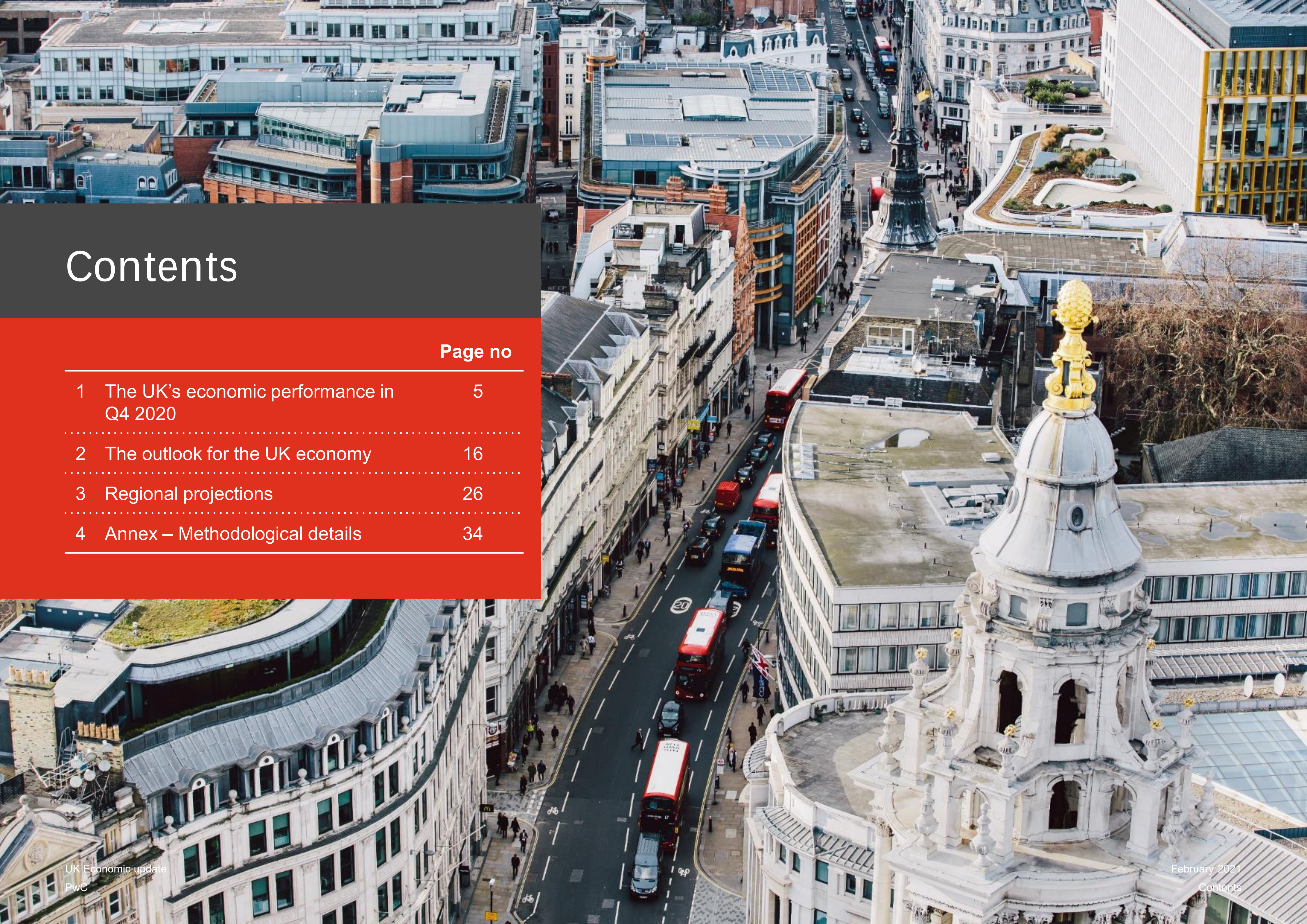
UK Economic update

February 2021



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Summary

This month's edition provides an update on the latest UK economic data, including the fourth quarter GDP and employment data. We provide an update to our projections and scenarios, reflecting England's third national lockdown over Q1 and progress in a vaccine rollout for COVID-19, and do a deep dive on the UK's regional economic outlook.

The latest UK economic data

- **The UK economy grew by 1% in Q4 2020, exceeding expectations.** Indeed, monthly growth in December also stood at 1.2%, despite the local tiered system keeping much of the country in lockdown. This reflects how businesses and people are continuing to adapt to restrictions. However, GDP is still 8.6% smaller than it was at the end of 2019, which is equivalent to every person in the UK being roughly £3,300 worse off than they were in 2019 on a net basis.
- **From an economic perspective, the UK is adapting to COVID-19 restrictions.** Restrictions were around 10% less stringent in November and December compared to April (as per the stringency index from the Oxford COVID-19 Government Response Tracker), but the economic impact was significantly smaller; indeed, the hit to monthly GDP in November was just a ninth of the contraction in April.
- **The labour market remains under pressure, but there continue to be some tentative positive signs.** Since February 2020, the number of people on the payroll has fallen by over 827,000 and the number of redundancies have also reached a record high of 395,000. However, economic inactivity has stabilised, while vacancies and total hours worked continued to gradually recover over the quarter. Business activity also appears to be improving, with 24% more business creations in Q4 than a year earlier
- **Consumer price inflation remained subdued at the start of the year.** The headline 12-month CPI rate stood at 0.7% in January, a small rise from 0.6% in December. Most notably, prices for clothing and footwear fell between December 2020 and January 2021. The proportion of items marked as being on sale was nearly 50% more than in January 2020, reflecting the need for retailers to offload unsold stock due to weak demand over the last year owing to the pandemic.

Regional economic outlook

- **Output across UK regions is estimated to have contracted by between 8.9% and 10.5% in 2020**. The loss of output in Wales, for example, is equivalent to each household being roughly £5,000 worse off than they were in 2019, compared to £12,000 in London.
- **We expect growth in most regions to accelerate in 2021**, with annual GVA growth ranging from 2.5%-6.2% under our 'quick recovery' and between 1.7%-4.1% under the 'slow recovery' scenario.
- **The Southeast and London are expected to lead growth in 2021**, with annual GVA growth of around 4% - 6% under our two scenarios, due to the prominence of sectors like ICT and professional services, where working from home is more possible. Scotland and Wales are among those which are likely to recover at a similar rate to the UK average, while additional non-tariff barriers under the new UK-EU trading arrangement is expected to put pressure on Northern Ireland's growth.
- **The share of lost output from 2020 that is clawed back in 2021 varies considerably across regions.** Under the 'quick recovery' scenario, London and the South East are expected to recover about 62% and 54% of lost output from 2020, respectively, compared to just 22% and 27% in the North East and Yorkshire and the Humber, and 41% and 43% in Wales and Scotland. This has significant implications for the 'levelling up' agenda, as those regions with a higher GVA per household are generally expected to claw back more of the lost output from 2020, while regions with lower GVA per household will be slower to recover. Disparities in GVA between regions are likely to diverge.

Summary

This month's edition continues to provide UK monthly GDP projections developed from our 'nowcasting model'. We also discuss the regional economic outlook for the rest of the year.

Our revised projections for the UK economy

- **We have revised our projections for the UK economy to reflect the extension of the January lockdown.** We expect the UK economy to start the year with negative quarterly growth for Q1 of between -2.0% and -2.8% before gradually returning to growth. Under our 'slow recovery' and 'quick recovery' scenarios, the expected GDP growth ranges from around 3.4% to 4.6% in 2021, followed by growth of 4.4% and 5.6% respectively in 2022, before slowing down to about 1.2% and 1.7% in 2023. Our headline projection for GDP growth in 2021 in the 'quick recovery' scenario is slightly weaker than in our previous optimistic scenario, in which we projected growth of 4.8% – 0.2 percentage points lower than initially expected
- **The level of GDP is expected to still be around 3.1% to 4.6% below the pre-crisis mark by the end of this year.** This is due to the potential setback caused by the extended lockdown restrictions in Q1 2021 and possibility of social restrictions remaining in place for some time
- **We don't expect economic activity to recover to pre-pandemic levels before 2023.** Under our 'quick recovery' scenario, we expect the level of GDP to reach pre-pandemic levels in Q1 2023. Under our 'slow recovery' scenario, our assumption of further restrictions and a long-term economic scarring push back the recovery timeline to the middle of 2024
- **We expect inflation to remain low in the first quarter of the year, and then to pick up towards the Bank of England's 2% target over the course of the year.** Consumers will likely see an increase in the price of things like petrol, utilities and services this year, as global demand for oil picks up and demand recovers for the service sectors most impacted by restrictions, along with the VAT cut for hospitality coming to an end in April. On the other hand, rising unemployment – expected with the end of the furlough scheme in April – will increase spare capacity in the labour market and subdue wage growth, putting downward pressure on prices.

Our Nowcasting model

- **Our nowcasting model predicts monthly GDP growth.** The model uses real time and high frequency data to provide more timely estimates of economic output than official data releases. This highly dynamic model has been adopted by a number of central banks but mostly on a quarterly basis. However, in this analysis we utilise the predictive power that a monthly nowcasting model offers to provide a closer view of the UK economic outlook in times of uncertainty
- **Monthly GDP is expected to contract in January.** Our monthly nowcasting model projects a 2.6% drop in monthly GDP for January 2021, the month that is typically associated with increases in consumer spending to banish winter blues. This reflects the introduction of the third national lockdown in England in January, which saw footfall dropping twice as fast as observed in November last year, and lower-than-expected manufacturing and services output caused by the restrictions
- **After a brief contraction, we then expect the economy to gradually recover in February and March.** We expect that GDP will increase by marginal month-on-month growth of 0.4% in February, followed by 1.1% growth in March 2021
- Please refer to the Annex A.1 for more details into the methodology and data sources used in our nowcasting model.

1

The UK's economic performance in Q4 2020

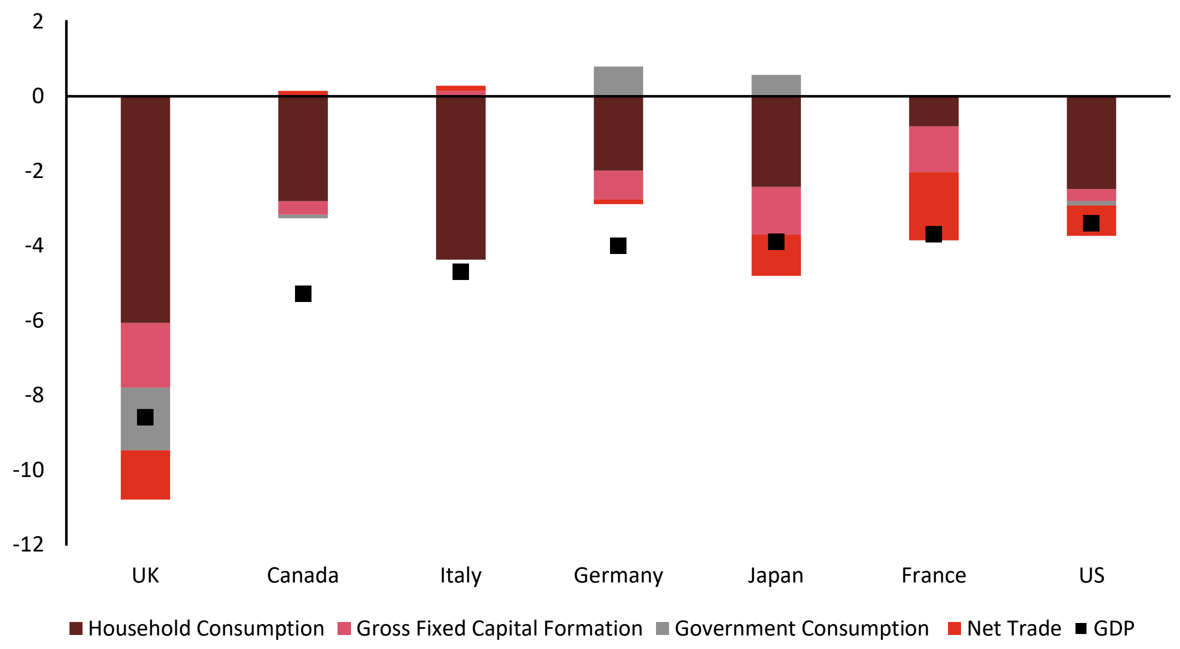
The UK was the worst hit of the G7 economies in 2020

In the latest IMF World Economic Outlook, the UK was estimated to have experienced the largest decline in GDP last year of all the major economies the IMF included in its latest forecast, with the exception of Spain. UK GDP is estimated to have fallen by 10% in 2020, compared to 3.4% in the US, around 5-6% in Japan, Germany and Canada, and around 9% in France and Germany; in Spain, the decline was 11%. So why has the UK been the hardest hit?

Dependence on service-related consumer spending: compared to other G7 economies (with the exception of the US), consumer spending accounts for a greater share of GDP in the UK. And, crucially, this consumer spending is more heavily weighted towards activities that involve interaction with others - for example going to the cinema, out to eat at restaurants, or going to live sports events. It makes up 21% of total household spending in the UK, compared with 16% in the US and 18% in the euro area. And its this type of spending that has been particularly hit by COVID restrictions.

Household consumption fell more: as shown below, household consumption fell much more in the UK than in other countries. This is partly because lockdown restrictions were often in place for longer in the UK. It could also partly be because the UK has a higher proportion of jobs that can be done remotely, and this has meant a slower return to the workplace - which in turn lowers work-related spending, such as travel and social spending around offices.

GDP in the UK and other countries, Q4 2019 to Q3 (July to Sept) 2020, growth rate (%)



Source: ONS

Measurement of government output: International variations in how GDP is calculated may also play a part in explaining the UK’s comparatively worse performance. GDP is typically recorded in either “nominal” terms, or in volume terms which is often called “real”. The volume estimate takes out the effect of price changes across countries and is therefore the focus for international comparisons. Adjusting for price effects is relatively straightforward in the private sector, where market prices are observable, but it is more complicated in the public sector.

