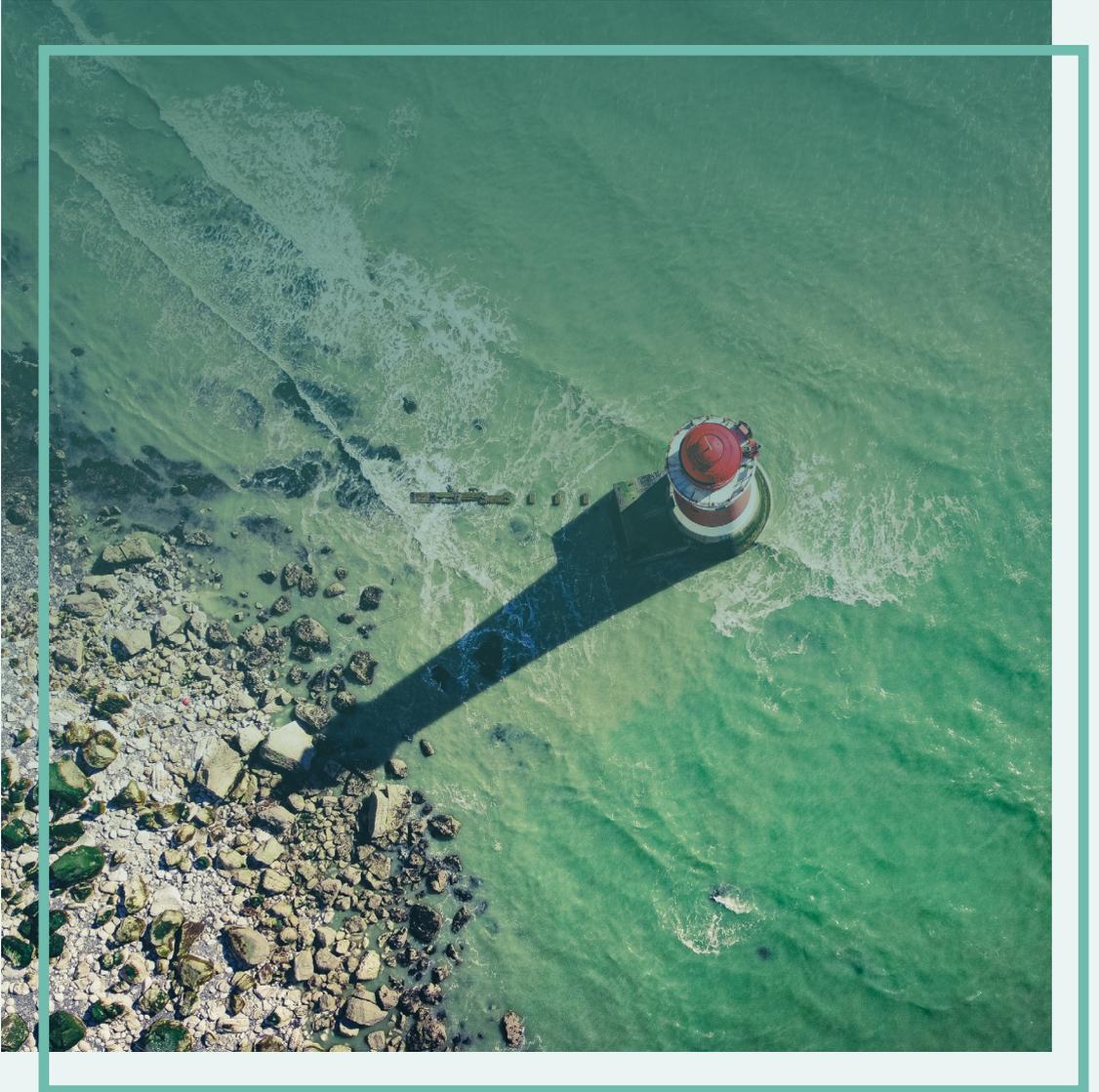


Chapter Two



Change in the 2020s

Chapter summary

- The 2020s will be a decisive decade of change as long-standing demographic and technological shifts combine with Brexit, the aftermath of Covid-19 and the net zero transition. These will bring significant disruption for some, but not the radical reset for our economy or large job losses many predict.

- Brexit has already brought significant change – between 2019 and 2021 UK trade openness fell by 8 percentage points (four times larger than the fall experienced in France). More is to come: some sectors such as food manufacturing will grow, and others such as fishing will shrink. Rather than closing regional divides or reinvigorating manufacturing, by the end of the decade Brexit will see annual real wages £470 lower relative to if the UK was still in the EU.

- The Covid-19 pandemic saw huge shifts in how we work. Remote working, a trend which has persisted, will raise wellbeing but shouldn't be counted on to transform productivity or the economic geography of the country. There will also be less working overall: labour supply has fallen by 430,000 since the pandemic, driven by falling participation among older workers.

- Net zero brings good news for the planet and is unlikely to lead to large-scale job losses. But nor will green growth catapult Britain out of stagnation. The immediate priority for policy makers is to find a fair way to fund the investment required, particularly in home insulation: 72 per cent of low-income homeowners live in poorly insulated homes.

- There may be more job churn in the 2020s than 2010s, but the big picture is that change is slowing rather than speeding up. Between 2011 and 2021 the reallocation of labour between sectors was equivalent to 7 per cent of total employment, compared to 20 per cent experienced in the 1980s.

- Most labour market churn happens through people joining or leaving the labour force. As such demographic trends should help facilitate economic change in the 2020s as more people retire (the number of people reaching State Pension age will surpass 800,000 for the first time in 2028) and a large cohort of young people enter the labour force later in the decade.

The 2020s: a decisive decade of change

Countries can go through phases of relative stability, but the UK in the 2020s will not be one of those countries. Drivers of change shared with other advanced economies, from demographics to the net zero transition, are combining with the UK-specific shock of Brexit and a far messier recovery from Covid-19 than most anticipated.

That is the context in which the badly needed attempt to renew the country's path to economic success – including addressing the toxic combination of low growth and high inequality – must happen during the 2020s. But prevalent, and sometimes dominant, understandings of those changes – be they thinking about them through the lens of deindustrialisation or viewing either Brexit or the green transition as a silver bullet for the UK economy – do not provide a good guide for policy makers.

This chapter aims to do better, providing a study of the waves of change that have already broken over the UK economy, our judgement as to the types of impact they may bring, and a discussion of how the impact of these shocks – both positive and negative – should shape our thinking about the task facing the UK in the decade ahead.

Britain has experienced a lot of change recently

After a 15-year period of relative stability, the years since the financial crisis have been dominated by economic disruption.

A year after the vote to leave the EU, the pound settled at more than 12 per cent below its previous level, which fed through to higher inflation and a resulting increase in the cost of living equivalent to £870 per year for the average household.¹ Economic uncertainty rose and business investment stagnated.² But trade itself did not adjust until the UK left the single market in January 2021.

1 S Dhingra et al., [The Big Brexit: An assessment of the scale of change to come from Brexit](#), Resolution Foundation, June 2022.

2 J De Lyon et al., [Trading places: Brexit and the path to longer-term improvements in living standards](#), Resolution Foundation, October 2021.

As Britain was preparing for and adjusting to leaving the EU, Covid-19 hit. The downturn caused by the pandemic was unprecedented in scale (the 9 per cent GDP fall in 2020 was the worst for at least 100 years), as was the level of government support.³ Furlough, cash for the self-employed, and increases in benefits protected household incomes on average.⁴ But many people's livelihoods were disrupted, with low-paid, young, and Black, Asian, and minority ethnic workers most affected.⁵ The main change for higher earners, in contrast, was home working.⁶

The pandemic also caused a very large, but predominantly temporary, shift in the composition of the UK economy, as lockdowns transformed consumption patterns: an overall real consumption decline of 21 per cent in the two quarters to Q2 2020 combined with hospitality outlays falling by over 80 per cent, while spending on food and drink rose by 7 per cent.⁷ These consumption shifts have now largely unwound, but the pandemic's large and unequal impact on household balance sheets has not – the wealth gap between the richest 10 per cent of families and the median family grew by £40,000 by the summer of 2021, as richer households saved more and saw their assets grow in value.⁸

If the pandemic involved the largest volatility of output in generations, the recovery from it in 2022 is seeing the same for prices, as discussed in the Introduction. As Figure 18 shows, the period of relative stability in growth and prices from the mid-1990s to the late 2000s has been upended by the financial crisis, repeated inflation spikes in the 2010s, and incredible volatility in the early 2020s.

