Bank of England

Monetary Policy Report

Monetary Policy Committee
November 2022

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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

- Andrew Bailey, Chair
- Ben Broadbent
- Jon Cunliffe
- Swati Dhingra
- Jonathan Haskel
- Catherine L Mann
- Huw Pill
- Dave Ramsden
- Silvana Tenreyro

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/2022/november-2022**.

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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 2022, the MPC voted by a majority of 7–2 to increase Bank Rate by 0.75 percentage points, to 3%. One member preferred to increase Bank Rate by 0.5 percentage points, to 2.75%, and one member preferred to increase Bank Rate by 0.25 percentage points, to 2.5%.

As set out in the accompanying November Monetary Policy Report, the MPC's updated projections for activity and inflation describe a very challenging outlook for the UK economy.

Since the MPC's previous forecast, there have been significant developments in fiscal policy. Uncertainty around the outlook for UK retail energy prices has fallen to some extent following further government interventions. For the current November forecast, and consistent with the Government's announcements on 17 October, the MPC's working assumption is that some fiscal support continues beyond the current six-month period of the Energy Price Guarantee (EPG), generating a stylised path for household energy prices over the next two years. Such support would mechanically limit further increases in the energy component of CPI inflation significantly, and reduce its volatility. However, in boosting aggregate private demand relative to the August projections, the support could augment inflationary pressures in non-energy goods and services.

Other fiscal measures announced up to and including 17 October also support demand relative to the August projection. The MPC's forecast does not incorporate any further measures that may be announced in the Autumn Statement scheduled for 17 November.

There have been large moves in UK asset prices since the August Report. These partly reflect global developments, although UK-specific factors have played a very significant role during this period. The MPC's projections are conditioned on the path of Bank Rate implied by financial markets in the seven working days leading up to 25 October. That path rose to a peak of around 5¼% in 2023 Q3, before falling back. Overall, the path is around 2¼ percentage points higher over the next three years than in the August projection. The higher market yield curve has pushed new mortgage rates up sharply. Financial conditions have tightened materially, pushing down on activity over the forecast period.

GDP is expected to decline by around ¾% during 2022 H2, in part reflecting the squeeze on real incomes from higher global energy and tradable goods prices. The fall in activity around the end of this year is expected to be less marked than in August, however, reflecting support from the EPG. The labour market remains tight, although there are signs that labour demand has begun to ease.

CPI inflation was 10.1% in September and is projected to pick up to around 11% in 2022 Q4, lower than was expected in August, reflecting the impact of the EPG. Services CPI inflation has risen. Nominal annual private sector regular pay growth rose to 6.2% in the three months to August, 0.6 percentage points higher than expected in the August Report.

In the MPC's November central projection that is conditioned on the elevated path of market interest rates, GDP is projected to continue to fall throughout 2023 and 2024 H1, as high energy prices and materially tighter financial conditions weigh on spending. Four-quarter GDP growth picks up to around ¾% by the end of the projection. Although there is judged to be a significant margin of excess demand currently, continued weakness in spending is likely to lead to an increasing amount of economic slack emerging from the first half of next year, including a rising jobless rate. The LFS unemployment rate is expected to rise to just under 6½% by the end of the forecast period and aggregate slack increases to 3% of potential GDP.

In the MPC's central projection, CPI inflation starts to fall back from early next year as previous increases in energy prices drop out of the annual comparison. Domestic inflationary pressures remain strong in coming quarters and then subside. CPI inflation is projected to fall sharply to some way below the 2% target in two years' time, and further below the target in three years' time.

In projections conditioned on the alternative assumption of constant interest rates at 3%, activity is stronger than in the MPC's forecast conditioned on market rates, although GDP is still expected to be falling at the end of 2023. CPI inflation is projected to be a little above the target at the end of the second year. However, it falls more than a percentage point below the target at the end of the third year.

The risks around both sets of inflation projections are judged to be skewed to the upside in the medium term, however, in part reflecting the possibility of more persistence in wage and price setting.

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 recognises that there will be occasions when inflation will depart from the target as a result of shocks and disturbances. The economy has been subject to a succession of very large shocks. Monetary policy will ensure that, as the adjustment to these shocks continues, CPI inflation will return to the 2% target sustainably in the medium term. Monetary policy is also acting to ensure that longer-term inflation expectations are anchored at the 2% target.

The labour market remains tight and there have been continuing signs of firmer inflation in domestic prices and wages that could indicate greater persistence. Currently announced fiscal policy, including the MPC's working assumption about continued fiscal support for household energy prices, will also support demand, relative to the Committee's projections in August. The Committee will take account of any additional information in the Government's Autumn Statement at its December meeting and in its next forecast in February.

In view of these considerations, the Committee has voted to increase Bank Rate by 0.75 percentage points, to 3%, at this meeting.

The majority of the Committee judges that, should the economy evolve broadly in line with the latest Monetary Policy Report projections, further increases in Bank Rate may be required for a sustainable return of inflation to target, albeit to a peak lower than priced into financial markets.

There are, however, considerable uncertainties around the outlook. The Committee continues to judge that, if the outlook suggests more persistent inflationary pressures, it will respond forcefully, as necessary.

The MPC will take the actions necessary to return inflation to the 2% target sustainably in the medium term, in line with its remit. The Committee will, as always, consider and decide the appropriate level of Bank Rate at each meeting.

1: The economic outlook

The MPC's latest projections describe a very challenging outlook for the UK economy. It is expected to be in recession for a prolonged period and CPI inflation remains elevated at over 10% in the near term. From mid-2023, inflation is expected to fall sharply, conditioned on the elevated path of market interest rates, and as previous increases in energy prices drop out of the annual comparison. It then declines to some way below the 2% target in years two and three of the projection. This reflects a negative contribution from energy prices, as well as the emergence of an increasing degree of economic slack and a steadily rising unemployment rate. The risks around that declining path for inflation are judged to be to the upside.

There have been significant developments in fiscal policy since the August Monetary Policy Report. Uncertainty around the outlook for UK retail energy prices has fallen to some extent following further government interventions. For this forecast, and consistent with the announcements on 17 October, the MPC's working assumption is that some fiscal support continues beyond the current six-month period of the Energy Price Guarantee (EPG), generating a stylised path for household energy prices over the next two years. Such support would mechanically limit further increases in the energy component of CPI inflation significantly, and reduce its volatility. However, in boosting aggregate private demand relative to the August projections, the support could augment inflationary pressures in non-energy goods and services.

In addition to energy support policies, the other fiscal measures announced up to and including 17 October support demand relative to the August projection. The MPC's forecast does not incorporate any further measures that may be announced at the Autumn Statement scheduled for 17 November.

There have been large moves in UK asset prices since the August Report. These partly reflect global developments, although UK-specific factors played a very significant role during this period. The MPC's projections are conditioned on the path of Bank Rate implied by financial markets in the seven working days leading up to 25 October. That path rose to a peak of around 5¼% in 2023 Q3, before falling back. Overall, the path is around 2¼ percentage points higher over the next three years than in the August projection. The higher market yield curve has pushed new mortgage rates up sharply. Financial conditions have tightened materially, pushing down on activity over the forecast period.

GDP is expected to decline by around ¾% during 2022 H2, in part reflecting the squeeze on real incomes from higher global energy and tradable goods prices. The fall in activity around the end of this year is expected to be less marked than in the August Report, however, reflecting support from the EPG. GDP is projected to continue to fall throughout 2023 and 2024 H1, as high energy prices and materially tighter financial conditions weigh on spending. Four-quarter GDP growth picks up to around ¾% by the end of the projection (Table 1.A).

Although there is judged to be a significant margin of excess demand currently, continued weakness in spending leads an increasing degree of economic slack to emerge from 2023 H1, including a rising jobless rate. The unemployment rate is expected to rise to just under 6½% by the end of the forecast period (Table 1.A) and aggregate slack increases to 3% of potential GDP.

CPI inflation was 10.1% in September and is projected to pick up to around 11% in 2022 Q4, lower than was expected in August, reflecting the impact of the EPG. Services CPI inflation has risen. Nominal annual private sector regular pay growth rose to 6.2% in the three months to August, 0.6 percentage points higher than expected in the August Report. Despite an expected decline in global price pressures and a significant fall in the prospective contribution of household energy prices to CPI inflation, domestic inflationary pressures are expected to remain strong over the next year.

In the MPC’s central projection that is conditioned on the elevated path of market interest rates, domestic inflationary pressures subside given the increasing amount of economic slack. Energy prices are projected to make a negative contribution to inflation in the medium term. CPI inflation is projected to fall sharply to 1.4% in two years’ time, below the 2% target, and to 0.0% in three years’ time (Table 1.A). The risks around these projections are judged to be skewed to the upside.

In projections conditioned on the alternative assumption of constant interest rates at 3%, CPI inflation is projected to be 2.2% at the end of the second year. However, it falls to 0.8% at the end of the third year. Given the judgement of an upside skew to the risks around the modal inflation projection, mean CPI inflation is also relevant. Conditioned on constant interest rates, mean CPI inflation is 2.7% and 1.3% at those same horizons.

Table 1.A: Forecast summary (a) (b)

	2022 Q4	2023 Q4	2024 Q4	2025 Q4
GDP (c)	0.2 (0.1)	-1.9 (-1.2)	-0.1 (0.1)	0.7
CPI inflation (d)	10.9 (13.1)	5.2 (5.5)	1.4 (1.4)	0.0
LFS unemployment rate	3.7 (3.7)	4.9 (4.7)	5.9 (5.7)	6.4
Excess supply/**Excess demand** (e)	¾ (-¼)	-2½ (-2½)	-3 (-3¼)	-3
Bank Rate (f)	3.0 (2.4)	5.2 (2.9)	4.7 (2.4)	4.4

(a) Modal projections for GDP, CPI inflation, LFS unemployment and excess supply/excess demand. Figures in parentheses show the corresponding projections in the August 2022 Monetary Policy Report.
(b) Unless otherwise stated, the projections shown in this section are conditioned on the assumptions described in Section 1.1. The main assumptions are set out in '**Monetary Policy Report – Download the chart slides and data – November 2022**'.
(c) Four-quarter growth in real GDP.
(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.

1.1: The conditioning assumptions underlying the MPC's projections

For this forecast, the MPC has made three adjustments to the conditioning assumptions underlying its projections.

First, in light of events at the start of the standard 15-working day conditioning path window between 5 and 25 October, the MPC has decided on this occasion to base its projections on an average of UK asset and commodity prices calculated over the final seven days of the 15-day period. Other non-UK asset and commodity prices continue to be based on a 15-day window. The Committee intends to revert to its usual 15-day window for all asset prices in future Reports.

Second, the Committee's projections are usually conditioned on announced fiscal policy. This forecast incorporates the announcements made by the Chancellor of the Exchequer up to and including 17 October, and, consistent with that, includes a working assumption about continued fiscal support for household energy bills, generating a stylised path for household energy prices over the first two years of the forecast period (Box A). The MPC’s forecast does not incorporate any further measures that may be announced at the Autumn Statement scheduled for 17 November. The Committee intends to condition its next forecast in February 2023 on announced fiscal policy.

Third, beyond the first two years of the forecast period, UK household energy prices are assumed to follow a path consistent with their respective downward-sloping wholesale futures curves. This is a change to the Committee’s recent convention that wholesale energy prices follow their respective futures curves for the first six months of the projection only and then remain constant. Given the two years of fiscal support assumed by the Committee, using that previous convention would imply a path for household energy bills beyond that point that would lead to a purely mechanical jump in the CPI inflation projection.

Reflecting this same change in convention, wholesale energy prices are assumed to follow their respective futures curves over the whole forecast period, rather than for the first six months of the projection only and then remaining constant as assumed previously. Although spot prices have fallen materially, medium-term wholesale gas futures prices have almost doubled again since August (Chart 3.1), reflecting Russia’s restriction of gas supplies to Europe and concerns about the sufficiency of gas storage beyond this winter. In contrast, weaker global demand has weighed on the prices of some other commodities, including oil. Significant uncertainty remains around the outlook for wholesale energy prices, and a persistently higher path remains a possible alternative scenario. The Committee will keep its wholesale energy price conditioning assumption under review.

Otherwise, the projections are conditioned on:

- The paths for policy rates implied by financial markets. Since the August Report, the rise in the market yield curve in the United Kingdom has been larger than in the United States and in the euro area (Chart 2.7). In the UK, the market-implied path for Bank Rate was consistent with Bank Rate rising to a peak of around 5¼% in 2023 Q3, before falling back. Overall, the path is around 2¼ percentage points higher on average over the next three years than in the August projection (Table 1.B). The path for Bank Rate implied by the latest Market Participants Survey is lower than the market curve, as it was in August.
- A path for the sterling effective exchange rate index that is around 2% lower than in August, and is declining gradually over the forecast period given the 50% weight in the Committee’s conditioning assumption for expected interest rate differentials (Table 1.B and Chart 2.10).

Table 1.B: Conditioning assumptions (a) (b)

	Average 1998–2007	Average 2010–19	Average 2020–21	2022	2023	2024	2025
Bank Rate (c)	5.0	0.5	0.1	3.0 (2.4)	5.2 (2.9)	4.7 (2.4)	4.0
Sterling effective exchange rate (d)	100	82	80	77 (79)	77 (78)	76 (78)	75
Oil prices (e)	39	78	62	92 (97)	81 (93)	76 (93)	73
Gas prices (f)	29	53	137	231 (420)	356 (327)	265 (327)	195
Nominal government expenditure (g)	7½	2¼	9¼	3½ (3½)	2¾ (2¼)	2½ (2½)	3½

Sources: Bank of England, Bloomberg Finance L.P., Office for Budget Responsibility (OBR), ONS, Refinitiv Eikon from LSEG and Bank calculations.

(a) The table shows the projections for financial market prices, wholesale energy prices and Government spending projections that are used as conditioning assumptions for the MPC's projections for CPI inflation, GDP growth and the unemployment rate. Figures in parentheses show the corresponding projections in the August 2022 Monetary Policy Report.
(b) Financial market data are based on averages in the seven working days to 25 October 2022. Figures show the average level in Q4 of each year, unless otherwise stated.
(c) Per cent. The path for Bank Rate implied by forward market interest rates. The curves are based on overnight index swap rates.
(d) Index. January 2005 = 100. The convention is that the sterling exchange rate follows a path that is half way between the starting level of the sterling ERI and a path implied by interest rate differentials.
(e) Dollars per barrel. November projection based on monthly Brent futures prices. August projection based on monthly Brent futures prices for two quarters, then held flat.
(f) Pence per therm. November projection based on monthly natural gas futures prices. August projection based on monthly natural gas futures prices for two quarters, then held flat.
(g) Annual average growth rate. Nominal general government consumption and investment. Projections are based on the OBR's March 2022 Economic and Fiscal Outlook. Historical data based on NMRP+D7QK.

1.2: Key judgements and risks

Key judgement 1: there has been a material tightening in financial conditions, including the elevated path of market interest rates. In addition, high energy prices continue to weigh on spending, despite an assumption of some fiscal support for household energy bills over the next two years. As a result, the UK economy is expected to remain in recession throughout 2023 and 2024 H1, and GDP is expected to recover only gradually thereafter.

Following growth of 0.2% in the second quarter, UK GDP is expected to have contracted by 0.5% in 2022 Q3, and is projected to fall by 0.3% in Q4 (Section 2.3). Underlying output, defined as market sector output adjusted for the estimated effects of the recent additional bank holidays, is expected to decline by around ½% in both quarters (Chart 2.14). This projection is consistent with recent business surveys of activity, including the S&P Global/CIPS UK PMI, which have weakened significantly over recent months, and have moved down closer into line with already very weak indicators of consumer confidence. The weakness in GDP partly reflects the squeeze on real incomes from higher global energy and tradable goods prices. The fall in activity around the end of this year is expected to be less marked than in the August Report, however, reflecting support from the Government's EPG for households (Box A).

Box A also sets out the Committee's working assumption about continued fiscal support, consistent with the Government's announcements on 17 October, which generates a stylised path for household energy prices over the first two years of the forecast period. This boosts activity materially relative to the August Report projection that did not assume any fiscal support over this period and was conditioned on the MPC's previous assumption that wholesale energy prices would remain constant at very elevated levels. Nevertheless, the hit to household incomes from energy prices remains significant.

Bank staff have re-examined the treatment of energy in the MPC's forecast (Box B). As a result and consistent with most empirical studies, the MPC's projections now explicitly incorporate some substitution between the demand for energy and other goods, with companies assumed to be able to substitute away from energy to a greater extent than households. This change in treatment reduces the sensitivity of aggregate demand to energy price changes and, taking account of all the developments in retail energy prices since the onset of the energy crisis, boosts GDP over the forecast period relative to the August Report projections.

In addition to energy support policies, the other fiscal measures announced up to and including 17 October support demand relative to the August projection (Box A). The MPC's forecast does not incorporate any further measures that may be announced at the Autumn Statement scheduled for 17 November.

There have been large moves in UK asset prices since the August Report (Section 2.2). These partly reflect global developments, although UK-specific factors played a very significant role during that period. Short and longer-term government bond yields have picked up substantially, risky asset prices have fallen and the sterling effective exchange rate index has depreciated by around 2%.

In large part reflecting a rapid response by lenders to developments in risk-free interest rates, advertised rates on new mortgages have increased sharply, while the number of available mortgage products has fallen back (Section 2.2). Around a quarter of the outstanding stock of mortgages are scheduled to reach the end of their fixed-rate term between 2022 Q4 and the end of 2023, raising mortgage costs significantly for these households. The cost of borrowing for UK firms has also picked up since August, and the availability of bank credit has fallen for SMEs.

The Committee's central projection incorporates a tightening in credit conditions. However, the sharp tightening in mortgage availability seen during late September is not assumed to persist over the forecast period, consistent with the latest supervisory intelligence. Reference rates have fallen back from their highs in late September, and there have been moderate falls in some mortgage rates in the days leading up to the MPC's November meeting.

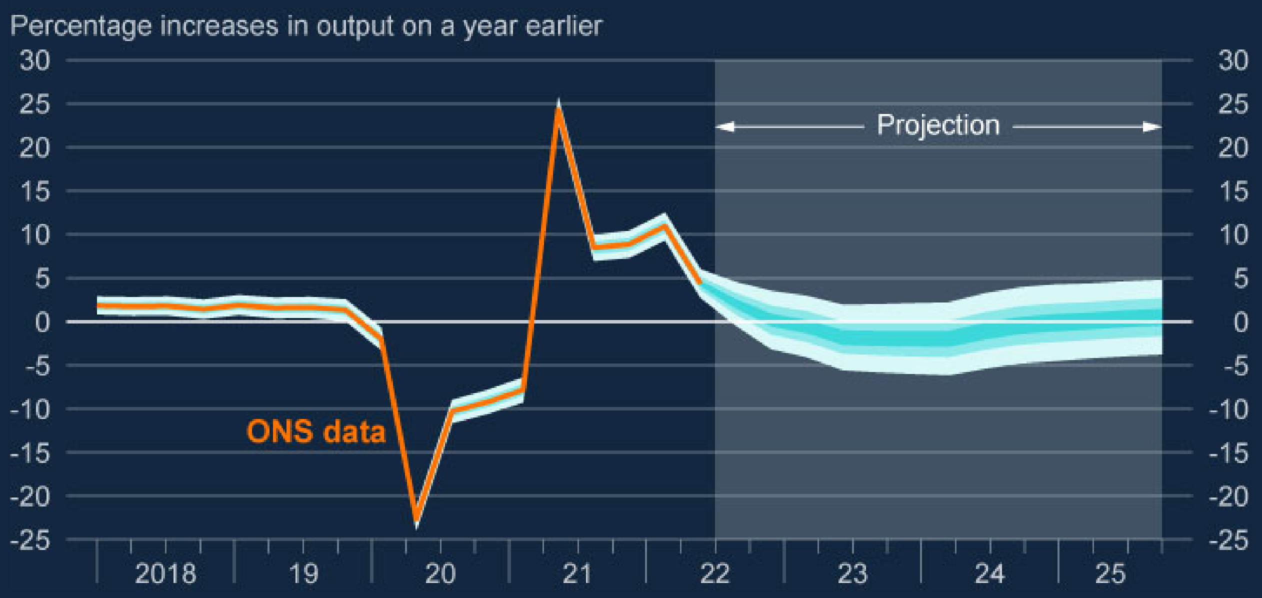
Taken together, financial conditions have tightened materially recently, pushing down on activity over the forecast period.

GDP is projected to continue to fall throughout 2023 and 2024 H1, as high energy prices and materially tighter financial conditions weigh on spending. In the Committee's central projection, calendar-year GDP growth is -1½% in 2023 and -1% in 2024 (Table 1.D). Four-quarter GDP growth picks up to around ¾% by the end of the projection (Chart 1.1), although GDP growth is expected to remain well below pre-pandemic rates.

In projections conditioned on the alternative assumption of constant interest rates at 3%, activity is stronger than in the MPC's forecast conditioned on market rates. GDP is still expected to be falling at the end of 2023, however, and activity remains very weak in 2024.

