



UK Economic Outlook

December 2021



pwc

pwc.co.uk/economics

Contents

Key points	1
1. The UK economy: polarised performance	3
2. UK economic outlook: returning to a low-growth period	6
3. Inflation: transitory or permanent?	19
4. The labour market: cautious optimism	26
Technical annexes: modelling methodologies	30

Key points

We expect three trends to dominate the UK's economic outlook over the coming year.

The triple consumer splurge. Three factors have the potential to pave the way for a consumer splurge next year. Firstly, it looks like the UK's labour market has been resilient to the end of the furlough scheme. Early estimates show the number of employees on the payroll increased in October and surveys suggest businesses made less than 10% of furloughed staff redundant at the end of the scheme. A strong labour market, combined with a large stock of excess savings, and a desire to move on from the pandemic could create the right recipe for household spending to propel growth.

But the triple consumer splurge will likely be concentrated on higher income households, while lower income households could be hit by the consumer squeeze.

The triple consumer squeeze. There are three factors that have the potential to moderate this splurge, especially for lower income households. These households will feel the pinch from a combination of rising inflation, higher interest rates, and fiscal changes from the Chancellor's two budgets this year.

1 Inflation will bite as households pay more for energy, transport and hospitality. A rise in the energy price cap and the reversal of the VAT cut for hospitality and tourism in April next year will create the perfect storm for inflation to peak at 5-6%. For households in the lowest income decile who spend 7.3% of their income on energy (compared to 2.5% for households in the top income decile), this will bite.

2 Evidence of a resilient labour market will likely see the Bank increase rates in the coming months – but modestly. A rise in interest rates shifts the balance in favour of savers over borrowers. While higher income households have typically increased their savings over the pandemic, lower income households have been more likely to deplete them and turn to consumer credit; therefore they will be hit harder by a rise in interest rates.

3 Changes made in the Chancellor's budget will put further pressure on low income households. Household incomes will be squeezed by the rise in national insurance from April 2022. While analysis by the Resolution Foundation suggests that the net result of the removal of the £20-per-week boost and other changes in Chancellor's Autumn Budget will reduce incomes for 73%, or 3.6 million, families in receipt of Universal Credit in 2022 – 23¹.

Polarisation of sectors, regions and households. The effects of the pandemic were uneven. We expect this trend to continue as the recovery is increasingly polarised across sectors, regions and households:

1 Households: As lower income households are squeezed and higher income households have the potential to spend, we will see greater polarisation. This could be amplified if furloughed workers, who have typically been from lower wage sectors such as hospitality and tourism, struggle to retrain and to re-enter the workforce; rates of economic inactivity have not yet begun to fall back to their pre-pandemic levels and are likely to increase as the full effects of the end of furlough become clear.

2 Sectors: The UK's economic recovery from COVID-19 has been uneven. The sectors driving the UK's recovery are those that are directly or indirectly benefiting from government support or rebounding from the end of lockdown restrictions. For other sectors, like construction and manufacturing, output and growth is being moderated by supply disruptions and shortages, as well as weakening demand and business confidence. We expect these trends to continue into the next year. For example, we expect sectors like manufacturing to experience slower growth next year of between 1% and 2% annually, while hospitality is expected to grow between 16% and 20% under our 'limited' and 'accelerated growth' scenarios.

3 Regions: Up to the first half of 2021, the pandemic has resulted in the most severe regional disparity in output in the past 50 years. By comparing the potential output of each region in 2020 given their sectoral makeup and the early official estimates for the same year our analysis shows marked polarisation between UK regions. Some regions, such as the West Midlands and South East, underperformed against the expectations due to the fact that some of these regions are more reliant on manufacturing, retail and wholesale, which have been hammered by supply disruptions and social distancing restrictions while economic output in Northern Ireland, Scotland and Wales were largely explained by their industry mix. For London, slightly weaker employment recovery combined with drop in tourism and hospitality output have resulted in it marginally underperforming.

We also find that the extremity of recessions and other non-industry factors, such as number of COVID cases, and regional demographics, have caused large differences in regional performance. For example, Northern Ireland's younger population has contributed to its better-than-average performance in 2020 but the high number of cases downwardly impacted growth. We expect these factors to continue to weigh down on the UK's 'levelling-up' progress, at least in the medium term.

¹ Resolution Foundation, [link](#)

UK economic outlook: Returning to a low-growth period

We expect the UK economy to surpass its pre-pandemic level by the end of the year under our 'accelerated growth' scenario and by the end of Q1 2022 under the 'limited growth' scenario, largely similar to our projections made in [July 2021](#). Annual GDP growth in 2021 is likely to be around 7.0% to 7.1%, followed by 4.5% - 5.1% in 2022, although we note this strong growth will be largely driven by base effects. Growth in 2022 will continue to be skewed by base effects, as the economy recovers from its low GDP base. Beyond that, growth is expected to slow down to around 1.3% -1.8% in 2023 as the UK economy returns to its pre-pandemic long-term growth trend.

We expect monthly GDP growth to continue its upwards trend but at a modest rate. Based on our Nowcasting model, we expect month-on-month growth of 0.6% in October, followed by 0.7% in November, before picking up slightly at 1.0% in December under our 'accelerated growth' scenario. Our expectation is that concerns over new variants, such as the Omicron variant, would have some but limited impact on the economic growth as preventative measures, such as face covering and booster jabs, support economic continuity. However, the ongoing supply chain disruptions and inflationary pressures are likely to continue moderate growth as they downwardly impact business and consumer confidence and footfall, while offsetting recovery in the services sector and uptick in spending ahead of Christmas.

Inflation: Transitory or permanent?

Inflation could reach its highest level for three decades in Q2 2022 as the rise in the energy price cap and the reversal of the VAT cuts for hospitality and tourism create a perfect storm that is set to push headline inflation rates to around 5%-6%. We expect inflation to gradually return to normality as the impact of these two factors fade, supply bottlenecks ease, and base effects dissipate. Our 'low inflation' scenario sees inflation return to target by the end of 2023, while our 'high inflation' scenario pushes this date back around a year.

Higher inflation could be sustained for longer if inflation expectations become de-anchored. At present, short-term inflation expectations have risen sharply, but medium-term expectations have remained relatively well anchored. However, there is the risk that households will uplift their expectations once they see their friends receiving pay rises, and their utility and shopping bills rise sharply, in the coming months.

The labour market: Cautious optimism

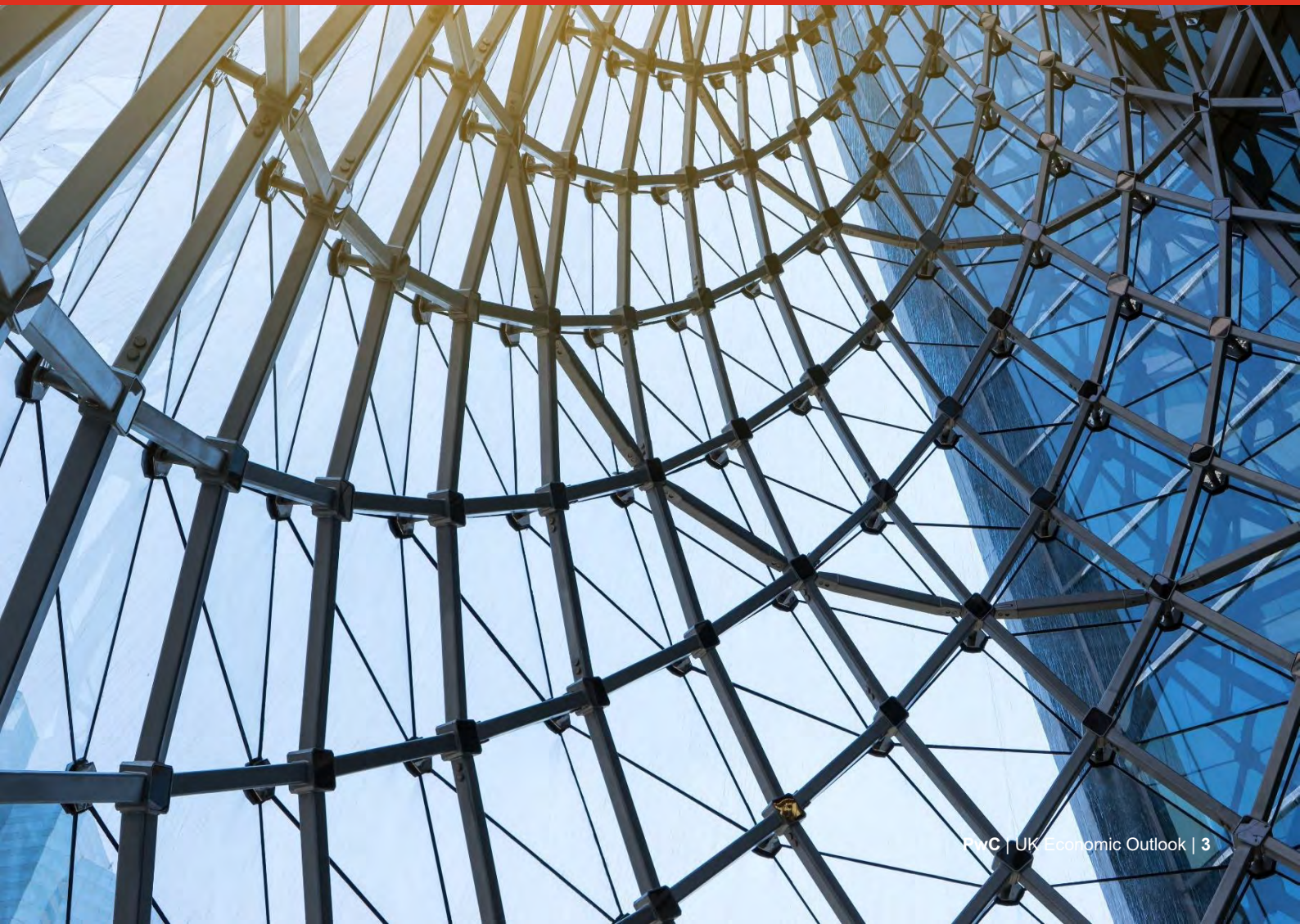
The short-term outlook for the labour market is cautiously optimistic. The emerging evidence points to a small overall impact of the end of the furlough scheme and we do not expect a notable increase in the UK unemployment rate over the coming months. However, it will take some months to understand the full impact of the end of furlough due to notice periods.

It is likely that there will be a rise in the inactivity rate, as workers are discouraged from entering the workforce after so long out of work. It will therefore be important for government policy to shift its focus from the unemployed to the inactive, for example through retraining and reintegration programmes.

Earnings growth has remained strong and broad, with real growth of 3.1% in the three months to September. With inflation expected to average around 4-5% next year, and nominal average earnings growth expected to slow down as base and compositional effects dissipate, real earnings growth has the potential to be slow, or even close to zero next year.



The UK economy: polarised performance



1

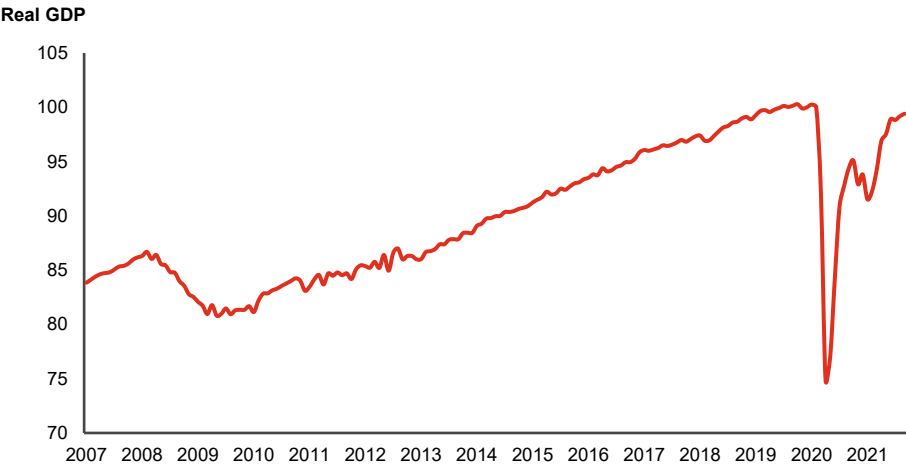
The UK economy: polarised performance

Compared to February 2020 levels, UK economic output is now just 0.6% smaller. This follows a modest acceleration in monthly GDP growth in September after a strong spring, but sluggish summer. Driven by services output, month-on-month growth in September was 0.6%, a welcome acceleration following July's negative growth of -0.2% and August's small 0.2% expansion. These monthly figures mean the UK grew by 1.3% on a quarterly basis in Q3. Following strong q-on-q growth of 5.5% in Q2, this marks a slowdown in the pace of the recovery.

Sectoral data presents a stark picture of the uneven nature of the UK's recovery. Many of the sectors that are doing well are those that are directly or indirectly benefiting from government support or are rebounding from the end of lockdown restrictions. For others, output and growth is being moderated by supply disruptions and shortages, as well as weakening demand and business confidence.

The normalisation of everyday activity has been the main driver of growth. Third quarter growth was largely driven by the reopening of previously 'locked down' sectors such as arts and entertainment, accommodation and leisure. In September for example, the services sector accounted for over 95% of monthly GDP growth. The easing of social distancing restrictions over the summer boosted the services sector - more people were going out to eat, going on holiday, going to the cinema, and going to see their GP in person. A last minute rush to complete house purchases before the end of the stamp duty holiday also saw greater activity in legal services.

Figure 1.1: Real GDP monthly index (Feb 2020=100)



Source: ONS

Figure 1.2: Real UK GDP growth, Quarter 3 2005 to Quarter 3 2021, quarter on quarter growth, %



Source: ONS

The retail sector is now almost 10% ahead of where it was before the pandemic, with even the hardest-hit categories such as fashion almost recovering to their pre-pandemic levels. Much of the increase in consumer spending is accounted for by the pull forward of Christmas shopping spend, with shoppers particularly concerned about goods shortages and delayed deliveries. We are also seeing the continued unwinding of pent-up demand, the spending of lockdown savings and resilient consumer confidence - no doubt supported by increased employment levels as the government furlough scheme was unwound.

The question for retailers is whether the momentum will continue into

December and beyond. This enthusiasm seems to be lasting into November, with interest in Black Friday bargains surpassing pre-pandemic levels. But rising inflation, particularly for non-discretionary spending, and the prospect of interest rate and tax rises will undoubtedly produce a drag on the sector in the new year.

But supply chain disruptions and shortages are dragging on growth in construction and manufacturing.

Despite a bounce back in September, construction output still fell by 1.5% in the third quarter. This reflects delays in the availability of inputs such as steel and concrete, as well as rising input prices and labour shortages. Car sales and manufacturing continue to be hit by

ongoing semiconductor shortages - new car sales presented the lowest September figures since 1988.

Business investment remains 12% below its pre-COVID levels as it continues to recover slower than consumer spending, with investment in buildings, transport and equipment continuing to be impacted by changing working patterns and uncertainty about the future. According to the latest IHS Markit survey, UK business confidence fell to a 12-month low in October as firms feel the impact of supply chain disruption, recruitment challenges, and concerns about rising inflation.² However, restated ONS data suggests that growth in business investment was stronger than initial estimates.

Box A: Q3 GDP by expenditure item

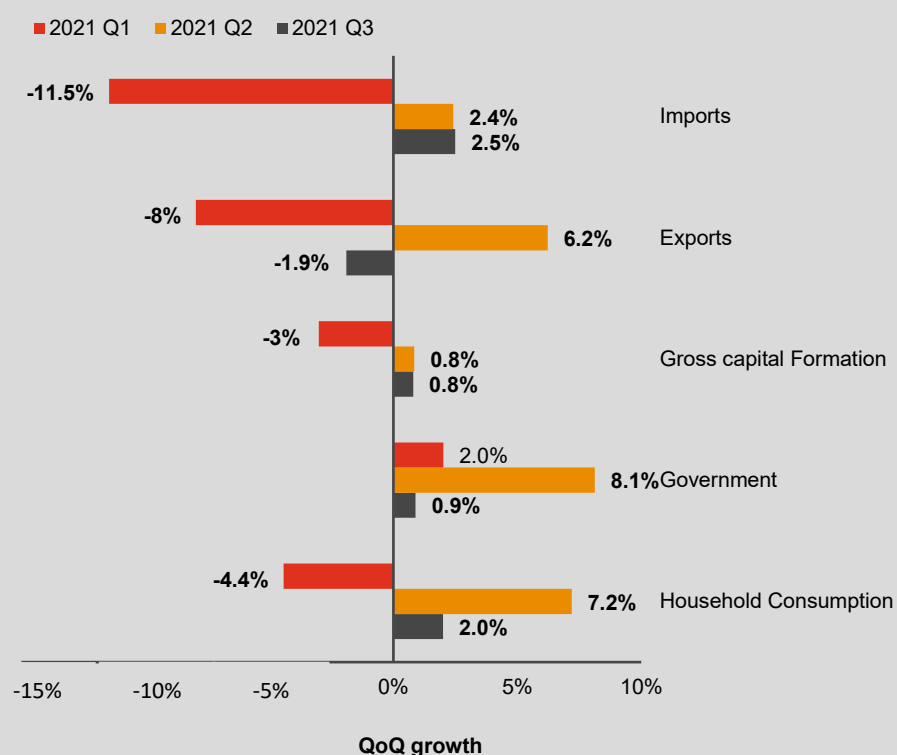
Household consumption was the largest contributor to GDP growth, increasing by 2% from Q2 as COVID-19 restrictions continued to ease. Spending was highest on restaurants and hotels and transport, while it fell for clothing and footwear on a quarterly basis. Household consumption remains 4.4% below pre-COVID levels.

