Bank of England

Monetary Policy Report

Monetary Policy Committee
February 2024

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
- Sarah Breeden
- Ben Broadbent
- Swati Dhingra
- Megan Greene
- Jonathan Haskel
- Catherine L Mann
- Huw Pill
- Dave Ramsden

PowerPoint™ versions of the Monetary Policy Report charts and Excel spreadsheets of the data underlying most of them are available at **http://www.bankofengland.co.uk/monetary-policy-report/2024/february-2024**.

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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 31 January 2024, the MPC voted by a majority of 6–3 to maintain Bank Rate at 5.25%. Two members preferred to increase Bank Rate by 0.25 percentage points, to 5.5%. One member preferred to reduce Bank Rate by 0.25 percentage points, to 5%.

The Committee's updated projections for activity and inflation are set out in the accompanying February Monetary Policy Report. These are conditioned on a market-implied path for Bank Rate that declines from 5¼% to around 3¼% by the end of the forecast period, almost 1 percentage point lower on average than in the November Report.

Since the MPC's previous meeting, global GDP growth has remained subdued, although activity continues to be stronger in the United States. Inflationary pressures are abating across the euro area and United States. Wholesale energy prices have fallen significantly. Material risks remain from developments in the Middle East and from disruption to shipping through the Red Sea.

Following recent weakness, GDP growth is expected to pick up gradually during the forecast period, in large part reflecting a waning drag on the rate of growth from past increases in Bank Rate. Business surveys are consistent with an improving outlook for activity in the near term.

The labour market has continued to ease, but remains tight by historical standards. In the February Report projections, the continuing relative weakness of demand, despite subdued supply growth by historical standards, leads a margin of economic slack to emerge during the first half of the forecast period. Unemployment is expected to rise somewhat further.

Twelve-month CPI inflation fell to 4.0% in December 2023, below expectations in the November Report. This downside news has been broad-based, reflecting lower fuel, core goods and services price inflation. Although still elevated, wage growth has eased across a number of measures and is projected to decline further in coming quarters.

CPI inflation is projected to fall temporarily to the 2% target in 2024 Q2 before increasing again in Q3 and Q4. This profile of inflation over the second half of the year is accounted for by developments in the direct energy price contribution to 12-month inflation, which becomes less negative. In the MPC's latest most likely, or modal, projection conditioned on the lower market-implied path for Bank Rate, CPI inflation is around 2¾% by the end of this year. It then remains above target over nearly all of the remainder of the forecast period. This reflects the persistence of domestic inflationary pressures, despite an increasing degree of slack in the economy. CPI inflation is projected to be 2.3% in two years' time and 1.9% in three years.

The Committee judges that the risks around its modal CPI inflation projection are skewed to the upside over the first half of the forecast period, stemming from geopolitical factors. It now judges that the risks from domestic price and wage pressures are more evenly balanced, meaning that, unlike in

previous forecasts, there is no difference between the MPC's modal and mean projections at the two and three-year horizons.

Conditioned on the alternative assumption of constant interest rates at 5.25%, the path for CPI inflation is significantly lower than in the Committee's modal projection conditioned on the declining path of market rates, falling below the 2% target from 2025 Q4 onwards.

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. Monetary policy will ensure that CPI inflation returns to the 2% target sustainably in the medium term.

At this meeting, the Committee voted to maintain Bank Rate at 5.25%. Headline CPI inflation has fallen back relatively sharply. The restrictive stance of monetary policy is weighing on activity in the real economy and is leading to a looser labour market. In the Committee's February forecast, the risks to inflation are more balanced. Although services price inflation and wage growth have fallen by somewhat more than expected, key indicators of inflation persistence remain elevated.

As a result, monetary policy will need to remain restrictive for sufficiently long to return inflation to the 2% target sustainably in the medium term in line with the MPC's remit. The Committee has judged since last autumn that monetary policy needs to be restrictive for an extended period of time until the risk of inflation becoming embedded above the 2% target dissipates.

The MPC remains prepared to adjust monetary policy as warranted by economic data to return inflation to the 2% target sustainably. It will therefore continue to monitor closely indications of persistent inflationary pressures and resilience in the economy as a whole, including a range of measures of the underlying tightness of labour market conditions, wage growth and services price inflation. On that basis, the Committee will keep under review for how long Bank Rate should be maintained at its current level.

1: The economic outlook

Twelve-month CPI inflation remains above the MPC's 2% target but declined to 4.2% in 2023 Q4. This was below expectations in the November Report, with broad-based downside news in the contributions from fuel, core goods and services prices. CPI inflation is now projected to fall temporarily to the 2% target in 2024 Q2 before increasing again in Q3 and Q4. This profile of inflation over the second half of the year is accounted for by developments in the direct energy price contribution to 12-month inflation, which becomes less negative. CPI inflation excluding energy is projected to remain above the target throughout this period, at around 3% (Chart 1.1). Annual private sector regular average weekly earnings (AWE) growth declined to 6.5% in the three months to November, around 1 percentage point below the expectation in the November Report. This has brought the AWE measure back into line with the steer from other indicators of annual pay growth. The near-term outlook for pay growth is weaker than projected in November, but it remains elevated.

The Committee continues to expect second-round effects in domestic prices and wages to take longer to unwind than they did to emerge (Key judgement 3). In the MPC's modal, or most likely, projection conditioned on the lower market-implied path of interest rates, CPI inflation is around 2¾% at the end of this year. It then remains above target over nearly all of the remainder of the forecast period. This reflects the persistence of domestic inflationary pressures, despite an increasing degree of slack in the economy. CPI inflation is projected to be 2.3% in two years' time and 1.9% in three years (Table 1.A). The Committee judges that the risks around its modal CPI inflation projection from domestic price and wage pressures are now more evenly balanced. There are, however, some upside risks to the modal projection from geopolitical factors over the first half of the forecast period.

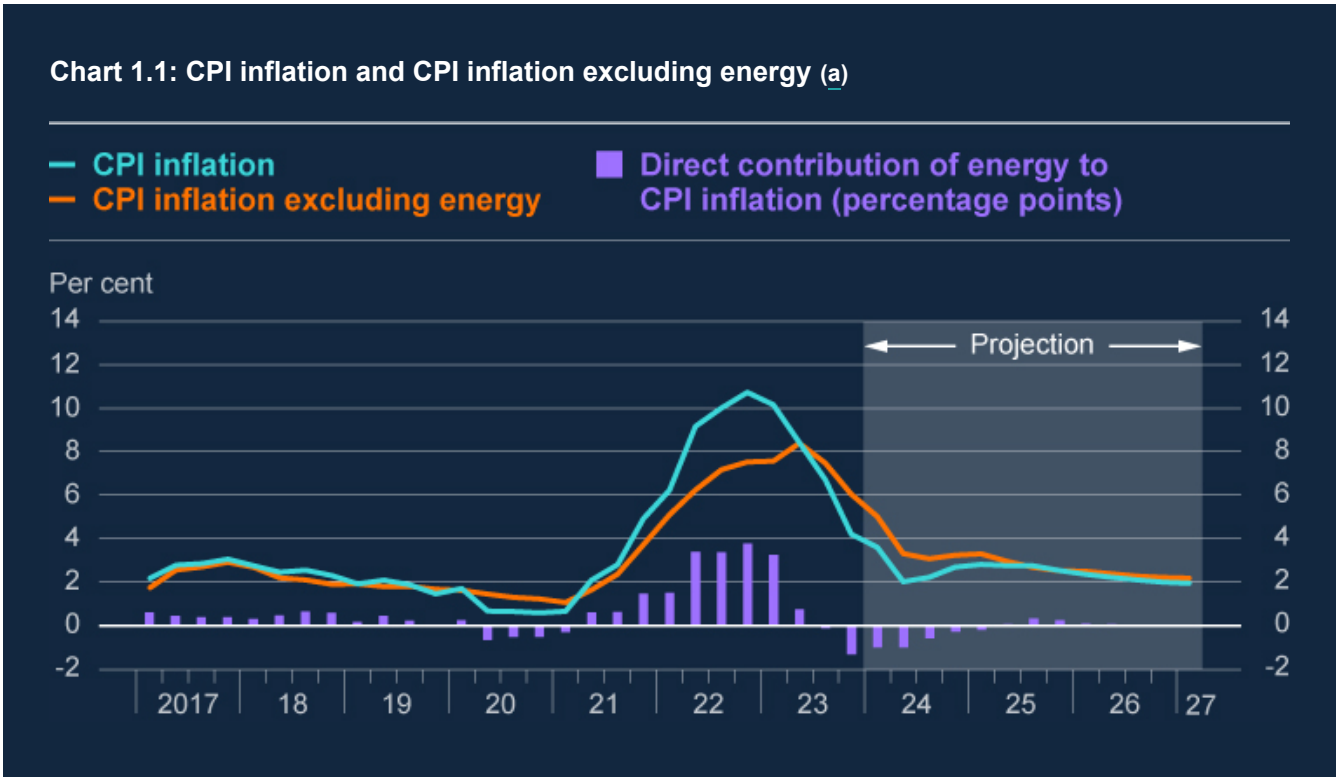
Following recent weakness, GDP growth is expected to pick up gradually during the forecast period (Key judgement 1). That in large part reflects a waning drag on the rate of growth from past increases in Bank Rate. Excess demand in the UK economy is judged to have diminished significantly over recent quarters. Potential supply growth is expected to remain relatively subdued by historical standards (Section 3), but the continuing relative weakness of demand leads a margin of economic slack to emerge during the first half of the forecast period (Key judgement 2). Unemployment is expected to rise somewhat further.

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

	2024 Q1	2025 Q1	2026 Q1	2027 Q1
GDP (c)	0.0 (0.2)	0.5 (0.0)	0.8 (0.6)	1.5
Modal CPI inflation (d)	3.6 (4.4)	2.8 (2.5)	2.3 (1.9)	1.9
Mean CPI inflation (d)	3.7 (4.4)	3.0 (2.8)	2.3 (2.2)	1.9
Unemployment rate (e)	4.4 (4.4)	4.7 (4.8)	4.9 (5.0)	4.9
Excess supply/**Excess demand** (f)	-¼ (-¼)	-½ (-1)	-1 (-1½)	-¾
Bank Rate (g)	5.1 (5.3)	3.9 (5.0)	3.3 (4.4)	3.2

(a) Figures in parentheses show the corresponding projections in the November 2023 Monetary Policy Report.
(b) Unless otherwise stated, the numbers shown in this table are modal projections and are conditioned on the assumptions described in Section 1.1. The main assumptions are set out in **Monetary Policy Report – Download chart slides and data – February 2024**.
(c) Four-quarter growth in real GDP.
(d) Four-quarter inflation rate. The modal projection is the single most likely outcome. If the risks are symmetrically distributed around this central view, this will also provide a view of the average outcome or mean forecast. But when the risks are skewed, as in the current forecast, the mean projection will differ from the mode.
(e) ILO definition of unemployment. Up to June 2023, this projection is based on LFS unemployment data. Beyond this point, the Committee is drawing on the collective steer from other indicators of unemployment to inform its projection (see Box B in the November 2023 Monetary Policy Report).
(f) Per cent of potential GDP. A negative figure implies output is below potential and a positive that it is above.
(g) Per cent. The path for Bank Rate implied by forward market interest rates. The curves are based on overnight index swap rates.

Chart 1.1: CPI inflation and CPI inflation excluding energy (a)



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

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

1.1: The conditioning assumptions underlying the MPC's projections

As set out in Table 1.B, the MPC's February projections are conditioned on:

- The lower paths for policy rates in advanced economies implied by financial markets, as captured in the 15-working day averages of forward interest rates to 23 January (Chart 2.5). The market-implied path for Bank Rate in the United Kingdom has fallen by almost 1 percentage point on average over the next three years compared with the equivalent period at the time of the November Report. The path for Bank Rate underpinning the February projections declines from 5¼% to around 3¼% by the end of the forecast period.
- A path for the sterling effective exchange rate index that is over 2% higher on average than in the November Report. The exchange rate depreciates slightly over the forecast period, reflecting the role for expected interest rate differentials in the Committee's conditioning assumption.
- Wholesale energy prices that follow their respective futures curves over the forecast period. Since November, oil and gas prices have declined materially (Chart 2.3), despite the recent disruptions to shipping in the Red Sea. Significant uncertainty remains around the outlook for wholesale energy prices, including related to recent geopolitical developments (Key judgement 3).
- UK household energy prices that move in line with Bank staff estimates of the Ofgem price cap implied by the path of wholesale energy prices (Section 2.3).
- Fiscal policy that evolves in line with announced UK government policies to date. As discussed in Box A, additional fiscal measures were announced in the Autumn Statement, including a two pence cut in the main rate of employee National Insurance contributions, a permanent 100%

capital allowance for qualifying business investment, and a package of reforms to welfare and health services designed to increase labour market participation.

- The variant of the ONS's 2020-based population projections, published in January 2023, which reflects international migration to the year ending June 2022 (Section 3).

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

	Average 1998–2007	Average 2010–19	2022	2023	2024	2025	2026
Bank Rate (c)	5.0	0.5	2.8	5.2 (5.3)	4.2 (5.1)	3.4 (4.5)	3.2 (4.2)
Sterling effective exchange rate (d)	100	82	78	81 (81)	82 (80)	81 (80)	81 (79)
Oil prices (e)	39	77	89	84 (90)	76 (81)	73 (77)	71 (74)
Gas prices (f)	29	52	201	101 (118)	88 (142)	87 (117)	82 (99)
Nominal government expenditure (g)	7¼	2¼	4	6¾ (6¼)	3 (¾)	2 (1¾)	2¾ (2½)

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 November 2023 Report.
(b) Financial market data are based on averages in the 15 working days to 23 January 2024. 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 halfway between the starting level of the sterling ERI and a path implied by interest rate differentials.
(e) Dollars per barrel. Projection based on monthly Brent futures prices.
(f) Pence per therm. Projection based on monthly natural gas futures prices.
(g) Annual average growth rate. Nominal general government consumption and investment. Projections are based on the OBR's November 2023 Economic and Fiscal Outlook. Historical data based on NMRP+D7QK.

1.2: Key judgements and risks

1.2: Key judgement 1

Following recent weakness, GDP growth is expected to pick up gradually during the forecast period. That in large part reflects a waning drag on the rate of growth from past increases in Bank Rate.

UK GDP is expected to have been flat in 2023 Q4. Combined with downward revisions to previous quarters, the level of GDP starts the forecast period around ½% lower than expected at the time of the November Report. Market sector output, which is less subject to swings in measured non-market output such as in the health and education sectors, is now expected to have declined by around ¼% in both 2023 Q3 and Q4. Private final domestic demand including household consumption has also been weak (Section 2.2).

GDP is projected to increase by 0.1% in 2024 Q1 and at a similar pace over the following few quarters, slightly stronger rates than expected in the November Report. Business surveys, such as the S&P Global/CIPS UK composite PMI, suggest that private sector activity has stabilised and may be edging up again.

Based on the average relationships over the past between Bank Rate, other financial instruments and economic activity, and taking account of recent declines in market interest rates, Bank staff estimate that around two thirds of the peak domestic impact of higher interest rates on the level of GDP has come through. There remains significant uncertainty around that estimate, however. In particular, recent developments suggest that house prices have held up to a greater extent than might otherwise have been expected (Chart 2.11), and that the collateral and precautionary savings channels of monetary policy through which house prices affect consumer spending could be somewhat weaker than expected over coming quarters.

Taken together, the pass-through of past rises in interest rates and the latest market-implied interest rate path on which the forecast is conditioned (Section 1.1) continue to push down on the level of GDP over the first half of the forecast period in absolute terms. There is nevertheless a waning drag on the rate of GDP growth from monetary policy. Compared with the November projection, the fall in the market path over recent months pushes up on GDP materially throughout this forecast, all else equal.

As discussed in Box A, the combined effect of the policies announced in the Autumn Statement is expected to boost the level of aggregate demand by around 0.2% in fiscal years 2024–25 and 2025–26, and by around 0.3% in 2026–27, relative to the November Report projections. As these measures are also likely to boost potential supply to some extent, including through higher labour market participation, the implications for the MPC's output gap projection (Key judgement 2), and hence inflationary pressures in the economy, are projected to be smaller.

After taking account of all announced government plans, the positive impacts on the level of GDP of past fiscal loosening measures, including those related to the pandemic and the energy price shock, continue to unwind. This pulls down on the Committee's GDP growth projection during the forecast

period. Measured real government consumption is nevertheless expected to grow quite strongly in 2024, by 4%, before growth slows over the forecast period.

Relative to the November Report, the recent fall in wholesale, and prospective household and business, energy prices boosts UK GDP somewhat. Set against that, there are risks to energy prices and other global trade flows from an escalation of recent disruption in the Red Sea and from related geopolitical developments. The Committee's February central projection assumes that half of the total trade flowing through the Red Sea is disrupted during the first half of this year, with much of it being diverted via longer routes. This equates to a relatively small effect on UK and global trade volumes, all else equal.