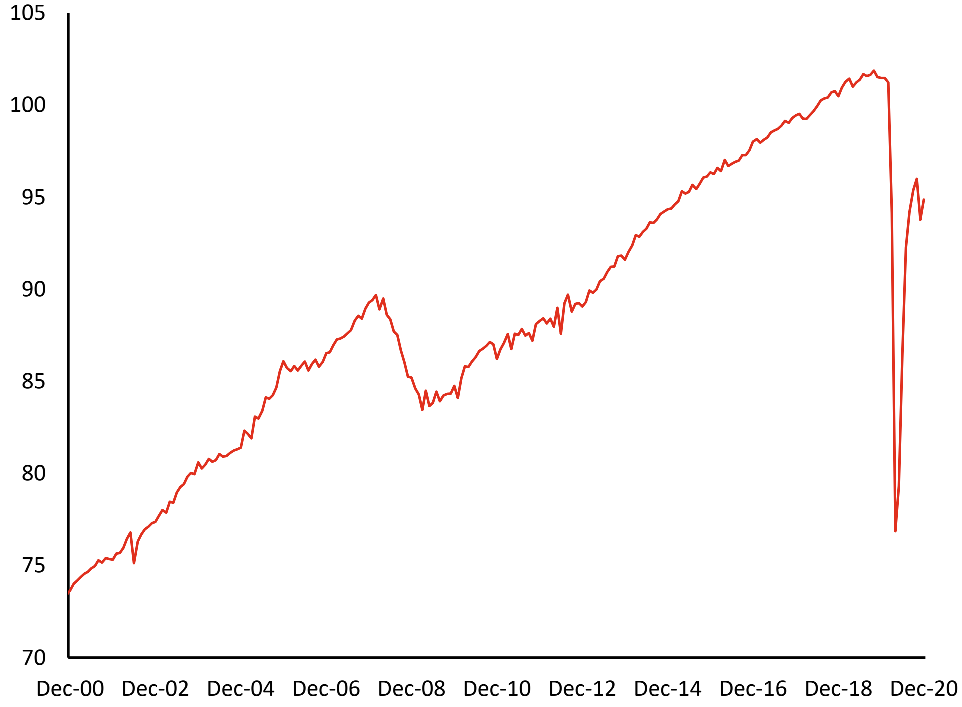
The ONS has been a pioneer in trying to develop direct estimates of output in the public sector, for example number of hospital operations and GP appointments, or teaching hours in school, where other statistical agencies of G7 countries still use input-based measures. This raises issues for like-for-like GDP comparisons during the pandemic, where this economic crisis has had a large impact on public services, with schools closing and non-essential healthcare being delayed.

The conclusion of the research is that when volume estimates of government consumption expenditure are removed, the UK still has experienced the largest contraction in GDP, but it is less pronounced when compared to the rest of the G7.

The UK economy grew by 1% in Q4 despite the tightening of COVID-19 restrictions

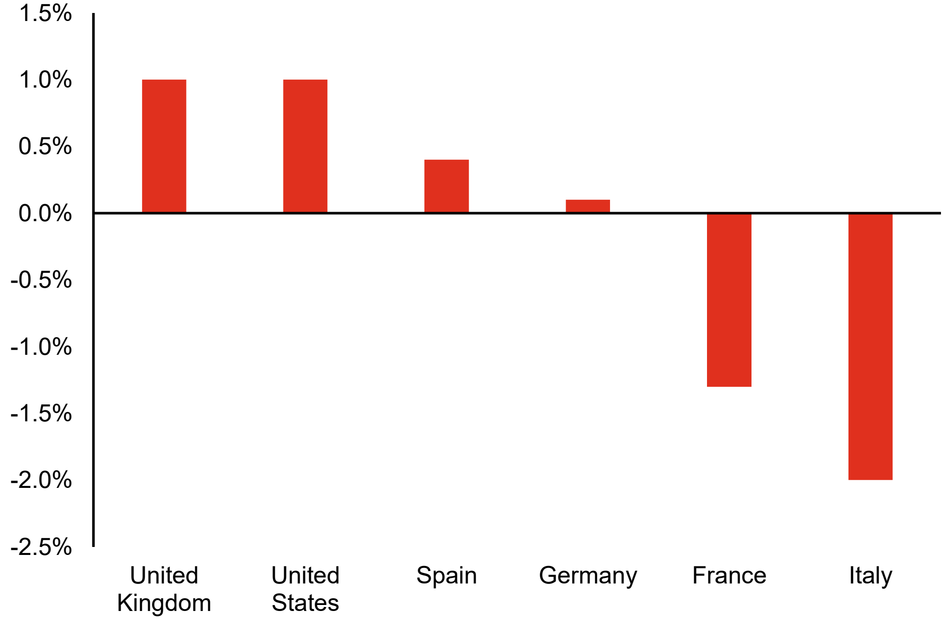
The data for the three months to December showed that the UK economy grew by 1% on the previous quarter, exceeding expectations and adding to the 16.1% growth between July and September. despite a stronger than expected fourth quarter, there is still some way to go before recovery. Economic output is still 8.6% smaller than it was at the end of 2019, and this is without accounting for potential impact of the third national lockdown in the first quarter of 2021. To put this into perspective, every person in the UK is roughly £3,300 worse off than they were in 2019 on a net basis. Putting the UK's performance into international context further illustrates the extent to which the UK is adapting from an economic perspective; real GDP growth in Q4 was higher than in other countries, such as Germany and France, which had less stringent restrictions.

Real GDP monthly index (2018 = 100)



Source: ONS

Real GDP quarter-on-quarter growth in Q4 2020 across select countries (%) vs the average Q4 Stringency index (100=max. stringency)



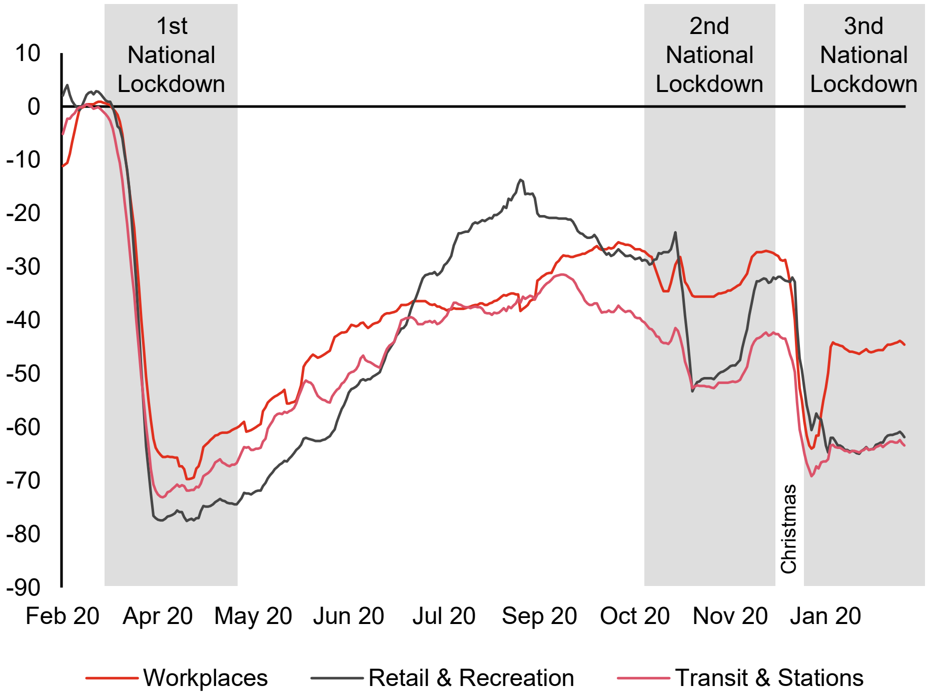
Stringency index	69.6	68.5	69.8	64.8	66.1	71.1

Source: ONS (GDP data), The Oxford COVID-19 Government Response Tracker (stringency index)
Note: Higher number (red) represents more stringent restrictions – lower number (green) represents less stringent restrictions

GDP growth in Q4 exceeded expectations as firms and consumers continue to adapt to restrictions

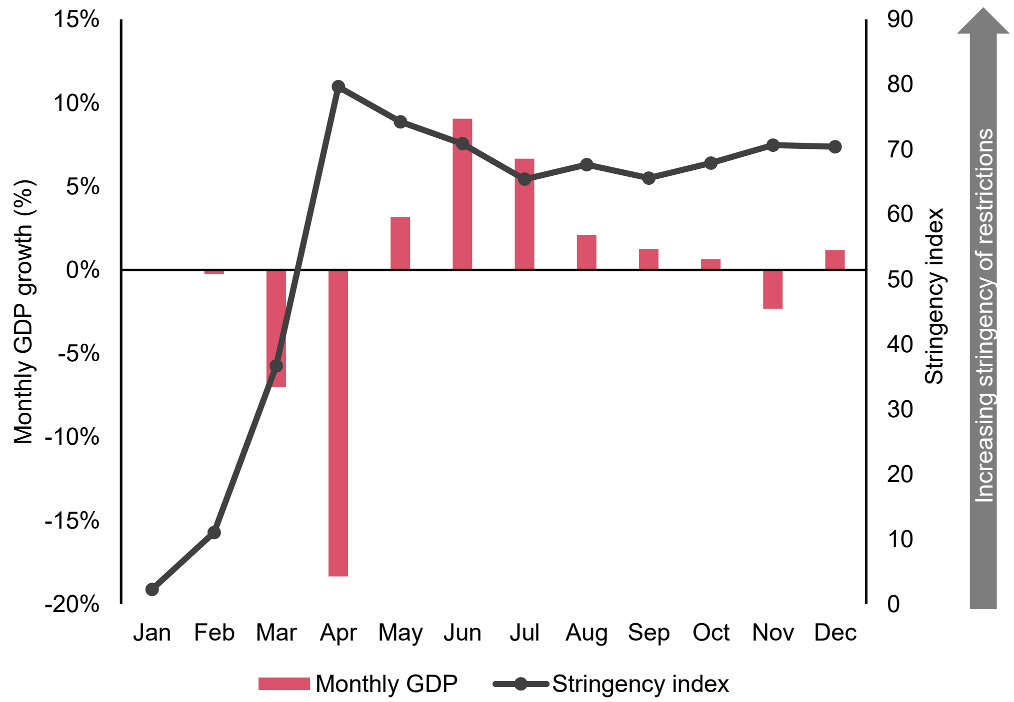
Although output fell in November due to tighter restrictions, this fall was much smaller than expected. Monthly growth was -2.3%, compared to consensus projections of a fall of 5%. This partly reflects the fact that the second national lockdown in England in November did not lead to as large a fall in activity as the first lockdown in April, as evidenced by Google mobility data. Schools also remained open. It also reflects that firms and employees are much better prepared to work under restrictions, especially in sectors like construction and manufacturing. Consumers are also well adapted; in November, online sales as a share of total retail sales reached a new high of 36.4%. Indeed, monthly growth in December also stood at 1.2%, despite the local tiered system keeping much of the country in lockdown. The graph below shows monthly GDP growth and an index of how stringent government restrictions were. Restrictions were around 10% less stringent in November and December compared to April, but the economic impact was significantly smaller; indeed, the hit to monthly GDP in November was just a ninth of the contraction in April.

Change in number of visitors from the beginning of the pandemic (February 2020) in the United Kingdom, 7-day rolling average, %



Source: Google Mobility Data

UK monthly GDP growth (%) vs stringency index of government restrictions

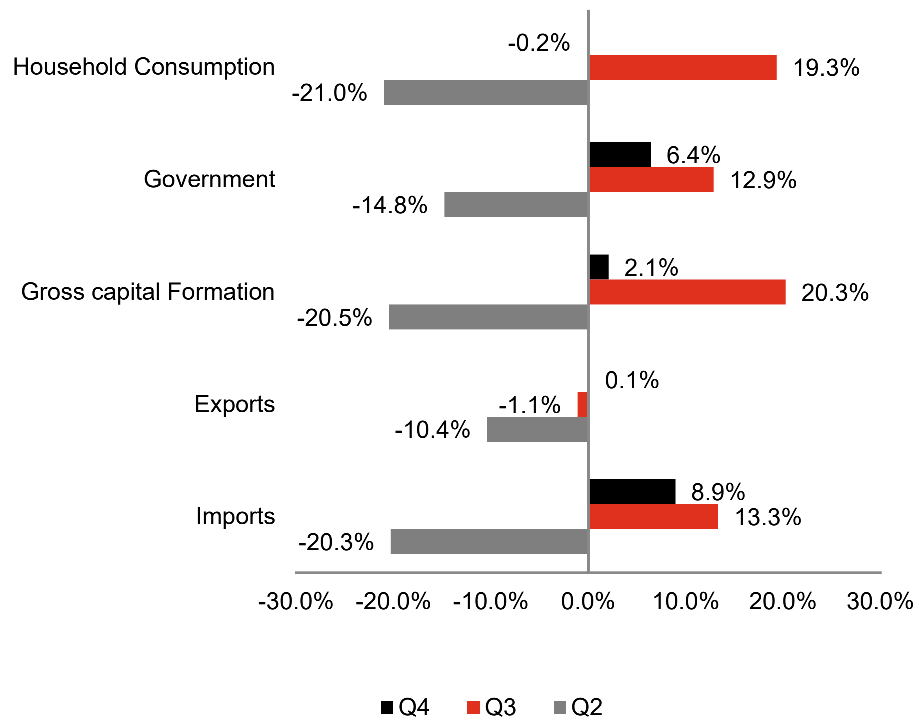


Source: ONS (GDP data), The Oxford COVID-19 Government Response Tracker (stringency index)
Note: Higher number represents more stringent restrictions – lower number represents less stringent restrictions

Government consumption was the strongest expenditure component in Q4 due to healthcare and education

Growth in Q4 was largely driven by increases in real government expenditure, particularly due to an increase in the volume of healthcare services and education as schools remained open in November's national lockdown. Growth in gross capital formation was also positive, albeit more subdued compared to Q3. Both government expenditure and gross capital formation have now exceeded their pre-pandemic levels (Q4 2019), but business investment and household consumption remain 10.3% and 8.4% lower respectively, largely reflecting the November lockdown restrictions and business uncertainty.