3 House of Commons Library, [Coronavirus: Economic impact](#), December 2021.

4 T Bell & M Brewer, [The 12-month stretch: Where the Government has delivered – and where it has failed – during the Covid-19 crisis](#), Resolution Foundation, March 2021.

5 M Brewer et al., [Begin again? Assessing the permanent implications of Covid-19 for the UK's labour market](#), Resolution Foundation, November 2021.

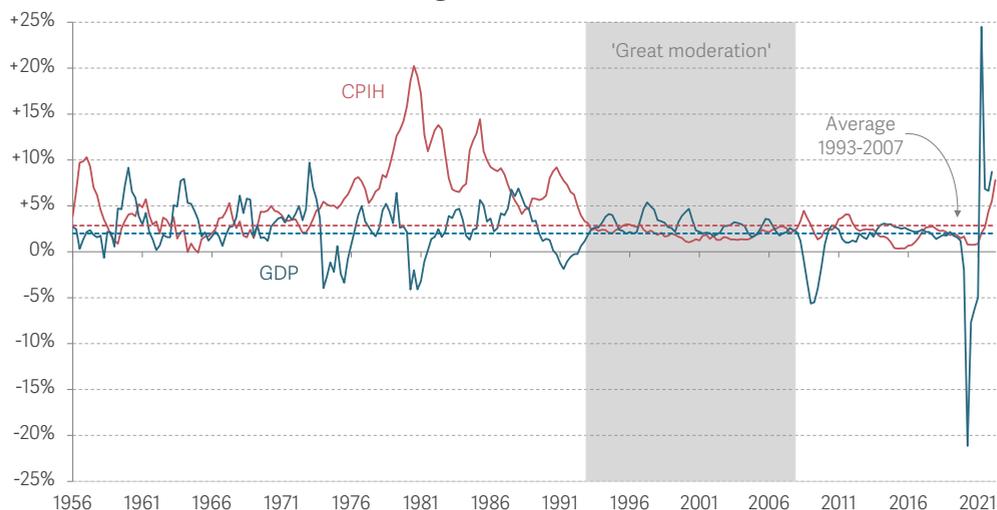
6 J Leslie, [Bouncebackability: The UK corporate sector's recovery from Covid-19](#), Resolution Foundation, June 2022.

7 J Leslie, [Bouncebackability: The UK corporate sector's recovery from Covid-19](#), Resolution Foundation, June 2022.

8 J Leslie & K Shah, [\(Wealth\) gap year: The impact of the coronavirus crisis on UK household wealth](#), Resolution Foundation, July 2021.

Figure 18: Sustained economic stability has given way to a period of unprecedented economic turbulence

Annual CPIH inflation and real GDP growth: UK



Source: Analysis of ONS, Consumer Prices; CPIH, Historical Modelled Annual Rate; National accounts.

More change is to come in the 2020s, but prominent narratives about how it will be experienced are a poor guide for policy makers

The long-term impact of the Brexit and Covid-19 shocks will unfold in the years ahead alongside the acceleration of the net zero transition. Significant change is still to come across all three areas: Britain's new trading relationship with the EU and the rest of the world, and its new migration regime, are a little over a year old; the lasting effects of the shift to hybrid working are still to play out; and the net zero transition will become much more real for workers and businesses, with large changes to transport and home heating required in the years ahead. Demographic and technological change will continue.

Understanding how these forces will affect the economy will enable policy makers to make the right decisions in managing change, and to form a clear picture as to how these changes will (and won't) reshape the context for an economic strategy.

A popular lens for considering any significant economic change is that it will be similar to the last time Britain experienced large-scale economic disruption: the deindustrialisation of the 1970s and the 1980s when the industrial mix of the British economy changed rapidly. Significant job losses, and highly geographically concentrated economic pain, followed some sectors and occupations shrinking.⁹ This frame, for example, leads some people to see the net zero transition as threatening significant job losses in certain carbon-intensive industries.¹⁰ But using this heuristic for thinking about 21st century change isn't always helpful, as the domination of largely inaccurate thinking regarding the effect of technological change in recent years teaches us (see Box 5).

Box 5: The impact of technological change on UK employment and industrial structure

The 2010s saw repeated high-profile predictions that robots would take all our jobs. Take the example of a paper from 2014, which suggested that 35 per cent of UK jobs were at risk of automation by 2034.¹¹ This striking fact was picked up by Monetary Policy Committee members, politicians, and researchers alike and led to a flurry of interest in the economic and political implications of the risk of elevated automation-driven unemployment, with headlines such as the following becoming a regular feature in the news: “Robots have

taken more than 60,000 jobs from British workers – with 15 MILLION more to go”.¹² But mass unemployment has not yet come to pass. We are now almost half-way through this period in which more than a third of jobs were predicted to vanish, and yet the employment structure of the UK economy is broadly unchanged compared to 2014.

Of course, in a similar way to other developed economies, the UK's labour market has experienced the effects of technological change over recent decades. Occupations that are more exposed to

9 J Muellbauer & D Soskice, Chapter in *Economy 2030 Inquiry international case studies book*, Resolution Foundation, forthcoming.

10 M Dathan, [Staggering ten million jobs at risk as red wall seats at risk due to Government's carbon-neutral pledge, research reveals](#), *The Sun*, January 2021; T Helm, [660,000 jobs at risk as UK's green investment lags](#), *The Observer*, September 2021.

11 Deloitte, [Agiletown: The relentless march of technology and London's response](#), November 2014.

12 M Waghorn, [Robots have taken more than 60,000 jobs from British workers – with 15 MILLION more to go](#), *The Mirror*, April 2018.

technological advancements, such as machine operators and retail cashiers, have seen slower employment growth.¹³ The effect on wages is less clear, with some negative impact from robotic advancements but no negative wage relationship connected to software exposure.¹⁴

But these correlations do not fully quantify the aggregate labour market effects resulting from these technologies, because indirect

effects (including from higher productivity) are also important. For example, in recent years there has been a negative direct effect of new robotic technologies on manufacturing employment, and an offsetting positive indirect effect on services employment across local labour markets. Taken together, the adoption of automated robots has seen no significant changes in employment across local labour markets between 1995 and 2019.

Rather than starting with the default assumption that change always manifests as major reductions in employment, a better approach is to interrogate the changes that are coming and build an accurate picture of their implications. This is what we now turn to, evaluating how Brexit, Covid-19, and net zero will continue to reshape the British economy in the 2020s. Overall, we find that these changes will involve significant disruption to some sectors and the people who work there. But from the perspective of the economy as a whole they are unlikely to lead to widespread job losses, with more diffuse changes to wages or the tasks jobs involve being more likely. As such, huge labour market disruptions are unlikely to provide an alternative focus for policy makers to the high-inequality and low-growth stagnation covered in the previous chapter. Indeed, we find that the main impact of these changes may be to reinforce the risk of stagnation and the case for focusing on tackling it.

13 R Costa & Y Yu, Adopt, adapt and improve: A brief look at the interplay between labour markets and technological change in the UK, Resolution Foundation, forthcoming; OECD, [What happened to jobs at high risk of automation?](#), January 2021.

14 For further discussion of wage polarisation, see: M Goos & A Manning, [Lousy and lovely jobs: The rising polarization of work in Britain](#), The Review of Economics and Statistics, 89(1), February 2007; D Oesch, [Occupational Change in Europe: How Technology and Education Transform the Job Structure](#), Oxford University Press, 2013; A Salvatori, [The anatomy of job polarisation in the UK](#), Journal for Labour Market Research, 52(1), July 2018.

Brexit is having significant effects on the UK economy, albeit not always the ones expected

The UK is only 18 months into a new economic era, defined by accepting higher trade frictions with the EU (equivalent to a 13 and 21 per cent increase in tariffs for our manufacturing and service sector respectively¹⁵), in exchange for more freedom over domestic regulation and wider trade policy. The trade shock is similar in scale to the tariffs implemented during the China–US trade war, but covering a much larger proportion of UK trade and including services.