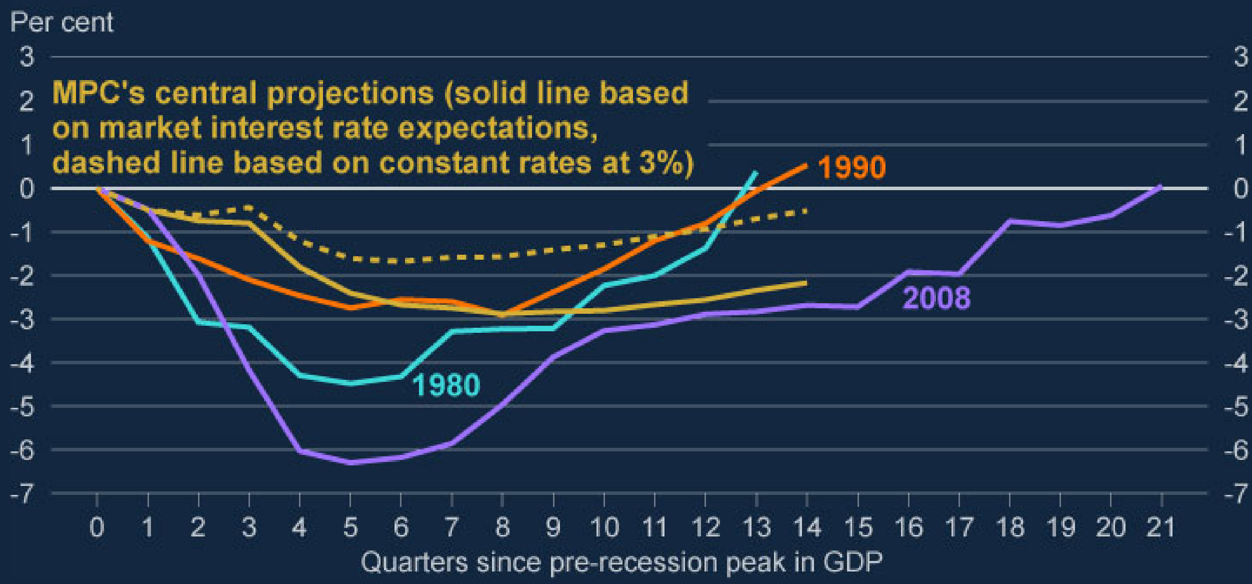
Compared with previous UK recessions of similar scales, GDP remains weak relative to its pre-recession level for a prolonged period in the MPC's latest forecast, although the depth of the recession is much shallower for the projection conditioned on constant interest rates (Chart 1.2).

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



The fan chart depicts the probability of various outcomes for GDP growth. It has been conditioned on the assumptions in Section 1.1. To the left of the shaded area, the distribution reflects uncertainty around revisions to the data over the past. To the right of the shaded area, the distribution reflects uncertainty over the evolution of 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 growth would lie within the darkest central band on only 30 of those occasions. The fan chart is constructed so that outturns are also expected to lie within each pair of the lighter aqua areas on 30 occasions. In any particular quarter of the forecast period, 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 growth can fall anywhere outside the aqua area of the fan chart. Over the forecast period, this has been depicted by the 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.

Chart 1.2: Changes in GDP since pre-recession peak in past recessions and the MPC's November 2022 projections (a)



Sources: ONS and Bank calculations.

(a) Recessions are defined as at least two consecutive quarters of negative GDP growth. Past recessions shown began in 1980 Q1, 1990 Q3 and 2008 Q2. The MPC's projections start in 2022 Q3.

Real post-tax household income is projected to fall by ¼% in this calendar year and by -1½% in 2023 (Table 1.D), despite the additional support from the EPG. Thereafter, it is projected to recover by ¾% in 2024 and by 1% in 2025.

Aggregate household saving has remained elevated relative to the pre-pandemic period, and to a greater degree following recent ONS Blue Book revisions. The Committee judges that the saving ratio is likely to rise during the forecast period, from around 7½% to 9%. In part, this reflects precautionary saving behaviour by households, broadly consistent with the rising path of unemployment (Key judgement 2). Calendar-year household spending is expected to fall by 1% in 2023 and by ½% in 2024 (Table 1.D). Housing investment is expected to fall sharply in 2023 and 2024 (Table 1.D), consistent with its tendency to make a disproportionately large contribution to overall GDP growth at turning points in the economic cycle.

Business investment is expected to be very subdued in the near term, consistent with elevated levels of financial market volatility, real-economy indicators of uncertainty (Section 2.3) and the latest intelligence from the Bank's Agents. Thereafter, investment continues to decline, reflecting the weakness in overall demand and the rising path for Bank Rate in the MPC's conditioning assumption. Business investment is expected to fall by 3½% in 2023 and by 6½% in 2024 (Table 1.D).

The weakness in UK demand growth over the projection also reflects the slowing in the world economy, although the global activity outlook is broadly unchanged compared with August. Since the previous Report, other European governments have announced a range of policy measures to address the impact of high energy prices for households and businesses, which is supporting the euro-area growth outlook. Tighter financial conditions and a slowing housing market are expected to weigh on growth in the US, however. In China, weakness in the property market is also expected to continue to depress growth, while the Chinese authorities' zero-Covid policy could continue to constrain activity. In the MPC's central projection, annual UK-weighted world GDP growth is projected to slow from 2¾% in 2022, to 1% in 2023, before rising thereafter but at below pre-pandemic rates (Table 1.D).

The risks around the projection for GDP growth are judged to be balanced.

The extent to which higher energy bills and mortgage rates affect aggregate consumption will depend on how households respond. There are risks in both directions around the central projection for household spending and hence GDP. Spending could be stronger than expected if some households run down their savings to a greater extent than projected. In particular, higher-income households are likely to be less affected by the energy price shock and to have the highest savings. These households were more likely to be maintaining, or even increasing, spending volumes according to the latest Bank/NMG survey (Chart 2.19). Consumption could also be stronger than expected if the labour market is more resilient in the near term. As set out in the Annex of this Report, external forecasters' projections for activity are stronger than the MPC's throughout the forecast period.

Demand could weaken by more than expected if households build up their saving relative to their incomes to a greater extent. While aggregate saving data are elevated relative to the pre-pandemic period, responses to the Bank/NMG survey suggest that many households no longer have additional savings due to the pandemic. In addition, recent economic developments could increase households' uncertainty about the future, leading them to increase their precautionary saving by more than expected and lower their spending further.

There are also particular uncertainties around the impact on consumption of recent and prospective developments in the mortgage market. To the downside for growth, there is a risk of a more material or persistent tightening in household credit conditions. Based on evidence from previous cycles and in the face of significantly higher mortgage payments, some households may choose to cut back their consumption further to avoid building up significant mortgage arrears. Working in the other direction, the structure of the mortgage and housing markets has changed materially over recent decades such that a smaller proportion of mortgagors have a floating-rate mortgage, delaying the pass-through of higher mortgage rates to some extent relative to previous cycles. In addition, a somewhat smaller proportion of households have a mortgage and some homeowners may be able to borrow against their housing wealth, which has risen significantly over recent years.

Key judgement 2: although there is judged to be a greater margin of excess demand currently, continued weakness in spending leads to an increasing degree of economic slack emerging from 2023 H1, including a rising unemployment rate.

Most indicators suggest that there is currently a significant margin of excess demand across the economy as a whole, and to a greater degree than was judged at the time of the August Report (Table 1.A), in part reflecting the implications of the change in the treatment of energy in the MPC's forecast (Box B).

The labour market has also remained tight, with an unemployment rate of 3.5% in the three months to August (Section 2.4), its lowest level since 1974. That is below the MPC's assessment of the long-term equilibrium rate of unemployment of just above 4%. Although there are signs that labour demand is starting to soften, the vacancy to unemployment ratio, a measure of labour market tightness, remains extremely elevated.

A key reason why the labour market has tightened since the pandemic is because of a marked increase in the number of people inactive in the labour market (Section 2.4). The rise in inactivity has been concentrated among people aged 50 to 64, and partly reflects those people leaving the labour force due to long-term sickness. In contrast to some downside news earlier this year, recent aggregate inactivity is higher than expected in the August Report.

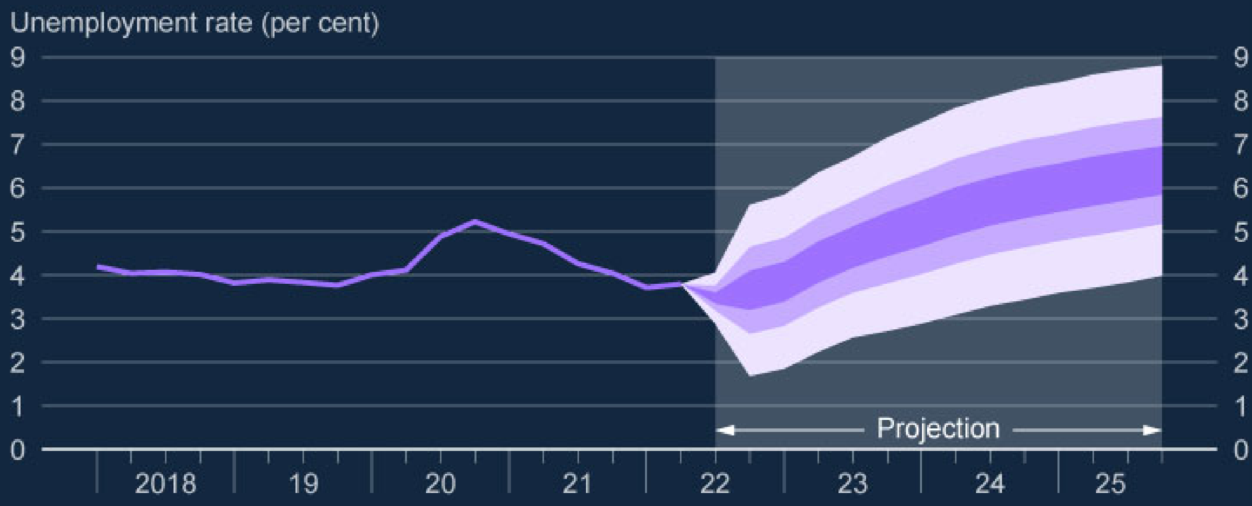
Companies are still expected to respond initially to continued weakness in demand by using their existing inputs less intensively. So, the labour market is expected to remain relatively tight over the next few quarters. This is consistent with the Agents' latest intelligence that many companies are reluctant actively to reduce headcount unless they experience a sharp drop in demand.

Unemployment is nevertheless expected to increase significantly over the remainder of the forecast period, with the jobless rate rising to almost 6½% (Chart 1.3). This reflects the very weak outlook for demand growth and the standard relationship incorporated into the

MPC's forecast between GDP and employment. A material degree of aggregate economic slack emerges in 2023 Q2, with the output gap rising to 3% of potential GDP by the end of the forecast period (Table 1.A).

In projections conditioned on the alternative assumption of constant interest rates at 3%, the unemployment rate rises by around 1¼ percentage points less in the medium term than in the MPC's forecast conditional on market rates.

Chart 1.3: Unemployment rate 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 Section 1.1. The coloured bands have the same interpretation as in Chart 1.1, 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 2022 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 3.5% in the three months to August, and is projected to be 3.5% 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.

The risks around the unemployment rate projection are judged to be balanced.

The labour market could remain tight for longer than assumed for a number of reasons, including the upside risks around the outlook for demand themselves (Key judgement 1). For a given demand profile, a greater-than-projected degree of labour hoarding would prolong the tightness in the labour market, although it would not affect the overall degree of slack in the economy. Alternatively, an even greater share of the fall in participation rates during the pandemic than currently assumed could prove to be persistent.

The labour market could also loosen more rapidly than assumed, again including because of the downside risks to demand themselves. Demand for staff is reported to have fallen quite sharply in some business surveys and some indicators of vacancies have declined from their earlier peaks. Labour supply growth could also be affected by how households respond to recent economic developments. Households may seek to boost their real incomes by working more, which could involve those currently inactive re-entering the labour market or those already in the labour force seeking to work longer hours.

Key judgement 3: despite a decline in global price pressures and a significant fall in the contribution of household energy prices to CPI inflation, domestic inflationary pressures remain strong over the next year. But an increasing degree of economic slack depresses domestic pressures further out. Conditioned on the elevated path of market interest rates, CPI inflation declines to below the 2% target in the medium term, although the Committee judges that the risks to the inflation projections are skewed to the upside.

CPI inflation was 10.1% in September and is projected to pick up to around 11% in 2022 Q4 (Section 2.5). This near-term forecast is lower than was expected in the August Report, reflecting the impact of the EPG. As a result, the direct contribution of energy prices to CPI inflation is expected to peak at just under 4 percentage points in 2022 Q4.

Beyond the immediate six-month period of the EPG announced on 17 October and as set out in Box A, the Committee's assumption of continued fiscal support generates a stylised path for household energy prices over the first two years of the forecast period. This reduces CPI inflation materially relative to the August Report projections that did not assume any fiscal support over this period and were conditioned on a much more elevated level of expected wholesale energy prices. The direct contribution of energy prices to CPI inflation is expected to turn negative from 2024 Q2 onwards. Beyond the two-year period of continued fiscal support, the contribution of household energy prices to inflation remains lower than in the August Report due to the change in the MPC's conditioning assumption for wholesale energy prices and, in turn, the downward slope of futures curves (Section 1.1).

Bank staff have re-evaluated the transmission of energy costs through supply chains and so the scale of the indirect impact on CPI inflation from high energy prices (Box B). The Committee's inflation projections now assume that energy prices transmit more quickly through supply chains and to a greater extent than previously assumed. As a result, the effects of past energy price changes are also expected to fade faster than previously assumed.

In part reflecting developments related to the war in Ukraine, UK food price inflation has continued to increase in recent months, and is expected to rise slightly further in the near term.

Sustained disruption to global supply chains, and the shift in global demand towards durable goods and away from services, have put significant upward pressure on tradable goods prices since the pandemic. But there have recently been further signs that global price pressures are falling back. Bottlenecks have started to ease, in part due to the slowdown in global demand, and some global shipping cost indices have fallen sharply (Section 3.1). Bank staff expect world consumer price inflation to peak in 2022 Q4, before falling back substantially over the following year. Four-quarter world export price inflation is also projected to decline sharply over the next year and turn negative in mid-2023.

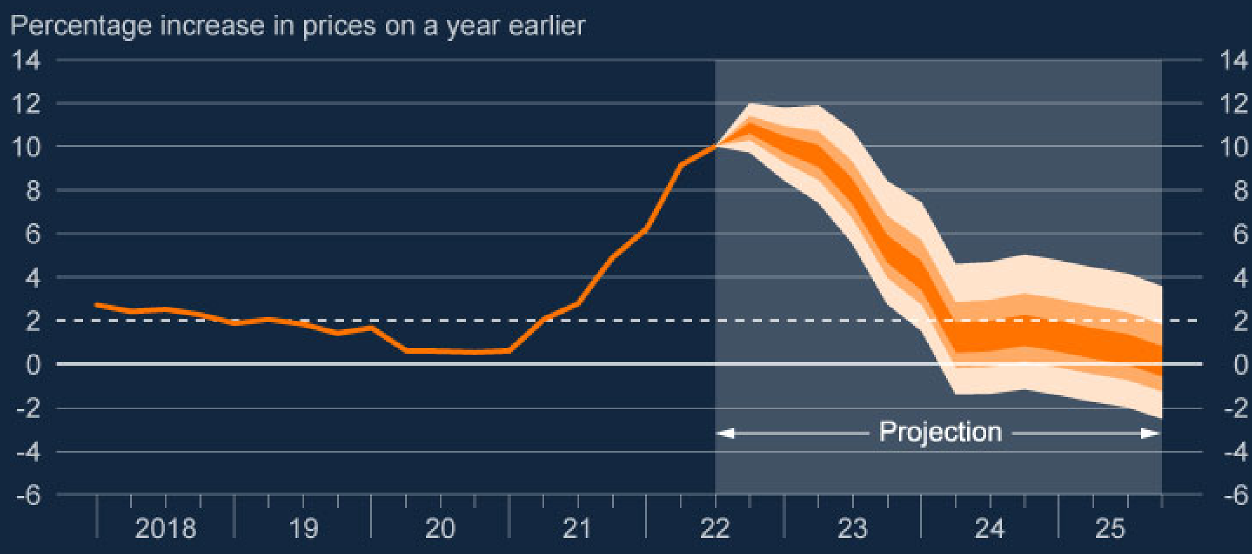
UK import price inflation is expected to be around 16% in 2022 Q4 and, although it is also expected to fall back materially given the path of world export prices, it will be boosted relative to the August Report by the recent depreciation of sterling.

Not all of the recent excess CPI inflation can be attributed to global events. There has also been a role for interactions of global shocks with domestic factors, including a tight labour market and the pricing strategies of firms. Core services CPI inflation has risen over the past two years and is expected to increase a little further in coming months. Nominal annual private sector regular pay growth rose to 6.2% in the three months to August, 0.6 percentage points higher than expected in the August Report. Bank staff project that underlying pay growth will strengthen further in the near term, and contacts of the Agents have continued to note that, in addition to the tight labour market, inflation is a significant factor in driving pay awards. The Committee has retained its judgement from the August Report that, due to the pressures from pay growth, CPI inflation is a little higher throughout the projection than would otherwise be the case. For example at the two-year horizon, this judgement adds just under ½ percentage point to the inflation projections.

In the MPC’s central projection conditioned on the elevated path of market interest rates, upward pressure on CPI inflation is expected to dissipate, as global commodity price and tradable goods price inflation fall back, and as the contribution to inflation of household energy prices declines more rapidly. Domestic inflationary pressures subside given the increasing degree of economic slack. Earnings growth is expected to start to decline from the second half of next year.

CPI inflation is projected to fall sharply to around 5% by the end of next year (Table 1.C), as fading external factors outweigh domestic pressures. Inflation then falls to 1.4% in two years' time, below the 2% target, and to 0.0% in three years' time (Table 1.A), as energy prices make a negative contribution and as domestic pressures weaken further.

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 Section 1.1. 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 outturns of inflation are also expected to lie within each pair of the lighter orange 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 orange area of the fan chart. Over the forecast period, this has been depicted by the 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.

Table 1.C: The quarterly central projection for CPI inflation (a)

	2022 Q4	2023 Q1	2023 Q2	2023 Q3	2023 Q4
CPI inflation	10.9	10.1	9.5	7.9	5.2

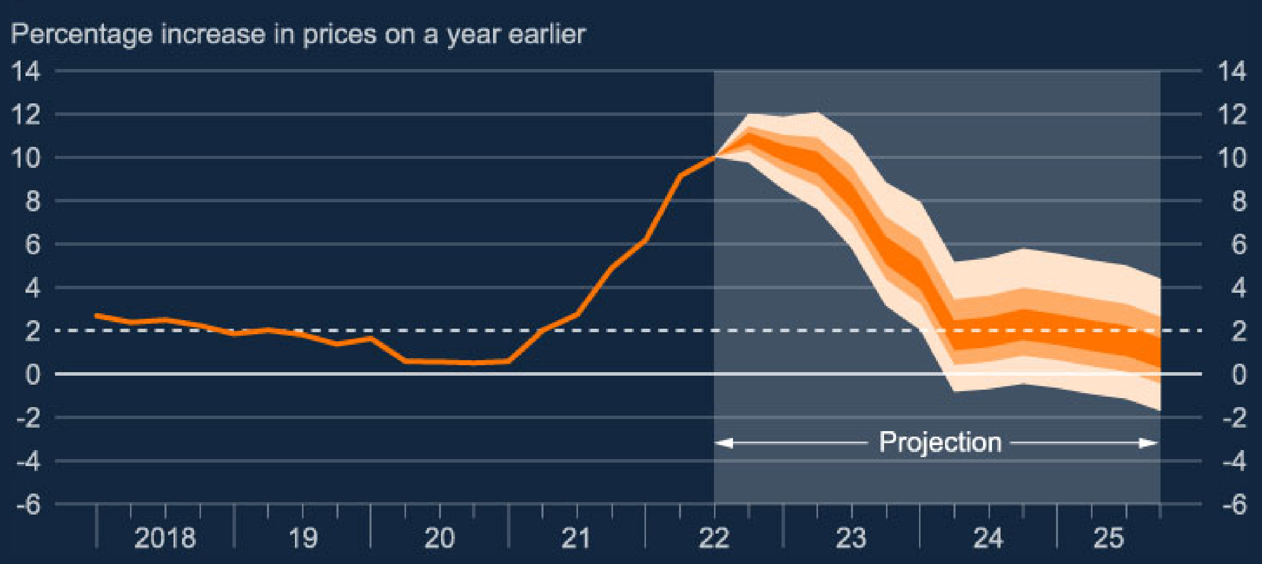
	2024 Q1	2024 Q2	2024 Q3	2024 Q4
CPI inflation	4.0	1.1	1.2	1.4

	2025 Q1	2025 Q2	2025 Q3	2025 Q4
CPI inflation	1.2	0.8	0.6	0.0

(a) Four-quarter inflation rate.

In projections conditioned on the alternative assumption of constant interest rates at 3%, CPI inflation is projected to be 2.2% and 0.8% in two years' and three years' time respectively, around three quarters of a percentage point higher than in the Committee's forecast conditioned on market rates (Chart 1.5).

Chart 1.5: CPI inflation projection based on constant interest rates at 3%, 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 Section 1.1, apart from for Bank Rate, with this chart conditioned on constant interest rates at 3%. The fan chart has the same interpretation as Chart 1.4.

The risks around the inflation projection are judged to be skewed to the upside in the medium term.

Although uncertainty around the outlook for UK retail energy prices has fallen to some extent following the Government's announcements of support measures, the precise parameters of support beyond six months are still to be specified. Box A sets out some simple ready reckoners for the impact on inflation (and GDP growth) of different assumptions about the path of household energy bills at the one and two-year forecast horizons.

There remain significant risks around the central projection for CPI inflation from other global and domestic factors.

An upside risk to world prices is that the disruption to the supply of gas from Russia to Europe is greater than embodied in the downward sloping futures curve for wholesale gas prices that now conditions the MPC's forecast. This would put more upward pressure on global inflation and further restrain activity, although it would have less of a direct impact on the UK inflation outlook given the Committee's assumptions about continued fiscal support for household energy prices over the next two years. An associated risk to world and UK consumer prices is that disruption to the supply of agricultural products persists for longer due to developments relating to Russia's invasion of Ukraine. More broadly, even if commodity prices fall back as expected, there could be upside risks to world export price inflation if some companies respond to those declines by rebuilding their profit margins.

There are also some downside risks to world prices if geopolitical tensions and supply disruption ease more quickly, or if there is a sharper-than-expected tightening in global financial conditions.

As set out in Box A of the August 2022 Report, there remain a number of risks to the outlook for UK CPI inflation from more persistent strength in domestic wage and price setting.