International GDP growth has continued to be subdued (Section 2.1). The path of global GDP is expected to be slightly higher than in the November Report over much of the forecast period, in part reflecting looser global financial conditions. In the MPC's February projection, annual UK-weighted world GDP growth is projected to rise in the medium term, to slightly below its average rate in the decade prior to the pandemic (Table 1.D).

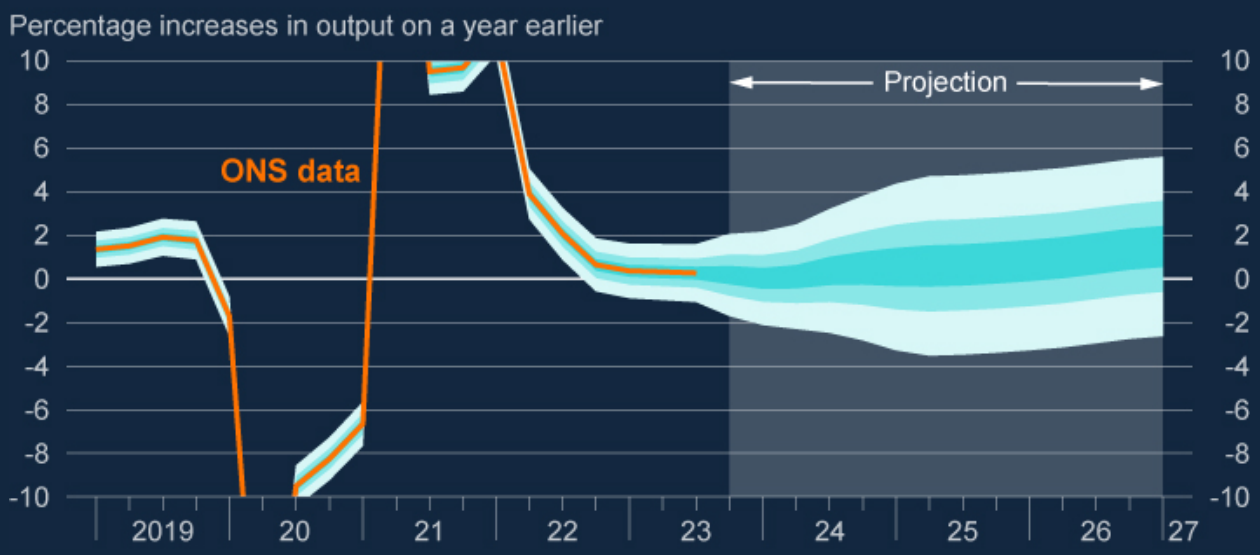
Growth among advanced economies diverged in 2023, with significantly stronger growth in the United States than in the euro area. In light of recent developments, Bank staff have revised up their view of the supply potential of the US economy, reflecting a higher projected population, and higher structural labour participation and productivity assumptions. Alongside other factors, this pushes up on the US GDP growth projection relative to the November Report. Bank staff judge that euro-area supply growth will remain more subdued than in the United States and grow at a similar pace over the forecast period to UK supply growth (Key judgement 2).

Overall, in the Committee's February projection, UK GDP growth is projected to pick up gradually during the forecast period. That in large part reflects a waning drag on the rate of growth from past increases in Bank Rate. The impact of fiscal policy and relatively weak potential supply growth (Key judgement 2) pull down on GDP growth throughout the forecast period relative to historical averages. Four-quarter GDP growth recovers to 1½% by the end of the forecast period (Chart 1.2). Relative to the November Report projection, and despite a weaker starting point for activity, the level of GDP has been revised up by just under ¾% by the end of the forecast period, more than accounted for by the boost to activity from the recent lower path of market interest rates on which the forecast is conditioned.

Within the key domestic expenditure components underpinning the February GDP projection conditioned on market interest rates (Table 1.D), household spending is expected to decline by ¼% this year, although this reflects the effect on the annual average of declines in consumption in 2023. The level of household spending is expected to be flat in 2024 H1 and to pick up over the remainder of the forecast period. Taking account of all components of household income, the saving ratio is expected to remain elevated this year before falling back over the remainder of the forecast period. In large part reflecting the transmission of higher interest rates, housing investment is expected to continue to fall in the near term (Section 2.2), before picking up slightly over the remainder of the

forecast period. Business investment is projected to be flat over the first half of the forecast period, but to pick up slightly thereafter (Section 3). Weakness in near-term private final domestic demand growth is expected to be offset by strong real government consumption growth.

Chart 1.2: 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 Bank Rate following a path implied by market yields, but allows the Committee's judgement on the risks around the other conditioning assumptions set out in Section 1.1, including wholesale energy prices, to affect the calibration of the fan chart skew. 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. The y-axis of the chart has been truncated to illustrate more clearly the current uncertainty around the path of GDP growth, as otherwise this would be obscured by the volatility of GDP growth during the pandemic.

In the GDP projection conditioned on the alternative assumption of constant interest rates at 5.25% over the forecast period, growth is significantly weaker over the forecast period compared with the MPC's projection conditioned on the declining path of market-implied rates.

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

There are risks in both directions around the central projections for domestic spending and GDP, including those related to the transmission of monetary policy. In particular, there is uncertainty around the collateral and precautionary savings channels through which house prices affect consumer spending, and around the extent to which the full effects of interest rates on business

investment have already come through. The Committee will continue to monitor closely the impact of the significant increase in Bank Rate. It will also continue to keep under review the relationship between Bank Rate and economic activity, including how it may have changed during the current tightening cycle.

Internationally, the risk of higher commodity prices and disruption to trade flows could lead to weaker economic activity as well as greater external inflationary pressures (Key judgement 3).

1.2: Key judgement 2

Excess demand in the UK economy is judged to have diminished significantly over recent quarters. Potential supply growth is expected to remain relatively subdued by historical standards, but the continuing relative weakness of demand leads a margin of economic slack to emerge during the first half of the forecast period. Unemployment is expected to rise somewhat further.

Potential supply determines the level of output the economy can sustain without generating excessive inflationary pressures. Since the previous Report, the Committee has concluded its supply stocktake (Section 3), which has fed into the construction of its latest projections.

The Committee has reviewed its assessment of the past and current degree of economic slack. Taking a steer from a number of estimates, which take some signal from the strength of underlying inflationary pressures, the MPC judges that the degree of excess demand has been a little higher over the previous couple of years than was assumed in the November Report. As the level of actual output has also been lower than expected in November, this implies that potential supply has been even weaker.

In absolute terms, the margin of excess demand is now judged to have peaked at around 1¾% of potential GDP at the start of 2022, before declining steadily to around zero over the past two years. That period of excess demand has been accounted for by the tightness of the labour market and, initially, by a higher than normal degree of capacity utilisation within companies following the pandemic. Over the past year, businesses have responded to the weakness in demand by retaining their existing employees, while using them less intensively.

The MPC is continuing to consider the collective steer from a wide range of data to inform its view on labour market developments. As discussed in Box B in the November 2023 Report, there are increased uncertainties around the ONS's official labour market activity data that have previously been based on the Labour Force Survey.

Alongside weakness in output, a range of indicators suggest that employment growth is likely to have slowed around the turn of the year but not turned negative (Chart 2.12). The ONS's alternative experimental statistic for the unemployment rate has remained flat at 4.2% in the three months to November, having increased by 0.7 percentage points from its trough in 2022. And there has been other evidence of a loosening in the labour market, although it remains tight by historical standards.

As discussed in the November Report, the medium-term equilibrium rate of unemployment is judged to be around 4½% currently. Following a review during this supply stocktake, and despite some evidence of a decline over recent years in the efficiency with which vacancies are matched to those seeking work, the MPC continues to judge that the long-term equilibrium rate of unemployment, which the medium-term rate should converge back to over time, is just above 4%.

The MPC judged at the time of its previous stocktake that a constellation of major economic shocks was already weighing materially on the level of estimated potential supply and would continue to weigh on it over the forecast period (Key judgement 1 in the February 2023 Report). Since then, the MPC judges that the supply impacts from the change in the UK's trading relationship with the EU are evolving broadly as expected (Section 3). But, alongside recent declines in commodity prices, new analysis of energy-intensive industries suggests that the risks of a persistent hit to supply from the global energy price shock have reduced. And the latest available data suggest that the Covid-related drag on potential participation may be unwinding faster than anticipated, while the lasting effects of the pandemic on potential productivity are also likely to be smaller than previously assumed.

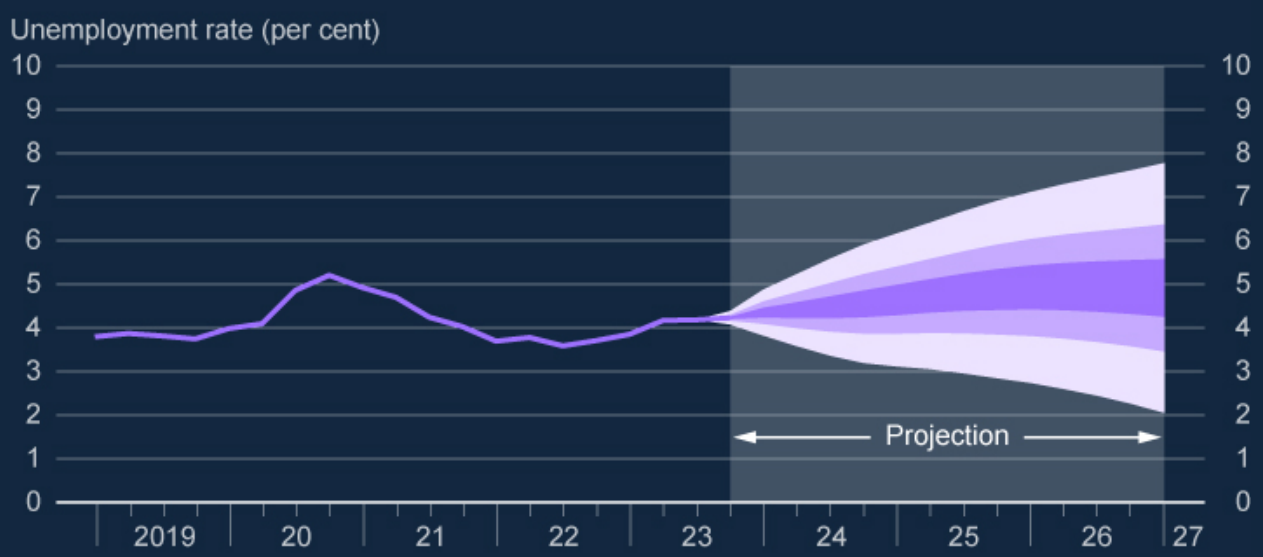
Overall, in the MPC's latest forecast conditioned on the ONS's 2020-based population projections (Section 1.1), potential supply growth is expected to pick up to around 1¼% per year in 2025 and 2026 (Chart 3.1). This is somewhat weaker than the average growth rate in the decade before the pandemic and much lower than in the decade prior to the global financial crisis (GFC). But it is stronger than the projection for supply growth at the time of the previous stocktake in February 2023 and slightly above the projection in the November Report.

In the Committee's latest projection, growth in potential productivity in 2025 and 2026 is expected to be around ¾% (Chart 3.5), slightly stronger than the average growth rate in the decade before the pandemic but much lower than in the decade prior to the GFC. Despite the adverse impact of long-running demographic trends such as an ageing population, projected potential labour supply growth is expected to increase by around ½% per year over the forecast period, accounted for primarily by population growth.

Although potential supply growth is expected to be relatively subdued, particularly in the near term, the outlook for demand is weaker, leading to a margin of economic slack emerging in the Committee's latest projections during the first half of the forecast period. Aggregate excess supply is expected to remain around 1% of potential GDP towards the end of the forecast period (Table 1.A), compared with around 1½% of GDP in the November Report. Relative to November, the projection for excess demand/supply has been pushed up by the boost to demand from the lower market path of interest rates, which more than offsets somewhat stronger expected potential supply growth.

In the MPC's latest projection, the unemployment rate is projected to continue to rise gradually over much of the forecast period such that it exceeds the assumed medium-term equilibrium rate by the end of this year. The unemployment rate reaches around 5% by the end of the forecast period (Chart 1.3). This is a slightly lower path for unemployment than in the November Report.

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 future outcomes for the ILO definition of unemployment and begins in 2023 Q4. It has been conditioned on Bank Rate following a path implied by market yields, but allows the Committee's judgement on the risks around the other conditioning assumptions set out in Section 1.1, including wholesale energy prices, to affect the calibration of the fan chart skew. The coloured bands have the same interpretation as in Chart 1.2 and portray 90% of the probability distribution. Up to June 2023, this fan chart is based on LFS unemployment data. Beyond this point, the Committee is drawing on the collective steer from other indicators of unemployment to inform its projection (see Box B in the November 2023 Report). 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.

In projections conditioned on the alternative assumption of constant interest rates at 5.25% over the forecast period, the unemployment rate rises to a significantly greater extent compared with the MPC's projection conditioned on market rates.

There are risks in both directions around the projection for potential supply growth.

As discussed in Section 3, updated ONS population estimates and projections, which are yet to be incorporated in the MPC's forecasts, imply a higher rate of recent and future labour supply growth. On 30 January, the ONS released an update showing a stronger profile for population growth than in its previous 2020-based projections. These updated population projections were not available in time to be reflected in the Committee's latest supply-side assessment, but all else equal they may suggest a somewhat higher path of labour supply and potential output growth in the future. However, a higher future path for the population would generally have similar impacts on both supply and demand, and thus only a limited impact on inflationary pressure. For a given level of measured GDP, a larger working age population over the recent past also implies weaker labour productivity, and so could imply downside risks around future productivity growth all else equal.

There are other possible risks around the MPC's projection for potential productivity and supply growth, which remain somewhat weaker than other external forecasters including the Office for Budget Responsibility, even after allowing for differences in population conditioning assumptions. Productivity growth could nevertheless be weaker than the Committee expects if, for example, there were to be fewer insolvencies of lower-productivity companies. As discussed in Section 3, innovations in artificial intelligence technologies are likely to bring about changes in the way some sectors operate, but the speed of take-up and implications for productivity are uncertain. If future supply growth is stronger than expected for this reason, the boost to expected incomes would also be likely to raise demand and, similar to the risks around population growth, the impact on the Committee's inflation projection would be limited.

There remains significant uncertainty around the Committee's assumptions for the paths of the medium and long-term equilibrium rates of unemployment, news in which would, holding demand fixed, have implications for labour market tightness and inflationary pressures.

1.2: Key judgement 3

The Committee continues to expect second-round effects in domestic prices and wages to take longer to unwind than they did to emerge. In the near term, CPI inflation falls more quickly than projected previously, partly reflecting lower energy prices. But, conditioned on the lower path of market interest rates, inflation then increases and remains above the 2% target over nearly all of the remainder of the forecast period, despite an increasing degree of slack in the economy.

Twelve-month CPI inflation remains above the MPC's 2% target, but has fallen back to 4.2% in 2023 Q4 and was 4.0% in December, below expectations in the November Report. The downside news since the previous Report has been broad based, reflecting lower fuel, core goods and services inflation (Section 2.3).

CPI inflation is now projected to fall temporarily to the 2% target in 2024 Q2 before increasing slightly again in Q3 and in Q4. This profile of inflation over the second half of the year is accounted for by developments in the direct energy price contribution to 12-month inflation. Based on the latest paths of oil and gas futures prices, the direct energy contribution is lower during the first year of the forecast period than in the Committee's previous forecast. But, in absolute terms, the direct energy contribution to CPI inflation becomes somewhat less negative in 2024 Q3 and Q4 compared with Q2 (Chart 1.1). CPI inflation excluding energy is projected to remain above the target throughout the second half of this year, and by more than headline inflation, at around 3%.

In the near term, inflation in prices of UK core consumer goods, and food and non-alcoholic beverages, are projected to continue to fall back, to just over zero by the middle of this year.

Four-quarter UK-weighted world export price inflation, excluding the direct effect of oil prices, is estimated to have been negative at the end of last year, but is now expected to pick up more quickly and be positive at the start of this year. This reflects recent strength in euro-area export price data, which is only partially offset by a weaker forecast for export prices in China. Over the forecast period,

the recent appreciation of the sterling exchange rate and its assumed path (Section 1.1) will, however, put downward pressure on UK import price inflation, and over time on CPI inflation, relative to the November Report. Import prices are projected to fall by 1¾% in 2024, a smaller fall than expected in the November Report, but rise by ¾% in 2025 (Table 1.D).

