



BANK OF ENGLAND

Monetary Policy Committee



Monetary Policy Report

November 2021





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Monetary policy at the Bank of England

The objectives of monetary policy

The Bank's Monetary Policy Committee (MPC) sets monetary policy to keep inflation low and stable, which supports growth and jobs. Subject to maintaining price stability, the MPC is also required to support the Government's economic policy.

The Government has set the MPC a target for the 12-month increase in the Consumer Prices Index of 2%.

The 2% inflation target is symmetric and applies at all times.

The MPC's remit recognises, however, that the actual inflation rate will depart from its target as a result of shocks and disturbances, and that attempts to keep inflation at target in these circumstances may cause undesirable volatility in output. In exceptional circumstances, the appropriate horizon for returning inflation to target can vary. The MPC will communicate how and when it intends to return inflation to the target.

The instruments of monetary policy

The MPC currently uses two main monetary policy tools. First, we set the interest rate that banks and building societies earn on deposits, or 'reserves', placed with the Bank of England – this is Bank Rate. Second, we can buy government and corporate bonds, financed by the issuance of central bank reserves – this is asset purchases or quantitative easing.

The *Monetary Policy Report*

The MPC is committed to clear, transparent communication. The *Monetary Policy Report (MPR)* is a key part of that. It allows the MPC to share its thinking and explain the reasons for its decisions.

The *Report* is produced quarterly by Bank staff under the guidance of the members of the MPC.

This *Report* has been prepared and published by the Bank of England in accordance with section 18 of the Bank of England Act 1998.

The Monetary Policy Committee

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PowerPoint™ versions of the *Monetary Policy Report* charts and Excel spreadsheets of the data underlying most of them are available at www.bankofengland.co.uk/monetary-policy-report/2021/november-2021

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Monetary Policy Summary

The Bank of England's Monetary Policy Committee (MPC) sets monetary policy to meet the 2% inflation target, and in a way that helps to sustain growth and employment. At its meeting ending on 2 November 2021, the Committee judged that the existing stance of monetary policy remained appropriate. The MPC voted by a majority of 7–2 to maintain Bank Rate at 0.1%. The Committee voted unanimously for the Bank of England to maintain the stock of sterling non-financial investment-grade corporate bond purchases, financed by the issuance of central bank reserves, at £20 billion. The Committee voted by a majority of 6–3 for the Bank of England to continue with its existing programme of UK government bond purchases, financed by the issuance of central bank reserves, maintaining the target for the stock of these government bond purchases at £875 billion and so the total target stock of asset purchases at £895 billion.

The Committee's updated central projections for activity and inflation are set out in the accompanying November *Monetary Policy Report*. The projections are conditioned on asset and energy prices averaged over the 15 days to 27 October. This gives a market-implied path for Bank Rate that rises to around 1% by the end of 2022. Wholesale energy prices are assumed to be based on their respective futures curves for the first six months of the projections and remain flat beyond that. There are material risks around this assumption.

Both global and UK GDP increased in 2021 Q3, although at a slower pace than projected in the *August Report*. Growth is somewhat restrained by disruption in supply chains. Alongside the rapid pace at which global demand for goods has risen, this has led to supply bottlenecks in certain sectors. There have also been some signs of weaker UK consumption demand. While bottlenecks will continue to restrain growth somewhat in the near term, global and UK GDP are nonetheless expected to recover further from the effects of Covid-19 (Covid). UK GDP is projected to get back to its 2019 Q4 level in 2022 Q1.

Over the second half of the forecast period, and conditioned on the market-implied path for Bank Rate, UK GDP growth is expected to be relatively subdued. The pace of growth slows as potential supply growth eases back towards pre-Covid rates, and as higher energy prices and the fading of monetary and fiscal policy support temper demand growth. At the *Autumn Budget and Spending Review 2021*, the Government announced a higher path for government consumption, particularly over the next couple of years. By the end of the forecast period, a margin of spare capacity is expected to emerge.

The Labour Force Survey unemployment rate fell to 4.5% in the three months to August, while Her Majesty's Revenue and Customs payroll data have continued to rise strongly. Just over a million jobs are likely to have been furloughed immediately before the Coronavirus Job Retention Scheme closed at end-September, significantly more than expected in the *August Report*. Nonetheless, there have continued to be few signs of increases in redundancies and the stock of vacancies has increased further, as have indicators of recruitment difficulties. Taken together, while there is considerable uncertainty, initial indicators suggest that unemployment will rise slightly in 2021 Q4. Bank staff's estimate of underlying pay growth has remained above pre-pandemic rates, although pay growth is expected to fall back from its current rate in the November *Report* central projections.

Twelve-month CPI inflation fell slightly from 3.2% in August to 3.1% in September. Bank staff expect inflation to rise to just under 4% in October, accounted for predominantly by the impact on utility bills of past strength in wholesale gas prices. CPI inflation is then expected to rise to 4½% in November and remain around that level through the winter, accounted for by further increases in core goods and food price inflation. Wholesale gas prices have risen

sharply since August. CPI inflation is now expected to peak at around 5% in April 2022, materially higher than expected in the *August Report*.

The upward pressure on CPI inflation is expected to dissipate over time, as supply disruption eases, global demand rebalances, and energy prices stop rising. As a result, CPI inflation is projected to fall back materially from the second half of next year. Conditioned on the market-implied path for Bank Rate and the MPC's current forecasting convention for future energy prices, CPI inflation is projected to be a little above the 2% target in two years' time and just below the target at the end of the forecast period. In an alternative scenario that is conditioned on energy prices following forward curves throughout the forecast period and as set out in the *November Report*, CPI inflation falls back towards the target more rapidly than in the MPC's central projection, and is materially lower over the second half of the forecast period.

The MPC's remit is clear that the inflation target applies at all times, reflecting the primacy of price stability in the UK monetary policy framework. The framework also recognises that there will be occasions when inflation will depart from the target as a result of shocks and disturbances. In the recent unprecedented circumstances, the economy has been subject to very large shocks. Given the lag between changes in monetary policy and their effects on inflation, the Committee, in judging the appropriate policy stance, will as always focus on the medium-term prospects for inflation, including medium-term inflation expectations, rather than factors that are likely to be transient.

At its recent meetings, the Committee has judged that some modest tightening of monetary policy over the forecast period was likely to be necessary to meet the 2% inflation target sustainably in the medium term. The latest developments, set alongside the Committee's updated projections, reinforce this view. Nevertheless, near-term uncertainties remain, especially around the outlook for the labour market, and the extent to which domestic cost and price pressures persist into the medium term.

At this meeting, the Committee concluded that the existing stance of monetary policy remained appropriate.

The Committee judges that, provided the incoming data, particularly on the labour market, are broadly in line with the central projections in the *November Monetary Policy Report*, it will be necessary over coming months to increase Bank Rate in order to return CPI inflation sustainably to the 2% target. In observing the market-implied path for Bank Rate, the Committee notes that, in the *November Monetary Policy Report* central projections, CPI inflation is projected to be below the 2% target at the end of the forecast period, and would probably fall a little further beyond that point, given the margin of spare capacity that is expected to emerge.

Looking beyond the coming months, the Committee will, as always, continue to focus on the medium-term prospects for inflation. The Committee judges that there are two-sided risks around developments in the economy in the medium term, and will reach its assessment on the balance of these risks in light of the relevant data as they emerge.

1: The economic outlook

In the Monetary Policy Committee's (MPC's) central forecasts, global and UK GDP continue to recover from the effects of Covid-19 (Covid) in the near term. Growth is somewhat restrained by disruption to supply chains. That disruption, alongside the rapid pace at which global demand for goods has risen, has led to bottlenecks, which have exerted upward pressure on inflation globally, including in the UK. Inflation has also been boosted by higher energy prices, which have risen significantly further in recent months. In the UK, as a result, CPI inflation has risen markedly, to over 3%, and is projected to rise further in the near term, peaking at around 5% in April 2022.

Over the second half of the forecast period, and conditioned on the market-implied path for Bank Rate, UK GDP growth is expected to be relatively subdued. The pace of growth slows as potential supply growth eases back to close to pre-Covid rates, and as higher energy prices and the fading of monetary and fiscal policy support temper demand growth. A margin of spare capacity is expected to emerge by the end of the forecast period.

The upward pressure on inflation is expected to dissipate over time as supply disruption eases, global demand rebalances, and energy prices stop rising. Underlying wage growth is projected to decline from current rates, which are above the pre-Covid period. As a result, CPI inflation is projected to fall back materially. Conditioned on the market-implied path for Bank Rate, which rises to around 1% by the end of 2022, CPI inflation is projected to be a little above the 2% target in two years' time and just below the target in three years. Inflation would probably fall a little further beyond that point, given the margin of excess supply in the third year of the forecast.

There is a high level of uncertainty around the outlook, including for energy prices. The futures curves for energy prices are downward sloping, in contrast to the MPC's central conditioning assumptions in which prices remain flat after six months. In an alternative scenario that is conditioned on energy prices following their futures curves throughout the forecast period, and the market-implied path for Bank Rate, CPI inflation falls back towards the target more rapidly than in the MPC's central projection, and is materially lower over the second half of the forecast period (Box A). While the risks around energy prices are judged to be to the downside, those to wage growth are judged to be skewed to the upside.

1.1: Recent developments

Global and UK GDP continued to rise in Q3, although growth was weaker than expected as supply constraints weighed on activity.

Both global and UK GDP increased in 2021 Q3. Bank staff estimate that UK-weighted world GDP rose by 1.2%, and that UK GDP rose by 1.5%. Both these estimates are weaker than projected in the *August Report*, in part reflecting the impact of supply chain disruption restricting activity (Section 2.1).

Supply disruption is expected to continue to restrain output in Q4.

Bank staff expect supply chain disruption to continue to constrain both global and UK activity in Q4. Global GDP is expected to grow by 0.8% in that quarter. UK GDP is projected to increase by 1.0%, one percentage point weaker than expected in August (Section 2.2). If UK GDP increases as expected in Q4 that would leave it 0.9% below its pre-pandemic level. While supply constraints are the main cause of the downward revision to UK GDP in Q4, consumer demand is expected to be weaker as well, consistent with the steer from card spending data. Consumer confidence has fallen back in recent months too.

There are elevated vacancies, recruitment difficulties and rising wage growth in the UK labour market, and unemployment has continued to fall, although it remains above its pre-Covid rate.

Shortages of labour might also have weighed on activity in the UK. Although the unemployment rate remains somewhat above its pre-pandemic level, it has continued to fall in recent months, to a greater extent than was expected. Moreover, recruitment difficulties are elevated in many sectors and the number of advertised job vacancies rose to over one million in the three months to September (Section 2.3). Bank staff estimate that annual growth in underlying pay has picked up to a little over 4%, with surveys and Agency intelligence suggesting that labour market frictions such as skill shortages are adding to pay pressures (Box E).

There is a high degree of uncertainty about the near-term outlook for the labour market, especially given that the Government's furlough scheme closed at the end of September. Initial indicators suggest that unemployment will rise in Q4, but only a little (Section 2.3).

Inflation was 3.1% in September, and is expected to rise further above the MPC's 2% target in the near term.

CPI inflation was 3.1% in September, up from 2.5% in June. Base effects accounted for a significant part of this pickup, as prices are compared against weaker levels seen earlier in the pandemic. In addition, bottlenecks caused by disruption to global supply chains alongside the rapid pace at which global demand, particularly for goods, has recovered, have pushed up UK consumer goods prices (Section 2.4). Services inflation has also picked up in recent months.

CPI inflation is expected to rise further in the near term. In part that is accounted for by a continued pickup in consumer goods prices, reflecting both global and domestic price pressures. Retail gas and electricity prices are also expected to rise sharply, owing to past rises in wholesale prices. As a result, CPI inflation is expected to be close to 4% in October and then around 4½% in November, remaining around that level until the end of Q1. Reflecting further rises in wholesale gas prices since August, which are expected to feed into retail gas and electricity prices in April, CPI inflation is projected to rise to around 5% in April 2022.

1.2: The MPC's projections

Table 1.A: Forecast summary^{(a)(b)}

| | Projections | | | |
|--|-------------|-----------|-----------|---------|
| | 2021 Q4 | 2022 Q4 | 2023 Q4 | 2024 Q4 |
| GDP ^(c) | 6.7 (8.5) | 2.9 (2.3) | 1.1 (1.3) | 0.9 |
| CPI inflation ^(d) | 4.3 (4.0) | 3.4 (2.5) | 2.2 (2.0) | 1.9 |
| LFS unemployment rate | 4.5 (4.8) | 4.0 (4.3) | 4.1 (4.3) | 4.4 |
| Excess supply/Excess demand ^(e) | +¼ (+½) | +¼ (+¼) | 0 (0) | -½ |
| Bank Rate ^(f) | 0.2 (0.1) | 1.0 (0.3) | 1.1 (0.5) | 1.0 |

(a) Modal projections for GDP, CPI inflation, LFS unemployment and excess supply/excess demand. Figures in parentheses show the corresponding projections in the August 2021 *Monetary Policy Report*.

(b) Unless otherwise stated, the projections shown in this section are conditioned on: Bank Rate following a path implied by market yields; the Term Funding Scheme and Term Funding Scheme with additional incentives for Small and Medium-sized Enterprises; the Recommendations of the Financial Policy Committee and the current regulatory plans of the Prudential Regulation Authority; the Office for Budget Responsibility's assessment of the Government's tax and spending plans as set out in *Autumn Budget and Spending Review 2021*; commodity prices following market paths for six months, then held flat; the sterling exchange rate remaining broadly flat; and the prevailing prices of a broad range of other assets, which embody market expectations of the future stocks of purchased gilts and corporate bonds. The main assumptions are set out in the 'Download the chart slides and data' link at *Monetary Policy Report – November 2021*.

(c) Four-quarter growth in real GDP. The growth rates reported in the table exclude the backcast for GDP. Including the backcast 2021 Q4 growth is 6.7%, 2022 Q4 growth is 2.9%, 2023 Q4 growth is 1.1% and 2024 Q4 growth is 0.9%.

(d) Four-quarter inflation rate.

(e) Per cent of potential GDP. A negative figure implies output is below potential and a positive that it is above.

(f) Per cent. The path for Bank Rate implied by forward market interest rates. The curves are based on overnight index swap rates.

The MPC's projections assume that the impact of Covid on activity continues to fade.

The outlook for the economy continues to be affected by the evolution of the pandemic. It will also depend on how governments, households, businesses and financial markets respond to those developments. The MPC's projections are conditioned on an assumption that significant, widespread restrictions on UK and global economic activity are not reimposed, and that the effect of Covid on activity continues to wane over the next year or so.

Fiscal policy continues to support demand, especially in the near term, with that support waning over time.

The fiscal stance is assumed to evolve in line with announced policies. In its *Autumn Budget and Spending Review* on 27 October 2021, the Government announced a higher path for government consumption, particularly over the next couple of years. When combined with the estimated effects of the measures announced since the beginning of the pandemic, fiscal policy in aggregate is projected to continue to support UK demand, especially in the near term, although the policy stance gradually tightens over time in line with announced government policy.

The market-implied path for Bank Rate is materially higher than three months ago.

The MPC's projections are conditioned on market paths for interest rates. Over the past three months, market rates have increased in a number of advanced economies. In the UK, the market path as shown by the 15-day average to 27 October suggests that Bank Rate is now expected to reach around 1% by the end of 2022 (Table 1.A). The change in policy expectations since August appears to reflect market participants' assessments of developments in the outlook for inflation and communications about the policy outlook.

Risky asset prices are generally little changed since August...

Despite higher risk-free rates, equity prices have generally risen a little since August in advanced economies, although they have fallen a little in emerging economies. In many advanced and emerging market economies, they remain significantly above their pre-pandemic levels. Spreads on sterling investment-grade and high-yield corporate debt are broadly unchanged relative to August, marginally below their pre-Covid levels.

...while household credit conditions have eased.

Credit conditions for households have eased somewhat over the past three months. Mortgage rates have fallen further since the *August Report*, particularly for high loan to value (LTV) mortgages, despite the increase in risk-free rates. The decline in mortgage rates over 2021 appears to reflect the improving macroeconomic outlook, ample liquidity in banks, declining wholesale funding spreads, and competition between lenders. Bank lending conditions to businesses in the UK have remained supportive, especially for firms in sectors less affected by Covid.

Wholesale energy prices have continued to rise since August.

Oil and wholesale gas prices have risen sharply over 2021. In the run-up to the *Report*, sterling oil prices were around 80% above their 2020 Q4 level, and UK wholesale gas prices were about 400% higher. Higher gas prices have also led to a sharp pickup in wholesale electricity prices, which rose by around 300%. The recent rises in energy prices reflect strong global demand, as well as disruptions to supply in some cases. In its projections, the MPC's conditioning assumption is that oil, gas and electricity prices are based on their respective futures curves for the first six months of the projection, and beyond that remain flat (as set out in Box 5 of the *August 2019 Report*). These profiles for wholesale energy prices feed into Bank staff forecasts for retail gas and electricity prices, based on the current method used by the UK's energy regulator, Ofgem, to set tariff caps. Those caps are updated twice a year at present, so changes in wholesale energy prices can take some time to be reflected in retail prices. The path for wholesale energy prices is very uncertain, and can change substantially over short periods of time. For example, gas prices fell sharply at the very end of October. As a result, there are material risks around this conditioning assumption at the moment, and an alternative scenario set out in Box A illustrates the direction and potential size of those risks.

The global outlook*Global GDP continues to rise as the impact of Covid continues to wane, although supply disruption constrains activity in the near term.*

Global GDP continues to rise as the impact of Covid continues to wane, although the pace of growth is restrained somewhat in the near term by the impact of supply constraints. Those constraints are assumed to weigh on global GDP until late 2022, with their impact fading gradually over the coming year (Key Judgement 1), and with demand rotating away from goods and back towards services. Higher energy prices also weigh on activity over the forecast period.

The path for GDP varies across regions. For example, Covid developments are likely to differ across countries, there are variations in policy support, and supply chain disruption is expected to weigh on activity in advanced economies to a greater extent than in emerging economies. Some idiosyncratic factors also affect activity in some regions particularly; for example, in China, growth is expected to be dampened by recent developments in the property sector and related regulatory changes, although the authorities are assumed to manage deleveraging in the property sector, with only modest spillovers to the rest of the world.

World growth is projected to return to around pre-Covid rates towards the end of the forecast period.

Taken together, annual average UK-weighted world GDP growth is projected to be 5% in 2021, before slowing to around 3¾% in 2022 and 3% in 2023. Growth returns to around pre-Covid rates towards the end of the forecast period, with growth in 2024 around 2¼% (Table 1.B). The level of UK-weighted world GDP is projected to be around 1% lower at the end of the forecast period than would have been implied by the MPC’s pre-pandemic projection.

Global inflationary pressures are forecast to remain strong in the near term, but are expected to ease as demand and supply imbalances dissipate.

Global price pressures have continued to rise, partly driven by the bottlenecks resulting from the impact of supply chain disruption alongside the rapid rise in global demand for goods, which have persisted in recent months. Shipping costs have also remained elevated, and commodity prices have risen further. These developments are affecting consumer prices in some economies, with inflation above central bank targets in the US and the euro area. They have also been reflected in world export price inflation, which has continued to rise, and to a greater extent than expected. On a UK-weighted basis, world export prices, excluding fuels, are projected to rise by around 6% in 2021 as a whole. While bottlenecks are assumed to ease relatively gradually, as they do, world export price inflation falls back, with the decline also driven by the assumption that energy prices stop rising, and that shipping costs decrease.

UK potential supply and demand growth

UK GDP growth is constrained by supply disruption in the near term but activity continues to recover as the effects of Covid wane. Subsequently, the pace of expansion slows.

Temporary supply disruption weighs on UK output in the near term. Nonetheless, UK GDP continues to recover as the dissipation of Covid effects boosts potential supply and demand growth. GDP is projected to get back to its 2019 Q4 level in 2022 Q1 (Chart 1.1).

Chart 1.1: GDP projection based on market interest rate expectations, other policy measures as announced

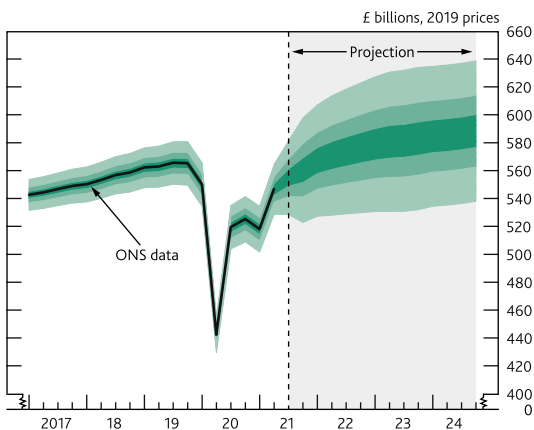
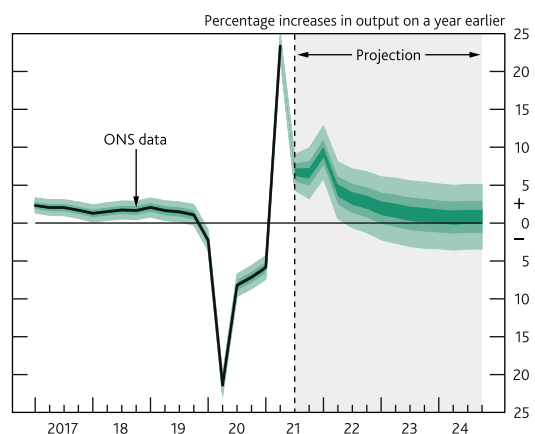


Chart 1.2: GDP growth projection based on market interest rate expectations, other policy measures as announced



The fan charts depict the probability of various outcomes for GDP and GDP growth. They have been conditioned on the assumptions in Table 1.A footnote (b). To the left of the vertical dashed line, the distribution reflects uncertainty around revisions to the data over the past. To aid comparability with the official data, it does not include the backcast for expected revisions, which is available from the 'Download the chart slides and data' link at [Monetary Policy Report – November 2021](#). To the right of the vertical line, the distribution reflects uncertainty over the evolution of GDP and GDP growth in the future. If economic circumstances identical to today’s were to prevail on 100 occasions, the MPC’s best collective judgement is that the mature estimate of GDP (in Chart 1.1) or GDP growth (in Chart 1.2) would lie within the darkest central band on only 30 of those occasions. The fan chart is constructed so that outcomes are also expected to lie within each pair of the lighter green areas on 30 occasions. In any particular quarter of the forecast period, GDP or GDP growth is therefore expected to lie somewhere within the fan on 90 out of 100 occasions. And on the remaining 10 out of 100 occasions GDP or GDP growth can fall anywhere outside the green area of the fan chart. Over the forecast period, this has been depicted by the light grey background. See the box on page 39 of the November 2007 *Inflation Report* for a fuller description of the fan chart and what it represents.

Thereafter, the pace of expansion eases. Potential supply growth is projected to slow to around 1½% – similar to the relatively subdued rates seen before Covid. Although potential supply growth is expected to return to its pre-Covid trend, the level of potential supply is expected to be around 2% lower at the end of the forecast period than would have been implied by the MPC’s pre-pandemic projections. In part, that reflects longer-term effects resulting from Covid, for example from a drag to productivity from foregone investment and learning on the job, as well as lower migration leading to slower population growth since 2020. It also reflects an updated assessment of the impact of demographic trends on potential participation and average hours (Section 3).

Demand growth is supported by uncertainty waning and by some rundown in accumulated savings, offset by fading monetary and fiscal policy support and higher energy prices. On balance, demand growth is projected to slow by a little more than supply growth. Consumption growth slows over the forecast period, although it is supported by households running down around 10% of the additional savings they accumulated in aggregate during the pandemic. Government spending growth also falls back as the fiscal policy stance gradually tightens over time in line with announced government policy. Business investment rises over the first half of the forecast period as sales recover and uncertainty declines, and is supported by the Government’s capital allowance super-deduction, before falling back. In the MPC’s projections, four-quarter UK GDP growth is 1.1% two years ahead and 0.9% in three years’ time (**Chart 1.2**), below the MPC’s assessment of the growth rate of potential supply.

Excess supply/demand

There is a lot of uncertainty about the degree of slack in the economy, although it is judged likely that there is a small margin of excess demand at the moment.

As the economy has begun to recover from the effects of Covid, both demand and supply have picked up rapidly, and it is difficult to judge the balance between them. Moreover, there have been material differences in the paths of the recovery between sectors of the economy, which can make the aggregate picture particularly hard to assess. Those different paths have resulted in supply bottlenecks arising in some industries, while activity in other sectors has been unconstrained. Some indicators of slack across the economy as a whole suggest that there is spare capacity at present. For example, the number of people unemployed or inactive in the labour market remained above pre-Covid levels in the latest data, and the number of people on furlough when the scheme ended might also be consistent with some slack in the labour market. However, firms continue to report significant recruitment difficulties and elevated levels of vacancies, and surveys suggest above-average levels of capacity utilisation. On balance, the MPC judges that there is a small margin of excess demand in the economy at the moment, with some differences across sectors.

Excess demand is projected to be eroded over the forecast period, with a margin of slack opening up by the end of the forecast period.

In the near term, the economy is judged likely to continue to have a margin of excess demand. That is concentrated within firms, with companies working their existing capacity more than usual. However, frictions in the labour market are judged to have resulted in limited spare capacity in the labour market as well. Consistent with that, there has been a sharp rise in surveys of recruitment difficulties, alongside a pickup in underlying wage growth. The MPC assesses that there has been a temporary rise in the medium-term equilibrium rate of unemployment. Unemployment is projected to remain low in the near term (Key Judgement 2). While the unemployment rate is projected to pick up in Q4 as the furlough scheme ends, the rise is only small as most employees on the scheme are assumed to return to work (**Chart 1.3**). That is consistent with information from some high-frequency indicators of potential job losses, such as redundancy notifications, despite a higher number of jobs being furloughed towards the end of the scheme than had been assumed in the *August Report* (Section 2.3).

Over 2022 and 2023, excess demand is eroded, as demand growth slows by more than supply growth (Key Judgement 3). Frictions in the labour market and global supply disruption are projected to dissipate. And demand growth weakens as policy stimulus fades and higher energy prices weigh on spending. Conditioned on the assumptions above, including the market-implied path for Bank Rate, there is projected to be a degree of slack in the economy by the end of the forecast period. In part, that is accounted for by some spare capacity in the labour market, as unemployment rises somewhat as demand growth slows.

CPI inflation

CPI inflation is projected to peak at around 5% in April 2022, with the further increase driven largely by energy and goods prices.

CPI inflation is projected to rise further in the near term. It is expected to reach 4½% in November and December, and remain around that level throughout 2022 Q1 (Chart 1.4). That mainly reflects increases in energy and goods prices. Retail energy prices rose in October as tariff caps on retail gas and electricity prices increased, reflecting the impact of the rise in wholesale energy prices earlier in 2021. Food price inflation is also expected to increase in coming months, given higher input costs and some supply disruption. Core goods inflation is expected to remain elevated too, due to the impact of supply bottlenecks.