More persistence in wage and price setting could reflect feedback between high past outturns for CPI inflation, greater confidence by businesses that they can pass on cost increases, and a desire by some employees to try to offset the impact on their real incomes via higher nominal pay. So far, average earnings growth has not kept pace with the rise in CPI inflation. The MPC's central projections incorporate some attempted catch-up of nominal wage growth to the sharp rise in CPI inflation, which in turn pushes up the inflation projection somewhat. But there remains a risk that firms grant larger pay awards in coming quarters given the tight labour market and the elevated level of CPI inflation. Contacts of the Bank's Agents have reported that inflation is becoming a more important factor in pay negotiations, and that forthcoming increases in the National Living Wage are also expected by some to influence pay negotiations. That said, previous evidence suggests that there have been limited spillovers of increases in the minimum wage to higher parts of the wage distribution.

How quickly CPI inflation falls back to the 2% target will also depend on inflation expectations. An upside risk to the inflation outlook is that households and firms are less confident that inflation will fall back quickly and do not factor such a decline into their wage and price setting behaviour.

Since the August Report, some indicators of household and business inflation expectations have edged down, although they generally remain at elevated levels. The Bank's Market Participants Survey reported a further increase in longer-term CPI inflation expectations. The Committee will continue to monitor measures of inflation expectations very closely and act to ensure that longer-term inflation expectations are well anchored around the 2% target.

Domestic prices pressures could be weaker than expected due to the downside risks to demand themselves (Key judgement 1) and hence a greater downward effect on inflation from the degree of spare capacity in the economy. Related, the latest Agency intelligence suggests that, while many firms may continue to pass through higher costs to prices in order to limit a further erosion of margins, others may already be facing constraints on the extent to which they can do so.

Overall, the Committee judges that the risks around the central projection for CPI inflation are skewed to the upside in the medium term. This pushes up on the mean, relative to the modal, inflation projections in the forecast. In particular, on the alternative assumption of constant interest rates at 3%, mean CPI inflation is 2.7% and 1.3% at the two and three-year horizons.

Table 1.D: Indicative projections consistent with the MPC's forecast (a) (b)

	Average			Projection			
	1998–2007	2010–19	2020–21	2022	2023	2024	2025
World GDP (UK-weighted) (c)	**3**	**2½**	**¾**	**2¾ (2½)**	**1 (1)**	**1½ (1½)**	**2**
World GDP (PPP-weighted) (d)	4	3¾	1½	3 (3)	2¼ (2¾)	3(3)	3¼
Euro-area GDP (e)	2¼	1½	-½	3¼ (2¾)	0 (-1)	0 (¼)	1¼
US GDP (f)	3	2¼	1½	1¾ (2)	¼ (1½)	1¼ (1¾)	2
Emerging market GDP (PPP-weighted) (g)	5½	5	2¼	3½ (3¾)	3½ (4)	4½ (4¼)	4½
of which, China GDP (h)	10	7¾	5¼	3¼ (3¼)	4½ (5¼)	5 (4½)	5
UK GDP (i)	**2¾**	**2**	**-1¾**	**4¼ (3½)**	**-1½ (-1½)**	**-1 (-¼)**	½
Household consumption (j)	3¼	2	-3½	4¾ (4¼)	-1 (-¾)	-½ (1)	½
Business investment (k)	3	3¾	-6	5¼ (6)	-3½ (-2)	-6½ (-7¼)	-1¾
Housing investment (l)	3	4¼	0	6¾ (6¾)	-8¼ (-5¾)	-8¾ (-2½)	¼
Exports (m)	4¼	3½	-6¼	5¼ (3½)	-1½ (-¼)	¾ (0)	¾
Imports (n)	6¼	4	-6½	13¼ (14¾)	-1 (0)	0 (¼)	1¼
Contribution of net trade to	-½	-¼	¼	-2½ (-3¼)	0 (0)	¼ (0)	-¼

GDP (o)							
Real post-tax labour income (p)	3¼	1½	¾	-2¾ (-3½)	-3 (-4¼)	1 (¾)	¾
Real post-tax household income (q)	3	1½	0	-¼ (-1½)	-1½ (-2¼)	¾ (¾)	1
Household saving ratio (r)	7¼	7¾	14¼	8 (5¼)	7½ (3¾)	8¾ (3½)	9
Credit spreads (s)	¾	2½	1¾	¾ (1¼)	¾ (1¼)	1 (1½)	1
Excess supply/**Excess demand** (t)	0	-1¾	-¾	**1¼** (¾)	-1¾ (-2)	-2¾ (-3)	-3
Hourly labour productivity (u)	2	¾	¼	¼ (-1)	0 (¼)	¼ (1)	½
Employment (v)	1	1¼	-½	¾ (1¼)	-1½ (-1½)	-½ (-¾)	0
Average weekly hours worked (w)	32¼	32	30¾	31¾ (31¾)	31½ (31½)	31½ (31½)	31½
Unemployment rate (x)	5¼	6	4¾	3¾ (3¾)	5 (4¾)	5¾ (5¾)	6½
Participation rate (y)	63	63½	63¼	63¼ (63¼)	62¾ (62¾)	62½ (62½)	62¾
CPI inflation (z)	**1½**	**2¼**	**2¾**	**10¾ (13)**	**5¼ (5½)**	**1½ (1½)**	**0**
UK import prices (aa)	-½	1¼	2	12 (8½)	-3¾ (-3¼)	-2¼ (-1¾)	-1¾
Energy prices – direct contribution to	¼	¼	½	3¾ (6½)	1 (¾)	0 (0)	-¾

CPI inflation (ab)							
Average weekly earnings (ac)	4¼	2¼	4½	5¾ (5¼)	4¼ (5¼)	2¾ (2¾)	2
Unit labour costs (ad)	3	1¼	5¼	6 (8)	4¾ (5)	2¼ (2)	1¼
Private sector regular pay based unit wage costs (ae)	1¾	1½	3¾	7¼ (7½)	6¾ (6½)	2¾ (2)	1¾

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 2022 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 emerging market economy 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.
(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)]. The backdata for this series are available at '**Monetary Policy Report – Download the chart slides and data – November 2022**'.

(q) Total available household resources, deflated by the consumer expenditure deflator. Based on [RPQK/((ABJQ+HAYE)/(ABJR+HAYO))].
(r) Annual average. Percentage of total available household resources. Based on NRJS.
(s) 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.
(t) Annual average. Per cent of potential GDP. A negative figure implies output is below potential and a positive figure that it is above.
(u) GDP per hour worked. GDP data based on the mode of the MPC's GDP backcast. Hours worked based on YBUS.
(v) Four-quarter growth in LFS employment in Q4. Based on MGRZ.
(w) Level in Q4. Average weekly hours worked, in main job and second job. Based on YBUS/MGRZ.
(x) LFS unemployment rate in Q4. Based on MGSX.
(y) Level in Q4. Percentage of the 16+ population. Based on MGWG.
(z) Four-quarter inflation rate in Q4.
(aa) Four-quarter inflation rate in Q4 excluding fuel and the impact of MTIC fraud.
(ab) Contribution of fuels and lubricants and gas and electricity prices to four-quarter CPI inflation in Q4.
(ac) 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 Average Weekly Earnings, with ONS series identifier MD9M.
(ad) Four-quarter growth in unit labour costs in Q4. Whole-economy total labour costs divided by GDP at constant prices. Total labour costs comprise compensation of employees and the labour share multiplied by mixed income.
(ae) 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. Private sector wage costs are average weekly earnings (excluding bonuses) multiplied by private sector employment.

Box A: Fiscal policy in the November Report

Since the August Report, the Government has announced an Energy Price Guarantee (EPG) and an Energy Bill Relief Scheme. These measures provide support to households and businesses with their energy bills. Following recent Government announcements, the MPC's working assumption in producing its forecast is that the EPG provides overall less support after the first six months than the scheme initially announced in the lead up to the MPC's September meeting. In addition to energy support policies, the other fiscal measures announced up to and including 17 October support demand relative to the August projection. The MPC's forecast does not incorporate any further measures that may be announced at the Autumn Statement scheduled for 17 November.

This box sets out the evolution of the energy support packages, the energy support assumptions in the MPC's November projections, and the other fiscal measures up to and including the 17 October announcement.

The evolution of the energy support packages

The Government has announced support for higher household and business energy bills for six months.

The very sharp rise in wholesale gas prices meant that at the time of the August Report, the Ofgem energy price cap was expected to rise from just under £2,000 per year in April 2022 to around £3,500 in October 2022 for the typical household. As a result, the MPC had projected in August that CPI inflation would rise to 13% in October.

Since the August Report, the Government has announced an Energy Price Guarantee for households. This caps household unit energy prices at a level consistent with a typical household dual fuel bill of £2,500 per year. In the original vintage of the scheme, announced in early September, that support lasted for two years from October 2022.

On 17 October, the Government announced that it would last in this form for six months. A Treasury-led review has been launched to inform how support for households could continue beyond March 2023. The Government has said that further support would reduce the cost to the taxpayer relative to the original version of the scheme, while ensuring enough support for those in need.

The EPG is in addition to the previously announced Energy Bills Support Scheme, which commenced in October, and which provides £400 of support on household energy bills until March 2023.

The Government has also announced an Energy Bill Relief Scheme for businesses. This is an equivalent cap for firms and other non-domestic energy users for six months.

The **ONS** has confirmed that the reduction in household energy prices implied by the EPG will be incorporated into CPI calculations. These measures, therefore, reduce the near-term path for CPI inflation relative to the August projection (Section 3). Lower energy bills also reduce the squeeze on household real incomes, such that the fall in near-term spending and activity is less sharp than in August (Section 2.3).

The energy support assumptions in the MPC's November projections

> **After six months, the MPC's central projection includes a stylised path for household energy prices, consistent with the Government announcement on 17 October.**

The MPC's projections are usually conditioned on announced policy. Given the Government's approach set out on 17 October, the MPC has, in producing its forecasts, had to make a working assumption on the level of support that will continue after the first six months.

The MPC's central projection assumes, therefore, an indicative path for household utility bills that, for a further eighteen months, is halfway between the announced £2,500 limit on the typical household bill and the level implied by futures prices under the Ofgem price cap. This further support is assumed to be implemented as a price cap, similar to the current scheme, such that it would be reflected in the CPI inflation calculation by the ONS. After two years, the MPC's projection assumes that household energy prices evolve in line with the expected path of Ofgem price caps implied by futures prices (Section 1.1).

The MPC's projections assume no further support is provided for businesses beyond the six-month Energy Bill Relief Scheme. Energy costs facing firms then rise to the level implied by futures prices.

Based on Bank staff calculations, on these assumptions, the level of GDP is around 0.3% higher at the end of the forecast as a result of the energy support schemes. CPI inflation picks up slightly in 2024 H2 as the contribution of energy to CPI inflation rises when the household scheme is assumed to end.

The MPC's central projections are sensitive to this assumption about the amount of energy support provided beyond the six-month horizon.

The MPC's central projections for GDP growth and CPI inflation are sensitive to the stylised assumption made in the central projection about the amount of energy support provided beyond the six-month horizon. To illustrate, if the profile for household energy prices was £500 a year higher over the following 18 months, that would raise the projection for inflation at the end of the first year of the forecast period by around 1 percentage point, but lower it at the end of the second year by slightly less than 1 percentage point. It would also lower annual GDP growth at the end of the first year by around 0.2 percentage points, but have little effect beyond that. Although the exact numbers would differ due to base effects, roughly symmetric effects would be expected for an energy price profile that was £500 a year lower.

Other fiscal measures up to and including the 17 October announcement

The Government has announced some other fiscal measures…

The Government has announced a reversal of the 1.25 percentage point increase in the National Insurance contribution from 6 November 2022 and a cancellation of the Health and Social Care Levy, which had been due to come into force from 6 April 2023. It has also made changes to Stamp Duty Land Tax – doubling the nil rate band to £250,000 and increasing the level at which stamp duty starts for first-time buyers from £300,000 to £425,000. The Annual Investment Allowance will be permanently set at £1 million, rather than falling in April 2023.

The Government has also cancelled the planned 1 percentage point cut in the basic rate of income tax that had been due to take effect in April 2024.

…which loosen fiscal policy and support demand a little relative to the August projection.

The impacts on demand of these other measures are estimated using 'multipliers', which capture the total effect of fiscal policy changes on GDP, including via indirect effects on private incomes and spending. These multipliers are based on a range of models, and are broadly similar to the multipliers used by the OBR. Box C of the **May 2021 Report** discusses fiscal multipliers in further detail.

Overall, these other fiscal measures boost the level of aggregate demand by around 0.2% by the end of the forecast.

The Government's full fiscal plan will be set out on 17 November.

On 17 November, the Government will deliver an Autumn Statement containing the UK's medium-term fiscal plan, alongside forecasts from the OBR. The MPC's forecast does not incorporate any further measures that may be announced then.

Box B: The treatment of energy in the MPC's forecast

Energy prices have increased significantly since the beginning of 2021 and expectations for energy prices have increased further in futures markets since August (Chart 3.1). Energy prices are contributing materially to current CPI inflation. As a net importer of energy, the price of the goods imported into the UK has risen relative to those exported, which has made the UK worse off. Subsequent lower real incomes for households and profits for firms are expected to weigh on demand in the MPC's forecast. In this context, Bank staff have re-examined the role of energy in the MPC's forecast.

In addition, the MPC is now assuming that wholesale energy prices follow their respective futures curves throughout this forecast. This is a change from its recent convention that energy prices follow futures curves for six months only and then remain constant (Box 5 of the **August 2019 Inflation Report**). That is because using that previous convention to imply a path for household utility bills after two years of assumed fiscal support (Box A) would lead to an implausible jump in the CPI inflation projection at that point.

The response of household and business demand to changes in energy prices

Bank staff have updated their assessment of how consumers and businesses adjust demand in response to rising energy costs. In previous forecasts, energy was assumed for simplicity to remain a fixed share in households' preferences and firms' production technologies as energy prices rose. As the shock has become both more acute and more prolonged, this simplification has become less appropriate. And indeed most empirical studies identify some degree of substitutability between energy and other goods (see, for example, **Harrison et al (2011)**, **Lecca et al (2014)** and **van der Werf (2007)**). This means that when the price of energy rises, firms and households economise on energy use so that their demand for other goods does not fall as much. The degree with which households and companies can substitute away from energy is referred to as the 'elasticity of substitution'.

Estimates by Bank staff of the short-run elasticity of substitution between energy and other goods ranged from around 0.15 to 0.3 for households and 0.4 to 0.5 for businesses. Higher estimates for businesses are consistent with other empirical studies (**Conway and Prentice (2020)**). Firms may be more flexible about when they consume energy, for example running production processes in off-peak times, or are better able to switch sources of energy than households, although there is likely to be a great deal of variation across sectors and firm size. Estimates of substitution for both households and firms also tend to be higher in the long run than over short periods of time. This is because energy is a necessity so large reductions in usage are less likely in the very short term. But, over time, businesses and households are more likely to be able to adjust habits and invest in more energy-efficient appliances and machinery.

Recent data would be consistent with some demand shifting away from energy. Cumulative demand for energy in the UK has been lower so far this year than past averages, while overall output has been higher. Reports to the Banks' Agents also suggest that firms are focused on reducing energy consumption, in some cases spurring investment to improve energy efficiency. Similarly, contacts suggest that consumer demand for energy-saving goods has risen.

As a result, some substitution between the demand for energy and other goods has been introduced to the assessment of energy prices over the forecast and the recent past, with firms assumed to substitute by more than households. This reduces the response of aggregate demand to energy price rises. Over the past, where GDP is observed, Bank staff have assumed the smaller drag from the energy price shock implies stronger excess demand. The Committee will consider the response of potential supply to these energy price changes in its forthcoming supply stocktake.

The transmission of energy costs through the supply chain

As well as the direct effect on CPI inflation through household energy bills and fuel prices, energy prices also affect inflation through increased costs for firms that then feed indirectly into prices for consumers. Bank staff have made two improvements to the estimation of this channel. First, the energy price inflation experienced by firms and households are now estimated separately, reflecting the different speed and magnitude of pass-through from wholesale rates to bills faced by households and businesses. Second, Bank staff have used the latest data from input-output tables to estimate better how energy price inflation feeds through the supply chain to consumer prices.

Incorporating these improvements, Bank staff now estimate that the transmission of energy prices has been larger and faster through the supply chain than previously judged. As a result, the effects of past energy price changes are also expected to fade faster than previously assumed.

Box C: Monetary policy since the August 2022 Report

At its meeting ending on 21 September 2022, the MPC voted by a majority of 5–4 to increase Bank Rate by 0.5 percentage points, to 2.25%. The Committee also voted unanimously to reduce the stock of purchased UK government bonds, financed by the issuance of central bank reserves, by £80 billion over the next 12 months, to a total of £758 billion, in line with the strategy set out in the minutes of the August MPC meeting.

Since August, wholesale gas prices had been highly volatile, and there had been large moves in financial markets, including a sharp increase in government bond yields globally. Sterling had depreciated materially over the period.

Uncertainty around the outlook for UK retail energy prices had nevertheless fallen, following the Government's announcements of support measures including an Energy Price Guarantee (EPG). The Guarantee was likely to limit significantly further increases in CPI inflation, and reduce its volatility, while supporting aggregate private demand relative to the Committee's August projections.

There had been some modest downside news to underlying UK GDP growth in 2022 Q3, and faster indicators and contacts of the Bank's Agents suggested that the level of consumer spending was likely to have peaked in this quarter. There had been some indications that the demand for labour was weakening, although the labour market nonetheless tightened further over the summer, with inactivity materially higher than anticipated. Consumer services prices and nominal wages had continued to rise more rapidly than expected, although core goods price inflation had been lower than expected.

Twelve-month CPI inflation fell slightly from 10.1% in July to 9.9% in August, with the release triggering the exchange of open letters between the Governor and the Chancellor of the Exchequer. Given the EPG, the peak in measured CPI inflation was likely to be lower than projected in the August Report, at just under 11% in October. Nevertheless, energy bills would still go up and, combined with the indirect effects of higher energy costs, inflation was expected to remain above 10% over the following few months, before starting to fall back.

There had been further signs since the August Report of continuing strength in domestically generated inflation. In and of itself, the Government's EPG would lower and bring forward the expected peak of CPI inflation. For the duration of the Guarantee, this might be expected to reduce the risk that a long period of externally generated price inflation leads to more persistent domestic price and wage pressures, although that risk remained material.

The labour market was tight and domestic cost and price pressures remained elevated. While the Guarantee reduced inflation in the near term, it also meant that household spending was likely to be less weak than projected in the August Report over the first two years of the forecast period. All else equal, and relative to that forecast, this would add to inflationary pressures in the medium term.

In view of these considerations, the Committee voted to increase Bank Rate by 0.5 percentage points, to 2.25%, at this meeting.

2: Current economic conditions

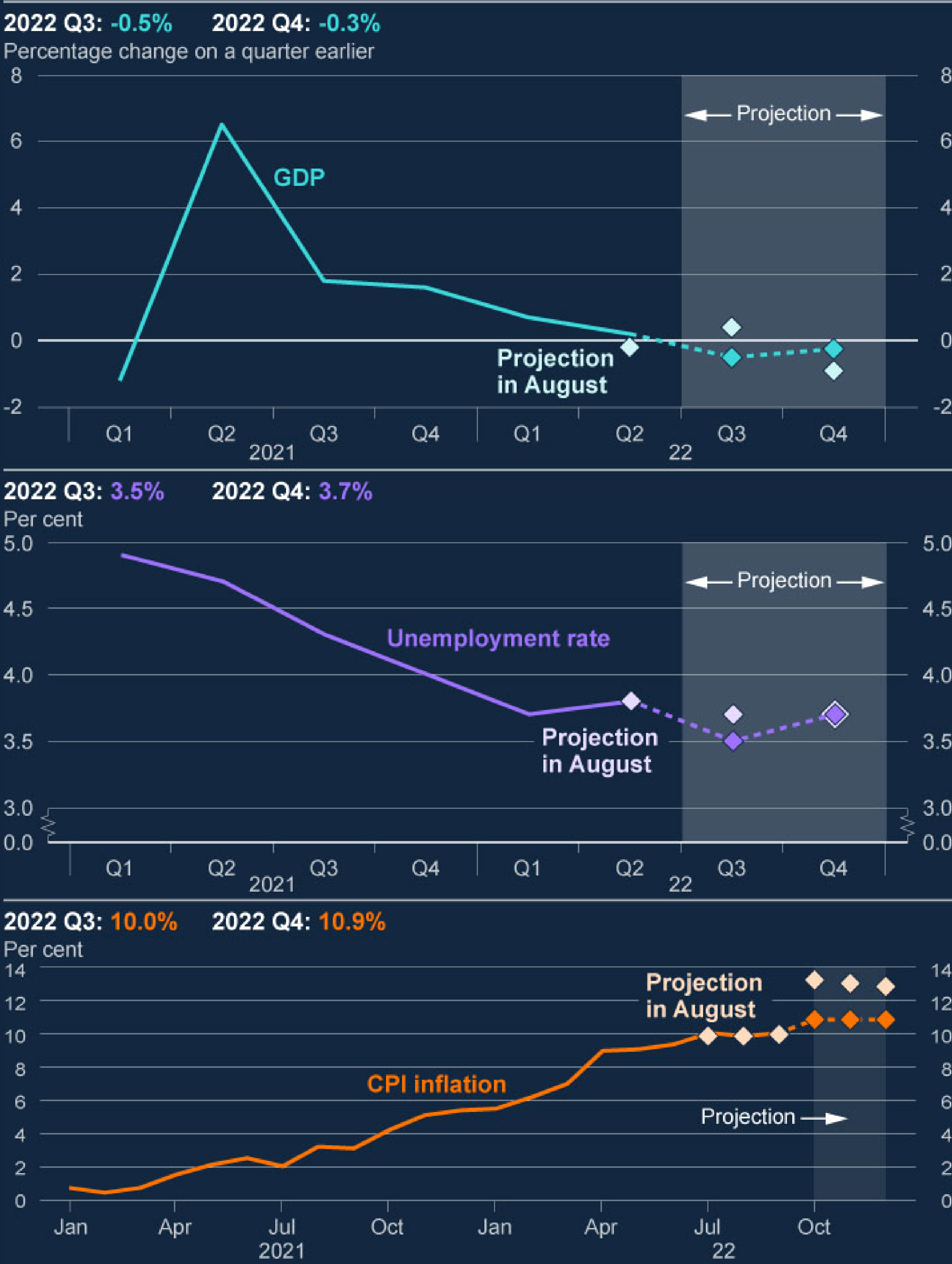
Global GDP growth has slowed. Global inflation remains elevated, and many central banks have continued to raise policy rates. There have been large and volatile moves in UK asset prices since the August Report. These partly reflect global developments but UK-specific factors, in particular related to the announcement of the Government's Growth Plan in late September, played an important role. Short and longer-term interest rates have picked up sharply, risky asset prices have fallen and the sterling effective exchange rate has depreciated by 2% since August. Advertised rates on new mortgages in the UK have increased markedly.