Some immediate changes following the January 2021 introduction of the Trade and Co-operation Agreement (TCA) are beginning to emerge in the economic data, albeit with uncertainty given the confounding effect of the pandemic. It is not clear whether the UK has seen the large immediate relative decline in its exports to the EU that many predicted,¹⁶ although UK imports from the EU have fallen more swiftly than those from the rest of the world (the proportion of UK goods imports sourced from the EU fell to 48 per cent in 2021 from 55 per cent in 2019).

Instead, the impact of Brexit appears to be a more general reduction in openness and competitiveness, manifested across our trading relationships: Britain is the only large European country to have experienced a decline in trade openness in 2021 as global trade rebounded. Between 2019 and 2021, this left the UK with a fall of 8 percentage points in total trade as a proportion of GDP, compared to a 2 percentage point fall in France with its similar trade profile. The UK also lost market share across three of its largest non-EU goods import markets in 2021: the US, Canada, and Japan. The declines in Britain's share of these markets is not explained by changes in the composition of global trade during the pandemic, suggesting that a wider competitiveness problem may be emerging in the UK.

The coincidence of the pandemic with the UK's new trading relationship means that precisely isolating Brexit's immediate impact is difficult. But given that it should take several years for capital and labour to adjust to a

15 Unless otherwise stated the analysis in this section is drawn from S Dhingra et al., [The Big Brexit: An assessment of the scale of change to come from Brexit](#), Resolution Foundation, June 2022.

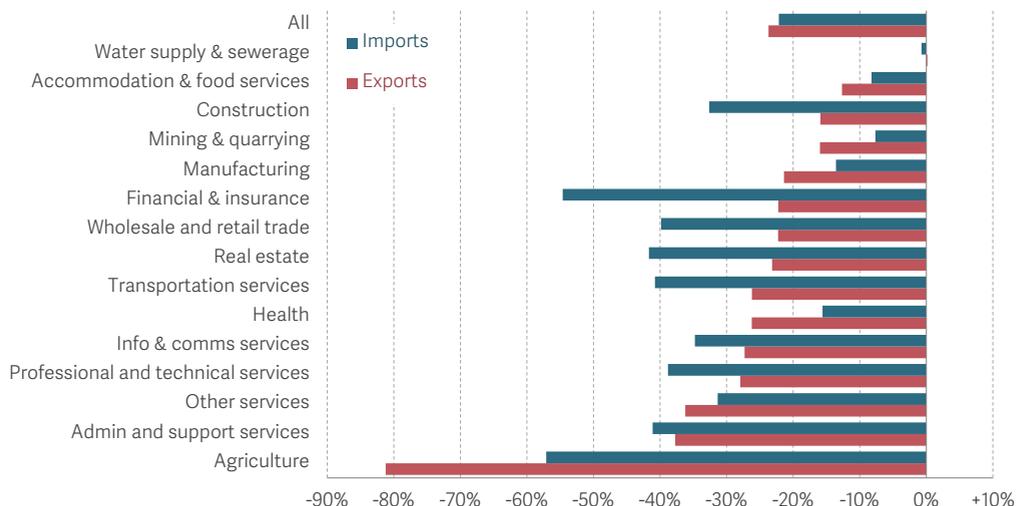
16 UK trade statistics do not show a faster decline in exports to the EU relative to those for the rest of the world, but there is some tension with EU statistics, which show the UK's share of EU imports (excluding minerals and fuels) falling by 26 per cent in 2021. This is over three times the decline observed with the US, Japan, or Australia, our other large trading partners.

new regime anyway, LSE and Resolution Foundation modelling helps us to anticipate those changes that may materialise over time.

Behind a generalised fall in openness (by 2030 we expect UK firms to export 24 per cent less than if we had remained within the EU) are very significantly larger changes for some sectors (agricultural exports are expected to fall by over 80 per cent in total and by over 90 per cent to the EU) as Figure 19 shows.¹⁷

Figure 19: With very few exceptions, imports and exports are set to decline across the whole economy as a result of the UK's exit from the EU

Percentage change in UK exports and imports, relative to remaining in the EU: 2030



Source: Analysis uses CEP trade model from S Dhingra et al., The costs and benefits of leaving the EU: Trade effects, Economic Policy 32(92), October 2017, with regionalised inputs from EUREGIO Regionalised Input Output Database and a dynamic adjustment using ONS, Labour Force Survey.

Changes in trade will translate into big winners and losers within and between sectors when it comes to output. Within the manufacturing sector, there is considerable variation in the performance of individual industries, reflecting the differing opportunities available to them to reorient to the domestic market. A few will gain, such as food manufacturing, which is expected to be 5 per cent larger, but others will see significant falls in output, such as

¹⁷ 14 per cent of this is due to the immediate new barriers introduced with the EU, and a further 9 per cent coming from forgone future EU integration.

the manufacture of basic metals. Among the primary sectors, the new trade barriers (considered in isolation) are expected to deliver gains for British agriculture, but fishing is expected to be one of the hardest-hit sectors, with output set to be 30 per cent lower. This is because British fishers are reliant on exporting to the EU for their revenues, and now face new barriers to sell to EU consumers. On the other hand, British farmers are set to benefit from less fierce import competition from EU producers, who had been successful in supplying produce to the UK market, and these greater domestic opportunities are expected to outweigh any lost market share overseas.

However, the extent to which British farmers and food manufacturers can take advantage of these opportunities will also depend on policy choices beyond trade, including on migration. Following Brexit, immigration levels are expected to be lower, and the migrants that come to the UK to be more qualified on average than they were before the EU referendum. For some firms and sectors with high staff turnover that are reliant on lower-paid EU migrants, such as food manufacturing, these restrictions will make it harder for output to grow as expected. These pressures are already becoming apparent, with sectors such as food and accommodation, which rely on EU workers in Skilled Worker visa-ineligible roles for 10 per cent of their workforce, having seen vacancies double as the economy reopened post-pandemic. While automation can relieve some of these pressures, it is not possible in certain sectors, including for many agricultural picking roles.¹⁸

Reductions in output driven by Brexit will mean significant labour market adjustment for the relatively small numbers of workers in the worst-hit sectors. For example, the 5,000 people employed in the fishing sector in 2019 and the 75,000 employed in the manufacture of basic metals may face a painful adjustment, with increased job uncertainty and potentially big hits to their livelihoods.¹⁹ These changes will be significant for the workers affected as well as the places where these industries are concentrated. If they lead to involuntary unemployment, history tells us that this can do lasting damage: a long spell out of work followed by a return to work in a lower-paid role is more common for those who leave work involuntarily than those who do not, while

18 K Henehan, [If fewer workers migrate to Britain, our own will need greater mobility: Migration policy can complement an economic strategy, but it can't stand in for one](#), Resolution Foundation, February 2022.

19 S Dhingra et al., [The Big Brexit: An assessment of the scale of change to come from Brexit](#), Resolution Foundation, June 2022.

over the past few decades typical annual real hourly pay fell 1.1 per cent among those who had experienced an involuntary period out of work within the past year, compared to 2.1 per cent growth among all workers.²⁰

However, for the economy as a whole, we expect this increase in labour market churn to be small compared to that seen in previous decades. Our projection is that additional outflows from a given region and sector due to Brexit could equate to less than 0.5 per cent of the workforce or 132,000 workers, and this will be spread over many years as the adjustment takes place not overnight but via firms' entry, exit, and investment decisions.²¹

Indeed, the big-picture structure of the economy will remain relatively stable, with the main effect of significantly higher trade barriers being to reduce our incomes relative to what they would otherwise have been. The direct impact of the new trade regime alone is that long-run labour productivity will be 1.3 per cent lower than it would otherwise have been. The estimated impact on living standards is larger, with real wages 1.8 per cent lower, a loss of £470 per worker per year relative to staying in the EU. Above average wage falls are expected in London, Wales, and the North East, which could see real wage falls of £710, £550, and £510 respectively compared with a no Brexit scenario. Meanwhile, Northern Ireland's relative insulation from some of these changes means a smaller downward pressure on wages of just 0.8 per cent or £230 per person per year. In real wage terms, finance and insurance experiences the most significant wage falls (£1,260 per person per year), with manufacturing also falling by more than the UK average (£650 per person per year) relative to staying in the EU.²²

These estimates focus solely on the direct effect of the change in the trade relationship with the EU. The OBR takes account of wider impacts of the UK's exit from the EU such as lower investment and migration in its judgement that "the increase in non-tariff barriers on UK-EU trade acts as an additional impediment to the exploitation of comparative advantage" to such an extent that the UK's long-run GDP will be 4 per cent lower than if we had not left the

20 N Cominetti et al., Changing jobs? Change in the UK labour market and the role of worker mobility, Resolution Foundation, January 2022.