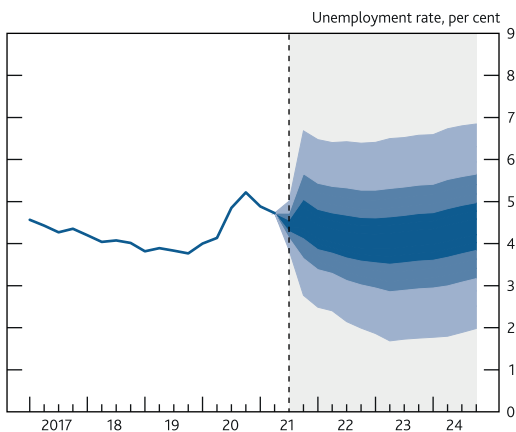
Primarily reflecting higher gas and electricity prices, inflation is then expected to rise further, peaking at around 5% in April 2022. The material rise in wholesale gas and electricity prices since August, if sustained, means that the utility tariff caps set by Ofgem in April 2022 are likely to be substantially higher than the ones that came into effect in October. Higher energy prices could also put additional pressure on firms' costs, particularly for sectors which use a lot of energy in production, such as food production, agriculture and equipment manufacturing.

Conditioned on the market-implied path for Bank Rate, CPI inflation is projected to fall back towards the 2% target as energy prices stop rising and supply bottlenecks ease.

The direct effect of higher energy prices on CPI inflation is likely to be temporary. While changes in wholesale gas and electricity prices take time to feed through to CPI inflation, reflecting the way tariff caps are set, unless wholesale energy prices rise throughout the forecast period, the effect on inflation will fade over time. Goods price inflation is also expected to decline, reflecting an easing of supply bottlenecks, as spending rotates away from goods back towards services during the continuing recovery from the pandemic, and as supply constraints ease. As a result, CPI inflation is projected to fall back materially over the second half of 2022 and during 2023 (Chart 1.4).

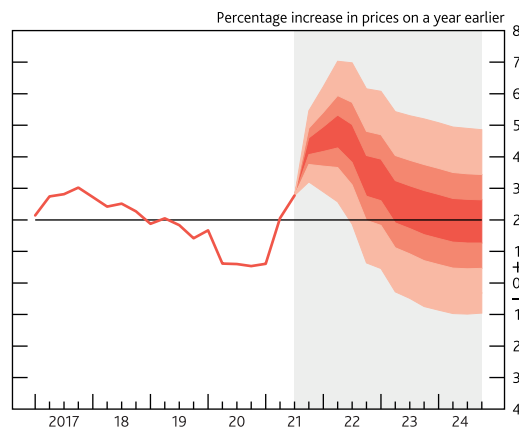
Further out, CPI inflation will be influenced by domestic price pressures, which will in turn be influenced by the evolution of the balance of demand and supply in the economy. Over the first half of the forecast period, there is projected to be a margin of excess demand, with a degree of slack emerging later as demand growth slows, conditioned on the market-implied path for Bank Rate. Underlying wage growth is projected to fall back over the forecast period from its current rate. CPI inflation is projected to be just above the MPC's 2% target in two years' time, and just below the target in three years.

Chart 1.3: Unemployment projection based on market interest rate expectations, other policy measures as announced



The fan chart depicts the probability of various outcomes for LFS unemployment. It has been conditioned on the assumptions in Table 1.A footnote (b). The coloured bands have the same interpretation as in Charts 1.1 and 1.2, and portray 90% of the probability distribution. The calibration of this fan chart takes account of the likely path dependency of the economy, where, for example, it is judged that shocks to unemployment in one quarter will continue to have some effect on unemployment in successive quarters. The fan begins in 2021 Q3, a quarter earlier than for CPI inflation. That is because Q3 is a staff projection for the unemployment rate, based in part on data for July and August. The unemployment rate was 4.5% in the three months to August, and is projected to be 4.4% in Q3 as a whole. A significant proportion of this distribution lies below Bank staff's current estimate of the long-term equilibrium unemployment rate. There is therefore uncertainty about the precise calibration of this fan chart.

Chart 1.4: CPI inflation projection based on market interest rate expectations, other policy measures as announced



The fan chart depicts the probability of various outcomes for CPI inflation in the future. It has been conditioned on the assumptions in Table 1.A footnote (b). If economic circumstances identical to today's were to prevail on 100 occasions, the MPC's best collective judgement is that inflation in any particular quarter would lie within the darkest central band on only 30 of those occasions. The fan chart is constructed so that outcomes of inflation are also expected to lie within each pair of the lighter red areas on 30 occasions. In any particular quarter of the forecast period, inflation is therefore expected to lie somewhere within the fans on 90 out of 100 occasions. And on the remaining 10 out of 100 occasions inflation can fall anywhere outside the red area of the fan chart. Over the forecast period, this has been depicted by the light grey background. See the box on pages 48–49 of the May 2002 Inflation Report for a fuller description of the fan chart and what it represents.

Comparison with the August Report projections

UK GDP is projected to be lower than in August throughout the forecast period, reflecting lower supply, higher energy prices and a higher market-implied path for Bank Rate.

Following its latest stocktake on the supply side of the economy, the MPC expects potential supply to be around 1% lower by the end of the forecast period than in August. That partly reflects an updated assessment of the impact of demographic trends on potential participation and average hours (Section 3), as well as a weaker path for business investment which weighs on the growth of capital and total factor productivity.

Lower supply is associated with lower output and incomes, and, as a result, household spending is weaker. Consumer spending is also squeezed by higher energy prices and the higher market-implied path for Bank Rate. Those factors also weigh on business investment. Partially offsetting those drags on demand, newly announced fiscal policies boost GDP somewhat over the forecast period relative to August.

Unemployment is lower over most of the forecast period. In the near term, that mainly reflects the signals from recent data. The recent temporary rise in the medium-term equilibrium rate of unemployment is judged to be somewhat smaller too.

The projection for CPI inflation is materially stronger than in August over the first half of the forecast period, largely reflecting the impact of recent rises in energy prices, but the outlook three years ahead is similar.

Recent rises in wholesale energy prices account for much of the upward revision to the projection for CPI inflation over the first half of the forecast period. In particular, the sharp rise in spot and forward wholesale gas prices since August has resulted in a higher projection for retail energy prices from 2022 Q2, when tariff caps are next updated by Ofgem. The MPC's projections are also based on an assumption that supply bottlenecks take longer to unblock than in August, which also exerts some upward pressure on CPI inflation over the coming year. By the end of the forecast period, both of these effects have faded. Conditioned on the market-implied path for Bank Rate, the projection in three years' time is similar to that in August.

Policy decision

At its meeting ending on 2 November 2021, the MPC judged that the existing stance of monetary policy remained appropriate. The Committee voted to maintain Bank Rate at 0.1%. The Committee voted for the Bank of England to maintain the stock of sterling non-financial investment-grade corporate bond purchases, financed by the issuance of central bank reserves, at £20 billion. The Committee voted for the Bank of England to continue with its existing programme of UK government bond purchases, financed by the issuance of central bank reserves, maintaining the target for the stock of these government bond purchases at £875 billion and so the total target stock of asset purchases at £895 billion. The factors behind that decision are set out in the Monetary Policy Summary on pages i–ii of this Report and in more detail in the Minutes of the meeting.

1.3: Key judgements and risks

Key judgement 1: supply disruption constrains global and UK activity in the near term, and bottlenecks exert upward pressure on prices, but they dissipate over time as demand and supply adjust.

In the MPC's central case projections, supply disruption is assumed to weigh on global and UK GDP until late 2022. That supply disruption, alongside elevated global demand for goods, has led to bottlenecks which have put upward pressure on prices. The impact of bottlenecks is projected to fade gradually, as consumers rotate some of their spending away from goods and back to services during the continuing recovery from the pandemic and as production capacity is increased. That judgement is informed by Agency intelligence, with some contacts expecting some supply constraints to persist at least until the second half of 2022 (Box E). There are material risks around this judgement, though.

Supply bottlenecks could persist for longer if demand for goods remains elevated...

In the near term, supply disruption could constrain growth by more, or bottlenecks could persist for longer if the expected rotation of demand away from goods and towards services takes more time to occur. There are some signs that this process has begun. For example, in the US, consumer spending on durable goods has moderated in recent months while high-frequency spending data suggest that social spending, such as on restaurants, has continued to

recover. Similarly, in the UK, retail sales of goods have been declining in recent months, while consumer spending on services such as public transport and flights appears to have picked up (Section 2.2). However, the rotation of demand has been modest so far.

...but could ease to a greater extent if production increases rapidly and disruptions affecting shipping dissipate.

Supply constraints appear to have increased further across many advanced economies since the *August Report*, with indicators such as delivery times and stocks of finished goods continuing to rise. In part, that reflects a series of Covid-related closures of factories in some Asian economies, which have disrupted production across a number of industries, restricting the supply of some inputs. Shipping costs have remained elevated over the past few months, reflecting both strong global demand for traded goods and supply disruptions such as port closures. It is likely to take some time for supply constraints to fade – for example as higher prices encourage higher production in some products. But it is possible that some specific constraints could ease more quickly, for example if Covid developments result in fewer industry closures around the world in the coming months. If some ports are less affected too, shipping costs could also decline by more than assumed. Futures markets for shipping currently suggest that prices will peak around the end of this year, and decline over much of the forecast period.

If supply chain disruption persists for longer than assumed, that would constrain global and UK GDP growth for longer, as well as exerting a greater degree of upward pressure on inflation. But if bottlenecks begin to dissipate quickly, inflation could fall back to a greater extent than projected, particularly over the second year of the forecast period.

Key judgement 2: UK unemployment does not rise materially over the forecast period, and any frictions in matching workers and jobs are temporary, with underlying wage growth falling back from current rates.

There are risks around the profile for unemployment...

Unemployment in the UK is not projected to rise materially in the near term, consistent with information from a range of high-frequency indicators of the labour market. But there is a high degree of uncertainty around the near-term outlook, particularly reflecting the end of the furlough scheme. The Government's Coronavirus Job Retention Scheme (CJRS), which allowed companies to furlough jobs to encourage the retention of staff and protection of household incomes, remained in relatively heavy use at its end: according to the ONS Business Insights and Conditions Survey (BICS), around 4½% of private sector jobs – equivalent to around one million jobs – were on furlough around the end of September 2021. Such high use of the scheme could reflect some companies hoarding labour ahead of an expected recovery in demand, with intelligence from the Bank's Agents suggesting that the tightening in the labour market may have increased this incentive. The uptake of furlough could also have been partially driven by factors other than labour demand, such as helping shield vulnerable workers. Smaller firms, which are estimated to have made up the majority of furlough use towards the end of the scheme, might also have used it to support their operation, alongside other measures, such as forbearance. It is also possible that a greater number of furloughed workers were able to find second jobs with alternative employers, or had expanded the scope of existing second jobs, which was allowable under the CJRS. These potential explanations could have different implications for the future path of unemployment.

The path of unemployment also depends on the evolution of demand. Unemployment would be higher over the forecast period if demand was materially lower. For example, if consumer spending weakened because households felt the need to increase their savings. Some high-frequency indicators of spending, such as card spending figures, suggest growth has moderated recently. And consumer confidence has fallen back slightly over the past three months. This may be linked to the shortages of some goods, such as fuel, and increasing energy prices, which are expected to weigh on real incomes. Consumer confidence has also been substantially affected by concerns about Covid during the pandemic. However, households in aggregate have accumulated a substantial amount of savings, and they could choose to run those down by more than projected, posing an upside risk to the MPC's forecast for demand, and a downside risk to unemployment. If energy prices fall back to a greater extent than expected, that would boost real incomes, and pose an upside risk to spending too (Box A).

...and the pressure exerted on wages.

The high use of the furlough scheme, as well as somewhat elevated unemployment, contrasts with other signals of a tight labour market, such as reports of significant recruitment difficulties, elevated levels of vacancies and higher-than-expected wage growth over the pandemic as a whole. One hypothesis is that, due to shifts in the pattern of demand during the pandemic, those people who were unemployed or on furlough were not matches for the job

vacancies available. The MPC's central projection includes a judgement that some frictions in the matching of workers and jobs have contributed to a rise in the medium-term equilibrium rate of unemployment during the pandemic. That effect is expected to dissipate over the forecast period, as the economy normalises, and given the historical flexibility of the UK labour market. Some measures of those frictions across industries – which were previously elevated – suggest that they have already largely unwound (Section 3). But it is possible that some labour market mismatch remains within industries, or exists across other dimensions. So labour market frictions could be bigger than projected, or persist for longer, slowing the pace of decline of the medium-term equilibrium unemployment rate relative to the MPC's central forecast and putting upward pressure on wage growth.

It is also possible that higher-than-expected wage growth reflects other developments, such as a lower availability of workers. For example, lower migration and population growth, or lower labour market participation, could be affecting pay pressures. In addition, pay pressures in the private sector could have been affected by a lower availability of private sector workers, resulting from rises in public sector employment during the pandemic. In the MPC's central projection, any such factors putting upward pressure on pay are assumed not to persist, and underlying wage growth falls back. Higher current and expected inflation are also assumed not to put any persistent upward pressure on pay growth. During the global financial crisis, employees did not appear to resist declines in their real wages, consistent with this judgement, although some aspects of the labour market are currently different to that period. Consequently, the MPC judges that the risks around wage growth are skewed to the upside.

Key judgement 3: by the end of the forecast period, supply growth returns to around 1½%; demand growth is somewhat lower.

After growing rapidly as the economy recovers from the effects of Covid, potential supply is projected to grow more slowly over the second and third years of the forecast period, at around 1½%. That is similar to the relatively subdued rates seen before Covid. Within that, labour supply growth is modest, while potential productivity growth settles at around 1%.

There is a risk that labour supply growth could be constrained by lower-than-projected population growth and participation...

In the central projection, trend growth in labour supply is expected to be around 0.4% a year by the second half of the forecast period. That is relatively slow compared to the period before the pandemic, largely reflecting the impact of demographic trends. This slowing is spread across the components of labour supply growth. Population growth is projected to be slower, for example, and a lower share of that population is expected to participate in the labour force.

There are risks around these profiles. Developments in the UK population during the pandemic have been very uncertain as the main source for migration data was suspended for a period. Evidence from the Labour Force Survey (LFS) suggests that the proportion of people born outside the UK, especially in the EU, appears to have fallen since 2020 Q1, and that is judged to have reduced population growth during the pandemic. Population growth is projected to recover somewhat over the forecast period, so if slower growth was sustained, it would dampen expected labour supply growth. In addition, there are risks around the profile for participation, in the near term particularly, due to developments during the pandemic. Since 2019 Q4, the participation rates of people within a few age groups have fallen, in part accounted for by more people studying and retiring. The MPC judges that much of the fall in participation during the pandemic is likely to be temporary, but it is possible that Covid may accelerate the trend of declining participation. For example, participation by 16–24 year olds in the labour market may remain subdued over the coming few years if those who have started full-time study do not re-enter the labour market while they complete their course. In addition, the Bank's Agents report that Covid has led some workers to retire early, and that could signal a more persistent fall in participation for those in older age groups.

...and there are also risks around the projection for productivity growth.

There are also factors that could weigh on the profile for productivity. For example, investment growth could be weaker than expected, which would weigh on the growth of capital and total factor productivity. On the upside, however, productivity could be boosted to a greater extent than forecast by higher investment in innovation and digital technologies. For example, around a third of firms reported that they had adopted digital technologies during the pandemic in the ONS BICS, and half of these firms expect to continue to innovate more over the next year compared to before Covid. In addition, there could be greater gains to productivity from more working from home in future. Previous studies suggest that working from home can boost productivity in specific settings, and that might be

more likely when workers and firms can choose their working from home arrangements. While not costless for employees, working from home may also allow companies to reduce office space and shift investment away from land and buildings towards investment elsewhere, for example training and IT. The MPC's central projection incorporates a small boost to productivity from such effects.

In the second half of the forecast period, higher energy prices drag on real incomes and demand and the support from monetary and fiscal policy wanes.

Any changes in potential supply growth would be likely to feed through to demand growth over time, through their effects on household incomes, for example. As a result, the risks to supply growth would be unlikely to affect materially the balance of supply and demand in the medium term. There are other factors that affect demand growth to a greater extent than supply growth. For example, high energy prices are likely to affect demand more materially than supply. If energy prices fell by more than is assumed in the MPC's central projections, demand growth would therefore be stronger. Box A presents a scenario based on an alternative conditioning assumption for energy prices, in which GDP growth is boosted by energy prices falling in line with their futures curves over the forecast period (Box A, Table 1). The support to demand from monetary and fiscal policy is projected to wane, as both evolve in line with their conditioning assumptions. There are risks around those paths too.

Key judgement 4: inflation rises further above the target in the near term, largely reflecting the impact of transitory factors; in the medium term, conditioned on the market-implied path for Bank Rate, inflation falls back to just under 2%.

Energy and goods price inflation could fall back to a greater extent in the second and third years of the forecast.

The outlook for inflation will be affected by the outlook for supply bottlenecks, which will affect the prices of tradable goods particularly. As discussed in Key judgement 1, if those bottlenecks do not ease by the end of 2022, they could exert more persistent upward pressure on inflation. But if they begin to fade quickly, inflation could fall back to a greater extent than projected, particularly over the second year of the forecast period.

Developments in energy prices will also be an important influence on CPI inflation over the forecast period. In the MPC's central forecast, energy prices push up on inflation in the near term, before their impact dissipates. However, futures curves are consistent with a greater decline in energy – particularly wholesale gas – prices, which would point to a downside risk to inflation in the second and third years of the forecast period. The alternative scenario set out in Box A illustrates this risk: in the scenario, inflation is around 0.5 percentage points lower than in the MPC's central projections in two years' time, and 0.2 percentage points lower in three years.

There is a risk that domestic price pressures are boosted to a greater extent by strong demand growth in the near term.

Domestic price pressures are an important driver of CPI inflation, too, and they will be influenced by the evolution of the balance of demand and supply in the economy. In the MPC's central forecasts, there is a margin of excess demand in the first part of the forecast period, although that is eroded over time, as discussed in Key judgements 2 and 3. Domestic inflationary pressure will also be affected by the way that excess demand or spare capacity affects prices. Evidence from the Decision Maker Panel Survey suggests that upward price pressures from strong demand growth are greater than downward price pressures when demand growth is weaker (Section 2.4). As a result, the upward pressure from excess demand could be somewhat stronger than projected in the near term.

Inflation expectations are judged to remain well anchored and the MPC will continue to monitor a range of indicators closely.

Inflation expectations are a key influence on inflation: when people believe that inflation will be at the target in the medium term, they are likely to set wages and prices in a way that is consistent with those beliefs. Short-term inflation expectations might be expected to move up and down frequently as shocks hit the economy. But medium-term expectations would be expected to remain more stable, as people expect the MPC to adjust monetary policy to achieve the 2% inflation target.

Over the past few months, indicators of people's short-term inflation expectations have risen, as inflation outturns have picked up and given recent developments in energy and other prices which are likely to affect the near-term outlook. Measures of inflation expectations two to three years ahead, as well as some longer-term measures derived from household surveys and financial markets, have also increased in recent months, but by less than short-term

measures in general. And a measure that combines the evidence from a range of sources suggests that underlying inflation expectations have been stable recently (Box C). Inflation expectations are judged to remain well anchored. A risk to the inflation outlook is that longer-term inflation expectations evolve such that wage and price setting is not consistent with inflation returning to the 2% target in the medium term, and so the MPC will continue to monitor indicators of expectations, and their impact, closely.

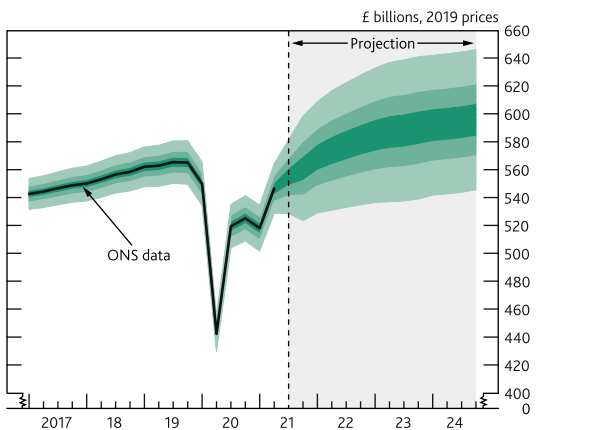
The degree of uncertainty around the outlook as the economy recovers from the pandemic remains unusually high. Overall, the risks to the MPC’s inflation projection are judged to be broadly balanced. The risks around energy prices are judged to be skewed to the downside, but those to wage growth are judged to be skewed to the upside.

1.4: Constant rates

The MPC’s central projections are conditioned on the market-implied path for Bank Rate. In those, GDP grows strongly in the near term as the recovery from Covid continues, but the pace of GDP growth slows thereafter. A degree of spare capacity is expected to emerge by the end of the forecast period. Inflation is a little above the MPC’s 2% target in two years’ time and just below it in three years.

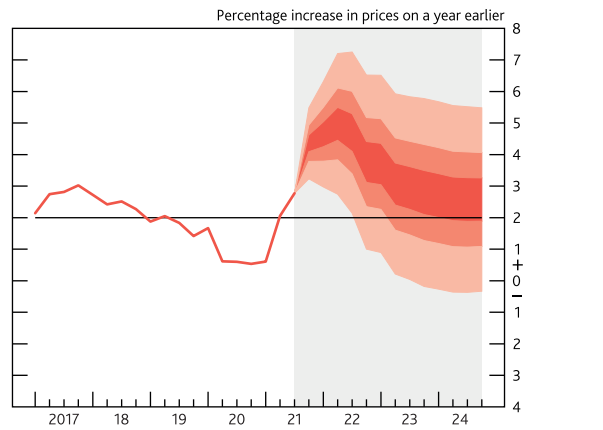
In projections conditioned on the alternative assumption of constant interest rates at 0.1%,⁽¹⁾ activity is projected to be somewhat stronger (Chart 1.5). As a result, the economy remains in excess demand throughout the forecast period. CPI inflation is forecast to be higher, with inflation projected to be materially above the MPC’s 2% target two and three years ahead (Chart 1.6).

Chart 1.5: GDP projection based on constant interest rates at 0.1%, other policy measures as announced



This fan chart depicts the probability of various outcomes for GDP, conditioned on the assumptions in Table 1.A footnote (b), apart from for Bank Rate, with this chart conditioned on constant interest rates at 0.1%. The fan chart has the same interpretation as Chart 1.1.

Chart 1.6: CPI inflation projection based on constant interest rates at 0.1%, other policy measures as announced



This fan chart depicts the probability of various outcomes for CPI inflation in the future, conditioned on the assumptions in Table 1.A footnote (b), apart from for Bank Rate, with this chart conditioned on constant interest rates at 0.1%. The fan chart has the same interpretation as Chart 1.4.

(1) The assumption is that Bank Rate remains at 0.1% throughout the three years of the forecast period, before moving towards the market path over the subsequent three years.

Table 1.B: Indicative projections consistent with the MPC's forecast^{(a)(b)}

| | Averages | | | Projections | | | |
|---|-----------|------------|------------|----------------|----------------|----------------|-----------|
| | 1998–2007 | 2010–19 | 2020 | 2021 | 2022 | 2023 | 2024 |
| World GDP (UK-weighted) ^(c) | 3 | 2¼ | -4¼ | 5 (5) | 3¾ (4¼) | 3 (2¾) | 2¼ |
| World GDP (PPP-weighted) ^(d) | 4 | 3¾ | -3¼ | 5½ (6) | 4½ (4¾) | 4¼ (4) | 3½ |
| Euro-area GDP ^(e) | 2¼ | 1½ | -6½ | 5 (4½) | 3¾ (5) | 2¼ (2¼) | 1½ |
| US GDP ^(f) | 3 | 2¼ | -3½ | 5½ (6½) | 4¾ (5) | 3 (2¼) | 2 |
| Emerging market GDP (PPP-weighted) ^(g) | 5½ | 5 | -2 | 6 (6¾) | 5¼ (5) | 5½ (5½) | 4¾ |
| of which, China GDP ^(h) | 10 | 7¾ | 2½ | 7¾ (8½) | 5 (5½) | 5¾ (5½) | 5½ |
| UK GDP⁽ⁱ⁾ | 2¾ | 2 | -9¾ | 7 (7¼) | 5 (6) | 1½ (1½) | 1 |
| Household consumption ^(j) | 3¼ | 2 | -10¾ | 4¾ (5½) | 7¾ (9¼) | 1½ (1½) | 1 |
| Business investment ^(k) | 3 | 3¾ | -11¼ | ¾ (3) | 16¾ (18¾) | 1 (¾) | -4 |
| Housing investment ^(l) | 3¼ | 3¾ | -11½ | 12½ (13¼) | 6¼ (6¼) | 4 (3¼) | ¼ |
| Exports ^(m) | 4½ | 3½ | -14¾ | -2 (2) | 6 (4¾) | 6 (5) | 3½ |
| Imports ⁽ⁿ⁾ | 6¼ | 3¾ | -16¾ | 1½ (4¾) | 12½ (13¾) | 6¼ (4) | 2 |
| Contribution of net trade to GDP ^(o) | -½ | 0 | ¾ | -1 (-¾) | -2 (-2½) | -¼ (0) | ¼ |
| Real post-tax labour income ^(p) | 3¼ | 1½ | ¾ | ¾ (0) | -1¼ (-¾) | -¾ (½) | ¾ |
| Household saving ratio ^(q) | 7¼ | 7½ | 13¾ | 11¼ (12¾) | 4½ (5½) | 3½ (5½) | 3¾ |
| Credit spreads ^(r) | ¾ | 2½ | 2 | 1½ (1¾) | 1½ (1¾) | 1½ (1¾) | 1¾ |
| Excess supply/Excess demand^(s) | 0 | -1¾ | -1¾ | -¼ (-½) | +¼ (+½) | +¼ (+¼) | -¼ |
| Hourly labour productivity ^(t) | 2 | ¾ | 1 | ¼ (¾) | ¼ (½) | 1 (1) | 1 |
| Employment ^(u) | 1 | 1¼ | -2½ | 1½ (1½) | 1¼ (1¼) | ½ (½) | ¼ |
| Average weekly hours worked ^(v) | 32¼ | 32 | 30¼ | 31¾ (32) | 32 (32) | 31¾ (32) | 31¾ |
| Unemployment rate ^(w) | 5¼ | 6 | 5¼ | 4½ (4¾) | 4 (4¼) | 4¼ (4¼) | 4½ |
| Participation rate ^(x) | 63 | 63½ | 63½ | 63½ (63¾) | 63¾ (64) | 63¾ (64) | 63½ |
| CPI inflation^(y) | 1½ | 2¼ | ½ | 4¼ (4) | 3½ (2½) | 2¼ (2) | 2 |
| UK import prices ^(z) | -½ | 1¼ | 2¾ | 0 (¾) | ½ (-1) | -¼ (-¼) | ¼ |
| Energy prices – direct contribution to CPI inflation ^(aa) | ¼ | ¼ | -½ | 1¼ (1¼) | ¾ (¾) | 0 (0) | 0 |
| Average weekly earnings ^(ab) | 4¼ | 2¼ | 4½ | 3½ (2¼) | 1¼ (1¾) | 2¼ (2¾) | 2¾ |
| Unit labour costs ^(ac) | 3 | 1¼ | 12 | -2¼ (-5¾) | -½ (¾) | 1¼ (2) | 2 |
| Private sector regular pay based unit wage costs ^(ad) | 1¾ | 1¾ | 9¼ | -1¾ (-4¾) | -¾ (1½) | 1¾ (3) | 2 |

Sources: Bank of England, Bloomberg Finance L.P., Department for Business, Energy and Industrial Strategy, Eurostat, IMF *World Economic Outlook (WEO)*, National Bureau of Statistics of China, ONS, US Bureau of Economic Analysis and Bank calculations.