UK GDP is expected to have contracted by 0.5% in Q3, and is projected to fall a further 0.3% in Q4. That partly reflects the squeeze on real incomes from higher global energy and tradable goods prices. The fall in Q4 is less marked than in August, however, largely reflecting the Government's Energy Price Guarantee. Despite this, the outlook for consumption remains weak as the ongoing real income squeeze and higher mortgages rates weigh on household spending. The unemployment rate is expected to remain around historically low levels in the near term.

CPI inflation was 10.1% in September and is projected to be around 11% in 2022 Q4. This near-term projection is lower than in August, reflecting the impact of the Energy Price Guarantee. CPI inflation is projected to be around 10% in 2023 Q1 before falling further in subsequent quarters. High inflation mainly reflects large increases in global energy and other tradable goods prices, but it also reflects domestic factors, including a tight labour market.

Chart 2.1: GDP is expected to fall in 2022 H2, unemployment is projected to remain at very low levels and inflation is expected to rise a little in Q4

Near-term projections (a)



Sources: ONS and Bank calculations.

(a) The lighter diamonds show Bank staff's projections at the time of the August 2022 Monetary Policy Report. The darker diamonds show Bank staff's current projections. Projections for GDP and the unemployment rate are quarterly and show Q3 and Q4 (August projections show Q2 to Q4). Projections for CPI inflation are monthly and show October to December 2022 (August projections show July to December 2022). GDP and unemployment rate 2022 Q3 projections are based on official data to August. CPI inflation figure is an outturn.

2.1: Global economy

Global GDP growth has slowed and is projected to remain weak in the near term.

Global GDP growth has been slowing in recent quarters (Chart 2.2). Quarterly UK-weighted world GDP growth is expected to have been around 0.3% in 2022 Q3, similar to Q2, but much weaker than in 2021. The latest indicators, such as cross-country PMIs, suggest that world GDP growth is likely to remain weak in Q4.

In the euro area, GDP growth was 0.2% in Q3 according to the flash estimate, much weaker than the 0.8% growth reported in Q2. The slowdown largely reflects the continuing squeeze on household real incomes due to high energy and food prices. Since August, several European governments have announced a range of policy measures to address the impact of high energy prices on households and businesses. As a result, the growth outlook is stronger than in August (Table 1.D).

In the United States, GDP grew by 0.6% in Q3, having fallen slightly in the previous two quarters. Growth was boosted by net trade in particular, with a rise in both goods and services exports, and a fall in goods imports. Nevertheless, financial conditions in the US continued to tighten, as the FOMC has tightened monetary policy in response to inflationary pressures. This has also contributed to a slowing in the US housing market. Tighter financial conditions are expected to continue to weigh on growth.

In China, GDP growth picked up to 3.9% in Q3, as Covid-related restrictions were loosened. Accommodative monetary and fiscal policies also boosted growth. Looking ahead, the ongoing impact of Covid-related restrictions, weakness in the housing sector and a slowing in global demand are expected to weigh on growth.

Chart 2.2: Global growth has slowed and is projected to remain weak in Q4

UK-weighted world GDP growth (a)

Sources: Refinitiv Eikon from LSEG and Bank calculations.

(a) See footnote (c) of Table 1.D for definition. Figures for 2022 Q3 and Q4 are Bank staff projections. These projections do not include the Advance Estimate of US 2022 Q3 GDP and the Preliminary Flash Estimate of euro-area 2022 Q3 GDP which were released after data cut-off.

Consumer price inflation in the euro area and US remains elevated.

In the euro area, annual HICP inflation picked up to 9.9% in September. Energy prices continued to make the largest contribution to headline inflation, similar to the UK (Chart 2.4). European gas spot prices picked up sharply in August, but have since fallen back markedly (Chart 2.3). This was partly driven by the build-up of gas stocks in many European countries ahead of the winter. Gas futures prices remain elevated though, which reflects the ongoing impact of Russia's restriction of gas supplies to Europe. As in the UK, measures announced by some European countries to limit the pass-through of higher wholesale gas prices into retail energy prices are expected to reduce the near-term path of inflation relative to projections in August.

Chart 2.3: Spot gas prices have fallen from their August peaks in Europe and the UK

International wholesale gas spot and futures prices (a)

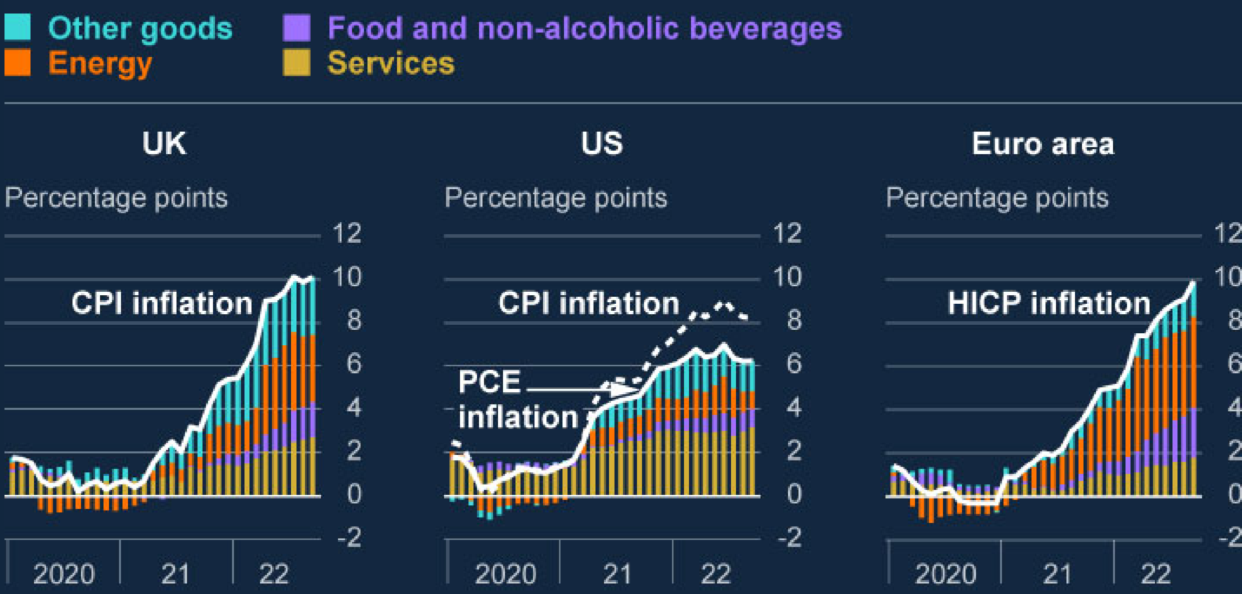
Sources: Bloomberg Finance L.P. and Bank calculations.

(a) The Dutch Title Transfer Facility pricing point is used for the European price. UK and US prices have been converted to euros. Dashed lines refer to respective futures curves using one-month forward prices based on the seven day average to 25 October 2022 for the UK and the fifteen day averages to 25 October 2022 for the US and Europe.

In the United States, annual headline CPI inflation was 8.2% in September, having fallen from its recent high of 9.1% in June (Chart 2.4). Annual headline PCE inflation, the FOMC's target variable, was 6.2% in September. That is lower than its recent peak in June, largely due to a fall in fuel prices. As discussed in Box E in the **August Report**, services inflation has been higher in the US and UK than in the euro area, which in part is likely to reflect greater labour market tightness.

Chart 2.4: Inflation remains elevated in the UK, US and euro area

Contributions to annual consumer price inflation (a)



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

(a) Energy includes fuel and household energy bills. Other goods is the difference between overall inflation and the other contributions identified on the chart, and therefore includes alcohol and tobacco. The latest data are September 2022 outturns.

An easing of global bottlenecks and the fall in commodity prices should help to reduce global inflationary pressures.

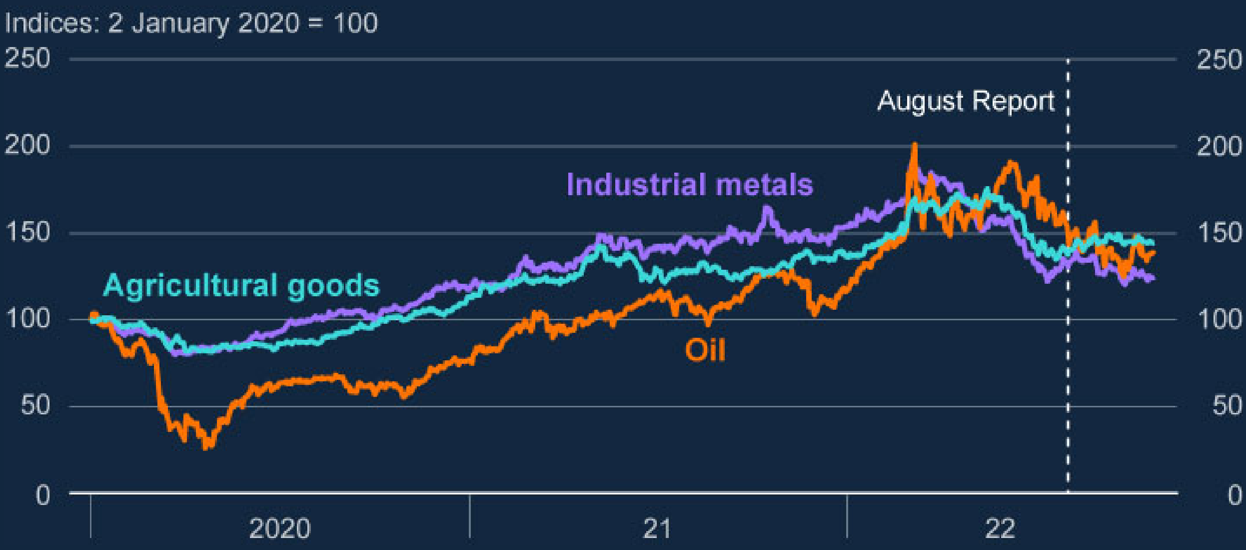
Global bottlenecks have eased as supply conditions have improved and global demand has slowed. Global shipping costs have fallen from their peaks earlier in the year (Chart 3.5) and other indicators of supply constraints point to an easing of pressures in the past few months.

Weaker global demand is also weighing on the prices of some commodities, such as oil and metals, which have fallen since August (Chart 2.5). The Brent crude oil spot price has fallen by just under 15%, though it remains 20% higher than at the start of the year. Global agricultural goods prices have picked up a little, reflecting some weather-related supply disruption over the summer, but have fallen by around 20% from their recent peak in Q2.

In the MPC's baseline projection, global bottlenecks are expected to ease further which should help to reduce inflationary pressures for tradable goods. Assuming that energy prices follow their futures curves, four-quarter world export price inflation is projected to fall sharply during 2023 (Section 1).

Chart 2.5: Oil and metals prices have fallen since August

US dollar commodity prices (a)



Sources: Bloomberg Finance L.P., Refinitiv Eikon from LSEG, S&P indices and Bank calculations.

(a) Daily data to 25 October. Calculated using S&P GSCI US dollar commodity price indices, the 'Agricultural goods' series is based on the total agricultural and livestock S&P Commodity Index and the 'Oil' series is based on US dollar Brent forward prices for delivery in 10–25 days' time.

Many central banks have continued to tighten policy and market pricing implies that policy rates will rise further.

Many central banks have continued to tighten policy. This has been against the backdrop of elevated inflation rates which have been partly driven by a range of global factors (see Box E in the **August Report**). In the US, the FOMC increased the target range for the federal funds rate by 75 basis points to 3.00%–3.25% in September. The FOMC anticipated that ongoing increases in the target range would be appropriate. At its October meeting, the ECB Governing Council increased its key interest rates by a further 75 basis points, following a similar hike in September. The Governing Council had expected to raise interest rates further, and had noted that substantial progress had been made in withdrawing monetary policy accommodation.

Market-implied expectations for policy rates in the US and euro area have risen sharply since August (Chart 2.7). The path for policy rates in the US reaches a peak of just over 4¾% in 2023, and falls to around 3½% at the three-year horizon. In the euro area, the market-implied path for rates rises to 3% in 2023 and remains around that level.

Global equity prices have fallen and spreads on corporate debt have widened. Overall financial conditions have tightened further.

Many major global equity indices have declined since August (Chart 2.6), reflecting expectations of higher interest rates and the weaker growth outlook. Reflecting similar drivers, spreads on corporate debt have widened (Chart 2.11). In the UK, an index of domestically focused companies' equity prices has fallen by more than many other indices. Market contacts noted that this partly reflected relatively weaker investor appetite for UK risky assets. Sterling denominated investment-grade corporate bond spreads have also risen by a little more than euro and dollar spreads since August.

The increase in expected policy rates, the fall in equity prices, the rise in spreads, and the appreciation of the US dollar mean that global financial conditions have tightened further since the August Report. That is expected to weigh on the global growth outlook.

Chart 2.6: Many global equity indices have fallen since August

International equity prices (a)

Sources: MSCI, Refinitiv Eikon from LSEG and Bank calculations.

(a) In local currency terms, except for MSCI Emerging Markets which is in US dollar terms. The MSCI Inc. disclaimer of liability, which applies to the data provided, is available from '**Monetary Policy Report – Download the chart slides and data – November 2022**'. UK domestically focused companies are defined as those generating at least 70% of their revenues in the United Kingdom.

2.2: UK asset prices and credit conditions

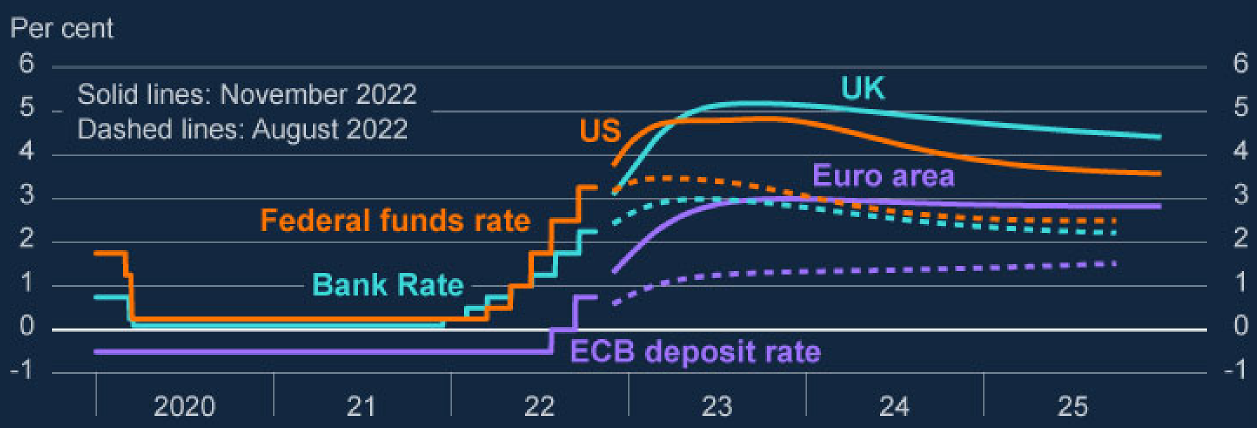
There have been large and volatile moves in short and longer-term interest rates in the UK since the August Report.

Short-term interest rates in the UK have risen markedly since the August Report, having been volatile over the period. The market-implied path for Bank Rate is consistent with Bank Rate rising to a peak of around 5¼% in 2023 Q3 (Chart 2.7). On average, the market path for rates is around 2¼ percentage points higher over the next three years than at the time of the August Report. The rise in the expected path of policy rates in the UK since August has been larger than in the US and euro area.

The path for Bank Rate implied by the latest Market Participants Survey is lower than the market curve, as it was in August. Nevertheless, the median central expectation of the peak level of rates has risen markedly from 2.5% to 4.5%. Similar to August, survey respondents noted that the gap relative to the market curve partly reflects the balance of risks being skewed towards a higher path for Bank Rate.

Chart 2.7: There has been a large increase in expected policy rates in the UK, US and euro area since August

International forward interest rates (a)



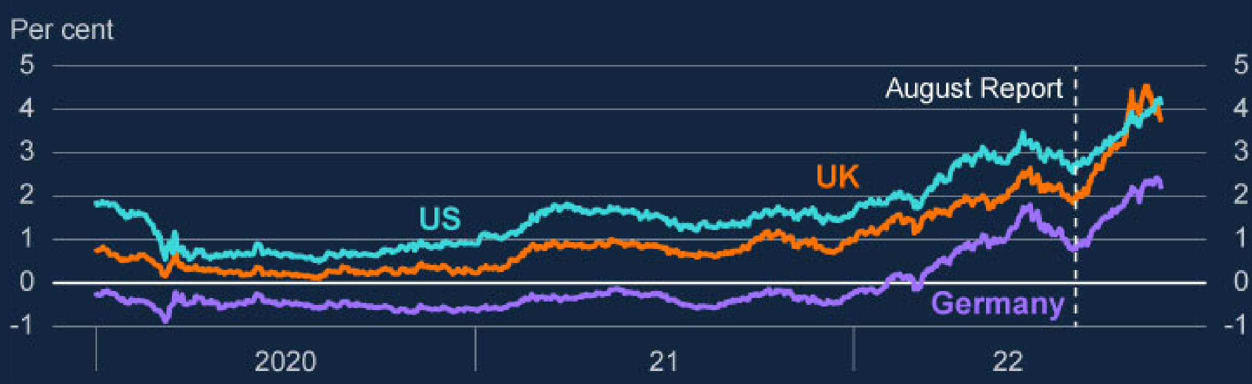
Sources: Bloomberg Finance L.P. and Bank calculations.

(a) All data as of 25 October 2022. The November and August curves for the UK are estimated using instantaneous forward overnight swap rates in the seven working days to 25 October 2022 and 15 working days to 26 July 2022 respectively. The curves for the US and euro area are estimated based on 15 working days to 25 October 2022 and 26 July 2022 respectively. Federal funds rate is the upper bound of the target range.

Long-term interest rates have also risen markedly. Since the August Report, UK 10-year government bond yields picked up by almost 250 basis points at their peak, but have since fallen back somewhat (Chart 2.8).

Chart 2.8: Long-term yields have picked up sharply since August

Ten-year nominal government bond yields



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

The sharp pickup in UK interest rates has been partly driven by global factors, but UK-specific factors have played an important role.

In the run-up to the MPC meeting ending on 21 September, UK short and longer-term interest rates were picking up alongside those in other advanced economies, although UK interest rates had increased by somewhat more than others. The rise in rates was partly driven by market participants' expectations that central banks would continue to react strongly to inflationary pressures.

Since the September MPC meeting, there have been large and volatile moves in UK interest rates, with unprecedented moves at the longer end of the gilt curve in particular. Short and longer-term interest rates rose sharply after the Government's Growth Plan was announced on 23 September. This repricing was associated with market dysfunction which threatened to create wider financial stability issues. This led the Bank of England to announce a temporary and targeted financial stability operation to buy longer-dated gilts, in order to address market dysfunction and to reduce risks to financial stability and core funding markets (**Cunliffe (2022)**). The Bank also **announced** further market operations, which included undertaking further targeted daily purchase operations for index-linked gilts. These financial stability operations had been designed to allow liability driven investment (LDI) funds affected by the significant repricing of UK financial assets time to reduce their leverage and to increase their resilience to future stresses. After a period of volatility, long-dated gilt yields fell back to around their levels in late September.

While part of the repricing in these rates since the August Report reflects global developments, there had clearly been an important UK-specific component (**Pill (2022)** and **Ramsden (2022)**). One model estimated by Bank staff that decomposes movements in 10-year gilt yields suggests that UK factors have played an increasingly significant role in driving yields since August (Chart 2.9). According to market contacts, these UK factors included a higher central expectation for Bank Rate, heightened political and economic uncertainty associated with the Government's fiscal announcements, and market illiquidity.

Chart 2.9: The recent moves in long-term rates have been driven by UK factors

Decomposition of the change in the 10-year UK nominal government bond yield since the start of 2022 (a)

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

(a) Methodology based on **Rigobon (2003)**. Identification of the country-specific origins of shocks is based on asset price volatility over time. The orange 'Global' bars combine identified shocks from the euro area, Japan and US. Data are weekly and the latest data point is for the week to 20 October 2022.

The sterling ERI has fallen by 2% since the August Report.

Similar to UK interest rates, the sterling effective exchange rate has been volatile since the August Report. It fell by 6% at its trough, but has since recovered, and was 2% lower at data cut-off relative to August (Chart 2.10). Similar to market interest rates, the moves are likely to reflect global and UK-specific factors. Part of sterling's depreciation has been due to the continuing strength of the US dollar. Heightened global risk aversion and rising US interest rates have driven flows into the US dollar from several currencies, including sterling. Sterling has depreciated by around 5% against the US dollar since August, relative to a 2% depreciation against the euro. The sharp fall in sterling in late September followed the announcement of the Government's Growth Plan. Market contacts noted that increased uncertainty around the UK's economic and fiscal outlook was the main driver of this move. Consistent with this, sterling implied volatility – a measure of the uncertainty around the outlook for sterling – also picked up sharply in late September and has fallen somewhat since then.