Government consumption was boosted by healthcare, as non-COVID health activity continues to return to normal. In particular, there was growth in in-person GP appointments. Alongside this, the NHS Test and Trace and COVID-19 vaccination programme provided further boosts to growth. Overall, government consumption grew by 0.9% on a quarterly basis.

Gross capital formation growth was relatively strong, with business investment growing by 0.4% on a quarterly basis in Q3. However, business investment remains 12.4% below its pre-COVID levels. Government investment on the other hand, expanded by 4.3% in Q3.

Net trade dragged on growth as total exports in volume terms fell by 1.9% on a quarterly basis, driven by a fall in the export of goods such as machinery and transport equipment. Service exports, on the other hand, rose due mainly to financial services. Total import volumes rose, resulting in a worsening of the UK's trade balance from 0.1% of GDP in Q2 to -1.2% in Q3.

Figure 1.3: Quarter-on-quarter growth in GDP expenditure components, Q1 2021 - Q3 2021



² IHS Markit, [link](#)



UK economic outlook: returning to a low-growth period



2

UK economic outlook: returning to a low-growth period

We expect the UK economy to enter a low-growth period where the positive economic effects from reopening fade, and a number of headwinds prevent stronger growth. This will be accompanied by a period of volatile inflation, which has been collectively termed the VILE recovery of Volatile Inflation and limited Expansion (VILE)³. The rest of the section sets out our scenarios and projections up to 2023, followed by a discussion of key upside and downside factors of the economic growth, as well as a picture of uneven growth across UK sectors and regions.

2.1 Scenarios for the UK economy

Table 2.1: Projected annual real GDP growth by scenario

Real GDP growth	2021	2022 ⁴	2023
Accelerated growth scenario	7.1%	5.1%	1.8%
Limited growth scenario	7.0%	4.5%	1.3%

Source: PwC analysis

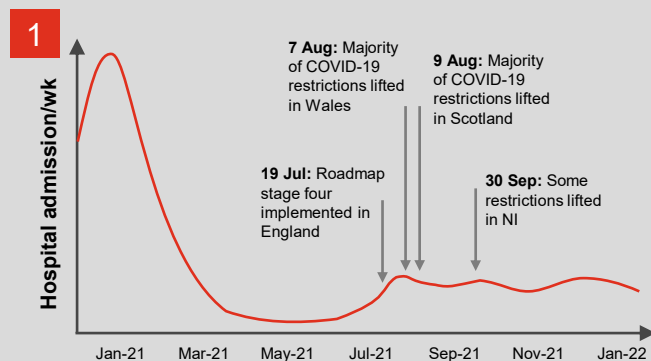
Medium term economic growth is driven by multiple and opposing factors

There are a number of factors which will determine the pace of the UK's continued economic recovery. In our scenarios, we consider the following four factors:

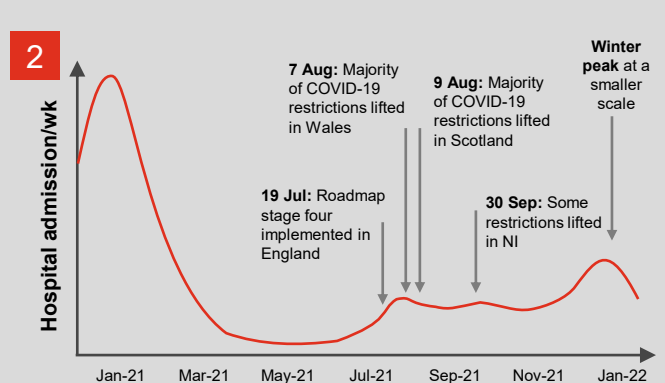
- Development of the COVID pandemic:** The continued pace of mass vaccination and boosters against COVID-19 in the UK and the effectiveness of such booster jabs at protecting people against new variants. There is a risk of a surge of cases as a result of increased indoor mixing and waning immunity in non-clinically vulnerable people (see Figure 2.1 for our epidemiological scenarios).
- Fiscal policy developments:** The response of the economy and businesses to the prospects of unwinding monetary and fiscal stimulus, most notably the Bank of England's £895bn Quantitative Easing programme (QE), as economic recovery is in sight, and interest rate rise is inevitable.
- Supply-side factors:** The outcome of the UK trade negotiations with trading partners including the US, implementation of the Northern Ireland Protocol (NIP), how businesses adjust to various new trading arrangements, and how long it takes for current supply chain disruptions and shortages to normalise.
- Inflationary pressure:** The extent to which ongoing price surges put pressure on business costs and household spending power, and whether the high inflation is transitory or permanent.

Figure 2.1: Epidemiological scenarios

Accelerated growth



Limited growth



Source: [Gov.uk](https://www.gov.uk), PwC analysis

³ The term is coined by Andy Haldane – the recently departed Bank of England chief economist

⁴ Note that 4.5%-5.1% annual growth rates may seem high in a 'normal' economic condition but relatively low to average when the year 2022 starts from a low base of 2021. For instance, a growth rate of 4.5% in 2022 would mean the economy is only around 1% above the pre-crisis level by the end of the year.

To reflect the range of likely outcomes across these various factors, we have designed two illustrative scenarios, as follows:

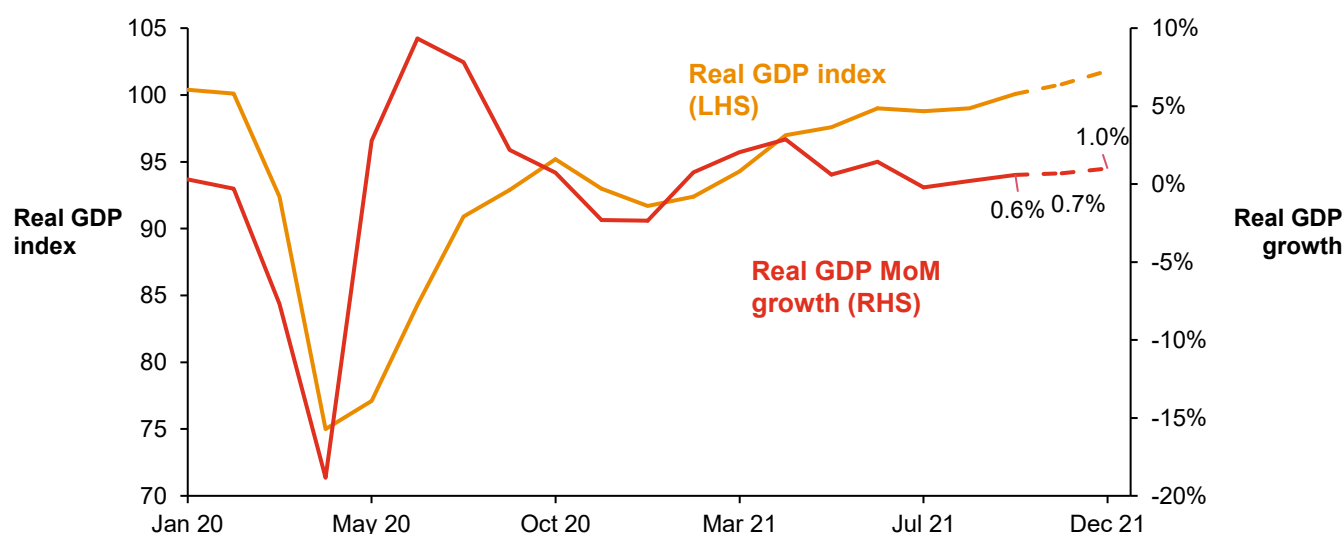
Assumption	'Accelerated growth' scenario	'Limited growth' scenario
Development of the pandemic	No disruptive measures are required to manage COVID-19 over winter 2021/22 as a result of a successful vaccine programme combined with ongoing boosters for clinically vulnerable citizens, keeping hospital admissions at a manageable level.	A winter peak but at a smaller scale than the January peak may occur as a result of waning immunity, and a higher level of indoor mixing. When combined with other winter illnesses, this would potentially result in short term reintroduction of some preventative measures but not a regional lockdown.
Fiscal policy developments	The economy is resilient to further tightening of the government's fiscal policy over the short to medium term.	The economic growth is weighed down by further tightening of the government's fiscal policy at least in the medium term.
Supply-side factors	Quick progress in easing trade friction post-Brexit, including a smooth transition to implementation of the NIP. Current supply chain bottlenecks normalise over the next 6-12 months.	Slow progress in easing trade friction post-Brexit, including a bumpy transition to implementation of the NIP. Current supply chain bottlenecks take longer to normalise compared to other advanced countries due to the Brexit effect and persist into 2023.
Inflationary pressures	High inflation proves to be transitory and the CPI rate returns to its 2% target in Q4 2023.	High inflation proves to be transitory, but reaches a higher peak and takes longer to return to its target. Price pressures persist until mid-2023 and CPI returns to its 2% target in Q3 2024.

In both scenarios, we assume regular vaccination boosters will be rolled out more widely in 2022. Generally, we expect the success of the vaccination programme to boost business and consumer confidence in the short run, supporting the UK's recovery in the last quarter of 2021. However, the effect may be short-lasting, as the persistence of the pandemic across the world, weak global economic performance and inflationary pressures take their toll.

2.2 Monthly GDP profile: Return to a low growth world

We provide projections of GDP growth three months ahead of official ONS data (see Figure 2.2). Our projections for October until December 2021 have been developed using a hybrid approach, which uses our Nowcasting model (see Annex B for technical details), as well as other techniques, and vary by scenario. Beyond December, we provide quarterly projections.

Figure 2.2: UK Monthly Real GDP under the 'accelerated growth' scenario (Q4 2019 = 100)



Source: PwC analysis

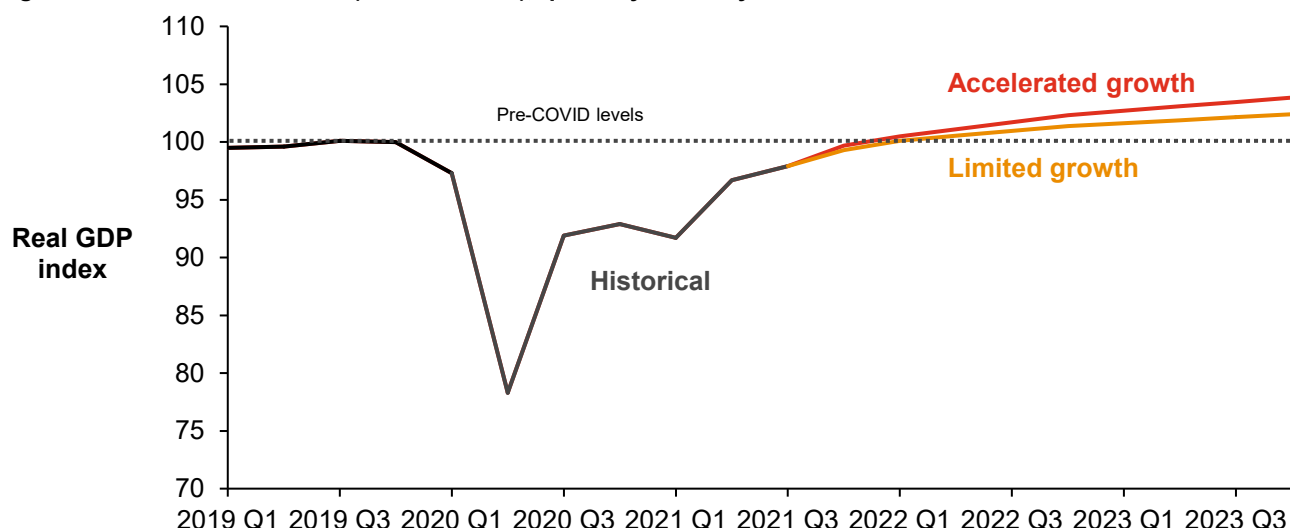
Our month-on-month forecasts show positive but moderate growth as 2021 draws to a close. We expect the UK economy to continue its trajectory and grow at a slow pace of about 0.6% in October 2021 as a result of strong performance of the services sector as a result of the lift in international travel restrictions and rising export sales, but this is slightly offset by weaker consumer confidence due to the continuous supply shortages along with the rising inflationary pressures. The economic recovery is likely to pick up slightly at around 0.7% in November, supported by moderate growth in credit and debit spending and a higher-than-expected growth in job vacancies.

Our expectation of output growth in December to be about 1.0% compared to November. This is driven largely by upticks in the services and manufacturing sectors, and increased consumer spending as the holiday season approaches. However, ongoing supply chain disruptions and inflationary pressures are expected to downwardly impact business and consumer confidence and store footfall, which weigh down on growth.

2.3 Quarterly GDP profile: sluggish growth beyond the recovery point

In terms of our short to medium term view, our quarterly GDP projections up until the end of 2023 show sluggish growth for the UK for the rest of this year before a moderate growth towards the tail end of next year (see Figure 2.3).

Figure 2.3: UK Real GDP index (Q4 2019 = 100), quarterly levels by scenario



Source: PwC analysis

The UK economy could reach its pre-COVID level by the end of the year. We expect the UK economy to end the year with an annual GDP growth rate of between 7.0% and 7.1%, under our 'limited growth' and 'accelerated growth' scenarios, largely similar to our predictions made in [UK Economic Outlook July 2021](#). This means we expect that the UK economy will recover to the pre-crisis levels by the end of Q4 2021 under the 'accelerated growth' scenario, and by the end of Q1 2022 under the 'limited growth' scenario.

This is one quarter faster than our previous forecasts made in July in our 'accelerated growth' scenario, as stronger-than-expected economic performance post lockdowns (mostly in May and June) brought some of the recovery in output forward. This was supported by the rollout of the vaccination booster programme, and strong growth of household, business and government spending immediately after the full reopening of the economy. But projected growth prospects in this scenario are partly offset by the impact of inflation on business and consumer confidence combined with ends of various government support schemes, including the furlough scheme and Stamp Duty holiday in October.

Headline GDP growth in 2022 could be between 4.5% and 5.1% but this is largely driven by base effects. The annual growth figures in the first half of 2022 are expected to be skewed as the economy comes off its low base due to the national lockdown in early 2021. Core underlying growth will continue to be relatively modest, continuing the trend we have seen this year of growth being driven by the normalisation of economic activity.

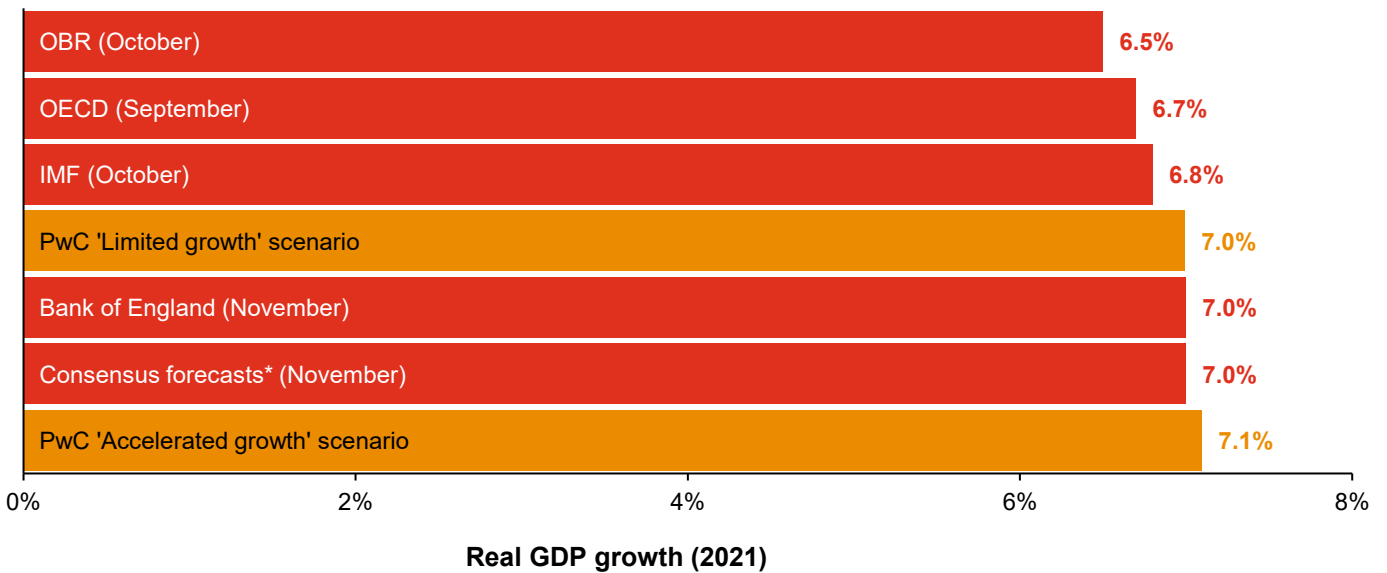
We then expect GDP growth to slow down in 2023 as the economy returns to its pre-pandemic trend. By the end of 2022, the UK economy is likely to be roughly 1% to 2% above the pre-covid levels. From 2023 onwards, the pace of growth is projected to slow down as base effects fall out of the annual figures. Under our two scenarios, we expect growth could range between 1.3% and 1.8% in 2023.

Overall the risks to the UK's economic trajectory are skewed to the downside scenario. This is because most upside drivers (e.g. household spending rebound immediately after lockdowns lifted) are short lasting (around one quarter) while downside drivers (e.g. price surges) last slightly longer.