- (a) The profiles in this table should be viewed as broadly consistent with the MPC's projections for GDP growth, CPI inflation and unemployment (as presented in the fan charts).
(b) Figures show annual average growth rates unless otherwise stated. Figures in parentheses show the corresponding projections in the August 2021 *Monetary Policy Report*. Calculations for back data based on ONS data are shown using ONS series identifiers.
(c) Chained-volume measure. Constructed using real GDP growth rates of 188 countries weighted according to their shares in UK exports.
(d) Chained-volume measure. Constructed using real GDP growth rates of 189 countries weighted according to their shares in world GDP using the IMF's purchasing power parity (PPP) weights.
(e) Chained-volume measure. Forecast was finalised before the release of the preliminary flash estimate of euro-area GDP for Q3, so that has not been incorporated.
(f) Chained-volume measure. Forecast was finalised before the release of the advance estimate of US GDP for Q3, so that has not been incorporated.
(g) Chained-volume measure. Constructed using real GDP growth rates of 155 EME countries, as defined by the IMF *WEO*, weighted according to their relative shares in world GDP using the IMF's PPP weights.
(h) Chained-volume measure.
(i) Excludes the backcast for GDP.
(j) Chained-volume measure. Includes non-profit institutions serving households. Based on ABJR+HAYO.
(k) Chained-volume measure. Based on GAN8.
(l) Chained-volume measure. Whole-economy measure. Includes new dwellings, improvements and spending on services associated with the sale and purchase of property. Based on DFEG+L635+L637.
(m) Chained-volume measure. The historical data exclude the impact of missing trader intra-community (MTIC) fraud. Since 1998 based on IKBK-OFNN/(BOKH/BQKO). Prior to 1998 based on IKBK.
(n) Chained-volume measure. The historical data exclude the impact of MTIC fraud. Since 1998 based on IKBL-OFNN/(BOKH/BQKO). Prior to 1998 based on IKBL.
(o) Chained-volume measure. Exports less imports. GDP data based on the mode of the MPC's GDP backcast.
(p) Wages and salaries plus mixed income and general government benefits less income taxes and employees' National Insurance contributions, deflated by the consumer expenditure deflator. Based on [ROYJ]+ROYH-(RPHS+AIIV-CUCT)+GZVX)/[(ABJQ+HAYE)/(ABJR+HAYO)].
(q) Annual average. Percentage of total available household resources. Based on NRJS.
(r) Level in Q4. Percentage point spread over reference rates. Based on a weighted average of household and corporate loan and deposit spreads over appropriate risk-free rates. Indexed to equal zero in 2007 Q3.
(s) Annual average. Per cent of potential GDP. A negative figure implies output is below potential and a positive figure that it is above.
(t) GDP per hour worked. GDP data based on the mode of the MPC's GDP backcast. Hours worked based on YBUS.
(u) Four-quarter growth in LFS employment in Q4. Based on MGRZ.
(v) Level in Q4. Average weekly hours worked, in main job and second job. Based on YBUS/MGRZ.
(w) LFS unemployment rate in Q4. Based on MGSX.
(x) Level in Q4. Percentage of the 16+ population. Based on MCGW.
(y) Four-quarter inflation rate in Q4.
(z) Four-quarter inflation rate in Q4 excluding fuel and the impact of MTIC fraud.
(aa) Contribution of fuels and lubricants and gas and electricity prices to four-quarter CPI inflation in Q4.
(ab) Four-quarter growth in whole-economy total pay in Q4. Growth rate since 2001 based on KAB9. Prior to 2001, growth rates are based on historical estimates of AWE, with ONS series identifier MD9M.
(ac) Four-quarter growth in unit labour costs in Q4. Whole-economy total labour costs divided by GDP at constant prices, based on the mode of the MPC's GDP backcast. Total labour costs comprise compensation of employees and the labour share multiplied by mixed income.
(ad) Four-quarter growth in private sector regular pay based unit wage costs in Q4. Private sector wage costs divided by private sector output at constant prices, based on the mode of the MPC's GDP backcast. Private sector wage costs are average weekly earnings (excluding bonuses) multiplied by private sector employment.

Box A: The influence of energy prices on the MPC's projections

Developments in energy prices are expected to account for a significant proportion of the projected pickup in inflation in the near term, and its subsequent decline.

In the near term, CPI inflation is projected to pick up substantially: it is expected to rise to a peak of around 5% in April 2022 from 3.1% in September 2021. Energy prices are expected to account for a significant proportion of the projected pickup in inflation in the near term (**Chart A**). Higher energy prices will also be putting upward pressure on CPI inflation through their impact on firms' costs. But, partially offsetting that, they will weigh on households' real incomes and spending, which will exert downward pressure on demand and inflation.

Over the second half of 2022 and 2023, CPI inflation is projected to fall back materially. Energy prices account for a large part of that decline, as, in the conditioning assumptions underlying the MPC's central projection, wholesale energy prices decline somewhat, and then stabilise. The MPC has to make conditioning assumptions for the paths of energy prices, but their evolution is very uncertain, and there are material risks around any assumptions. As an illustration of the direction and size of the risks to the inflation projection that arise from the evolution of energy prices, we can construct a scenario in which wholesale energy prices evolve in line with their futures prices throughout the forecast period. CPI inflation in the alternative scenario falls back towards the target more rapidly than in the MPC's central projection, and is materially lower over the second half of the forecast period.

It is not unusual for energy prices to be an important driver of movements in inflation.

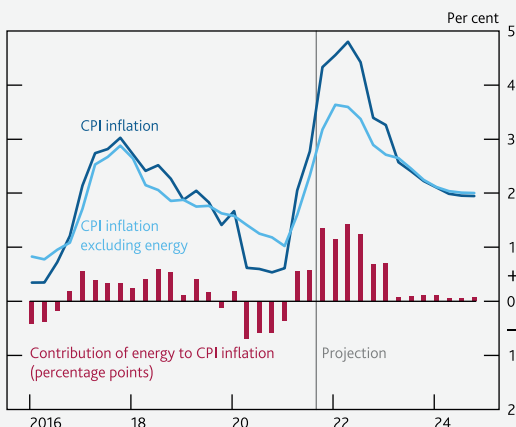
While the projected movements in energy prices are sizable, it is not unusual for developments in energy prices to have a material effect on the path of inflation. Energy components directly account for just 6% of the CPI basket, but they have accounted for over a third of the variation in its aggregate inflation rate since 1997. And substantial movements in energy prices have contributed to some of the sharpest increases and declines in inflation seen in the UK, and elsewhere, over that period. For example, energy prices accounted for large proportions of the rises in UK inflation in 2008 and 2011, as well as the subsequent sharp falls, as energy prices stopped rising – or fell back in some cases – and their contribution to the annual inflation rate dissipated.

Over the past few quarters, energy prices have increased, especially the wholesale price of gas in the UK.

The near-term pickup in retail energy prices reflects developments in wholesale energy prices during 2021. In the run-up to this *Report*, sterling wholesale oil and gas prices were around 80% and 400% higher respectively than they were in 2020 Q4 (**Chart B**), and wholesale electricity prices were around 300% higher. Those rises reflect the recovery in global demand as the impact of the pandemic has faded, as well as some disruptions to supply. The rise in gas prices might also reflect the impact of some countries reducing their carbon emissions by moving away from some other energy sources.

Chart A: Energy prices are projected to account for a large part of the near-term pickup in inflation

CPI inflation, CPI inflation excluding energy and direct energy contributions to CPI inflation^(a)

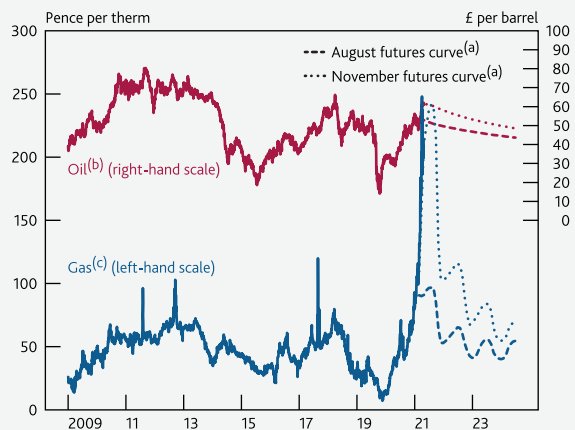


Sources: ONS and Bank calculations.

(a) Energy prices include fuels and lubricants, electricity, gas and other fuels.

Chart B: Oil and gas prices have risen substantially during 2021

Sterling oil and wholesale gas prices



Sources: Bank of England, Bloomberg Finance L.P. and Bank calculations.

(a) Fifteen working day averages to 28 July and 27 October 2021 respectively.

(b) US dollar forward prices for delivery in 10–25 days' time converted into sterling.

(c) One-day forward price of UK natural gas.

The UK's energy regulator, Ofgem, sets a cap on some retail energy tariffs, and wholesale energy prices are an important determinant of that cap.

Wholesale gas and electricity prices are an important determinant of retail utilities prices, including those in the CPI basket. The CPI basket includes standard variable and prepayment tariffs for domestic gas and electricity, both of which are subject to a cap set by the UK's energy regulator, Ofgem. The caps embody forecasts for the path of wholesale energy costs, based on energy futures prices, as well as other costs. And they are currently updated twice a year, so changes in their determinants can take some time to be reflected in retail prices.

Tariff caps increased in October, which will boost CPI inflation, and they are likely to increase further when they next change, in April.

Reflecting the sharp rise in energy prices over the first half of 2021, Ofgem increased the tariff caps on retail gas and electricity prices by around 17% and 9% respectively from October. The rise in wholesale energy prices since August will affect the caps which will take effect in April 2022. The actual caps will depend on how energy futures prices evolve over the coming few months as well as the significant rise seen in recent months. But, based on current futures prices and Ofgem's current methodology for setting the caps,⁽¹⁾ Bank staff forecast that retail gas prices will increase by around 35% in April, and electricity prices by around 20%.

The MPC conditions its projections on an assumption about how wholesale energy prices will evolve, but there are alternative assumptions it could make.

To produce forecasts for retail energy prices, which feed into its projections for GDP and CPI inflation, the MPC needs to make an assumption about how wholesale energy prices will evolve. The path for energy prices – as for many asset prices – is very uncertain. The MPC's current conditioning assumption is that oil, gas and electricity prices are based on their respective futures curves for the first six months of the projection, and beyond that remain flat (as set out in Box 5 of the *August 2019 Report*). Given the shape of those futures curves over the next six months, this assumption implies that wholesale energy prices will fall from their current levels (**Chart C**).

At the moment, futures curves for energy prices are downward-sloping over the next three years, especially for gas prices.

Prior to the *August 2019 Report*, the MPC assumed that the wholesale costs of oil, gas and electricity followed their respective futures curves over the entire forecast period.⁽²⁾ At present, those futures curves are steeply downward-sloping, especially for gas prices (**Chart B**). And, as a result, conditioning the MPC's projections on an alternative assumption in which wholesale energy prices evolve in line with futures prices over the whole three-year forecast period would have a substantial impact.

If the MPC's forecasts were instead conditioned on energy prices following their futures curves for the next three years, inflation would be expected to fall by more than in the central projection in the second half of the forecast period.

As an illustration of the direction and size of the risks to the inflation projection that arise from the evolution of energy prices, we can construct a scenario in which wholesale energy prices evolve in line with their futures prices for the next three years, instead of the assumption underlying the MPC's central projections. In that scenario, wholesale energy prices continue to fall over the forecast period, rather than remaining flat. **Chart C** shows the alternative assumptions for gas prices as an example.

Lower futures prices would affect Ofgem tariff caps with a lag, and would put material downward pressure on retail energy price inflation from 2023.

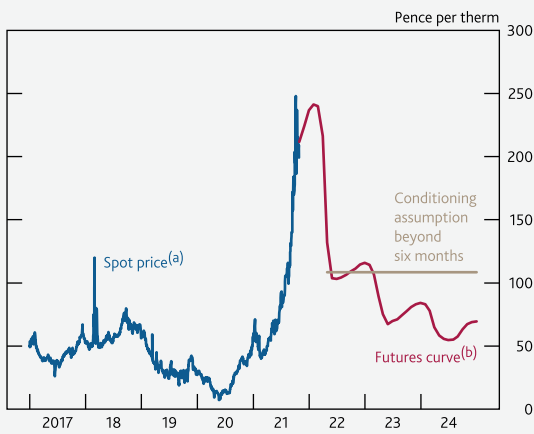
Lower paths for wholesale energy prices would reduce the projected direct contribution of retail energy prices to CPI inflation. The main driver of that change in the scenario is lower projections for gas and electricity prices, given their futures curves are especially downward-sloping at present. Given the current method used to set tariff caps, and Ofgem's implementation timetable, those lower wholesale prices take some time to feed through to retail prices. As a result, the direct energy effects are most substantially lower during the second half of the forecast period (**Chart D**).

(1) Ofgem has recently announced that it will consult on its price cap methodology. Ofgem expects to publish the consultation in November and expects to publish a decision in February, with any changes implemented in the price cap period from April 2022, if appropriate to do so.

(2) While futures curves cannot be directly interpreted as financial market participants' expectations for spot prices, because they are also affected by risk premia and other factors, such as storage costs, they are nonetheless influenced by market participants' expected price developments.

Chart C: Under an alternative scenario in which wholesale gas prices follow the futures curve, they would fall back by more than in the MPC's central projection

Wholesale gas spot prices, futures prices and the conditioning assumption underlying the MPC's central projections



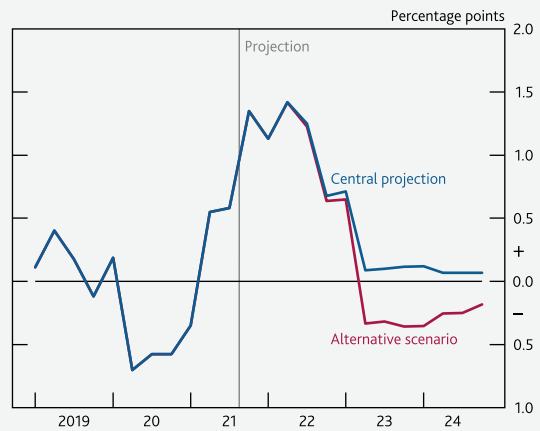
Sources: Bloomberg Finance L.P. and Bank calculations.

(a) One-day forward price of UK natural gas.

(b) Fifteen working day average to 27 October 2021.

Chart D: Lower paths for energy prices would reduce their projected direct contribution to CPI inflation

Direct energy contributions to CPI inflation in the MPC's central projection and alternative scenario



Lower energy prices would lower costs for businesses, and would boost household incomes and demand somewhat.

Lower energy prices would also reduce CPI inflation through their impact on firms' costs. Partially offsetting that, they would act to raise inflation by increasing consumer spending – for example, lower energy prices would serve to increase households' real incomes.

This alternative scenario conditioned on energy prices following futures curves would leave inflation around 0.5 percentage points lower than in the MPC's central projection in two years' time and 0.2 percentage points lower in three years.

Taking all of these effects together, CPI inflation in the alternative scenario falls back towards the target more rapidly than in the MPC's central projection, and is materially lower over the second half of the forecast period (**Chart E**). Conditioned on the market-implied path for Bank Rate, CPI inflation in the MPC's central projection is 2.2% in two years' time and 1.9% in three years (**Table 1**). CPI inflation in the alternative scenario, and also conditioned on the market-implied path for Bank Rate, is 1.7% in 2023 Q4 and 2024 Q4. GDP growth is a little higher in the alternative scenario than in the central projection.

In the MPC's central projection, under an assumption where interest rates are held constant at 0.1%, CPI inflation is 2.8% in 2023 Q4 and 2.6% in 2024 Q4 (**Table 1**). In the alternative scenario, with constant interest rates, CPI inflation is 2.3% in 2023 Q4 and 2.3% in 2024 Q4.

Chart E: CPI inflation in the alternative scenario falls back towards the target more rapidly than in the MPC's central projection

CPI inflation in the MPC's central projection and alternative scenario

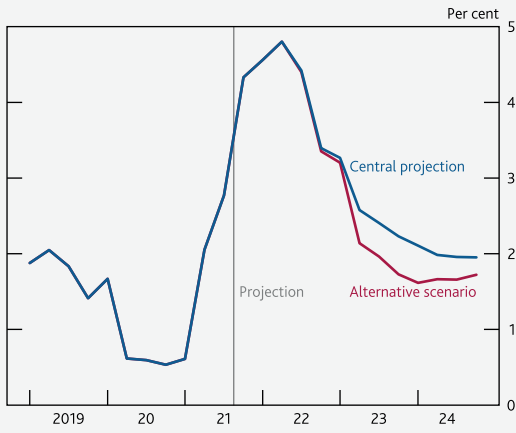


Table 1: CPI inflation in the alternative scenario is materially lower over the second half of the forecast period than in the MPC's central projection

GDP growth and CPI inflation in the MPC's central projection and alternative scenario, under the market-implied path for Bank Rate and constant rates^(a)

| Per cent | Projections based on market interest rate expectations | | | |
|-----------------------------|--|---------|---------|---------|
| | 2021 Q4 | 2022 Q4 | 2023 Q4 | 2024 Q4 |
| Central projection | | | | |
| GDP | 6.7 | 2.9 | 1.1 | 0.9 |
| CPI inflation | 4.3 | 3.4 | 2.2 | 1.9 |
| Alternative scenario | | | | |
| GDP | 6.7 | 2.9 | 1.4 | 1.1 |
| CPI inflation | 4.3 | 3.4 | 1.7 | 1.7 |

| Per cent | Projections based on constant interest rate expectations | | | |
|-----------------------------|--|---------|---------|---------|
| | 2021 Q4 | 2022 Q4 | 2023 Q4 | 2024 Q4 |
| Central projection | | | | |
| GDP | 6.8 | 3.6 | 1.5 | 1.0 |
| CPI inflation | 4.4 | 3.8 | 2.8 | 2.6 |
| Alternative scenario | | | | |
| GDP | 6.8 | 3.7 | 1.8 | 1.2 |
| CPI inflation | 4.4 | 3.7 | 2.3 | 2.3 |

(a) The table shows four-quarter growth in real GDP, excluding the backcast for GDP, and the four-quarter inflation rate. They have been conditioned on the assumptions in Table 1.A footnote (b), unless otherwise stated.

Box B: Monetary policy since the August Report

At its meeting ending on 22 September 2021, the MPC voted unanimously to maintain Bank Rate at 0.1% and for the Bank of England to maintain the stock of sterling non-financial investment-grade corporate bond purchases, financed by the issuance of central bank reserves, at £20 billion. The Committee voted by a majority of 7-2 for the Bank of England to continue with its existing programme of UK government bond purchases, financed by the issuance of central bank reserves, maintaining the target for the stock of these government bond purchases at £875 billion and so the total target stock of asset purchases at £895 billion.

Since the *August 2021 Report*, the pace of recovery of global activity had showed signs of slowing. Against a backdrop of robust goods demand and continuing supply constraints, global inflationary pressures had remained strong and there were some signs that cost pressures might prove more persistent. Some financial market indicators of inflation expectations had risen somewhat, including in the United Kingdom.

Bank staff had revised down their expectations for the level of UK GDP in 2021 Q3 by around 1% since the *August Report*, leaving the expected level of Q3 GDP around 2½% below its pre-Covid level. This downward revision in part reflected the emergence of some supply constraints on output. Momentum appeared to have picked up in services-orientated sectors where output remained well below pre-Covid levels. Although official estimates of retail sales had weakened somewhat, other indicators of spending had generally remained at strong levels, as had consumer confidence.

The LFS unemployment rate had fallen to 4.6% in the three months to July, slightly below the *August Report* forecast, while HMRC payroll data suggested that employee numbers (which include furloughed jobs) surpassed their 2019 Q4 level in August. The number of full and part-time furloughed jobs had continued to decline, but to a materially lesser degree than estimated in the *August Report*. There had been few signs of any increase in redundancies, and the stock of vacancies had increased further, as had indicators of recruitment difficulties. Bank staff's estimate of underlying pay growth had picked up, to above its pre-pandemic rate.

Uncertainty around the outlook for the labour market had therefore increased. Key questions included how the economy would adjust to the closure of the furlough scheme at the end of September; the extent, impact and duration of any change in unemployment; as well as the degree and persistence of any difficulties in matching available jobs with workers.

Twelve-month CPI inflation had risen from 2.0% in July to 3.2% in August, compared with the 3.0% figure expected in the *August Report*, and triggered the exchange of open letters between the Governor and the Chancellor of the Exchequer. Core inflation had also risen to 3.1% in August, its highest rate since November 2011. Indicators of households' medium-term inflation expectations had increased, with the Citi/YouGov five to ten year ahead measure at its highest level since 2013 in September.

CPI inflation was expected to rise further in the near term, to slightly above 4% in 2021 Q4, owing largely to developments in energy and goods prices. The material rise in spot and forward wholesale gas prices since the *August Report* was thought to represent an upside risk to the MPC's inflation projection from April 2022. Most other indicators of cost pressures had remained elevated. The Committee's central expectation continued to be that elevated global cost pressures would prove transitory.

At its previous meeting, the Committee judged that, should the economy evolve broadly in line with the central projections in the *August 2021 Report*, some modest tightening of monetary policy over the forecast period was likely to be necessary to be consistent with meeting the inflation target sustainably in the medium term. Some developments during the intervening period appeared to have strengthened that case, although considerable uncertainties remained.

At this meeting, the Committee judged that the existing stance of monetary policy remained appropriate.

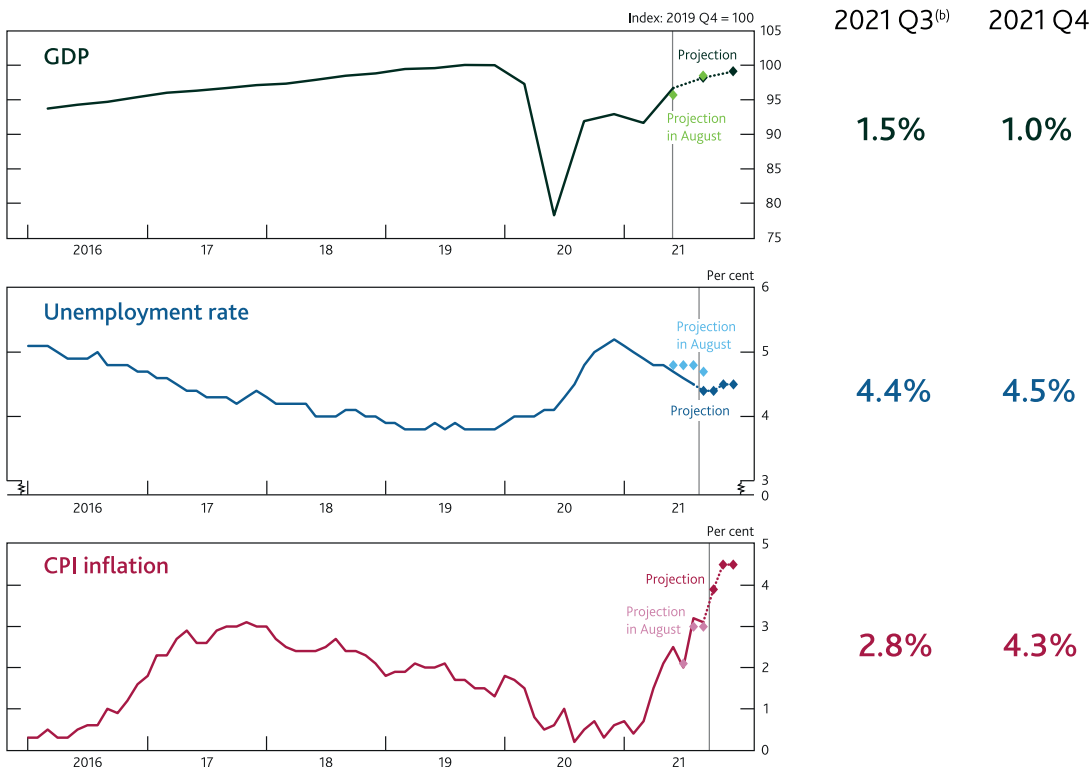
2: Current economic conditions

The recovery in UK and global economic activity has continued, although growth has been weaker than expected recently. That partly reflects supply constraints, which have also contributed to a rise in inflationary pressures.

UK GDP is estimated to have grown by 1.5% in Q3, but growth is expected to slow to 1.0% in Q4, lower than previously expected. The weaker near-term outlook mainly reflects the impact of supply constraints, both domestic and global, although UK consumer demand is expected to be a bit weaker as well.

The labour market recovery has continued. The unemployment rate is expected to have fallen to 4.4% in Q3. Recruitment difficulties have risen and underlying wage growth has picked up. The near-term outlook for the labour market is uncertain. The latest indicators suggest that the end of the furlough scheme may only lead to a slight increase in unemployment. Inflation increased sharply in Q3, and is expected to rise to around 4½% in November, and then to a peak of around 5% in April. Those rises largely reflect the impact of higher wholesale energy prices, which can be volatile, on retail gas and electricity prices.

Chart 2.1: GDP is expected to continue its recovery, but be lower than previously thought in Q4. Unemployment is projected to pick up a little in Q4, and inflation is expected to rise further above target
Near-term projections^(a)



Sources: ONS and Bank calculations.

(a) The lighter diamonds show Bank staff's projections at the time of the August 2021 Monetary Policy Report. The darker diamonds show Bank staff's current projections. Projections for GDP are quarterly and show Q3 and Q4 (August projections show Q2 and Q3). Projections for unemployment and CPI are monthly and show September to December and October to December respectively (August projections show June to September and July to September respectively).
 (b) GDP and unemployment projections are based on official data to August. CPI inflation figure is an outturn.