Chart 2.10: The sterling ERI has fallen by 2% since the August Report

Sterling effective exchange rate index (ERI) and selected bilateral exchange rates (a)

(a) Figures in parentheses show currency trade weights in the overall sterling ERI.

The cost of borrowing for UK firms has picked up since August, and the availability of bank credit has fallen.

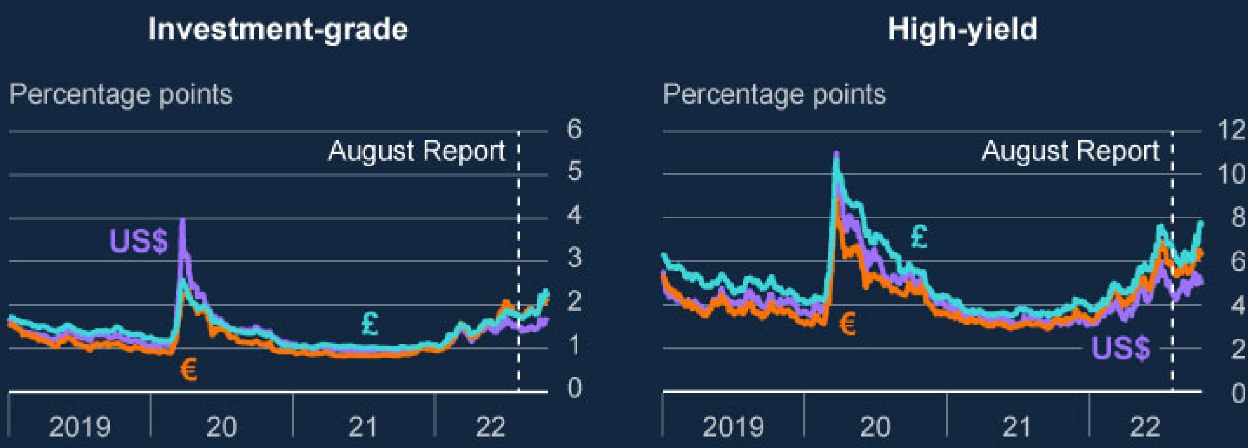
The cost of market-based finance has picked up since the August Report. For example, sterling investment-grade and high-yield corporate bond spreads have widened (Chart 2.11).

Bank lending rates to corporates have increased since August and the availability of bank lending fell for some firms during Q3. Contacts of the Bank's Agents reported that the availability of bank finance for small and medium-sized enterprises had fallen, in particular for consumer-facing firms or those exposed to higher costs. Lenders responding to the

Bank's latest **Credit Conditions Survey (CCS)**, which was carried out before the volatility in UK asset prices, expected overall corporate credit availability to worsen in Q4 due to heightened sector-specific risks and a deteriorating economic outlook.

Chart 2.11: Corporate bond spreads have picked up

International non-financial corporate bond spreads (a)



Sources: ICE/BoAML Global Research and Refinitiv Eikon from LSEG.

(a) Option-adjusted spreads relative to government bond yields. Investment-grade corporate bond yields are calculated using an index of bonds with a rating of BBB3 or above. High-yield corporate bond yields are calculated using aggregate indices of bonds rated lower than BBB3. Due to monthly index rebalancing, movements in yields at the end of each month might reflect changes in the population of securities within the indices.

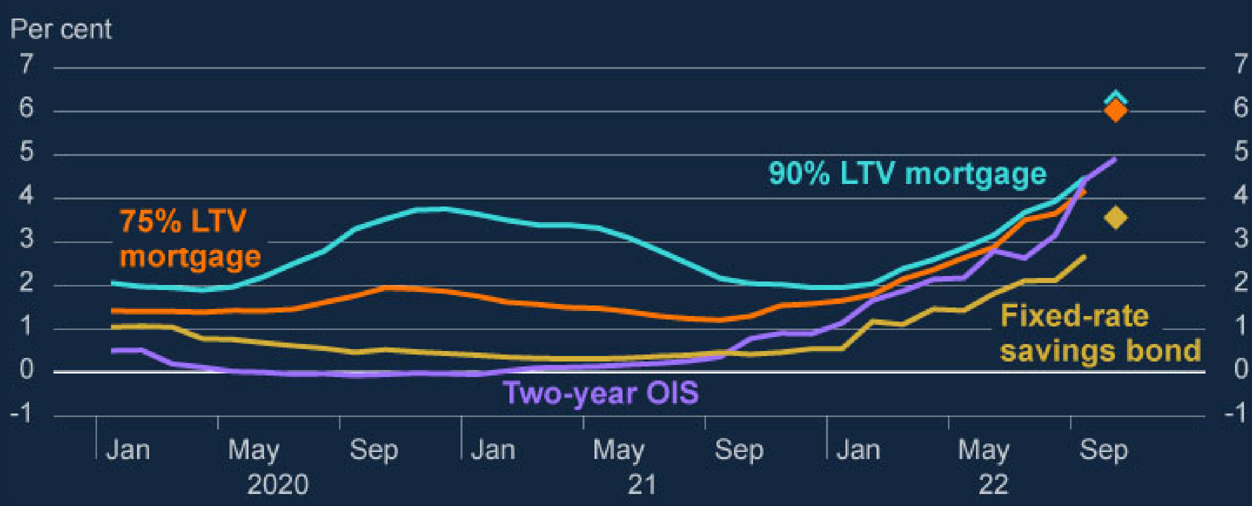
Reflecting the rise in risk-free rates, new mortgage rates have increased sharply.

Rates on new mortgages have risen sharply since the August Report, reflecting the pass-through of higher risk-free interest rates. For example, the average quoted rate on a two-year fixed-rate 75% loan to value (LTV) mortgage has increased from 3.6% in August to around 6% in October (Chart 2.12), its highest rate since 2008. The relevant reference rate for this product is the two-year overnight index swap (OIS) rate, which largely reflects expectations for the path of Bank Rate (see Box D of the **August Report**). As set out above, these expectations have picked up markedly. Higher swap rates have prompted many lenders to reprice their mortgage products upwards, with pass-through occurring faster than in the past. Reference rates have fallen back from their recent highs in late September, and there have been moderate falls in some mortgage rates in the days leading up to the MPC's November meeting.

The availability of household secured credit has also fallen. Lenders reported in the latest Credit Conditions Survey that it declined in Q3. This survey was carried out prior to the volatility in UK interest rate markets, after which the number of available mortgage products across all LTVs fell sharply. The number of available products has since recovered somewhat, but remains below its level in August.

Chart 2.12: Average quoted rates on new mortgages have picked up sharply

Average quoted rates on two-year fixed-rate mortgages, a fixed-rate savings bond and the OIS rate (a)



Sources: Moneyfacts.co.uk 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**'. Diamonds represent latest quoted rates data which are flash estimates for October using data to 31 October and are provisional until publication on 4 November. OIS rates are monthly averages of two-year OIS rates.

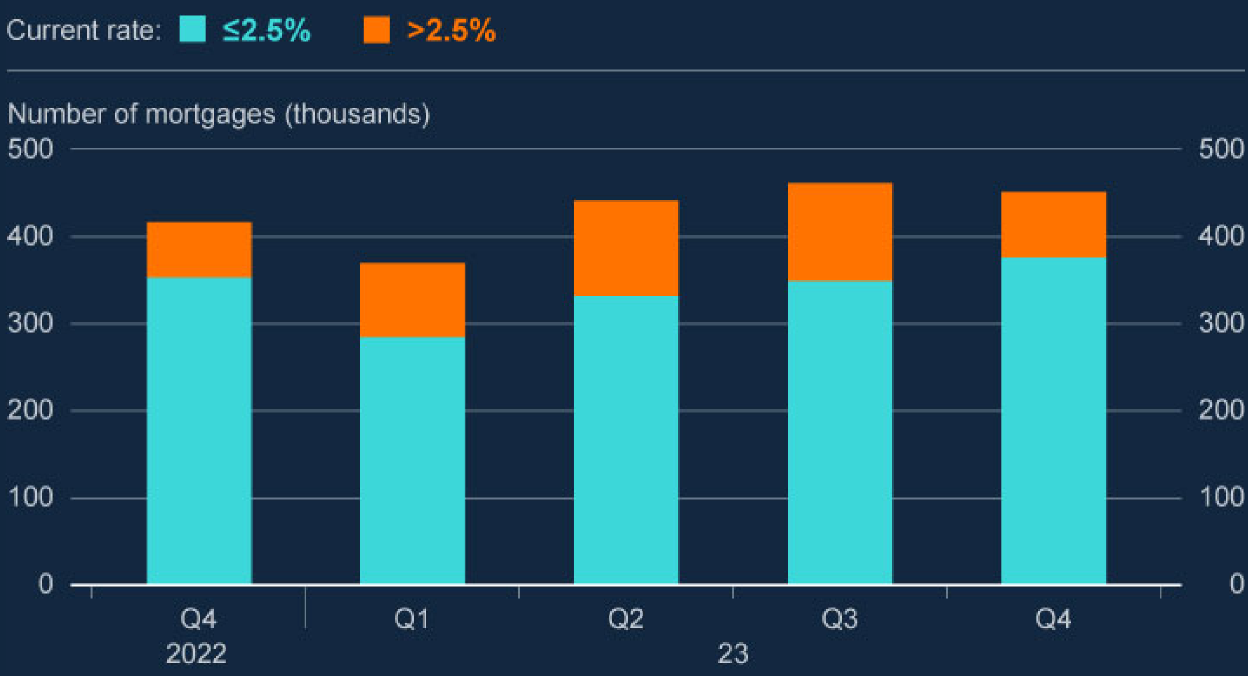
Many existing borrowers are likely to face a marked rise in mortgage repayments over the coming year.

Around 30% of UK households have a mortgage, and many of these mortgagors are likely to face materially higher interest payments either now or over the next year. Borrowers on floating rates, which make up around 20% of mortgages, will already be experiencing higher mortgage repayments due to the pickup in Bank Rate. Existing mortgagors on fixed-rate products, which make up around 80% of outstanding mortgages, will face a rise in mortgage repayments at the end of their initial fixed-rate period.

Based on data to June 2022, around a quarter of the outstanding stock of mortgages, which equates to just over two million mortgages, reach the end of their fixed-rate term between 2022 Q4 and the end of 2023 (Chart 2.13). The current market-implied path for Bank Rate implies that these mortgagors, around 80% of whom had fixed at rates of 2.5% or below, are likely to be refinancing at much higher rates. Among those mortgagors, the median outstanding balance is around £130,000, with an average remaining term of around 20 years and an average interest rate of around 2.0%. As an illustration, for such a repayment mortgage, annual interest payments would increase by just under £3,000 if the mortgage rate rose by 350 basis points. In practice, the impact of higher mortgage rates will vary across borrowers depending on the specific terms of their new mortgages. Overall, higher mortgage rates are expected to weigh on aggregate household consumption (Section 2.3). The implications of higher mortgage rates for the resilience of household balance sheets is discussed in the **October 2022 Financial Policy Committee Summary**.

Chart 2.13: Just over two million mortgages will reach the end of their fixed-rate term by the end of 2023

Number of outstanding mortgages with a fixed rate expiring by end-2023 (a)



Sources: FCA Product Sales Data and Bank calculations.

(a) Number of outstanding owner-occupier fixed-rate mortgages as at 30 June 2022, distributed by quarter during which fixed-rate period expires and by existing interest rate. These data do not include buy-to-let mortgages or mortgages that are off balance sheet of authorised lenders, such as securitised loans or loan books sold to third parties. Mortgages with less than £1,000 outstanding are excluded.

2.3: Domestic activity

UK GDP is expected to have fallen in Q3, which is weaker than expected in August…

Based on ONS data to August, UK GDP is expected to have contracted by 0.5% in 2022 Q3, following growth of 0.2% in Q2 (Chart 2.14). That growth rate is 0.9 percentage points weaker than projected in the August Report, primarily reflecting weakness in underlying output (gold bars in Chart 2.14), calculated as market sector output adjusted for the effects of the additional bank holidays. Some of the remaining weakness in headline GDP reflects the additional bank holiday for the Queen's state funeral in September, when many businesses were closed.

The level of GDP in 2022 Q3 is expected to have been 0.7% below its pre-pandemic 2019 Q4 level. While this partly reflects the recent slowing in GDP growth, it also reflects significant downward revisions to past estimates of health output, particularly in 2020, in the recent **ONS Blue Book**. Those more than offset upward revisions to estimates of market sector output. While these revisions reduce the level of GDP over the forecast period, they have little effect on growth rates.

Chart 2.14: Underlying output growth is expected to slow materially in 2022 H2

Contributions to quarterly GDP growth (a)

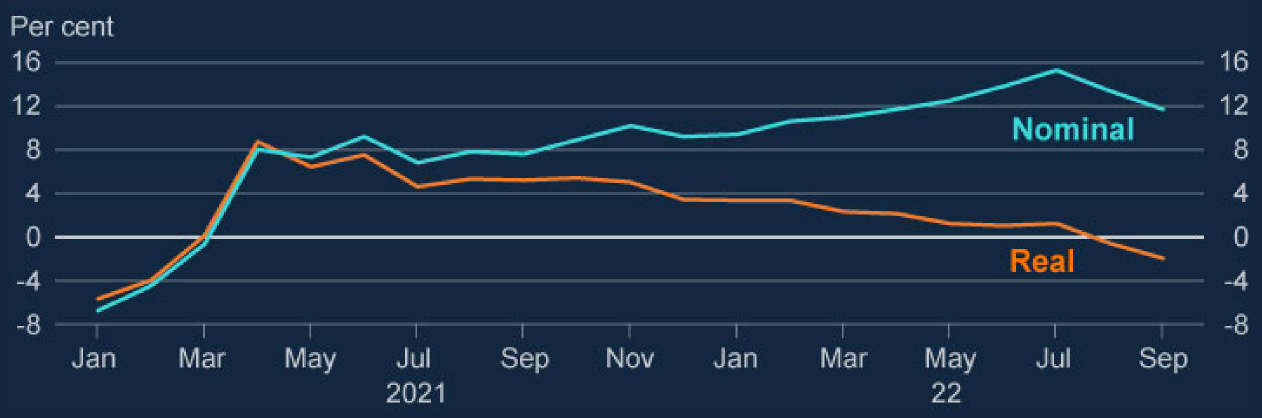
(a) Diamonds show quarterly headline GDP growth. Purple and aqua bars are Bank staff estimates for the contribution of the extra bank holidays in June and September respectively. Gold bars show adjusted market sector output, as a proxy for 'underlying output'. Orange bars are contributions of government services output to quarterly GDP growth, including the vaccination and Test and Trace programmes. Data for Q3 and Q4 are Bank staff projections.

…partly reflecting the drag from the real income squeeze.

That weakness partly reflects the adverse impact of the sharp rise in global energy and tradable goods prices on UK household real incomes, and hence consumer spending. In the ONS monthly GDP data for August, the slowdown was particularly apparent in consumer-facing services sectors, such as arts and recreation and restaurants and hotels, where output fell by around 5% and 2% on the month respectively. Spending on goods, as indicated by retail sales volumes, continued to fall. Notably, the nominal value of sales has declined in August and September, having risen since January (Chart 2.15). Contacts of the Bank's Agents reported that the squeeze on real incomes was being felt across most areas of consumer spending (Box D).

Chart 2.15: Both the nominal value and real volume of retail sales have fallen in recent months

Changes in nominal and real retail sales since 2019 Q4 (a)

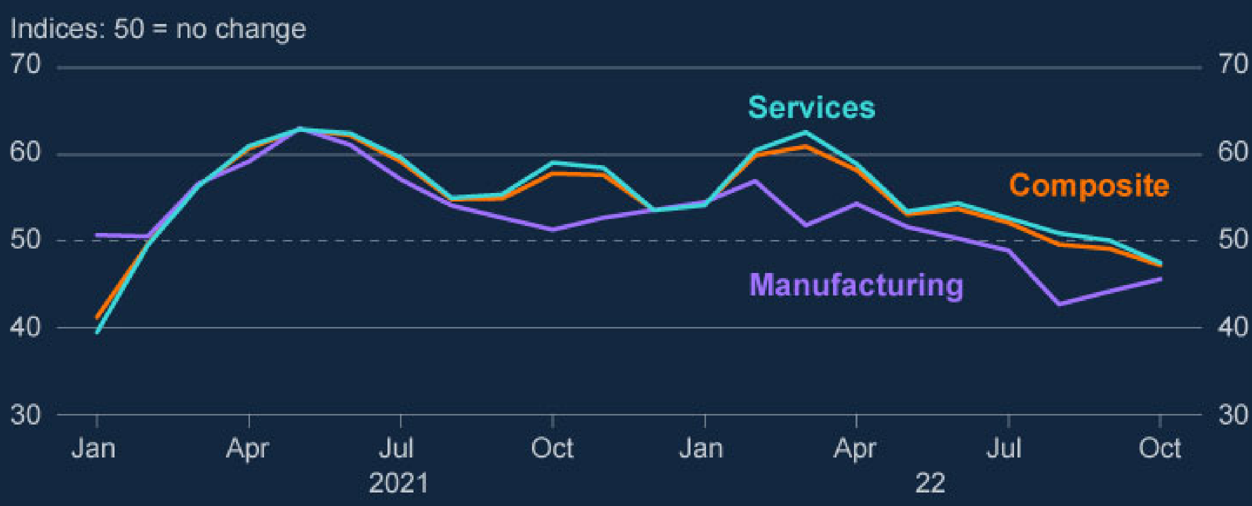


(a) Monthly data to September 2022. All in-store and online retailing including automotive fuel, excluding utilities. Nominal refers to the value of sales and real refers to the volume of sales.

Compounding the weakness in consumer-facing sectors of the economy, the manufacturing sector has remained weak for some time. The S&P Global/CIPS UK manufacturing output PMI has been below the 50 ‘no change’ mark since July (Chart 2.16). This probably reflects slowing demand for consumer goods, as well as rising energy and other input costs weighing on production.

Chart 2.16: Survey indicators are consistent with a contraction in output

S&P Global/CIPS indicators of UK output growth (a)



Source: S&P Global/CIPS.

(a) A reading of above 50 indicates an increase on the previous month while a reading below 50 indicates a fall. Measures of current monthly UK composite (services and manufacturing) output, manufacturing output and services business activity. Latest data are flash estimates for October 2022.

GDP is expected to fall further in Q4, though by less than expected in August.

Bank staff expect GDP to fall further in Q4, by 0.3%. Business surveys are broadly consistent with falling output – the S&P Global/CIPS UK composite output PMI was below the 50 'no change' mark in October, for example (Chart 2.16). The weakness of GDP partly reflects the real income squeeze. Around two thirds of respondents to the recent **ONS Opinions and Lifestyle Survey** were spending less on non-essentials or trying to use less fuel at home, with that proportion having increased in recent weeks (Chart 2.17).

Chart 2.17: Consumers are spending less in response to the rising cost of living

Responses to the ONS Opinions and Lifestyle Survey (a)

(a) Based on adults who said their cost of living had increased. Question: 'Which of the following are you doing because your cost of living has increased?'. Respondents were able to choose more than one response. Latest survey conducted 29 September 2022 to 9 October 2022 with a sample size of 1,660 households. Not seasonally adjusted.

The Q4 projection is stronger than the -0.9% expected in the August Report. This mainly reflects the fact that the August forecast assumed a significant increase in the Ofgem energy price cap. Since then, the Government has introduced an Energy Price Guarantee that caps household unit energy prices below the Ofgem price cap (Box A). That materially reduces the near-term squeeze on real incomes. Real incomes are expected to fall by 0.4% in the year to 2022 Q4, compared to a fall of over 2% in the August Report (Chart 2.18). That supports household spending in the near term relative to the August projections.

Chart 2.18: Fiscal support cushions the fall in real household incomes in the near term

Contributions to four-quarter real household income growth (a)

(a) Diamonds show Bank staff projections for 2022 Q3, Q4 and 2023 Q1. Bars may not sum to total due to rounding. Income includes non-profit institutions serving households. See footnote (q) in Table 1.D for the definition of real post-tax household income.

The real income squeeze and rising mortgage rates are expected to weigh on household spending for some time.

Despite fiscal support, the energy price shock remains significant. Gas and electricity bills for the typical UK household have still almost doubled over the past year. As a result, real income growth remains well below its 2010 to 2019 average.

In addition to the impact of energy bills, sharply higher interest rates are expected to weigh on household spending. One channel is through higher mortgage rates. Around 30% of households have a mortgage and many of these mortgagors will face materially higher interest payments either now or over the next year (Section 2.2). Even if a household's mortgage rate does not increase immediately, they may adjust their consumption now in anticipation. The overall cash-flow impact of higher mortgage rates on spending will be offset to some extent by the increase in deposit rates which provides savers with additional income. For example, interest rates on two-year fixed-rate bonds have increased by around 300 basis points since the start of the year and are now at their highest levels since 2012.

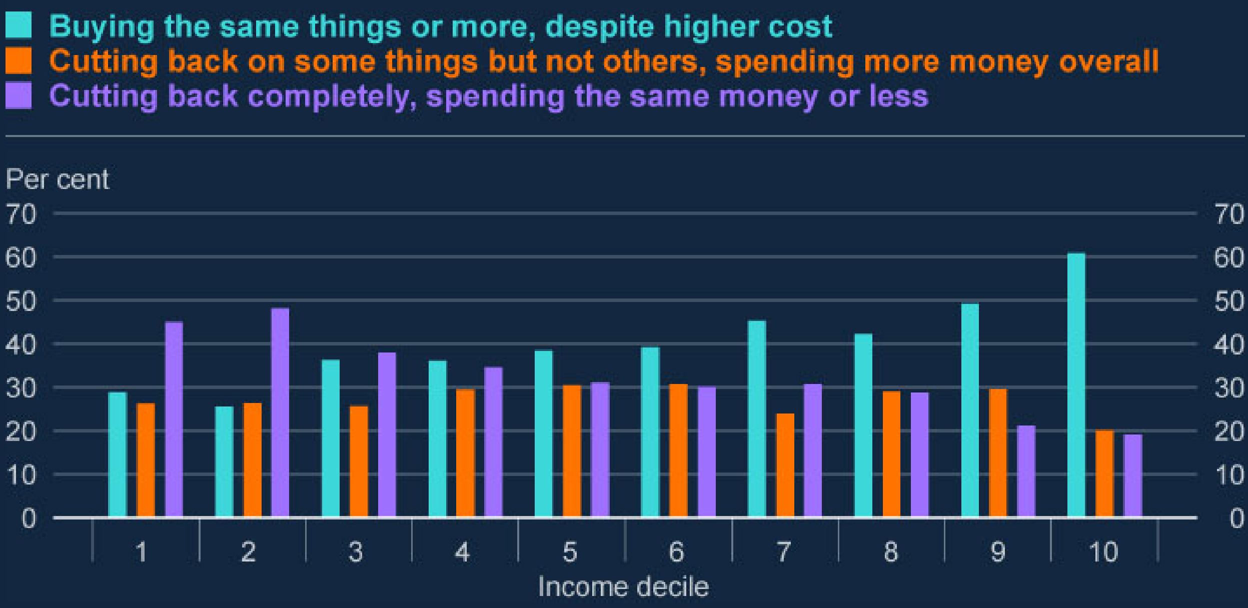
Some households may be able to reduce the impact on their spending by using their savings...