The MPC is continuing to monitor closely indications of persistent inflationary pressures and resilience in the UK economy as a whole, including a range of measures of the underlying tightness of labour market conditions (Key judgement 2), wage growth and services price inflation.

Services CPI inflation has remained significantly elevated but has fallen back somewhat more quickly than expected. Median services inflation, which is less sensitive to changes in the inflation rate of individual services, has also started to decline in recent months (Chart 2.19). Services price inflation is expected to continue to ease over the course of this year, albeit more slowly than other components of the CPI basket.

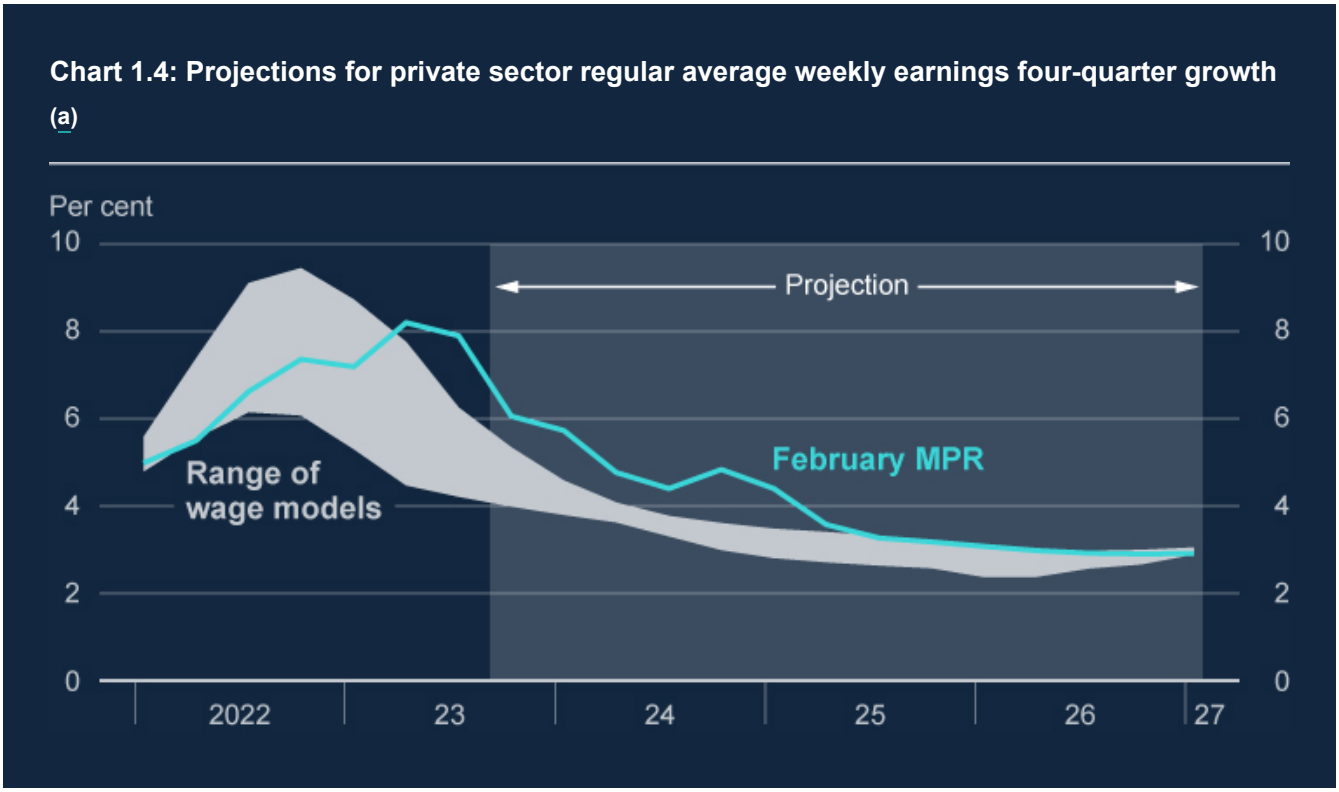
Annual private sector regular AWE growth declined to 6.5% in the three months to November, around 1 percentage point below the expectation in the November Report. This has brought the AWE measure back into line with the steer from other indicators of annual pay growth, which lies between 6% and 7% (Chart 2.15).

Recent outturns in wage growth have also continued to be stronger than standard models of wage growth, based on productivity, short-term inflation expectations and a measure of economic slack, would have predicted (Chart 1.4). The MPC continues to judge that private sector regular AWE growth will ease more slowly than the range of forecasts from this suite of models would predict, consistent with its broader judgement that second-round effects in both domestic prices and wages will take longer to unwind than they did to emerge.

Overall, the near-term outlook for pay growth is weaker than projected in the November Report, with the annual growth rate of private sector regular AWE projected to decline to around 4¾% by 2024 Q2 and to end this year at a similar rate. However, this profile also reflects an MPC judgement to push up slightly on pay growth in the near term, in light of the stronger forward-looking indications from the Bank's Agents pay settlements survey (Box D) and from the Decision Maker Panel Survey.

In the MPC's February projection, private sector regular AWE growth falls to around 3% by the end of the forecast period (Chart 1.4), as short-term inflation expectations are assumed to fall back and a margin of spare capacity is expected to open up in the labour market in the medium term (Key judgement 2). This is a similar medium-term profile for AWE growth compared to the November Report. Private sector regular pay-based unit wage cost growth is expected to fall back to 3¼% in 2024 and to 2% in 2025 (Table 1.D).

Chart 1.4: Projections for private sector regular average weekly earnings four-quarter growth (a)



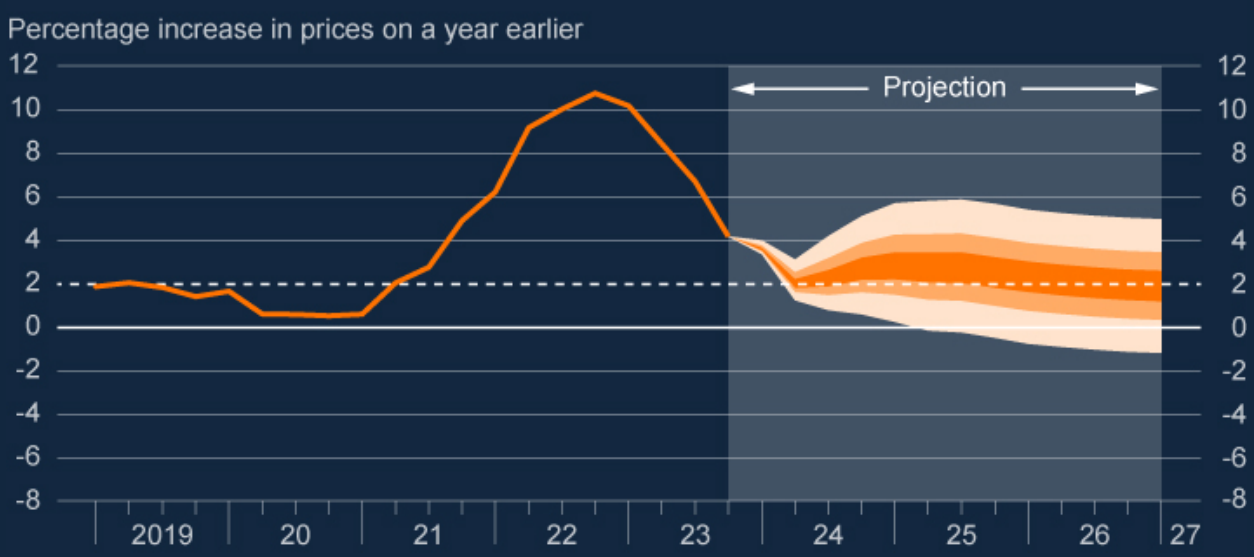
Sources: Bloomberg Finance L.P., Citigroup, ONS, YouGov and Bank calculations.

(a) The shaded range represents a range of projections from three statistical models of nominal private sector regular average weekly earnings growth, including a wage equation based on **Yellen (2017)** as shown in Chart 2.16, a wage equation based on **Haldane (2018)** and a simple error-correction model based on productivity, inflation expectations and slack in the labour market as embodied in the difference between the actual unemployment rate and the Committee's estimate of the medium-term equilibrium rate. The projections are dynamic, multi-step ahead forecasts beginning at a point within the models' estimation periods and are sensitive to data revisions, which can lead to changes in the range over the past as well as over the forecast period.

In the MPC's modal, or most likely, projection conditioned on the lower market-implied path of interest rates as captured in the 15-working day average to 23 January, CPI inflation increases from the 2% target in 2024 Q2 to around 2¾% at the end of this year. It then remains above target over nearly all of the remainder of the forecast period. This reflects the persistence of domestic inflationary pressures, despite an increasing degree of slack in the economy (Key judgement 2). CPI inflation is projected to be 2.3% in two years' time and 1.9% in three years (Table 1.C and Chart 1.5).

Compared with the November Report, the CPI inflation projection is pushed up in the medium term by higher projected energy (Chart 1.1) and other import price inflation, and also by some reduction in the margin of slack projected to emerge in the economy conditioned on the latest market path of interest rates. Partially offsetting these effects, the Committee has unwound a small part of its previous judgement on the degree of persistence in domestic prices in this forecast.

Chart 1.5: CPI inflation projection based on market interest rate expectations, other policy measures as announced



The fan chart depicts the probability of various future outcomes for CPI inflation and begins in 2024 Q1. It has been conditioned on Bank Rate following a path implied by market yields, but allows the Committee's judgement on the risks around the other conditioning assumptions set out in Section 1.1, including wholesale energy prices, to affect the calibration of the fan chart skew. 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.

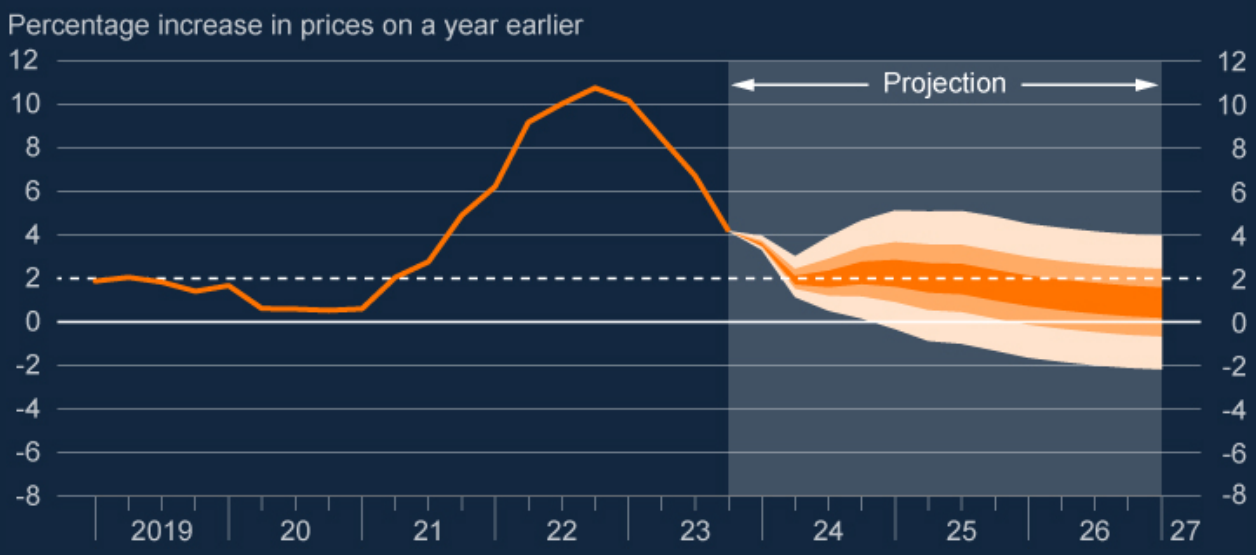
Table 1.C: The quarterly modal projection for CPI inflation based on market rate expectations (a)

	2024 Q1	2024 Q2	2024 Q3	2024 Q4	2025 Q1
CPI inflation	3.6	2.0	2.2	2.7	2.8
	2025 Q2	**2025 Q3**	**2025 Q4**	**2026 Q1**	
CPI inflation	2.7	2.7	2.5	2.3	
	2026 Q2	**2026 Q3**	**2026 Q4**	**2027 Q1**	
CPI inflation	2.2	2.1	2.0	1.9	

(a) Four-quarter inflation rate.

In the modal projection conditioned on the alternative assumption of constant interest rates at 5.25% over the forecast period, CPI inflation is expected to be around the 2% target during the first half of the forecast period before falling below it from 2025 Q4 onwards (Chart 1.6). This path is significantly lower than the Committee's modal projection conditioned on market rates.

Chart 1.6: CPI inflation projection based on constant interest rates at 5.25%, other policy measures as announced



This fan chart depicts the probability of various outcomes for CPI inflation in the future, conditioned on the assumptions in Table 1.B, apart from for Bank Rate, with this chart conditioned on constant interest rates at 5.25%. The fan chart has the same interpretation as Chart 1.5.

The risks around the modal CPI inflation projection from domestic price and wage pressures are now judged to be more evenly balanced, but there are some upside risks to the modal projection from geopolitical factors over the first half of the forecast period.

There are near-term risks in both directions around the paths of CPI inflation and pay growth from domestic factors. On the one hand, a continuation of recent trends in AWE and services inflation could lead to a further faster-than-expected decline in domestic price pressures. The Bank's Agents also report that, unlike last year, the vast majority of companies are not expecting to make one-off payments this year beyond regular bonuses. On the other hand, there remain upside risks to the outlook for wage growth, including from the possible effects of the increase in the National Living Wage and, more broadly, as the Agents' annual pay survey suggests settlements in 2024 as a whole will moderate only slightly on average. Nevertheless, intelligence from the Agents suggests that companies will not be able to pass on increased labour costs into prices as much as they did in 2023.

In the medium term, there also remain risks around the judgement that second-round effects in domestic prices and wages take longer to unwind than they did to emerge. But, in light of recent developments, and on the basis that there are no further significant shocks to the economy, these

risks are now judged to be more evenly balanced following an extended period in which they were skewed to the upside.

The pace at which CPI inflation falls back to the 2% target will also depend on inflation expectations. Since the November Report, indicators of household, business and financial market inflation expectations have continued to ease (Section 2.4). The Committee will continue to monitor measures of inflation expectations very closely and act to ensure that longer-term inflation expectations are anchored at the 2% target.

There remain upside risks around the modal projection for UK CPI inflation from international factors. Geopolitical risks have intensified following events in the Middle East, although there has so far been a limited impact on wholesale energy prices. The Committee has considered an adverse scenario for the disruption to all types of trade flowing through the Red Sea in which the effects are larger and more prolonged compared with the assumptions in the modal projection, though still ultimately temporary, and in which there are greater effects on energy prices. The effects in this scenario are also amplified by other channels, such as greater uncertainty in financial markets and the possibility of some additional second-round effects on domestic wages and prices in response to this potential new shock. Relative to the modal projection, this would lead to a materially bigger upward impact on UK CPI inflation over the first half of the forecast period and a larger negative impact on GDP (Key judgement 1).

Overall, the Committee judges that the risks around the modal projection for CPI inflation are skewed to the upside over the first half of the forecast period, reflecting geopolitical factors, but that the risks are now balanced in the medium term such that there are no differences between the MPC's modal and mean projections at the year two and three horizons (Table 1.A).