21 S Dhingra et al., The Big Brexit: An assessment of the scale of change to come from Brexit, Resolution Foundation, June 2022.

22 S Dhingra et al., The Big Brexit: An assessment of the scale of change to come from Brexit, Resolution Foundation, June 2022.

EU.²³ The OBR estimated that by January 2021 two-fifths of this hit had already taken place due to the slowdown in investment following the Brexit referendum.²⁴

Covid-19 remains with us, but its economic effects have faded significantly

Further waves of Covid-19 look set to be regular features of the 2020s, but the pandemic's long-term economic impacts are set to be smaller and more diffuse than may have been expected when Britain was in the midst of mass shutdowns of swathes of the economy in 2020 and 2021. Young workers and lower earners bore the brunt of the impact of those changes because they disproportionately worked in the hardest-hit sectors. But, as discussed above, major changes to consumption patterns have now materially unwound, with transport being the only sector of the economy operating notably below its pre-pandemic level in the early part of 2022. This partly results from the rise of working from home (which we turn to in more detail later in this chapter) and partly reflects the slow recovery in aviation.²⁵ But even that recovery has now gained pace, with supply struggling to keep up with fast-rebounding demand for air travel.

More broadly, it seems that many, even if not quite all, of the pandemic changes we witnessed are unwinding. The example of retail sales is illustrative here: online sales as a proportion of total sales surged from 20 per cent pre-pandemic to 38 per cent in February 2021, prompting talk of an online shopping revolution. But, as shown in Figure 20, they have since fallen back to 27 per cent, just 4 percentage points higher than would have been implied by a steady continuation of the pre-pandemic trend.²⁶ This persistence is largely a result of the increase in online food shopping that has unwound only slightly since early-2020.

23 Office for Budget Responsibility, [Brexit analysis](#), 26 May 2022. Accessed: 5 June 2022.

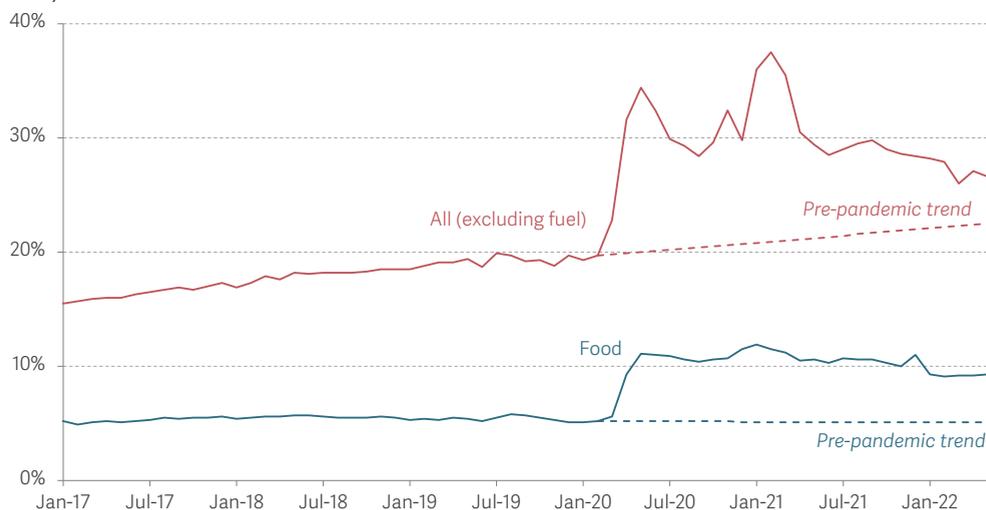
24 Office for Budget Responsibility, [Impact of the Brexit trade agreement on our economy forecast](#), March 2021.

25 Aviation passenger numbers were still 42 per cent lower than pre-pandemic in Q1 2022. UK Civil Aviation Authority, [2022 quarter one flight data](#), 24 May 2022.

26 Updated analysis originally from: J Leslie, [Bouncebackability: The UK corporate sector's recovery from Covid-19](#), Resolution Foundation, June 2022.

Figure 20: While most internet sales are now only slightly above the pre-pandemic trend, online food sales remain high

Share of retail sales made online, outturn and pre-pandemic trend, all (excluding fuel) and food: GB



Source: ONS, Retail Sales.

It is a similar story when we look at the labour market impacts of the pandemic across local authority areas. These were initially highly uneven, with places that were used to importing spending power from tourists, students, or commuters hardest hit. A swifter than expected recovery saw many of those areas bounce back. By February 2022, most parts of the country had more employee jobs than pre-pandemic, with only outer London boroughs and places near airports continuing to be affected, and even these falls were relatively small in nature.²⁷ Take Crawley, the home of Gatwick airport, where the number of payrolled employees fell by 4,400 between February 2020 and July 2021 and then rebounded by 1,900 in the space of seven months to February 2022.²⁸ This is the local authority where the number of employee jobs fell the most by February 2022 relative to pre-pandemic levels, and even here the decline in the implied employment rate was just 2.4 percentage points and is likely to have recovered further since. Although any decline in employment, particularly if persistent, is difficult for the places affected, the

27 M Brewer, J Leslie & L Try, *Right where you left me? Analysis of the Covid-19 pandemic's impact on local economies in the UK*, Resolution Foundation, June 2022.

28 Some of the change in payrolled employees over recent years will be a result of changes to self-employment classification. ONS, *Earnings and employment from Pay As You Earn real time information*, UK, 15 March 2022.

volume of change brought about by the pandemic is relatively small. Smaller than expected labour market change reflects the fact that the Government enacted a very different policy response (including the furlough scheme) to a very different crisis (with a health rather than economic cause).

There is a somewhat larger shift in employment when looking through an industry lens. Between Q4 2019 and Q4 2021, the average absolute change in the proportion of employment across industries (defined at section-level standard industry classification) was 0.2 percentage points, more than twice the change in employment shares seen between Q4 2016 and Q4 2018.²⁹ One key trend driving this was the increase in work in healthcare: the proportion of employment in health and social work rose from 12.4 per cent to 13.0 per cent, reflecting greater demand on healthcare providers, the test and trace programme, and vaccination scheme, alongside falls in employment elsewhere.³⁰ Even with this huge reorientation in economic activity, at least by recent standards, the change in employment shares across industries was less than the average seen over equivalent two-year periods throughout the 1980s.

But the pandemic does look to have had longer-lasting impacts on the economy's productive capacity. While the recovery overall has been stronger than expected, business investment has consistently underperformed expectations: GDP exceeded its pre-pandemic size early in 2022 but business investment remains more than 9 per cent lower than its pre-pandemic peak. This reflects continued and heightened economic uncertainty and longstanding structural weakness rather than any lasting direct effects of the pandemic on firms' balance sheets. While the rapid move to home working saw some new technologies being swiftly adopted, it has not stimulated wider technological adoption or led to a new wave of productivity-enhancing working practices.³¹

The pandemic's lasting impact on the labour market also poses a headwind to growth and living standards. The feared surge in unemployment never materialised. Instead, significant numbers of workers exiting the labour market has been the problem.