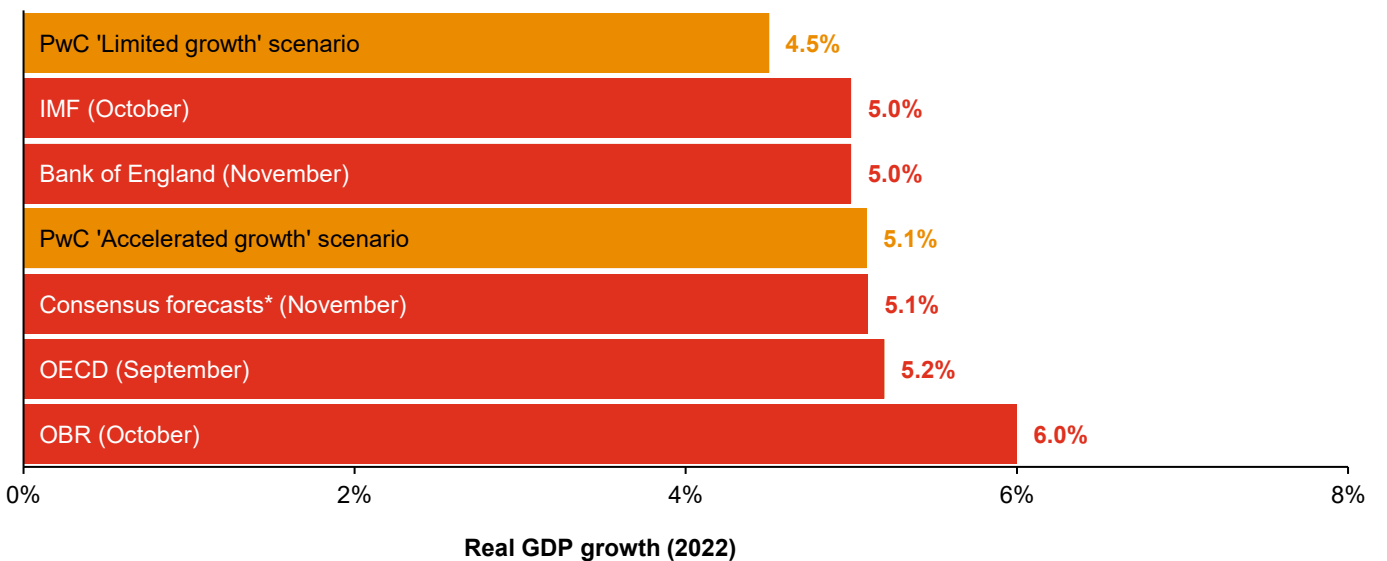
We have, therefore, made marginal revisions of our projections for 2021 from between 6.5% and 7.2% under the 'limited growth' and 'accelerated growth' scenarios to between 7.0% and 7.1%. These projections are broadly in line with other third-party projections (see Figure 2.4).

Figure 2.4: Comparison of GDP growth projections, 2021-2022

2021 projections



2022 projections



Source: PwC, OBR, OECD, IMF, BoE, HMT

(*): HMT comparison of independent forecasts (November 2021) – average of new forecasts made in last month

Beyond the recovery point, the path of the UK economic growth is largely dependent on the combined impact of various upside and downside factors.

Upside factors

- **Stronger than expected employment growth:** Despite the furlough schemes ending in October 2021, the UK labour market shows signs of resilience. We expect cautious optimism in the short term, thanks to a smaller-than-expected impact of the end of the furlough scheme. Section 4 will discuss this factor in more detail.
- **Increased household spending:** As the largest component of GDP, household spending has been an important driver of the UK's economic recovery this year. Since June 2021, full reopening of the economy has resulted in releases of pent-up consumer demand and desire to spend, consumers will likely continue to travel again or spend on leisure, goods and services, especially during this Christmas season. However, this additional consumption activity is likely to be a one-off and should be considered as a short term driver.
- **Positive but modest growth in business investment:** Following a year of relatively subdued business investment, we expect it to contribute more strongly to GDP growth this year, albeit modestly. The continued reopening of the economy will likely boost confidence and a recovery in demand and sales, incentivising businesses to invest. However, a desire to strengthen the balance sheets post-lockdown may continue to impact investment intentions.

Downside factors

- **High inflation and inevitable interest rate rises add pressures on household spending and business costs:** While the Bank of England's latest decision was not to raise interest rates in their November MPC meeting, interest rate rise is inevitable. Combined with the current price surges, rise in Bank rates would potentially have an adverse impact on household spending (especially those on mortgages), business borrowing costs, and costs of production fed through from material cost rises (see section 3 for discussion on inflation and its trajectory). Our expectation is that these downward factors will weigh down on growth at least in the short to medium term.
- **Tax rises bite:** After nearly two years of heavily subsidising and supporting economic recovery, the UK Chancellor is likely to continue with the inevitable step of further tax rises to reduce the fiscal deficit to sustainable levels. Tax rises are likely to weaken household spending. Therefore, our expectation is that the fiscal tightening measure will be introduced gradually and with caution.
- **Supply chain disruptions drag on growth:** Prolonged trade frictions (including implementation of the NI Protocol), worsened by the pandemic and rising shipping costs are expected to be a key risk to the UK economic growth in the medium term. The sluggish recovery of UK trade is also partly driven by shortages of raw materials in some sectors, which we will discuss further in the next section.



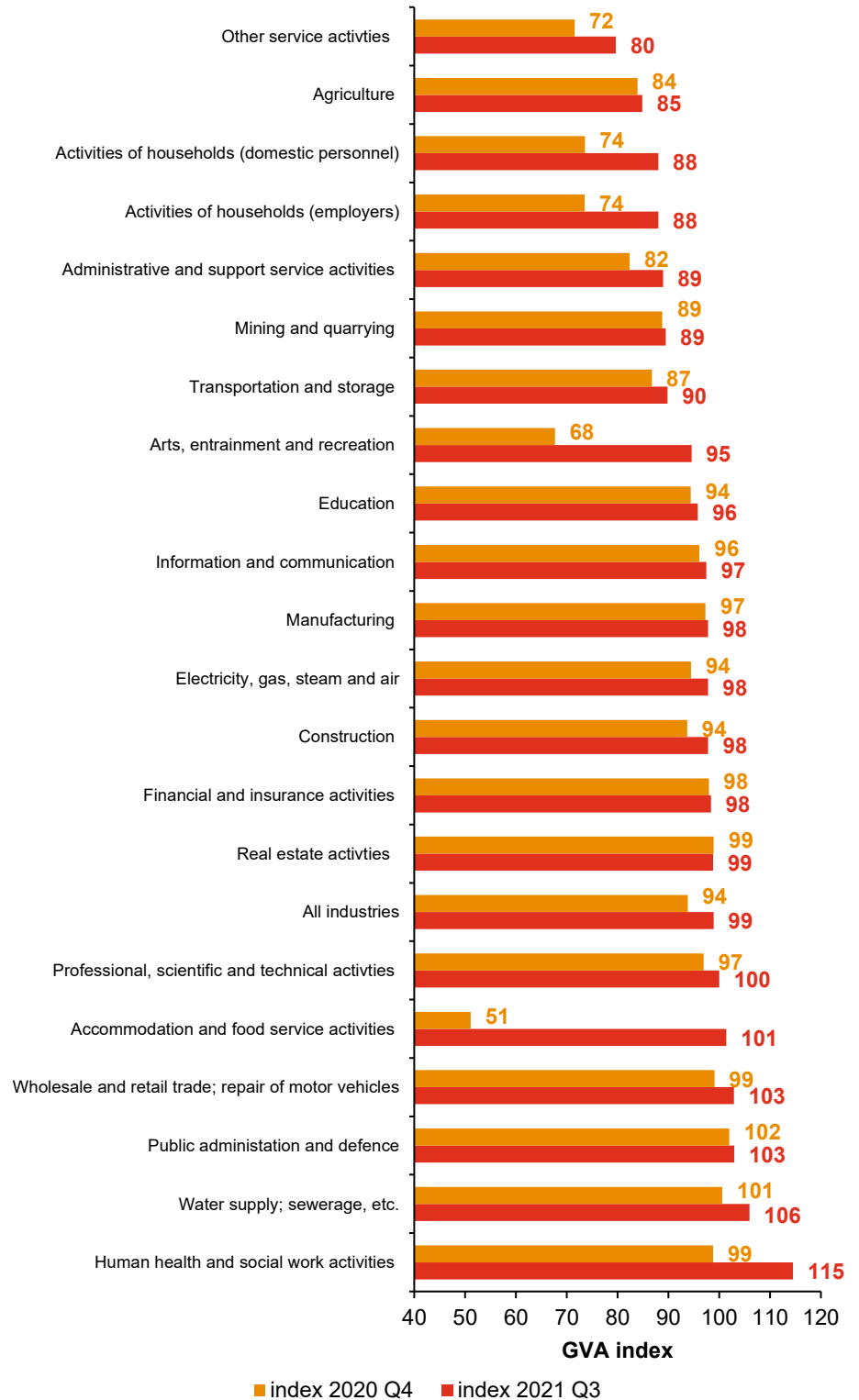
2.4 Sectoral outlook: a picture of marked polarisation

Polarised nature of UK's recovery

Strong recoveries in early 2021 post-lockdown have lessened the gap between sectors, but new forces may widen the gap in sectoral growth rates. By the end of 2020, large differentials had opened up between sectors based on their vulnerability to social distancing and lockdown measures, with some sectors producing only 50-70% of their Q4 2019 level of output. Growth over the past year has eroded many of these differences as the opening up of the economy has allowed some of the worst impacted sectors to recover; for example, accommodation and food services has passed its 2019 Q4 level of production, whilst construction and arts and entertainment sectors are closing in on their pre-pandemic levels of output.

But other sectors continue to be impacted by new ways of working and travelling, and supply disruptions. For example, with reduced demand for air travel meaning that the transport and storage sector remains at only 90% of its 2019 Q4 level. While workforce shortages and supply bottlenecks are impacting others, impacting some sectors, for example those which rely on HGV drivers. In addition to this, supply disruptions have impacted various sectors across the UK, slowing the recovery in the manufacturing and construction sectors, both of which remain just below their pre-COVID quarterly level of output (see Figure 2.5).

Figure 2.5: Sector GVA index (2019 Q4 = 100), Q4 2020 v.s. Q3 2021



Source: ONS, PwC analysis

We expect the uneven growth to continue into next year

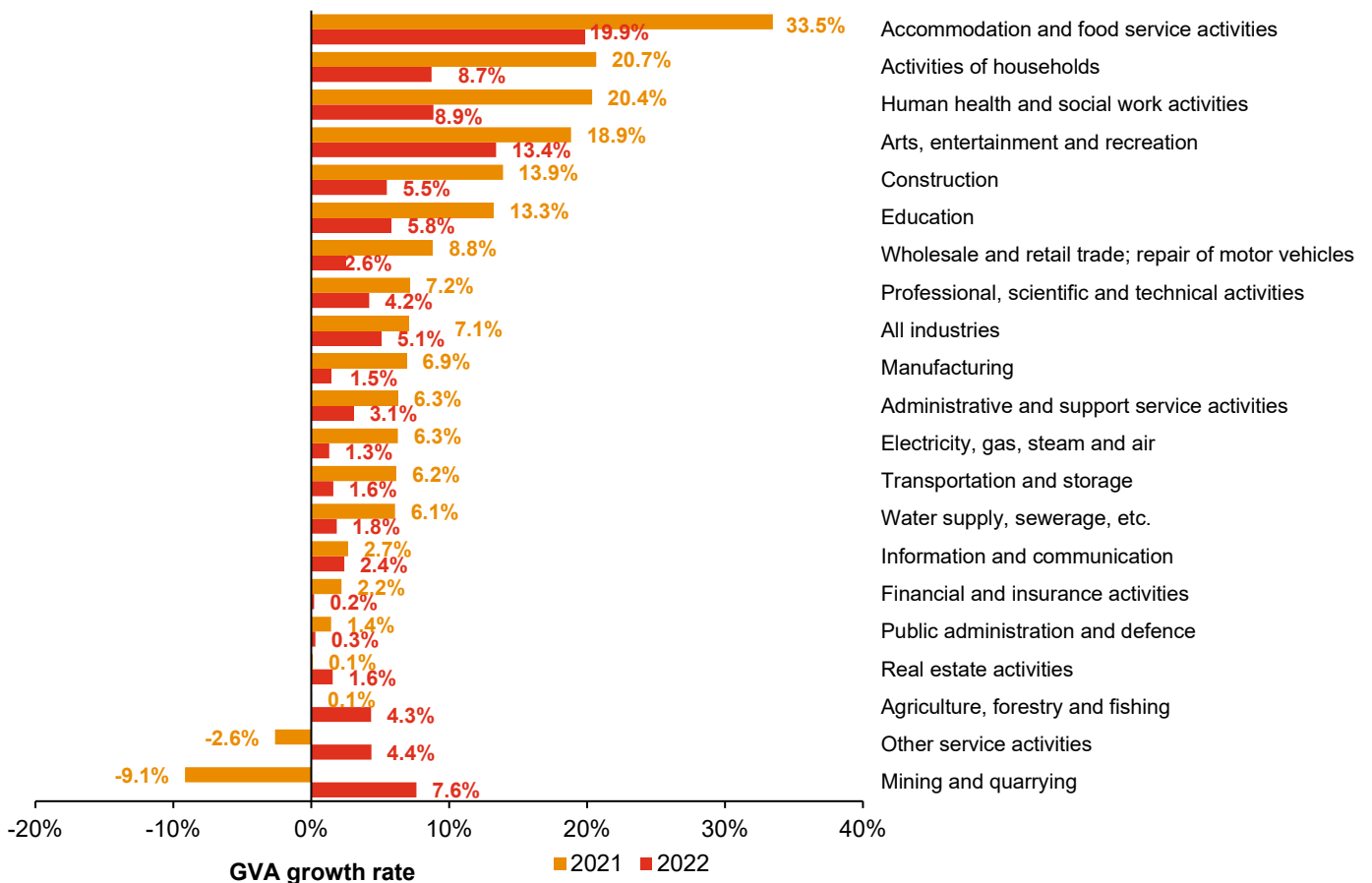
Most sectors are expected to return to growth in 2022 but some will take longer due to lingering effects of supply shortages and inflation adding pressures on business expenditure. Mining and car manufacturing are among the sectors expected to face continuing supply chain effects into 2022. Though construction is also victim of the supply chain crisis, with construction PMIs dropping sharply during the last three months,⁵ it is expected to rebound strongly over the course of the year. We anticipate supply chain pressures to be largely temporary and the sector is projected to grow by between 4.6% and 5.5% in 2022 under our 'limited' and 'accelerated growth' scenarios, and return to its pre-crisis levels by the end of Q1 next year. This is similar to the UK overall growth profile under the 'accelerated growth' scenario.

Sectors hit most by lockdown restrictions are likely to continue their recovery in force throughout 2022. Accommodation and food services are projected to lead growth of between 16%-20% next year as more people desire to move on from the pandemic and release their pent-up demand, especially over the Christmas season⁶ and summer holidays. However, in both scenarios, the year-on-year growth rates should be considered in the context of the low base that they started from in Q2 2020 and again in Q1 2021 when lockdowns hit. For example, despite strong growth, the accommodation and food sectors could still be around 7% below its pre-COVID levels by the end of 2022, while most other sectors surpass their pre-COVID levels.

The risk of an uneven spending splurge between high and lower income households may weigh down on growth. Other downward factors are weak consumer confidence due to surges in infection rates, energy prices and inflation expectations, and income uncertainty among lower income households as monetary and fiscal policy support fades.