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

	Average 1998–2007	Average 2010–19	2022	2023	2024	2025	2026
World GDP (UK-weighted) (c)	**3**	**2½**	**3**	**1¾ (1½)**	**1¾ (1¾)**	**2¼ (2)**	**2¼ (2)**
World GDP (PPP-weighted) (d)	4	3¾	3½	3 (3)	3 (2¾)	3 (3)	3 (3)
Euro-area GDP (e)	2¼	1½	3½	½ (½)	¾ (¾)	1¾ (1¾)	1 ¾ (1¾)
US GDP (f)	3	2½	2	2½ (2¼)	2 (1½)	1½ (1¼)	1¾ (1½)
Emerging market GDP (PPP-weighted) (g)	5½	5	4	4¼ (4)	3¾ (3¾)	4 (4)	4 (4)

of which, China GDP (h)	10	7¾	3	5½ (5½)	4½ (4¼)	4¼ (4¼)	4¼ (4¼)
UK GDP (i)	**2¾**	**2**	**4¼**	**¼ (½)**	**¼ (0)**	**¾ (¼)**	**1 (¾)**
Household consumption (j)	3¼	2	5	½ (½)	-¼ (0)	¾ (½)	1¾ (1)
Business investment (k)	3	4¼	9½	5 (6¾)	-2½ (-1)	¾ (0)	3¾ (2)
Housing investment (l)	3¼	4	9½	-6¼ (-5¾)	-5 (-6¾)	½ (-2¾)	½ (¼)
Exports (m)	4½	3½	9	-¾ (-¾)	-¼ (¼)	1 (¾)	1 (1)
Imports (n)	6	4	14¾	-1½ (-¾)	-½ (1½)	1¾ (¾)	2¾ (2)
Contribution of net trade to GDP (o)	-¼	-¼	-1¾	¼ (0)	0 (-½)	-¼ (0)	-½ (-¼)
Real post-tax labour income (p)	3¼	1½	-2½	½ (¾)	2 (1)	½ (½)	-¼ (¼)
Real post-tax household income (q)	3	1½	¼	1¾ (2)	½ (¼)	¼ (¼)	0 (½)
Household saving ratio (r)	7¼	7¾	8¼	9½ (9¼)	10¼ (9½)	9¾ (9½)	8½ (9)
Credit spreads (s)	¾	2½	1	¾ (¾)	1¼ (1)	1½ (1¼)	1½ (1¼)
Excess supply/**Excess demand** (t)	0	-1¾	**1½**	**½ (¼)**	-¼ (-½)	-¾ (-1¼)	-1 (-1½)
Hourly labour productivity (u)	2¼	½	¾	-½ (¼)	½ (1¼)	1¼ (¾)	1 (¾)
Employment (v)	1	1¼	¾	¾ (½)	-½ (-½)	-¼ (0)	¼ (¼)
Average weekly hours worked (w)	32¼	32	31½	31¾ (31½)	31¾ (31¼)	31¾ (31¼)	31¾ (31¼)
Unemployment rate (x)	5¼	6	3¾	4¼ (4¼)	4½ (4¾)	5 (5)	5 (5)

Participation rate (y)	63	63½	63¼	63¾ (63½)	63¼ (63)	62¾ (62¾)	62¾ (62½)
CPI inflation (z)	**1½**	**2¼**	**10¾**	**4¼ (4¾)**	**2¾ (3¼)**	**2½ (2)**	**2 (1½)**
UK import prices (aa)	-¼	1½	12½	-1 (-1¾)	-1¾ (-3)	¾ (¼)	0 (0)
Energy prices – direct contribution to CPI inflation (ab)	¼	¼	3¾	-1¼ (-1¼)	-¼ (½)	¼ (-¼)	0 (-¼)
Average weekly earnings (AWE) (ac)	4¼	2	6½	5¾ (6¾)	4 (4¼)	2¾ (2¾)	1¾ (2)
Unit labour costs (ad)	3	1¼	7	4½ (5)	2¾ (3¾)	1¾ (2¼)	¾ (1¼)
Private sector regular pay-based unit wage costs (ae)	2	1½	6½	7 (6)	3¼ (3¾)	2 (3)	1½ (2¼)

Sources: Bank of England, Bloomberg Finance L.P., Department for Energy Security and Net Zero, 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 November 2023 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 Q4, so that has not been incorporated.
(f) Chained-volume measure. Forecast was finalised before the release of the advance estimate of US GDP for Q4, so that has not been incorporated.
(g) Chained-volume measure. Constructed using real GDP growth rates of 155 emerging market economies, 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 chart slides and data – February 2024**.
(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. Hours worked based on YBUS.
(v) Four-quarter growth in the ILO definition of employment in Q4. Up to June 2023, this projection is based on LFS employment data (MGRZ). Beyond this point, the Committee is drawing on the collective steer from other indicators of employment to inform its projection.
(w) Level in Q4. Average weekly hours worked, in main job and second job. Based on YBUS/MGRZ up to June 2023.
(x) ILO definition of unemployment rate in Q4. Up to June 2023, this projection is based on LFS unemployment data (MGSX). Beyond this point, the Committee is drawing on the collective steer from other indicators of unemployment to inform its projection.
(y) ILO definition of labour force participation in Q4 as a percentage of the 16+ population. Up to June 2023, this projection is based on LFS participation data (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 AWE, 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 since the November Monetary Policy Report

Since the November Monetary Policy Report, the Government updated its fiscal plans in the Autumn Statement, published on 22 November 2023. This set out the Government's latest medium-term fiscal plan and was accompanied by a forecast and assessment of the public finances by the OBR.

This box describes the main measures announced by the Government and the effects of these on the MPC's latest projections (Section 1). The cost of these measures essentially offset other changes to the public finances, such that the medium-term outlook for borrowing was broadly unchanged. Within these other changes, nominal tax receipts were boosted by higher than expected inflation and earnings growth, more than offsetting the implications of the same developments for pensions and other welfare spending and the effects of higher inflation and interest rates on debt interest costs. Nominal departmental spending plans were broadly unchanged, implying lower spending in real terms.

The Government has announced a package of fiscal measures…

Fiscal measures in the Autumn Statement included reductions in the rates of National Insurance contributions paid by employees and the self-employed. The main rate for employees was reduced from 12% to 10% in January 2024.

The 100% capital allowance for qualifying business investment, which was due to expire in March 2026, was made permanent. While this should boost investment in the long run, it may lead to some spending being pushed back in the first instance. This is because any plans businesses had made to bring forward investment to take advantage of the original temporary nature of the policy may now be spread over a longer horizon.

The Government also announced a package of reforms to welfare and health services designed to increase labour market participation. The welfare reforms will lead to an increase in public spending over the next two years as employment measures are expanded, before lowering spending further out as more stringent work capability assessments are applied. Other spending decisions raised borrowing, including an uplift in local housing allowances aimed at addressing the increased costs of housing for benefit claimants, offset in part by measures to increase revenues.

…which support demand relative to the November projection but have a smaller impact on inflation.

Relative to the November Report, the combined effect of the policies announced in the Autumn Statement boosts the level of aggregate demand by around 0.2% in 2024–25 and 2025–26, and 0.3% in 2026–27. As these fiscal measures will probably also boost potential supply to some extent, including through higher labour market participation, the implications for the MPC's output gap projection, and hence inflationary pressures in the economy, are likely to be smaller.

The Government has announced that it will deliver a Spring Budget on 6 March 2024. The MPC's forecast does not incorporate any further measures that may be announced then.

Box B: Monetary policy since the November 2023 Report

At its meeting ending on 13 December 2023, the MPC voted by a majority of 6–3 to maintain Bank Rate at 5.25%. Three members preferred to increase Bank Rate by 0.25 percentage points, to 5.5%.

Since the MPC's previous meeting, advanced-economy government bond yields had fallen materially, including at shorter horizons, and risky asset prices had risen. Global GDP growth had been a little stronger than projected in the November Report. Consumer price inflation in the euro area and the United States had declined more quickly than expected. There remained upside risks to inflation given events in the Middle East, although oil and wholesale gas futures prices had fallen.

UK GDP was estimated to have been flat in 2023 Q3, in line with the November Report projection, and to have fallen by 0.3% in October. Based on the latest official and survey data at the time, Bank staff expected GDP growth to be broadly flat in Q4 and over coming quarters. The Committee continued to consider a wide range of data on developments in labour market activity. Employment growth was considered likely to have softened, and there had been further evidence of some loosening in the labour market.

Relative to the assumptions in the November Report, the fiscal measures in the Autumn Statement were provisionally estimated to increase the level of GDP by around ¼% over coming years. As these measures were expected to also boost potential supply to some extent, the implications for the Committee's output gap projection, and hence inflationary pressures in the economy, were likely to be smaller.

Annual private sector regular average weekly earnings (AWE) growth had declined to 7.3% in the three months to October, 0.5 percentage points below the November Report projection. That had brought AWE somewhat more into line with other indicators of pay growth, which had fallen below 7%. There remained upside risks to the outlook for wage growth, including from the possible effects of the announced increase in the National Living Wage.

Twelve-month CPI inflation had fallen sharply from 6.7% in September to 4.6% in October. Services price inflation declined to 6.6%, although much of the downside news relative to the November Report reflected movements in components that may not have provided a good signal of underlying trends in services prices and of persistence in headline inflation.

CPI inflation was expected to remain close to the same rate around the turn of the year. In particular, services price inflation was projected to increase temporarily in January, related to base effects from unusually weak price movements at the start of 2023, before starting to fall back gradually thereafter. The near-term path for CPI inflation was somewhat lower than projected in the November Report, in part reflecting declines in energy prices.

Since the November Report, CPI inflation had fallen back broadly as expected, while there had been some downside news in private sector regular AWE growth. However, key indicators of UK inflation persistence remained elevated. As anticipated, tighter monetary policy was leading to a looser labour market and was weighing on activity in the real economy more generally. Given the significant increase in Bank Rate since the start of this tightening cycle, the monetary policy stance was restrictive.

The MPC would continue to monitor closely indications of persistent inflationary pressures and resilience in the economy as a whole, including a range of measures of the underlying tightness of labour market conditions, wage growth and services price inflation. Monetary policy would need to be sufficiently restrictive for sufficiently long to return inflation to the 2% target sustainably in the medium term, in line with the Committee's remit. As illustrated by the November Report projections, the Committee continued to judge that monetary policy is likely to need to be restrictive for an extended period of time. Further tightening in monetary policy would be required if there were evidence of more persistent inflationary pressures.

2: Current economic conditions

Global growth continues to be subdued. Consumer price inflation has been declining across advanced economies, and by more than expected in the November Monetary Policy Report. Consumer services price inflation remains elevated, in part accounted for by robust wage growth, though there are some signs of easing emerging in both. Wholesale energy prices have fallen significantly, and world export prices have continued to moderate. Global financial conditions have loosened materially in recent months. But there are significant risks to the global outlook from developments in the Middle East and disruption to shipping through the Red Sea.

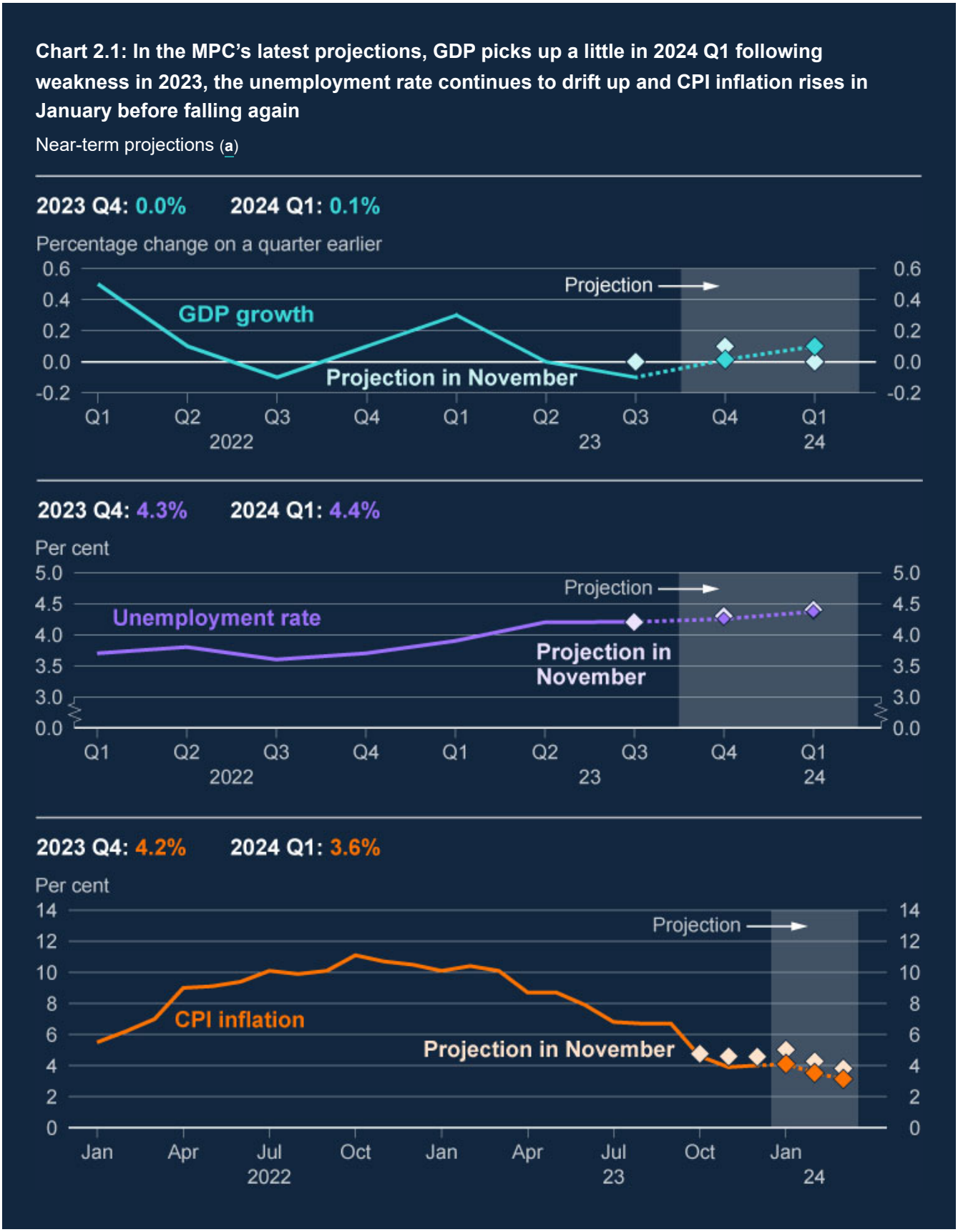
UK GDP appears to have stagnated over the past year, in part reflecting the weakness of potential supply (Section 3). That starting point is somewhat lower than expected in November. The weakening in output continues to feed into a softening of labour demand and an easing of recruitment difficulties, but the labour market remains tight by historical standards. Activity is expected to pick up a little from the beginning of this year, consistent with the steer from business surveys.

Annual private sector regular average weekly earnings (AWE) growth has fallen more quickly than expected from its peak in the summer, to 6.5% in the three months to November. The current reading is more in line with the steer from other pay indicators, which have tended to be more stable. The latest pay and settlement surveys suggest that AWE growth will continue to slow at a moderate pace.

There has been broad-based downside news in the latest UK CPI inflation data that is expected to persist in the near term and be reinforced by lower energy prices. Inflation dropped to 4.2% in 2023 Q4, and 4.0% in December, driven by energy, core goods and services inflation. Headline inflation is now projected to fall temporarily to around 2% in 2024 Q2 before rising to around 2¼% and 2¾% in Q3 and Q4 respectively as the direct energy price contribution becomes less negative. Core inflation, and services inflation in particular, are expected to remain elevated over the same horizon.

Chart 2.1: In the MPC's latest projections, GDP picks up a little in 2024 Q1 following weakness in 2023, the unemployment rate continues to drift up and CPI inflation rises in January before falling again

Near-term projections (a)



Sources: ONS and Bank calculations.

(a) The lighter diamonds show Bank staff's projections at the time of the November 2023 Monetary Policy Report. The darker diamonds show Bank staff's current projections. Projections for GDP growth and the unemployment rate are quarterly and show 2023 Q4 and 2024 Q1 (November projections show 2023 Q3 to 2024 Q1). Projections for CPI inflation are monthly and show January to March 2024 (November projections show October 2023 to March 2024). The GDP growth rate projection for 2023 Q4 is based on official data to

November, the CPI inflation figure is an outturn. For unemployment, up to 2023 Q2 the series is based on official LFS data and then experimental data up to November. Beyond this point, the Committee is drawing on the collective steer from other indicators of unemployment to inform its projection.