Q-on-Q growth in GDP expenditure components, Q2 – Q4 2020



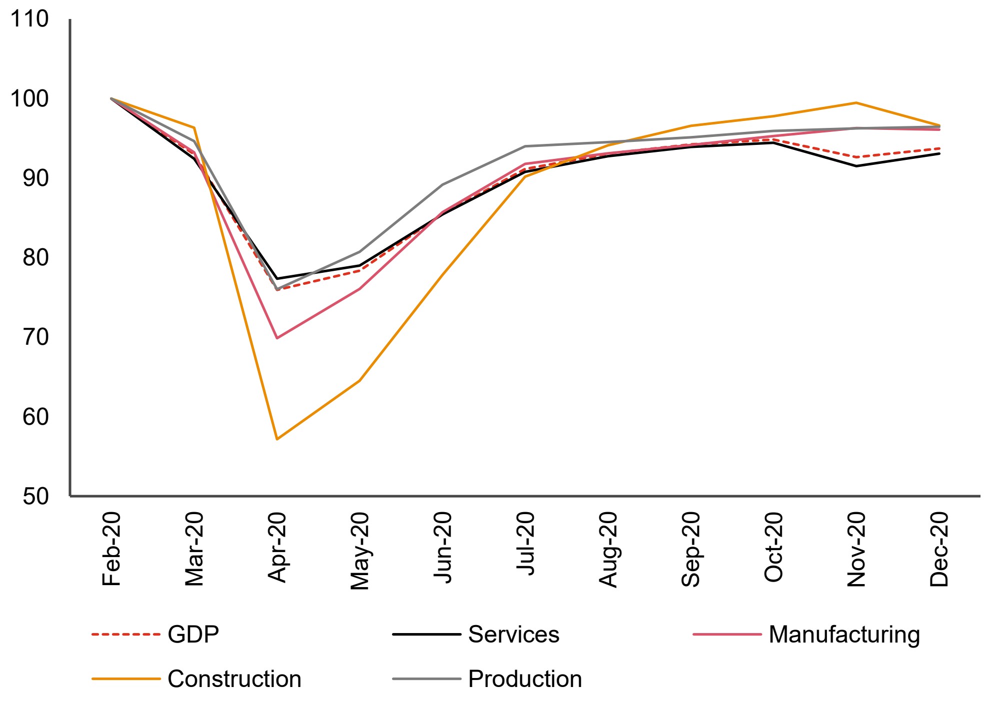
Source: ONS

- **Household consumption:** Household consumption grew by -0.2% in Q4, reflecting lower spending in shops, hotels and restaurants given restrictions in November. In particular, retail sales fell by 0.4% in Q4 due to the closure of non-essential stores. Transport contributed to the upside, with household spending on transport increasing by 6% in Q4
- **Government consumption:** Government consumption rose by 6.4% in Q4, reflecting the increase in volume of healthcare services related to coronavirus test and trace schemes, as well as the strong recovery of elective surgery and GP services. However, the volume of other healthcare activities, such as dental services, remains low due to reduced patient capacity when following coronavirus protocols. Education services rose by 6% in Q4, but the volume of education consumption remains 12.1% below its level at the end of 2019
- **Gross capital formation:** The 2.1% quarter-on-quarter growth in Q4 was driven by large increases in transport equipment. Business investment rose moderately (1.3%), but is still 10.3% below the end of 2019. Uncertainty in the outlook of the economy remains and, as a result, investment was largely limited to maintenance or equipment, rather than larger scale projects
- **Net exports:** A recovery in both imports and exports was largely driven by trade in goods rather than services, as services are disproportionately impacted by COVID-19 restrictions. Imports were boosted as firms stockpiled goods and medicines ahead of the end of the Brexit transition period, and due to increased production of transport equipment.

Output across sectors increased moderately in Q4, but recovery momentum has slowed

The fourth quarter saw increases across services, construction and production (which includes manufacturing) output. Overall quarterly growth masks the decline in services output during the November lockdown, which then recovered in December. The primary drivers behind the monthly 1.2% GDP growth in December were a pick up in services after the November dip (1.7% increase on November) and production output (0.22% increase on November).

Monthly output index of UK sectors, seasonally adjusted, Index (Feb 2020 = 100)



Source: ONS

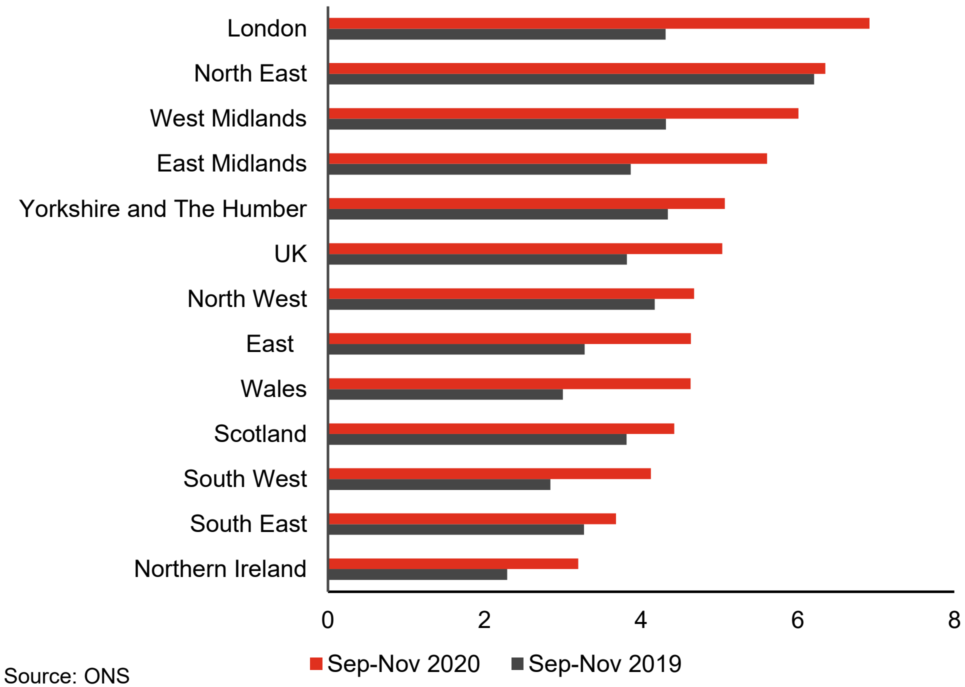
- **Services output:** Q-on-q growth in services output was 0.6% in Q4, despite a monthly 3.1% contraction in November that coincided with the reintroduction of coronavirus restrictions across the UK. Growth was mainly driven by increases in health and education, largely due to coronavirus test and trace schemes and higher levels of school attendance. Warehousing and support activities also made a positive contribution to growth, driven by increasing online retail activity during Black Friday and the lead up to Christmas. Output in the accommodation and food services sector slipped further, declining by 32.8% in Q4 with the introduction of new restrictions.
- **Production output:** Production output experienced growth in 11 out of its 13 sub-sectors in Q4, while the manufacture of pharmaceuticals and food products, beverages and tobacco served to drag on growth. The growth in production was largely driven by growth in the manufacture of transport equipment, although output remains just 88.9% of pre-pandemic levels in Q4 2019
- **Construction output:** Construction output rose by 4.6% in Q4 and was less affected by the reintroduction of restrictions, with many businesses continuing to trade and adjusting to the social distancing requirements to maintain work. Monthly data shows that this growth in construction was driven by increases in October and November, while output fell by 2.8% in December.

Since February 2020, the number of people on the payroll has fallen by over 827,000

The labour market continues to feel the impact of the pandemic. In the latest official figures for the three months to November, the unemployment rate stood at 5.0%, 1.2 percentage points higher than the same period last year. The regional picture is more mixed. London had the highest unemployment rate (6.9%) between September and November, as well as the largest percentage point increase (2.6pp) from the same period last year. This reflects London's reliance on international tourism and business travel, as well as hospitality, which have been hit hard by COVID-19. In contrast, Northern Ireland had the lowest unemployment rate (3.2%), but this partly reflects the fact it has the highest rate of economic inactivity of the UK regions at 27%, compared to around 20% on average in the UK.

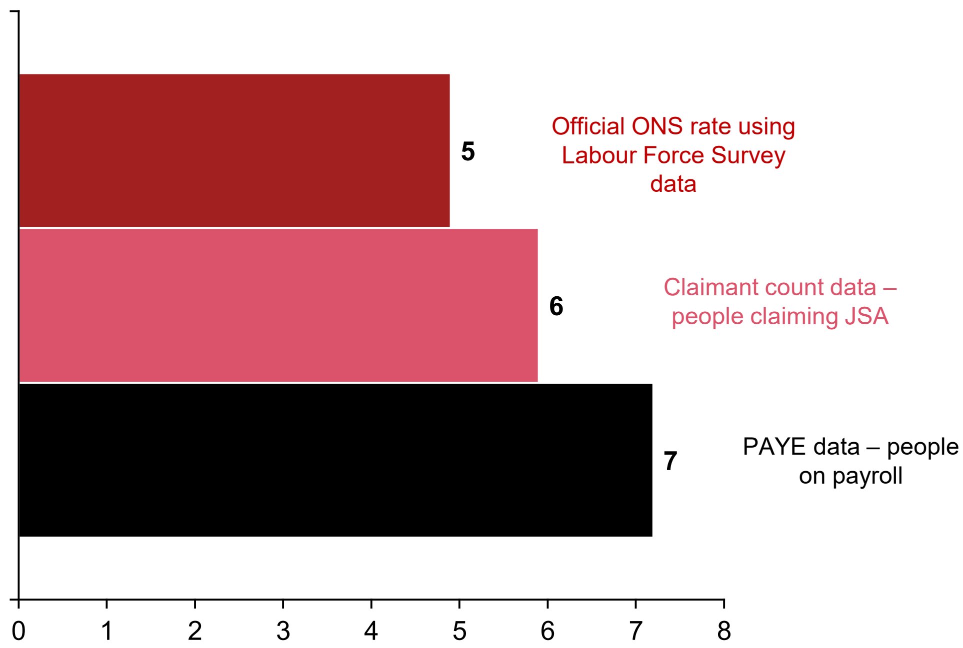
In general, the increase in unemployment rate, as measured by the Labour Force Survey, have been modest compared to the impact on GDP. This is largely due to the employment support provided by the furlough scheme. However, over recent months, a number of reports (for example, from the Resolution Foundation and the Alliance for Full Employment (AFFE)) have suggested that the real unemployment figure may be higher than official estimates. Indeed, when using real-time data from PAYE and the claimant count, the AFFE estimate the unemployment rate could be 6-7%.

Unemployment rate across UK regions (people aged 16 and over), seasonally adjusted, %



Source: ONS

UK unemployment rate (%) by methodology

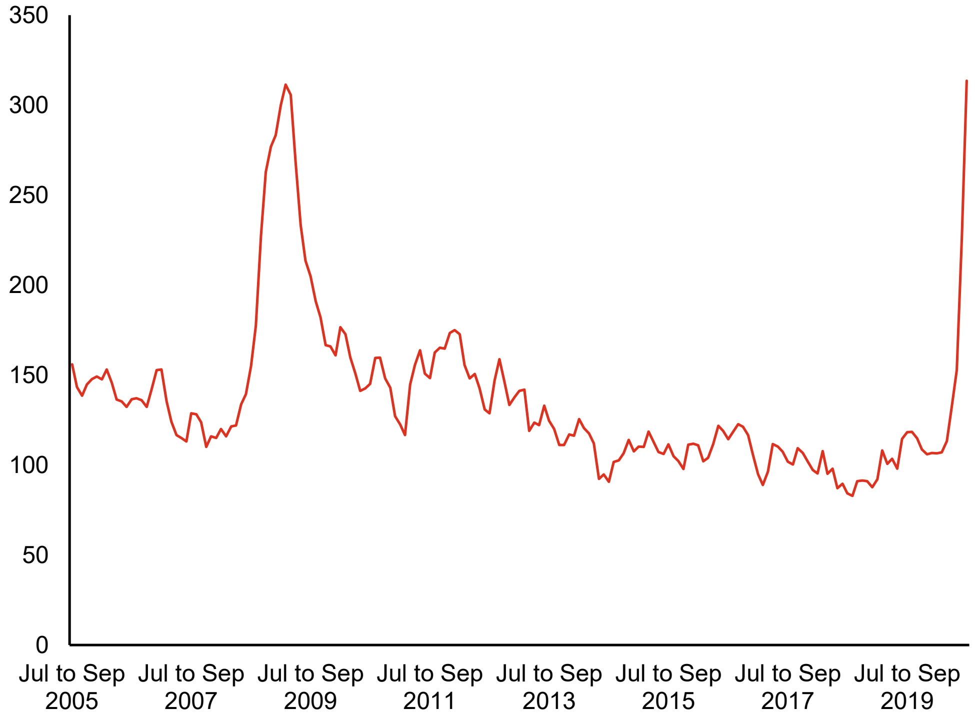


Source: AFFE

Total hours worked continues to rise for those in employment, but redundancies reach a new record high in the three months to November

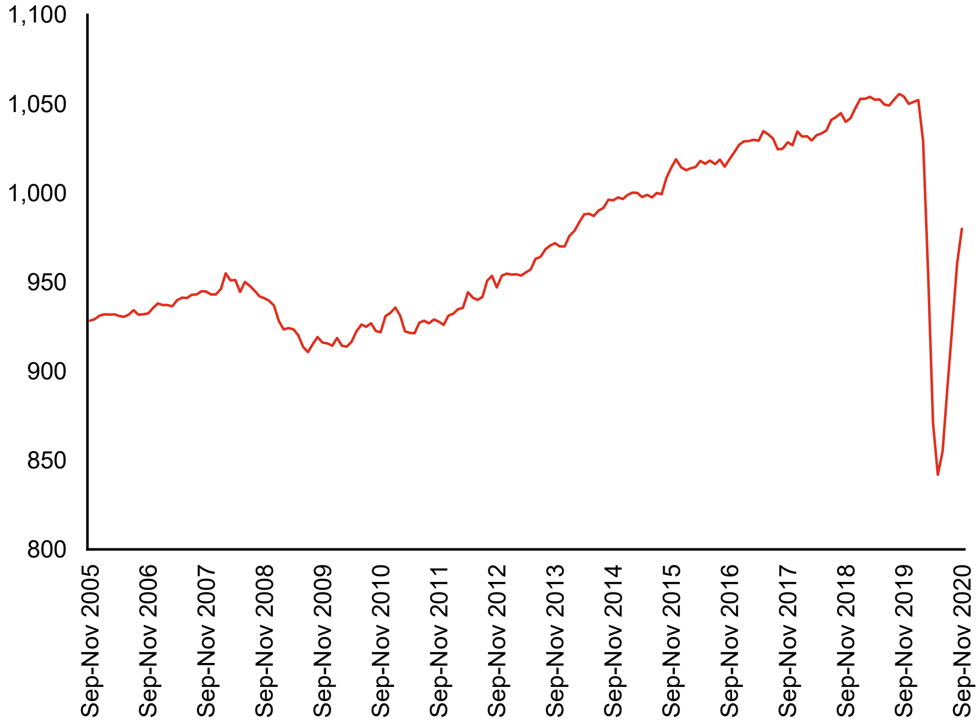
Redundancies are on the rise, reaching a record high of 395,000 in the three months to November. Weekly data shows that the number of people reporting redundancy in the LFS has been increasing since June 2020, but November levels remain below September's peak. In terms of positive developments, total hours worked continues to recover, despite the November lockdown, with total hours worked for those in employment rising 10% from the low levels in the previous quarter (June to August 2020) by 89.0 million hours.