Figure 2.6: Projected GVA growth by industry sector, % annual change, 2021 and 2022

Accelerated growth

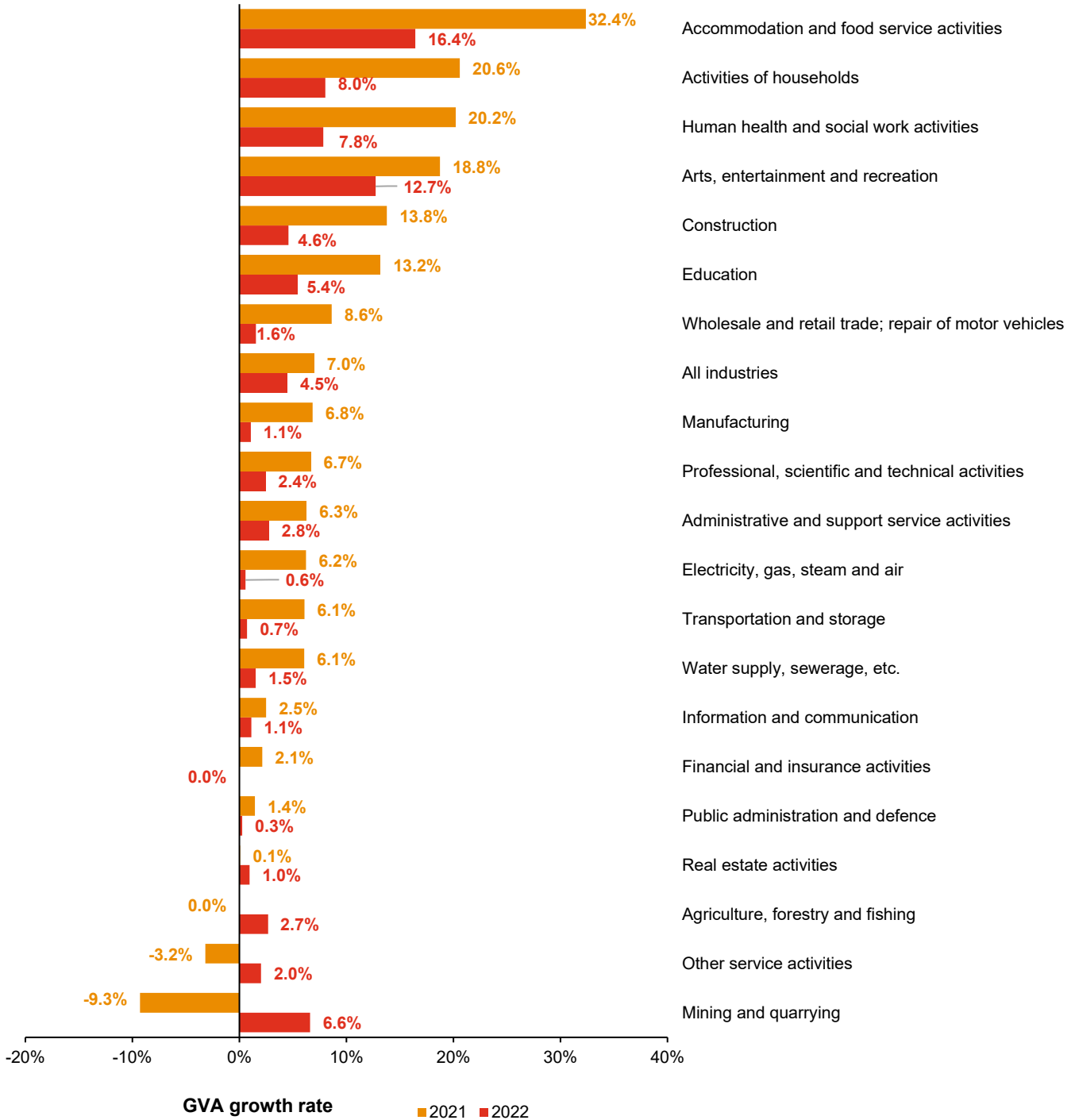


Source: PwC analysis

⁵ Construction PMIs contracted by 11% in August, 5% in September and 4% in October 2021. Source: IHS Markit/CIPS

⁶ See our PwC 'Festive Predictions – 2021' survey, [link](#)

Limited growth



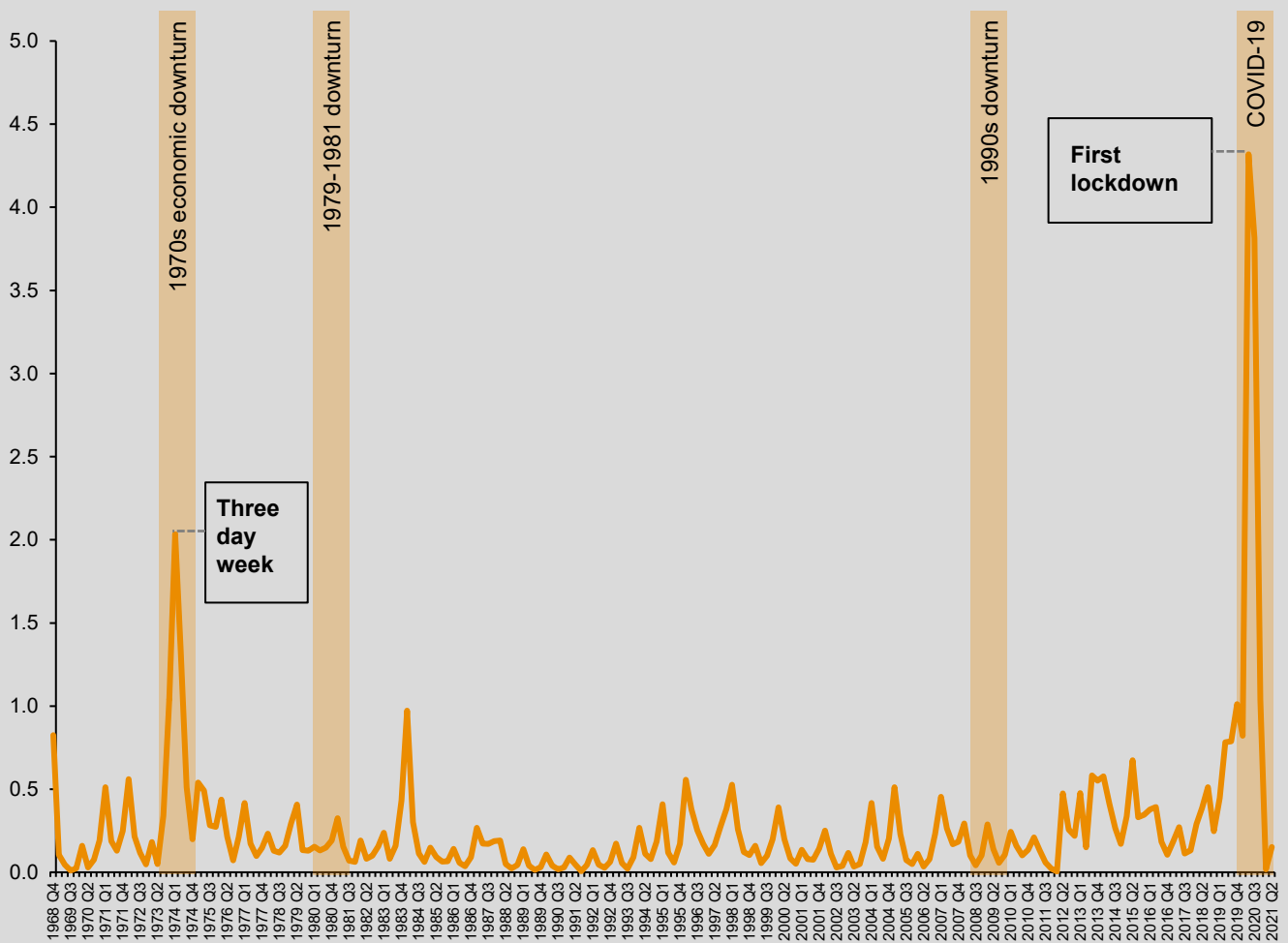
Source: PwC analysis

Box B: Polarised recovery between UK regions

The UK economy contracted by 9.8% in 2020, the sharpest drop for hundreds of years,⁷ but the impact has been polarised between UK regions. In this technical box, we investigate the levels of regional polarisation and possible underlying reasons behind such regional uneven growth.

Our analysis of the regional quarterly growth variance⁸ shows that the regional polarisation caused by the pandemic has been significantly more severe than any previous economic downturns, with the average regional disparity in Q2 2020 of 4.3 percentage points more than double the Q1 1974 peak, the nearest comparator.⁹

Figure 2.7: Variance of quarterly regional GVAs, percentage points, Q1 1968 – Q2 2021



Source: ONS, PwC analysis.

Note: Northern Ireland and Scotland are not included as their quarterly output data is not available for the whole period.

⁷ Source: ONS, [link](#)

⁸ Variance is a technical measure of how far a range of values deviate from their mean i.e. the average, with larger values suggesting greater disparities

⁹ To put the Q2 2020 figure of 4.3 pps in perspective, over the past 50 years the output growth rate variance of the UK regions had been just under 0.3 pps.

What could explain the regional polarisation?

Traditionally, regional differences in industry mix tend to explain most of the variance, yet the duration of economic shocks and region-specific responses to crises are other important explanations of these disparities. The nature of these explanations, below, may inform the progress of the UK's 'levelling up' agenda.

The extremity of economic shocks

1

Figure 2.7 above shows that two economic shocks (in Q1 1974 and in Q2 2020), the brunt of which were limited to a short period of time, had exacerbated regional variations, whereas longer recessions spread the differences more evenly over time. The acute impact was largely due to the imposition of certain nationwide emergency measures. For example, the 'Three – Day Week' was introduced from 1 January 1974 to limit commercial user's electricity consumption but lifted two months later on 7 March 1974. Similarly, 2020 lockdown restriction measures were imposed and relaxed over short periods of time between March and the end of November,¹⁰ resulting in acute economic and policy uncertainty that weighed down on growth.



Regional industry structure

2

In most cases, the sectoral structure of a region plays a significant role in the impact it feels from a recession.¹¹

Regions focused on a small number of industries are more exposed if those industries face direct impact from the crisis, whilst those with a broader base are conversely more resilient. That means if recessions are driven by the failure of a select number of industries, regional divergence of outcomes will be larger whilst recessions that hit sectors across the board tend to have a more similar impact on regional output.

For example, differences in industry mix have in part explained the larger regional disparity in the mid-1970s and early 1980s (as seen in Figure 2.7) as certain sectors were hit harder. In 1973/74, the miner's strikes combined with electricity limits shrunk the mining sector by 7% and the manufacturing sector by 4% between 1975 and 1972.¹² Following this, the mid-1970s and early 1980s recessions had particularly severe adverse impacts on regions that had a heavy industrial base, such as the North of England and the West Midlands. In contrast, the impact was less visible in the East Midlands due to its greater focus on light manufacturing and its strong growing services sector. By contrast, the 2008-2009 global financial crisis which had severe but broad impacts on the UK economy saw no UK sector contracting by more than 15%.¹³

Partly explaining the uneven drop in regional output in 2020, the accommodation and food industry contracted by – 42% and entertainment and recreation by – 28% as a result of various COVID restriction measures,¹⁴ meaning regions that are reliant on those sectors, such as the South West, Wales and Scotland in the case of accommodation and food services, and London in the case of entertainment and recreation, have been hit harder at the beginning of the pandemic.

¹⁰ Timeline of UK coronavirus lockdowns, March 2020 to March 2021, [link](#)

¹¹ Davies, A., & M. Tonts (2010), 'Economic diversity and regional socioeconomic performance: an empirical analysis of the Western Australian grain belt'.

¹² Source: ONS, [link](#)

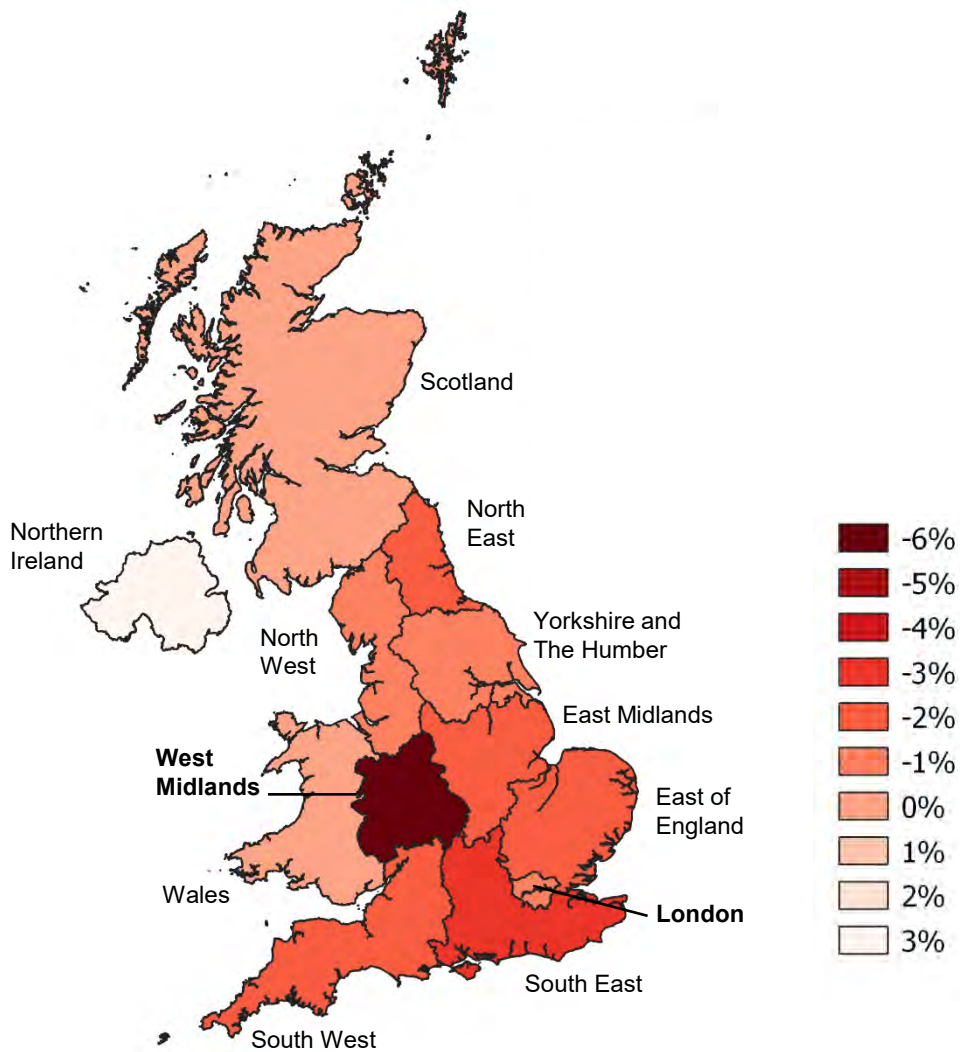
¹³ Source: ONS, [link](#)

¹⁴ Source: ONS [link](#) and PwC analysis

Most UK regions underperformed the expectations based on their existing industry structure

Over the course of the pandemic, the industry structure of each region does not seem to fully explain the geographic disparities. To illustrate this, we compare the 'expected' performance of each region on the basis of its industrial structure with the regional estimates of GVA growth provided by the ONS.¹⁵ The 'estimated' performance accounts for the effect of the industrial structure of each region, as it assumes the performance of each sector at the regional level exactly matches that at the national level. So the resulting estimates have only sectoral structure as their predictive component. We then subtracted these estimates from the early estimates of the actual GVA to show the difference between the 'actual' (i.e. the ONS estimates) and predicted (based on sectoral structure) GVA growth (see Figure 2.8).

Figure 2.8: Regional economic performance against 'expectation', percentage points, 2020



Source: ONS, [Scottish government](#), [NISRA](#), PwC analysis

Note: Darker shades indicate lower-than-expected economic performance, and the lighter shades show better-than-expected performance. Values show the extent to which changes in regional output deviated from expectations based on their industry structure.

¹⁵ Source: ONS, Model-based early estimates of regional GVA in the regions of England and Wales, [link](#)

The industry mix goes some way to explaining the regional disparities. Figure 2.8 shows the lesser impact of COVID on the economic growth in Scotland and Wales, as predicted by their sectoral makeup.

Early estimates also show that the Northern Ireland economy has exceeded expectations and is the first region to largely return to the pre-COVID levels in Q2 2021.¹⁶ This has contributed to narrowing the gap in output with the UK in 2020. However, it is worth noting that Northern Ireland measures output using Northern Ireland Composite Economic Index (NICEI) which is not entirely equivalent to the GVA measure used by the rest of the UK. London, the North West and Yorkshire and the Humber are among those performing slightly worse than expectations given their sectoral makeup. This is partly because of having a higher proportion of output coming from tourism and hospitality sectors, compared to other regions. Slightly weaker employment recovery in London would also contribute to its slightly under-expectation recovery. The West Midlands, North East, East of England, East Midlands and South East also underperformed, of which the West Midlands was hit the hardest. It is mainly due to the fact that some of these regions are more reliant on manufacturing, retail and wholesale, which have been hammered by supply disruptions and social distancing restrictions. However, this still does not explain the lesser impact of COVID on the performance of Yorkshire and the Humber and Wales, given their relatively high proportions of output attributed to manufacturing, retail and wholesale.

We also noticed that while the regional industry mix in the UK has not changed dramatically since records began in 1998,¹⁷ there have been outliers or unusual changes in the variance in regional growth rates, especially over the pandemic (seen in Figure 2.7). This further supports that these differences in regional industry structure are unlikely to exhaustively explain the striking spike in 2020 regional variance, and we will now discuss other region specific factors that could potentially add to this explanation.

Region specific factors:

3

Starting from a lower base

Stronger-than-expected regions, such as NI and Wales, were among the slowest growing UK regions in 2019. Meanwhile, weaker-than-expected regions like the South East had started from a much higher base, being the second highest 2019 growth region (after London). Each grew by around 2% compared to the UK average of 1.4%.

Higher number of cases

COVID cases and mortalities in the North East and West Midlands in absolute terms amongst the highest in the UK,¹⁸ contributing to the poorer-than-expected economic performance.

Older population

With about 19.5% of the population being over the age of 65 (compared to the average of 18.5% in England and Wales), the South East has been hit harder by the health crisis. Northern Ireland's younger population has contributed to its better-than-expected performance noted earlier.

¹⁶ Source: Northern Ireland Statistics and Research Agency (NISRA), [link](#)

¹⁷ Over the past 20 years, the UK regional industry mix has largely remained unchanged, except for a moderate shift of manufacturing (declined by between 4 and 8 percentage points) toward services, such as healthcare and professional services, which have increased by between 1 and 3 percentage points during the same period. Source: ONS, [link](#)

¹⁸ Source: Government Coronavirus Healthcare data, [link](#)



Inflation: transitory or permanent?