29 Analysis of ONS, Workforce Jobs.

30 Analysis of ONS, Workforce Jobs.

31 J Leslie, [Bouncebackability: The UK corporate sector's recovery from Covid-19](#), Resolution Foundation, June 2022.

The first year of the pandemic led to a larger fall in labour market participation than has taken place in any crisis in the last four decades, and the recovery since 2020 has been slow – and slower than that seen in most other advanced economies.³² The fall in participation is on a par with the decline experienced during the 1980s recession at this stage, but is larger than that which took place during the financial crisis, despite a much smaller fall in employment. The latest data shows that the labour supply has fallen by 430,000 since the pandemic, with older workers aged 50 and over driving the majority of this decline.³³

There may be very good reasons why these individuals prefer to remain outside the labour market. After all, with record vacancy levels it is likely to be their choice in many cases. But a reduction in labour supply on this scale plus persistently low investment levels are headwinds to incomes in the post-pandemic years.

The net zero transition will change, rather than destroy, the jobs we do

The transition to net zero is different from the Brexit- and Covid-19-driven changes in many ways. Rather than providing a sudden shock with ongoing reverberations, this is a large, long-term, and planned shift in the way we power our economy and produce output across a range of industries. Its key feature is the requirement for a large increase in public and private sector investment (discussed below), alongside the invention and diffusion of new technologies across the economy, changing both the mix and the nature of employment in the UK.

This change does pose challenges for those working in ‘brown’ jobs – the occupations that are disproportionately found in emissions-intensive industries, that will require significant change during the net zero transition. Our analysis indicates that they comprise 4 per cent of UK employment (1.3 million people).³⁴ While much attention has focused on the idea that the transition poses existential risks to these jobs, this is only the case for a

32 M Brewer et al., [Begin again? Assessing the permanent implications of Covid-19 for the UK's labour market](#), November 2021.

33 ONS, [A01: Summary of labour market statistics](#), June 2022. For more detail on rising inactivity among older workers, see: B Boileau & J Cribb, [The rise in economic inactivity among people in their 50s and 60s](#), Institute for Fiscal Studies, June 2022.

34 The analysis of green and brown jobs in this section is taken from: M Broome et al., [Net zero jobs: The impact of the transition to net zero on the UK labour market](#), Resolution Foundation, June 2022.

small minority that directly contribute to the generation of greenhouse gas emissions: the number of coal-mining operatives, for example, is likely to continue falling from the current level of 0.01 per cent of employment (2,700 workers).

For most brown jobs, however, the net zero transition is about job change rather than job destruction. Of those working in brown jobs, 24 per cent are large goods vehicle drivers, whose jobs will not disappear even as the vehicles they use become greener. The transition is riskier for some energy-intensive industries, but the goal is for the likes of steel production to shift towards low-carbon production methods rather than shut down. Significant job change will require new tasks and very significant reskilling for some workers, including the 250,000 people working on the 'maintenance and repair of motor vehicles',³⁵ since electric vehicles require less maintenance overall and workers will require a very different skill set to do this maintenance.³⁶

The transition is likely to pose greater labour market challenges in some other advanced economies, reflecting the fact that the UK has a smaller proportion of industrial employment than many comparators (in 2019, 18 per cent of UK employment was in industry, in contrast to 27 and 24 per cent respectively in Germany and Japan).³⁷

The extent of labour market change extends beyond occupations most prevalent in emissions-intensive sectors. A further 13 per cent of jobs – 'green' jobs – can be identified as those that already involve green tasks to a significant extent (and are not prevalent in emissions-intensive sectors) and will be needed in order to actively support the net zero transition. This transition will mean significant changes for many workers, but this will mostly involve shifts in the tasks people undertake and the technology they use, rather than swift job losses or changes in the UK's employment structure.

Some specific green jobs (for example wind turbine engineers) are expected to grow over the 2020s and beyond, creating well-paid roles in parts of the country that are well positioned to benefit from this shift. Residents in Hull told us that they could see the expansion of the new industry (wind turbine production) happening before their eyes.

35 ONS, [Business Register and Employment Survey: Table 2](#), November 2021.

36 The Economist, [Servicing and repairing electric cars requires new skills](#), October 2021.

37 The World Bank, [Employment in industry \(% of total employment\) \(modelled ILO estimate\)](#).

"[Siemens] are continuously building. Every time you go down there it seems to have got bigger and bigger."

(Focus group participant, Hull)

So net zero has clear benefits for certain parts of the economy as well as the planet, but it also poses significant challenges for the living standards of some households, given the need to finance the scaling up of large investments during the 2020s. These challenges will largely be felt by households as consumers – of home heating or transport – and should be the focus for policy makers because handled badly they risk reinforcing the challenges of high inequalities and stagnant living standards, as well as undermining support for the net zero transition itself.

The investment costs associated with net zero are large (£1.4 trillion by 2050). While significant savings will flow from them, given the lower operating costs of low-carbon technologies (£1.1 trillion), they will materialise over a longer period of time.³⁸ So, while the net costs of net zero are very far from ruinous (less than 1 per cent of GDP over the next 30 years), questions about who pays for upfront investments (and how they do it) are key to protecting the living standards of poorer households and maintaining the UK's impressive consensus on climate change policy.

The 2020s will see the net zero transition moving from the backstage of decarbonising our electricity generation into the heart of the public's day-to-day lives, with emissions from surface transport and buildings needing to fall by as much as 72 per cent and 48 per cent respectively by 2035, relative to 2020 levels.³⁹ These changes are what is required if the UK is to follow a 'balanced' path to net zero by 2050; of course politics and economics may mean that reductions of this scale do not come to pass despite their importance.

The fast-falling costs, and rapid take-up, of electric vehicles, means that the most difficult challenge during the 2020s will be homes. Over the decade to 2031-32, this will require a capital spend of £39 billion on efficiency measures

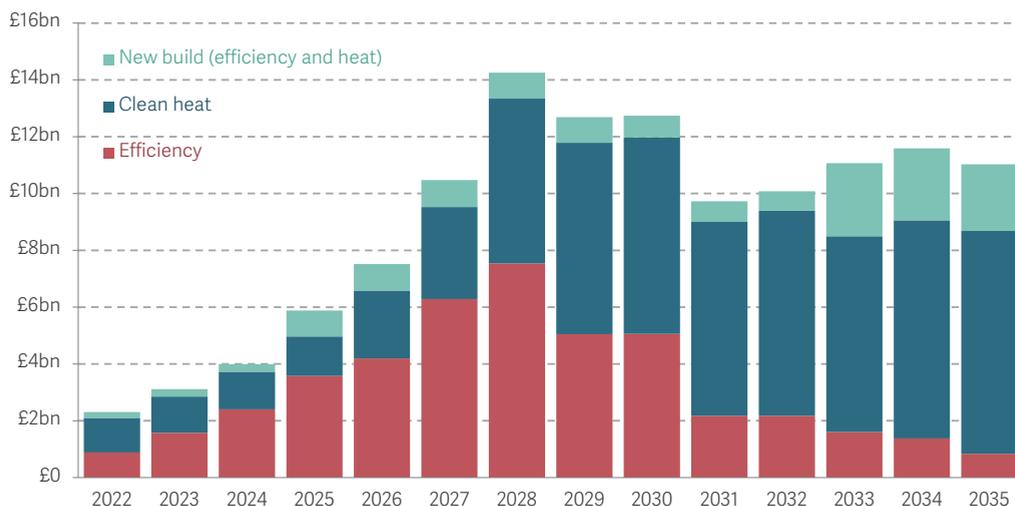
38 J Marshall & A Valero, [The Carbon Crunch: Turning Targets Into Delivery](#), Resolution Foundation, September 2021.

39 J Marshall & A Valero, [The Carbon Crunch: Turning Targets Into Delivery](#), Resolution Foundation, September 2021.

(insulating walls and roofs) and £37 billion on clean heat,⁴⁰ with spending accelerating rapidly over the next six years to peak at £14 billion of investment in 2028 (as Figure 21 shows).⁴¹

Figure 21: Investment in residential buildings needs to increase drastically in the 2020s

Annual additional capital investment in residential buildings: UK



Source: Analysis of Climate Change Committee, Sixth Carbon Budget data.