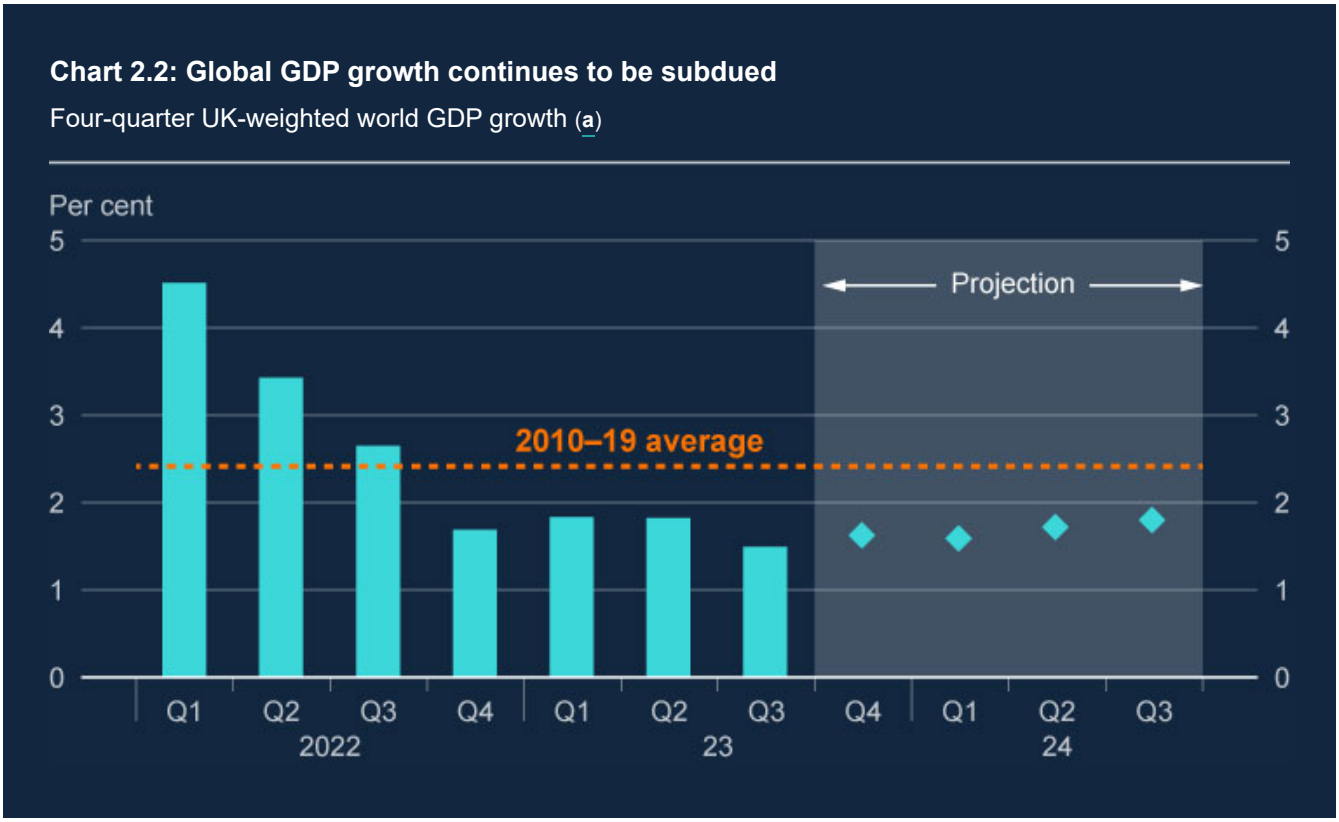
2.1: Global developments and monetary and financial conditions

Global GDP growth remains subdued…

Global growth was subdued over the course of 2023. UK-weighted world GDP is expected to have grown by around 0.4% in 2023 Q4, broadly in line with the projection in the November Report. Four-quarter growth in Q4 is expected to have been around 1.6%, below its 2010–19 average of 2.4% (Chart 2.2). The latest indicators, such as purchasing managers' indices (PMIs), suggest that global GDP is likely to rise at a similar pace in 2024 Q1 as in recent quarters.

Chart 2.2: Global GDP growth continues to be subdued

Four-quarter 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 2023 Q4 to 2024 Q3 are Bank staff projections. These projections do not include the advance estimate of US GDP in 2023 Q4 or the preliminary flash estimate of euro-area GDP for the same quarter, which were released after the data cut-off.

…but with significant regional differences.

Growth among advanced economies has diverged in 2023, with significantly stronger growth in the United States than in the euro area.

In the euro area, GDP was flat in 2023 Q4, following little growth in the preceding three quarters. Near-term indicators such as the S&P Global/HCOB services and manufacturing PMIs have stabilised, though at levels indicating a contraction in activity. Industrial production has remained weak. Euro-area growth is projected to remain relatively subdued over the course of 2024, as the boost from lower energy prices is broadly offset by tighter fiscal policy. Monetary policy is also expected to drag on euro-area growth, though to a lesser extent than in the November Report given lower market expectations of future policy rates.

In contrast, US quarterly GDP growth was 0.8% in 2023 Q4, in line with average growth between 2023 Q1 and Q3. Some of the strength in US GDP growth appears to have been associated with higher supply growth, with upside news in net migration, labour force participation and productivity over the course of the year. However, the ISM services PMI has weakened in recent months, while the ISM manufacturing PMI was in contractionary territory throughout 2023. US GDP growth is expected to soften in 2024, in part accounted for by tighter fiscal policy and the depletion of pandemic savings. Nevertheless, US growth is expected to be stronger than projected in the November Report owing to higher supply growth and a loosening in financial conditions.

In China, quarterly GDP growth slowed to 1% in 2023 Q4. The Chinese property sector has weakened further, with declines in both house prices and transaction volumes. However, the growth outlook over 2024 has improved somewhat since the November Report on the back of the announced loosening of fiscal policy. Annual consumer price inflation in China has turned negative in recent months, partly accounted for by lower food price inflation.

Global energy prices have fallen materially since November…

Since the November Report, the Brent spot oil price has fallen by around 15% (Chart 2.3), owing to a combination of slowing global demand, supply increases from non-OPEC countries, and less binding OPEC supply cuts than had been anticipated. European gas futures prices for 2024 have fallen by around 40% since the November Report. European gas storage is almost full, as relatively warm weather at the end of 2023 curbed demand expectations and supply was boosted by a reopening of Israel’s production capacity.

Chart 2.3: Oil and gas prices have fallen materially since the November Report

UK wholesale gas and oil prices (a)

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

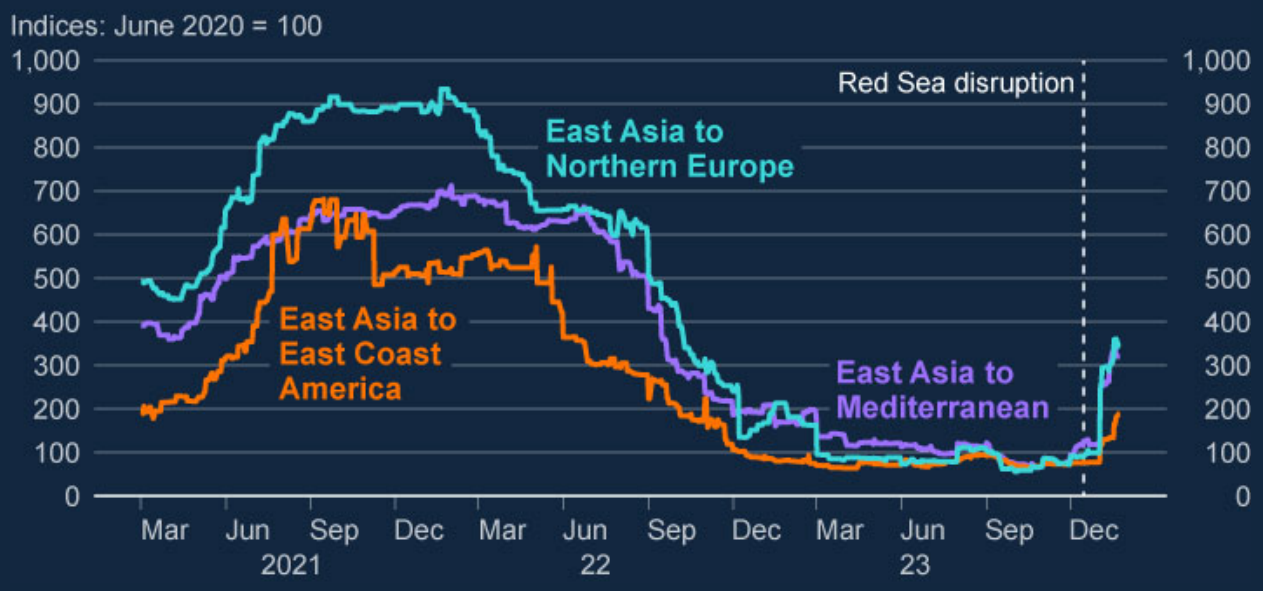
(a) Oil prices are Brent crude, converted to sterling. Gas prices are Bloomberg UK NBP Natural Gas Forward Day price. Dashed lines refer to respective futures curves using one-month forward prices based on the 15-day average to 23 January 2024, while dotted lines are based on the 15-day average to 24 October 2023. The final data points refer to futures curves at March 2027.

… but disruption in the Red Sea poses risks to both energy and export prices.

Global export prices have eased markedly over the past year, but there are upside risks looking ahead. The easing reflects the indirect effects of lower energy prices, the clearing of supply-chain bottlenecks and weak producer price inflation. That said, global export prices have surprised to the upside somewhat in the recent data. Disruption to shipping in the Red Sea (Chart 2.4) is also expected to push up on export prices and weigh on global trade volumes in early 2024. A further escalation of recent disruption could lead to larger and more prolonged effects, including on energy prices (Section 1).

Chart 2.4: Shipping costs have increased following disruption in the Red Sea

Freightos Baltic container indices (a)



Sources: Freightos Baltic Index, Refinitiv from LSEG and Bank calculations.

(a) The Freightos Baltic indices are measures of the cost of container transport. Data are up to 23 January 2024.

Consumer price inflation is declining across advanced economies.

Consumer price inflation in the euro area and US has declined more quickly than expected at the time of the November Report, with downside news stemming both from lower wholesale energy prices and a faster-than-expected moderation in core inflation. Euro-area headline HICP inflation stood at 2.9% in December, with core inflation easing to 3.4%. In the US, headline PCE inflation fell to 2.6% in December, with core PCE inflation declining to 2.9%.

Declines in core consumer price inflation have been accounted for by lower core goods price inflation, reflecting improvements in global supply conditions and the indirect effects of lower energy prices. US annual core goods inflation started to fall in the middle of 2022 and has been close to zero since August 2023, while euro-area core goods inflation peaked in early 2023 and has since fallen back to 2.5% (Chart 2.5). In contrast, core goods inflation in the UK only started to fall back from the middle of 2023 and stood at 3.1% in December.

Services consumer price inflation rates, which have a larger domestically driven component, have slowed more modestly, in part reflecting developments in pay growth. Services inflation has declined to around 4% in both the US and the euro area, while UK services inflation currently stands above 6% (Chart 2.5). To the extent that they are broadly comparable, measures of wage inflation have also been higher in the UK than elsewhere. US average hourly earnings increased by 4% in the 12

months to December, while euro-area compensation per employee increased by 5.2% in 2023 Q3 and UK whole-economy AWE by 6.5% for the three months to November. That said, there were signs of easing in all three economies.

Global consumer price inflation rates are expected to moderate further in the near term. US headline PCE inflation is expected to fall to around 2% at the end of 2024 Q1, driven mainly by lower services inflation. Euro-area headline inflation is expected to fall to around 2% later this year, driven by falling energy prices as well as a continuing moderation in core goods and services inflation. However, significant risks to the global inflation outlook remain (Section 1).

Chart 2.5: Core goods inflation has fallen more quickly than services inflation across advanced economies

Annual core goods and services consumer price inflation (a)

Sources: Bureau of Economic Analysis, Eurostat, ONS and Bank calculations.

(a) UK CPI core goods inflation refers to goods excluding energy, alcohol, tobacco, food and non-alcoholic beverages. Euro-area HICP core goods inflation refers to Eurostat's series for non-energy industrial goods. US PCE core goods inflation is an in-house measure constructed from the goods inflation subcomponents to be broadly comparable to the euro-area and UK data. Similarly, the US PCE services inflation measure shown here excludes energy services to improve comparability to euro-area and UK data. The chart shows data up to December 2023.

Market expectations suggest policy rates have peaked and will come down more quickly than anticipated in November.

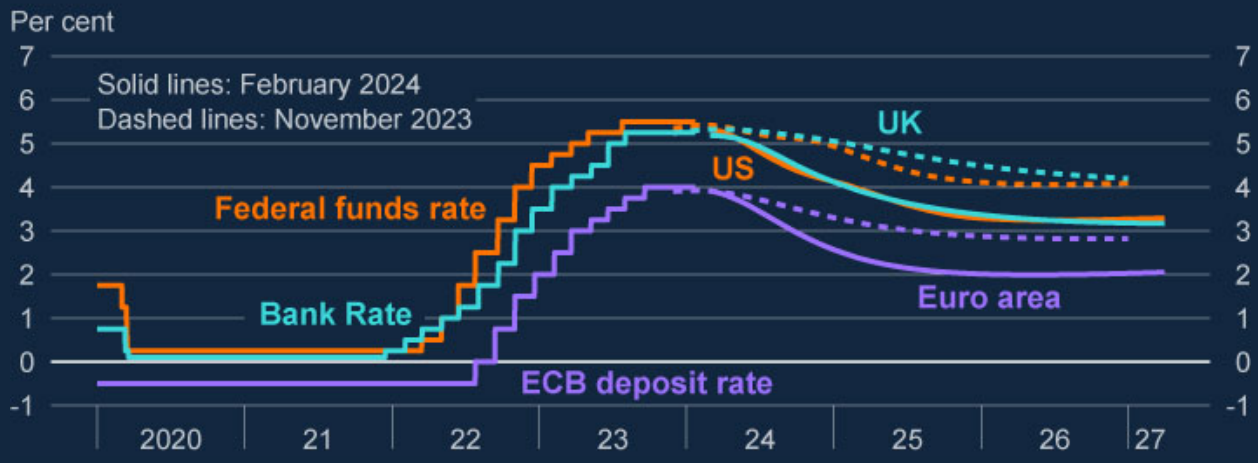
Over the past two years, central banks in the UK, US and euro area have tightened policy (Chart 2.6). Since November, the FOMC and the ECB Governing Council have kept their main policy rates unchanged, at 5.25%–5.5% and 4% respectively.

Recent developments in inflation and labour market data across advanced economies, alongside perceptions of more dovish central bank communications, have brought forward the expected timing, and raised the anticipated degree, of future reductions in policy rates. Since the November Report, the market-implied paths for policy rates in both the US and the euro area have shifted down by about 70 basis points on average over the next three years, with policy rates now expected to stand at around 3¼% and 2% respectively at the end of 2026 (Chart 2.6).

Since the November Report, market expectations of UK policy rates have fallen by about 90 basis points over the next three years, on average (Chart 2.6), following a decline of around 60 basis points across the curve between the August and November Reports. Expectations of UK policy rates are broadly in line with expectations for the federal funds rate in three years' time and higher than for the ECB's policy rate.

Chart 2.6: Policy rate expectations have fallen materially across advanced economies since the November Report

Policy rates and forward curves for the US, euro area and UK (a)



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

(a) All data as of 23 January 2024. The November curves are estimated based on the 15 UK working days to 24 October 2023. The February curves are estimated using the 15 working days to 23 January 2024. Federal funds rate is the upper bound of the announced target range. ECB deposit rate is based on the date from which changes in policy rates are effective. The final data points refer to futures curves at March 2027.

Global financial conditions have loosened materially in recent months.

Lower market expectations of future policy rates appear to have been driven mainly by perceptions of a quicker fading of global inflationary pressures rather than concerns around future activity, and hence have coincided with a broad-based loosening of global financial conditions.

Government bond yields have fallen across major advanced economies since the November Report. Yields on 10-year government bonds are 70 basis points lower in the US, 60 basis points lower in Germany and 70 basis points lower in the UK. The recent declines in long-term rates reflect to some extent lower expected rates, but also appear to have been driven by lower term premia – the compensation that investors require for the risks associated with holding government bonds of longer duration.

Corporate credit spreads have also declined by over 20 basis points across advanced economies, and equity prices have picked up by around 11% in the US and 8% in the euro area. UK equity prices have increased by around 2%, partly reflecting the FTSE's relatively higher weight of energy and commodity firms, which have performed less well since November.

The sterling effective exchange rate has appreciated by about 2% since the November Report. Sterling has appreciated by 4% against the dollar and by 1% against the euro.

UK mortgage rates have continued to decline.

Fixed-rate mortgages make up around 85% of the stock of UK mortgages, with the rates on those products influenced by expectations of Bank Rate. Quoted fixed-rate mortgage rates have been falling since July, around the time of the peak in maturity matched reference rates. They have fallen materially further since the November Report but remain substantially higher than at the start of the tightening cycle (Chart 2.7). As set out in previous Reports, pass-through to mortgage rates from the increases in reference rates to their peak in July occurred largely as expected overall (see for example Box B of the **May 2023 Report**). There is some evidence that the initial pass-through of the subsequent decline in reference rates to mortgage rates has been faster than usual. However, it is too early to draw firm conclusions and difficult to separate pass-through from other drivers of mortgage rates, such as competition in the mortgage market.

Interest rates on new fixed-rate savings bonds, which, like new fixed-rate mortgage rates, are influenced by expectations for Bank Rate, have fallen broadly in line with their relevant reference rates. For example, the rate on two-year fixed-rate savings bonds has declined by around 100 basis points since the November Report. Instant access savings accounts tend to be priced relative to the current level of Bank Rate. Pass-through from previous increases in Bank Rate had been slow, but accelerated somewhat between June and October last year. Instant access savings rates have since edged up a little further (Chart 2.7).