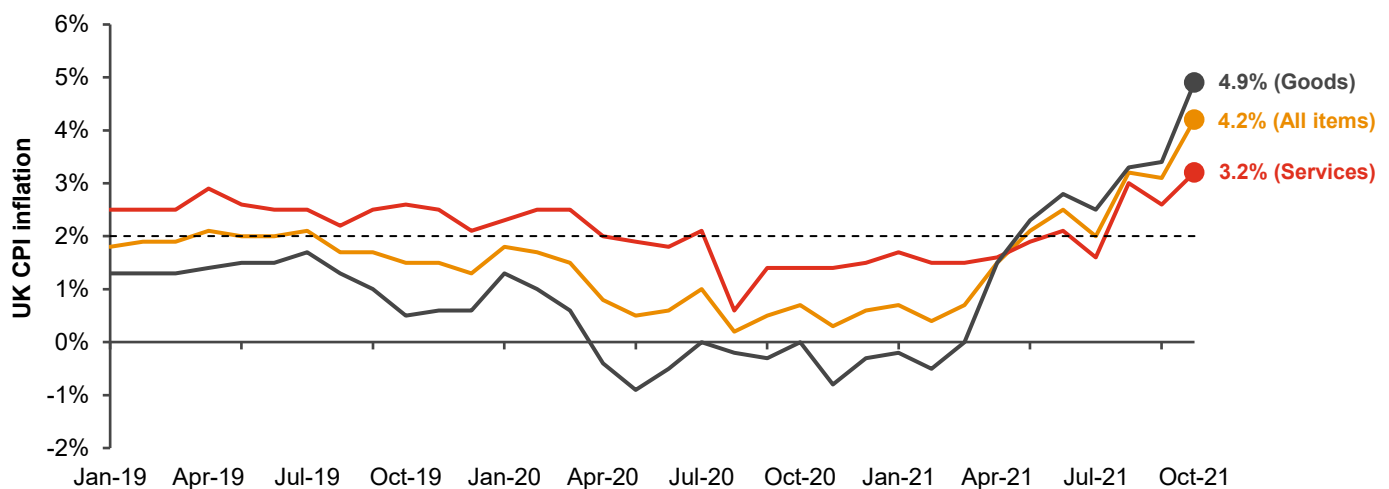


3

Inflation: transitory or permanent?

Inflation is on the rise. After averaging 0.9% in 2020, the Consumer Price Index has averaged 2.0% so far in 2021, with the latest monthly data for October standing at 4.2%. This is more than double the Bank of England’s inflation target of 2%. The most recent jump in the 12-month rate from 3.1% in September to 4.2% in October was mainly driven by goods inflation, as the household energy price cap was increased by 12%. Continued growth in the price of second hand cars has also added to inflationary pressures, as the global shortage of semiconductors limits production of new vehicles. Current pressures have also been compounded by the first scheduled increase in the hospitality and tourism sector VAT rate in October.

Figure 3.1: UK CPI inflation, by month



Source: ONS

Higher rates of inflation are likely here to stay in the short term. The OBR and the Bank of England expects inflation to average 4.0% and 4.3%, respectively, next year. Our own projections see inflation averaging 4.2%-5.1% next year, with a peak of 5.0%-6.0% in Q2, discussed in more detail below.

But the key question is whether the current high rates of inflation is a temporary (or ‘transitory’) side-effect of the pandemic or a more permanent feature of the post-pandemic economy to which businesses, households, governments and investors need to adjust to. This is the focus of this section.

Is higher inflation temporary or here to stay?

To answer this question, it is important to first understand what has been driving up inflation in recent months. We can then analyse the extent to which this inflationary pressure could be sustained in the future.

Current inflation dynamics are being driven by a combination of mathematical, supply-side and demand-side factors resulting from the COVID-19 pandemic:

- **Mathematical factors** including so-called base effects and the distribution of price increases across the components that make up headline inflation
- **Supply side considerations** including the bullwhip effect and logistics challenges
- **Demand side considerations** including the pace of the economic recovery, “excess” household savings and whether there is any evidence of a wage-price spiral developing

The following table summarises each of these factors and the extent to which the pressures are likely to persist into the medium to long term (i.e. into the next three to five years). More detailed discussion of each factor is presented in Annex A.

Breaking each driver of inflation down leads us to the conclusion that inflation is being driven by transitory factors which are expected to moderate gradually over time.

Table 3.1: Risk assessment of inflationary drivers




Likelihood that inflationary pressures will be sustained into the medium term is



Main scenario expectation		Risk rating
Mathematical factors		
Base effects	<p>Three key factors drove low CPI inflation rates last year. First, COVID-19 restrictions reduced demand for energy, goods and services. Second, government policies such as the temporary VAT cut and Eat Out to Help Out reduced prices in the hospitality sector. Third, consumer demand shifted towards goods that typically experience relatively low inflation rates.</p> <p>The combined effect of falling prices last year, alongside rising prices this year, is to artificially push up 12-month inflation rates (so-called “base effects”).</p> <p>We expect these effects will continue to add upwards pressure to headline inflation rates until the end of the year, and then to start to dissipate from early 2022. However, towards the end of 2022, base effects may start to add downwards pressure to headline inflation rates. This is because from Oct-22 onwards 12-month inflation rates will be calculated from a high base, particularly in the energy and hospitality sectors.</p>	Very low
Broad or narrow drivers of inflation	<p>Analysis of the main drivers of the increase in CPI over the past few months suggests that the headline inflation number is being somewhat skewed by a larger than normal number of outliers, as opposed to inflation being broad-based across the whole economy. However, in the latest data for October, there was evidence of a broadening of inflationary pressure as supply chain disruptions push up prices in core goods such as food.</p>	High
Supply-side considerations		
Bullwhip effect	<p>The opening and shutting down of advanced economies, has led to large and unpredictable movements in demand which have reverberated down the supply chain. Unpredictable shortages have amplified to higher consumer prices, particularly for economies that are reliant on imported consumer products and overseas supply chains.</p> <p>This trend should gradually abate as the epidemiological outlook becomes more certain, demand patterns start to become more predictable and supply chains adjust.</p>	Very low
Logistics under strain	<p>Strain in the logistics market leads to businesses transferring the one-off level increase in cost to consumers (e.g., to fund the potentially higher wages for new lorry drivers). The UK, however, is experiencing an acute shortage of labour due to tighter immigration rules.</p> <p>While we expect these factors to be largely transitory, the UK could be impacted by logistics strain for a longer period compared to other advanced economies, leading to a more sustained period of higher consumer prices.</p>	High

Main scenario expectation

Risk rating

Demand-side considerations		
Pace and duration of the recovery	In economic theory, each country has a potential GDP level given factors such as demographics, investment and productivity. When GDP exceeds this potential level, economies can overheat and inflationary pressures can build up. According to IMF estimates, the UK is expected to remain around 2% below its potential in 2021, reducing the potential for demand-pull inflation.	
Pent-up demand	There is little evidence to date of significant pent-up demand in the economy, despite large stocks of household excess savings. Retail sales volumes have fallen month-on-month over the summer and surveys suggest that concerns over the virus continue to weigh on household spending intentions.	
Wage price spiral	<p>Nominal wages have increased relatively sharply in recent months, with growth in average weekly earnings reaching 5.8% in the three months to September.</p> <p>This has in part contributed to the recent rise in short-term inflation expectations, but average wage growth is expected to moderate somewhat next year as base and compositional effects fall out of the data. However, survey data indicates that medium-term inflation expectations have remained relatively stable, with households, businesses and financial markets expecting inflation to gradually fall from 2023 onwards.</p> <p>As medium-term inflation expectations remain well anchored, our view is that there is no strong evidence yet of a wage-price spiral emerging.</p>	

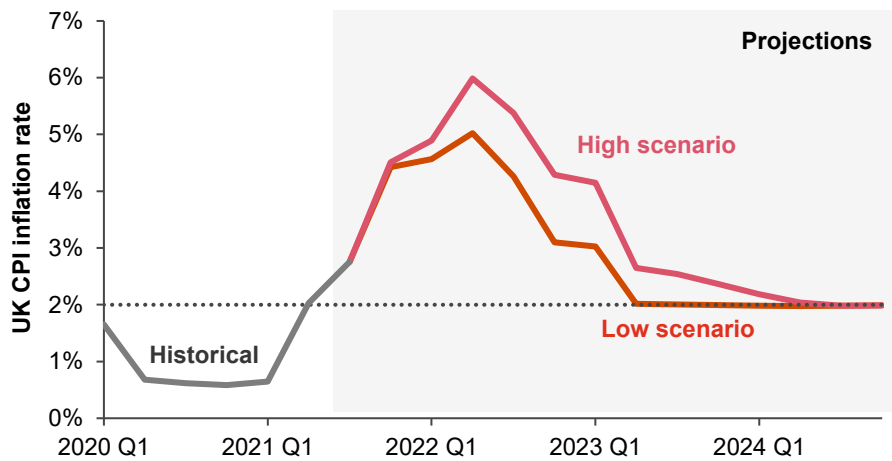
Outlook for inflation: here to stay in the short term

<p>Projecting inflation in the current economic climate has a number of challenges and uncertainties:</p> <ul style="list-style-type: none"> • To what extent will households spend the excess savings they have accumulated over the pandemic? • How long will global supply bottlenecks and logistical challenges take to normalise? • Will there be a resurgence of COVID-19 cases over the winter and what impact might this have on restrictions, consumer spending and the production and supply of goods? 	<p>To inform our view of the path for inflation over the next few years, we considered the following:</p> <ul style="list-style-type: none"> • Analysis of the likely duration of short term mathematical drivers • The extent to which we expect the current supply-side pressures (e.g. shortages of labour and intermediate inputs) to persist into the future • Our assessment of the risk of demand-pull inflation 	<ul style="list-style-type: none"> • The outlook for energy prices and its expected impact on fuel prices and the household energy price cap • The scheduled reversal of the 2020 VAT cuts for hospitality and tourism in April 2022 <p>To account for the range of likely outcomes across these factors, we have designed two illustrative scenarios for inflation prospects.</p>
---	--	--

Table 3.2: Inflation scenario assumptions

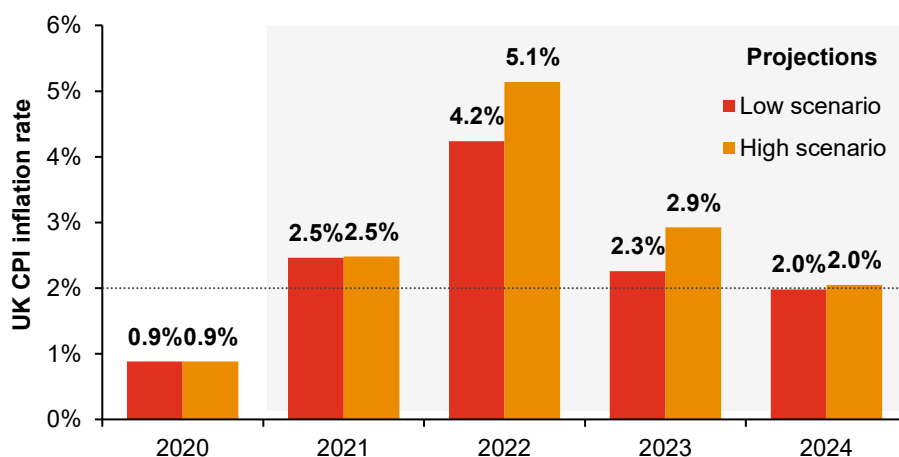
Assumption	Low inflation scenario	High inflation scenario
Supply bottlenecks	Persist until 2022 , as manufacturers gradually expand production, backlogs fade & consumers divert spending away from affected goods	Persist until mid-2023 , as it takes longer for producers to expand production, backlogs to fade and for consumers to divert their spending away from affected goods
Sector-specific wage pressures	Persist until 2022 , as temporary labour shortages are gradually resolved by improved matching of workers and jobs	Persist until mid-2023 , as skill mismatches continue for longer
April-22 energy price cap rise	£350 (27% increase from current levels)	£400 (35% increase from current levels)
VAT rise for hospitality and tourism	25% pass through to consumer prices	50% pass through to consumer prices

Figure 3.2a: CPI inflation, by quarter and scenario



Source: ONS, PwC analysis

Figure 3.2b: CPI inflation, by year and scenario



Source: ONS, PwC analysis

Inflation could reach its highest level for three decades in Q2 2022, before returning gradually back to target. Ofgem’s price cap review, combined with the scheduled reversal of the VAT cuts for hospitality and tourism, is expected to create a perfect storm that pushes headline inflation rates to around 5%-6% in Q2 2022. The last time inflation reached such heights was in 2011, when it peaked at 5.2%. However, we expect inflation to gradually fall back to target over the next 1-2 years as the impact of these two factors fade, supply bottlenecks ease, and base effects dissipate.

Energy and fuel prices are expected to drive most of the rapid rise in inflation. Despite only accounting for around 6% of the CPI basket, we expect energy and fuel to account for around a third of the decade-high Q2 2022 headline inflation rate. This is not without precedent. Sharp movements in energy prices have often generated large inflationary pressures in the UK, with the most recent episode in 2011. However, as in historical cases, we expect that high energy prices will soon start to moderate, as supply and demand become more aligned. Once we make it through a cold winter, demand for energy will gradually subside, while supply of gas to Europe will be boosted by Nord Stream 2 and the diversion of LNG cargoes to the continent. The resultant easing of energy prices should help to bring headline inflation rates down from their Q2 2022 peak.

Higher inflation could be sustained for longer if inflation expectations become de-anchored. If people become accustomed to inflation exceeding the Bank's target, this can lead to businesses setting higher prices and workers demanding higher wages (which in turn leads to businesses setting consumer prices to cover higher labour costs). De-anchored inflation expectations have the potential to create a self-reinforcing spiral. Inflation expectations for the next 12 months have risen sharply, with Citi/YouGov's Oct-21 measure reaching its highest level since 2008 (4.4%). However, expectations for 5-10 years ahead only increased marginally to 3.7%, up 0.5 percentage points from its pre-pandemic (2010-19) average. However, there is the risk that households will uplift their medium-term expectations once they see their utility and shopping bills rising sharply in the coming months, or as they observe pay increases for peer employees.

Box C: Implications for interest rates

The Bank will only act when there is a medium term inflationary risk...

The Bank of England's decision in its November MPC meeting to keep interest rates on hold may have come as a surprise to financial markets. But because it takes time for monetary policy to have an impact on inflation, the Bank will only raise rates when it considers there is a medium term risk of high inflation. In its November meeting, there was not enough evidence that this was the case.

...But current inflation pressures are largely expected to be transitory...

As we discuss in this article, current inflation pressures are likely to be transitory factors, which will gradually ease as base effects dissipate, supply bottlenecks normalise and energy prices stabilise. While there are some risks to this outlook, for example the amplifying impact of Brexit on the UK's supply and workforce pressures, on balance, the evidence does not point to the presence of significant medium term inflation risks.

...And mainly driven by supply side factors

A rise in UK interest rates will be unable to bring any of the current supply-side inflationary pressures under control. Combined with the time lag, this means that a rise in rates could be ineffective at combating the inflation we are currently seeing today and this is a key consideration for the Bank.

Keeping rates on hold gives the Bank more CPI and labour market data...

The first indicators of the labour market post-furlough have begun to arrive and are positive - as discussed in the following section. But it could take time for the full impact of the end of the scheme to be evident due to staff serving out their notice period. In addition, given how many irregular factors (such as base effects) are feeding into the monthly CPI rate right now, more data is crucial to understanding how high underlying inflation really is. The Bank needs more evidence and analysis in order to judge how high the medium term risk to inflation is before making a change to monetary policy, the full impacts of which can take up to two years to be felt on the economy.

... And does not risk stalling the UK's economic recovery

A rise in rates could also have put the UK's economic recovery at risk, especially given mounting risks to the economic outlook, including supply chain issues and the huge disparities we are seeing in the labour market. With some sectors in stress due to shortages and others in slack, it is difficult for the Bank to know whether it is the right time to raise rates.

However, evidence of labour market tightening makes a rate rise in the coming months more likely...

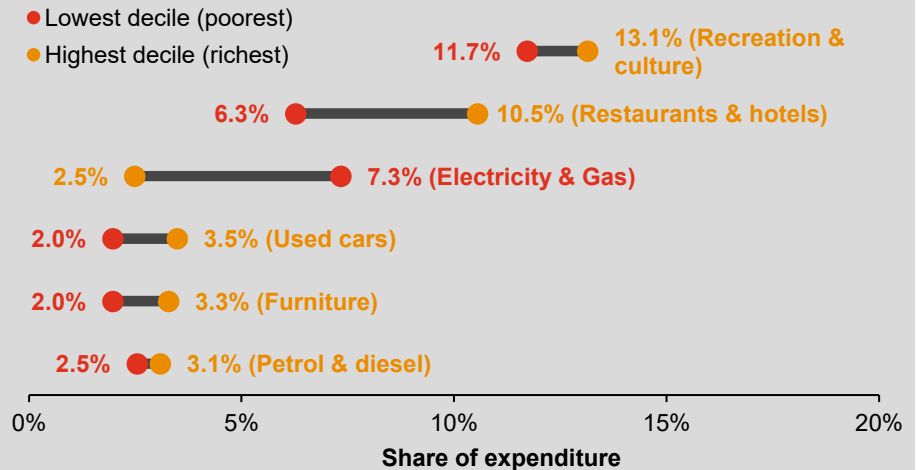
A resilient labour market means that the Bank can be less concerned about the risks of a rise in rates to the UK's recovery and to unemployment. The Bank is also likely to become increasingly concerned about the risks of inflation expectations increasing and becoming de-anchored. As a result, we expect a small rate rise in the coming months - although whether that happens in December depends crucially on the next month's labour market data (which could begin to show more of an impact of the end of furlough).

Box D: What does high inflation mean for households?