These investments, and others required to deliver net zero, will come at some cost to household consumption. But whose consumption is affected, and when, is highly dependent on the different funding routes chosen, be that households self-funding, paying via levies on energy bills, or via taxation. Whether those costs are borne up front or paid tomorrow via borrowing is also important. Ensuring that costs to consumers are fairly distributed during a long-lasting squeeze on household incomes is the key to the next stage of the net zero transition. In the 2020s, this is principally about homes and their energy efficiency. There is clearly a risk of outright failure on this front, with progress having stalled after a 90 per cent fall in insulations since 2013, making the climb back up to the Government's ambition of 1 million home energy efficiency installations a year by 2030 much steeper than it otherwise would

40 Climate Change Committee, *Sixth Carbon Budget*, December 2020.

41 These projections are in some respects optimistic, for example in assuming that there will be no waste of capital. The actual spend in the 2020s and 2030s may be higher.

have been.⁴² The biggest immediate barrier will be low-income home owners, 72 per cent of whom will need their homes' energy efficiency to be improved, but who are unsupported by government policy.⁴³

Overall, change in the 2020s is likely to accelerate from recent lows and be highly disruptive for some, but we will not see a return to the rapid change of earlier decades

Together these three big, but very different, shocks and transitions mean the 2020s will bring significant changes to our economy. There will be big impacts on some firms, workers, and consumers, but for the labour market as a whole the scale of change will not be transformative, with the most significant common effect being broadly felt headwinds to already weak income growth.

We should expect more labour market churn in the rest of the 2020s than in the 2010s, with rates of both voluntary and involuntary job moves increasing. More of the former would be good news, but more involuntary job losses would entail a higher number of people experiencing both the emotional and financial hits that it involves.⁴⁴ As such, it is to be welcomed that we are unlikely to see a decade of very high restructuring of the kind most recently seen during the 1980s, instead with the change set to take place doing so over long periods of time and often altering the content of people's jobs rather than endangering them.

This also reflects the fact that, rather than speeding up as is commonly assumed, the story of Britain's labour market over the past two decades is one of declining aggregate and individual-level job changes following the rapid deindustrialisation of the 1970s and 1980s. As shown in Figure 22, between 2011 and 2021 the reallocation of labour between sectors was equivalent to 7 per cent of total employment, which was markedly lower than the 20 per cent experienced in the 1980s.⁴⁵

42 See Table 10 in: Department for Business, Energy & Industrial Strategy, *Net Zero Strategy: Build Back Greener*, October 2021.

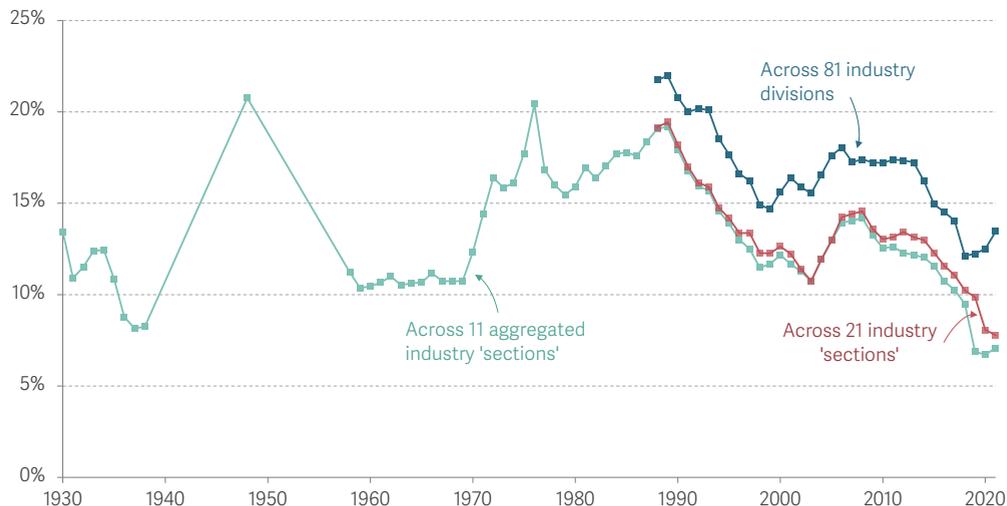
43 A Corlett & J Marshall, *Shrinking footprints: The impacts of the net zero transition on households and consumption*, Resolution Foundation, March 2022.

44 N Cominetti et al., *Low Pay Britain 2022: Low pay and insecurity in the UK labour market*, Resolution Foundation, May 2022.

45 The analysis in this section is from: N Cominetti et al., *Changing jobs? Change in the UK labour market and the role of worker mobility*, Resolution Foundation, January 2022.

Figure 22: The rate of sectoral change has fallen since the 1980s

Sectoral reallocation in the 10 years to date shown, expressed as a proportion of total employment: UK



Notes: Sectoral reallocation is measured as the weighted average, across sectors, of the absolute change in employment share compared to a decade ago, based on a measure used in G Chodorow-Reich & J Wieland, *Secular Labor Reallocation and Business Cycles*, *Journal of Political Economy* 128(6), April 2020. Red line uses SIC 2007 sections but some have been condensed for consistency with long-run data; the blue line uses the full set of industry sections in SIC 2007, for which Workforce Jobs data is available from 1978 onwards.

Source: Analysis of ONS, Workforce Jobs; Bank of England, Millennium of Macroeconomic Data.

Job mobility at the individual level has also fallen this century, with the proportion of workers switching job each quarter declining by 25 per cent between 2000 and 2019, from 3.2 per cent to 2.4 per cent. While policy debates often focus on labour market change taking place through workers moving between occupations and sectors, the majority of change happens via people moving into (and out of) the labour market. As a result, demographic shifts play a key role, as well as driving economic change directly, as Box 6 discusses.

Box 6: Demographic change in the 2020s

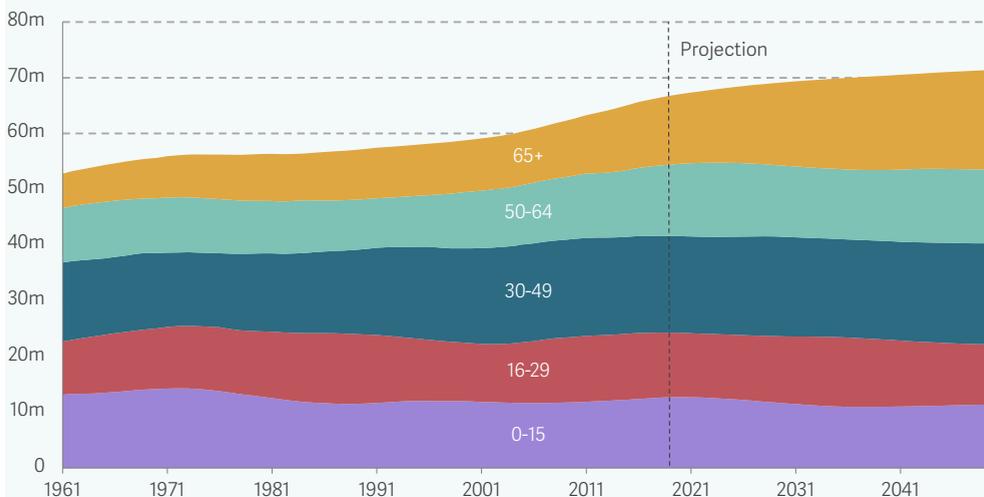
Discussion of the economic impact of demographic change tends to focus on the important fiscal implications. However, demographic shifts have wider economic impacts that are often overlooked, such as changing the shape of the labour market and influencing the goods and services we consume.

As shown in Figure 23, between 2020 and 2030, the UK's population

is expected to grow by 2.1 million (3.2 per cent). The number of people in older age (65 and above) is expected to increase by around 2.5 million (20 per cent), compared to an increase in the number of working-age people (16-64) of 760,000 (2 per cent).⁴⁶ In contrast, due to falling fertility rates, the number of people aged 15 and under is projected to decline by 1.1 million (9 per cent).

Figure 23: The UK's pensioner population will have doubled between the 1960s and 2030s, partially offset by a small increase among those of working age

Historic and projected population estimates, by age group: UK, 1961-2050



Source: ONS, Estimates of the population for the UK, England and Wales, Scotland and Northern Ireland: Mid-2020 edition, June 2021; ONS, National population projections: 2020-based, January 2022.