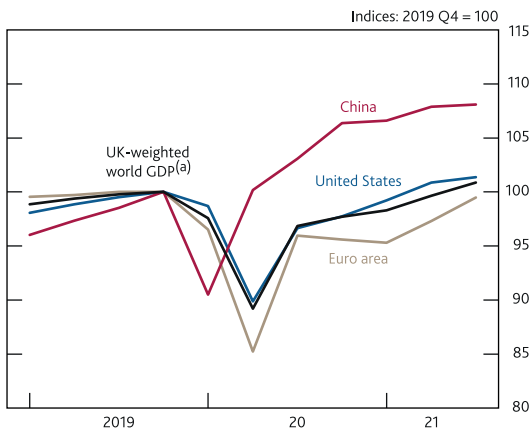
2.1: Global developments and financial conditions

The recovery in global economic activity has continued...

Global economic output has continued to recover since the *August Report* (Chart 2.2). The rollout of vaccinations has enabled restrictions to remain looser in many regions in response to rises in Covid cases than earlier in the pandemic. And the restrictions that have remained have had a smaller economic impact, as households and firms have adapted. Bank staff estimate that UK-weighted global GDP rose by 1.2% in Q3. This was a little weaker than expected in the *August Report*, largely accounted for by slower-than-expected growth in the United States and China, partly offset by some unexpected strength in euro-area output.

The pace of recovery has differed across regions. In the first three quarters of 2021, quarterly output growth is expected to have averaged around 1% across advanced economies and China, compared to 0.6% in other emerging market economies. Vaccination rates in most emerging markets remain significantly below those in most advanced economies, leaving economic activity more susceptible to rises in Covid cases. The extent of policy support, particularly in terms of fiscal policy, has generally been greater in advanced economies than in emerging markets, reinforcing differences in economic outcomes.

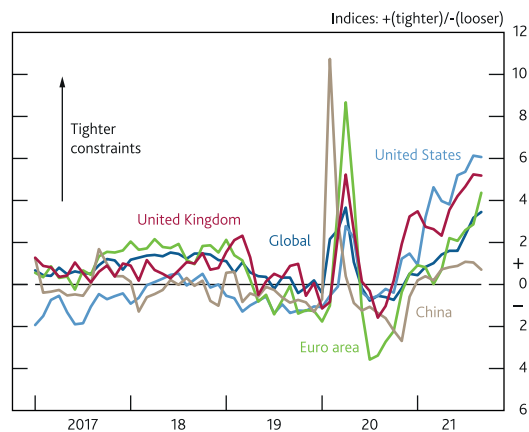
Chart 2.2: The recovery in global activity has continued...
GDP in selected countries and regions



Sources: IMF *World Economic Outlook* (WEO), National Bureau of Statistics of China, OECD, ONS, Refinitiv Eikon from LSEG and Bank calculations.

(a) See footnote (c) of Table 1.B for definition. Figure for 2021 Q3 is a Bank staff projection.

Chart 2.3: ...although a tightening in supply constraints may be limiting the pace of expansion
Indicators of supply constraints^(a)



Sources: IHS Markit, JPMorgan, Refinitiv Eikon from LSEG and Bank calculations.

(a) Indicators are estimated by Bank staff using principal component analysis on a range of PMI indicators for supply constraints in the manufacturing sector (supplier delivery times, stocks of purchases, stocks of finished goods, input prices and backlogs of work). Before principal components are estimated, these indicators are regressed on the new orders PMI to control for movements in demand. Latest data are for September 2021.

...although supply constraints are weighing on global activity...

While global output has continued to recover, there is evidence that the pace of the recovery has been restrained somewhat by supply constraints, such as disruption to global supply chains. Congestion at ports has led to delays in the delivery of goods, and the imposition of localised lockdowns at some major Chinese ports in August has exacerbated this. In addition, Covid-related closures of factories in other Asian economies over the summer has disrupted production across a number of industries, further restricting the supply of some inputs. An estimate of supply constraints, which is derived from a range of purchasing managers' indices such as delivery times and stocks of finished goods, has risen further across many advanced economies since the *August Report* (Chart 2.3).

Bottlenecks reflect both these supply constraints and the rapid pace at which demand has recovered, as restrictions on activity have been lifted. The composition of the recovery in demand has been an important factor. Demand for consumer goods has been particularly strong as lockdowns and health concerns have limited spending on services. Fiscal stimulus, particularly in the US, has also boosted consumers' demand for durable goods (Tauber and Van Zandweghe (2021)). While services consumption in G7 economies remained around 10% below its 2019 Q4 level on average in 2021 Q2, goods consumption was around 4% higher. Global industrial production has also increased, but some producers have found it difficult to increase output sufficiently quickly such that shortages remain for some components of consumer goods.

...and are expected to continue to do so in the near term.

Supply constraints are expected to continue to weigh on output in the near term. Bank staff expect UK-weighted world GDP growth to slow to 0.8% in Q4. Some slowdown in growth would be expected as output returns to around its pre-Covid level in various economies, but the Q4 projection is still weaker than expected in August.

How long supply constraints continue to weigh on global output is uncertain. The impact of the recent localised lockdowns in Asia is likely to fade quickly. But the imbalance between the demand and supply of some goods could persist for longer. There are some signs that demand has begun to rotate away from goods and towards services. That is particularly apparent in the US where durables consumption has moderated in recent months and high-frequency spending data suggest that social spending, such as on restaurants and hotels, has continued to recover. That process may continue as consumers' demand for durable goods is satiated and the impact of fiscal stimulus wanes, but it could take time. Contacts of the Bank's Agents suggest that some supply constraints will not be resolved until at least 2022 Q2, and that some might continue into at least the second half of 2022.

Bottlenecks and rising energy prices have increased global price pressures...

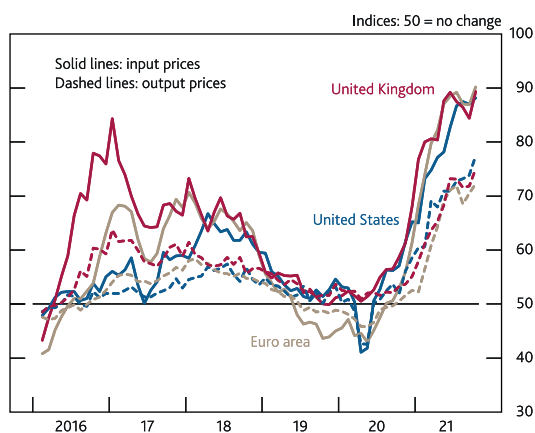
As set out in Section 3 of the August Report, bottlenecks have also led to a rise in global price pressures. Shipping costs have risen further since the August Report, with spot rates on some routes now around seven times pre-pandemic levels. Wholesale oil and gas prices have also risen sharply (Chart B in Box A), and in the run-up to this Report were around 80% and 400% above their 2020 Q4 levels. The recent rise in gas prices reflects both limited supply, reflecting disruptions to production due to unplanned outages and delayed maintenance, and strong global demand as economies have reopened. Non-energy commodity prices have also increased a little further since August. Survey indicators of manufacturing input and output prices have continued to rise (Chart 2.4).

...and rates of consumer price inflation remain elevated in the US and euro area.

These price pressures have started to pass through to consumer prices in the euro area and US, where inflation remains above the ECB's and Federal Reserve's targets. Euro-area HICP inflation rose to 3.4% in September – its highest rate since 2008. Higher retail energy prices can account for much of the strength in headline HICP inflation, but there has also been a pickup in core inflation, which rose to 1.9% in September (Table 2.A). According to the flash estimate, headline and core euro-area inflation rose further in October to 4.1% and 2.1% respectively. In the US, CPI inflation remained elevated at 5.4% in September. The Federal Reserve's preferred measures of inflation – personal consumption expenditure (PCE) and core PCE inflation – remained somewhat lower than CPI inflation, but are still markedly above their 2010–20 averages (Table 2.A).

Chart 2.4: Manufacturers' input and output prices have continued to rise

Survey indicators of manufacturers' input and output prices^(a)



Sources: IHS Markit and Refinitiv Eikon from LSEG.

(a) Latest data are flash estimates for October 2021.

Table 2.A: Inflation rates have remained elevated in advanced economies

Inflation in the euro area, UK and US

| Per cent | Monthly averages | | 2021 | | | | |
|---|------------------|---------|------|-----|------|------|------|
| | 1998–07 | 2010–20 | Q1 | Q2 | July | Aug. | Sep. |
| Annual headline consumer price inflation | | | | | | | |
| United Kingdom | 1.6 | 2.1 | 0.6 | 2.0 | 2.0 | 3.2 | 3.1 |
| Euro area | 2.0 | 1.3 | 1.1 | 1.8 | 2.2 | 3.0 | 3.4 |
| United States ^(a) | 2.1 | 1.5 | 1.8 | 3.9 | 4.2 | 4.2 | 4.4 |
| Annual core consumer price inflation (excluding food and energy)^(b) | | | | | | | |
| United Kingdom | 1.2 | 2.0 | 1.1 | 1.9 | 1.8 | 3.1 | 2.9 |
| Euro area | 1.6 | 1.0 | 1.2 | 0.9 | 0.7 | 1.6 | 1.9 |
| United States ^(a) | 1.8 | 1.6 | 1.7 | 3.4 | 3.6 | 3.6 | 3.6 |

Sources: Eurostat, ONS, Refinitiv Eikon from LSEG, US Bureau of Economic Analysis and Bank calculations.

(a) Personal consumption expenditure price index inflation.

(b) For the euro area and the UK, excludes energy, food, alcoholic beverages and tobacco. For the US, excludes food and energy.

While there has been some signs of tightening in euro-area and US labour markets, this does not appear to have led to a significant increase in wage pressures.

The medium-term outlook for inflation in the euro area and US will depend, in part, on domestic price pressures such as those emanating from the labour market. There have been some signs of tightening in the euro-area and US labour markets, with vacancies having risen sharply in both economies, and reports of labour shortages in certain sectors. Total hours worked remain below pre-Covid levels in both economies, however. Assuming that the Covid-induced falls in labour supply, such as reduced participation, prove temporary, the falls in hours suggest that labour market slack remains.

Consistent with that, the tightening in labour markets does not appear to have led to a significant increase in underlying wage pressures. As in the UK (Section 2.3), there is uncertainty around the rate of underlying wage growth in the euro area and US. Some headline measures of wage growth have increased substantially. For example, euro-area compensation per employee growth reached 7.4% in Q2, and US average weekly earnings growth was 5.8% in September. These measures have been distorted by compositional effects, however, as lower-paid workers were more likely to have been made unemployed during the pandemic. As in the UK, the impact from job retention schemes will have also boosted the growth rate of the euro-area measure in recent months. Measures that are less affected by these distortions have risen by much less, with growth remaining around pre-Covid rates (Chart 2.5).

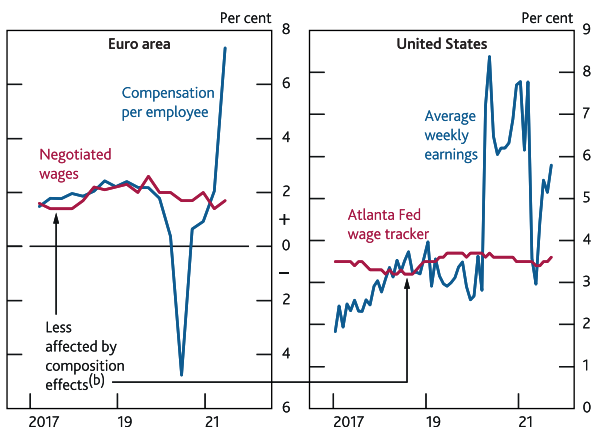
Medium-term measures of inflation expectations have risen since August.

Inflation expectations can also influence what happens to wages and prices today. There has been an increase in measures of near-term inflation expectations in the euro area and US, as inflation and the near-term outlook for inflation has risen. For example, survey measures of household expectations for inflation one year ahead have increased further in both the euro area and US since the August Report. Medium-term measures of inflation expectations, such as those derived from financial markets, have also risen since August. The rate of inflation in five to ten years' time implied by swap prices has increased in the euro area and US, although they remain around their 2010–19 averages (Chart 2.6). Box C discusses the pickup in the UK measure, which increased to above its 2010–19 average, alongside developments in other medium-term measures of inflation expectations.

In its latest projections, the Federal Open Market Committee expected the rise in US inflation to be transitory, with inflation projected to fall back in 2022. The ECB's projection for the path of euro-area inflation is similar.

Chart 2.5: Headline measures of wage growth in the US and euro area have risen significantly, but measures less affected by compositional effects remain muted

Selected measures of euro-area and US annual wage growth^(a)

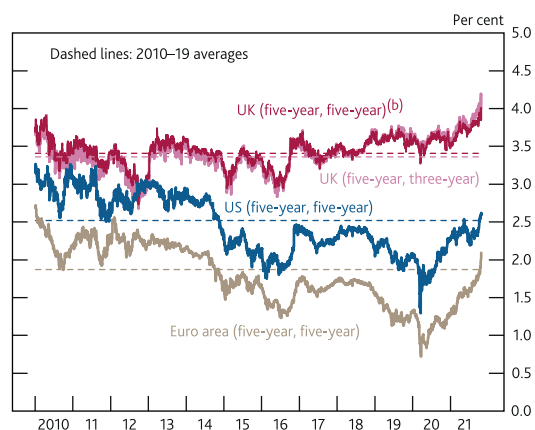


Sources: Bureau of Labor Statistics, Eurostat, Federal Reserve Bank of Atlanta, Refinitiv Eikon from LSEG and Bank calculations.

- (a) Latest data points for the euro area are for 2021 Q2. Latest data points for the US are for September 2021.
 (b) The Atlanta Fed wage tracker measures wage growth for the same individuals over time. The negotiated wages series captures the outcome of collective bargaining processes. As a result, both series are less affected by compositional effects.

Chart 2.6: Medium-term measures of inflation expectations have risen

Financial market measures of inflation compensation^(a)



Sources: Bloomberg Finance L.P. and Bank calculations.

- (a) Five-year inflation, five years ahead and three-year inflation, five years ahead, derived from swaps. The instruments are linked to the UK RPI, US CPI and euro-area HICP measures of inflation respectively.
 (b) UK RPI is due to be aligned with CPIH from February 2030, which will affect the pricing of this measure. Since 2000, CPIH inflation has averaged 85 basis points lower than RPI inflation.

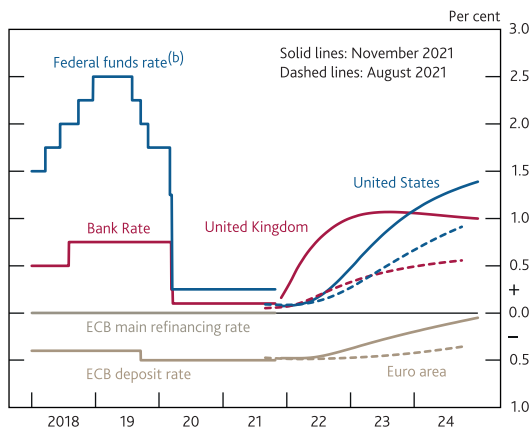
Market participants now expect a faster and larger tightening in monetary policy, particularly in the UK.

Market-implied measures of advanced-economy policy rates have increased, with market participants expecting central banks to raise rates faster and by more than expected at the time of the *August Report*. In the UK, Bank Rate is expected to rise to around 1% by the end of 2022, much higher than expected at the time of the *August Report* (Chart 2.7). The change in policy expectations in the UK appears to reflect the further rise in inflationary pressures (Section 2.4) and recent MPC communications about the policy outlook. Shorter-dated yields increased following the MPC's September meeting, where the MPC noted that some developments since August had strengthened the case for some modest tightening of policy. They increased further during October. The market-implied path for policy rates in the US and euro area have also risen, albeit to a lesser extent than in the UK.

Long-term interest rates have also risen. Yields on 10-year government bonds are between 25 and 45 basis points higher in the UK, Germany and US than at the time of the *August Report*. This largely reflects a rise in inflation compensation, although real rates have risen a little in the US.

Chart 2.7: Market expectations for policy rates have risen in the US, euro area and UK

International forward interest rates^(a)

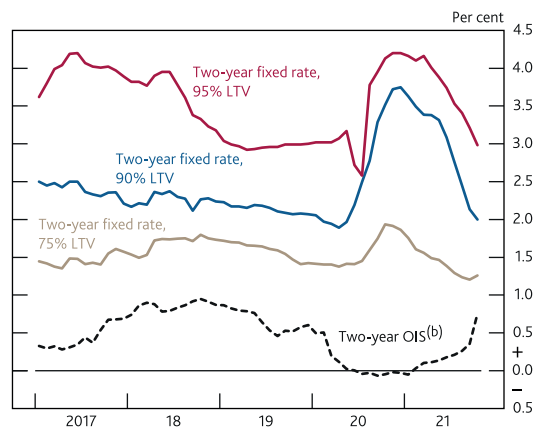


Sources: Bloomberg Finance L.P. and Bank calculations.

- (a) All data as of 27 October 2021. The November and August curves are estimated using instantaneous forward overnight index swap rates in the 15 working days to 27 October and 28 July 2021 respectively.
 (b) Upper bound of the target range.

Chart 2.8: UK mortgage rates have fallen over 2021, particularly at high loan to value (LTV) ratios

Two-year OIS rate and average quoted rates on two-year fixed rate mortgages^(a)



Sources: Bank of England, Bloomberg Finance L.P. and Bank calculations.

- (a) The Bank's quoted rates series are weighted monthly average rates advertised by all UK banks and building societies with products meeting the specific criteria. In February 2019 the method used to calculate these data was changed. For more information, see 'Introduction of new Quoted Rates data – Bankstats article'. Latest quoted rates data are flash estimates for October using data to 22 October and are subject to change until publication on 5 November.
 (b) Monthly averages of two-year sterling overnight index swap (OIS) rates.

Equity prices have generally risen a little further since August.

The FTSE All-Share, S&P 500, Euro Stoxx and Shanghai Composite indices have all increased by around 2% since the *August Report*. Having declined during September in response to concerns over inflationary pressures and the associated rise in risk-free interest rates, equity prices recovered in October supported by robust corporate earnings growth. In contrast, the MSCI Emerging Market index is a little weaker than in August, as concerns over rising inflation have had a larger impact on investor demand.

UK corporate funding conditions remain supportive.

Spreads on sterling investment-grade and high-yield corporate debt are broadly unchanged relative to August, and marginally below their pre-Covid levels. Bank lending conditions to businesses in the UK have also remained supportive. Rates on new bank loans have fallen relative to August, and remain below pre-Covid levels, including for small and medium-sized enterprises. Agency intelligence suggests that banks remain cautious about lending to firms in sectors that have been worst affected by Covid, although this has improved somewhat recently.

New mortgage rates have fallen further since August.

Mortgage rates have fallen further since the *August Report*, particularly for high loan to value (LTV) mortgages, despite an increase in risk-free rates (Chart 2.8). The quoted rate on a two-year fixed-rate mortgage at 90% LTV is now over 150 basis points lower than at the start of the year. Mortgage rates had increased in 2020 due to the riskier economic

outlook and Covid-related operational constraints in the face of high mortgage demand (*Box B in the May Report*). In 2021, rates have fallen back more quickly than expected as the macroeconomic outlook has improved and banks' wholesale funding spreads have fallen. Supervisory intelligence suggests that greater competition between lenders may have also contributed. These factors have been supported by lenders having ample liquidity on their balance sheets. There was a slight rise in some new mortgage rates in the week before the MPC's policy meeting.

2.2: Domestic activity

The recovery was a little stronger earlier in the year than previously thought...

The UK economy has been recovering from the effects of the pandemic. The pace of recovery earlier in 2021 was revised up in the latest *Quarterly National Accounts*: GDP is now estimated to have grown by 5.5% in Q2, up from 4.8% in the ONS's first estimate. Alongside smaller upward revisions to earlier periods, that means the level of GDP in Q2 was 3.3% below its pre-pandemic, 2019 Q4 level, compared to the 4.4% estimated previously.

...although growth is likely to have been weaker than expected in Q3.

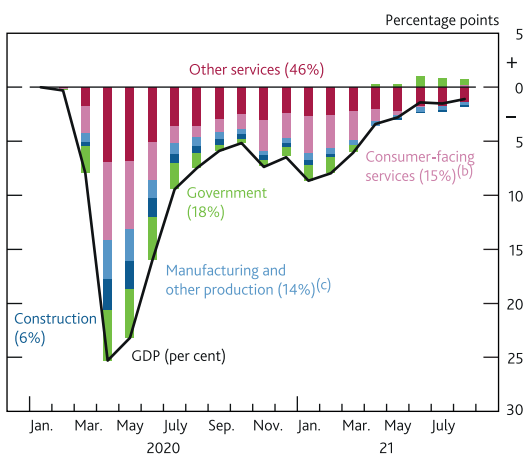
However, monthly GDP data suggest growth has slowed since then (*Chart 2.9*). This has been corroborated by slower growth in card spending by consumers. The slowdown is larger than expected in the *August Report*, with the downside news concentrated in the private sector. Bank staff's latest estimate of growth in Q3 as a whole is 1.5% (*Chart 2.1*), down from 2.9% in the *August Report*. That would mean the level of GDP in Q3 was 1.8% below its pre-pandemic level, a larger shortfall than the 1.5% previously expected.

Some sectors have seen output limited by global supply chain disruption and domestic supply constraints.

The slowdown in growth over the summer is partly accounted for by the manufacturing and construction sectors (*Chart 2.9*). Manufacturing output has been broadly flat since April, with several sectors affected by the global shortages of some inputs (Section 2.1). Car production has been limited by the availability of semiconductors, for example. Construction output has fallen in three of the past four months and was 2% lower in August than its peak earlier in the year. PMIs suggest supplier delivery times in both sectors have been worsening in recent months (*Chart 2.10*), reflecting the disruption in global supply chains. A wider range of sectors are also reporting difficulties finding workers, which may reflect some UK-specific factors (Section 2.3). The shortage of heavy goods vehicle drivers is particularly acute, but firms in other sectors, such as hospitality, have also been affected.

Chart 2.9: GDP growth has slowed

Contributions to change in monthly GDP since January 2020^(a)



Sources: ONS and Bank calculations.

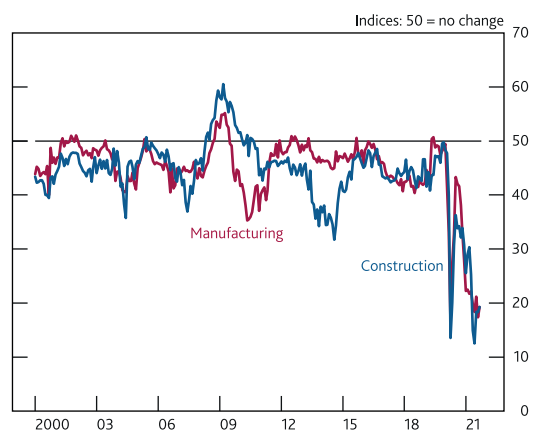
(a) Figures in parentheses are weights in gross value added in 2019. Weights and contributions may not sum to the total due to rounding.

(b) Consumer-facing services includes accommodation and food services, arts, entertainment and recreation, and wholesale and retail.

(c) Other production includes agriculture, mining and quarrying, and utilities.

Chart 2.10: Supplier delivery times are still worsening

Survey indicators of suppliers' delivery times^(a)



Source: IHS Markit/CIPS.

(a) A value below 50 indicates a lengthening in supplier delivery times. Latest data points are for September 2021.

These supply issues are expected to weigh on growth in Q4...

Survey evidence suggests these supply issues will continue to weigh on GDP growth in the near term. The proportion of manufacturers expecting the availability of materials or components to limit output over the next three months was at its highest level since 1975 in the latest CBI *Industrial Trends Survey*. Some Agency contacts suggest some of the supply issues are likely to take several quarters, rather than months, to resolve (Box E). The sharp increase in energy prices (Section 2.3) could also cause energy-intensive manufacturing sectors to restrict production, although this does not appear widespread so far.

Supply constraints could lower output in some service sectors as well. Retailers in the CBI *Distributive Trades Survey* reported record low levels of stocks relative to expected sales in October, for example, and the PMIs suggest that backlogs of work have been growing in the services sector as well as the manufacturing sector. Labour shortages in particular sectors may continue as well.

...although some service sectors are still expected to grow strongly.

However, several service sectors are expected to grow strongly in Q4. Some of these sectors have been relatively slow to recover from the pandemic, so still have considerable scope for growth. Public transport use has picked up in recent weeks (Chart 2.11), probably due to increased commuting. The number of flights in and out of the UK has also increased as international travel restrictions have loosened. Some consumer services which have been slower to recover from the pandemic, such as nightclubs and cultural events, have shown signs of recovery as well.

Bank staff expect GDP to grow by 1.0% in Q4, weaker than expected in August.

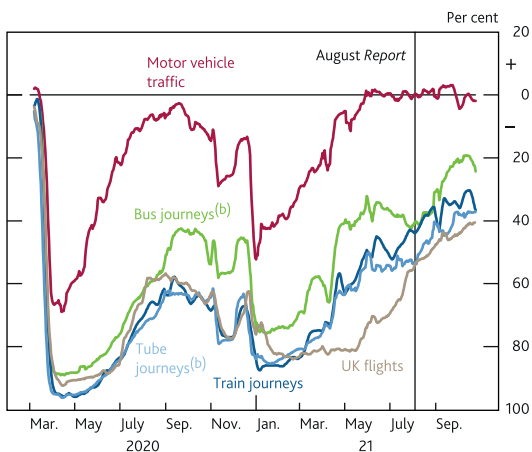
Overall, Bank staff expect GDP to grow by 1.0% in Q4, 1 percentage point lower than expected in the *August Report*. Supply chain disruption and capacity constraints are contributors to the downward revision, although consumer demand growth is also expected to be a little weaker, in part due to the impact of higher inflation (Section 2.4) on real incomes. That would leave GDP 0.9% below its pre-pandemic level in Q4. GDP is expected to exceed its pre-pandemic level in 2022 Q1, one quarter later than expected in the *August Report*.

The consumer services recovery reflects growing confidence and some normalisation of the pattern of demand...

The recovery in consumer services over this year had been supported by improving consumer confidence. Over the past year, improvements in consumer confidence have coincided with reduced concerns about Covid (Chart 2.12). This is likely to be an effect of the UK's vaccination programme. Over 70% of the total UK population have now received at least one Covid vaccine dose. Other determinants of consumer confidence have probably played a role in the improvement too. Unemployment and the number of furloughed employees have fallen recently (Section 2.3). Average UK house prices have also increased – by 10.6% in the year to August, according to the ONS – which may have boosted confidence.