Chart 2.7: Falls in reference rates have fed through to mortgage rates

Average quoted interest rates on two-year fixed-rate mortgages, fixed-rate savings bonds, instant-access accounts, and their respective reference rates (a)

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

(a) The reference rate for mortgages and fixed-rate savings bonds is the two-year overnight index swap (OIS) rate. 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. Diamonds for mortgage and savings products represent averages of daily quoted rates using data to 23 January 2024 and were provisional. OIS rate and Bank Rate show monthly averages and the respective diamonds show the average of daily rates to 23 January 2024.

Credit availability has been broadly unchanged since November.

According to the latest **Credit Conditions Survey (CCS)**, the availability of mortgage credit improved marginally in 2023 Q4, arresting the trend of declining mortgage credit availability over the past two years. The availability of unsecured credit was little changed on the quarter, and lenders expected a slight increase over the next three months.

Businesses are similarly reporting no material change in credit availability. The credit availability balance in the 2023 Q4 Deloitte CFO Survey has stabilised below its historical average, albeit significantly above the levels seen during the global financial crisis. The latest Federation of Small Businesses Index suggests that SME's perceptions of credit availability and affordability have improved marginally, but remain weak by historical standards.

The Financial Policy Committee has judged that the tightening in credit conditions over the past two years reflects the impact of changes to the macroeconomic outlook, rather than defensive actions by banks to protect their capital positions (**Financial Policy Summary and Record – December 2023**).

Growth in lending to both households and businesses has continued to be low, but with some signs of stabilisation.

Lending growth to households remains weak, with the 12-month rate of net lending to households falling to 1% in December, the lowest since 2013. Within this, mortgage lending growth remained subdued, with the annual rate falling to zero. Weak mortgage lending has been driven by low gross lending, with total repayment volumes broadly in line with pre-pandemic averages. Meanwhile, annual growth in consumer credit continued to be robust at 8.5% in December.

Lenders reporting to the CCS expected demand for both mortgage lending and consumer credit to increase in the three months to February, with these expectations balances stronger than in recent surveys. Consistent with this, mortgage approvals for house purchase have increased slightly, although they remain lower than their 2010–19 average, suggesting mortgage lending will continue to be subdued in the near term.

The annual growth rate of net lending to large companies remained weak at 0.7% in the latest data for December, reflecting in part subdued credit demand. Lenders in the CCS reported that demand for corporate lending had stabilised at a low level in 2023 Q4, following a trend of falling demand over previous quarters. The annual growth rate of lending to SMEs remained broadly unchanged at around -5%, largely reflecting continued repayment of borrowing under Covid loan schemes.

Money growth has remained weak…

The annual growth rate of sterling broad money (M4ex) rose to -0.3% in December from a low of -4.2% in September, while the growth rate of M4 excluding other financial corporations was more stable at -0.2% (Chart 2.8). The greater volatility in the headline measure largely reflects swings in the broad money holding of non-intermediate other financial corporations last year, associated with developments at liability-driven investment funds. Both measures of money growth remain well below their historical averages. Several factors have contributed to the weakness in aggregate broad money growth, including a reduction in banks' net lending, particularly net lending to other financial institutions, and the effects of quantitative tightening, which tend to reduce the level of bank deposits.

Chart 2.8: Aggregate money and lending growth remain historically low

Twelve-month growth rate of aggregate money and lending (a)

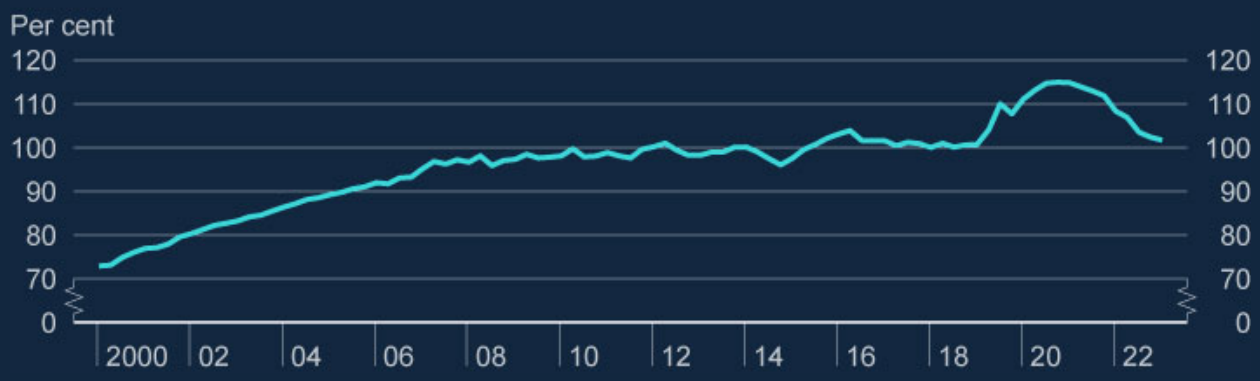
(a) 'Aggregate money' and 'aggregate lending' refer to M4ex and M4Lex respectively, ie M4 and M4 Lending, both excluding intermediate other financial corporations (IOFCs). 'Aggregate money, excluding other financial corporations' refers to M4 excluding all other financial corporations (OFCs). IOFCs are specialised entities that mainly provide intermediation services to banks and building societies. OFCs also include non-intermediary financial corporations, for example insurance companies and pension funds. Only quarterly data are available for the aggregate money and aggregate lending series from 1998 Q4 to 2010 Q2. All other data are at a monthly frequency. The final data points refer to December 2023. For more information on these data, see **Further details about M4 data**, **Further details about M4 excluding intermediate other financial corporations (OFCs) data** and **Further details about M4 lending excluding lending to intermediate other financial corporations data**.

…as the pandemic-related money overhang has reversed.

The current weakness in broad money growth partly reflects a normalisation following a sharp increase in money balances during the pandemic. The increase in aggregate broad money holdings in that period reflected resilient bank lending growth as well as the effects of quantitative easing. Households accumulated significant excess deposits during this period, as spending was restricted due to lockdowns while incomes were supported by the Government's furlough scheme (Section 3.2 in the **November 2023 Report**). The ratio of household M4 to annual gross disposable income jumped up to 115% in 2021 having increased slowly from 95% to 100% between 2007 and 2019 (Chart 2.9). In 2023 Q4, this ratio fell back to 102%, close to its pre-pandemic trend. In aggregate, there has been a corresponding restoration of broad money's velocity of circulation to the rates observed following the financial crisis.

Chart 2.9: The recent weakness in household money growth reflects in part a reversal in the money overhang that emerged during the pandemic

Ratio of household M4 to annualised gross disposable income (a)



Sources: Bank of England, ONS and Bank calculations.

(a) 'Household M4' refers to monetary financial institutions' sterling M4 liabilities to the household sector. Data on household M4 are available until December 2023. Data on disposable income are available until 2023 Q3. The final data point for 2023 Q4 is based on a staff projection for disposable income.

2.2: Domestic activity and the labour market

UK GDP weakened in 2023 H2…

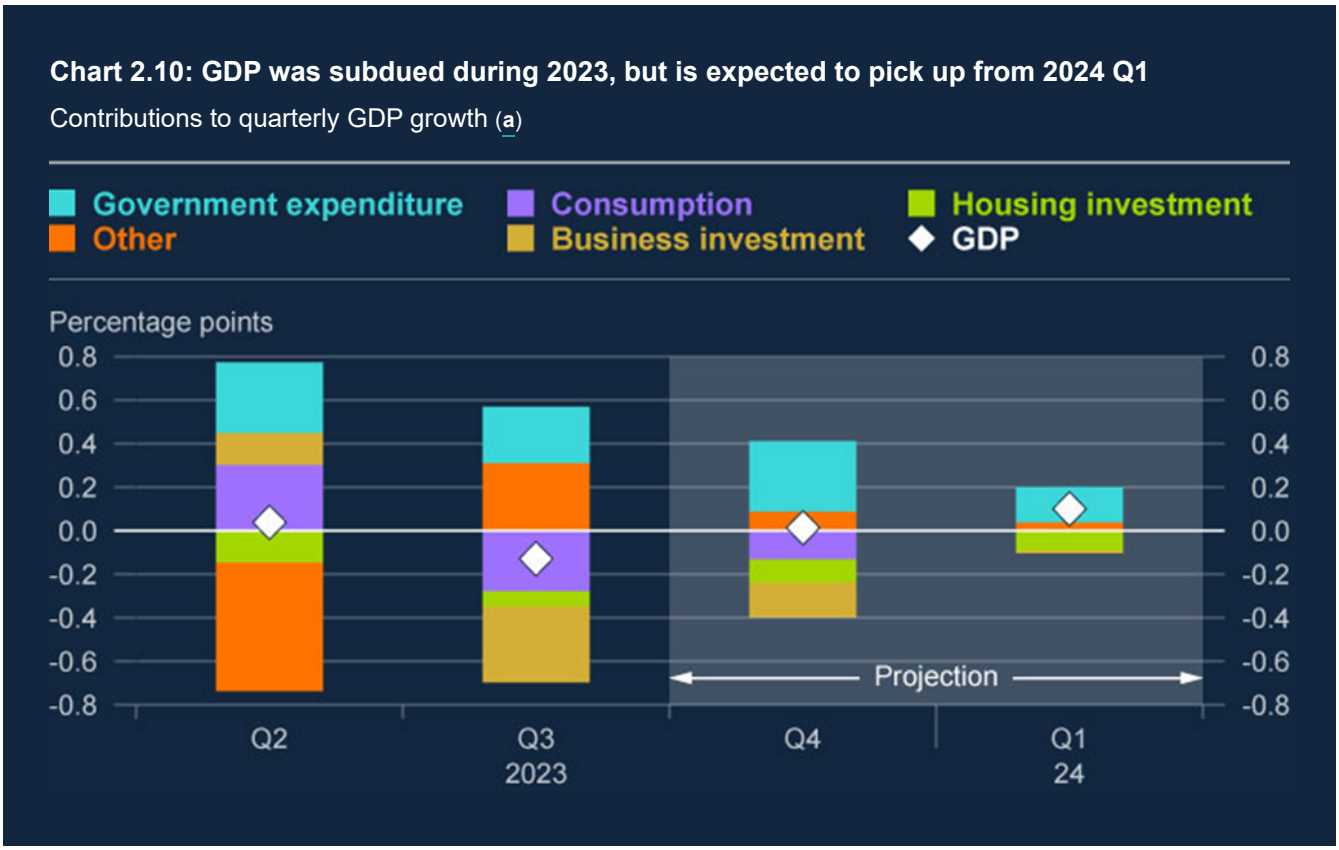
GDP fell by 0.1% in 2023 Q3, with broad-based falls across household consumption, business investment and housing investment (Chart 2.10). That was offset in part by higher government expenditure and net trade, although the latter was driven by weak imports associated with the weakness in domestic demand.

Monthly GDP declined further in October but rebounded in November, such that GDP is expected to have been broadly flat across 2023 Q4 as a whole. Market sector output is expected to have declined by around ¼% in both Q3 and Q4.

Together with revisions earlier in the year, cumulative growth over 2023 now appears to have been around ½ percentage point weaker than expected at the time of the November Report. In particular, the path for household consumption has been notably below the MPC's expectations. Recent weakness in demand reflects a combination of factors, including the past squeeze on real incomes from higher global prices, restrictive monetary policy (Box C), the unwinding of previous fiscal support and weak supply growth.

Chart 2.10: GDP was subdued during 2023, but is expected to pick up from 2024 Q1

Contributions to quarterly GDP growth (a)



Sources: ONS and Bank calculations.

(a) Diamonds show quarterly headline GDP growth. Figures for 2023 Q4 and 2024 Q1 are Bank staff projections.

…but is expected to pick up a little in 2024 Q1.

GDP is projected to pick up a little in 2024 Q1. Set against the weakness in the latest official data, timelier indicators suggest that activity has stabilised and may be edging up again. The S&P Global/CIPS UK composite output PMI bounced back above the 50 ‘no change’ mark in November and rose further in December and in the flash estimate for January, albeit remaining below its historical average (Chart 2.11). Business survey indicators of future growth have remained more positive. Notably, the output expectations PMI for the year ahead is above its historical average, and the 12-month ahead measure in the Lloyds Business Barometer has risen to its highest level since 2017. Contacts of the Bank’s Agents report that activity has remained weak in Q1, although they expect that activity may begin to pick up in coming quarters (Box D).

Chart 2.11: Business survey measures suggest an improvement in economic activity

Survey indicators of UK output growth (a)

Sources: S&P Global/CIPS and Bank calculations.

(a) A reading of above 50 indicates an increase on the previous month while a reading below 50 indicates a fall. Dashed lines represent the long-run series averages, calculated from January 1998 for the current output and new orders series and July 2012 for the output expectations series. Latest data are flash estimates for January 2024.

Consumption has been weak, but timelier indicators point to some improvement.

The latest official estimates of household consumption have been weaker than expected, including a 0.5% fall in 2023 Q3. Retail sales volumes fell by around 1% in both 2023 Q3 and Q4, with volumes in December at their lowest level since May 2020. These falls were widespread across most store types. Output for consumer-facing services companies also fell over the course of Q3. The recent broad-based weakness, coupled with downward revisions to consumption for the first half of 2023, seems consistent with a higher cost of living and the restrictive stance of monetary policy alongside less fiscal support.

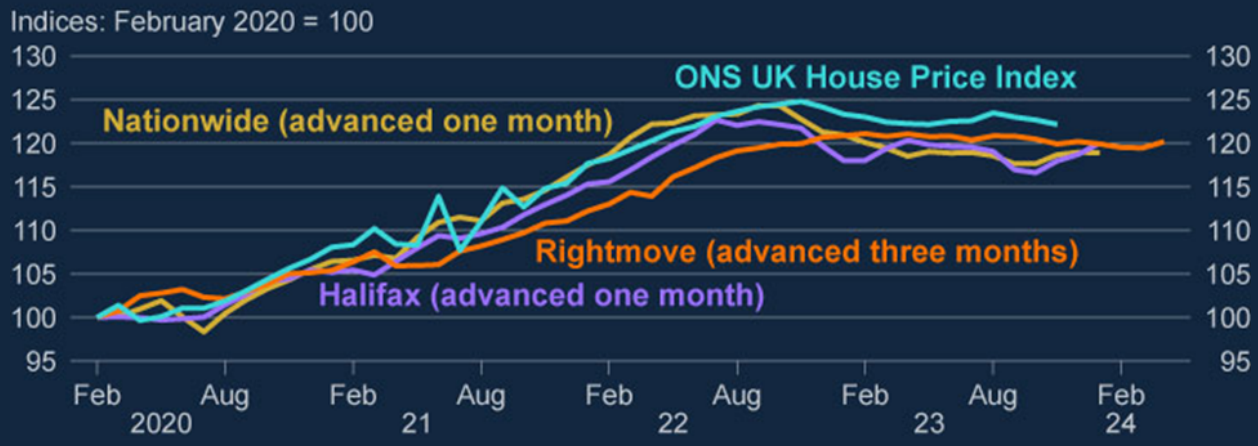
Consumption has been weak at the same time that real incomes have been recovering, implying that the rate of household saving has increased. Much of the difference may have reflected tighter monetary policy, including some households with fixed-rate mortgages adjusting their spending in anticipation of a future increase in mortgage costs when their existing mortgage terms come to an end (Section 3 of the **November 2023 Report**). A higher saving rate may also reflect greater precautionary saving against the risk of future unemployment, or some households rebuilding the savings that they used as a buffer when their incomes were squeezed.

House prices have been positively correlated with consumption in the past and they may also affect spending directly through collateral and precautionary savings channels. Nominal house prices have fallen in the recent official data, and by 2% in total over the past year (Chart 2.12).

Timelier indicators of consumer confidence and housing have improved modestly in recent months. The GfK consumer confidence index recovered further in December and January with all subcomponents of confidence improving. A recent improvement in sentiment also seems to have been reflected in increases in house price measures compiled by Halifax and Nationwide, which capture prices at earlier stages of the house-buying process and therefore tend to lead the official house price series. The latest intelligence from the Bank's Agents also points to housing activity having picked up slightly. Nevertheless, all of these indicators remain weak in a historical context, and consumption is expected to remain subdued in the near term.

Chart 2.12: Nominal house prices have edged down, although some timelier indicators have picked up recently

House price indices (a)



Sources: Nationwide, ONS, Refinitiv Eikon from LSEG, Rightmove.co.uk, S&P Global/Halifax and Bank calculations.

(a) The latest data point for the ONS House Price Index is November 2023. Halifax, Nationwide and Rightmove data are advanced to reflect the respective timing of each data source in the house-buying process.

Most of the impact of tighter monetary policy on housing investment seems to have come through, while there are now clearer signs of higher interest rates affecting business investment.

Housing investment fell by 1.4% in 2023 Q3, continuing the trend of consecutive falls since mid-2022, and broadly in line with the November Report forecast. The ONS splits housing investment into three main categories: investment in new dwellings; improvements, repair and maintenance of existing dwellings; and transfer costs, which captures spending on activities associated with property transactions. The fall in housing investment in Q3 was mainly driven by a fall in new dwellings, whereas transfer costs were little changed. Spending on home improvements has tended to be resilient in recent quarters.