UK redundancies (people aged 16 and over), seasonally adjusted, thousands



Source: ONS

UK total actual weekly hours worked (people aged 16 and over), seasonally adjusted, millions of hours



Source: ONS

There are tentative positive signs emerging as economic inactivity stabilises and vacancies rise

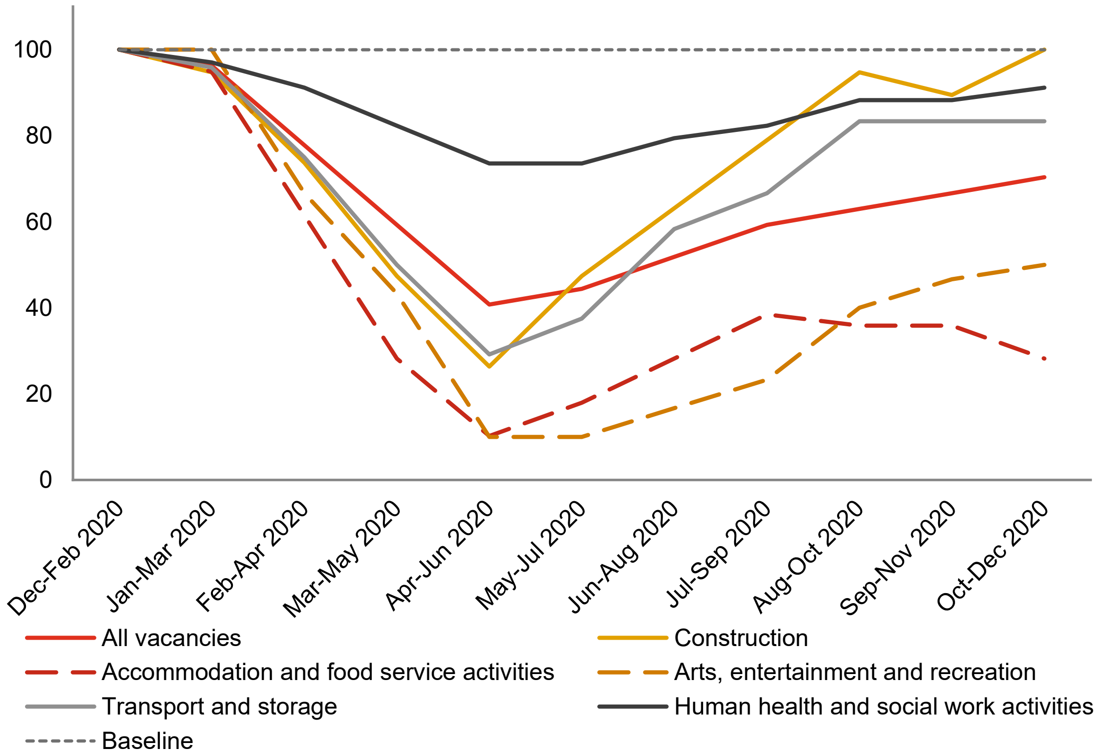
Despite record high redundancies and rising unemployment, the share of people who are economically inactive remains relatively stagnant, falling -0.1% to 20.7% in the three months to November, compared with the previous quarter. This small quarterly increase of 33,000 people beginning to search for work occurred despite the November national lockdown. However, aggregate UK figures mask a divergent regional picture. While regions like Yorkshire and the Humber and the East Midlands saw more significant reductions in their inactivity rates compared to the national average, other regions like the North West experienced rising inactivity.

A recovery in vacancies has slowed in the three months to December – the quarterly increase of 81,000 is half of what was seen in July to September – but some sectors have recovered well. For example, construction has reached its pre-pandemic rate, while accommodation and food services activities were impacted by further lockdowns and restrictions, experiencing the largest quarterly decrease across all sub-sectors in the number of vacancies per 100 employee jobs.

Change in economic inactivity rate from Jun-Aug to Sep-Nov, people aged 16-64, seasonally adjusted, percentage point difference

Source: ONS

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



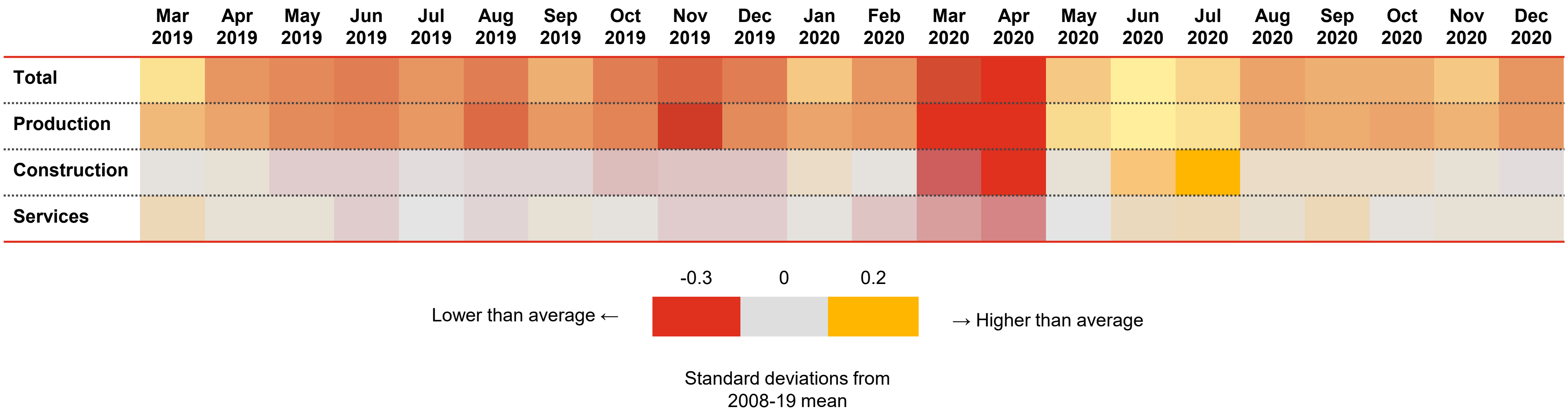
Source: ONS

Business activity appears to be improving, with 24% more business creations in Q4 than a year earlier

There are positive signs for the recovery in business activity. The number of businesses created in in October to December 2020 (Q4) was up to 24% higher compared to the equivalent statistic 12 months ago. There were 101,400 business created in the fourth quarter, despite expectations that business creation would be lower due lockdown restrictions. Industries which showed the greatest increase in business creations were those with a large share of business working form home, such as business administration and support, online retail and professional services. The regional impact was quite evenly spread throughout the UK, as the proportion of businesses in each country and region was similar in Q4 2020 to that of Q4 2019.

The latest VAT diffusion index data for October to December 2020 also show tentative positive signs; turnover in the most recent lockdown remains marginally higher than the historical average, unlike the first lockdown in March and April, which reflects the greater ability of firms to adapt. However, there is still a slowdown relative to the summer, and the coming months are likely to see a dip below averages in Q1 2021 due to the third national lockdown.

VAT diffusion index, turnover, month on month, seasonally adjusted, standard deviations from the mean



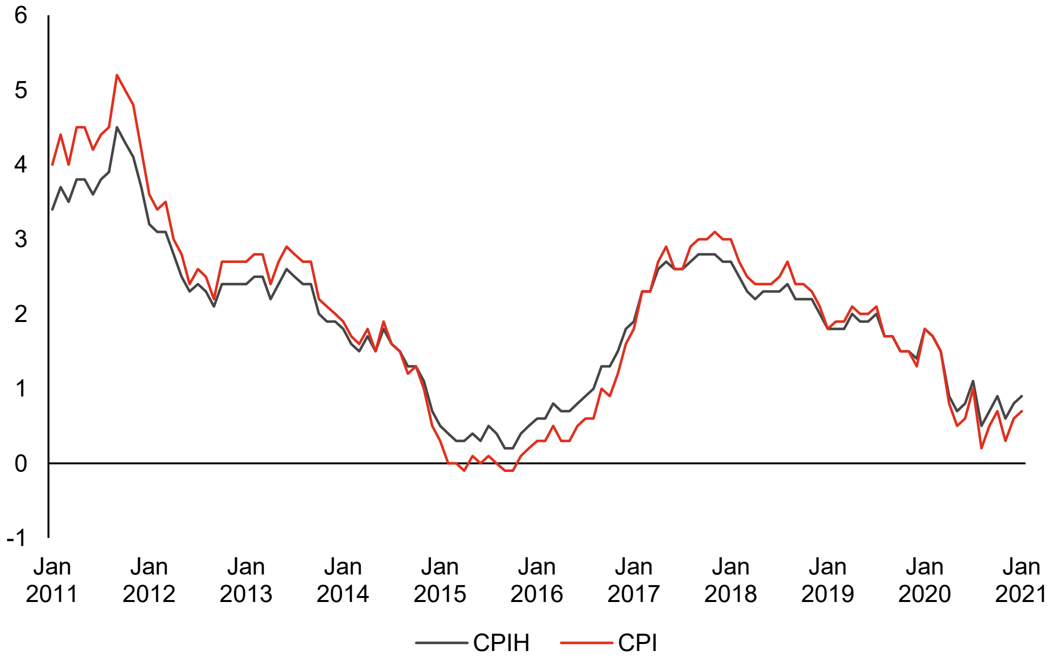
Source: ONS

Headline consumer price inflation increased from 0.6% in December 2020 to 0.7% in January 2021

Consumer price inflation remained subdued at the start of the year. The headline 12-month Consumer Price Index (CPI) rate stood at 0.7% in January, a small rise from 0.6% in December. Prices for furniture, restaurants and hotels, and food saw positive price growth between December 2020 and January 2021. However, these upward contributions were largely offset by lower prices for clothing and footwear. The ONS notes that the proportion of items marked as being on sale was nearly 50% more than in January 2020, reflecting the need for retailers to offload unsold stock due to weak demand over the last year owing to the pandemic.

The overall impact of the pandemic last year, meant that the UK's annual CPI rate averaged 0.9% in 2020, half of its rate of 1.8% in 2019 and significantly below the Bank of England's target of 2% inflation. Subdued inflation reflects material spare capacity in the economy, weak demand, as well as the impact of temporary COVID-related policies such as the VAT cut for hospitality and, over the summer, the Eat Out to Help Out scheme.

CPIH and CPI, % change from previous year



Source: ONS

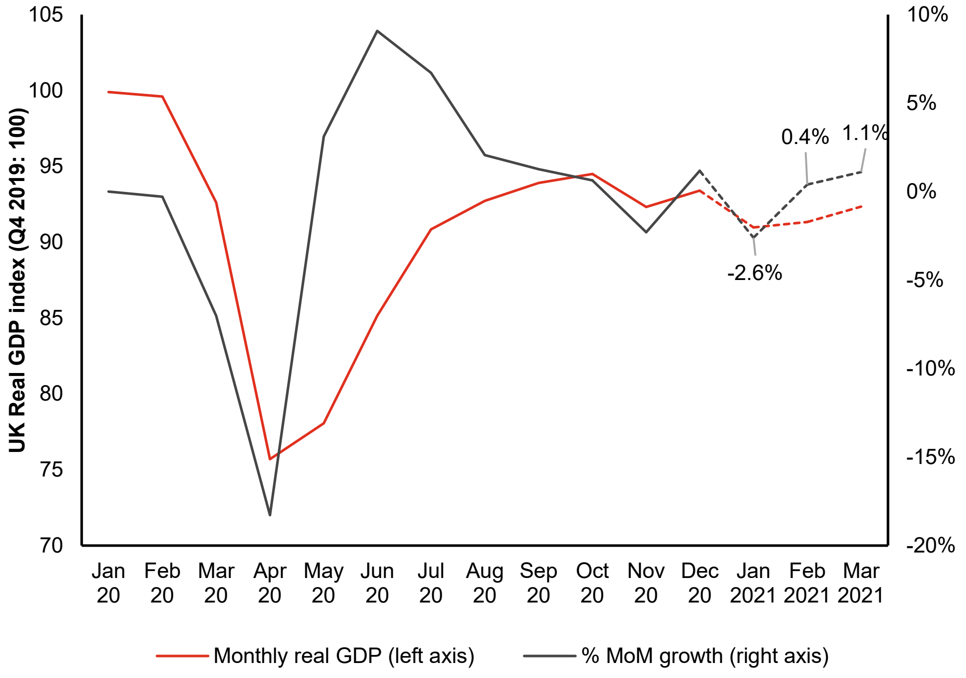
2

Outlook for the UK economy

Monthly GDP in January is expected to contract by 2.6% as a result of the third national lockdown

Our monthly analysis utilises a hybrid approach, which uses nowcasting model as well as other techniques, to predict month-on-month GDP growth scenario. Beyond March, we provide quarterly projections. Using our Nowcasting model, we expect monthly UK real GDP to drop by 2.6% in January 2021, as a result of the current national lockdown which has closed hospitality, non-essential retail and schools. In real terms, this would mean the level of real GDP in January is slightly below its November 2020 level, but 20% above its March 2020 mark. As discussed in Section 1, businesses and consumers are continuing to adapt to restrictions. Going forward, we expect gradual recovery in February (0.4%) and March (1.1%), as the UK's on-target vaccine rollout instils confidence in businesses and the economy gradually reopens towards the Spring.