46 The analysis in this box is sourced from: M Broome, [Big welcomes and long goodbyes: The impact of demographic change in the 2020s](#), Resolution Foundation, June 2022.

Over the next decade, we expect these population changes to drive economic change but also to facilitate it through a rising number of workforce exits (driven by baby boomers leaving the labour market) and entrants (driven by a wave of young people entering the labour market). For example, we find that 'life cycle' flows in and out of the labour market could reach record highs in the coming decades, with the number of people reaching state pension age expected to surpass 800,000 in 2028 for the first time ever, while the number of people turning 22 will exceed 900,000 in 2032 for the first time this century.

The large volume of life cycle-related labour market entry and exit may also offer a temporary boost to labour market mobility because, in contrast to the population as a whole, the age composition of the workforce is expected to become marginally younger by the early 2030s (the proportion of workers aged 16-29

will increase by 1 percentage point between 2019 and 2035). These effects will, however, be short lived as lifecycle flows begin to slow from the mid-2030s and the share of the UK's workforce comprised of mid- and older-aged workers begins to grow.

Demographic change will also alter the shape of the economy through adjustments in the balance, and overall level, of private expenditure. Because young people and old people spend their money in different ways, we expect age-related shifts in the population to increase the total amount of spending on recreation and culture by 4.5 per cent and private healthcare by 6.7 per cent over the next decade. While the latter is unlikely to have a dramatic effect on the shape of the UK's economy, the real impact from age-related shifts in the population will come from a huge rise in demand for – and employment of – health and social care workers predominantly funded via the public sector.

How should policy makers think about the change to come in the 2020s? Given the significant effects on some workers, for example fishers, they should recognise that 'bad change' (i.e. that which is involuntary) has not always been well managed in the past. But they should also be alive to the fact that lower rates of change in recent decades have seen some workers miss out on the gains from 'good change' as workers take up new opportunities: on average, those moving jobs enjoy typical pay growth that is 4 percentage points higher than individuals staying put. Reconciling these concerns, and the common

challenge that low levels of income protection provided by our welfare state pose to both of them, is a subject we return to in Chapter Four.⁴⁷

We should be cautious of claims that derive silver linings from change in the 2020s

While some overdo the dangers of rapid and disruptive change, there are others who celebrate the big changes of the 2020s – or parts of them – because of their perceived potential to solve major challenges facing the UK economy. These are most evident in people identifying economic silver linings to sectoral adjustments that might follow Brexit or due to changes in working practices arising from the pandemic. Such claims are overstated, and certainly not the best lens through which to understand the changes occurring in the 2020s. Some argue that meeting the UK's net zero targets provides a silver bullet for a return to strong, equitable growth, but this is unlikely to be the case.

For some, a potential benefit of the UK's exit from the EU is a partial reversal of the decline of manufacturing, with the hope that this will help narrow the UK's large regional divides. The argument rests on the idea that replacing membership of the Single Market (with its unique liberalisation of trade in services) with a free trade agreement with the EU that largely only covers goods trade relatively favours those parts of the country that are manufacturing-heavy at the expense of London and the South East.⁴⁸

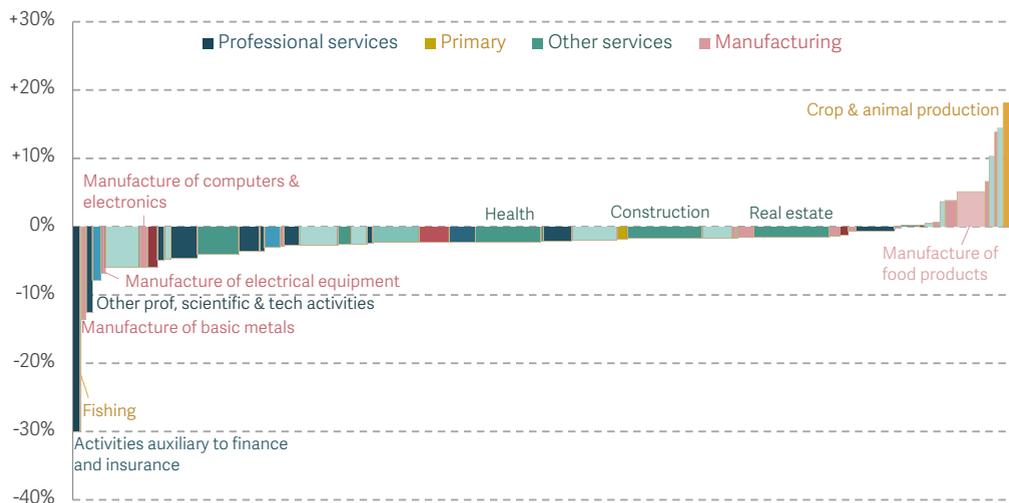
Our modelling of the lasting impact of the TCA does not support this view. While some manufacturing sectors will grow to service the domestic market (most notably food manufacturing), others (including chemicals and electronics) will shrink as we no longer play such an active role in some international supply chains, as Figure 24 shows.

⁴⁷ The UK's low level of income protection is discussed in greater detail in: M Brewer et al., [Social insecurity: Assessing trends in social security to prepare for the decade of change ahead](#), Resolution Foundation, January 2022.

⁴⁸ M Sandhu, [Brexit and the future of UK capitalism](#), The Political Quarterly, April 2019.

Figure 24: Many sectors will experience slower growth now that we've left the EU, but some low-productivity manufacturing sectors will grow at a faster pace

Long-run change in UK gross output across sectors relative to a no-Brexit baseline



Notes: Width of bars represent the size of the sector (gross output in the baseline). Static form of the model is used as it can provide a more detailed sectoral breakdown of the results. See Annex 3 sensitivities from Dhingra et al., *The Big Brexit: An assessment of the scale of change to come from Brexit*, Resolution Foundation, June 2022 for more information of the difference between the two models results.

Source: Analysis uses CEP trade model from S Dhingra et al., *The costs and benefits of leaving the EU: trade effects*, Economic Policy 32(92), October 2017 with regionalised inputs from EUREGIO Regionalised Input Output Database

The net effect is very small, and in fact amounts to around a 0.1 percentage point fall in manufacturing's proportion of gross output. More concerning, however, is that the average productivity of the parts of manufacturing that the TCA shrinks are much higher (£47 per hour) than the parts it helps to grow (£37 per hour).⁴⁹ Claims that a new migration regime, which Brexit has given the UK significantly more control over, will drive a shift towards a high-wage economy are also overdone, as are claims that lower migration will have very significant negative effects.⁵⁰

49 Dhingra et al., *The Big Brexit: An assessment of the scale of change to come from Brexit*, Resolution Foundation, June 2022.

50 "We are not going back to the same old broken model with low wages low growth, low skills and low productivity all of it enabled and assisted by uncontrolled immigration." Boris Johnson, *Boris Johnson's keynote speech – We're getting on with the job*, Conservative Party Conference, October 2021.

Some have looked to the Covid-19-induced shift towards home working as a positive change that will be the answer to Britain's low productivity or high regional economic inequalities (suggesting it will widen the range of places in which higher-qualified and -earning professionals can live and make them more productive). The shift towards remote working is certainly significant: the proportion of people who reported that they worked from home on a regular basis increased from 5 per cent in 2010 to 10 per cent on the eve of the pandemic, but surged during the pandemic and remained elevated at 38 per cent of all workers in early 2022.⁵¹

However, the evidence that a significant rise in home working will raise well-being is significantly stronger than indications it will raise productivity. Of those businesses adopting home working as a permanent part of their business model, fewer than half report increased productivity as a driver, while 86 per cent of large businesses cite improved staff well-being as important.⁵² Indeed, this matches evidence from workers themselves, where 53 per cent report wanting to work from home all or some of the time compared to 28 per cent who do not want to work from home. There are several potential avenues through which increased home working could increase productivity, with one of the most important being workers choosing to partially substitute commuting time for longer working hours.⁵³ But much of the potential benefits from home working should have already happened, as the growth in the prevalence of home working has now slowed, if not started to reverse.⁵⁴ Benefits from longer-term dynamic improvements due to, for example, better matching of workers to jobs are still speculative at this stage.