The extent to which higher energy bills and mortgage rates affect aggregate consumption will depend on how households respond. Some households may be able to reduce the impact on their spending by using their savings. In aggregate, savings are much higher than the pre-pandemic period, although it is notable that households’ overall net financial wealth relative to incomes is now lower due to the fall in asset prices this year (**Broadbent (2022)**).

While aggregate savings are higher, the distribution of those savings is skewed towards higher-income households. Consistent with this, lower-income households responding to the latest Bank/NMG survey reported that they had already been cutting back on their spending (purple bars in Chart 2.19). These households have been hit hardest by the energy price shock as energy forms a large share of their spending (**In focus, May 2022 Report**). Higher-income households were more likely to be maintaining, or even increasing, spending volumes (aqua bars in Chart 2.19), primarily by saving less or drawing down on existing savings. Higher mortgage payments (Section 2.2) might limit their ability to continue to do this. The **ONS Wealth and Assets Survey** suggests that households with mortgages tend to have fewer liquid and financial assets than those without mortgages.

Chart 2.19: Lower-income households were more likely to be spending less given the increase in the cost of living

Share of households changing their expenditure in response to the increased cost of living across income deciles (a)



Sources: Bank of England, NMG Consulting and Bank calculations.

(a) Share of respondents answering how their total spending has been affected by the increase in the cost of living over the past six months. The survey was conducted 30 August to 17 September 2022, with 4,336 responses to this question. Excludes those that responded 'Don't know'.

…or by increasing borrowing, although survey evidence suggests this is less likely.

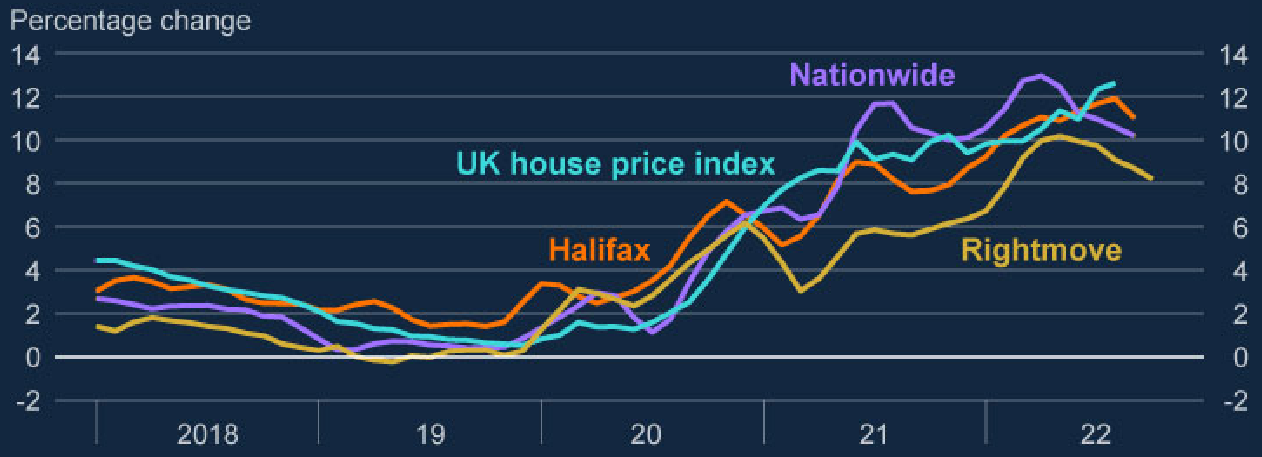
Households may also borrow money to support spending. But only around 10% of respondents to the ONS Opinions and Lifestyle Survey were using unsecured borrowing in response to the rising cost of living, compared to almost 25% of respondents who reported they were using their savings (Chart 2.17). Those who want to borrow may find it more difficult to access unsecured credit. Lenders reported in the latest **Credit Conditions Survey** that the availability of unsecured credit to households fell slightly in Q3, and availability was expected to decline further in Q4.

Some homeowners may choose to borrow against their housing equity – UK house prices have risen substantially over recent years. But the effect of this 'collateral' channel is estimated to be small in the UK (see **Box 4, May 2019 Report**). Although the UK house price index rose in August, more timely indicators such as Halifax, Nationwide and

Rightmove data show that UK house price growth has started to slow (Chart 2.20). Contacts of the Bank's Agents expect that to continue, reflecting reduced affordability as a result of materially higher mortgage rates (Box D).

Chart 2.20: Most indicators of house price inflation have softened

House price inflation, three months on a year earlier (a)



Sources: Halifax House Price Index, HM Land Registry, Nationwide, Refinitiv Eikon from LSEG, Rightmove.co.uk and Bank calculations.

(a) Latest data point is October 2022 for Rightmove, September 2022 for Nationwide and Halifax, and August 2022 for the UK house price index. The Rightmove series is seasonally adjusted by Bank staff.

Households may be able to respond in other ways to help limit the impact of higher energy bills and mortgage rates…

The tight labour market has continued to boost nominal wage growth (Section 2.4) which will support consumption. According to the ONS Opinions and Lifestyle Survey, around one fifth of respondents who said they were working were looking for a higher-paid job in response to the increased cost of living.

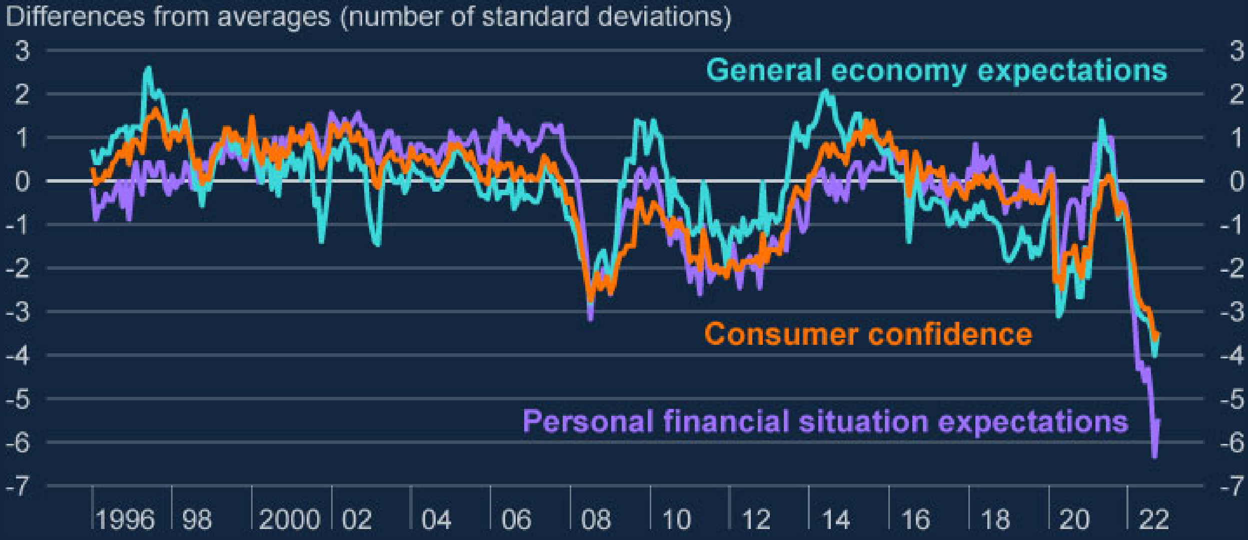
To limit the impact of higher energy bills, households may seek to reduce their energy consumption. As one example, 5% of respondents to the same ONS survey were going to work more often to save money on their energy bills. The MPC's latest projections assume that households and firms are able to substitute away from energy to some degree, which dampens the drag from higher energy prices on GDP (Box B).

…but overall, consumer spending is expected to remain weak for some time.

Overall, given the material tightening in financial conditions and despite fiscal support for household utility bills, consumer spending remains particularly subdued in the MPC's central projection, falling by 1.0% in 2023 (Section 1). Consistent with a weak outlook for consumption, the GfK Consumer Confidence Index remained around historically low levels in October. In particular, the forward-looking balance for households' confidence in their own financial situation over the next 12 months has dropped sharply this year (Chart 2.21).

Chart 2.21: Consumer confidence remained at historically low levels in October

Consumer confidence (a)



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

(a) GfK Consumer Confidence Index and sub-indices based on the net balances of respondents reporting that they expect their personal financial situation and the general economic situation to improve over the next 12 months. Averages calculated over 1996 to 2019. Latest data points are for October 2022. Not seasonally adjusted.

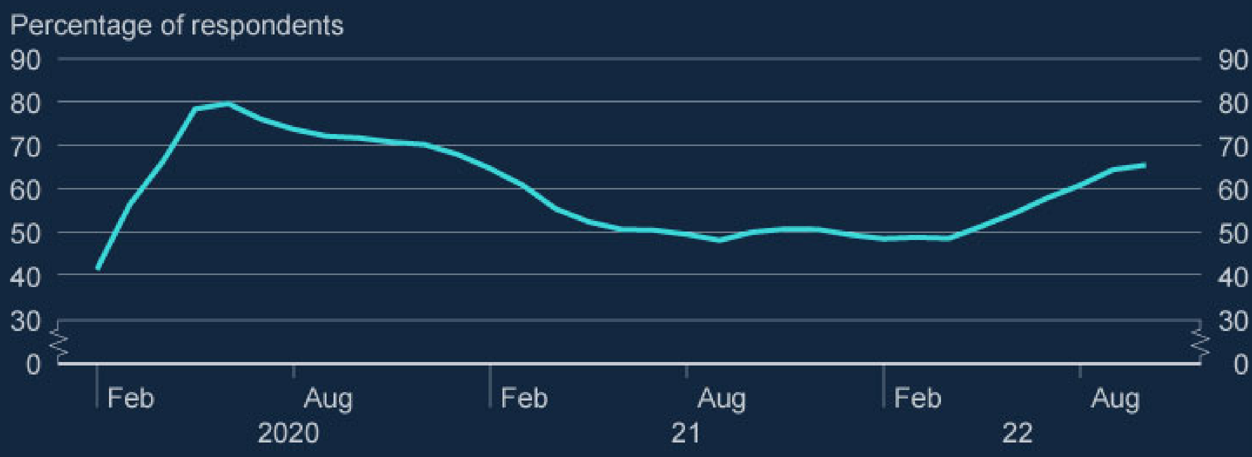
Business investment continues to be held back by economic uncertainty.

Business investment has been weak for some time – in 2022 Q2 it was around 8% below its pre-Covid level. Business investment data are often revised. **Recent work by the ONS** indicates that research and development investment is much higher than previously estimated. These changes will not be reflected in the data for some time, but will result in a higher level of business investment when they are.

A range of evidence suggests that investment is likely to remain subdued in the near term. The CBI industrial trends business optimism balance remained negative in Q3. In the October DMP Survey, uncertainty remained elevated (Chart 2.22). Intelligence from the Bank's Agents highlights that this uncertainty, as well as softer demand and tighter financial conditions, are weighing on investment intentions (Box D). Rising energy costs were incentivising investment in renewable and more efficient energy generation, however.

Chart 2.22: Business uncertainty remained elevated in the latest DMP Survey

Business uncertainty (a)



Sources: DMP Survey and Bank calculations.

(a) Data are three-month moving averages. Based on the question 'How would you rate the overall uncertainty facing your business at the moment?'. Share of respondents that responded 'Very high – very hard to forecast future sales' or 'High – hard to forecast future sales'. Not seasonally adjusted. Latest survey period was 7 to 21 October 2022 and received responses from 2,614 UK businesses.

The trade deficit narrowed in Q2, but it remains at a historically high level.

The goods trade balance improved in 2022 Q2, contributing to a narrowing of the current account deficit (excluding non-monetary gold) from a previous record of 6.1% to 5.3% of GDP. The ONS has flagged that there are currently large uncertainties around the goods trade data due to a change in data collection methods. The **October 2022 FPC Record** discusses the vulnerabilities associated with financing the UK's current account deficit.

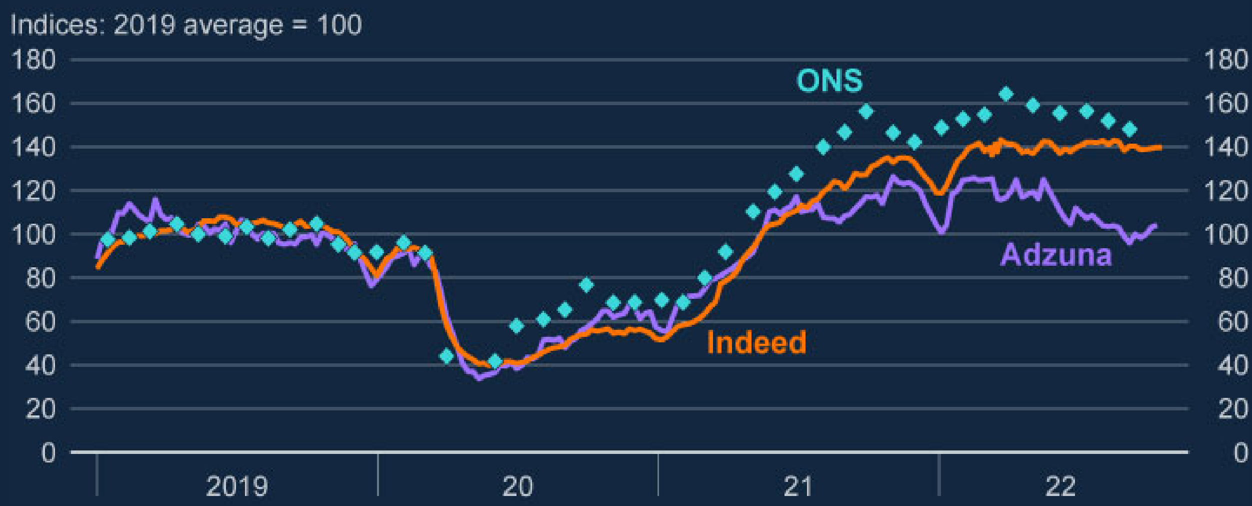
2.4: The labour market

There are some signs that labour demand is starting to soften...

As a result of the slowdown in demand and the weak economic outlook, some firms may be adjusting their hiring plans. While vacancies rose sharply after the pandemic, reflecting increased demand for labour and recruitment difficulties, some indicators suggest they have fallen since the start of the year (Chart 2.23). This could also reflect hiring constraints – if firms know that it has become more difficult to fill a vacancy, they may not advertise it. Candidate shortages were one reason why demand for staff was reported to have fallen in the latest KPMG/REC UK Report on Jobs. Agency intelligence suggests that vacancies have also been falling because some firms have managed to fill some of those positions. In the official ONS data, employment fell by 0.3% in the three months to August. Surveys suggest employment growth remains in positive territory, however.

Chart 2.23: Some indicators of job vacancies suggest a softening in labour demand

Indicators of the stock of job vacancies (a)



Sources: Adzuna, Indeed, ONS and Bank calculations.

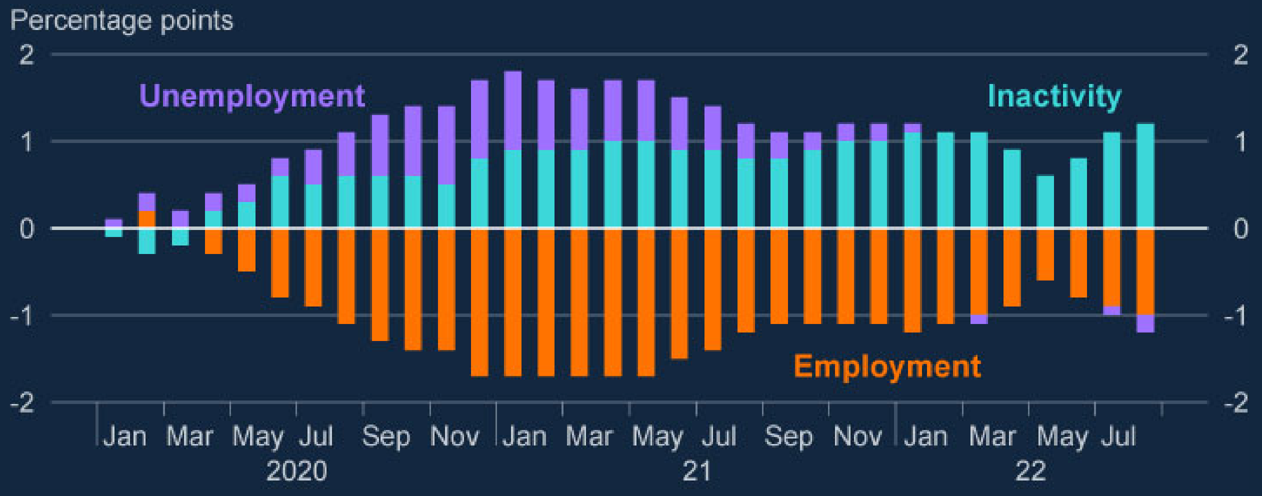
(a) Data are not seasonally adjusted. ONS vacancy survey shows single-month vacancy estimates and data are monthly to September. Indeed online job postings shows stock of job postings on Indeed UK and data are seven-day averages to 21 October 2022. Adzuna shows job advertisements provided by Adzuna and are weekly data to 14 October 2022. Indeed and Adzuna series are adjusted to remove duplicates.

…though the labour market remains tight…

Although employment growth has slowed, a range of evidence suggests that the labour market remains tight. The unemployment rate fell to 3.5% in the three months to August, its lowest level since 1974. The number of unemployed people as a share of the working-age population has fallen below its pre-Covid level (Chart 2.24), and there continues to be more vacancies than there are unemployed people. The high level of vacancies and other measures of recruitment difficulties suggest that the labour market is tighter than implied by the unemployment rate alone.

Chart 2.24: Inactivity in the labour market is much higher than pre-Covid

Changes in employment, unemployment and inactivity as a share of the working-age population since 2019 Q4 (a)



Sources: ONS and Bank calculations.

(a) For those aged 16 and over. Employment includes employees and self-employed. Latest data are for the three months to August.

…in part reflecting high numbers of people not participating in the labour market.

As discussed in Section 3 of the **August Report**, a key reason why the labour market has tightened since the pandemic is because of a marked increase in the number of inactive people – those without a job and not actively seeking one (Chart 2.24). Inactivity has risen since the August Report, and by more than projected. The inactivity rate in the UK is much higher than in other developed economies (**Haskel (2022)**).

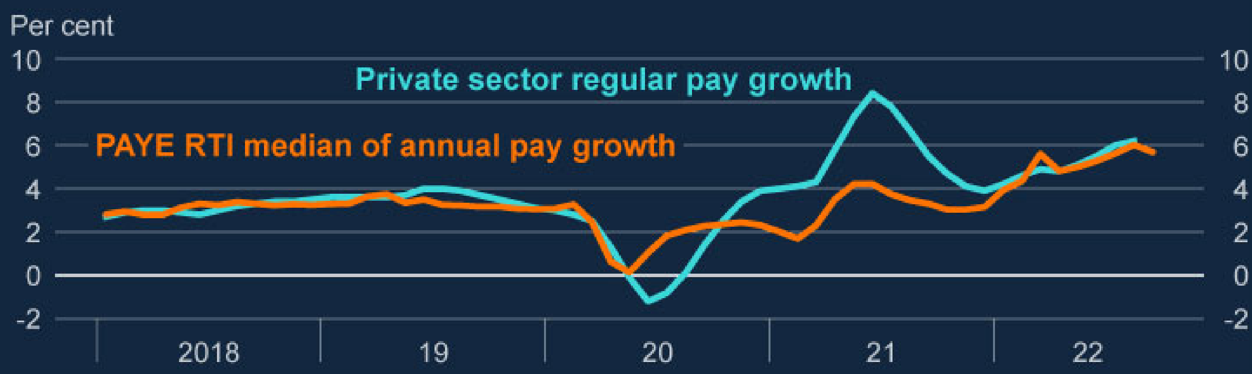
The rise in inactivity has largely been concentrated among people aged 50 to 64, and partly reflects those people leaving the labour force due to long-term sickness. The **ONS Over 50s Lifestyle Study**, conducted in August 2022, found that of the surveyed adults aged 50 to 65 that had left or lost their job since the pandemic and had not returned, around one fifth were on an NHS waiting list. The survey also suggests that some workers may return to the labour market over time: 65% of respondents in the 50 to 59 age cohort said they would consider returning to work to support their incomes. That said, the rise in inactivity has been more than accounted for by those who do not want a job, which may mean that high levels of inactivity persist in the near term.

Pay growth has continued to strengthen.

Pay growth has continued to strengthen, and by more than expected in August. Whole-economy total pay growth rose to 6.0% in the three months to August, and private sector regular pay growth – which excludes bonuses – picked up to 6.2% (Chart 2.25). HMRC data paint a broadly similar picture. Bank staff expect pay growth to strengthen further in coming months. Contacts of the Bank's Agents note that in addition to the tight labour market, inflation is an increasingly significant factor in driving pay awards.