UK GDP, monthly levels and growth rates



Source: PwC analysis

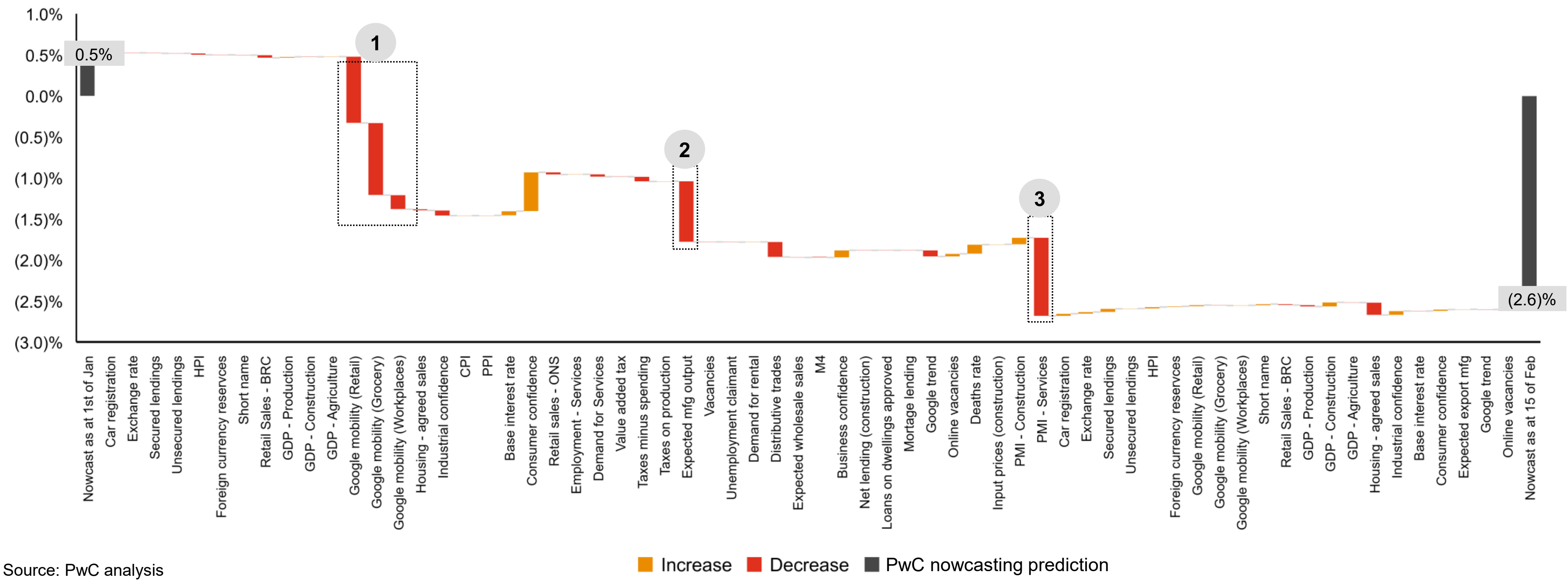
Our Nowcasting projections are constantly being revised with real-time data

The chart below shows how our nowcasting prediction for January 2021 has been revised over time. Key drivers includes

1. The decrease in **footfall and commuter number** was larger than expected in January and contributed to a downward revision
2. The decrease in **expected manufacturing output** was larger than expected in January and contributed to a downward revision
3. The fall in **PMI – Services** was larger than expected in January and contributed to a downward revision.

Overall, including movements in all other macroeconomic indicators, we expected the range of January 2021 growth rate to be centred at **-2.6%.**

UK real GDP January 2021 growth rate nowcast revisions (From 1 January to 15 February)



Source: PwC analysis

Looking further ahead, there is still significant uncertainty over the pace and the path of the economic recovery

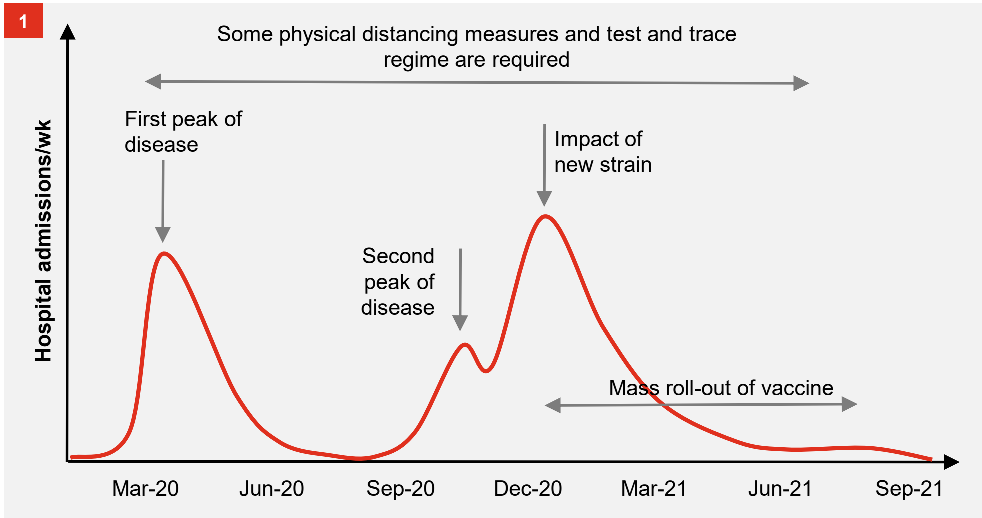
Our illustrative scenarios reflect a range of possible developments in the pandemic. Under the ‘quick recovery’ scenario, we assume that the January national lockdown will be sufficient in bringing R below one in the Spring, but under the ‘slow recovery’ scenario, some form of continued social restrictions will likely be necessary to manage the hospital admission rate. Together with possible economic scarring of the pandemic, the pace at which businesses adapt to the new UK-EU trading relationship and the possible outcomes of trade agreements with the US, could weigh on long-term recovery prospects of the economy in 2021 and beyond.

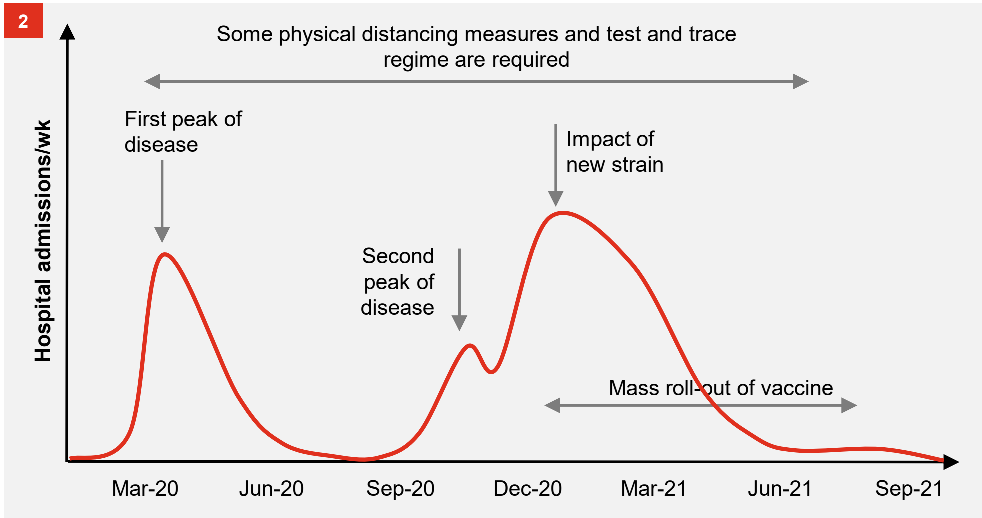
Quick recovery – Key assumptions

- Fast vaccine roll-out and the January lockdown are effective in reducing R rate below one and lowering hospital admissions. As a result, the UK will be placed in some form of local alert system along with social distancing requirements until at least summer
- The pandemic has limited long-term economic scarring
- Most businesses adapt quickly to the new UK-EU trading arrangements
- Negotiations for a UK-US trade deal go smoothly
- Under this scenario, we expect that UK GDP would recover to its pre-pandemic levels by Q1 2023.

Slow recovery – Key assumptions

- The new variants drive up the hospital admission rate combined with a gradual vaccination programme, resulting in the hospital admission rate remaining high and some regions remain in high alert levels until at least summer
- Long-term economic scarring is partially managed but remains significant especially in the labour market
- Businesses take time to adapt to the new UK-EU trading arrangements
- The UK-US trade negotiations are slow but smooth
- UK GDP is assumed to recover much more slowly compared to the ‘quick recovery’ scenario, and will not reach the pre-pandemic levels until the middle of 2024.



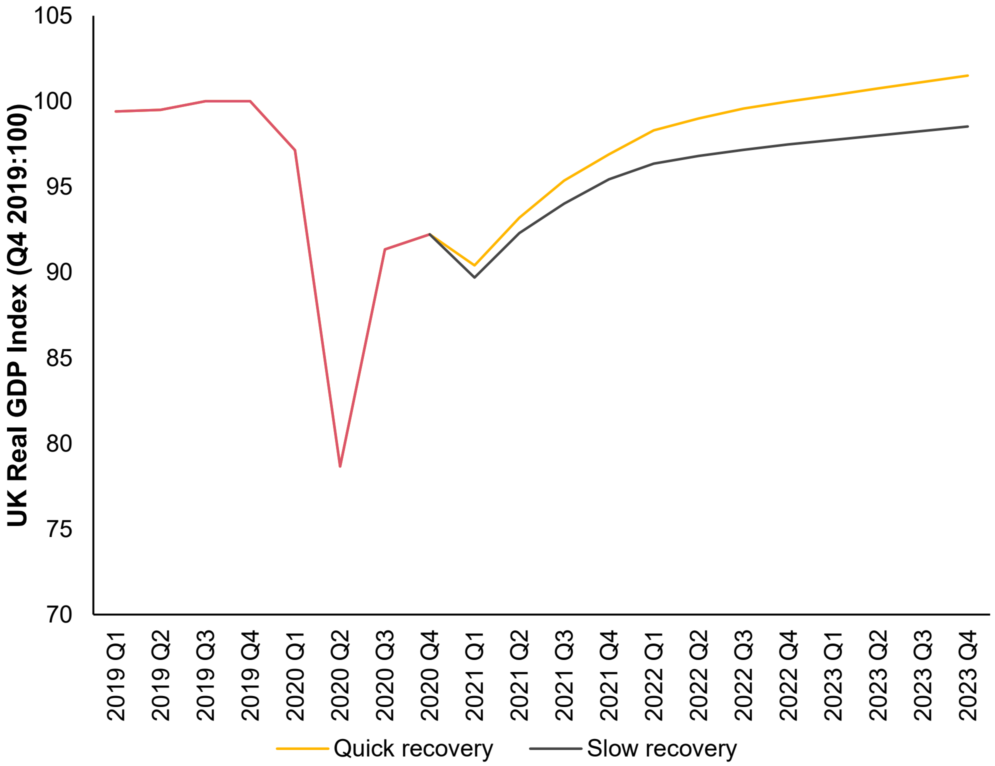


Source: PwC analysis

The economy is expected to bounce back as early as Q2 2021 but the pace of recovery will gradually slow down from 2022

Our revised projections show the UK following a W-shaped recovery. The UK economy is expected to start the year with negative quarterly growth for Q1 of between -2.0% and -2.8%. We expect annual GDP growth to be between 3.4% and 4.6% in 2021 in our 'slow recovery' and 'quick recovery' scenarios. Economic activity is then likely to pick up pace once the impact of mass roll-outs of vaccines starts to take effect on both the pandemic, restrictions and confidence in the economy. The pace of the recovery will gradually slow down over time and clawing back the last few percentage points of lost output will take time due to lingering effects from COVID and the possibility of economic scarring.

UK real GDP index (Q4 2019 = 100), quarterly levels in each scenario



Given the potential setback caused by the extended lockdown restrictions in Q1 2021 and possibility of gradual lockdown easing, we estimate that the level of GDP may still be around 3.1% to 4.6% below the pre-crisis mark by the end of this year.

Our expectation is that the economy won't recover to the pre-crisis levels until Q1 2023 under the 'quick recovery' scenario, and by the middle of 2024 under the 'slow recovery' scenario.

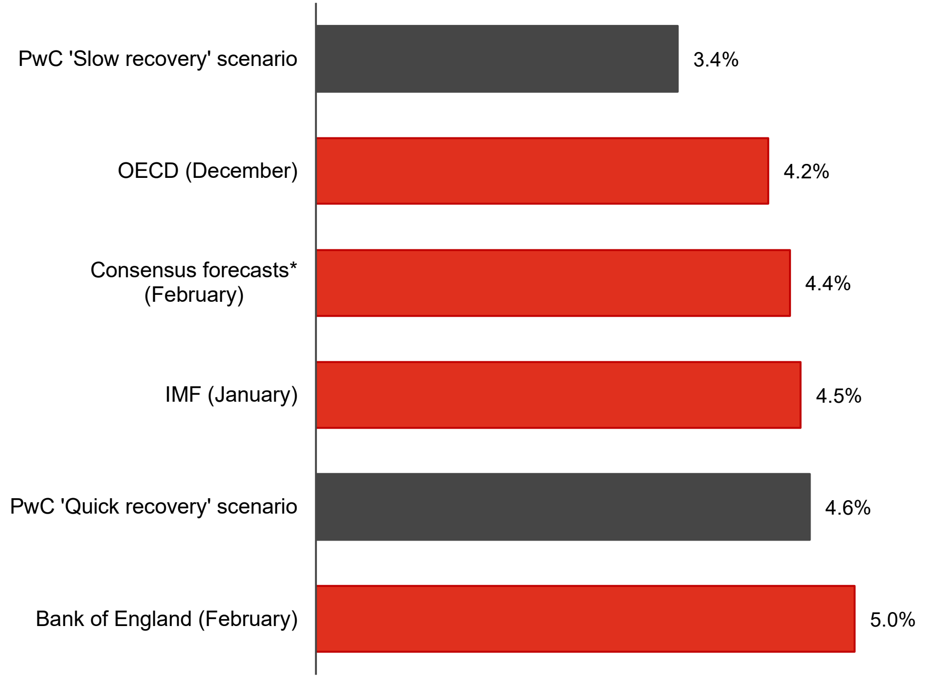
Real GDP growth	2021	2022	2023
Quick recovery scenario	4.6%	5.6%	1.7%
Slow recovery scenario	3.4%	4.4%	1.2%

Source: PwC analysis

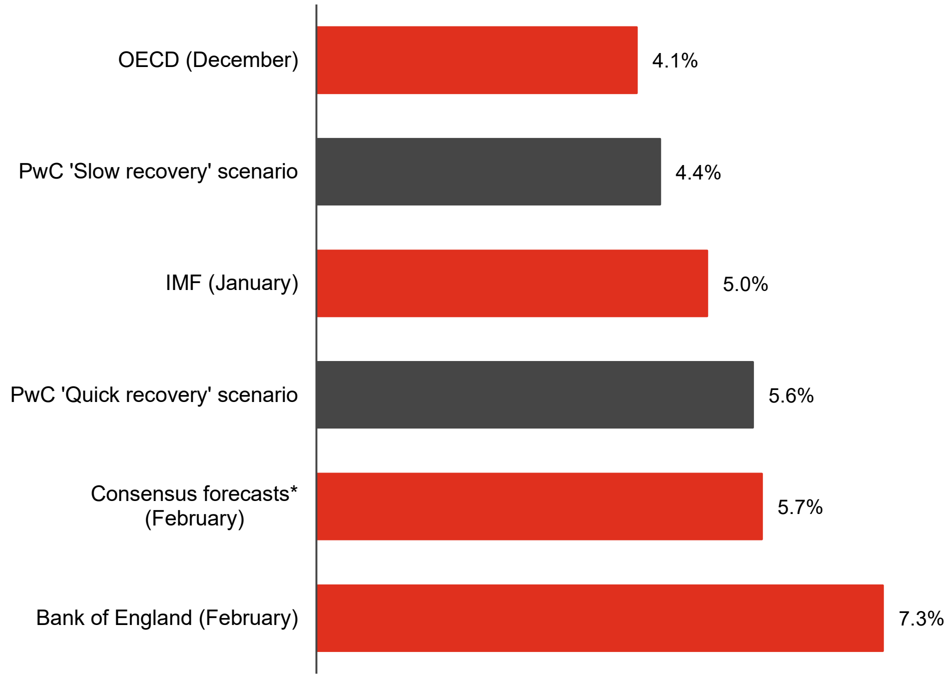
Our GDP growth projections are broadly in line with other third-party projections

Going into 2021 and onto 2022, uncertainties remain around the trajectory of the pandemic, the pace of vaccine roll out, possibility of long-term economic scarring and business adaption to the new trading relationship with the UK's main trading partners. Forecasts from December are unlikely to factor in January lockdown and its extensions.