Chart 2.11: Public transport use and flights have continued to pick up since the August Report

High-frequency indicators of transport use^(a)

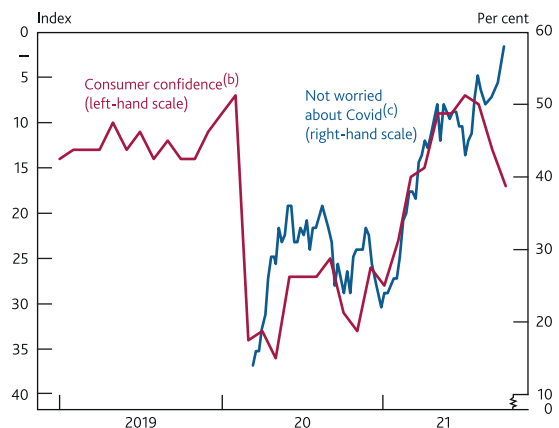


Sources: Department for Transport, Eurocontrol, ONS and Bank calculations.

- (a) Seven-day moving averages to 25 October for Department for Transport data and 24 October for flights data. Data are not seasonally adjusted. All data are shown relative to normal levels.
 (b) The number of tube journeys is based on Transport for London data and the number of bus journeys does not include London buses.

Chart 2.12: Consumer confidence has fallen recently despite worries about Covid continuing to subside

Consumer confidence and worries about Covid^(a)



Sources: GfK, ONS, Refinitiv Eikon from LSEG and Bank calculations.

- (a) Data are not seasonally adjusted.
 (b) GfK Consumer Confidence Index. Latest data point is for October.
 (c) Percentage of adults not worried about the effect of Covid on their life right now according to the ONS Opinions and Lifestyle Survey. Latest data point is for 6–17 October 2021.

Increasing spending on services also reflects some normalisation of the pattern of demand. Over the pandemic, demand for goods has been relatively strong, with retail sales quickly recovering and exceeding their pre-pandemic level in 2020. Consumption of services was much more subdued. In recent months this pattern has begun to reverse: the volume of retail sales has fallen for five consecutive months, while the output of consumer services sectors has increased.

...although recent developments may have dented confidence in the outlook.

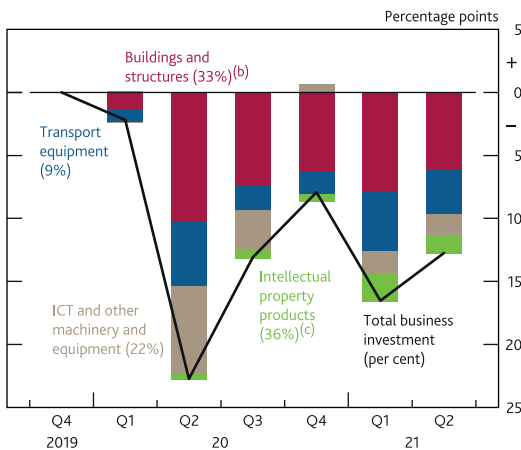
Consumer confidence has fallen back over the past three months, despite concerns about Covid continuing to diminish (Chart 2.12). Forward-looking questions about the economy and households' personal finances over the next year have seen the biggest deterioration. This may be linked to the temporary shortages of some goods, such as motor fuels, and increasing energy prices, which will weigh on real incomes. Lower confidence could lead to weaker growth of consumer spending. The latest Bank/NMG survey suggested there had been little change in spending and saving plans since the previous survey, although the survey was carried out over September, so predated some of the more recent news. In the MPC's projections, households are expected to spend around 10% of the savings accumulated during the pandemic over the three-year forecast period, as was assumed in August. That is broadly consistent with a range of evidence, including the Bank/NMG survey.

Business investment has been weak recently.

Business investment has been slower to recover than consumer spending, and was still 13% below its pre-pandemic level in Q2. Business investment data are often revised, so the recent data are still relatively uncertain. But it appears that investment in transport equipment has been particularly low during the pandemic (Chart 2.13): in Q2 it was still 38% below its 2019 Q4 level, which may be related to weakness in demand for air travel and production issues in the automotive industry. Investment in buildings has also been subdued. Supply chain disruption, including shortages in the construction sector, may have weighed on this type of investment recently. Investment in ICT appears to have held up better, which may have more positive implications for innovation and productivity in the future (Section 3).

Chart 2.13: Buildings and transport investment have been particularly weak during the pandemic

Contributions to change in business investment since 2019 Q4^(a)

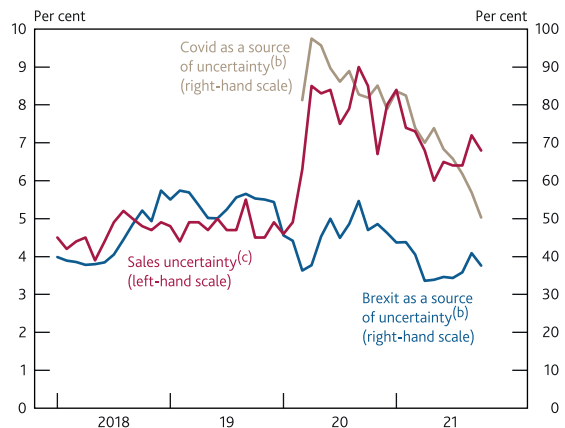


Sources: ONS and Bank calculations.

- (a) Figures in parentheses are shares in business investment in 2019.
 (b) Includes buildings other than dwellings, other structures and land improvements.
 (c) Includes software, research and development, entertainment, literary or artistic originals and mineral exploration.

Chart 2.14: The DMP Survey suggests firms' uncertainty about their future sales remains elevated

Sales uncertainty and Brexit and Covid as sources of uncertainty^(a)



Sources: DMP Survey and Bank calculations.

- (a) Latest data points are for October 2021.
 (b) Based on the questions: 'How important is the spread of Covid as a source of uncertainty for your business?' and 'How much has the result of the EU referendum affected the level of uncertainty affecting your business?'. Figures shown are the percentage of respondents placing it in the top three sources of uncertainty.
 (c) Based on the question: 'Looking a year ahead, by what percentage amount do you expect your sales revenue to have changed in each of the following scenarios? Lowest, Low, Middle, High, Highest'. Respondents assign a probability to each scenario.

Improved demand and tax incentives are expected to boost investment significantly, although uncertainty and supply constraints may weigh in the near term.

Business investment is expected to pick up as demand recovers and firms make use of the Government’s super-deduction tax incentive. A recent Agents’ survey found that firms intended to increase investment substantially over the next year, with many reporting the strength of demand and capacity constraints as a reason for that (Box E). Other surveys of firms’ investment intentions show a similar picture. However, supply chain disruption may continue to weigh on investment in the near term. Uncertainty may also be causing firms to delay investment. The Decision Maker Panel (DMP) Survey suggests that, although Covid has fallen as a source of uncertainty, uncertainty about firms’ future sales remains unusually high (Chart 2.14). Uncertainty about the outlook and the new EU trading arrangements were also cited as constraints on investment in the Agents’ survey.

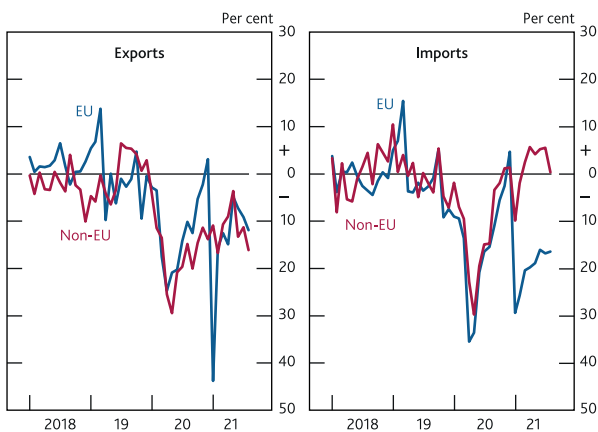
UK exports have remained well below pre-pandemic levels.

Goods trade flows have generally remained below pre-pandemic levels this year. These have been affected by pandemic-related issues, wider supply chain disruption, and also the new trading arrangements with the EU that came into effect at the start of the year. It is difficult to separate the impact of these factors. Exports to both EU and non-EU countries were around 10% below their 2019 levels in the three months to August (Chart 2.15). Imports from the EU have been especially weak recently, despite the UK delaying the implementation of some new border checks. Imports from outside the EU have been stronger.

The Government has announced new tax and spending plans which provide additional support to activity.

The Government has announced new tax and spending plans which affect the outlook for government consumption and investment, as well as spending by households and businesses (Section 1). Increases in health and social care spending, funded by a new Health and Social Care Levy, were announced in September. Full three-year spending plans for all departments were announced in the *Autumn Budget and Spending Review 2021* in October. The net effect of higher spending and taxation is to boost GDP over the forecast period (Section 1). Taking into account policy changes and the improvements in the economic outlook since its last forecast in March, the Office for Budget Responsibility (OBR) estimates that public sector net borrowing will be around £25 billion lower per year between 2022–23 and 2024–25 than in its previous forecast (Chart 2.16).

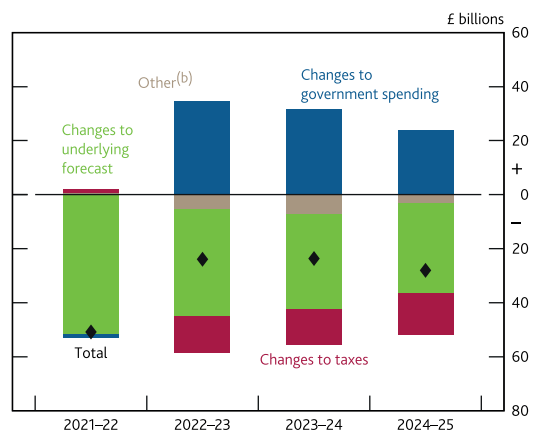
Chart 2.15: Goods trade remains lower than before the pandemic, although non-EU imports have recovered
Changes in UK trade in goods with EU and non-EU countries relative to 2019 averages^(a)



Sources: ONS and Bank calculations.

(a) All data exclude unspecified goods. Latest data points are for August 2021.

Chart 2.16: The Government has announced increases in spending and taxation
Changes to the OBR forecast for public sector net borrowing since March 2021^(a)



Sources: Office for Budget Responsibility and Bank calculations.

(a) Positive numbers indicate higher borrowing.

(b) Includes indirect policy effects.

2.3: The labour market

How the labour market develops will be an important influence on the near-term outlook.

The number of people unemployed or inactive in the labour market remained above pre-Covid levels in the latest data. Moreover, it is estimated that there were around 1 million people on furlough towards the end of September as the Government’s job retention scheme closed. Despite that, firms have continued to report significant recruitment difficulties and elevated levels of vacancies. How this labour market puzzle resolves itself will be an important influence on the outlook for demand and inflation (Bailey (2021)).

The unemployment rate fell to 4.5% in August.

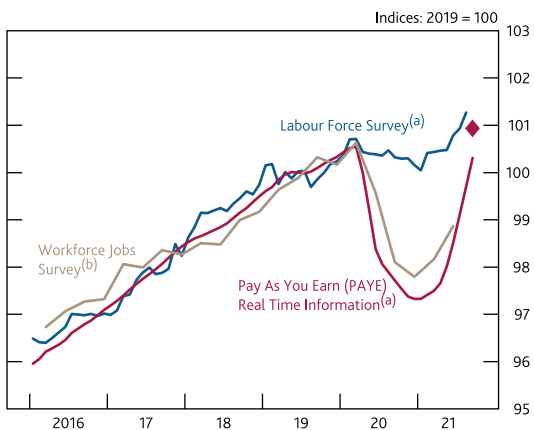
While the Labour Force Survey (LFS) unemployment rate remains above where it was in 2019 Q4, it has continued to fall in recent months. The unemployment rate fell to 4.5% in the three months to August, from 4.8% in the three months to May (Chart 2.1), a bigger fall than expected in the August Report. The unemployment rate is expected to fall a little further to 4.4% in the three months to September. The number of people inactive in the labour market – those without a job and not actively searching for one – fell a little in the three months to August, but is still around 500,000 above its pre-Covid level.

Employment has continued to rise over the past few months. According to the LFS, there were 235,000 more employees in the three months to August, compared with the three months to May, while Her Majesty’s Revenue and Customs (HMRC) data to September picked up even more sharply (Chart 2.17). The number of employees is estimated to be slightly above its 2019 Q4 level according to both indicators. The total level of employment is still 520,000 below its 2019 Q4 level, owing to a fall in self-employment.

Employment picked up during 2021 across most sectors. According to HMRC data, 390,000 more people were employed in consumer-facing services such as retail and hospitality in September relative to January 2021, though this is still around 250,000 lower than pre-Covid. Employment in business-facing services, such as finance and professional services, has recovered to above its level before Covid. And public sector employees have risen by nearly 290,000 since January, particularly in health and social care, which is likely to reflect the additional demands of Covid and the vaccination programme.

Chart 2.17: The number of employees is a little above pre-Covid levels

Number of employees

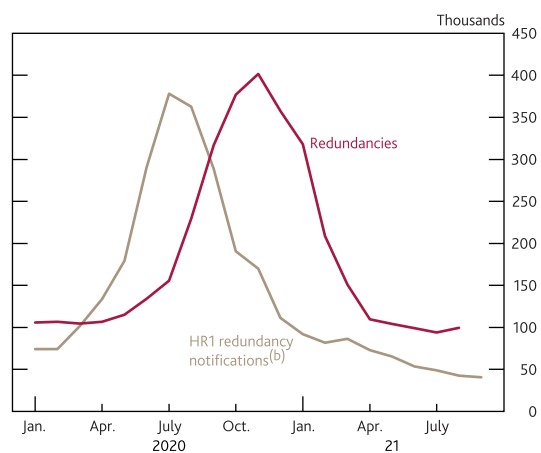


Sources: HMRC, ONS and Bank calculations.

- (a) Three-month moving averages. Latest data point from the Labour Force Survey is for the three months to August 2021. Latest data point for PAYE Real Time Information is the flash estimate for the three months to September 2021 and diamond shows data for the single month of September.
- (b) Data are quarterly. Latest data point is for 2021 Q2.

Chart 2.18: Redundancies have been subdued

Redundancies and HR1 redundancy notifications^(a)



Sources: Insolvency Service Redundancy Payment Services Database, ONS and Bank calculations.

- (a) Three-month rolling sums. Latest redundancies data point is for August 2021; latest HR1 notifications data point is for September 2021. Both series are non-seasonally adjusted.
- (b) HR1 advance notices of redundancy are only required when employers propose to dismiss 20 or more employees at a single establishment. Not all employees given such notice will go on to be made redundant. The figures may also include some submissions relating to company restructures or changes in employee terms of contract. Great Britain only.

The UK furlough scheme closed at the end of September, and there is uncertainty about the impact of that on unemployment.

The Coronavirus Job Retention Scheme (CJRS), commonly referred to as the furlough scheme, closed at the end of September. The scheme, announced in March 2020, was intended to encourage companies to retain staff and safeguard incomes. At its peak, just under 9 million jobs were furloughed, equivalent to around a third of the eligible workforce in the UK. According to the ONS Business Insights and Conditions Survey (BICS), around 4½% of private sector jobs, equivalent to around 1.1 million jobs, were furloughed towards the end of September 2021.

A higher number of jobs were furloughed towards the end of the scheme than had been assumed in the *August Report*. This may reflect some hoarding of labour ahead of an expected recovery in demand in coming months, with intelligence from the Bank's Agents suggesting that the recent tightening in the labour market may have increased this incentive. In addition, factors other than labour demand such as shielding vulnerable workers may also have played a role. For smaller firms, the scheme may also have been used to support their operation, alongside other measures, such as forbearance. It is also possible that a greater number of furloughed workers were able to find second jobs with alternative employers, or had expanded the scope of existing second jobs, which was allowable under the CJRS. With more people on furlough at the end of the scheme than expected in August, there is additional uncertainty about the recent and near-term path of unemployment.

High-frequency indicators suggest that there has not been a material increase in redundancies since the end of the furlough scheme.

While the latest official data for the labour market only cover the period before the end of the furlough scheme, higher-frequency indicators can provide an insight into how the labour market has responded since then. Measures of redundancies have remained subdued (**Chart 2.18**). Redundancy notifications – which capture cases where firms make 20 or more redundancy notifications in one establishment – have been little changed since August. The ONS BICS has a broader sample which also covers smaller firms, which are estimated to have accounted for the majority of furlough use towards the end of the scheme. Surveys conducted during September and October did not show a notable rise in the share of firms seeking to make redundancies over the next three months. The Bank's Agents' contacts reported that there had not been reports of widespread redundancies, and that most contacts with furloughed staff expected to bring back the majority of their workers at the end of the scheme.

Other surveys also suggest that the impact of the end of the furlough scheme on unemployment might be limited. For example, only around 10% of furloughed respondents to the Bank/NMG survey expected to lose their job at the end of the scheme, and only around half of those expected not to be able to find work elsewhere. Expectations of job security in the YouGov/CEBR survey have remained positive.

Unemployment is expected to be 4.5% in Q4, before falling back in early 2022.

There remains some uncertainty around the outlook for unemployment, however. The unemployment rate is expected to have fallen to 4.4% in Q3, before rising slightly to 4.5% in Q4 as a relatively small proportion of workers who had been on furlough become unemployed. The MPC expects the unemployment rate to fall back in early 2022 (Section 1).

Indicators of labour demand have remained strong...

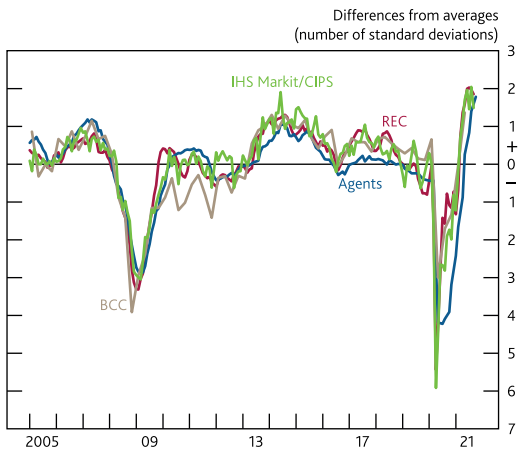
Survey indicators of employment intentions have picked up further in recent months (**Chart 2.19**). And the number of advertised job vacancies rose to over 1.1 million people in September, well above pre-Covid levels (**Chart 2.21**). The Bank's Agents' contacts noted a pickup in recruitment, with strong demand and competition for labour across many industries, particularly professional services, hospitality, construction and distribution. According to the staff placements index within the KPMG/REC *UK Report on Jobs*, the number of people placed in permanent jobs remained around record highs in September, and demand for labour had remained robust and widespread across the UK.

...and elevated recruitment difficulties point to a continued tightening in labour market conditions.

Against the backdrop of strong labour demand, indicators of recruitment difficulties have risen further (**Chart 2.20**). Staff availability in the KPMG/REC *UK Report on Jobs* fell to a series low in August and remained around that level in September for both permanent and temporary workers. Similarly, the Agents' score for recruitment difficulties has reached a series high, with reports suggesting that difficulties had continued to broaden across companies. And around 40% of businesses reported that they had experienced significant or severe recruitment difficulties during Q3 in the *Deloitte CFO Survey*.

Chart 2.19: Survey indicators point to robust employment growth...

Surveys of employment intentions^(a)

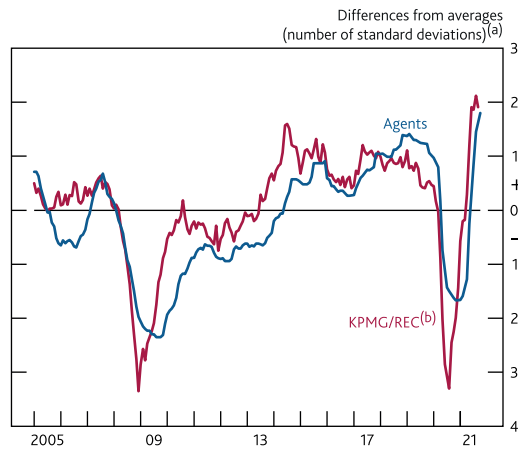


Sources: Bank of England, BCC, IHS Markit/CIPS, KPMG/REC UK Report on Jobs, ONS and Bank calculations.

(a) Differences from averages since 2000. Surveys from the Bank's Agents (employment intentions over the next 12 months), BCC (employment expectations over the next three months), IHS Markit/CIPS (PMI composite employment index) and KPMG/REC (index of demand for new staff). Agents' scores are monthly until August 2016 and six weekly thereafter. BCC data are for services and non-services and weighted using employee job shares from Workforce Jobs. BCC data are quarterly and not seasonally adjusted.

Chart 2.20: ...but there have been increasing reports of recruitment difficulties

Indicators of recruitment difficulties



Sources: Bank of England, KPMG/REC UK Report on Jobs and Bank calculations.

(a) Differences from averages since 2000.
(b) KPMG/REC Staff Availability Index, inverted. Latest data is for September 2021.

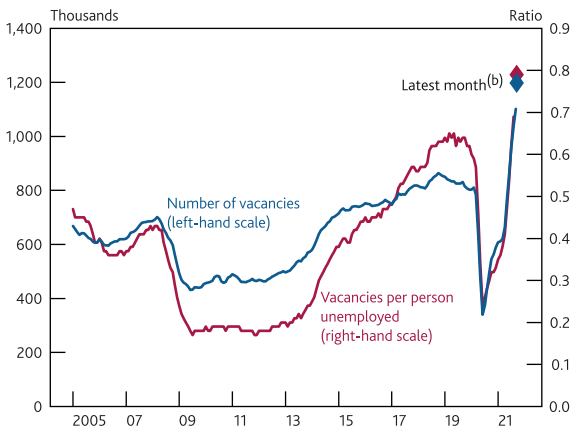
Recruitment difficulties in the KPMG/REC UK Report on Jobs were attributed to a number of factors: a high demand for workers, fewer EU workers and skill shortages across a number of sectors. Intelligence from the Bank's Agents suggested that lower labour market participation among older people, and a faster-than-expected recovery in demand had also been factors in some sectors.

Underlying pay growth has increased...

Labour market tightness is typically associated with faster pay growth, as companies are willing to pay more to secure employees. Annual growth in private sector regular average weekly earnings rose to 6.8% in the three months to August. As discussed in Box C of the August Report, headline pay growth has been affected by furlough and compositional effects. The blue bars in Chart 2.22 show Bank staff estimates of annual growth in 'underlying' pay. This has picked up to around 4½%, above its pre-pandemic level. Given the difficulties in precisely measuring furlough and compositional effects, there is uncertainty around this estimate. Over the pandemic as a whole, underlying wage growth appears to have been stronger than would have been expected given the level of unemployment.

Chart 2.21: Vacancies have picked up further

Vacancies^(a)

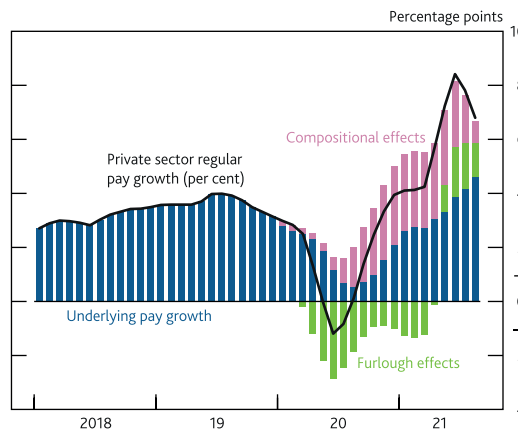


Sources: ONS and Bank calculations.

(a) Three-month moving averages. Latest vacancy data are for September 2021, latest unemployment data for August 2021.
(b) Diamonds show latest available single-month data. Diamond for vacancies shows single month of September (non-seasonally adjusted). Vacancies per person unemployed uses September single-month vacancies and the estimate of the number unemployed in the single month of August.

Chart 2.22: Underlying wage growth has picked up to around 4½%

Contributions to annual growth in private sector regular pay^(a)



Sources: HMRC, ONS and Bank calculations.

(a) Growth in three-month average pay relative to the same period a year earlier. Furlough effects, compositional effects and underlying pay growth are Bank staff estimates.

Other indicators also point to strengthening pay growth. The KPMG/REC *UK Report on Jobs* permanent staff salaries index, which measures the monthly pay growth of new permanent hires, increased to its highest level on record in September. And the Bank’s Agents’ contacts reported an increase in pay settlements in recent months. Bank staff expect underlying wage growth to remain around 4% in the near term.

...which may partly reflect ongoing frictions in the labour market.

An increase in vacancies, recruitment pressures and higher wages are typical features of labour market recoveries. However, this recovery is also being affected by the uneven impact of Covid across different sectors, regions and occupations. Sharp rises in indicators of recruitment difficulties, despite unemployment remaining above its pre-Covid level, might suggest that there are frictions in matching available workers with job vacancies.

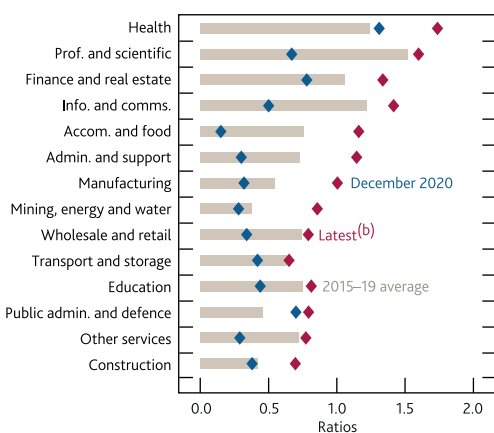
The number of vacancies per person unemployed – an indicator of labour market tightness – is elevated relative to past averages in many sectors in the economy (**Chart 2.23**), particularly in those which have seen a strong pickup in demand such as health and social care and manufacturing. Vacancies are also high in some sectors which have been hardest hit by the pandemic such as accommodation and food. That said, as the economic outlook has improved, many of the hardest-hit sectors are now recovering and hiring, which may alleviate some sectoral frictions. One estimate of sectoral mismatch in the UK suggests that it is no longer elevated (**Chart 3.9**). Ongoing recruitment difficulties might also point to frictions on different, or more granular, dimensions of the labour market, however (Section 3). Recruitment difficulties might also reflect a shortage of workers with particular skills.

Parts of the labour market where there are difficulties recruiting are also seeing elevated pay pressures. As illustrated in **Chart 2.24**, a higher level of vacancies per person unemployed appears to be associated with stronger pay growth in certain sectors. While there is some uncertainty around these estimates for pay growth, given the impact of furlough and compositional effects, stronger wage growth may reflect labour market frictions such as skill shortages. The Bank’s Agents’ contacts report significant pay pressure for those workers whose skills are in short supply, such as drivers, IT and professional services workers. Some contacts reported pay increases in the range of 10%–40% being awarded to attract workers in some sectors. Some contacts also suggested that higher inflation rates (Section 2.4) could put upward pressure on pay in coming months, although this did not appear to have been a widespread factor in pay growth so far.