Overall, the effects of tighter monetary policy on housing investment appear to have been in line with expectations. Looking ahead, declines in housing investment are expected to be more limited, consistent with the effects of tighter monetary policy being more front-loaded than for other spending components (Section 3 of the **November 2023 Report**). Mortgage approvals have increased in recent months from a low base, which should carry across to spending on transactions in the near term. While dwellings construction has continued to fall, new housing orders have stabilised, and that should support dwellings investment over time.

Business investment is estimated to have fallen by around 3% in 2023 Q3, a sharper decline than expected in the November Report. This in part reflected an unwinding of the strength in aircraft investment recorded earlier in the year. Although business investment has been resilient, surveys such as the DMP Survey and intelligence from the Bank's Agents point to relatively subdued expectations for business investment over the next year, with reports that plans are being held back by economic uncertainty, and by the cost and availability of finance.

Employment growth has softened alongside output…

The recent weakness in activity has also impacted the labour market. The MPC uses a broader set of indicators to form its assessment of employment trends than the official data in isolation (**Broadbent (2023)**). LFS employment growth tends to fluctuate owing to sampling variability, but the combined steer from a range of indicators tends to track its underlying path reasonably closely (Chart 2.13). The latest set of indicators points to employment growth having continued to slow in recent months, albeit remaining mildly positive. Alternative experimental statistics published by the ONS suggest that the number of people employed increased by 0.2% in the three months to November. As experimental statistics, these estimates need to be interpreted with caution (Box B of the **November 2023 Report**). The ONS intends to resume publication of the LFS data set later this month, including the effects of updated population weights, and to transition towards the **transformed Labour Force Survey (TLFS)** later in the year based on improved methods for collecting data.

Chart 2.13: Survey-based model estimates suggest that employment growth continued to slow around the turn of this year

Measures of quarterly employment growth (a) (b)

Sources: Bank of England Agents, HMRC, KPMG/REC/S&P Global UK Report on Jobs, Lloyds Business Barometer, ONS, S&P Global/CIPS and Bank calculations.

(a) Employment growth is the quarterly change in employment for people aged 16+. Latest data point is for 2023 Q3. The series shown here uses official LFS estimates up to 2023 Q2, and the ONS's experimental alternative labour market statistics (based on HMRC payrolls data) for Q3. See Box B of the **November 2023 Report** for further information.
(b) Bank staff's indicator-based model of near-term employment growth uses mixed-data sampling (MIDAS) techniques (see **Daniell and Moreira (2023)** for more detail). A range of indicators inform the model, including series from the Bank of England Agents, the Lloyds Business Barometer, ONS/HMRC PAYE payrolls, S&P Global/CIPS purchasing managers' index and the KPMG/REC UK Report on Jobs. Indicators are weighted together according to their relative forecast performance in the recent past. Diamonds represent projections for 2023 Q4 and 2024 Q1.

…and there has been further evidence of loosening in the labour market, although it remains tight by historical standards.

The ONS's alternative experimental statistic for the unemployment rate remained flat at 4.2% in the three months to November, having increased by 0.7 percentage points from its trough in 2022. Recent increases in unemployment appear to have been attributable largely to higher flows from inactivity to unemployment, as some people have begun to look for work. This will not necessarily have been picked up in business surveys and is unlikely to have affected benefit claims materially. As a result, there are limits to which these indicators can be drawn upon to track unemployment (**Broadbent (2023)**).

Estimates of the medium-term equilibrium unemployment rate have also been drifting up (Section 3). This implies that not all of the increase in unemployment observed so far has been associated with a looser labour market.

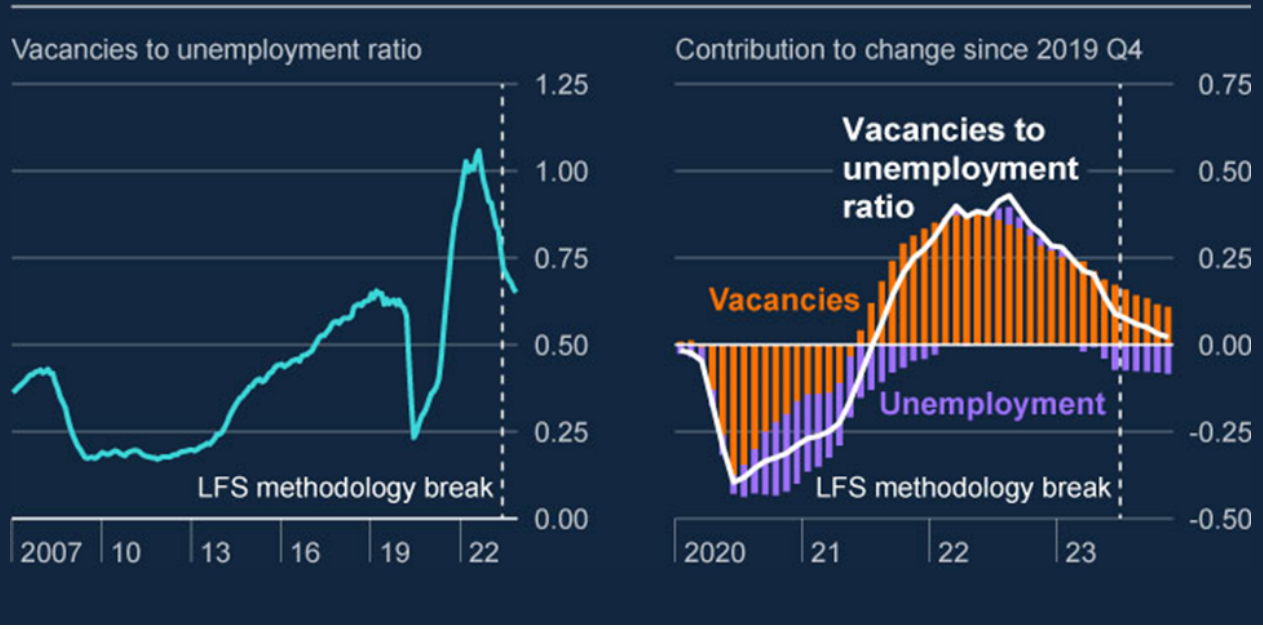
A range of evidence nevertheless points to labour market tightness continuing to ease to some degree. One of the key indicators of labour market tightness, the ONS vacancies to unemployment ratio, fell further in November (left panel of Chart 2.14) driven by the sustained fall in vacancies since

mid-2022 and by the recent pickup in unemployment (right panel of Chart 2.14). Recent KPMG/REC Report on Jobs surveys also continue to suggest that there has been a pickup in staff availability and that recruitment difficulties are easing.

Although there is evidence that there has been further loosening in the labour market, it remains tight in a historical context (**Haskel (2023)**). Despite the steady downwards trajectory of the vacancies to unemployment ratio, it currently stands just above its 2019 Q4 level (right panel of Chart 2.14). During the period prior to the onset of the pandemic, the labour market was considered to be tight with little spare capacity (**November 2019 Report**).

Chart 2.14: Although loosening, the labour market remains tight

Vacancies to unemployment ratio and contributions to changes in the vacancies to unemployment ratio since 2019 Q4 (a)



Sources: ONS and Bank calculations.

(a) Latest data points are for the three months to November 2023. The LFS unemployment series shown in these charts use the official LFS estimates up to June 2023 and thereafter use the ONS's experimental alternative labour market statistics (based on claimant count data). See Box B of the **November 2023 Report** for further information. Contributions to the change in the vacancies to unemployment ratio since 2019 Q4 are approximations calculated as changes in the individual series and so do not exactly sum to the total.

2.3: Wage growth and inflation

Wage growth remains elevated but has shown signs of easing.

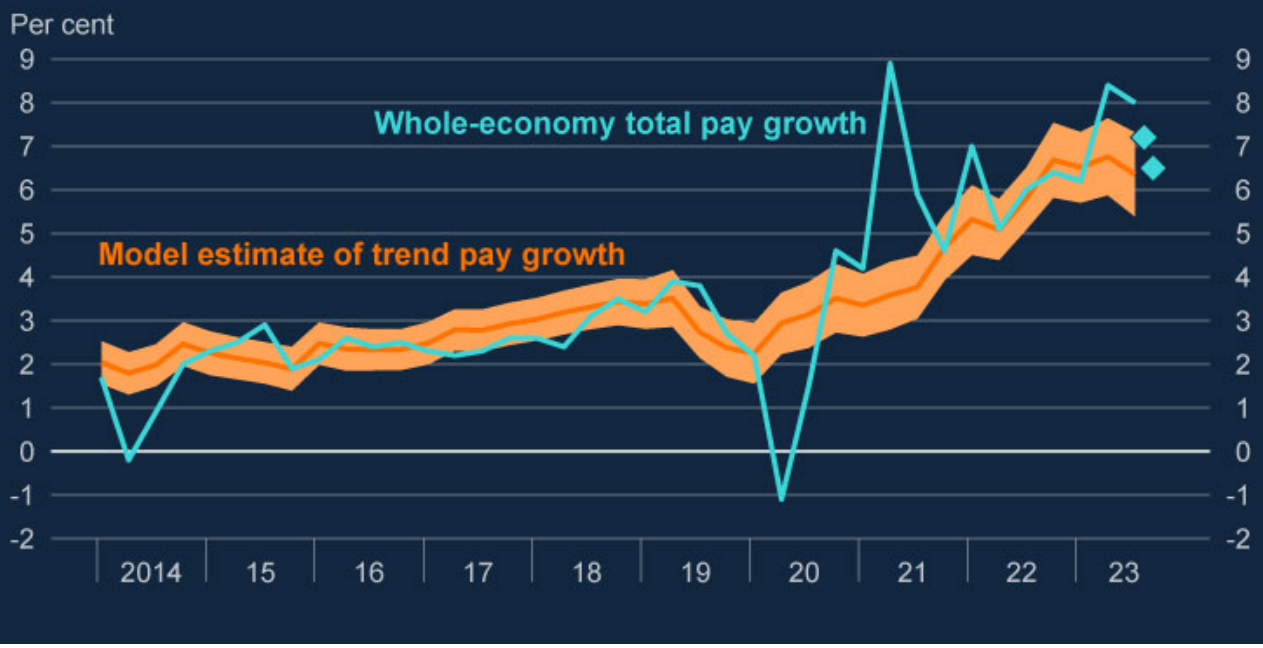
Alongside labour market tightness and services CPI inflation, the MPC is monitoring closely various measures of wage growth, which can provide evidence of more persistent domestic inflationary pressures. Annual private sector regular AWE growth has declined from just above 8% over the

summer to 6.5% in the three months to November, 1 percentage point below the November Report projection. The recent slowing has brought the official measure closer to the steer from other indicators of annual pay growth, which has been in the range of 6%–7%.

The pickup in AWE growth over the summer of 2023, and much of the subsequent unwind, may have been driven by transitory factors. Bank staff have estimated a statistical model to decompose whole-economy total AWE growth, which increased at the same time as private sector regular pay growth, into a trend and more volatile transitory elements. The trend component has been relatively stable over the past year (Chart 2.15).

Chart 2.15: An estimate of the underlying trend in pay growth was relatively stable over 2023

Annual whole-economy total AWE growth (a)



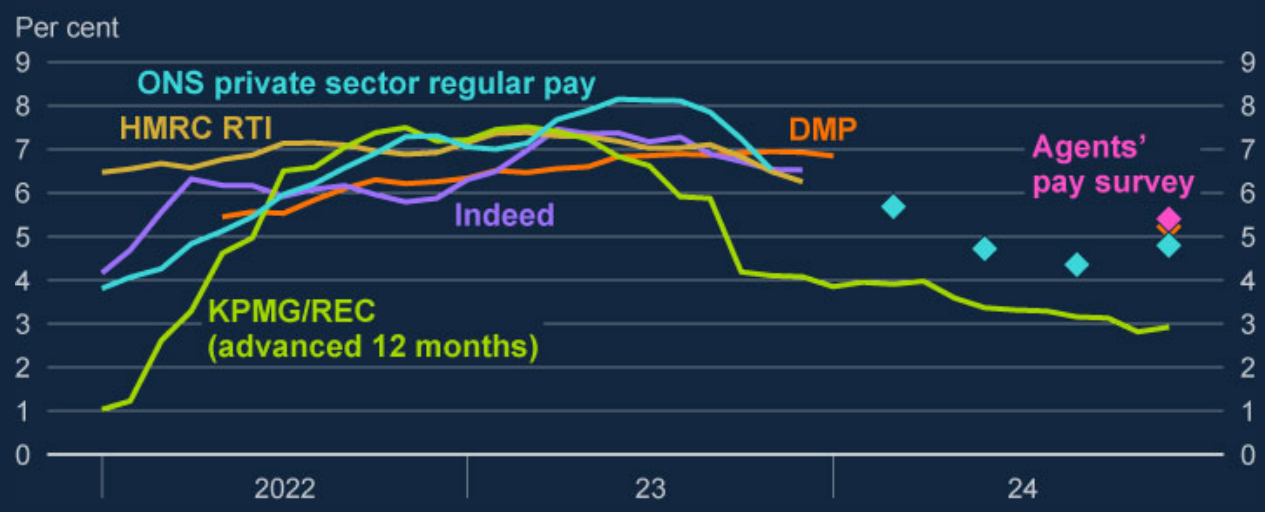
Sources: ONS and Bank calculations.

(a) The model of trend wage growth is based on the approach of **Stock and Watson (2016)**, estimated using quarterly AWE data for 24 industrial sectors. Pay growth in each sector is decomposed into a common trend, a sector-specific trend, a common transitory shock and a sector-specific transitory shock using a dynamic factor model. The common and sector-specific trends are then weighted using employment shares to produce an estimate of the trend in aggregate AWE growth. The shaded area shows ±1 standard deviation around the underlying trend estimate. Diamonds indicate the latest monthly outturns. Data are to 2023 Q3 (AWE and trend estimate) and November 2023 (AWE monthly data).

There are signs that the momentum in pay growth has slowed. Annual growth in median private sector pay derived from HMRC payrolls data slowed to around 6½% in 2023 Q4, down from 7% in Q3 (Chart 2.16). Measures of staff salaries for new hires within the KPMG/REC Report, which have in the past been a good predictor of aggregate private sector pay growth, have been trending down since April, and are now close to their historical averages. And higher-frequency measures of pay growth, such as annualised three-month on three-month growth rates, have fallen in recent months.

Chart 2.16: Annual private sector regular pay growth has fallen, in line with other measures

Measures of annual private sector wage growth (a) (b)



Sources: Bank of England Agents, DMP Survey, Indeed Hiring Lab, KPMG/REC/S&P Global UK Report on Jobs, ONS and Bank calculations.

(a) Lines show measures of realised pay growth, while diamonds indicate projections or expectations. Definitions of wage growth vary between each of the measures. Private sector regular pay growth is Bank staff's estimate of underlying pay growth from January to March 2022 and ONS private sector regular pay growth otherwise. DMP shows three-month average realised pay growth from the DMP Survey. KPMG/REC shows average starting salaries for permanent staff compared to the previous month. The REC index is mean-variance adjusted to ONS private sector regular pay growth over March 2001–19 and is advanced by 12 months, which coincides with the greatest correlation with private sector regular pay growth. The HMRC Real Time Information (RTI) measure is adjusted to strip out pay in sectors with a high share of public workers, such as public administration and defence, social security, education, health and social work, to proxy private sector wage developments. In contrast to the AWE measure of private sector regular pay, HMRC RTI data include bonus payments. Latest data points are the three months to November 2023 (ONS private sector regular pay), December 2023 (REC, HMRC RTI and Indeed Wage Tracker) and January 2024 (DMP Survey).
(b) The Agents' pay survey diamond shows respondents' expected average pay settlements in 2024, weighted by employment and sector. The DMP diamond shows average expected pay growth one year ahead for respondents to the January 2024 DMP Survey. Pay growth projections are for 2024 Q1 to 2024 Q4.