High inflation tends to have a negative impact on households in the following circumstances:

1. Prices rise for necessities such as food, energy and transport. We are currently seeing inflation for a mixture of necessities and luxuries. On the one hand, inflation is being pulled up by items such as cars and restaurants & hotels. As prices rise, these are items where households can cut back on spending as they take up a larger share of income. On the other hand, items such as fuel and energy are also seeing large price rises. These are items where it is much more difficult to cut back spending. As lower income households generally spend more on necessities than higher income households (see Figure 3.3), they are hit harder by price rises of these items. In April 2022, household energy bills could rise by as much as £350 to £400, when a new energy price cap will be put in place. For the lowest earning households, this would equate to around a 3% rise in their annual spending – adding significantly to their living costs – compared to a less than 1% rise for the highest earners.

Figure 3.3: Share of expenditure, by household income decile and inflation component



Sources: ONS, PwC analysis

Notes: Only inflation components that are experiencing, or are expected to experience, large price rises are shown.

2. Prices increase at a faster rate than wages. If consumer prices increase at a greater rate than wages, then households will experience a fall in the real purchasing power of their wages. This means to purchase the same basket of goods and services, it will require a greater share of income. In the three months to September, nominal growth in average weekly earnings was 5.8%, but when inflation is taken into account, real growth was 3.1%. With inflation expected to average around 4-5% next year, and nominal average earnings growth expected to slow down as base and compositional effects dissipate, real earnings growth has the potential to be slow, or even close to zero next year.

3. Households have lower incomes.

The two factors discussed above will have a disproportionately negative impact on lower income households, who will feel the impact of a squeeze on real incomes more. While in aggregate, UK households are estimated to have amassed excess savings of over £125bn during the pandemic, these savings are not evenly distributed across the income distribution. Lower income households have tended to see a fall in their incomes and savings, for example due to their greater likelihood of being on furlough or having lost their job. In addition, analysis by the Resolution Foundation suggests that the net result of the removal of the £20-per-week boost and other changes in Chancellor's Autumn Budget will reduce incomes for 73%, or 3.6 million, families in receipt of Universal Credit in 2022-23. This means that lower income households could potentially face a significant squeeze on their real incomes and challenges with the cost of living.

¹⁹ Resolution Foundation, [link](#).



The labour market: cautious optimism



4

The labour market: cautious optimism

Recent developments in the labour market - getting tighter?

Most measures of labour market health are now moving in the right direction. Vacancies are at historic highs, the number of payrolled employees rose in October despite the end of the furlough scheme, and the unemployment rate as of Q3 is now just 0.3 percentage points higher than it was pre-COVID. These indicators point to increasing tightness in the labour market. However, there are also frictions which have the potential to prevent a completely smooth labour market recovery. Firms are continuing to report significant challenges in recruiting staff and the economic inactivity rate remains elevated.

The unemployment rate fell to 4.3% in September, falling 0.5 percentage points compared to the previous quarter. Inactivity, while largely unchanged on the quarter, is 0.9 percentage points higher than it was pre-COVID, as some workers remain reluctant to return to work, potentially due to fears about COVID-19, or they do not have the skills to take roles where demand is strong. It is also important to note that increases in employment are in part due to growth in more insecure forms of work (i.e. part-time and zero hours contracts) which may have implications for the longer term health of the labour market given the continued growth of the gig economy over the pandemic.

While the underemployment rate is lower than it was pre-COVID. This measures the share of employed people who want to work more hours than they are. After reaching 9% in Q4 2020 compared to pre-COVID rates of around 7.5%, the underemployment rate fell to 7.1% in the three months to September this year. This is, however, in part driven by the higher than usual rates of economic inactivity. Combined with a low unemployment rate, this points to increasing tightness in the labour market.

Record high job-to-job moves suggest worker confidence is rising. A record 3.2% of workers changed jobs in Q3 2021, mainly as a result of resignations as opposed to dismissals. This likely reflects a combination of rising vacancies and opportunities, workers keen for a fresh start after the pandemic, the backlog of workers who delayed moving jobs over the pandemic, and rising confidence in the economy. A recent survey by Randstad found that almost 25% of workers plan to move jobs in the next 3-6 months.

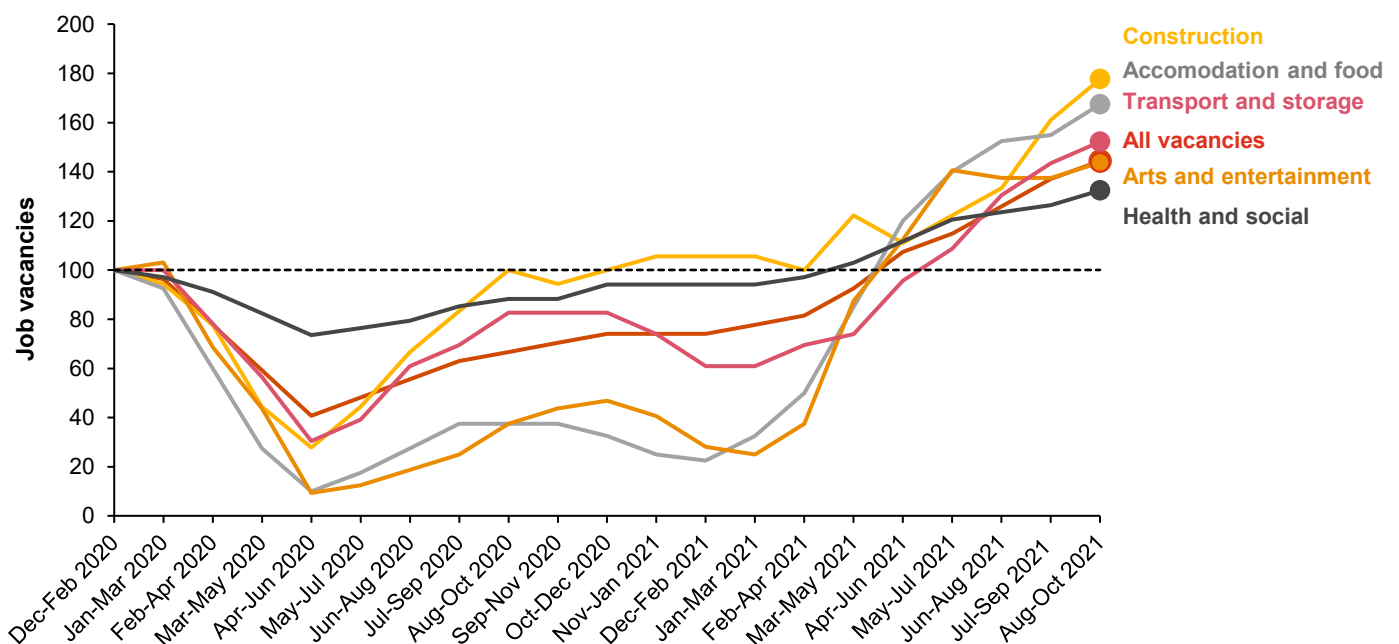
Earnings growth remains strong and broad. In the three months to September, annual growth in average total pay was 5.8% in nominal terms and 3.1% in real terms; however, this data continues to be impacted by base effects (i.e. comparisons with low pay a year ago

during the pandemic) and compositional effects (i.e. due to a fall in low-paid employee jobs in the labour market) which push up average earnings. Also at play are robust public sector pay growth, the UK's economic recovery, and higher bonuses, with the tightening labour market and worker shortages in some sectors likely leading employers to offer higher wages.

Around 1.1 million people were still on furlough when the scheme came to an end. This is equivalent to 4% of employment which are eligible for furlough and 13% of the peak number of furloughed jobs seen in May 2020. The number of people on furlough, as well as the share of people on full furlough (as opposed to flexible), has been gradually falling since January, although the rate of monthly decrease has slowed over the summer compared to the spring.

Aggregate UK indicators suggest the labour market could be in a good position to absorb furloughed workers. The number of job vacancies in the three months to August rose to a new record high. The quarterly increase of 388,000 vacancies was broad-based across the economy, with 15 of the 18 industries reaching new records. Vacancies in all industry sectors are above their pre-COVID levels.

Figure 4.1: Job vacancies per 100 employee jobs, seasonally adjusted, (Index, December to February 2020 = 100)





But recent recruitment challenges suggest that it won't be a completely smooth transition. According to the Bank of England's agents survey, scores for recruitment difficulties reached a series high in Q3. No single factor is driving these challenges, but a combination that are all playing out at the same time. Many businesses let go of lots of workers at the start of the pandemic and are struggling to cope with a faster-than-expected rebound in demand. This is compounded by the impact of Brexit, with a reduction in the availability of EU workers, which has been made worse by COVID travel restrictions.

There could be several frictions at play in matching available workers to available jobs. These frictions may be related to a mismatch of the skills of furloughed/unemployed workers and the skills employers need. However, around half of employers in the October Lloyds Bank Business Barometer reported finding it easier to hire since the end of furlough, indicating some level of agility of workers across occupations and sectors.²⁰ They may also be related to changing preferences. Many workers might not want to work in sectors that fared badly over the pandemic, such as hospitality, due to lingering uncertainty about the virus and reinstated restrictions, as well as increasing preferences for more flexible and secure jobs.

The outlook for the UK labour market - cautious optimism?

Emerging evidence suggests the end of the furlough scheme has not set back the labour market recovery.

Various indicators and surveys suggest that a significant majority of the 1.1 million workers still on furlough at the end of September remain in employment. This evidence includes:

- Across all sectors, businesses surveyed by the ONS in the middle of October reported that just 2.8% of furloughed workers had been made redundant.²¹
- A survey by the Resolution Foundation of furloughed workers suggests a slightly higher redundancy rate, with 3.4% reporting to be unemployed and 8.5% reporting to be inactive.²²
- Similarly, according to a Bank of England/NMG survey, around 10% of furloughed respondents expected to lose their job at the end of the scheme, and half of these were also positive about finding work elsewhere.²³
- Early estimates for October indicate that the number of employees on the payroll increased by 160,000 from September, despite the end of the scheme.
- The Bank of England also reports that redundancy notifications (i.e. cases where firms make 20 or more redundancy notifications in one establishment) have been virtually unchanged since August.

However, it will take some months to understand the full impact of the end of furlough. This is because furloughed employees that have been made redundant will still be included in the payroll data while they serve out their notice periods. This means the true impact on the unemployment and inactivity rates might not be seen until the end of the year.

This means the short term outlook for the labour market is cautiously optimistic. The emerging evidence points to a small overall impact of the end of the furlough scheme and we do not expect a notable increase in the UK unemployment rate over the coming months. However, it is likely that there will be a rise in the inactivity rate, as workers are discouraged from entering the workforce after so long out of work. It will therefore be important for government policy to shift its focus from the unemployed to the inactive, for example through retraining and reintegration programmes.

COVID is having an uneven impact on the labour market in different sectors.

Figure 4.2 below shows the disparities in labour market slack across different sectors and that the number of vacancies per available worker (sum of unemployed and furloughed workers) is higher compared to pre-COVID ratios in many sectors. Despite this, many sectors are reporting significant recruitment difficulties, suggesting frictions in matching available workers to vacancies.

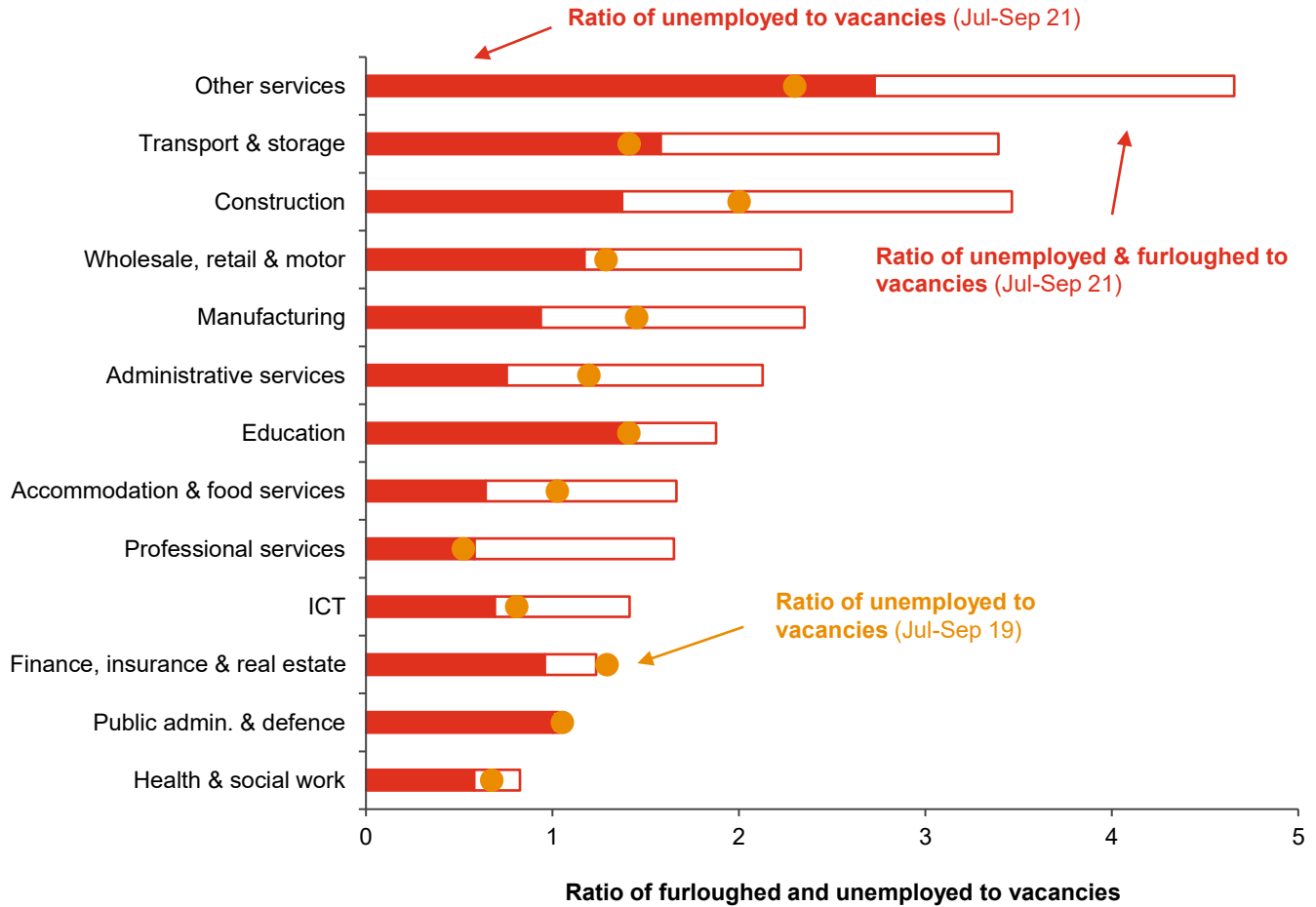
²⁰ 'Business confidence holds firm as furloughed workers return' (2021), Lloyds Banking Group, [link](#)

²¹ ONS, Business Insights and Conditions Survey, Wave 42, [link](#)

²² Resolution Foundation, [link](#)

²³ Bank of England, Monetary policy report November 2021, [link](#)

Figure 4.2: Ratio of available workers to vacancies by sector, Jul-Sept 2019 and Jul-Sept 2021



Source: ONS, PwC analysis

This means there will inevitably be a period of adjustment over the coming months. The path of labour market recovery is unlikely to be smooth, as skills mismatches and changing worker preferences create frictions. We expect to see a period of adjustment over the coming months as people retrain and move into new sectors.



Technical annexes: modelling methodologies

Contents

Annex A: Inflation – detailed analysis of key drivers and projected outlook	31
1. Mathematical factors	32
2. Supply-side considerations	34
3. Demand-side considerations	35
4. Inflation projections	37
Annex B: Nowcast	38



Annex A: Inflation – detailed analysis of key drivers and projected outlook



Base effects

CPI inflation is quoted in 12-month terms. For example, the CPI rate in April 2021 is calculated as the level of consumer prices in that month, divided by the level of consumer prices in April 2020 to understand the rate of change.

There are two mathematical ways to get a high inflation reading for April 2021.

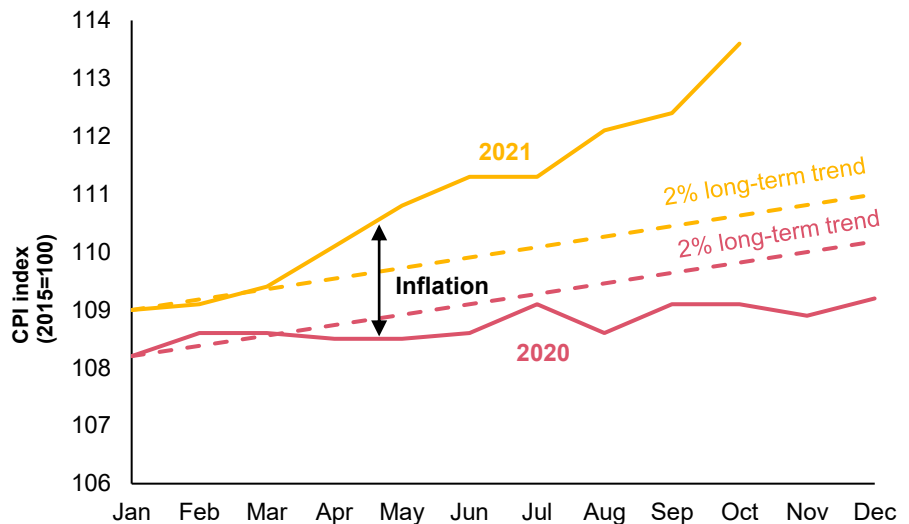
- Relatively low denominator i.e., the price level in April 2020 is a smaller number.
- Relatively high numerator i.e., the price level in April 2021 is a larger number

Over the past year, both of these mathematical effects have been at play, artificially inflating the rate of inflation due to “base effects”. This is because:

- The COVID-19 pandemic led to low consumer prices last year, mainly due, i) restrictions causing a collapse in demand, for example for energy and restaurants and travel, and ii) government policies such as the VAT cut in hospitality and the Eat Out to Help Out scheme in August 2020. This means CPI rates for 2021 have been impacted by a low denominator.
- As lockdowns ended and demand rebounded, prices began to grow again. Combined with a number of specific supply-side and policy inflation drivers (which we explore in this article), CPI rates for 2021 have also been impacted by a relatively high numerator.