Some of these labour market frictions are judged to have contributed to a rise in the medium-term equilibrium rate of unemployment during the pandemic (Section 3). That effect is expected to dissipate over the forecast period, as the economy normalises, and given the historical flexibility of the UK labour market (Section 1).

Chart 2.23: Vacancies relative to unemployment are elevated relative to past averages in many sectors...

Number of vacancies per person unemployed by industry^(a)



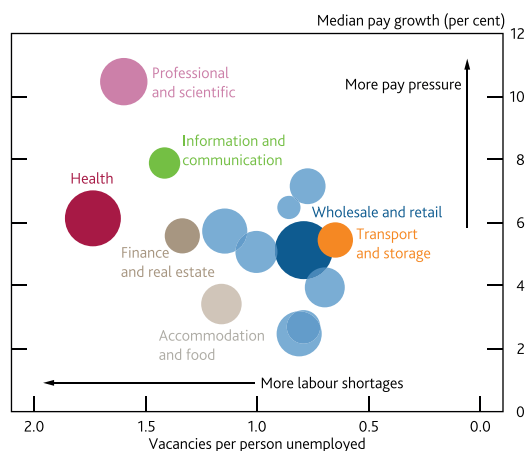
Sources: ONS and Bank calculations.

(a) Three-month moving averages. Vacancies in each industry per person unemployed whose last job was in that industry. Unemployment by industry of last job data are not seasonally adjusted.

(b) Latest data point is three months to September for vacancies and August for unemployment.

Chart 2.24: ...and there is some evidence that this has been associated with greater wage pressure

Ratio of vacancies per person unemployed and annual pay growth^(a)



Sources: ONS and Bank calculations.

(a) Vacancies in each industry per person unemployed whose last job was in that industry. Unemployment by industry of last job data are not seasonally adjusted. Annual growth in three-month pay based on PAYE RTI data to September 2021. Size of bubbles represent employment shares in August 2021.

2.4: Inflation

Inflation picked up during Q3, due to domestic and global cost pressures.

Broadly as expected in the *August Report*, CPI inflation rose to 3.1% in September, from 2.5% in June (**Chart 2.1**). Base effects accounted for part of this pickup, particularly for services prices (**Chart 2.25**), which were subdued in Q3 last year by the effects of the Eat Out to Help Out (EOTHO) scheme and the temporary reduction in VAT for hospitality and tourism sectors.

Inflation was also boosted by supply bottlenecks, resulting from strong demand for goods and supply disruptions (Section 2.1), which have pushed up UK consumer goods prices. Survey indicators of input and output prices in the manufacturing sector have risen sharply to record high levels in recent months (**Chart 2.26**). Manufacturing firms have reported higher freight costs and price increases for a range of raw materials. Contacts of the Bank's Agents in the manufacturing and construction sectors reported that rising costs had been passed through into output prices to a greater extent recently. Contacts also reported that higher wage growth (Section 2.3) was also being passed through to prices by some firms.

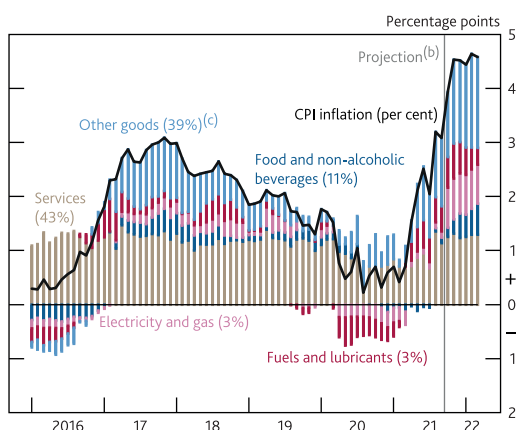
Setting aside the impact of the base effects associated with the EOTHO scheme and VAT, services price inflation picked up in Q3. That may have reflected a pickup in demand, and some capacity pressures, as the economy reopened. Survey indicators of services input and output prices have also risen materially recently (**Chart 2.26**).

Inflation is expected to rise to around 4.5% in November.

Mainly reflecting expected increases in energy and other goods prices, CPI inflation is projected to rise sharply in the very near term, reaching around 4.5% in November (**Chart 2.25**). The expected rise in retail energy prices reflects Ofgem's most recent increase in tariff caps on retail electricity and gas prices, of 9% and 17% respectively, which took effect from October. The increase in the tariff caps reflects the impact of higher wholesale energy prices earlier in 2021. Food price inflation is also expected to increase to around 4% in coming months, given higher input costs and some supply disruption. Core goods price inflation, which includes items such as vehicles and clothing and footwear, remained around its highest level for a decade in September at 3.3%. It is expected to remain elevated in coming months due to domestic and global cost pressures. Base effects also push up goods price inflation a little: clothing and footwear prices were particularly weak during 2020 Q4 and 2021 Q1.

Chart 2.25: Inflation picked up during Q3, and is expected to rise further in the near term

Contributions to CPI inflation^(a)

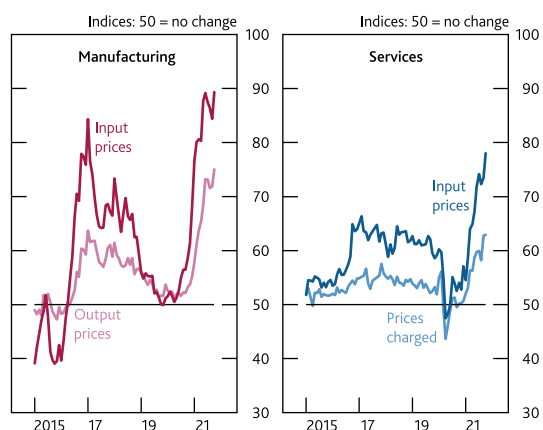


Sources: Bloomberg Finance L.P., Department for Business, Energy and Industrial Strategy, ONS and Bank calculations.

- (a) Contributions to annual CPI inflation. Figures in parentheses are basket weights in 2021 and do not sum to 100 due to rounding.
 (b) Bank staff's projection. Fuels and lubricants estimates use Department for Business, Energy and Industrial Strategy petrol price data for October 2021 and then are based on the sterling oil futures curve.
 (c) The difference between CPI inflation and the other contributions identified in the chart.

Chart 2.26: Survey indicators of input and output prices rose to record highs during Q3

Survey indicators of input and output prices^(a)



Source: IHS Markit/CIPS.

- (a) Data for October 2021 are flash estimates.

Services price inflation is expected to rise a little further, to around 3.0% in November, as demand recovers further in consumer-facing sectors, capacity pressures build, and due to the rise in VAT on hospitality and tourism sectors from October.

Primarily reflecting higher gas and electricity prices, inflation is expected to rise to around 5% in April 2022, higher than expected in August.

Since August, spot and futures prices for wholesale gas and oil have risen materially (**Chart B**), due to strong demand and limited supply, in part due to some disruption to production. Higher gas prices have led to a sharp pickup in wholesale electricity prices. Wholesale gas and electricity prices are an important determinant of retail energy prices. The CPI basket includes standard variable and prepayment tariffs for domestic gas and electricity, for which caps are set by Ofgem. In the setting of the cap, the path of wholesale energy costs is based on energy futures prices during a six-month observation window. The next cap will take effect from April 2022, and if wholesale futures prices remain around their elevated levels in coming months, this will directly boost CPI inflation (see Box A in Section 1).

Higher energy prices will also put additional pressure on firms' costs, as energy is used as an input in the production of other items. Several Agents' contacts in sectors which are heavy energy users such as food production, agriculture and equipment manufacturing have reported significant cost increases. Some consumer-facing firms such as hotels, leisure centres, and retail stores have also cited higher energy costs as a concern.

Primarily reflecting higher gas and electricity prices, inflation is expected to pick up to around 5% in April 2022, around 1 percentage point higher than expected in the *August Report*.

CPI inflation will also be affected by the impact of domestic price pressures. In the MPC's central forecasts, there is a margin of excess demand in the first part of the forecast period, although that is eroded over time. There is a risk that these pressures are stronger than expected. Evidence from the DMP Survey suggests that firms are more likely to raise prices when sales are growing than they are to cut prices in response to weaker demand (**Chart 2.27**). This may have been due to a need to protect or rebuild margins.

Short-term inflation expectations have picked up sharply, probably reflecting the increase in both CPI inflation and the near-term outlook for inflation.

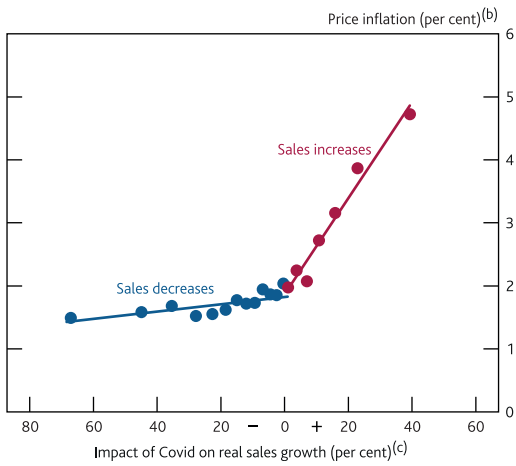
Households' short-term inflation expectations tend to change with their perceptions of inflation and inflation outturns (Rowe (2016)). In turn, inflation perceptions tend to be particularly influenced by the price of things like food and drink and utility bills. Given that, it is not surprising that shorter-term measures of household inflation expectations have risen over recent months (Box C, Table 1). The YouGov/Citigroup one year ahead expectation rose to 4.4% in October (**Chart 2.28**).

Indicators of companies' short-term inflation expectations have also picked up. In October, firms in the DMP Survey reported an increase in one year ahead own-price inflation expectations to 3.9% in the three months to October, their highest level since the survey began in 2016. In financial markets, the one-year spot inflation swap rate has increased markedly since the *August Report*, by around 200 basis points.

Developments in medium-term measures of inflation expectations are discussed in Box C.

Chart 2.27: Sales increases have been associated with rising inflationary pressure

Price inflation and impact of Covid on sales growth over the past 18 months^(a)



Sources: DMP Survey and Bank calculations.

- (a) Each dot represents 5% of responses to the DMP over the past 18 months, split according to the estimated impact of Covid on sales growth. Firms that have responded to both questions in more than one quarter will be in the sample multiple times.
- (b) Realised price growth data are based on the question: 'Looking back, from 12 months ago to now, what was the approximate % change in the average price you charge, considering all products and services?'
- (c) Data are based on responses to the question: 'Relative to what would have otherwise happened, what is your best estimate for the impact of the spread of coronavirus (Covid-19) on the sales/employment/capital expenditure of your business?'

Chart 2.28: Household measures of inflation expectations have picked up, with short-term measures rising sharply

Household measures of inflation expectations^(a)



Sources: Citigroup, YouGov and Bank calculations.

- (a) The household surveys ask about expected changes in prices but do not reference a specific price index. Data are not seasonally adjusted. Latest data point is for October 2021.

Box C: Recent developments in medium-term measures of inflation expectations

How inflation is expected to evolve could affect the decisions of wage and price setters today. As part of its overall assessment of the inflation outlook, the MPC monitors various measures of inflation expectations, including surveys of households, companies and professional forecasters, and those derived from prices in financial markets. These are only proxies, but they provide an indication of how persistent people expect the recent rise in inflation to be.

This box reviews recent developments in medium-term inflation expectations. These should be relatively stable, as people expect the MPC to adjust monetary policy to achieve the 2% inflation target. Short-term inflation expectations – the rate at which people expect prices to rise over the next year or so – move up and down frequently as shocks hit the economy. Monetary policy makers cannot offset short-term fluctuations in inflation as it takes time for changes in interest rates to affect the economy. So it is not surprising that as CPI inflation and the near-term outlook for CPI inflation have picked up in recent months, driven by energy and goods prices, indicators of short-term inflation expectations have also risen (Section 2.4).

Medium-term measures of inflation expectations derived from household surveys picked up in Q3, but the level of expectations relative to historical averages varies...

The Bank/Kantar survey and the YouGov/Citigroup survey are indicators of where households expect inflation to be in five years' time and five to ten years' time respectively. Both picked up in Q3 (Table 1). One way to assess whether these indicators of expectations are consistent with well-anchored CPI inflation is to compare the series' current levels with their historical averages. The Bank/Kantar medium-term measure has a back-run to 2009. It is currently a little below its 2010–19 average (Table 1), a period over which CPI inflation was close to target on average. But recent results may have been affected by a change in survey method in mid-2020.⁽¹⁾ The YouGov/Citigroup survey measure, which began in November 2005, is above its 2010–19 average.

There are no long-running surveys of companies' medium-term inflation expectations. Companies' price expectations for the distribution sector two years ahead picked up in Q3 (Table 1). These data only began in 2014, and the latest reading is close to the series average.

...and the distribution of household inflation expectations has been fairly stable.

A range of economic research suggests that the distribution of inflation expectations within these surveys may contain information. Greater uncertainty about future inflation could signal that inflation expectations have become less well anchored by monetary policy, for example (Maule and Pugh (2013)). Recent empirical research suggests that changes in both the dispersion and skew of responses to household inflation expectations surveys have provided signals about future inflation in various countries (Reis (2021)). In the Bank/Kantar survey, while the average household inflation expectation picked up in Q3, the dispersion and skew of responses across the sample was broadly stable (Chart A).

Professional forecasters expect inflation to be close to target in the medium term.

The Bank of England and HM Treasury (HMT) both conduct surveys of professional forecasters' inflation expectations. In the Bank of England survey, the longest horizon is three years ahead, when forecasters expect CPI inflation to be close to 2% (see Annex). In the latest HMT survey, conducted in August, the average expectation at the four-year horizon was 2%.

Measures of medium-term inflation expectations derived from financial markets have been picking up until very recently, to above historical averages.

Measures of medium-term inflation expectations derived from financial markets, such as the five-year inflation swap rate five years ahead, had been rising steadily this year (Table 1). That has also occurred in the US and the euro area, although the UK measure is higher relative to its pre-Covid average (Chart 2.6), notwithstanding some volatile moves in both directions in the immediate lead-up to this publication.

Interpreting this indicator is not straightforward. Inflation markets are used for hedging large pension liabilities, which can cause shifts in inflation compensation over and above those driven by changes in inflation expectations and perceived inflation risks. In the UK, interpretation is complicated further by the planned alignment of RPI with CPIH in 2030. This may push levels of inflation compensation beyond 2030 down, as CPIH inflation tends to be lower than RPI inflation.⁽²⁾ But measures which reference maturities prior to this date, such as the three-year inflation swap rate, five years ahead, have evolved in a similar way this year (Table 1).

(1) See 'Bank of England/TNS Inflation Attitudes Survey – May 2020' for more details.

(2) For more details on RPI reform, see 'A consultation on the Reform to Retail Prices Index (RPI) methodology'.

Models that attempt to extract market expectations for UK CPI inflation from swap prices (Liu *et al* (2015)), and intelligence gathered from market contacts, suggest that higher inflation expectations may have played a role in the rise in swap prices over 2021, alongside other factors. Contacts have noted the possibility that supply-driven shocks to inflation, such as those observed globally this year, might become more acute and recurring. A risk to the inflation outlook is that medium-term inflation expectations evolve in a way that is not consistent with inflation returning to the 2% target (Section 1).

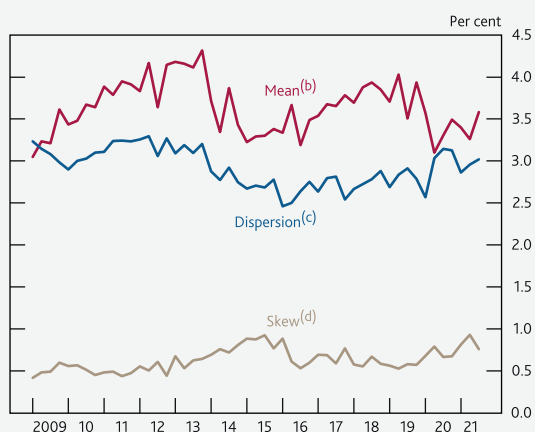
A measure that combines the evidence from various sources suggests that UK inflation expectations remain well anchored.

Making an overall assessment of medium-term inflation expectations using all these different indicators is difficult. One approach developed by Reis (2020), using US data, combines various indicators – expectations of professional forecasters, financial market measures, and information on the distribution of household inflation expectations – in a model to estimate underlying expected inflation. Applying this method using the equivalent UK data described above yields an estimate of underlying inflation expectations that has been stable recently. That suggests that inflation expectations remain well anchored.

Overall, the MPC judges that inflation expectations remain well anchored in the UK. But they will continue to monitor a range of indicators closely.

Chart A: Household inflation expectations picked up in Q3, but the dispersion and skew of responses were broadly stable

Households' five year ahead inflation expectations^(a)



Sources: Kantar and Bank calculations.

(a) The Bank/Kantar quarterly inflation attitudes survey asks about expected changes in prices in five years' time, but does not reference a specific price index. Latest survey is available from Bank of England/Kantar Inflation Attitudes Survey – August 2021.

(b) Average across respondents.

(c) The standard deviation measures how dispersed responses are around the mean.

(d) Pearson's moment coefficient of skewness. This measure indicates the direction and relative magnitude of a distribution's deviation from the normal distribution.

Table 1: A range of measures of inflation expectations have risen recently

Measures of inflation expectations^(a)

| Per cent | 2000– | 2010– | 2020 | 2021 | | | |
|--|-------------------|-------|------|------|-----|-----|------|
| | 07 ^(b) | 19 | | Q1 | Q2 | Q3 | Oct. |
| One year ahead inflation expectations | | | | | | | |
| Households^(c) | | | | | | | |
| Bank/Kantar | 2.4 | 3.0 | 2.9 | 2.7 | 2.4 | 2.7 | n.a. |
| YouGov/Citigroup | 2.5 | 2.5 | 3.1 | 3.0 | 2.8 | 3.4 | 4.4 |
| Companies^(d) | | | | | | | |
| | n.a. | 1.7 | 1.1 | 0.5 | 1.1 | 1.5 | n.a. |
| Financial markets^(e) | | | | | | | |
| | 2.6 | 3.0 | 3.0 | 3.2 | 3.4 | 4.4 | 6.1 |
| Two to three year ahead expectations | | | | | | | |
| Households^(c) | | | | | | | |
| Bank/Kantar | n.a. | 2.8 | 2.3 | 2.2 | 1.9 | 2.2 | n.a. |
| Companies^(d) | | | | | | | |
| | n.a. | n.a. | 1.4 | 0.6 | 0.9 | 1.3 | n.a. |
| External forecasters^(f) | | | | | | | |
| | 2.0 | 2.1 | 1.9 | 1.9 | 2.0 | 2.2 | 1.9 |
| Financial markets^(g) | | | | | | | |
| | 2.8 | 3.1 | 3.5 | 3.5 | 3.7 | 3.8 | 4.1 |
| Five to ten year ahead expectations | | | | | | | |
| Households^(c) | | | | | | | |
| Bank/Kantar | n.a. | 3.3 | 2.9 | 2.9 | 2.7 | 3.0 | n.a. |
| YouGov/Citigroup | 3.5 | 3.2 | 3.2 | 3.3 | 3.4 | 3.6 | 3.7 |
| Financial markets^(g) | | | | | | | |
| Five-year, three year | 3.0 | 3.4 | 3.6 | 3.7 | 3.8 | 3.9 | 4.0 |
| Five-year, five year | 3.1 | 3.4 | 3.6 | 3.6 | 3.7 | 3.8 | 3.9 |
| Memo: CPI inflation | | | | | | | |
| | 1.6 | 2.2 | 0.9 | 0.6 | 2.1 | 2.8 | n.a. |

Sources: Bank of England, Bloomberg Finance L.P., CBI, Citigroup, Kantar, ONS, YouGov and Bank calculations.

(a) Data are not seasonally adjusted.

(b) Averages from 2000, or start of series, to 2007. Financial market data start in October 2004, YouGov/Citigroup data start in November 2005 and external forecasters' data start in 2006 Q2.

(c) The household surveys ask about expected changes in prices but do not reference a specific price index. Summarised as a weighted median.

(d) CBI data for the distributive trades sector. Companies are asked about the expected percentage price change over the coming 12 months and the following 12 months in the markets in which they compete.

(e) Instantaneous RPI inflation one year ahead, derived from swaps, between October 2004 and 2021 Q2. One year spot RPI inflation, derived from swaps, for 2021 Q3 and October.

(f) Bank's survey of external forecasters, CPI inflation rate three years ahead. October figure refers to expectations for three year ahead inflation in the 2021 Q4 survey.

(g) Instantaneous RPI inflation three years ahead, three-year RPI inflation, five years ahead and five-year RPI inflation, five years ahead, derived from swaps. UK RPI is due to be aligned with CPIH from February 2030, which will affect the pricing of the measure of five-year RPI inflation, five years ahead.

Box D: How has *Blue Book 2021* changed past estimates of UK GDP growth?

Blue Book 2021 includes some major changes to the way GDP is measured in the UK.

The *Blue Book* is an annual ONS publication in which National Accounts data are revised to reflect a wider range of information than is used to produce earlier estimates, and also to reflect any methodological improvements. This year’s *Blue Book* includes some significant changes to the way GDP is measured. However, the revisions to overall GDP are much smaller than the revisions to output in specific industries because many of the changes have impacts that offset across industries.

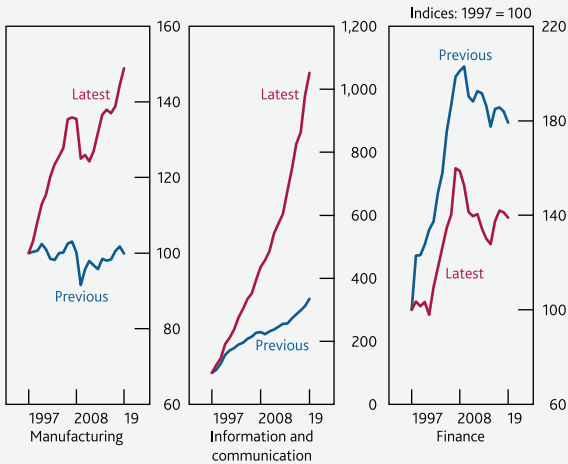
Double deflation of gross value added (GVA) has been introduced, meaning the contribution of each industry to real GDP is based on separately deflated inputs and outputs for the first time. Previously, GVA was deflated using output prices alone, meaning input prices were implicitly assumed to have changed in the same way as output prices. Real GDP has also been produced within an annual Supply Use Table (SUT) framework for the first time in this *Blue Book*. This means the volume of products supplied by producers over the year is reconciled with the volume used by other businesses and consumers. Previously, only nominal GDP was produced within a SUT framework. These changes mark a step change in the quality of the UK’s GDP data, and meet one of the major recommendations of the 2016 *Bean Review of UK Economic Statistics*.

The contribution of the manufacturing sector to GDP growth has been revised up significantly.

Double deflation and SUT reconciliation have changed past estimates of manufacturing sector output significantly over the past two decades. Previously, the sector’s real output was thought to have been broadly flat since 1997. In the new data, real output has grown by almost 50% since then (**Chart A**). The sector now accounts for around 10% of real GDP growth between 1997 and 2019 (**Chart B**).

Chart A: Growth in the information and communication and manufacturing sectors has been revised up significantly...

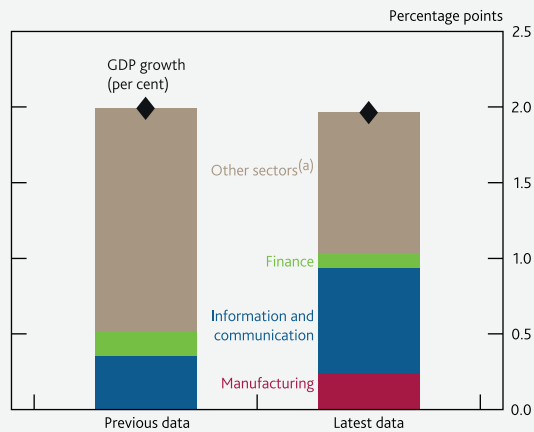
Real GVA in selected industries



Sources: ONS and Bank calculations.

Chart B: ...meaning information and communication and manufacturing were more important for GDP growth than previously thought

Contributions to average annual GDP growth between 1997 and 2019



Sources: ONS and Bank calculations.

(a) Calculated as a residual.

A change to the way telecoms services are measured has increased growth in that sector.

There has also been a significant change to the way telecommunications services are measured in this *Blue Book*. A new price index addresses, among other things, the underrepresentation of internet services in the previous index. As a result, the price of telecoms services is now estimated to have fallen much more steeply than before. This implies the real output of the telecoms sector has been growing faster than previously thought, but other sectors that use telecoms services have grown by less. The changes to the telecoms sector’s growth rates are large: previously, real output was thought to have quadrupled between 1997 and 2019; now it is estimated to have increased by around 175 times. This has increased the growth rate of the wider information and communication sector (**Chart A**). The information and communication sector now accounts for a third of total real GDP growth since 1997, up from a sixth before (**Chart B**).

A new survey has improved estimates of output in the financial services sector.

Another change is the introduction of the Financial Services Survey, a new data source. Along with the method changes set out above, this has changed the path of real output in the financial services sector. Growth is now lower, on average, in the years prior to the financial crisis, but higher in the last few years (Chart A).

The 'productivity puzzle' is now more concentrated in manufacturing.

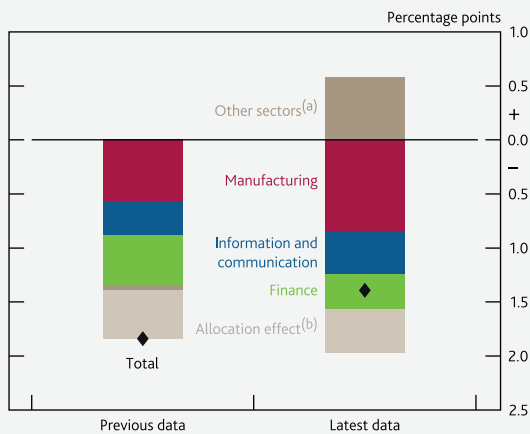
The new pattern of industry output changes our understanding of the slowdown in productivity growth after the 2007/08 financial crisis – often referred to as the 'productivity puzzle'. Manufacturing now accounts for much more of the slowdown than before (Chart C). Although the sector's productivity growth has been revised up in most years since 1997, the revisions are much larger before the financial crisis, meaning the post-crisis slowdown is more dramatic. The finance sector accounts for less of the puzzle in the new data. The size and sectoral composition of the UK's slowdown is now very similar to the US. The concentration of the puzzle in manufacturing in both the UK and the US suggests global factors, such as a slower rate of supply chain globalisation after the financial crisis, may be more important explanations for the puzzle than UK-specific developments.

Many of the revisions to industry output are offsetting, although overall GDP growth has been revised up since 2014.