Comparison of 2021 GDP projections



Comparison of 2022 GDP projections



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

Source: PwC, OECD, IMF, HMT, BoE

Governments across the world are hoping for an investment and export-led recovery – the global economic landscape will be competitive

As the vision for the recovery adopted across the world, “build back better”, governments across the world will be looking to investments in green, digital and skills to drive their recovery. The UK will be no exception, buoyed by the need to make progress on Boris Johnson’s 10 point plan for a Green Industrial Revolution ahead of COP26 later this year. The Chancellor’s budget in March is likely to reflect this. However, with countries all across the world also looking to create an export and investment driven recovery, economic competition will be much tougher in a post-COVID world. It will be important for the government to create a strong environment that makes the UK more distinctive and attractive to foreign investors.

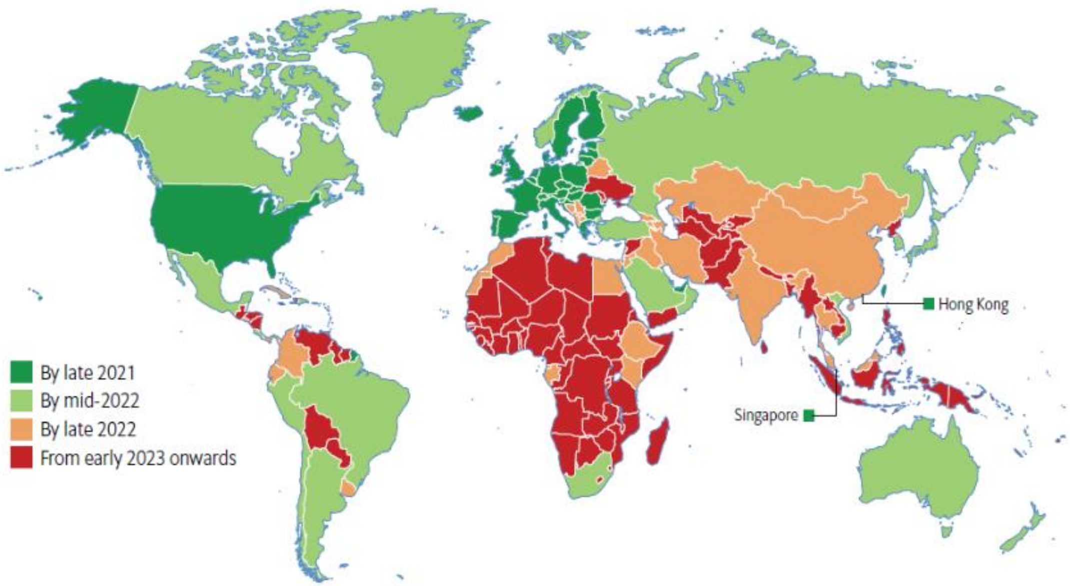
In addition, with the UK now outside of the EU, trade will need to be orientated to other countries across the world. But these countries are likely to be slower in the global vaccine race, as illustrated in the map below from the Economist Intelligence Unit. This has implications for an export-led recovery, as the recoveries in these countries may be constrained if the pandemic persists.

In general, investment is also expected to remain weak in the first half of the year and this will weigh on economic growth. Despite the UK’s on-target vaccine rollout, significant uncertainty persists regarding how the pandemic will progress, the phasing out of restrictions. Combined with having to adjust to new UK-EU trading arrangements, this will make businesses less inclined to invest.

Excess capacity due to weak demand, and the need to strengthen balance sheets after a period of lower income and potential impairments are also factors that will influence investment decisions.

The combination of these factors means that the UK’s recovery will likely be one led by household spending, as the main component of the UK’s economy. This is discussed on the following slide.

Estimates of when widespread vaccination coverage will be achieved



Source: The Economist Intelligence Unit

Household spending will drive the recovery, with excess savings estimated at £125 billion

Household spending

- The UK's economic recovery this year will be driven by household spending. Lockdown restrictions have forced people to postpone purchases, leisure and travel. It is estimated that households have accumulated over £125 billion of savings in excess of what they usually would have due to the pandemic causing involuntary savings
- When restrictions are loosened and life returns to some normality, that pent-up demand can be released
- The big question is the extent to which these savings will be spent and when. Many people may continue to want to hold savings due to continued job uncertainty, especially with the government's furlough scheme coming to an end in April. They may also hold back spending because of concerns about the virus, for example not wanting to travel internationally or go to out to eat or to live music and theatre
- Despite some risks to the household spending outlook, given the size of the total stock of excess savings, household spending, as the biggest component of UK GDP, will be a key driver of growth in 2021.

Government spending

- Government spending is expected to continue to a key driver of the economy this year. Health care, in particular, is expected to grow strongly this year driven by the UK's vaccination programme as well as the full resumption of normal non-elective health care and GP appointments. In addition, education output is likely to be strong this year in order to help school children catch up from their lost learning last year
- The government's furlough scheme is due to come to an end in April, but given the consultation of the current national lockdown, it is likely some form of income support will continue for the most affected sectors
- The key question for government spending this year is how much of it will now turn to the government's ambitions to build back better, for example its Green Industrial Revolution plan and upskilling. It will take time before the direct and multiplier effects of these investments to feed through the economy. It would, however, provide a much needed boost to investment and to sentiment in the short-term.

Net trade

- A recovery in household spending across the world will lead to a pick in trade across countries, driving both imports and exports for the UK.
- Adjusting to the new UK-EU trading arrangements will take time for some sectors, for example having to deal with costly and timely paperwork and other non-tariff barriers. This is already weighing on sectors such as fishing. In addition, the recent spike in global shipping costs is adding to the cost of imports.
- The structural shifts in spending over the past year, for example towards household goods and ICT as a result of the pandemic, have implications for the UK's trade balance. These sorts of goods are often imported from abroad, or have a high import content in their supply chain. This means UK spending on imports is likely to increase, while exports may lag behind in the recovery, as discussed on the previous slide.

Inflation is set to rise up towards 2% this year as temporary COVID-related factors unwind

We expect inflation to remain low for the first quarter of the year due to the third national lockdown. Inflation is then expected to increase up towards the Bank of England's 2% target by the end of the year, and could average around 1.5% in 2021. There are three key factors underpinning this.

Temporary COVID factors unwind: From Q2 onwards, inflation could jump up as the COVID-related factors which have dampened the growth of consumer prices since the start of the pandemic unwind. Indeed, the fall in inflation since February last year is predominately due to temporary factors related to demand and policy changes in response to the pandemic. Around half of the fall in CPI since April (or 0.6 percentage points on average) is accounted for by energy prices, as global demand for oil fell. The VAT cut in hospitality and tourism sectors has subtracted a further 0.2 percentage points, on average, since August. As rising global oil prices feed through to energy and utility prices, and the VAT cut comes to an end in April, inflation will rise.

Weak demand will recover: As the economy returns to normality, demand will recover, which in turn will reduce the spare capacity present in the economy. Indeed, since February, core services inflation has fallen while core goods inflation has risen. This reflects the fact that spending in service-related sectors has been disproportionately impacted by restrictions. It is estimated that households have accumulated over £125 billion of savings over the past year; a return to normality could see a share of this unleashed on retail and hospitality. A reduction in economic uncertainty will also create incentives for firms to alter their prices, as they also look to recoup lost revenues once they reopen.

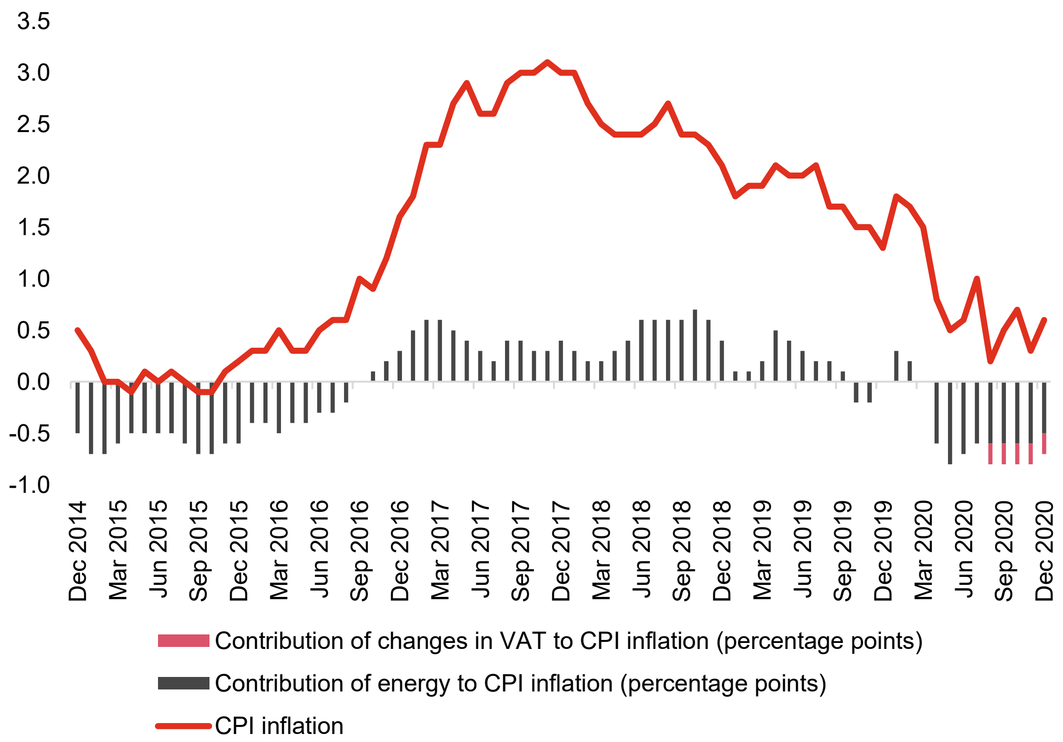
Brexit: A final factor that could put upwards pressure on prices is Brexit. The new UK-EU trading arrangements put upwards pressure on prices if the cost of imports rises in some sectors, combined with the recent spike in global shipping costs.

However, as set out in the preceding section, there are still considerable uncertainties regarding the path to recovery. The key risks which could put downward pressure on prices are as follows:

- Unemployment is set to rise when the furlough scheme comes to an end in April. This will increase spare capacity in the labour market and subdue wage growth
- Rising unemployment will also make consumers less willing to spend and instead hold precautionary savings.

It is likely that monetary policy will remain accommodative in the near-term, as the Bank of England faces little pressure to raise rates with low inflation. This was more recently confirmed by the Bank of England's decision in February to keep the Bank Rate at 0.1% and maintain its existing bond purchasing programme.

CPI, % change from previous year, and percentage point contribution to CPI from changes to VAT and energy prices



Source: Bank of England

What does the economic outlook mean for households?

To spend or not to spend?

- The total stock of excess savings (those in excess of what would normally have been saved) are estimated at over £125 billion last year. This means many households can fund their pent-up demand this year once restrictions are loosened. However, there are a few factors which may temper the extent to which and the pace at which these savings are unleashed into the economy
- Firstly, ongoing economic uncertainty, combined with the end of the furlough scheme in April, may lead people to continue to hold savings for a rainy day
- Secondly, concerns about the virus may continue to restrict spending. In a recent Bank of England/Ipsos MORI survey in January, over a quarter of people said they would spend less once restrictions are lifted due to caution about going out. Indeed, in both New Zealand and Australia, where restrictions have eased, spending on restaurants and hotels in Q3 last year was not back to pre-COVID levels
- And thirdly, the rise in savings has not been experienced equally across households. Survey evidence suggests its people who already have sizable savings, have higher incomes, and who are older that have saved the most. And such households tend to be less likely to spend from their savings.

People will likely pay more for energy, utilities and services this year

- Falling global oil prices have accounted for around half of the fall in inflation over the past year. As economic activity across the world picks up and global demand for oil rises, so will prices, which will feed through to higher prices for fuel and energy
- Core services inflation fell last year, while core goods inflation increased. This reflects weak demand for services, which have been disproportionately impacted by COVID-19 restrictions. As normal economic activity returns, increased demand and reduced uncertainty will create incentives for firms to increase prices, as well as trying to recoup lost revenues from last year.

It will be a challenging year for the labour market

- The Bank of England estimates that when the government's furlough scheme comes to an end in April – in the absence of either an extension or a replacement scheme – the UK's unemployment rate will peak at around 7.5% in the middle of 2021. In Section 1, we discussed the possibility that the UK's unemployment rate might be higher than official estimates suggest, meaning this peak could be higher. In comparison, the UK's unemployment rate reached 8% in the years following the global financial crisis
- Of further concern is the rise in the underemployment rate – the share of employed people who want to work more hours than they currently are. On the other hand, the latest data showed a marginal decrease in the economic inactivity rate meaning people are still beginning to search for work despite lockdown restrictions.