Chart 2.25: Private sector regular pay growth has picked up to 6.2%

Indicators of annual pay growth (a)



Sources: HMRC, ONS and Bank calculations.

(a) Private sector regular pay growth is growth in three-month average pay relative to the same period a year earlier; data are to August 2022. Pay as You Earn (PAYE) Real Time Information (RTI) median of pay growth are monthly data. Latest data point is the flash estimate for September 2022. This measure includes both public and private sector pay growth.

2.5: Inflation

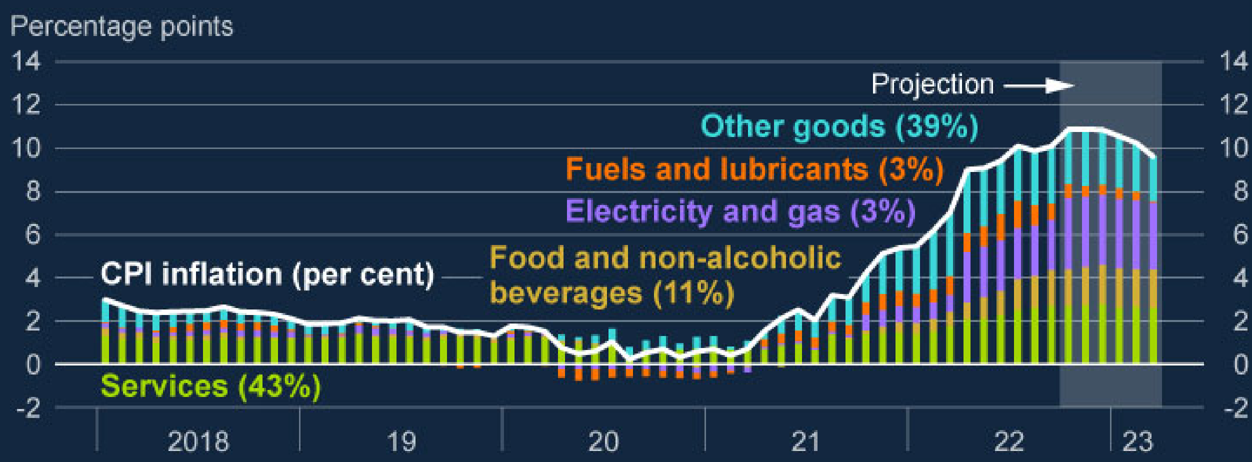
CPI inflation in the UK has risen to around 10%, largely due to external factors.

CPI inflation has been above the 2% target since May 2021 and averaged 10% in 2022 Q3. That rise in inflation mainly reflects large increases in global energy and other tradable goods prices, though services inflation has also increased (Chart 2.26). The rise in energy prices has been exacerbated by the economic impact of Russia's invasion of Ukraine, which has also put upward pressure on the wholesale prices of many agricultural commodities. But not all of the excess inflation can be attributed to global events. There has also been a role for domestic factors, including a tight labour market and the pricing strategy of firms. Section 3 discusses the latest evidence on these global and domestic price pressures in more detail.

CPI Inflation was 10.1% in September, broadly in line with the projection in the August Report. The direct effects of higher energy prices (the orange and purple bars in Chart 2.26) continue to make a substantial contribution to CPI inflation. The contribution from food prices has risen markedly during 2022 (the gold bars in Chart 2.26), with annual food price inflation reaching 14.5% in September, the highest rate since 1980.

Chart 2.26: Inflation is expected to be a little over 10% over most of the next six months

Contributions to CPI inflation (a)



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

(a) Figures in parentheses are CPI basket weights in 2022 and do not sum to 100 due to rounding. Data to September 2022. Bank staff projection from October 2022 to March 2023. Fuels and lubricants estimates use Department for Business, Energy and Industrial Strategy petrol price data for October 2022 and then are based on the sterling oil futures curve. Other goods is the difference between CPI inflation and the other contributions identified in the chart.

Inflation is expected to pick up to around 11% in 2022 Q4, before falling back towards 10% in 2023 Q1.

CPI inflation is projected to increase to 10.9% in October, reflecting the increase in energy bills from Ofgem's April 2022 cap to the level of the Government's Energy Price Guarantee (Box A). This is lower than the 13% projected in the August Report, which had been based on the expectation of a much larger increase in Ofgem’s price cap. CPI inflation is expected to remain close to 11% through the remainder of Q4 (Chart 2.26). It then eases towards 10% in 2023 Q1, before falling further in subsequent quarters (Section 1).

Box D: 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 intelligence gathered in the six weeks to mid-October.

Economic activity continued to weaken, in particular in recent weeks, as squeezed real incomes and increased uncertainty about the outlook weighed on demand in most sectors of the economy. Growth was also constrained by continuing shortages of labour and goods, though to a lesser extent than previously.

Input cost inflation remained elevated, exacerbated by rising energy costs and the weaker pound. Pay settlements averaged 5% to 7%. Companies continued to pass on some of their higher costs to consumer prices, but saw little scope to increase prices much further.

Consumer-facing contacts reported weaker sales volumes compared with a year ago, as pressure on household incomes weighed on demand.

Food retailers continued to report customers trading down to cheaper goods, and discount supermarkets increased their market share. Contacts said volumes of clothing and footwear sales had softened recently. Sales of furniture and household appliances continued to decline on the year, though contacts reported increased demand for energy-saving appliances.

Consumer services firms said that squeezed household incomes were weighing on demand. In hospitality, lower-priced venues generally outperformed mid-priced outlets. Firms in the travel, tourism and leisure sectors said bookings were increasingly been made at short-notice, and contacts were concerned that tight budgets would depress demand even further during the off-peak season.

Business services growth softened; manufacturing volumes fell slightly, and construction output was flat, reflecting weaker demand and a deterioration in confidence.

Business services contacts said turnover growth remained solid in nominal terms, supported by fee increases, but that volumes growth had weakened in some areas compared with a year ago. Companies in IT, consulting, legal and accountancy reported strong growth. But firms offering services in logistics and wholesale, corporate transactions, construction and commercial real estate reported reduced demand. Contacts attributed this to weaker consumer demand as well as to caution about the economic outlook.

Manufacturing contacts reported a modest decline in output volumes on the year. This mostly reflected a drop in demand for consumer goods and construction products. Demand for capital equipment also eased, possibly due to increased uncertainty about the economic outlook. Supply-chain issues also constrained output growth, though to a slightly lesser extent than earlier in the year. Exports grew at a modest pace, supported in part by the weaker pound.

Construction output slowed and was no higher than a year ago. Contacts said that new projects were being paused due to uncertainty about the outlook, the recent sharp rise in borrowing costs and elevated materials and labour costs. Some smaller house builders reported cutting back projects due to concerns about housing market demand. Commercial building activity weakened as new industrial and office developments were put on hold. By contrast, large public sector projects and work by utilities companies continued.

> **Credit availability fell and borrowing costs increased as lenders became more risk-averse. Uncertainty about the outlook and tighter financing conditions weighed on investment intentions.**

Some large corporates said they had not been able to raise finance in capital markets in recent weeks due to uncertainty and market volatility, while bank credit had remained available but at an increased cost. The availability of finance from banks and non-banks was reported to have tightened for small and medium-sized enterprises.

Demand for credit had also fallen, in particular for corporate transactions; commercial real estate, and to finance investment, with contacts attributing the decline to economic uncertainty and higher borrowing costs. However, companies in consumer-facing sectors and manufacturing continued to report increased demand for working capital.

Insolvencies continued to increase and contacts reported that the financial positions of many small firms, a number of which are part of supply chains, were deteriorating.

Contacts reported that uncertainty about the economic outlook, tighter financial conditions and increased working capital requirements were starting to constrain investment plans. Rising costs, labour shortages and planning issues were weighing on building-related investment. However, contacts continued to invest in IT and digital services.

Rising energy prices had encouraged some investment in renewable energy generation or energy-saving measures, particularly among energy-intensive businesses.

> **Demand in the housing market and for some types of commercial property continued to weaken due to rising borrowing costs and increased uncertainty.**

Contacts said housing market demand continued to slow and the supply of properties for sale had increased, in particular in recent weeks. Large house builders attributed weaker demand to economic uncertainty and rising mortgage costs. Contacts said that a growing number of buy-to-let landlords were choosing to sell their properties due to rising borrowing costs.

Contacts reported a significant decline in investor demand for commercial real estate in recent months, with investors seeking higher yields to compensate for rising interest rates. As a result, property prices were falling in most sectors.

> **Companies have largely paused hiring plans, but most will only actively cut headcount if demand falls significantly. Pay growth has steadied.**

A growing number of contacts reported pausing recruitment or allowing headcount to fall through attrition due to heightened uncertainty and increased costs. However most firms were reluctant actively to reduce headcount due to recruitment difficulties. Instead, companies reported other measures to save costs, such as reducing staff hours or shifts, or replacing leavers with more junior staff.

Recruitment difficulties eased slightly but remained above normal for most contacts across sectors. Contacts said staff retention had improved, in part due to large pay increases but also as workers became more cautious about changing jobs.

Nominal wage inflation stabilised at around 5% to 7%, and a growing number of firms said they had made or were considering making one-off payments to help offset rising living costs. There could be further upside risks to pay growth in the coming months as contacts reported that inflation was becoming a more important factor in pay negotiations – in particular among unionised organisations. Forthcoming increases in the National Living Wage and Real Living Wage were also expected to contribute to upward pay pressure.

> **Energy costs and weaker sterling pushed up input cost inflation. Companies were not able to fully pass on their higher costs to prices, so margins became more squeezed.**

Contacts in most sectors said that input price inflation remained elevated, and increasingly driven by higher energy prices and the weaker exchange rate. While the Government's Energy Bill Relief Scheme would help in the short-term, many companies said they were concerned about the risk of a sharp rise in energy costs when the scheme ends in March 2023.

Margins became more squeezed – particularly for consumer-facing contacts – as firms were not able to fully pass on their higher costs to prices. Looking ahead, contacts were concerned that customers would not tolerate bigger price increases.

Retailers said food price inflation was around 10% or above in some cases, though large retailers said they were trying to limit further increases among suppliers. Clothing and footwear retailers also reported annual inflation of around 10%, but expected this to slow over the coming months. Contacts in other consumer-facing sectors, such as hospitality, said they had been able to pass on only a proportion of their increased costs to prices and did not expect to be able to raise prices much further.

3: In focus – The key factors affecting the MPC's inflation projection

Inflation was 10.1% in September, well above the MPC's 2% target, mostly due to external factors. Recent developments mean that these external factors are expected to put less upward pressure on UK inflation over the next three years, compared with the MPC's August projections (Section 3.1). Energy prices are now expected to have less of an impact on inflation over the next six months, due to the Energy Price Guarantee for households and the Energy Bill Relief Scheme for firms. Some non-energy commodity prices have fallen back from recent peaks and evidence also suggests that bottlenecks affecting global supply chains are starting to ease. While both of these will mean there is less upward pressure on UK import prices, those are offset in part by the sterling depreciation since August.

Some of the inflation to date has been driven by more domestic factors. These tend to be more persistent and a number of indicators point to upward pressure from these sources (Section 3.2). The labour market remains tight and some measures of inflation expectations also remain above their historical averages, although a number have declined somewhat over recent months.

Overall, the MPC expects inflation to remain above 10% in 2022 Q4 and 2023 Q1, before falling back. Conditioned on the elevated path of market interest rates, CPI inflation declines sharply and is below the 2% target in the medium term, although the MPC judges that the risks to the inflation projections are skewed to the upside (Section 3.3).

3.1: How will global factors including higher wholesale energy costs affect UK consumer prices?

Global energy prices

The rise in UK inflation to date partly reflects the direct impact of higher gas prices…

Wholesale gas prices increased markedly over the past two years. Since mid-2021, gas spot prices have averaged over 200 pence per therm, compared with 30 pence per therm during 2019 and 2020. Prices have been especially volatile since the start of 2022, with movements linked to Russia's invasion of Ukraine and related changes to expected supply (Chart 3.1). Spot prices fell significantly in October, but futures prices are higher than in August over most of the MPC's forecast period. Higher wholesale energy costs have pushed up household utility bills such that energy prices directly account for over 3½ percentage points of the 9½ percentage point rise in inflation since the start of 2021 (see Chart 2.26 for a detailed decomposition).

Chart 3.1: Gas spot prices have fallen recently, but futures prices are higher than in August over most of the forecast period

Wholesale gas spot price and futures curves (a)

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

(a) Spot price is the one-day forward price of UK natural gas. November 2022 curve is the seven working day average to 25 October 2022 and the August 2022 curve is the 15 working day average to 26 July 2022.

…making UK households and firms worse off on average.

As a net importer of energy, the increase in wholesale prices has led to lower real incomes for most households and lower real profits for many companies because the price of the goods imported into the UK has risen relative to the price of UK output (**Broadbent (2022)**). Net imports of gas have increased to around £70 billion a year, from around £10 billion before the pandemic.

Government support measures will limit the extent to which higher wholesale gas prices affect household utility bills over the next six months…

Futures markets suggest that wholesale energy prices will remain above their historical averages for some time (Chart 3.1), but measures announced by the Government will limit the impact on UK households in the near term. The measures supporting households over the next six months include a £400 energy bills discount and an Energy Price Guarantee (EPG) which limits the price suppliers can charge customers for units of gas (Box A).

…but utility bills will nonetheless remain high relative to the past, which may cause some households to reduce their energy consumption.

Despite the Government's policy response, utility bills are expected to remain high relative to the past. If it were assumed that households do not change their consumption of energy in response to higher prices, average spending on energy would be expected to rise to over 6% of income in 2022 Q4 (Chart 3.2). That would be the highest since the mid-1980s, but would have been higher still in the absence of government support. Some households may reduce their energy consumption in response to higher prices, however. Demand for gas since the start of 2022 has been lower than in recent years and contacts of the Bank's Agents have reported increased demand for energy-saving consumer goods.

Firms will also receive support with their energy costs over the near term.

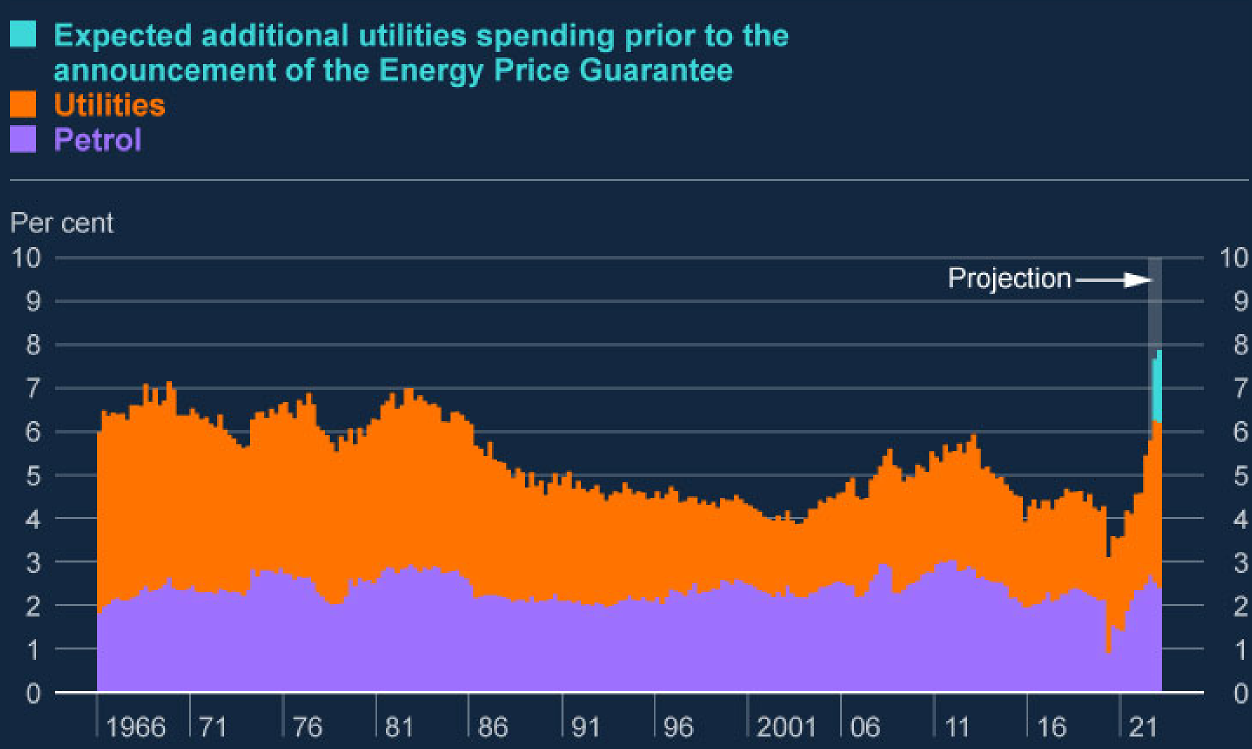
For businesses, the Government has set a discounted price per unit of gas and electricity under the Energy Bill Relief Scheme (EBRS), which will be available until March 2023 (Box A). This will reduce firms' energy costs over that period. Some firms may also substitute away from energy use in response to higher prices. Agency intelligence suggests that while many businesses will find it difficult to reduce their energy consumption, some more energy-intensive firms have increased investment in an effort to improve their energy efficiency, including by increasing their use of renewable sources such as solar power. See Box B for more details on the treatment of energy in the MPC's forecast.

These policy measures are expected to reduce inflation over the next six months relative to the August forecast.

The Government's policy response to higher wholesale energy prices means that over the next six months inflation is expected to rise by less than projected in August. Inflation is now expected to be just over 10% in 2023 Q1, compared to around 12½% previously, with the reduction more than accounted for by lower household energy bills. The EPG and EBRS also significantly reduce the uncertainty around the near-term outlook for UK retail energy prices. Consistent with the Government's announcements on 17 October, the MPC has assumed some continued fiscal support beyond the current six-month period of the EPG, generating a stylised path for household energy prices over the next two years (Box A).

Chart 3.2: The share of income households are spending on energy has risen, but it would have been higher in the absence of the Government's EPG

Energy spending as a share of nominal post-tax household income (a) (b)



Sources: ONS and Bank calculations.

(a) The last data point is for 2022 Q2 and the projections are for 2022 Q3 to 2023 Q1.

(b) The projection period shows the share of energy spending based on expectations for energy prices and nominal post-tax household income. The aqua bars show how the share of spending on energy would have risen if utility prices were to increase in line with the August forecast, assuming no change in households' energy consumption.

The large rise in wholesale energy costs will have indirect effects on other prices in the CPI basket.

A statistical model developed by Bank staff shows that inflation rates across a range of items in the CPI basket appear to be moving in tandem, although some of those changes will be much larger than others. Nearly half of the increase in broad-based inflation since mid-2021 reflects comovements in energy prices (orange bars in Chart 3.3), while around a quarter is due to comovements in prices among core items (gold bars in Chart 3.3).

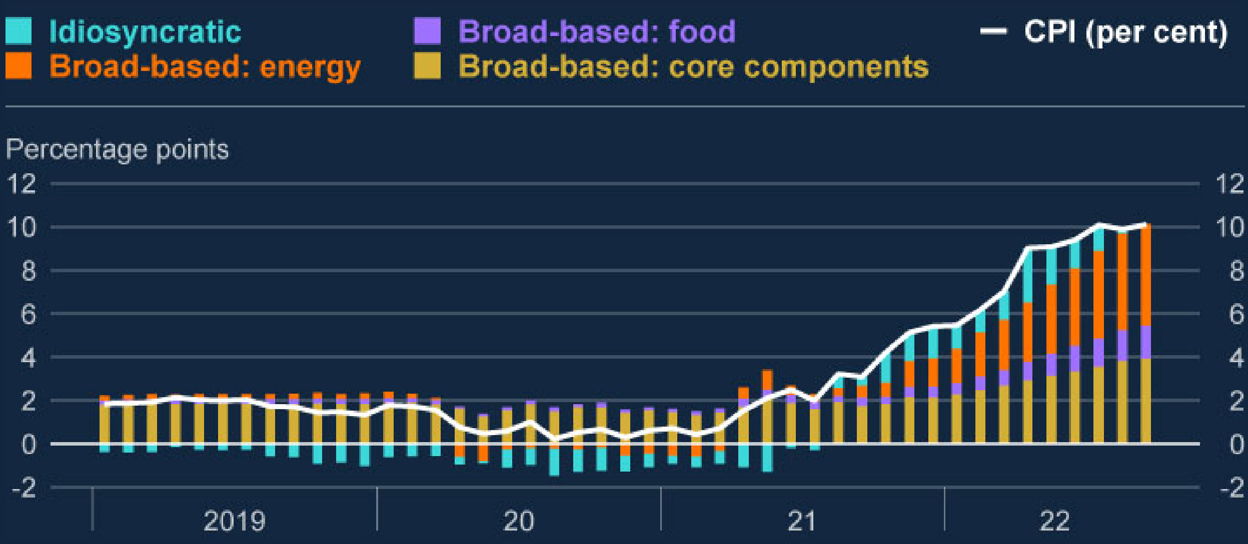
Prices moving jointly in this way across different sectors suggests that changes in some prices in the CPI basket may be having indirect effects on others. For example, large energy price moves are likely to affect all sectors, including services, to some extent. Car manufacturers use electricity to power machines and restaurants use gas to heat ovens.

Estimates based on the 2019 ONS Supply and Use Tables suggest that energy accounts for 2.3% of the input costs for the firms that produce the non-energy goods and services in the CPI basket, but that share is likely to have risen markedly in 2020 and 2021.

Since the August Report, Bank staff have re-estimated the effect that the rise in energy prices has had on other consumer prices to date, finding that it has been larger and faster than previously thought (Box B). Bank staff estimate that those indirect effects were adding 0.7 percentage points to inflation in Q3. The contribution from those indirect effects is expected to fade to around zero by the end of next year.