These effects are illustrated in Figure A.1 below, showing the extent to which CPI was below its long term 2% trend in 2020 and is above the trend in 2021. With lower consumer prices still evident in December 2020, base effects are likely to continue playing a part in higher inflation for the rest of the year, but will dissipate from early 2022.

Figure A.1: CPI index, by month and year, 2015=100



Sources: ONS, PwC analysis

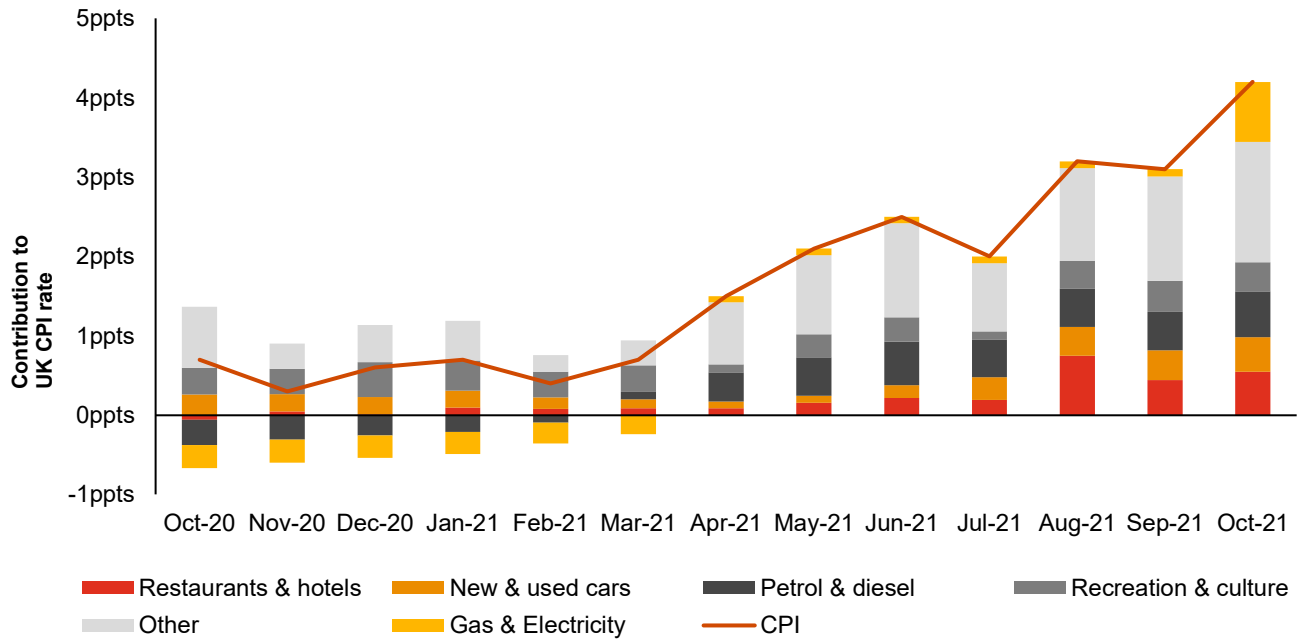
Broad or narrow drivers of inflation

A key piece of the puzzle in understanding whether inflation will be transitory or not, is understanding how broad-based inflation pressures are. In other words, whether current high rates of inflation are being driven by a small number of goods, i.e. due to specific supply bottlenecks or pressures, or whether we are seeing inflation across sectors and goods and services.

Figure A.2 below shows that the key drivers of inflation over the course of 2021 have been energy and fuel prices and higher prices for restaurants, hotels and recreation. In addition, new and used cars accounted for 10% of October’s inflation rate, despite only making up around 4% of the inflation basket.

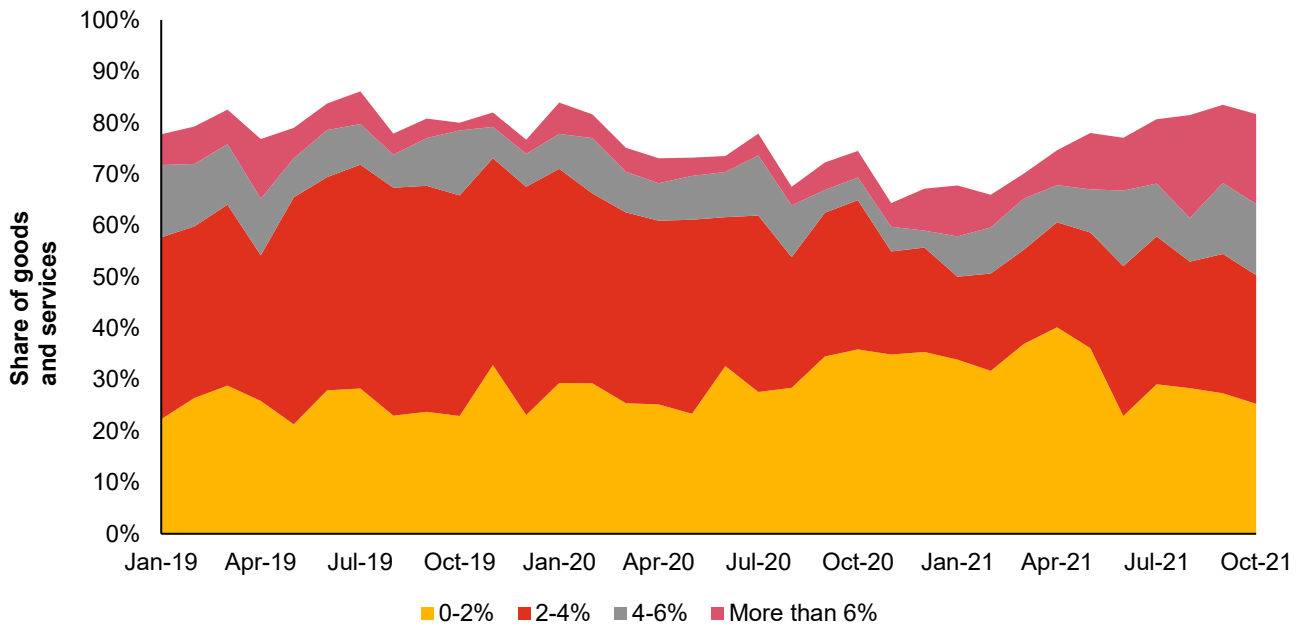
And Figure A.2 shows the significant increase in the share of items experiencing large increases in prices above 6%. Typically, less than 5% of items experience inflation of more than 6%; this share reached 20% in August. This suggests that the headline inflation number is being somewhat skewed by a larger than normal number of outliers, as opposed to inflation being broad-based across the whole economy. However, in the latest data for October, there was evidence of a broadening of inflationary pressure as supply chain disruptions push up prices in core goods such as food.

Figure A.2: Contribution of items to CPI rate



Sources: ONS, PwC analysis

Figure A.3: Share of goods and services by percentage change in price



Source: ONS, PwC analysis. Note: excludes items whose change in price is <0%

2

Supply-side considerations

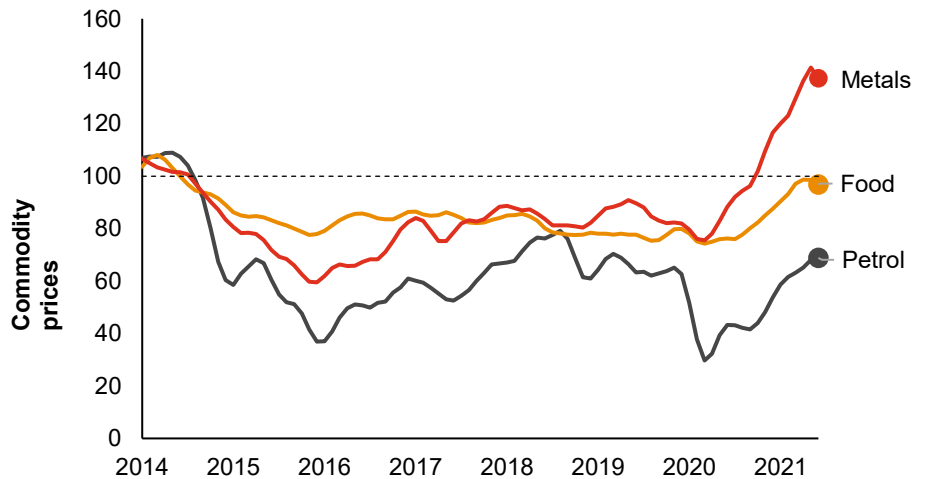
Bullwhip effect

The bullwhip effect refers to how distorted information from the demand side of the economy leads to inefficiencies and bottlenecks throughout supply chains. This can cause volatile prices as the supply chain struggles to respond to changes in demand.

The opening and shutting down of the UK and global economies led to large and unpredictable movements in demand. These fluctuations have reverberated down the supply chain, which has not been able to respond adequately. For example, we have already seen the bullwhip effect at play in certain sectors of the economy including semiconductors, timber, and personal protective equipment – all of which are experiencing volatile prices. More broadly it can also be seen in the commodity markets (see Figure A.4).

Going forward and if the epidemiological outlook starts to become more predictable, we expect demand across the economy to become more predictable. This should help alleviate some of the unforeseen pressures supply chains have experienced leading to more predictable and stable pricing.

Figure A.4: Commodity prices, 3-month rolling average, 2014 =100

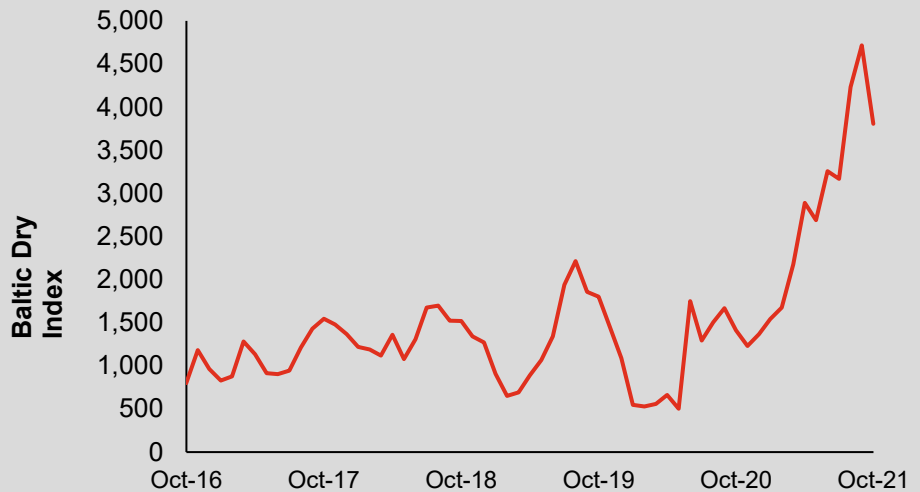


Sources: IMF, PwC analysis

Logistics challenges

The strong rebound in demand in some sectors following the easing of restrictions has put the logistics sector under strain. To illustrate, Figure A.5 shows the Baltic Dry Index, which is a proxy for the cost of dry bulk shipping and reflects the price pressure the industry has faced. The strain on the logistics sector is being experienced globally. However, the UK is facing additional challenges related to Brexit resulting in a shortage of lorry drivers. When businesses face extra costs in logistics, they may choose to transfer this cost onto consumers in the form of higher prices (e.g., to fund the potentially higher wages for new lorry drivers).

Figure A.5: Baltic Dry Index



Source: Refinitiv

In general, we would expect the logistics sector to gradually adapt to these changes while demand patterns become less volatile. While we expect these factors to be largely transitory, the UK could be impacted by logistics strain for a longer period compared to other advanced economies, leading to a more sustained period of higher consumer prices.

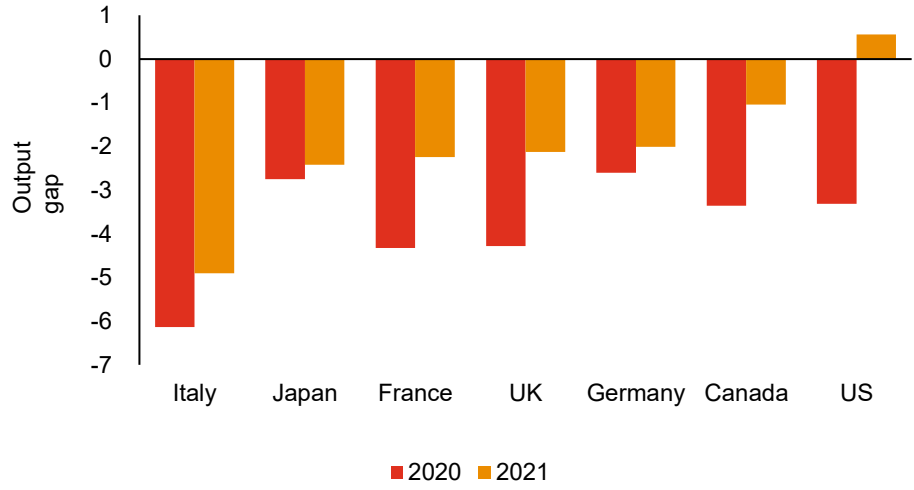
3

Demand-side considerations

Pace and duration of the recovery

In economic theory, each country has a potential GDP level given factors such as demographics, investment and productivity. When GDP exceeds this potential level, economies can overheat and inflationary pressures can build up. With the exception of the US, the IMF estimates that all G7 economies are operating below capacity (i.e. a negative output gap) this year. The UK is expected to remain around 2% below its potential in 2021, reducing the potential for demand-pull inflation.

Figure A.6: Outputs gaps across the G7



Source: IMF

Pent-up demand

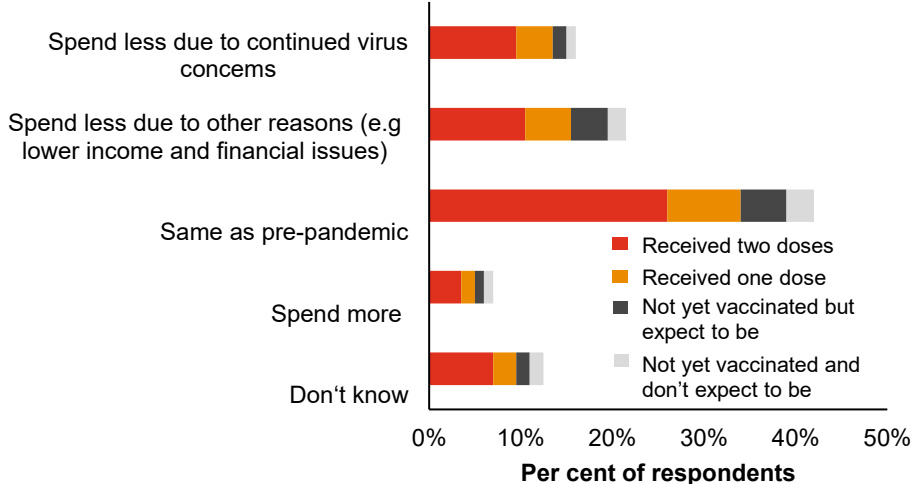
Since the start of the pandemic, UK households have saved around 16% of their incomes – three times as much as they did before the pandemic.²⁴ These excess savings have the potential to create significant pent-up demand in the economy, contributing to demand-side inflationary pressures. The Bank of England, for example, doubled their assumption of the share of excess savings that households would spend from 5% to 10% earlier this year.

However, to date we have seen little evidence that households are running down their excess savings.

- Retail sales volumes have fallen each month since April 2021, when non-essential retail reopened.
- Only around 8% of households planned to spend more compared to pre-pandemic over the summer, compared to 35% of households who planned to spend less.²⁵
- Survey evidence suggests that around 70% of households plan to hold excess savings in a bank account, as opposed to spending.²⁶

This might change in the future once the risk of contracting COVID-19 remains low for a long period of time – around 40% of households planning to spend less than they did pre-pandemic are doing so because of concerns about the virus.²⁷ With most excess savings being held in liquid assets, they can be converted to spending easily.

Figure A.7: Household spending plans



Source: Bank of England

²⁴ ONS, Households; saving ratio (per cent): Current price: £m: SA [DGD8]

²⁵ Monetary Policy report, August 2021, Bank of England, [link](#)

²⁶ Monetary Policy report, May 2021, Bank of England, [link](#)

²⁷ Monetary Policy report, August 2021, Bank of England, [link](#)



Wage price spiral

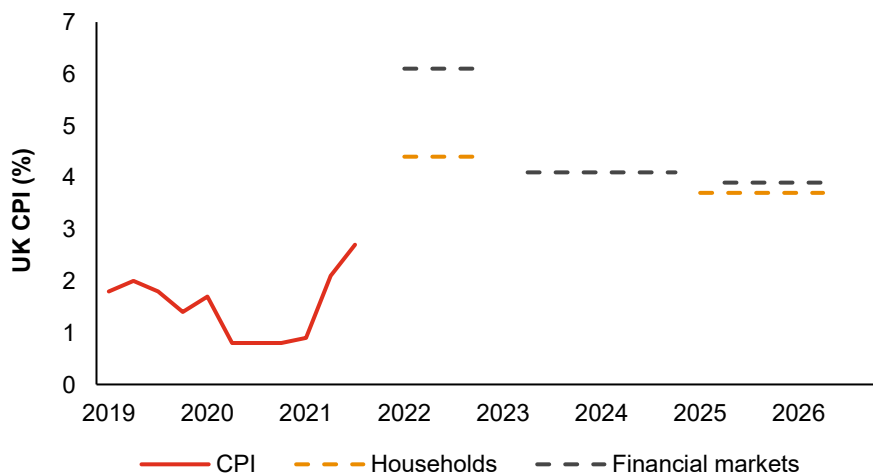
One of the biggest debates surrounding the recent rise in inflation has been the potential impact of expectations on the future path of inflation. A wage price spiral occurs where expectations of higher inflation rates in the future lead businesses to increase their prices and for workers to demand higher wages in response. This creates a self-reinforcing cycle of inflation.