3

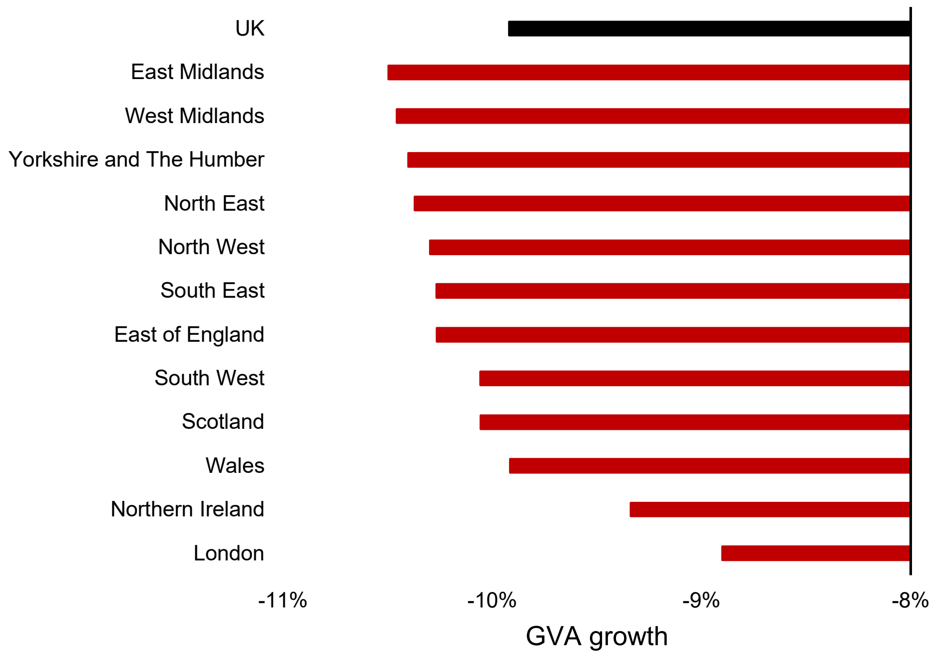
Regional economic outlook

Regions across the UK have been impacted differently by COVID-19, resulting in a range of estimated output loss

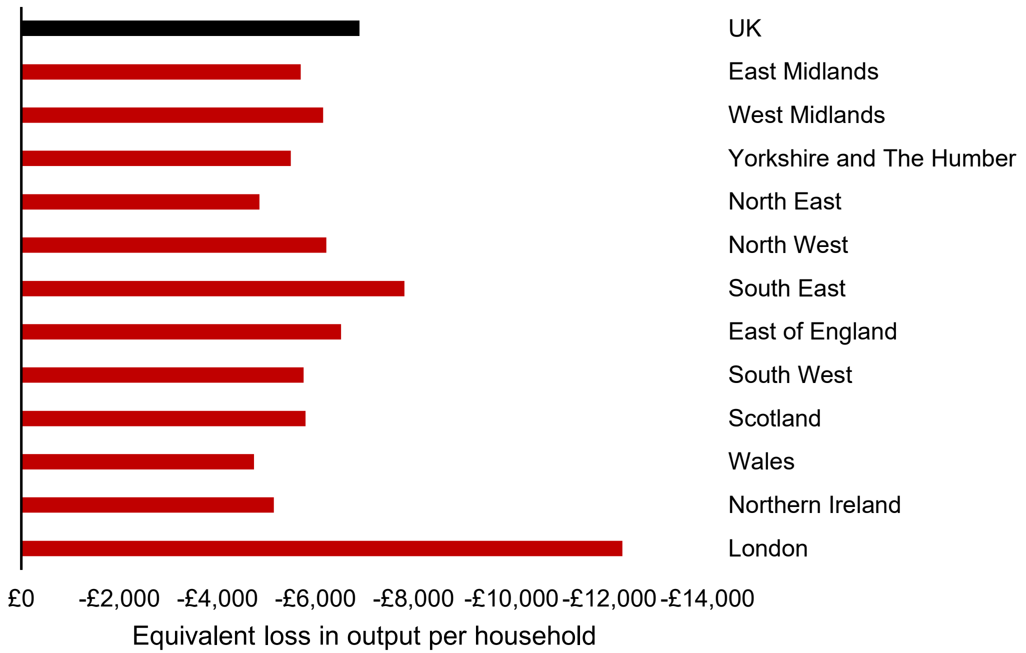
UK output across the regions is estimated to have contracted by between 8.9% and 10.5% in 2020. At the bottom of the range are regions in the Midlands, whose large manufacturing bases have been badly hit due social distancing measures restricting working operations and output. At the top of the range, London is estimated to have experienced the smallest contraction in its economy, with a high proportion of its jobs being office based due to the prevalence of sectors like ICT and professional services.

Despite performing the best in terms of GDP growth, when looking at the loss of output on a per household basis, London's output loss is equivalent to each household being roughly £12,000 worse off than they were in 2019. This compares to around £4,800 in Wales and the North East, which have lower levels of GVA.

Estimated annual GVA growth rates, %, 2020



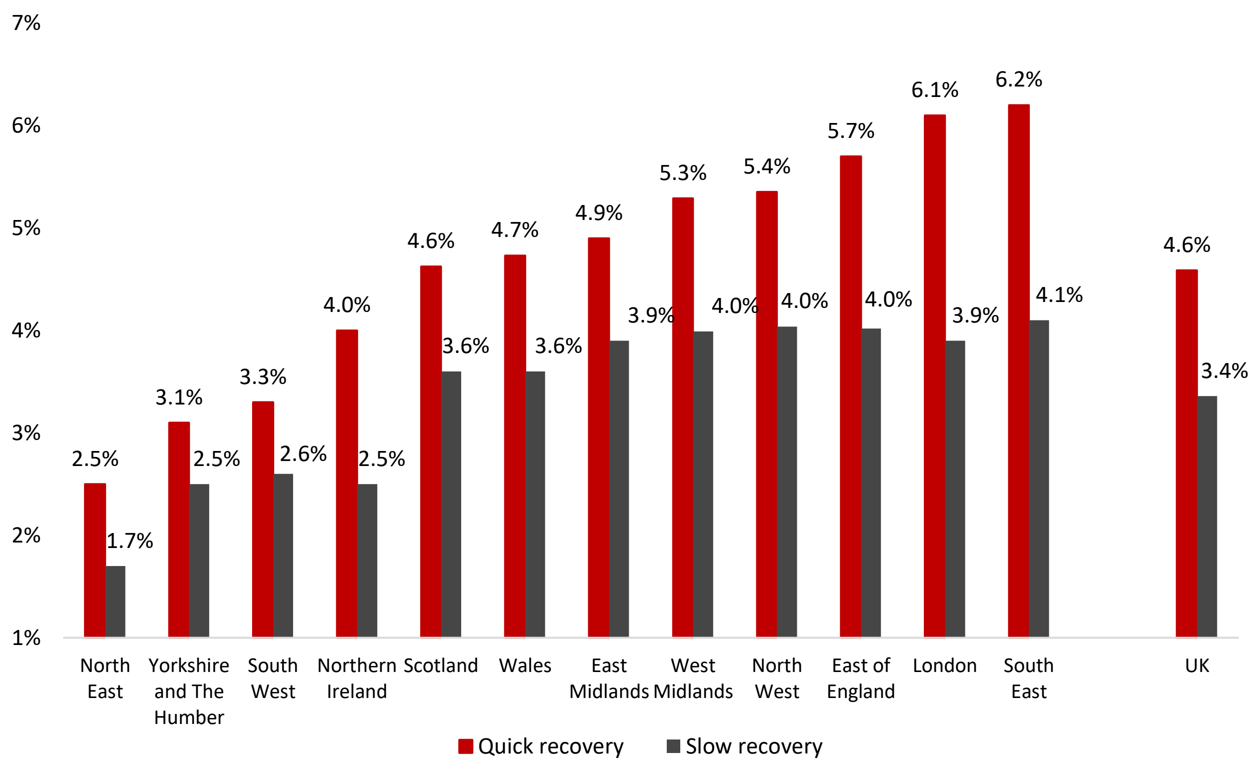
Equivalent loss in output per household, £, 2020



Among the least badly hit but slower to recover, London and the Southeast are expected to lead growth this year

Our projections combine (i) the direct impact caused by differences in regional industry mix, with (ii) potential impact of changes in social restrictions (assuming some form of restrictions similar to the current local alert level system will be put in place) by applying an appropriate multiplier on (i). See Annex A.2 for methodological details.

Projected annual GVA growth rates, %, 2021



Source: PwC analysis

We expect growth in most regions to accelerate in 2021, with annual GVA growth ranging from 2.5% - 6.2% under our ‘quick recovery’ and between 1.7% - 4.1% under the ‘slow recovery’ scenario.

London and the Southeast are likely to lead growth in 2021. They are expected to grow by between 6.1% and 6.2% on average under the ‘quick recovery’ scenario, and between 3.9% and 4.1% under the ‘slow recovery’ scenario. Despite being more densely populated, these regions are more resilient mainly because of the prominence of sectors like ICT and professional services, while relying less on manufacturing where working from home is not always possible.

London’s younger and more active population also contributes significantly to its resilience from both an economic and health point of view. Londoners’ activities seem to be impacted less, evidenced by the lower drops in Google trends, and this is expected to drive local economic growth.

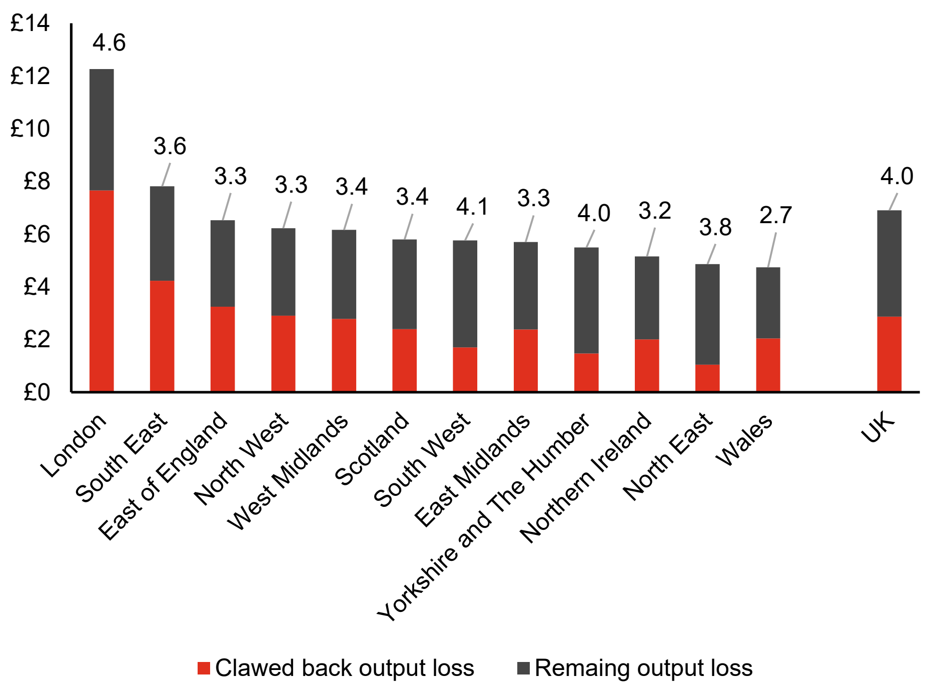
Scotland and Wales are among those which are likely to recover at a similar rate to the UK average, ranging from 3.6% - 4.7% under our two scenarios, respectively. The slower-than-average pace of vaccination against targets may weigh on their recovery going forward.

Northern Ireland economic growth in 2021 is expected to drag on due to potential pressure from additional non-tariff barriers under the new UK-EU trading arrangement.

UK regions are expected to claw back around 40% of the loss in output from last year in 2021

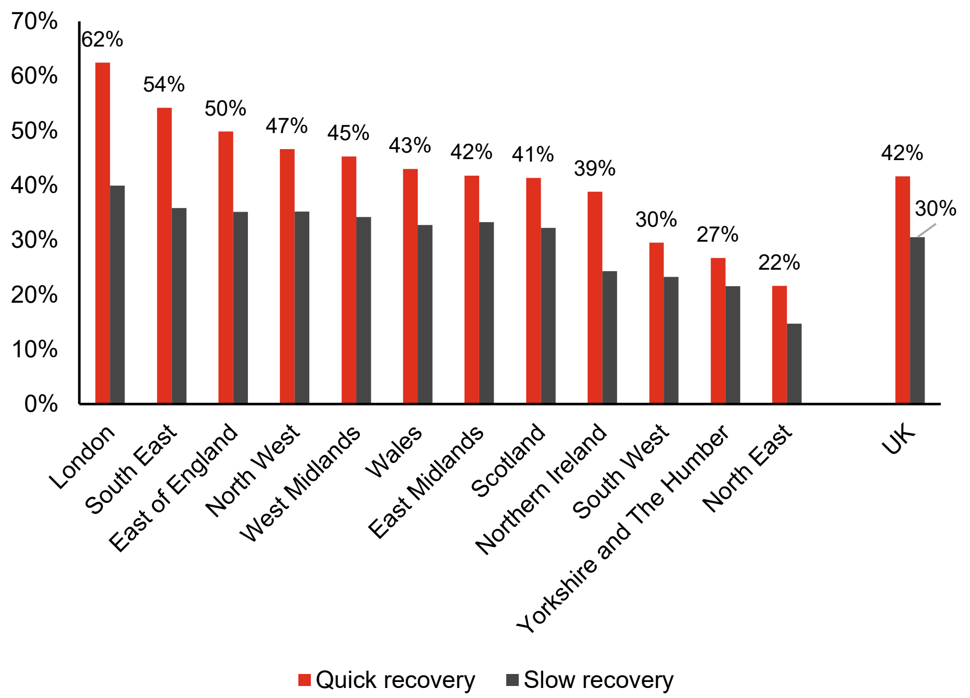
According to our projections, on average the UK is expected to claw back between 30% and 42% of the loss in output caused by the pandemic in 2021. This is equivalent to between approximately £2,100 and £2,900 per household. However, aggregate levels mask a more diverse regional picture. Under the 'quick recovery' scenario, London and the South East are expected to recover about 62% and 54% of lost output from 2020, respectively, compared to just 22% and 27% in the North East and Yorkshire and the Humber, and 41% and 43% in Wales and Scotland. This has significant implications for the 'levelling up' agenda, as those regions with a higher GVA per household are generally expected to claw back more of the lost output from 2020, while regions with lower GVA per household will be slower to recover. Disparities in GVA between regions are likely to diverge.