The revisions to overall GDP and productivity growth are much smaller than the revisions to specific industries because many of the methodological changes have impacts that offset across industries. Average annual growth of real GDP in the decade before the financial crisis has been revised down by 0.2 percentage points, to 2.7%. But it has been revised up between 2010 and 2019 by 0.2 percentage points, to 2.0%, with upward revisions largest from 2016 (Chart D). This means the slowdown in growth after the financial crisis – and the shortfall in the level of productivity from its previous trend – are a little smaller than previously estimated. The revised productivity figures were one input into the MPC's recent assessment of the economy's potential supply capacity (Section 3).

Chart C: The manufacturing sector now accounts for more of the post-financial crisis slowdown in productivity growth

Contributions to the change in average annual productivity growth between 1997–2007 and 2010–19

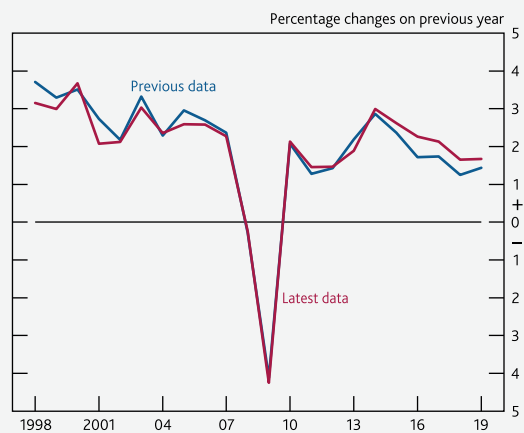


Sources: ONS and Bank calculations.

(a) Calculated as a residual.
 (b) The effect of changes in the relative size of sectors on aggregate productivity.

Chart D: GDP growth is now estimated to have been somewhat higher since 2014

Real GDP



Box E: Agents' update on business conditions

The key information from Agents' contacts considered by the Monetary Policy Committee at its November meeting is highlighted in this box, which summarises information gathered in the six weeks to mid-October.

Annual growth in retail sales eased, as longer lead times affected the availability of some items; spending on consumer services continued to recover.

Contacts reported that sales of durable consumer goods remained elevated overall, though sales growth appeared to have slowed on an annual basis. Some contacts reported losing sales as a result of extended delivery times related to shortages of some materials and products, in particular those selling electronic goods and furniture. Car dealerships also reported losing sales due to lead times of 6–9 months for new cars. There were some reports of consumers bringing forward Christmas shopping in case shortages persist.

Spending on hospitality and leisure improved, but remained well below pre-pandemic levels in some parts of those sectors, such as air travel, public transport, and live entertainment. And some contacts reported continuing consumer caution. Domestic tourism continued to support demand in some parts of the UK. There were continued reports of staff shortages, however, particularly in the hospitality sector, which led to some businesses, such as restaurants, restricting opening hours or offering takeaway food only.

Fuel shortages in recent weeks were reported to have reduced footfall at out-of-town shopping centres and attractions. And a few contacts thought that rising energy costs, the reversal of the temporary uplift in Universal Credit benefit and the end of the Government's job retention scheme could weigh on demand in the coming months, particularly among those on lower incomes. Voluntary organisations have recently reported significant increases in demand for advice on claiming state benefits and on managing indebtedness. They expressed concern about employment prospects for young people as a result of the pandemic, and about adverse effects on incomes – particularly among the unemployed or low-income groups – once government support measures are removed.

Activity continued to improve in business services, but shortages of materials and labour weighed on manufacturing and construction output.

Professional services companies continued to report robust demand, for example for recruitment services and corporate finance. Demand for IT services remained strong and spending on business hospitality and travel increased slightly, albeit from a low base. A wide range of businesses had experienced shortages of materials or labour and as a result had been obliged to turn work away. These included domestic logistics companies, suppliers of construction materials, recruitment consultants and commercial vehicle dealerships.

Manufacturing activity slowed even though demand was firm, as shortages of materials and labour held back output. Contacts reported shortages of a range of raw materials, components and finished goods, with the situation exacerbated by ongoing shipping container issues and intermittent closures at some Chinese ports. Lead times for some goods from Asia were reported to have increased significantly, leading to production stoppages in some sectors, such as car manufacturing. Companies supplying consumer services firms were concerned they would not be able to fulfil Christmas orders.

Contacts said there was uncertainty over when supply bottlenecks would be resolved: global shipping patterns were not expected to improve until towards the end of 2022 Q1, and some companies expected supply issues for certain products to persist until at least late 2022.

In construction, output fell slightly as shortages of materials and labour, as well as rising costs, led to delays to projects already under way and in contracts being awarded. Public infrastructure projects and demand among private households for repair and maintenance continued to support activity. House builders reported strong demand, but said activity was constrained by shortages and planning delays. By contrast, private commercial development activity was mixed, with strong demand for industrial premises offset by very weak new developments of ports and airports, although energy and water projects were reported to be picking up.

Housing market activity cooled slightly following the end of the transaction tax holiday. The supply of properties for sale remained limited. Demand for rental property remained strong in most parts of the UK.

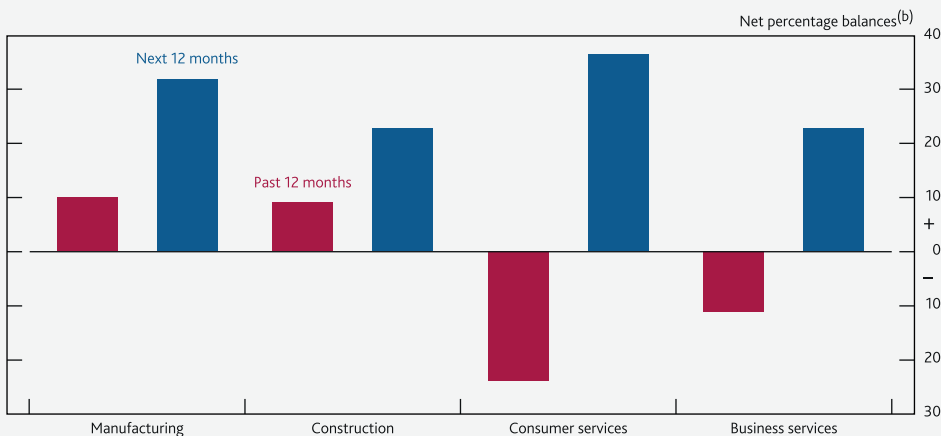
Investor appetite for some types of commercial property was reported to have strengthened in recent weeks, with demand for industrial premises and warehousing continuing to be very high. Investor demand for office premises remained below pre-Covid levels and was mainly focused on prime locations. Tenant demand for office space was varied but there were few reports of offices closing down, as companies offered flexible office-working arrangements. Investor demand for retail premises remained subdued and tenant demand was also generally weak.

Investment intentions continued to strengthen as companies planned to reinstate projects paused during the pandemic and increase capacity to meet demand; demand for bank credit was subdued.

There was a widespread pickup in investment intentions, with contacts reporting the reinstatement of projects that had been paused during the pandemic, as well as starting new projects (Section 3.3).

A survey conducted by the Agents showed a strong turnaround in investment plans over the next year, particularly among consumer services firms (Chart A).

Chart A: Consumer services firms reported the biggest improvement in investment plans compared with the past 12 months
Past capital expenditure and future plans^(a)



(a) Companies were asked: 'How has your UK capital expenditure changed over the past 12 months, and what are your expectations for future capital expenditure during the next 12 months?'. Answer options were i) far less (over 50% decrease); ii) less (10%–50% decrease); iii) around the same (within +/-10%); iv) more (10%–50% increase); and v) far more (over 50% increase).

(b) Net percentage balance of companies reporting increases in investment. Half weight was given to those that responded 'less' or 'more', and full weight was given to those that responded 'far less' or 'far more'.

A desire to increase efficiency and productivity, and to improve digital capability, were among the factors most frequently cited as boosting companies' investment plans. The majority of companies said they would finance investment from existing cash buffers.

In conversations with the Agents, companies also reported some cases of investment being held back by shortages of equipment and skilled labour. And contacts in sectors that had been most affected by the pandemic, such as retail, hospitality and transport, were generally more cautious about investment.

Demand for new bank credit was subdued among small and large companies. Large companies said they were able to raise funds from financial markets, whereas small firms generally reported that they had high cash balances and a limited appetite to take on more debt. However, rising input costs led to increased demand for working capital finance among some smaller companies. Demand for asset finance was also strong, in particular for commercial vehicles and machinery for agriculture and construction.

Bank credit was readily available in stable and strongly performing sectors and had improved somewhat for companies in sectors that had been worst affected by the pandemic. But there were a few reports of tighter supply of trade credit insurance, particularly in the construction sector.

Employment intentions and recruitment difficulties continued to increase; pay settlements remained moderate overall, although pay awards for staff with skills in short supply rose more sharply.

Companies across a wide range of sectors reported an increase in hiring intentions. At the same time, staff turnover had picked up and recruitment difficulties had become more broad based, with companies reporting acute shortages in a range of occupations, notably driving, hospitality, technical roles, professional services, IT, construction, warehouse staff and care work. Contacts attributed tightening labour supply to a variety of factors, including a lower availability of migrant workers from the European Union, lower participation by UK workers – in particular among older people – as well as people wanting to work fewer hours than they did pre-pandemic (Section 3). And some contacts reported workers switching to jobs that offered better working conditions, more flexibility or greater security.

Contacts said it was too early to judge the extent to which the end of the Government's job retention scheme would help to alleviate labour shortages, but there had not been reports of widespread redundancies, and some larger companies were likely to keep on staff.

Pay settlements had increased as the labour market tightened, although they remained moderate overall, with settlements currently mostly between 2% and 3.5%. However, there were growing reports of targeted pay awards in excess of 5%, to compensate workers for pay freezes during the pandemic, or to retain staff with skills in particularly high demand.

There were tentative signs of raw materials costs stabilising, albeit at high levels; increased costs were being passed through to output and retail prices to a greater extent than previously.

Contacts reported signs of stabilisation in some raw materials costs, albeit at very high levels. Very large businesses or those with long contracts have generally been less affected by rising costs. However, shipping and transport costs continued to be very high and were expected to remain elevated for some time.

There were growing reports of companies passing through their increased costs to output prices, in particular in manufacturing and construction. But contacts said that pass-through was likely to take some time, for example where long-term contracts had prevented companies from passing through costs in full. Price inflation in businesses services was reported to have increased further to be slightly above average, reflecting pay increases, and higher transport, logistics and product costs being passed through by distributors and wholesalers. High demand for professional services was reported to have driven up fees in the sector.

Increased costs were also being passed through to consumer prices to a greater extent than previously. Supermarkets reported raising food prices in response to suppliers' price increases. And non-food retailers said they were discounting less, in particular on products in high demand, such as furniture and other household goods. Consumer services prices were modestly higher overall, reflecting price increases in some sectors, such as tourism and hospitality. Prices in other sectors were generally stable.

3: In focus – Potential supply

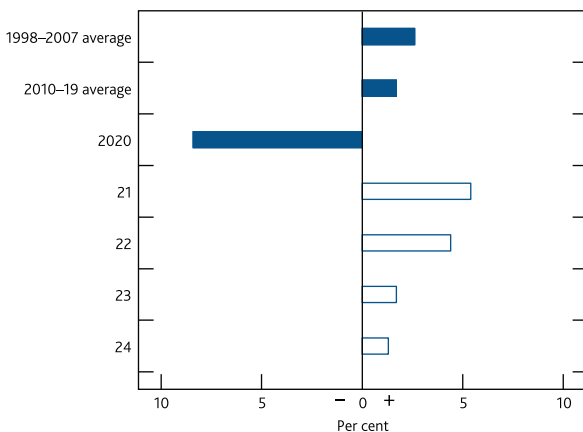
Covid has caused sharp movements in potential supply. Given the scale and unusual nature of the effects of Covid, there are large uncertainties around estimating how potential supply has evolved, and will evolve over the forecast period. The MPC judges that potential supply growth will return in the medium term to 1½% per year, a similar rate to that in the decade before Covid. Demographic trends are expected to weigh on labour supply growth relative to the pre-Covid period. Potential productivity is projected to grow by around 1% per year in the medium term, supported by increased innovation and investment in digital technologies. The effects of Covid, for example foregone investment, alongside demographic factors are likely to weigh on the level of potential supply relative to the MPC’s projections before the pandemic.

This *In focus* sets out the MPC’s recent assessment of the UK’s potential supply capacity. Potential supply depends on the amount of labour and capital available in the economy, as well as the efficiency with which businesses can combine them. It is an important issue for monetary policy as it determines the level of output an economy can sustain without generating excess inflationary pressure. As it cannot be observed directly, estimates are inherently uncertain. Covid has increased this uncertainty, given the scale and unusual nature of its impact on the economy. It has made it more difficult to estimate potential supply using usual methods such as statistical filters. And it is uncertain how persistent the effects of Covid on potential supply will be.

In the decade prior to the pandemic, potential supply growth is estimated to have slowed to an average annual rate of around 1¾%. This was much weaker than the 2¾% average rate prevailing in the decade before the financial crisis (Chart 3.1). That slowdown reflected a decline in labour productivity growth (Section 3.1). Covid then caused a sharp contraction in supply in 2020 as businesses paused trading and workers were furloughed. As businesses have reopened and the furlough scheme has wound down, supply has recovered somewhat (Section 3.2). Potential supply is expected to continue to recover over the forecast period and grow at around 1½% over the second half of the forecast – similar to its pace over 2010–19, even if the drivers of this growth have changed somewhat (Section 3.3). Relative to the MPC’s projections before the pandemic, the level of potential supply is expected to be around 2% lower at the end of the forecast period. That is judged, in part, to reflect longer-term effects resulting from Covid, such as a drag to productivity from foregone investment and learning on the job, as well as slower population growth and some demographic factors (Section 3.4).

Chart 3.1: The pandemic caused a sharp contraction in supply

Estimated potential supply growth^(a)



(a) Annual average growth rates. Hollow bars for 2021–24 show projections consistent with the MPC’s forecast.

Table 3.A: Annual potential supply growth is expected to be around 1½% over the second half of the forecast

Decomposition of estimated potential supply growth^(a)

| | Annual averages | | | | | |
|---|-----------------|---------|---------|------|---------|---------|
| | 1998–2007 | 2010–14 | 2015–19 | 2020 | 2021–22 | 2023–24 |
| Potential supply growth (per cent) | 2.6 | 1.4 | 1.9 | -8.4 | 4.9 | 1.5 |
| <i>of which, potential labour supply growth</i> | 0.7 | 1.2 | 1.0 | -9.2 | 4.9 | 0.4 |
| <i>of which, potential productivity growth</i> | 1.9 | 0.2 | 0.9 | 0.9 | 0.0 | 1.1 |

Sources: ONS and Bank calculations.

(a) Percentage point contributions to annual average growth rate unless otherwise stated. Contributions may not sum to the total due to rounding. Data for 2021 onwards are projections consistent with the MPC’s forecast.

3.1: How was potential supply evolving in the pre-Covid period?

Potential supply growth slowed after the financial crisis, driven by weaker productivity growth.

Estimates of potential supply aim to capture structural changes in labour supply and productivity. They aim to strip out changes in actual labour supply or productivity driven by cyclical factors, which do not contribute to the economy’s potential supply capacity. The underlying trend growth rates in labour supply and productivity are referred to here as ‘potential labour supply’ growth and ‘potential productivity’ growth.

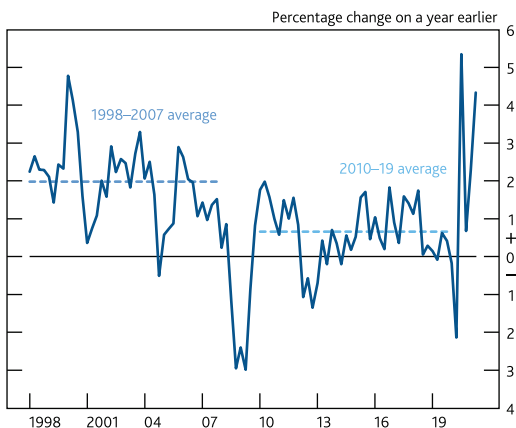
Potential supply growth is estimated to have slowed markedly after the financial crisis (Chart 3.1). Productivity growth slowed (Chart 3.2) and much of that was judged to reflect structural factors which therefore weighed on estimated potential productivity growth (Table 3.A). In contrast, potential labour supply growth picked up somewhat. This primarily reflected the end of the pre-crisis trend towards shorter average working hours, alongside continued strength in other components of labour supply, particularly population growth.

The causes of the slowdown in productivity growth, also observed in other advanced economies, are not well understood and so it has been referred to as the ‘productivity puzzle’. Slower growth in both capital deepening – the amount of capital available per worker – and ‘total factor productivity’ – the efficiency with which capital and labour are combined to produce output – are estimated to have contributed to the productivity slowdown.

UK productivity data have been recently revised by the ONS, resulting in a slightly smaller post-financial crisis slowdown than previously estimated (Box D). And the manufacturing sector accounts for a larger share of the slowdown, bringing the UK experience more in line with other countries, such as the US. That suggests less of a role for UK-specific factors, and a greater role for global factors, in the productivity slowdown than previously thought.

Chart 3.2: Productivity growth slowed materially after the financial crisis

Output per hour^(a)

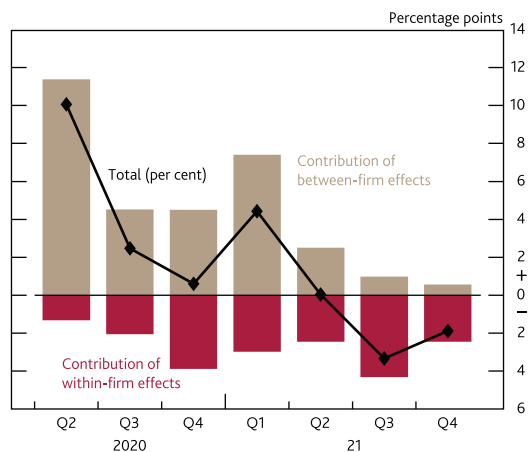


Sources: ONS and Bank calculations.

(a) Final data point is 2021 Q2.

Chart 3.3: Covid initially boosted productivity as the share of output produced by higher productivity firms rose

Estimated impact of Covid on the total level of output per hour, within each firm and changes in share of output between firms^(a)



Sources: Decision Maker Panel (DMP) Survey and Bank calculations.

(a) See Bloom et al (2021) for details on the calculation of between-firm and within-firm effects.

3.2: How has Covid affected supply so far?

Covid has caused sharp, temporary movements in supply which have been uneven across sectors.

During 2020 Q2, when the impact of restrictions to control the spread of Covid was greatest, a peak of just under 9 million jobs were furloughed in the UK and over 30% of firms reported that they had paused trading. Some firms which stayed open needed to operate at reduced capacity. All those factors reduced the economy’s capacity to supply goods and services. The impact was uneven across sectors as contact-intensive firms were most affected by the restrictions. In addition to the direct effect of Covid restrictions, firms may have adjusted supply in response to the large shifts in demand during the pandemic. Given the scale and unusual nature of the effects of Covid, it is difficult to distinguish between these demand and supply effects.

Supply capacity has recovered as firms have reopened. Some differences remain across sectors, though. Output in some sectors particularly affected by Covid remains below pre-pandemic levels. While some of that shortfall might reflect the impact of demand, some sectors are likely to still face constraints on supply. For example, some may be maintaining social distancing measures as they restart operations. Some are also currently being affected by difficulties in recruiting staff and some firms have been faced with shortages and longer waiting times for input materials. Those issues have weighed on supply and may continue to affect supply for some time (Section 2.2).

Some of the changes in the labour market are unwinding but labour market participation remains significantly lower.

The adjustment to Covid restrictions and the changing pattern of demand led to large changes in the labour market. Significant numbers of employees were furloughed, keeping them attached to their jobs but, as most were not actively seeking other work, the supply of labour to produce output was reduced. While the furlough scheme prevented widespread job losses, the unemployment rate still rose to a peak of 5.2% in 2020 Q4, from 4% in the three months to February 2020. As the economy has recovered, hiring has risen and the unemployment rate has fallen back to 4.5%. The number of employees on furlough also declined ahead of the scheme ending on 30 September 2021. Early indicators suggest that the majority of furloughed workers are likely to return to their former jobs or fill a vacancy within their industry (Section 2.3).

The proportion of the population participating in the labour market decreased markedly during the pandemic, as some people leaving employment were not actively seeking another job. Unlike for unemployment, this change has only unwound a little, with the participation rate still around 1 percentage point lower in the three months to August than before the pandemic.

How population growth has evolved during the pandemic is uncertain, but it seems likely to have slowed.

How migration and population growth have evolved during Covid is very uncertain as the main source for migration data – the International Passenger Survey – was suspended for a period. The weights⁽¹⁾ in the Labour Force Survey (LFS) provide an initial guide to how the population has evolved during Covid. These suggest that population growth has been lower during the pandemic than estimated in the ONS's previous population projections. In particular, the proportion of people born outside the UK, especially in the EU, appears to have fallen since 2020 Q1.

Productivity was boosted by compositional effects but these have faded.

The average productivity of people in work – measured as the output produced per hour worked – increased sharply during the pandemic (Chart 3.2). Data from the DMP Survey suggest that Covid did initially boost the level of productivity but that was driven entirely by the changing mix of output between firms (Chart 3.3). Output fell most in labour-intensive sectors such as food and accommodation and other consumer-facing services, which tend to have lower productivity. As their output fell, this boosted average productivity. In contrast, Covid has, on average, reduced productivity within individual firms. This may be because firms have faced lower demand, have needed to spend money on equipment to make their business Covid-secure, or because they faced disruption when transitioning staff to working from home.

As output has recovered, and the balance of output has returned closer to that prevailing before Covid, the boost to productivity from the mix of output between firms has faded, but the within-firm drag has remained. Firms responding to the DMP Survey expect this drag to shrink towards the end of the year as output recovers further, firms and workers become more used to changes in working practices, and some Covid measures can be removed.

3.3: How is potential supply likely to evolve?

Alongside other factors such as demographics, Covid is expected to have some longer-lasting effects on the economy's potential supply capacity.

Potential supply growth is typically considered to be slow-moving as many of the structural determinants of supply evolve gradually over time. But some of the effects of Covid on supply described in Section 3.2, such as firms pausing trading and furloughing staff, represent fast-moving temporary reductions in the economy's potential supply capacity (Section 3 of the [May Report](#)). As the economy continues to recover, most of these effects are expected to unwind and

(1) These weights are based on evidence on the shares of non-UK born workers from HMRC data and provisional estimates of births and deaths for the UK-born population. See 'Impact of reweighting on Labour Force Survey key indicators, UK: 2020' for more details.

so potential supply growth is expected to be strong in 2022 (Chart 3.1). As well as these temporary effects, Covid could also have lasting effects on potential labour supply or potential productivity, and hence the level and growth rate of the economy’s potential supply capacity in the medium term. This section assesses these effects, alongside the impact of other factors, such as demographics.

Productivity

Potential productivity is expected to grow by around 1% a year by the end of the forecast period.

In the near term, potential productivity growth is likely to be determined by the unwinding of the large, temporary effects of Covid, including the fading of the boost from compositional effects (Section 3.2). Potential productivity growth is projected to settle at around 1% by the end of the forecast period. Some of the effects of Covid, for example lower investment during the pandemic, are likely to weigh on the level of productivity over the forecast.

The fall in investment during Covid is expected to weigh on the level of potential productivity...

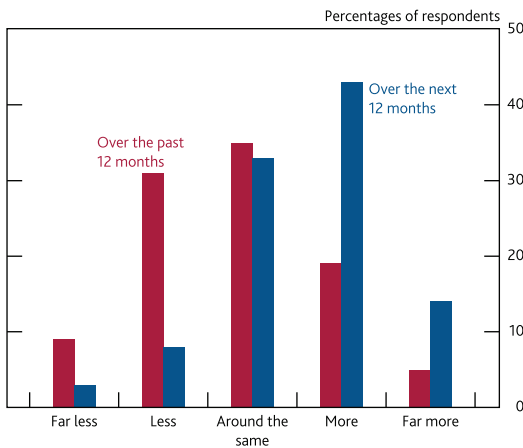
Investment weakened considerably during the pandemic and remained almost 13% below its pre-Covid level in 2021 Q2 (Section 2.2). This has slowed the growth of the capital used in the economy, which will drag on the level of potential productivity. In addition, workers that were made unemployed or were furloughed during the pandemic will not have gained the skills that they usually would have done while working, and that is expected to weigh on productivity somewhat as they return to work.

...but investment is expected to pick up strongly...

Firms’ plans for the coming year signal a marked turnaround in investment, with more than half of respondents to an Agents’ survey expecting to spend more or far more on investment over the coming year than in the previous year (Chart 3.4). Evidence from the DMP and other surveys suggests that investment growth will be stronger than seen before Covid. This should support potential productivity growth. Investment growth is expected to be somewhat weaker than expected in August, however, reflecting weaker data outturns, higher energy prices and the increase in the market path for interest rates.

Chart 3.4: Survey evidence signals a turnaround in investment over the next 12 months

Changes in capital expenditure and future plans reported in the Bank’s Agents’ survey^(a)

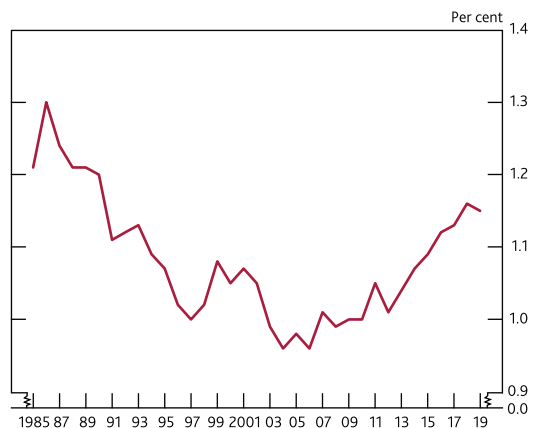


Sources: Bank of England and Bank calculations.

(a) Question: ‘How has your UK capital expenditure changed over the past 12 months, and what are your expectations for future capital expenditure?’. Options were: over 50% decrease/increase (far less/more); 10%–50% decrease/increase (less/more); or within 10% decrease or increase (around the same).

Chart 3.5: Higher research and development spending in recent years should support productivity

Research and development expenditure by UK businesses as a share of nominal GDP



Sources: ONS and Bank calculations.

...and higher past and planned investment in innovation and digital technologies should support potential productivity growth.