Surveys of households and financial institutions can be used as a proxy for inflation expectations. While less weight should be placed on their specific numbers, they can provide a useful indication of how long they expect higher inflation to persist for.

Figure A.8 below shows that both households and financial markets expect inflation to continue to rise well above target in the short term. These short term expectations are likely being influenced by rising prices for things like food, utilities and petrol, combined with the prevalence of inflation in the news in recent months. Looking into the medium term, survey evidence suggests that while households and financial markets expect inflation to gradually fall from 2023, they expect it to remain above the Bank of England's 2% target into the medium term.

Given differences in methodologies and metrics, it is challenging to assess the extent to which these expectations are above their historical average. In the Bank of England's latest monetary policy report, they follow an approach which combines various indicators into a model to estimate underlying expected inflation. They conclude that underlying inflation expectations in the UK have been stable recently and that they remain well anchored. This suggests that there is no strong evidence of a potential wage-price spiral and is reflected in the Bank's latest decision not to raise interest rates in their November MPC meeting.

Figure A.8: Household and financial market views on UK CPI



Source: Bank of England, Bloomberg, Citigroup, YouGov, ONS

4

Inflation projections

To inform our view of the path for inflation over the next few years, we considered the following:

- Analysis of the likely duration of short term mathematical drivers
- The extent to which we expect the current supply-side pressures (e.g. shortages of labour and intermediate inputs) to persist into the future
- Our assessment of the risk of demand-pull inflation
- The outlook for energy prices and its expected impact on fuel prices and the household energy price cap
- The scheduled reversal of the 2020 VAT cuts for hospitality and tourism in April 2022

We have then identified the inflation components that have been most affected by these inflationary pressures or are expected to be so over the forecast horizon. This includes fuel, energy, food & drink, furniture, vehicles, and hospitality. These components account for around two-thirds of current inflation rates, despite only making up just over one-third of the CPI basket.

Next, we projected price inflation in each of these components based on our research (outlined above), regression analysis, and consultation with PwC experts. For instance, in the case of energy, we have assumed that prices will follow their respective future curves throughout the forecast horizon.

We have then used regression analysis to estimate the impact of movements in energy prices on electricity & gas and petrol & diesel prices over the next few years.

Finally, we have aggregated our projections for price inflation in each of these components, based upon their relative weights in the CPI basket, to produce projections for headline CPI inflation.





Annex B: Nowcast





Nowcasting is an advanced statistical model that is known for its ability to produce short term predictions of economic indicators with a relatively high level of accuracy and frequency.

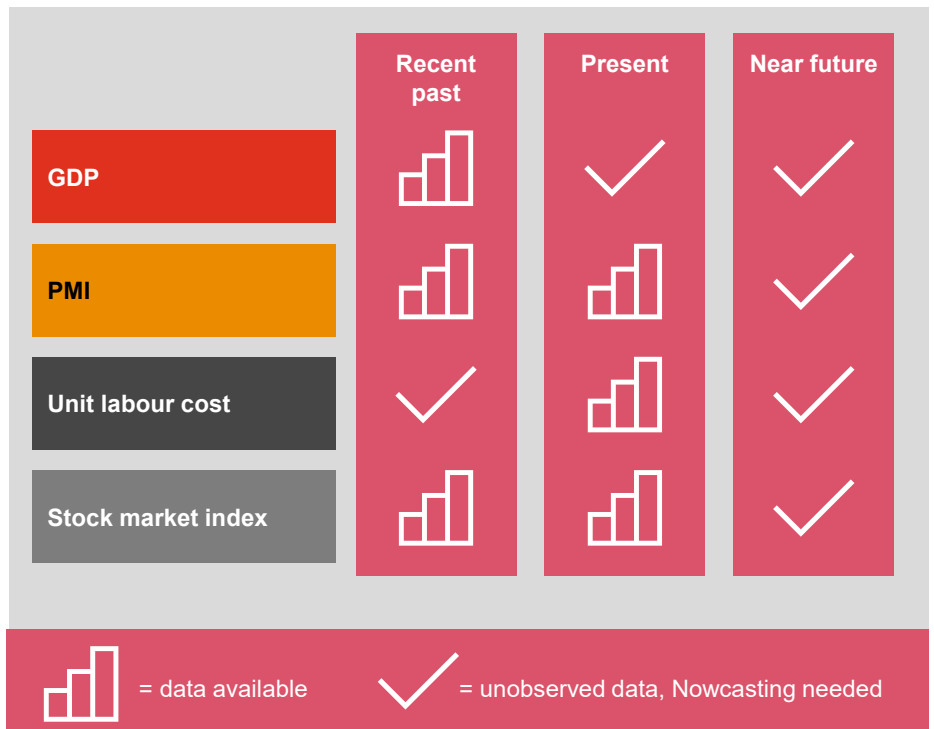
Why do we need to Nowcast:

In an ideal world, a wide range of macro indicators (e.g. GDP, inflation) at a high frequency (e.g. daily or monthly) would be used to monitor and evaluate real-time economic activities. However, often these indicators are available at a different frequency (e.g. quarterly) or are reported with a lag (usually 1-3 months). Therefore, most forecasters provide low frequency forecasts but we are one of a few organisations to bridge this gap and develop high frequency forecasts.

Advantages of this approach:

- Nowcasting provides a timely view on the current state of the economy;
- Nowcasting provides a relatively accurate forecast for the near future;
- Nowcasting provides a view of an unobserved indicator (e.g. due to low frequency reporting) and predicts the missing values of the recent past;
- A full nowcasting model has the ability to nowcast not only the targeted variable (e.g. GDP) but also some other key economic indicators (e.g. inflation).

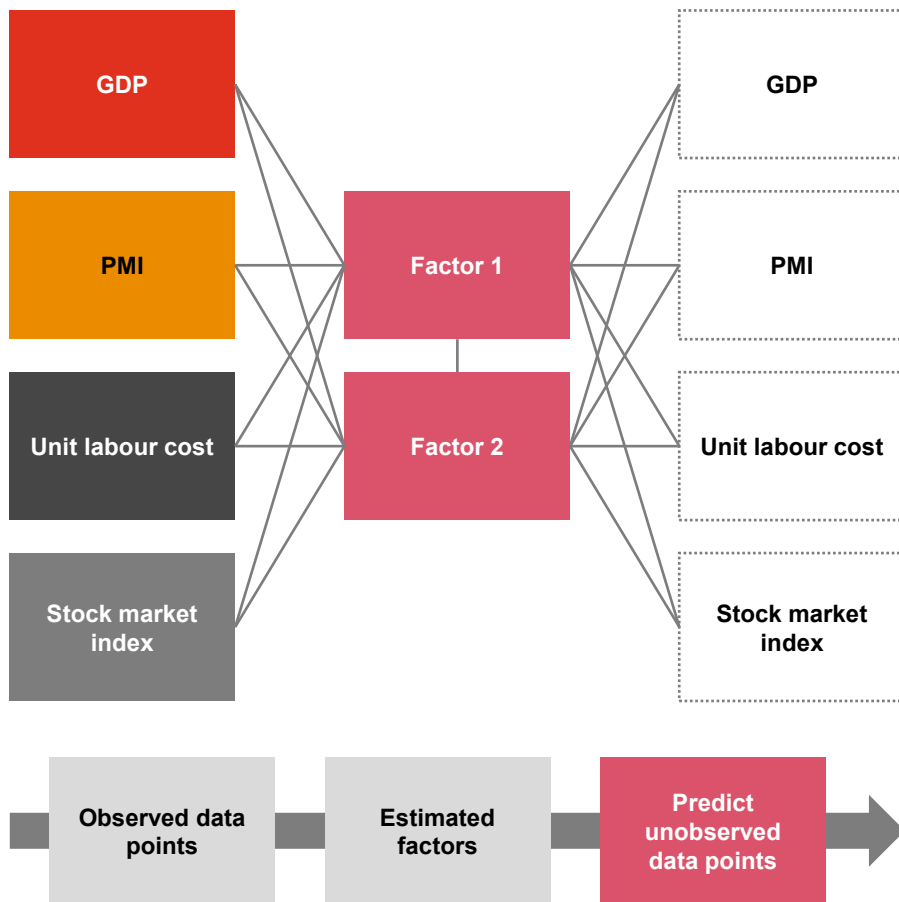
Figure B.1: Using Nowcasting to predict missing data



Technical details

Nowcast utilises a Dynamic Factor Model to ‘distill’ information from a wide range of economic, political and pandemic-related variables. The widely used Dynamic Factor Model (DFM) has the ability to tackle data challenges and utilise all the available information to accurately predict the current state of the economy.

Figure B.2: Model structure



The state space feature allows us to estimate factors in periods even when data points of some (or all) variables are unobserved. As mentioned in the previous slide, the key challenges in nowcasting is that data could be arriving at different times, with different frequency. This problem could be generalised into a missing data problem and easily solved by the DFM while preserving the useful information from available data. In other words, the nowcasting model tells us the latest view on macroeconomics indicators, taking into account the most up-to-date release.

DFM estimates the underlying factors of the model. A factor of the model could be understood as the variation that is commonly observed in all/some indicators. In other words, the model ‘distills’ available data into a concise summary of economic conditions. The aim of the model is to separate out the idiosyncratic part from the factor component and model these separately. The time dynamics of the factors are also being estimated, i.e. how factors in the past affect current factors. These dynamics would allow us to project forward, including both factors and observatory variables.

In short, DFM uses observed data points to estimate underlying key macroeconomics factors, and uses these estimated factors (and its prediction) to infer missing (not yet observed) economic indicator values.



Model structure in mathematical terms

A typical dynamic factor model for nowcasting has the 3 equations shown below. These equations together form a system that defines the dynamic factor model. Coefficients within this system are being estimated using an Expected Maximisation algorithm.

Equation 1: Observatory equation

$$x_t = \mu + \Lambda f_t + \varepsilon_t,$$

X_t = a vector of all the observed variables, F_t = a vector of unobserved factors. This equation links observed variables to factors that are estimated by the dynamic factor model. Effectively, this is assuming each observed variable could be partly explained by a combination of factors.

Equation 2: Factor equation

$$f_t = A_1 f_{t-1} + \dots + A_p f_{t-p} + u_t,$$

F_t = a vector of unobserved factors, F_{t-p} = factor p period before the current period. This equation links current factors to past factors. Effectively this is assuming that movement in factors in the past could have an impact on its current/future values.

Equation 3: Shock equation

$$\varepsilon_{i,t} = \alpha_i \varepsilon_{i,t-1} + e_{i,t},$$

$\varepsilon_{i,t}$ = idiosyncratic shock, one for each observed variable, $\varepsilon_{i,t-1}$ = idiosyncratic shock one period before. This equation links current shocks to past shocks. Effectively this is assuming that unexpected movement in observed variables in the past could have an impact on its current/future values.

Variables used by nowcasting analysis:

Variable	Description	Source
GDP	Monthly change in real GDP (%)	ONS
Google mobility	COVID-19 community mobility	Google
Google Trends	UK search interest in restaurants	Google
Online vacancies	Total job adverts posted online (indexed to 2019)	ONS
Flights indicator	Inbound and outbound flights from UK airports	EUROCONTROL
Death rate	Deaths registered in England and Wales	ONS
PMI – Construction	Indicator of construction sector growth	Reuters
CPI	Change in the prices of goods and services purchased by most UK households	ONS
Vacancies	Three-month average of external vacancies	ONS
Exchange rate	Strength of GBP relative to other currencies	Bank of England
PMI – Services	Indicator of services sector growth	Reuters
Industrial confidence	Evaluation of manufacturing sector	OECD
Secured lendings	Average advertised interest rate for mortgages	Bank of England
Broad money supply (M4)	Total quantity of money in circulation	Bank of England
Retail sales – BOE	Business conditions of retail sector	Bank of England
Retail sales – ONS	Total retail sales (indexed to 2018)	ONS

Variables used by nowcasting analysis (cont'd)

Variable	Description	Source
Housing – agreed sales	Newly agreed house sales in England and Wales	RICS
Employment – Services	Total employment in the services sector	OECD
Retail sales – BRC	Annual growth in total retail sales (%)	BRC
Demand for Services	Level of demand in the services sector	OECD
Base interest rate	Interest rate that banks and lenders pay when they borrow from the Bank of England	Bank of England
Unsecured lendings	Volume of consumer borrowing	Bank of England
Car registration	Number of newly registered vehicles	SMMT
Business confidence	Business expectations of developments in production, orders and stocks	Lloyds Banking Group
Unemployment claims	Number of people claiming benefit due to unemployment	ONS
VAT receipts	Tax receipts from VAT	HMRC
Consumer confidence	Consumer expectations of their financial situation and the economy	Reuters
Government spending	Difference between government's day-to-day spending and its revenues	ONS
GDP – Production	Production sector output (GVA, constant prices, indexed to 2018)	ONS
GDP – Construction	Construction sector output (GVA, constant prices, indexed to 2018)	ONS
GDP – Agriculture	Agriculture sector output (GVA, constant prices, indexed to 2018)	ONS
Foreign currency reserves	UK's official international reserves of foreign currencies	HM Treasury
Production and import taxes	HMRC receipts from taxes on production and imports	ONS
Distributive trades	Volume of sales in retail, wholesale and motor trades	CBI
PPI – manufactured products	Change in prices received for output of manufacturing sector	ONS
Expected manufacturing output	Expected output of manufacturing firms over the next three months	CBI
Input prices (construction)	Change in prices of construction inputs such as labour, plant and materials	BIS

Variables used by nowcasting analysis (cont'd)

Variable	Description	Source
Net lending (construction)	Net lending to construction companies	Bank of England
HPI	Indicator of UK house prices	IHS Markit
Approved loans on dwellings	Total number of mortgage approvals	Bank of England
Mortgage lending	Total value of gross mortgage lending	Bank of England
Construction output – BOE	Business conditions of construction sector	Bank of England
Rental properties demand	Surveyors' evaluation of demand for rental properties	RICS
Credit and debit spending	Total spending using credit and debit card	CHAPS



Contacts

Economics

For more information about our UK macroeconomic research, please contact:



Dr Jonathan Gillham
Chief Economist
E: jonathan.gillham@pwc.com



Nick Forrest
Economics Leader
E: nick.forrest@pwc.com



Barret Kupelian
Senior Economist
E: barret.g.kupelian@pwc.com



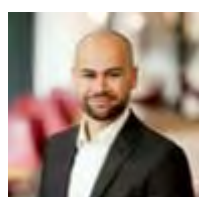
Hannah Audino
Economist
E: hannah.x.audino@pwc.com



Hoa Duong
Economist
E: hoa.t.duong@pwc.com



Vayana Skabrin
Junior Economist
E: vayana.skabrin@pwc.com



Jake Finney
Junior Economist
E: jake.a.finney@pwc.com

With additional thanks to Connor Patrick, Duncan McKellar, Bernard Tsang and Adam Deasy for their analytical support in this report.

We provide a range of macroeconomic consulting services for clients, including:

- Revenue forecasting
- Scenario analysis (including stress testing)
- Economic impact analysis

Our UK economics team is part of Strategy&, PwC's strategy consulting practice. Strategy& is a global team of practical strategists committed to helping you seize essential advantages.

Our economics practice offers a wide range of services, covering competition and regulation issues, litigation support, public policy and project appraisals, financial economics, behavioural economics and macroeconomics.

For more information about these services please [visit our website](#) or contact the relevant person from the list.

Competition economics	Nick Forrest M: +44 (0)7803 617744
Economic regulation	Daniel Jacobson M: +44 (0)7803 455617
Economic modelling and appraisal	Dr Jonathan Gillham M: +44 (0)7714 567297 Barret Kupelian M: +44 (0)7887 885139
Total impact measurement and management	Dr Jonathan Gillham M: +44 (0)7714 567297
International trade and development	David Armstrong M: +44 (0)7713 680266
To receive future editions by email, please sign up on our website www.pwc.co.uk/economics	

This publication has been prepared for general guidance on matters of interest only, and does not constitute professional advice. You should not act upon the information contained in this publication without obtaining specific professional advice. No representation or warranty (express or implied) is given as to the accuracy or completeness of the information contained in this publication, and, to the extent permitted by law, PricewaterhouseCoopers LLP, its members, employees and agents do not accept or assume any liability, responsibility or duty of care for any consequences of you or anyone else acting, or refraining to act, in reliance on the information contained in this publication or for any decision based on it.

© 2021 PricewaterhouseCoopers LLP. All rights reserved. 'PwC' refers to the UK member firm, and may sometimes refer to the PwC network. Each member firm is a separate legal entity. Please see www.pwc.com/structure for further details.

RITM6756307