Chart 3.3: One model suggests most of the rise in CPI inflation is due to broad-based comovements in prices across a range of items, rather than idiosyncratic moves

A decomposition of inflation separating broad-based changes from idiosyncratic moves (a)



Sources: Bank of England, ONS and Bank calculations.

(a) See **How broad-based is the increase in UK inflation?** for full method, which is based on a **similar model for the US created by the Federal Reserve**. The size of the energy, food and core components bars reflect their weights in the sample of 438 items. Core components in this case include all components other than food and energy. The latest data points are for September 2022.

Non-energy tradable goods prices

Price pressures across a range of tradable goods have been pushing up inflation across advanced economies since the pandemic.

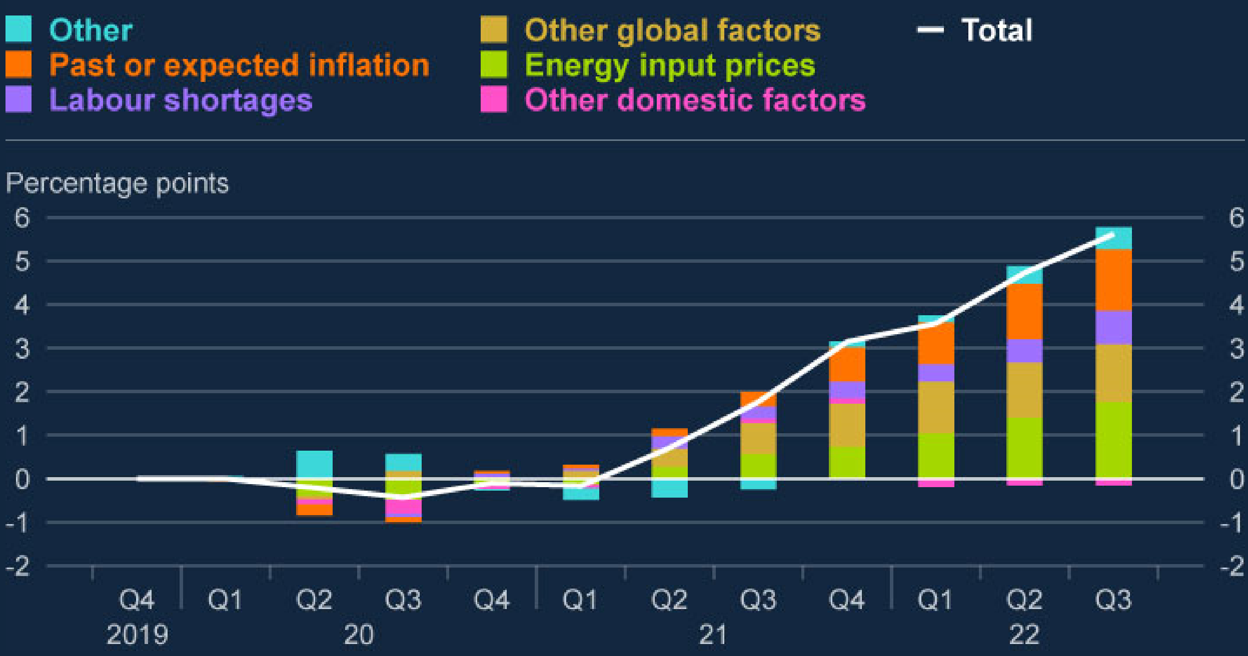
International goods, labour and energy markets have been affected by bottlenecks since the pandemic. Bottlenecks partly reflect households having changed the composition of their spending, particularly in the US, as well as disruptions to business supply chains. Russia's invasion of Ukraine has prolonged or in some cases exacerbated that disruption. Russia and Ukraine account for a significant share of global production for a number of agricultural commodities, for example (see Box B of the **May 2022 Report**) and UK food price inflation rose to 14½% in September.

The prices of some other commodities have also risen globally. In early 2022, industrial metals prices had more than doubled compared with two years earlier, although that has partially reversed.

Higher energy and commodity prices, as well as supply-chain disruption, have increased global price pressures and inflation has risen across a number of advanced economies as a result (Section 2.1). Those global factors are also affecting firms in the UK. Respondents to the DMP Survey reported that energy input prices and other global factors including supply shortages have been pushing up on realised price inflation since 2021 H1 (Chart 3.4).

Chart 3.4: Firms in the DMP Survey attribute the majority of the pickup in inflation to energy prices and other global factors

Contributions to changes in firms' realised price inflation since 2019 Q4 (a)



Sources: DMP Survey and Bank calculations.

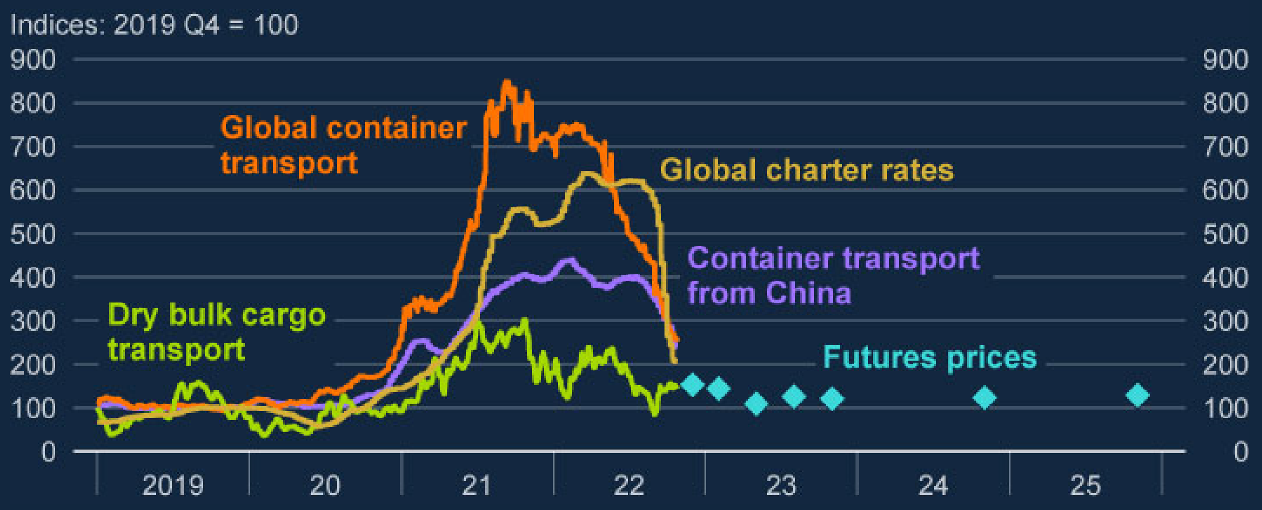
(a) Contributions are derived from firm-level regressions using DMP response data. Based on the question: 'Looking back, from 12 months ago to now, what was the approximate percentage change in the average price you charge, considering all products and services?'. Other domestic factors include Covid effects on demand and costs. Other global factors include supply shortages, import prices and Brexit costs.

Some global price pressures now appear to be easing…

There are signs that global price pressures are falling back. Bottlenecks have started to ease, in part due to the slowdown in global demand. Most indicators of shipping costs, for example, have declined significantly following sharp rises over recent years (Chart 3.5). Some other non-energy commodity prices have also fallen back since August (Chart 2.5). Bottlenecks may ease further if the rotation in demand towards goods and away from services continues to unwind, or if businesses adjust. The extent to which these pressures fully normalise will depend in part on the war in Ukraine.

Chart 3.5: Measures of shipping costs rose significantly in 2021, but have since fallen back markedly

Shipping costs and forward freight agreement prices (a)



Sources: Baltic Exchange, Freightos Baltic Index, Harper Petersen, Refinitiv Eikon from LSEG, Shanghai Shipping Exchange and Bank calculations.

(a) See Chart D from Box B of the **February 2022 Report** for full definitions of these series.

…but sterling has depreciated by around 2% since August.

The sterling ERI has been volatile over recent months and overall it has depreciated by around 2% since the August Report. A lower exchange rate versus the US dollar explains some of that fall, but sterling has also depreciated against other currencies (Section 2.2).

Overall, UK import price inflation is expected to be around 16% in Q4.

UK import price inflation – including energy prices – is projected to fall back to around 16% in Q4 from just over 20% in Q3, although that would still be high relative to the past. World export prices are expected to fall in foreign currency terms in Q4, with three quarters of any change typically expected to be passed through to UK import prices. The recent sterling depreciation partially offsets that, with around half of any change in the exchange rate typically expected to be passed through to UK import prices. Despite the expected moderation in annual imported inflation, external pressures on UK CPI inflation will remain fairly strong over the near term.

3.2: How are domestic price pressures changing and how will this affect the MPC's inflation projection?

Labour market tightness and the overall balance between demand and supply

The tight UK labour market is putting upward pressure on pay growth…

In a tight labour market, firms are more likely to agree to higher pay settlements for their employees. The higher inflation environment may also add to those pay pressures, because when workers observe price rises for the goods and services they buy, they might demand higher wages to offset the hit to real incomes (**Bruno and Sachs (1985)** and **Layard, Nickell and Jackman (2005)**). That may be particularly true if they think higher inflation is likely to persist. These domestic price pressures tend to be more persistent than external ones, so they are particularly important for determining the outlook for inflation over the medium term.

Pay growth has risen recently. In the three months to August, whole-economy annual pay growth was 6% and private sector regular pay growth was a little higher (Section 2.4). These are high relative to the recent past, but below the current rate of inflation. Contacts of the Bank's Agents report that the cost of living squeeze is likely to be a bigger factor than recruitment and retention issues in determining pay awards in 2023.

...which is expected to push up on services inflation.

Services inflation has risen over the past two years and is expected to increase a little further in coming months. Services prices can be affected by a range of input costs, but they are often used as an indicator of domestic inflationary pressure because labour tends to make up a large proportion of those firms' costs. Core services CPI excludes airfares and package holiday prices, due to their volatility and close links with external costs, as well as education prices, which are largely determined by government policy. Bank staff also adjust this measure to remove the estimated direct impact of changes in VAT. Core services CPI inflation was above 5½% in 2022 Q3, up from below 2% in early 2021 (Chart 3.6). It is expected to rise a little further to around 6% at the start of 2023.

The extent to which the labour market stays tight will affect inflation over the MPC's forecast period.

Output is currently judged to be above potential supply, but with demand growth expected to be weaker than supply growth over the next three years, the economy is expected to be operating well below full capacity by the end of the MPC's forecast period. Consistent with that, the unemployment rate is expected to remain at historically low levels in 2022 Q4 and 2023 Q1, but then rises steadily. That spare capacity and the associated labour market slack reduces pay pressure, which in turn weighs on inflation over the medium term.

Chart 3.6: Core services inflation is expected to increase a little further in coming months

Core goods and core services inflation (a)

Sources: ONS and Bank calculations.

(a) Core goods CPI excludes energy, food, non-alcoholic beverages, alcoholic beverages and tobacco. Core services CPI excludes airfares, package holidays and education. Bank staff have adjusted for the estimated direct impact of changes in VAT and there is uncertainty around the precise impact of that adjustment. The latest data points are for September 2022 and the projections are shown to March 2023.

Firms' pricing decisions

Domestic inflationary pressure will also depend on the extent to which UK firms raise prices in response to higher costs…

When setting prices, firms will take into account their input costs including wages, but may also consider other factors including adjustment costs and the prices of their competitors. The extent to which firms are able to raise their prices in response to higher input costs will also depend on the strength of demand. These pricing decisions can reflect the interactions between some of the other factors affecting inflation and result in price pressures over and above what those factors would imply in isolation. If many firms are raising prices, for example, other businesses may pass on any changes in input costs more quickly than they otherwise would.

…and evidence suggests that while some firms are currently able to raise prices, others are reaching the limit to which they can do so.

Agency intelligence suggests that many firms are continuing to pass through higher costs to prices in order to limit the erosion of margins. Consistent with that, higher inflation is now being seen across a wider range of goods and services, such that components accounting for around 90% of the CPI basket now have inflation rates above their past averages. The Agents' contacts report that some firms are reaching the limit to which they are able to pass on higher costs, however, including in sectors such as hospitality and durable goods.

Inflation expectations

Expectations of future inflation can affect domestic price pressures today.

Higher inflation expectations can affect the behaviour of households and firms, which in turn could push up on future inflation. Households may demand an increase in pay if they expect higher inflation in the future, although in practice it is difficult to separate that behaviour from households demanding higher wages in response to previous price rises, which would only be expected to persist as long as spot inflation remained high. In the MPC's central projection, households are typically assumed to base their expectations largely on recent inflation outturns. Businesses' inflation expectations can also affect their pricing decisions. If firms expect higher inflation and prefer not to adjust prices too often, they may raise prices by more initially, especially if there is uncertainty about how long prices will stay elevated. Some firms in the DMP Survey cite past or expected inflation as a reason for why they have raised prices recently, for example (Chart 3.4).

While some indicators of one year ahead inflation expectations have fallen back from recent highs, most are above their past averages…

Short-term measures of inflation expectations remain elevated, although some have fallen back from recent peaks. In the YouGov/Citigroup household survey, one year ahead expectations rose to over 10% in August, before declining to around 8½% in September and October. This is some way above its past average, but changes to the survey design may have distorted that comparison. In the latest Bank/Ipsos Mori survey, the rise in one year ahead expectations was smaller. According to the CBI Distributive Trades Survey of consumer-facing firms, inflation expectations increased in Q3. But in the latest DMP Survey, which covers a wider range of businesses but for which the available time series is shorter, expectations for CPI inflation one year ahead fell back by almost 2 percentage points. All of these indicators tend to be highly correlated with inflation outturns, however, so it is not surprising that these measures have risen recently. Some of these surveys were conducted before the announcement of the Energy Price Guarantee.

…and some measures of two year ahead expectations are also elevated.

Indicators of inflation expectations two years ahead remain elevated relative to the past. In the Bank/Ipsos Mori survey of households and the CBI survey of consumer-facing businesses, expectations were still above their 2010–19 averages, despite falling back a little most recently. Professional forecasters' two year ahead expectations are higher than in August, however, with CPI inflation now expected to be at 2.9% in 2024 Q4 (see Annex).

Households' medium-term inflation expectations have fallen back, but surveys of market participants and professional forecasters suggest their expectations at similar horizons have risen…

Household inflation expectations more than two years ahead have fallen back in recent months, but surveys of market participants and professional forecasters suggest they expect higher inflation in the medium term. The YouGov/Citigroup indicator of household expectations five to ten years ahead increased by 1 percentage point to 4.8% in August, but that coincided with the change in the survey design. The sharp increase then partially reversed in September and October. The Bank/Ipsos Mori five year ahead measure also fell in Q3 (Chart 3.7). Market-implied indicators of medium-term expectations have been affected by repricing in long-dated UK government debt and associated pressure on liability driven investment funds. In the latest Market Participants Survey, which provides an alternative gauge of inflation expectations among market participants, the median expectation for CPI inflation increased at the three and five-year horizon. Professional forecasters expected inflation to be 2.4% on average in three years' time, also higher than the average projection in August.

Chart 3.7: Household inflation expectations five to ten years ahead have fallen back a little

Household inflation expectations five to ten years ahead (a)

Sources: Bank of England, Citigroup, Ipsos Mori, YouGov and Bank calculations.

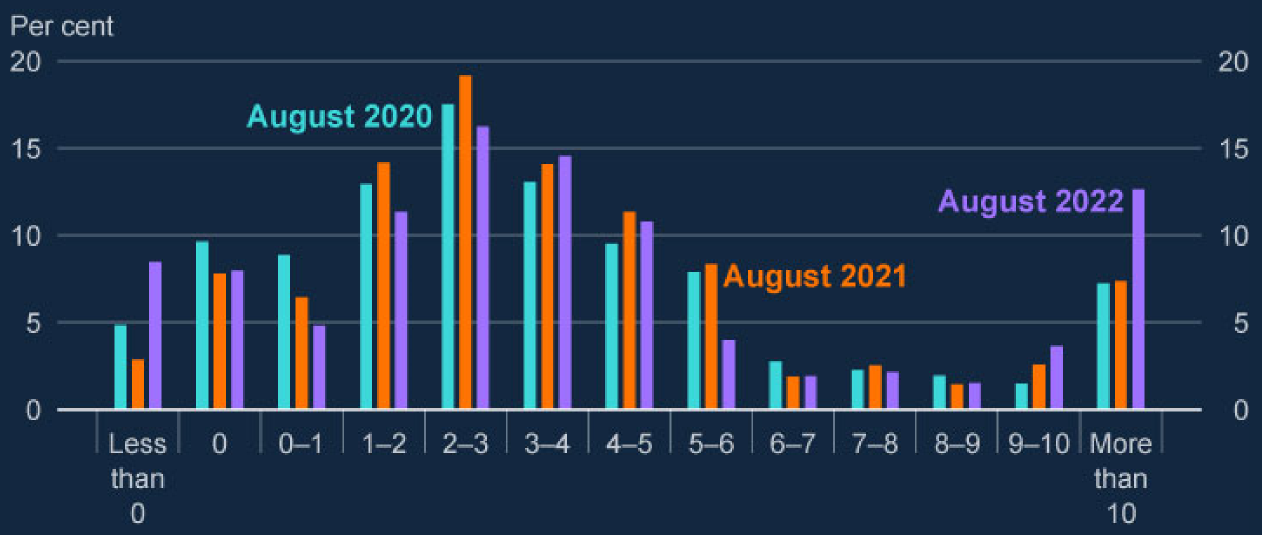
(a) Data are not seasonally adjusted. The latest data point for the Bank/Ipsos Mori survey is for Q3 and for the YouGov/Citigroup survey it is October. Since August, the YouGov/Citigroup survey has been based on updated response buckets.

…and their distribution has shifted somewhat in recent months.

Some of the survey indicators of inflation expectations are based on median responses, so by construction they do not fully reflect changes in the tails of the distribution. The distribution of responses in the Bank/Ipsos Mori survey has widened a little, for example, with more households now expecting inflation to be either above 10% or below zero in five years' time. In the latest survey, 12½% of households expect inflation to be above 10%, compared with 7½% in August 2021 (Chart 3.8). Some of that widening may be due to the distributional consequences of the pandemic: household expectations tend to be correlated with their perceptions of current inflation and if those have been more varied than usual recently that may also be reflected in these responses.

Chart 3.8: A greater share of households expect inflation to be either above 10% or below zero in five years' time

The distribution of household five year ahead inflation expectations (a)



Sources: Bank of England, Ipsos Mori and Bank calculations.

(a) Excludes those who responded 'Don't know'. Data are not seasonally adjusted.

3.3: The MPC's forecast for inflation

Inflation is expected to remain above 10% in 2022 Q4 and 2023 Q1, before falling back sharply.

The MPC expects inflation to remain high at over 10% in the near term. While there is a decline in global price pressures, domestic inflationary pressures remain strong. Conditioned on the elevated path of market interest rates, CPI inflation then declines sharply and is below the 2% target in the medium term, although the MPC judges that the risks to the inflation projection are skewed to the upside (Section 1).

Annex: Other forecasters' expectations

This annex reports the results of the Bank's most recent survey of external forecasters. Responses were submitted in the two weeks to 21 October, a period of significant uncertainty about the economic outlook. Forecasts are therefore likely to have been based on different assumptions for asset prices, future energy prices and fiscal policy. Expectations throughout the forecast period are summarised in Chart A.[1]

On average, respondents expected GDP to fall by 0.2% in the four quarters to 2023 Q4 (left panel, Chart A). Responses ranged from -1.8% to 1.5%. Four-quarter GDP growth was then expected to rise, on average, to 1.8% in 2024 Q4 and 2025 Q4. These forecasts are all higher than the MPC's modal projections.

External forecasters expected an unemployment rate of 4.6% in 2023 Q4, a little lower than the MPC's projection (middle panel, Chart A). The average external forecast remains at similar levels two and three years ahead. By comparison, in the MPC's projection, the unemployment rate rises to 5.9% in 2024 Q4 and further to 6.4% in 2025 Q4.

CPI inflation was expected to fall, on average, to 4.2% in 2023 Q4, a faster decline than in the MPC's projection (right panel, Chart A). Responses at that horizon ranged from 2.2% to 7.1%. The average forecast was 2.9% for 2024 Q4 and slightly closer to the target at 2.4% by 2025 Q4, both materially above the MPC's projections.

Chart A: At the three-year horizon, external forecasters expected four-quarter GDP growth to be 1.8%, the unemployment rate to be 4.5%, and CPI inflation to be 2.4%

Projections for GDP, the unemployment rate and CPI inflation (a)

(a) Thirteen respondents submitted projections. There are 12–13 projections for each variable at the one-year horizon, and 7–8 for each variable at the two and three-year horizons.

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.

OIS – overnight index swap.

PCE – personal consumption expenditure.

PMI – purchasing managers' index.

S&P GSCI – Standard and Poor's Goldman Sachs Commodity Index.

Abbreviations

CBI – Confederation of British Industry.

CCS – Credit Conditions Survey.

CIPS – Chartered Institute of Purchasing and Supply.

EBRS – Energy Bill Relief Scheme.

ECB – European Central Bank.

EPG – Energy Price Guarantee.

FCA – Financial Conduct Authority.

FOMC – Federal Open Market Committee.

FPC – Financial Policy Committee.

GfK – Gesellschaft für Konsumforschung, Great Britain Ltd.

HMRC – His Majesty's Revenue and Customs.

IMF – International Monetary Fund.

LDI – liability-driven investment.

LTV – loan to value.

MPC – Monetary Policy Committee.

MSCI – Morgan Stanley Capital International Inc.

MTIC – missing trader intra-community.

NHS – National Health Service.

OBR – Office for Budget Responsibility.

Ofgem – Office of Gas and Electricity Markets.

ONS – Office for National Statistics.

PAYE – Pay As You Earn.

PPP – purchasing power parity.

REC – Recruitment and Employment Confederation.

RTI – Real Time Information.

S&P – Standard & Poor's.

SMEs – small and medium-sized enterprises.

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.

1. For detailed distributions, see '**Monetary Policy Report – Download the chart slides and data – November 2022**'. External expectations for monetary policy are now covered in the **Market Participants Survey**.