Firms have already and are continuing to invest in ways which are more likely to enhance potential productivity. Past research and development is one indicator of future total factor productivity growth and this was buoyant in the years before Covid, rising as a share of GDP to levels not seen since the early 1990s (Chart 3.5). Survey evidence suggests Covid has spurred firms to increase innovation, especially by investing in digital technologies. Around a third of firms reported that they had adopted digital technologies during the pandemic in the ONS’s *Business Insights and Conditions*

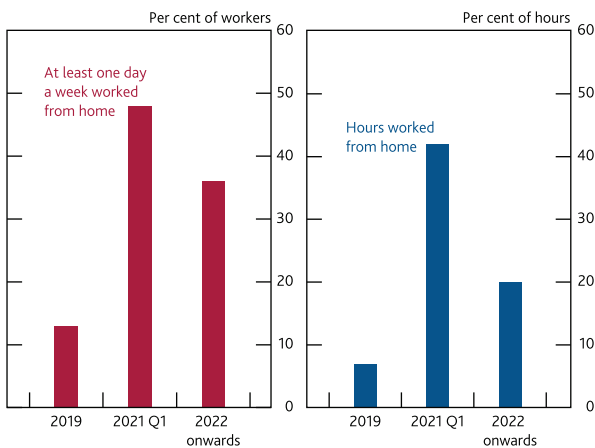
Survey. Half of these firms expect to continue to innovate more over the next year compared to before Covid, with many judging that it will increase their business’ productivity. Contacts of the Bank’s Agents also suggested that the pandemic has caused a step change in the pre-existing trend of businesses equipping themselves for the digital economy.

There may be a boost to the level of potential productivity as some choose to work from home more often...

During the pandemic many people needed to work from home more often than they did previously. Although the scale of working from home going forward is likely to be lower than when restrictions were in place, the DMP Survey suggests that firms expect the proportion of employees working from home to be almost three times larger from 2022 onwards than in 2019 (Chart 3.6). Surveys of workers also suggest working from home will be more prevalent in the future.

Chart 3.6: Firms expect people to work from home more often in the future

Past prevalence of working from home and firms’ expectations for 2022 onwards^(a)

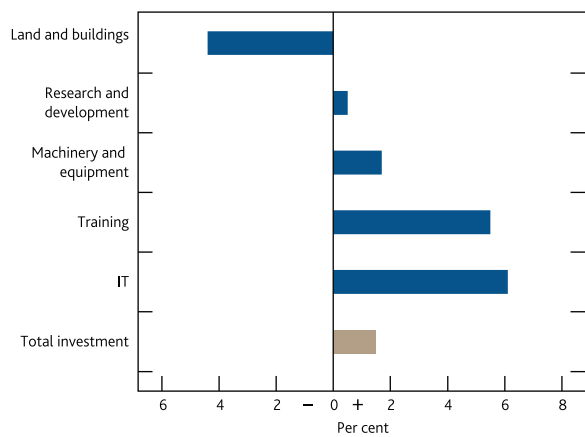


Sources: DMP Survey and Bank calculations.

(a) Question: ‘How often did your full-time employees work from home/how often do you expect them to work from home in the following periods: (a) 2019; (b) 2021 Q1; (c) 2022+?’ Responses were collected February–April 2021.

Chart 3.7: Firms intend to pivot investment away from land and buildings towards training and IT

Firms’ expectations for the impact of Covid on investment from 2022 onwards^(a)



Sources: DMP Survey and Bank calculations.

(a) Question: ‘In 2022+, how do you expect the Covid-19 pandemic to affect the following types of expenditure made by your business, relative to what would have otherwise happened?’ Responses were collected July–September 2021.

Previous studies suggest that working from home can boost productivity in specific settings, but that it is unlikely to be appropriate for all workers and all tasks (see Section 3 of the *November 2020 Report*). For example, a quieter and more convenient working environment may boost the productivity of some workers (*Bloom et al (2015)*). Set against this, more complex or urgent tasks, that may require more collaboration, can be harder from home (*Battiston et al (2017)*). Many of those working from home during the pandemic reported lower productivity in surveys, although this might have also reflected issues specific to the pandemic such as caring responsibilities and initial adaptation to new working practices.

When workers and firms can choose their working from home arrangements, the benefits of working from home on productivity might be expected to dominate. According to the Understanding Society Survey, workers that wish to work more from home after Covid had experienced greater productivity gains when working from home during the pandemic than those workers not planning to work more from home. Contacts of the Bank’s Agents also expected that greater working from home relative to pre-Covid would marginally boost productivity. Bank staff analysis, based on the Understanding Society and DMP surveys, found that working from home could boost potential productivity by around 0.5% to 0.7%. These estimates are likely to represent an upper bound impact, however. For example, workers may not internalise the impact of working from home on team cohesion or collaboration.

...particularly if more use of domestic property as business capital allows firms to boost investment elsewhere.

Greater working from home may have also unlocked domestic property as a form of business capital. As a result, firms may be able to reduce office space while maintaining output levels. Data from the DMP Survey suggest that firms are planning to use the savings from reduced investment in land and buildings for higher investment in training and IT (Chart 3.7). This would boost productivity through higher levels of business capital. But some of this benefit may not

be realised if equipment needs to be duplicated across office and home-working space or if firms find it difficult to downsize office space. It may also shift some of the burden of maintaining business capital onto workers.

The evidence on the overall effects of increased working from home are still limited at this stage. But the MPC's projection for potential productivity incorporates a small boost from greater voluntary working from home. This offsets some, but not all, of the impact of lower investment and learning on the job during the pandemic on the level of potential productivity.

As well as the impact of Covid, potential productivity is being affected by the change in trading arrangements between the UK and the EU.

The move to a new trading relationship with the EU is expected to weigh on potential productivity over the forecast period. Barriers to trade between the UK and EU have increased, and that is likely to mean trade between the UK and EU will be lower than it would otherwise have been. Around the time that the UK left the EU, these effects were expected to leave the level of productivity 3¼% lower in the long run, given productivity's well-established relationship with openness (see Box 1 of the [November 2019 Report](#)). Tracking the impact of EU withdrawal since then has been difficult, given the large impact that Covid has also had on the economy. Nevertheless, these estimates would imply that a sizable proportion of this effect would be weighing on productivity by the end of the forecast period. As set out in previous *Reports*, uncertainty around the future trading relationship and Brexit preparations may have already been weighing on business investment and productivity since 2016.

Labour supply

Labour supply growth is expected to slow relative to its pre-Covid trend.

Trend growth in labour supply is expected to slow to around 0.4% a year by the second half of the forecast period ([Table 3.A](#)). As in the MPC's previous assessment of supply capacity, a significant driver of lower potential labour supply growth in the medium term, relative to the decade before the pandemic, is long-running demographic trends. This slowing is likely to be spread across the components of labour supply growth: slower population growth; lower participation of that population in the labour force; and a slight decline in the hours that people in employment tend to work. The medium-term equilibrium unemployment rate is currently elevated due to temporary effects and these are expected to fade over the forecast. But it is broadly flat over the second half of the forecast, whereas it is estimated to have declined in the decade before Covid.

The level of potential labour supply is judged to be lower by the end of the forecast than projected before the pandemic. Much of that comes from population growth appearing slower since 2020. In addition, the latest assessment of labour supply takes less of a steer from LFS data since the pandemic started about the medium-term demographic composition of the population. For example, moving away from the LFS data implies a composition that participates less in the labour market on average, implying a slightly lower path for potential participation.

Participation is expected to trend downwards due to demographic changes, and Covid may accelerate this.

Participation in the labour force is expected to recover from the sharp drop during Covid over the coming quarters, but, in the medium term, it is projected to trend downwards due to the ageing of the UK population. The share of those aged over 65 is forecast to continue to rise in coming years, and that is likely to drag on potential labour supply, as older people are less likely to participate in the labour market. The participation rate of those aged 65 and over is just over 10%, compared to almost 80% for those aged 16–64. Over the past, the participation rate of older workers had been rising, and that had been more than enough to offset the impact of the growing share of older workers on the overall participation rate ([Chart 3.8](#)). But the demographic drag on participation increased towards the end of 2019, and, over the forecast, the impact of the ageing population is expected to dominate.

There are risks around the profile for participation, in part due to developments during the pandemic. Since 2019 Q4, the participation rates of people within quite a few age groups have fallen, particularly for men. The most commonly reported reasons given for leaving the labour force are study and retirement, as well as long-term sickness. In contrast, participation among women aged 18–49 has increased, although that has not been enough to offset the fall in participation elsewhere. The increase reflects fewer women reporting that they are not participating due to looking after their family or home.

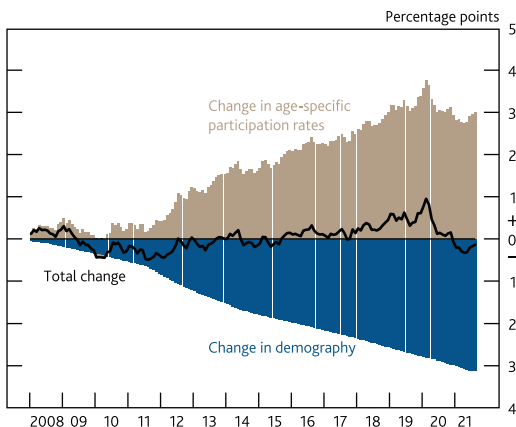
In the MPC’s central projection, much of the fall in participation during the pandemic is judged to be temporary. A risk is that Covid accelerates the trend of declining participation. Participation in the labour market among those aged 16–24 may remain subdued over the coming few years if those who have started full-time study do not re-enter the labour market while they complete their course. Lower participation in older age groups is judged to be likely to recover as the perceived health risks associated with returning to work fall. But some who are shielding from Covid or have other health concerns, including long Covid, may not wish to return even after vaccination. In addition, the Bank’s Agents report that Covid had led many workers to re-evaluate their priorities, with some retiring early, and that could signal a more persistent fall in participation. In the other direction, higher participation among women could also persist if, for example, that is supported by a higher incidence of working from home in future.

The equilibrium rate of unemployment may also be pushed up in the near term by Covid, but this effect is expected to fade.

Cyclical factors, such as changes in the mix of unemployment, can affect the unemployment rate consistent with stable wage pressures – otherwise known as the medium-term equilibrium rate of unemployment. Over the course of the pandemic, the proportion of people who have been unemployed for more than a year has increased, even while the aggregate unemployment rate has started to fall back. This tends to raise the equilibrium rate of unemployment as the likelihood of finding a job falls the longer the spell of unemployment (Krueger *et al* (2014)). It is possible that some workers who had been on the furlough scheme for a significant stretch of time could find it equally difficult to return to work. However, some characteristics of those furloughed, such as average educational attainment, were more similar to the average unemployed person than the average long-term unemployed person. This might mitigate the effect on equilibrium unemployment.

Chart 3.8: The ageing population is weighing on labour market participation

Contributions to the change in the participation rate since 2007^(a)

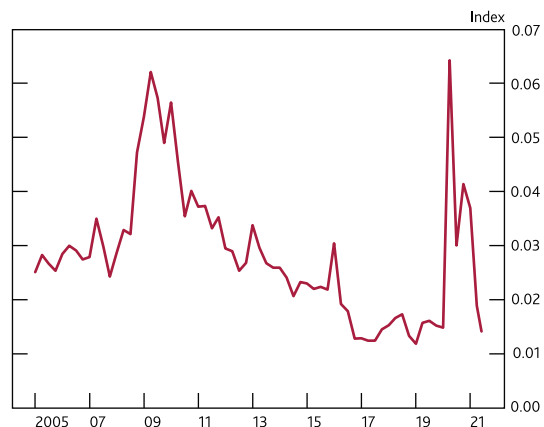


Sources: ONS and Bank calculations.

(a) Percentage of the 16+ population. Decomposition calculated using published ONS age groupings for men and women. Data are to the three months to August 2021.

Chart 3.9: Sectoral mismatch between job seekers and vacancies has fallen back to around pre-Covid levels

Sectoral mismatch index^(a)



Sources: ONS and Bank calculations.

(a) Estimates of sectoral mismatch are based on the methodology set out in Sahin *et al* (2014). Data are quarterly to 2021 Q2; final data point is for the three months to August 2021.

Another cyclical factor that can raise the equilibrium rate of unemployment is mismatch between job seekers and vacancies. This mismatch can occur across a variety of dimensions including sector, region or skills. The uneven impact of the pandemic, with job losses and reduced hiring being concentrated in contact-intensive sectors such as hospitality, led to a sharp increase in sectoral mismatch in the early stages of the pandemic (Chart 3.9). However, as the worst-affected sectors are now recovering and hiring, models that estimate sectoral mismatch suggest it is no longer elevated. Similar models for regional mismatch suggest it has been relatively stable throughout the pandemic.

Some indicators nevertheless point to recruitment pressures, including elevated wage pressure (Section 2.3).

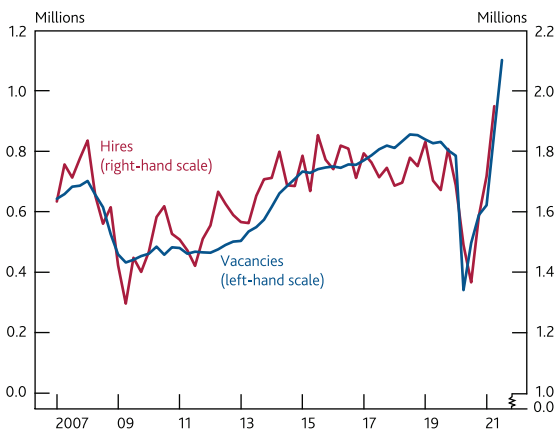
Companies in a wide range of sectors have reported shortages of staff to the Bank’s Agents and, in some cases, this has constrained their ability to supply goods and services. These pressures might point to mismatch on different dimensions of the labour market, such as certain types of skills, or more granular mismatch within sectors or areas of the country. There may also be some temporary labour market frictions associated with the rapid reopening of the economy and record hiring which may dissipate as the recovery continues.

Hiring rose to record levels in 2021 Q2, and appears to have so far kept pace with the rise in vacancies, suggesting many firms are able to match job seekers to vacancies (Chart 3.10). Labour market flows show that workers moving between occupations and sectors is fairly commonplace, accounting for around half of job moves over recent years. This suggests the labour market may be able to adapt well even if vacancies are not fully aligned with the previous jobs of those looking for work. Indeed, the unemployment rate has declined relatively rapidly over 2021 so far, falling by 0.7 percentage points by the three months to August, to 0.5 percentage points above its pre-pandemic level.

On balance, the MPC judges that while there are cyclical factors currently pushing up on the equilibrium unemployment rate, they will fade relatively quickly over the forecast. In the long term, the equilibrium rate of unemployment represents the rate of unemployment that the economy is capable of achieving sustainably over many years and is determined by slow-moving structural factors (see Box 4 of the February 2018 Inflation Report). Rising levels of educational attainment have continued since the MPC’s previous assessment of potential supply capacity. This structural trend should make workers a better match for jobs and push down on the equilibrium rate of unemployment over the long term. As older workers that remain in the labour market tend to have lower unemployment rates, the ageing population is also likely to push down on the equilibrium rate. As a result, the MPC has reduced its estimate of the long-term equilibrium rate of unemployment marginally from 4¼% to closer to 4%.

Chart 3.10: Hiring has picked up rapidly alongside the increase in vacancies

Vacancies and hires^(a)

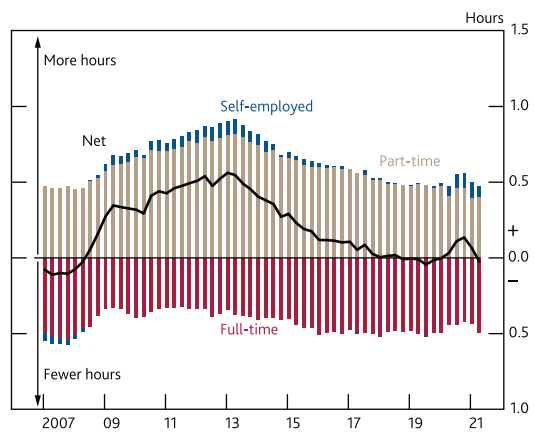


Sources: ONS and Bank calculations.

(a) Data are quarterly. Latest data points are 2021 Q2 for hires and 2021 Q3 for vacancies. Hires are inflows into employment plus job-to-job flows.

Chart 3.11: People no longer wish to work more hours on balance

Net additional desired hours^(a)



Sources: Labour Force Survey and Bank calculations.

(a) Number of net additional hours that the currently employed report they would like to work, on average, per week. Workers on furlough are excluded. Data are to 2021 Q2.

Average hours worked are expected to trend down over the forecast.

The average hours worked by those in employment are expected to trend downwards over the forecast. That also reflects the influence of an ageing population, as older workers tend to work shorter hours. Covid does not appear to be influencing desired hours significantly at the moment. The average number of hours that people say they would like to work, over and above those they are currently working, fell back to zero in 2021 Q2, after a slight rise earlier in the pandemic (Chart 3.11). Agents’ intelligence suggests that there is a risk that hours worked could fall further than projected, as people have re-evaluated during the pandemic the amount of time they want to spend working.

Population growth appears to have slowed during the pandemic and this could persist.

Population growth is a key driver of potential labour supply, accounting for the majority of its growth over the past 20 years. A material amount of the UK’s recent population increase can be accounted for by migration, but this has slowed somewhat since 2016, due to lower net migration from the EU which was only partially offset by higher migration from outside the EU. The latest ONS population projections, made before the pandemic, suggested that this trend would continue, with the population growing but at a slightly slower rate – declining from 0.6% in the year to mid-2019 to 0.4% in the year to mid-2024.

Estimates of population growth over the pandemic so far point to weaker growth than previously projected, although the data are unusually uncertain at the moment (Section 3.2). This weighs on the level of the population, and therefore potential labour supply, over the forecast. If this slower growth is sustained, it could also weigh on potential

labour supply growth. Reports to the Bank's Agents suggest that the reduction in availability of EU workers has been, in part, due to travel restrictions relating to Covid and EU withdrawal. While Covid-related travel restrictions should ease over time, EU withdrawal is likely to be a more persistent influence on migration.

3.4: The MPC's projections for supply

Potential supply growth is expected to return to around 1½% a year by the second half of the forecast, a similar pace to the 2010–19 period...

Potential supply starts the forecast below its 2019 Q4 level and is projected to continue to recover from the impact of Covid over the first half of the forecast period. By the second half of the forecast, potential supply is expected to be growing at around 1½%. This is similar to its pace over 2010–19. Within that, labour supply growth is modest, while potential productivity growth settles at around 1%. There are a number of risks and uncertainties surrounding these judgements (Section 1).

...but Covid, demographic factors and EU withdrawal are weighing on the level of supply over the forecast.

Although potential supply growth is expected to return to around its pre-Covid trend, the level of potential supply is expected to be around 2% lower at the end of the forecast period than would have been implied by the MPC's pre-pandemic projections. That is judged, in part, to reflect longer-term effects resulting from Covid, for example from a drag to productivity from foregone investment and learning on the job, as well as lower migration leading to slower population growth since 2020.

Projected trends in participation and average hours have been updated to take less of a steer from the latest LFS data on the medium-term demographic composition of the population (Section 3.3). These weigh on the level of potential supply a little over the forecast both relative to pre-Covid projections and relative to August. As in previous *Reports*, the move to the new trading relationship with the EU is likely to be weighing on potential supply through lower productivity.

Annex: Other forecasters' expectations

This annex reports the results of the Bank's most recent survey of external forecasters. Expectations for the near term are summarised in **Chart A**, and those for further out are shown in **Table 1** and **Chart B**.⁽¹⁾

On average, external forecasters expected quarterly GDP growth to be 1.3% in 2021 Q4 (**Chart A**). The unemployment rate was expected to rise to 4.9% and CPI inflation was expected to be 4.1%. Compared to previous surveys, the range of projections is slightly wider for CPI inflation, but has narrowed significantly for GDP and unemployment.

Chart A: On average, external forecasters expect GDP to rise by 1.3% in 2021 Q4, the unemployment rate to rise to 4.9%, and CPI inflation to increase to 4.1%

Other forecasters' central projections for GDP, the unemployment rate and CPI inflation in 2021 Q4

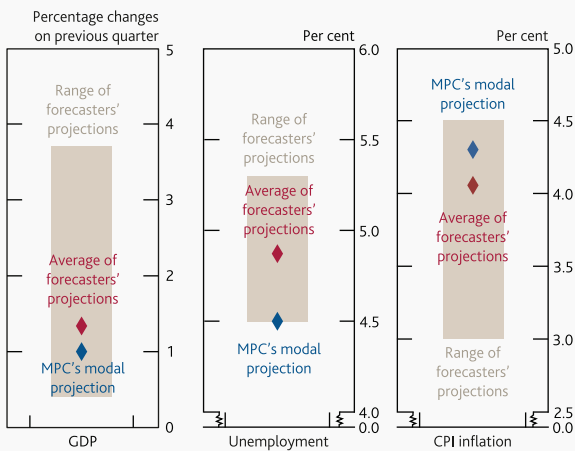


Table 1: Averages of other forecasters' central projections

| | 2022 Q4 | 2023 Q4 | 2024 Q4 |
|--|---------|---------|---------|
| GDP growth ^(a) | 3.4 | 2.0 | 1.6 |
| CPI inflation ^(b) | 2.7 | 2.0 | 1.9 |
| LFS unemployment rate (per cent) | 4.5 | 4.4 | 4.3 |
| Bank Rate (per cent) ^(c) | 0.6 | 1.1 | 1.4 |
| Stock of purchased gilts (£ billions) ^(d) | 868 | 826 | 769 |
| Stock of purchased corporate bonds (£ billions) ^(d) | 19 | 18 | 17 |
| Sterling ERI ^(e) | 81.2 | 80.9 | 81.0 |

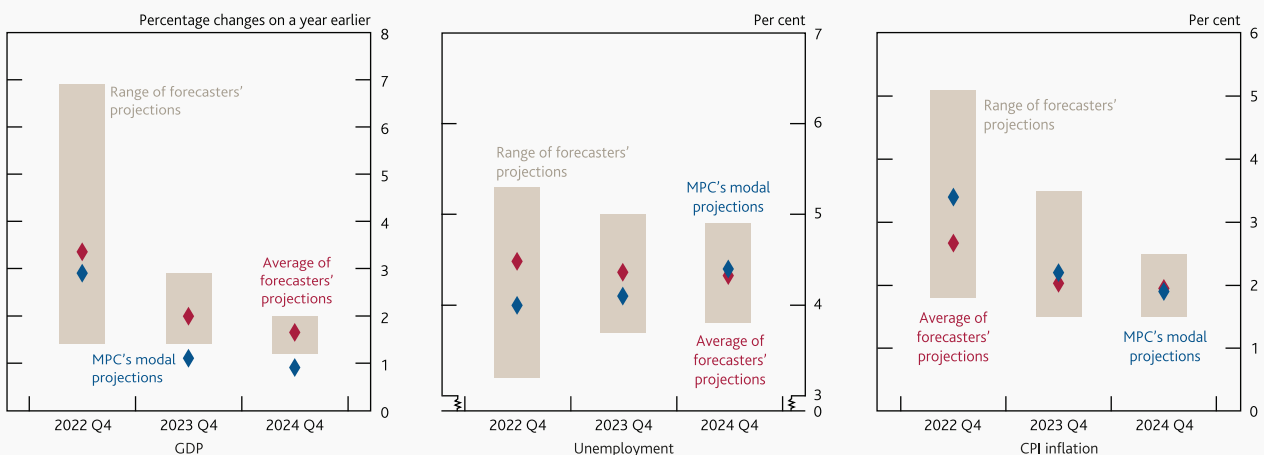
- (a) Four-quarter percentage change.
- (b) Twelve-month rate.
- (c) This projection is markedly affected by one respondent. Excluding that respondent from the sample, Bank Rate is expected to be 0.5% in 2022 Q4, 0.7% in 2023 Q4 and 1.0% in 2024 Q4.
- (d) Original purchase value. Purchased via the creation of central bank reserves.
- (e) Index: January 2005 = 100.

On average, respondents expected GDP growth of 3.4% in the four quarters to 2022 Q4 (left panel, **Chart B**). Four-quarter GDP growth is then expected to fall to 1.6% by 2024 Q4. The unemployment rate is expected to fall marginally from 4.5% in 2022 Q4 to 4.3% by 2024 Q4 (middle panel, **Chart B**). CPI inflation is expected to be 2.7% in 2022 Q4, but is expected to fall back to just below the 2% target by the end of the forecast period (right panel, **Chart B**).

On average, external forecasters expect Bank Rate to rise to 0.6% over the next year, and continue to rise over the following two years to 1.4% (**Table 1**). The stock of purchased assets is expected to be reduced slightly over the next year, before decreasing more substantially by the end of the forecast period.

Chart B: At the three-year horizon, external forecasters expect annual GDP growth to be 1.6%, the unemployment rate to be below 4.5%, and inflation to be close to the MPC's 2% target

Projections for GDP, the unemployment rate and CPI inflation



(1) For detailed distributions, see 'Monetary Policy Report chart slides and data – November 2021' link at [Monetary Policy Report – November 2021](#).

Glossary and other information

Glossary of selected data and instruments

AWE – average weekly earnings.
CPI – consumer prices index.
CPI inflation – inflation measured by the consumer prices index.
DMP – Decision Maker Panel.
ERI – exchange rate index.
GDP – gross domestic product.
HICP – harmonised index of consumer prices.
LFS – Labour Force Survey.
PCE – personal consumption expenditure.
RPI – retail prices index.
RPI inflation – inflation measured by the retail prices index.

Abbreviations

BCC – British Chambers of Commerce.
CBI – Confederation of British Industry.
CFO – chief financial officer.
CJRS – Coronavirus Job Retention Scheme.
ECB – European Central Bank.
EME – emerging market economy.
EOTHO – Eat Out to Help Out.
EU – European Union.
FTSE – Financial Times Stock Exchange.
GVA – gross value added.
HMRC – Her Majesty’s Revenue and Customs.
HR1 form – Advance Notification of Redundancies form.
ICT – Information Communications Technology.
IMF – International Monetary Fund.
IT – information technology.
LTV – loan to value.
MPC – Monetary Policy Committee.
MSCI – Morgan Stanley Capital International Inc.
MTIC – missing trader intra-community.
OECD – Organisation for Economic Co-operation and Development.
ONS – Office for National Statistics.
ONS BICS – Office for National Statistics Business Insights and Conditions Survey.

PAYE – Pay As You Earn.
PPP – purchasing power parity.
REC – Recruitment and Employment Confederation.
RTI – Real Time Information.
S&P – Standard & Poor’s.
SUT – Supply Use Table.
VAT – Value Added Tax.
WEO – IMF *World Economic Outlook*.

Symbols and conventions

Except where otherwise stated, the source of the data used in charts and tables is the Bank of England or the Office for National Statistics (ONS) and all data, apart from financial markets data and results from the Decision Maker Panel (DMP) Survey, are seasonally adjusted.

n.a. = not available.

Because of rounding, the sum of the separate items may sometimes differ from the total shown.

On the horizontal axes of graphs, larger ticks denote the first observation within the relevant period, eg data for the first quarter of the year.