The evidence to date suggests that the impact on regional inequalities will also be limited. Hybrid, rather than fully remote, working is the new normal for professionals, which may facilitate some longer commutes within regions but not large numbers of people living in entirely different regions from their employers. There is some evidence of shifting spending power from city centres to residential high streets, but this is largely a shift that has occurred within particular conurbations or areas. The net change in work done in

51 M Brewer, J Leslie & L Try, Right where you left me? Analysis of the Covid-19 pandemic's impact on local economies in the UK, Resolution Foundation, June 2022.

52 J Leslie, Bouncebackability: The UK corporate sector's recovery from Covid-19, Resolution Foundation, June 2022.

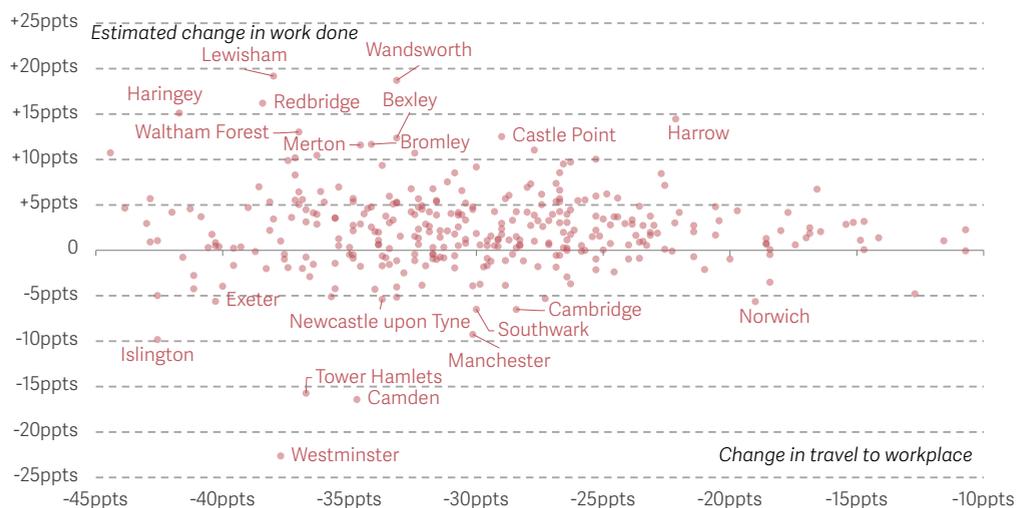
53 N Bloom et al., Does working from home work? Evidence from a Chinese experiment, The Quarterly Journal of Economics, February 2015.

54 J Leslie, Bouncebackability: The UK corporate sector's recovery from Covid-19, Resolution Foundation, June 2022.

an area (accounting for falling office work and increased home working) is generally small and not related to the gross workplace mobility falls (see Figure 25), because areas with large falls in people travelling to the office also have big increases in residents home working. Bigger shifts are largely a phenomenon playing out between inner and outer London, with work done estimated to have increased by 20 per cent in Lewisham but to have declined by a similar amount in Westminster.

Figure 25: Work from home has caused shifts in the location of work within, rather than between, places

Estimated change in work done in local authority from pre-Covid to 2022, and change in travel to workplace from January-February 2020 to April 2022, by local authority: England and Wales



Source: Google mobility data; De Fraja et al., Covid reallocation of spending: The effect of remote working on the retail and hospitality sector, SERPS no. 2021006, December 2021.

Even when home working has meant a big shift towards more work being done in a local authority, it does not appear to have helped the lower earners living there. Haringey is a striking example, combining a big rise in working from home with a larger rise in the claimant count than anywhere bar Newham.⁵⁵

Working from home will bring benefits to people (raising well-being even if not productivity) and some places (a 5 per cent increase in work done in Wigan has a material impact). But overall, it looks like a significant silver lining related to

55 M Brewer et al., *Right where you left me? Analysis of the Covid-19 pandemic's impact on local economies in the UK*, Resolution Foundation, June 2022.

hybrid working, which transforms the UK's economic outlook or geography, has not materialised.

Claims of pandemic induced productivity gains also need to be tempered by recognising its wider effects. For example, a drag on longer term productivity could come thanks to school closures and disruptions leading to, highly unequal, learning losses for children: during the autumn of 2020, local authorities with the highest proportions of pupils receiving free school means (FSM) experienced nine-and-a-half days of lost learning per pupil, while local authorities with the lowest proportion of students receiving FSM experienced two lost days.⁵⁶

Green growth is desirable but not a silver bullet for the UK's structural challenges

For some, the net zero transition offers much more than a silver lining, being seen as a silver bullet for economies, like the UK's, struggling with slow growth. On this view, net zero is more than simply the route to reducing the risk of climate catastrophe. Instead it is the renewed economic strategy Britain needs to enjoy many more good jobs and revitalised economic growth. These arguments coexist with other claims that the net zero transition poses a huge risk to growth, with the regulation or investment it requires seen as holding back the recovery from the pandemic.⁵⁷

Both claims should be taken with a pinch of salt, although the former is a better guide for policy makers given that any new route to achieving sustainably stronger economic growth will need a commitment to net zero at its core.⁵⁸ The transition will bring big benefits: not only helping avert climate disaster but improving air quality⁵⁹ and reducing our exposure to volatile energy costs.⁶⁰ The UK also has innovative strengths that can be built upon to supply the growing global demand for clean technologies, goods, and services.⁶¹ And weaker regional economies are likely to benefit most from the

56 A Eyles & L E Major, [What do school closures mean for social mobility?](#), Economics Observatory, January 2021.

57 R Clark, [The Government's absurd commitment to net zero is impoverishing the nation](#), The Telegraph, March 2022.

58 N Stern & A Valero, [Innovation, growth and the transition to net-zero emissions](#), Research Policy 50(9), November 2021.

59 A Corlett & J Marshall, [Shrinking footprints: The impacts of the net zero transition on households and consumption](#), Resolution Foundation, March 2022.

60 Department for Business, Energy & Industrial Strategy, [British energy security strategy](#), April 2022.

61 B Curran et al., [Growing clean: Identifying and investing in sustainable growth opportunities across the UK](#), Resolution Foundation, May 2022.

expansion of green technologies: while overall innovation is concentrated in the South East, the parts of the country with the highest proportion of green patents include Derbyshire, Nottinghamshire, Lincolnshire, Tees Valley, and Durham.⁶²

But the net zero transition's main macroeconomic effect in the short term is neither to significantly increase or reduce the level of GDP, but instead to change its composition by raising investment and lowering consumption (either today, if we forego consumption to invest, or tomorrow if we borrow for it). In the short term the transition is best seen as a significant invest-to-save process, as we pay in the coming years for the new infrastructure needed to allow us to heat our homes and travel without burning hydrocarbons.⁶³ This will not be a major boost to growth in the short term because it involves replacing large parts of our capital stock rather than adding to it. In the longer term that infrastructure will be cheaper to run, overwhelmingly because of electric vehicles, and if net zero-driven technological change leads to abundant, secure, and cheap electricity generation that would provide a major boost to growth.⁶⁴ But an economic strategy cannot come down to counting on the latter materialising during the 2020s.

Overall, net zero cannot be relied upon to deliver an economic silver bullet, and nor should we expect silver linings to Brexit or the pandemic to transform Britain's economic geography or its productivity.

We should not be counting on the change of the 2020s to catapult the UK out of stagnation

Instead of solving our economic problems, or exposing the UK to 1980s levels of labour market change, what has become clearer as we have delved deeper into these big changes as part of the Economy 2030 Inquiry is that the main result of these shocks considered together will be to reinforce the key challenge Britain is already wrestling with: stagnation. Change therefore is not the solution to our woes. Instead, Chapter Three wrestles with how to design a renewed economic strategy that can lift the UK from prolonged stagnation.

62 B Curran et al., [Growing clean: Identifying and investing in sustainable growth opportunities across the UK](#), Resolution Foundation, May 2022.

63 Climate Change Committee, [Sixth Carbon Budget](#), December 2020.

64 A Corlett & J Marshall, [Shrinking footprints: The impacts of the net zero transition on households and consumption](#), Resolution Foundation, March 2022.