Projected output loss equivalent per household in 'quick recovery' scenario and clawed back amount, £ thousands, 2020-2021



Source: PwC analysis
Note: values above bars refer to the grey bar – remaining output loss in 2021

Projected share of output loss from 2020 clawed back in 2021, %



Source: PwC analysis
Note: values above the bar refer to the quick recovery scenario

We analysed the relationship between alert levels and local R rates and NHS capacity to understand what might determine the recovery in 2021

When designing our approach to projecting regional GVA growth rates in 2021, we first analysed the factors determining a region's local alert level in 2020. Analysing the most recent data, we find that:

- Contrary to expectations, the COVID-19 Reproductive rate (R) is not the single most important factor driving alert level decisions during the period of October –December 2020*.
- A higher number of hospital beds per capita (i.e. one of the key indicators of NHS capacity) has not necessarily translated into a lower alert level.

The relationship between the R and the alert level
throughout Q4 2020

Hypothesis: In a region where the virus spread more quickly (higher R on average), it would be placed in a higher local alert level.

Findings: Contrary to expectations, we found that R is not the most single important factor driving alert level decisions.

- We found a negative correlation (-0.59) between the average alert levels and Rs over the last three months of 2020, suggesting other factors were also at play in determining what level of restrictions a region should be placed in.
- At a monthly level, there has been no evidence of a significant positive correlation between the two variables by either comparing within the same month or with a lag (e.g. comparing R in November to the alert level in December)
- Interestingly, the data shows that although the average R across NUTS1 regions fell between October and December, the average alert levels increased (or stayed the same in some cases). This is because sometimes precautionary measures are deemed to be necessary at the local level.

The relationship between hospital beds per capita and the alert level
in Q4 or most recent

Hypothesis: Regions which have a higher number of hospital beds per capita, would have greater capacity to treat COVID-19 patients and, therefore, would be in a lower alert level.

Findings: Our analysis shows that hospital bed capacity has not necessarily meant lower alert levels.

- On average, the correlation between hospital beds per capita and the alert level was 0.51, meaning some regions with higher number of hospital beds per 1,000 inhabitants, such as Scotland and the Northeast, were in higher alert levels while regions such as the Southeast was in a lower alert level.
- A robustness check on related variables, such as hospital bed occupancy ratios and number of critical care beds per capita, confirms that these indicators do not directly translate into alert levels.

(*): Note that this method does not assume a causal relationship. Other methods that can draw such conclusion such as OLS or ARIMA may not be suitable due to data unavailability. Therefore, we analyse correlation relationship over the most recent period that have sufficient data on alert levels and other COVID-19 related variables, and more analysis over a longer testing period is needed to draw a more robust conclusion.

The key factors we considered in projecting regional growth rates were industry mix, vaccination rate and mobility trends

Beside industry mix, we find that progress in meeting vaccination targets will likely be a significant determinant of GVA growth in 2021. Regional data also shows that changes in alert levels has had different impacts on mobility across regions, for example how active local people are in travelling or going to work. Therefore, we expect its impact to vary by region going forward

Industry mix

Hypothesis: Regions that consist of less impacted industries, such as finance and insurance, are likely to recover faster than those with a reliance on badly hit sectors, such as hospitality and transport.

Findings:

- Regions consisting of industries where working from home is possible, such as London, are likely to maintain growth after the lockdown is lifted. Their sectoral mix has to some extent provided resilience.
- Regions with a high proportion of industries that have been badly impacted, such as the East Midlands which has the highest share of retail and wholesale sector as a percentage of GVA (13.2%) compared the UK average of just under 10.7%, are more likely to bounce back more quickly from their low base.

Progress in vaccination programme

Hypothesis: Regions which have made more progress in vaccinating vulnerable groups are likely to be in lower alert levels.

Findings:

- Given that the country went into the third national lockdown in late December 2020 while vaccination data is only available from January 2021, we were unable to analyse the historical correlation between vaccination rates and changes in alert levels.
- However, this variable is likely to be one of the key determinants behind alert level trajectory by region over the course of 2021. It is because regions that have been able to vaccinate the majority of their vulnerable groups are likely to be able to bring the pandemic under control faster.
- Studying how close each region is to reaching their Spring target as set out under the National Deployment Plans gives us an indicator of how quickly they are in easing social restrictions after the lockdown is lifted.

See next slide for more detail

Relationship between Google Mobility trends, the alert level, and GVA *throughout Q4 2020*

Hypothesis: Regions which have higher increases in alert levels are likely to see larger falls in mobility across Q4.

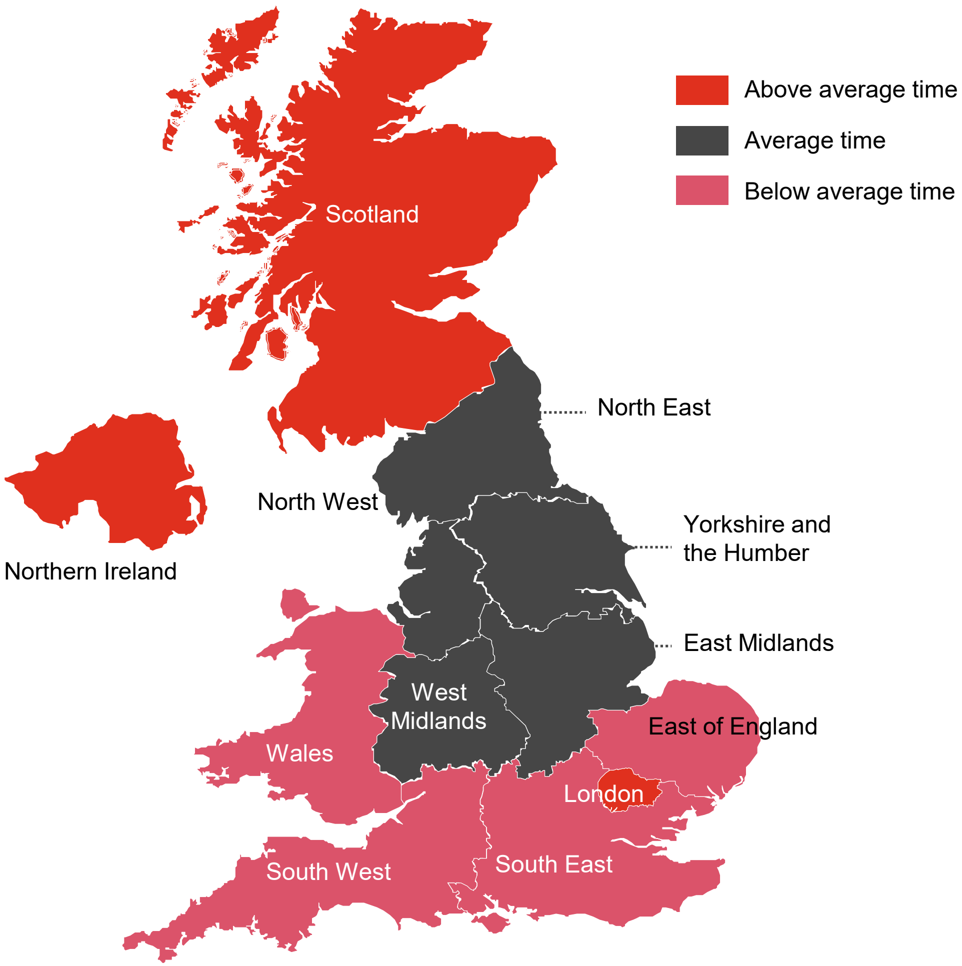
Findings:

- In line with our expectations, changes in google mobility data and changes in alert levels were negatively correlated (-0.75) in Q4. That means regions with higher increases in alert levels between October and December of Q4, also saw a greater reduction in mobility between over the same period.
- However, the trend is not consistent across regions. For example, at monthly levels the above findings hold during October and November but the impact of Google trend on alert level in December is not clear. Overall, as alert levels increase, people in different regions appear to behave differently.
- The low correlation also suggests that it is important to consider other variables, such as NHS staff numbers, population density and regional demography etc.

See following slides for more detail

With the exception of London, most regions in England are likely to be on track to meet their Spring vaccination targets

Estimated time needed to reach regional Spring vaccination target



Source: PwC analysis, Public Health England

Regional progression towards vaccination targets will help speed up the lockdown easing progress. Analysing current progress suggests that if current vaccination patterns continue, a North-South division in vaccination rates will likely to deepen.

Comparing reported vaccination numbers by region against their Spring vaccination targets, as set out in National Vaccination Deployment Plans, Northern Ireland, Scotland and London seem to lag behind while southern regions are likely to reach their target more quickly. This is likely to weigh on GVA growth and 'levelling up' agenda going forward.

Our analysis is subject to high level of uncertainty such as supply of vaccination and uptake etc. See Annex A.2 for details of our methodology and assumptions.

Changes in footfall and commuter numbers also impact regional GVA but to varying degrees

We find that how regions respond to changes in alert levels varies across regions.

- As expected, for most regions with a larger rise in the alert level between October and November, such as in Yorkshire and the South West, there was also a greater decline in mobility (top right box). Similarly, regions such as in Northern Ireland and Scotland (middle left box), where alert levels increased slightly, the decline in mobility was marginal.
- However, East Midlands moved from alert level 1 in October to level 5 (proxied for lockdown) in November, but the change in footfall was similar to the North East, which moved from alert level 3 to 5.

Changes in Google trends in response to changes in local alert levels*, Oct- Nov 2020

(*): Google trends data which shows changes in footfall and commuters compared to the pre-crisis levels (February 2020). So, values which are more negative represent a larger % fall in mobility.
Source: PwC analysis

4

Annex – methodological details

Annex A.1 – Nowcasting methodology

Nowcasting models use econometrics to produce high-frequency forecasts in the near term

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 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).

Illustration: Using Nowcasting to predict missing data

Annex A.2 – Regional projections methodology

Regional projection methodology

Aim: To estimate the impact of differences in industry mix and social restrictions, proxied by alert levels, on regional GVA growth over the course of 2021.

Methodology: Our analysis consists of three stages. **Stage 1-** Forecast quarter-on-quarter GVA growth in 2021 by region based on their sectoral mix; **Stage 2-** Estimate likely trajectory of social restrictions across UK NUTS1 regions post-lockdown; and **Stage 3-** Estimate the overall impact of sectoral mix and changes in the social restriction post-lockdown on regional GVA growth in 2021.

Stage 1 - The baseline

Assumptions:

- Regional sector mix follows the same pattern as observed over the period between 1998 and 2018 (i.e. the period in which regional GVA data has been reported by the ONS)

Approach: we project the baseline regional GVA based on the industry mix by region as follows.

1. **Establish the overall patterns of industry mix by region** based on historical data over the whole period of 1998-2018
2. **Forecast sectoral GVA growth** using nowcasting (see Annex A.1 for details on nowcast methodology) and other techniques. For each scenario, we predict quarterly GVA growth by sector by distilling the impact of a range of possible developments in the pandemic on each sector. Section 2 describes our scenario setting and assumptions in greater detail.
3. **Apply the projected GVA growth rates from step 2** to arrive at a projected GVA by sector for each region.
4. **Aggregate GVAs across sectors** to obtain the projected regional GVA on quarterly and yearly bases.

Stage 2 - Estimate the likely regional social restrictions post-lockdown

Assumptions:

- After the January lockdown restrictions is lifted, the UK will return to some form of social restrictions similar to the current alert level system
- Higher alert levels are associated with tighter restrictions, resulting in a lower GVA growth rate and vice versa
- Vaccination progress continues the same trends as observed between 24th January 2020 (when the data was first recorded) and 8th February 2021 (the data cut-off date in this analysis) until the target is fully 'met'
- We notice that the numbers of hospital and critical care beds have only changed marginally over the most recently reported periods (Q3 2020 for England, Q2 2020 for Scotland, Q4 2020 for Wales, 2019/20 for Northern Ireland). Therefore, we assume no significant changes occur for the rest of 2021.

Regional projection methodology - continued

Stage 2 - Estimate the likely regional social restrictions post-lockdown - continued

Approach: To determine the possible social restriction level each UK region would likely to face after the lockdown restrictions is lifted, we follow the following steps.

1. **Form a view of the most recent alert levels that the UK NUTS1 regions have been placed in throughout Oct-Dec 2020.** This is done by aggregating local authority alert levels to a regional basis, using the alert level that occurred most frequently within a given region to represent the historical alert level of that region. For the sake of simplicity, in this analysis we assign alert level 5 to regions that are in lockdowns. For the three devolved nations we align their social restrictions to those in England regions in order to arrive at a close equivalent alert level for each nation. As a result, the alert levels in Northern Ireland and Wales are broadly equivalent to be 3 and 4 respectively in October, and 5 in November and 4 in December.
2. **Identify three key variables which are most likely to drive regional alert levels**:
   - **The reproduction rate (R).** We assume the average R between the upper and lower bounds and take the average for each month in Q4. The reported R is for NHS regions, which groups North East and Yorkshire, as well as the East Midlands and West Midlands. Therefore, we assume the same R across the ONS regions belonging to an aggregate group.
   - **Hospital beds per 1000 inhabitants** (all specialties as well as critical care beds) and **hospital bed occupancy**, in Q4 or most recent available estimate. This is divided by the 2019 reported population. Data is also reported for NHS regions, so we disaggregate to ONS regions by using relative population weightings.
   - **Vaccination progress against target.** To define the target, we investigated each National Deployment Plan to identify the number of people belonging to priority cohorts (also defined as JCVI groups 1-9 e.g., those aged 50+, people with underlying health conditions, frontline health workers, etc.) Each nation had a plan to vaccinate these priority cohorts by Spring. We compared the cumulative number of people who had received a Dose 1 vaccine to the total number of people belonging to these priority cohorts, to get an estimate of how close each region is to reaching their target vaccination number. This is only an estimate, as not every person vaccinated will necessarily belong to priority cohorts. National targets for vaccinations were weighed by the relative population of the region to obtain regional targets.
   - **Google Mobility trends,** which shows changes in the number of footfall and visitors to different places compared to the baseline values for a specific day of the week. The baseline is the median value for the corresponding day of the week, during the 5-week period prior to the pandemic (3 Jan-6 Feb 2020).
3. **Assign the most likely alert level to each region post-lockdown and appropriate multipliers** based on how regions are likely to perform across indicators, such as past GVA growth rates, vaccination progress against target and changes in footfall and commuter numbers etc.

Stage 3 - Estimate the combined impact of sectoral mix and changes in alert levels on regional GVA

Approach:

1. **Apply the multipliers on the baseline regional GVA** to get the estimated impact of regional social restrictions on regional GVA
2. **Arrive at the overall projected regional GVA** by combining the baseline with the estimated impact from the previous step.

For more information about this report, please contact members of our team

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