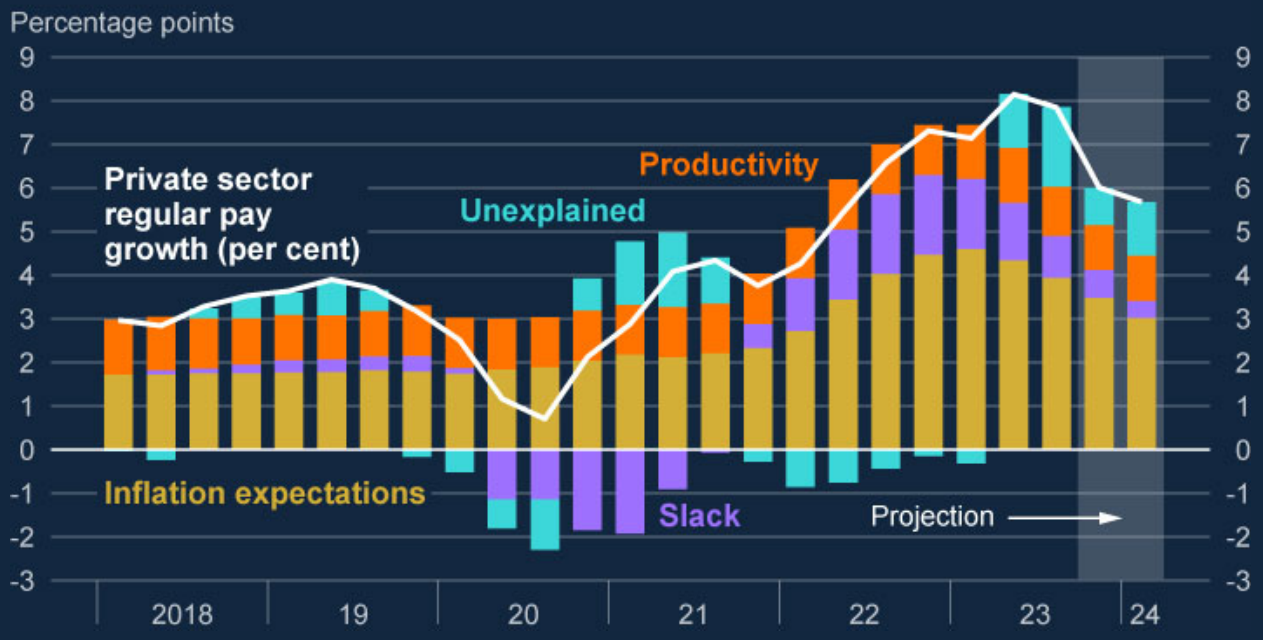
Annual private sector regular pay growth is expected to slow this year, but to remain high.

In the MPC's latest projection, private sector regular pay growth is expected to slow further in 2024, informed by the latest steer from surveys of pay. Pay growth is projected to decline to around 5¾% in 2024 Q1 and 4¾% in Q2, ending this year at a similar rate (Chart 2.16). This profile reflects a judgement to push up slightly on pay growth in the near term, in light of the stronger forward-looking indications from the Agents pay survey and from the DMP. Contacts of the Bank's Agents expect annual pay settlements to average 5.4% in 2024 (Box D), and for there to be fewer additional payments provided to compensate for a higher cost of living. Respondents to the DMP Survey expect wage growth to slow to around 5% over the next 12 months.

Lower inflation expectations and a looser labour market are expected to lead to a decline in pay growth. The pickup in wage growth since 2021 has been driven in large part by rising headline inflation and the associated increase in near-term inflation expectations. As headline inflation and near-term inflation expectations have started to fall, they are likely to exert less upward pressure on pay growth (Chart 2.17). Labour market tightness has also played a role in elevated nominal wage growth to date. With the labour market now loosening (Section 2.2), some of the upward pressure on wage growth should continue to ease. Pay growth appears to be somewhat firmer than developments in inflation and labour market slack would suggest, however, and there is also significant uncertainty around how both of these factors will develop.

Chart 2.17: Falling inflation expectations and a looser labour market are expected to reduce pay growth

Contributions to annual private sector regular pay growth (a)



Sources: ONS and Bank calculations.

(a) Wage equation based on **Yellen (2017)**. Private sector regular pay growth is Bank staff's estimate of underlying pay growth between January 2020 and March 2022 and ONS private sector regular pay growth otherwise. Short-term inflation expectations are based on the Barclays Basix Index and the YouGov/Citigroup one year ahead measure of household inflation expectations and projected forward based on a Bayesian VAR estimation. Slack is based on the MPC's estimates, informed by the vacancies to unemployment ratio. Productivity growth is based on long-run market sector productivity growth per head. The unexplained component is the residual. Data are to 2023 Q3, projections are for 2023 Q4 and 2024 Q1.

Another factor that may affect pay growth in coming months is the increase in the National Living Wage (NLW). In November, the Government accepted the Low Pay Commission's recommendations to increase the hourly rate by nearly 10% to £11.44, and to lower the age at which workers are covered by the main NLW rate from 23 to 21 years. Around 5% of employees were paid the NLW in

2023 (**Low Pay Commission summary of evidence 2023**). Workers have also been progressing off the NLW relatively quickly since the pandemic. As of 2023, half of NLW workers who remained employed had seen their pay rise above the NLW within a year.

The direct impact of the NLW on aggregate pay growth is expected to be reasonably modest. The relatively low level of coverage, the low rate of pay compared to average wages, and the fact that employers are likely to have implemented pay increases independent of the NLW, all reduce the direct impact on aggregate pay. However, there are uncertainties around the implications of the NLW for pay further up the distribution. Increases in the NLW reduce pay differentials between staff by increasing the pay of the lowest-paid employees. Employers may then decide to increase pay for staff further up the distribution to retain those differentials. The Low Pay Commission found that the differences between the median and the 10th percentile of wages in low-paying sectors fell significantly between 2015 and 2019 but have since stabilised.

Responses to the Agents' pay survey cited the increase in NLW as an important factor driving pay growth (Box D). Analysis by Bank staff suggests that the April increase in the NLW, including indirect effects, could push up aggregate pay growth by around 0.3 percentage points.

> **Consumer price inflation has fallen sharply since September, driven by energy and goods prices.**

Twelve-month consumer price inflation fell to 4.2% in 2023 Q4 and 4.0% in December, compared with the 6.7% figure for Q3 (Chart 2.18). Around 2 percentage points of the drop in 12-month inflation occurred in October, with three quarters of the fall that month related to energy prices. The Ofgem energy price cap was reduced to £1,834 annually for 2023 Q4, reflecting the decline in wholesale gas prices over the course of the year. Because the cap rose significantly in October 2022, the lower level of the cap in October 2023 had a material impact on annual inflation rates. Food price inflation has also slowed, in part owing to developments in commodities prices.

Core CPI inflation, which excludes energy, food, beverages and tobacco, has fallen since the summer of 2023, but at a slower pace than the headline rate. Core inflation stood at 5.1% in December, down from 6.1% in September. The decline in core inflation was skewed towards core goods inflation, which dropped by more than 1 percentage point to 3.1% in December. Services inflation fell less sharply, by 0.5 percentage points to 6.4%.

Headline CPI inflation in December was 0.6 percentage points lower than the November Report forecast, with the downside news spread across fuel prices and a wide range of core goods and services components.

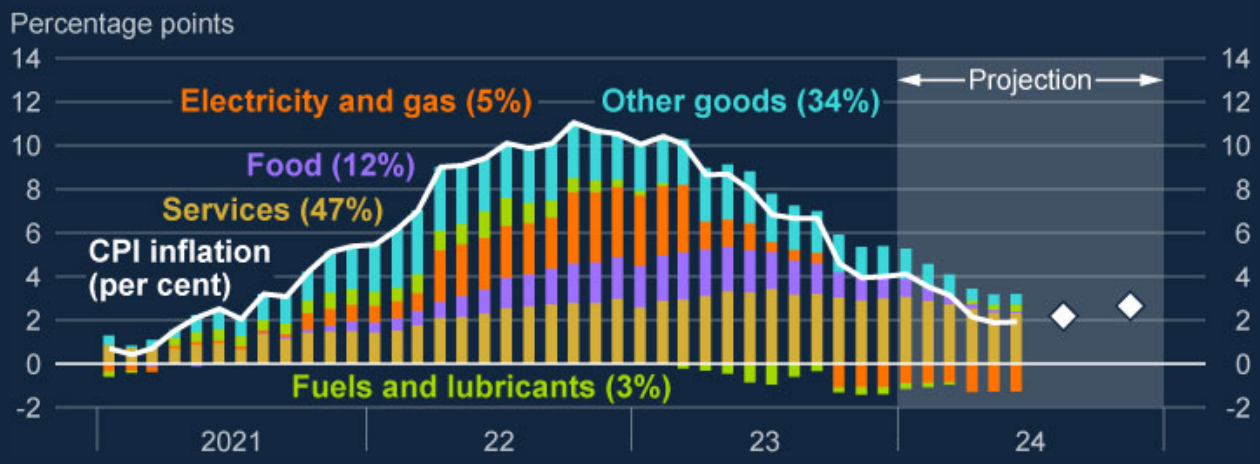
> **Headline inflation is now projected to fall to around 2% in 2024 Q2 before increasing to around 2¼% and 2¾% in Q3 and Q4 respectively.**

Following a small expected increase in January, CPI inflation is projected to fall by around another 2 percentage points in 2024 Q2, dropping to around the 2% target (Chart 2.18). Inflation in a range of goods and services has declined by more than expected in November, and energy prices have fallen

significantly, driving reductions in the MPC's near-term forecast for CPI inflation. Beyond Q2, CPI inflation is projected to increase to 2¼% in Q3 and to 2¾% in Q4, as the direct energy price contribution becomes less negative.

Chart 2.18: Consumer price inflation has fallen since last year's peak and is projected to fall further before rising again in 2024 H2

Contributions to CPI inflation (a)



Sources: Bloomberg Finance L.P., Department for Energy Security and Net Zero, ONS and Bank calculations.

(a) Figures in parentheses are CPI basket weights in 2023. Data to December 2023. Component-level Bank staff projections from January 2024 to June 2024. Diamonds indicate projections for headline inflation in 2024 Q3 and Q4. The food component is defined as food and non-alcoholic beverages (FNAB). Fuels and lubricants estimates use Department for Energy Security and Net Zero petrol price data for January 2024 and then are based on the sterling oil futures curve.

Core CPI inflation is also projected to fall in the near term, but to a higher rate than headline inflation of close to 3½% in 2024 Q2. That reflects core inflation being more closely tied to domestic inflationary pressures than global factors. Between Q2 and Q4, CPI inflation excluding energy is expected to be relatively stable at or above 3% (Chart 1.1).

Falling energy prices are projected to reduce consumer price inflation…

Gas futures prices for 2024 have fallen by about 40% compared with the November Report, contributing to a more benign outlook for household energy costs. Falling utilities prices are expected to continue to drag on CPI inflation significantly over the course of 2024, with a peak drag of 1.3 percentage points in 2024 Q2 (Chart 2.18). Conditioned on the most recent set of wholesale prices, the drag from utilities price inflation is then expected to fade from the second half of this year. Retail fuel prices fell earlier than utilities prices, and therefore the related drag has largely come through in the latest CPI data. The contribution of retail fuel prices to inflation is projected to be closer to zero in 2024 Q1 and positive in Q2, although that relies on the Government choosing to go ahead with the

planned increase in fuel duty in March and April, which would push up on CPI inflation by 0.2 percentage points. However, the outlook for consumer energy prices is uncertain given events in the Middle East (Section 1).

…as are lower food and goods price inflation.

More stable food prices are also expected to contribute to lower CPI inflation (Chart 2.18). Having risen by around 30% between September 2021 and May 2023, prices of food and non-alcoholic beverages have plateaued. Food prices are projected to be broadly flat over the forecast period, in line with producer input costs. This is expected to lead to a sizable fall in the contribution of food prices to CPI inflation, from 0.9 percentage points in December 2023 to around 0.1 percentage points by 2024 Q2. Additional border checks being introduced this year on food, animal and plant products imported from the EU are expected to have only a small impact on food price inflation.

Easing input cost pressures should also continue to reduce consumer goods price inflation in the near term. Producer output price inflation, which measures the change in the price of goods sold by UK manufacturers, has fallen significantly since mid-2022, and was close to zero in 2023 Q3 and Q4. The drivers of these movements have been predominantly global (Section 2.1). Changes in the prices of consumer goods tend to roughly follow changes in producer prices with a lag. The moderation in producer price inflation therefore suggests goods price inflation will continue to fall in the near term.

Services consumer price inflation remains elevated and is expected to decline slowly.

Alongside labour market tightness and wage growth, services CPI inflation is one of the MPC's key indicators of domestic inflationary pressure. While energy, food and core goods price inflation all fell rapidly over 2023, services price inflation remained significantly elevated (Chart 2.19).

Chart 2.19: Services price inflation is still high and is expected to decline more slowly than goods inflation

Inflation rates for components of CPI (a)

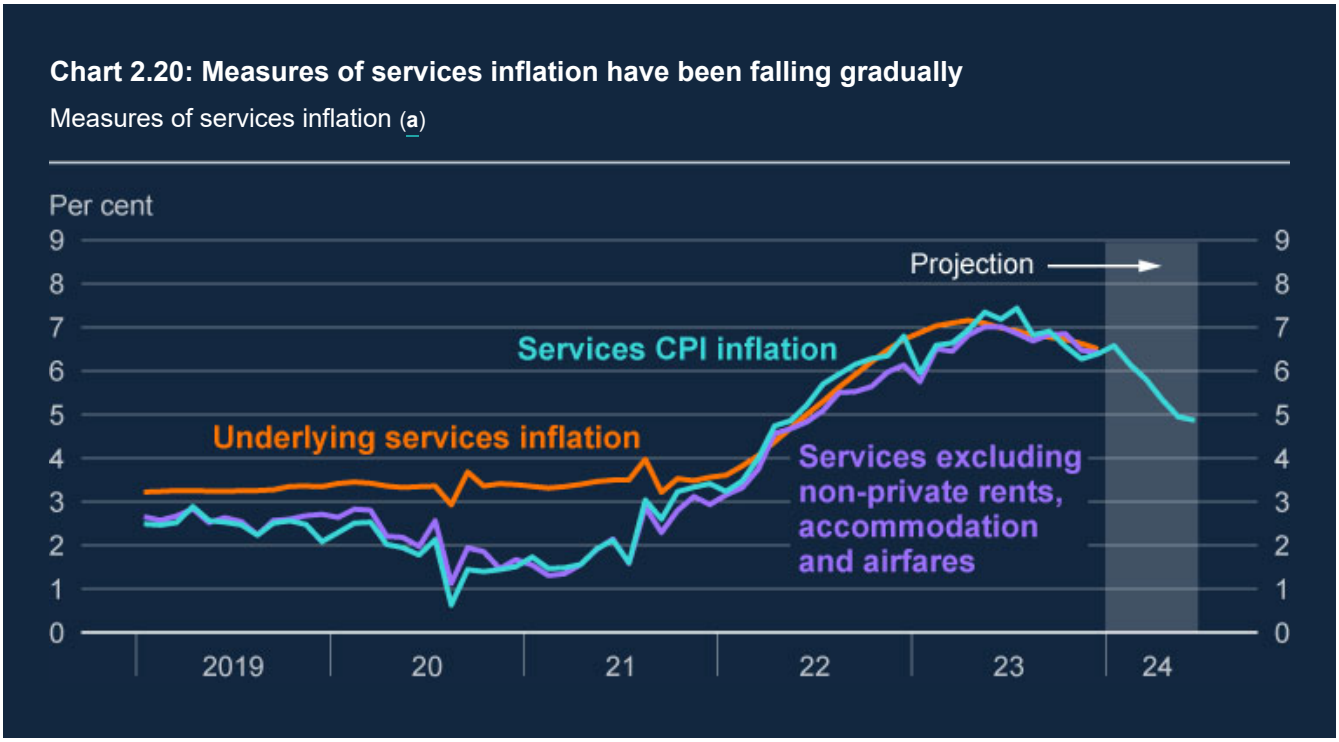
Sources: ONS and Bank calculations.

(a) Core goods is defined as goods excluding FNAB, alcohol, tobacco and energy. Data to December 2023. Bank staff projections from January 2024 to June 2024.

As well as being higher on average, the distribution of services price inflation has also been wider than before the pandemic. Much of the pickup in services inflation in the middle of 2023, and the subsequent drop-off, reflected components that are not typically reliable indicators of trends in inflation persistence, such as non-private rents, accommodation and airfares. Excluding these components, services inflation was more stable over 2023, and has declined in recent months (Chart 2.20). An underlying measure of services inflation produced by Bank staff, intended to strip out idiosyncratic fluctuations, has also been falling gradually but over a slightly longer period. However, all these measures indicate that services inflation remains elevated.

Chart 2.20: Measures of services inflation have been falling gradually

Measures of services inflation (a)



Sources: ONS and Bank calculations.

(a) The methodology for an aggregate underlying inflation measure is set out in **Potjagailo et al (2022)**. The underlying services inflation measure shown here focuses on comovement in the prices of services items rather than all items. The inflation rate of each item is disentangled into a common component and idiosyncratic fluctuations using a dynamic factor model. In a second step, the common components of individual services price items are aggregated into the underlying services inflation measure using the CPI item weights. The latest data are for December 2023, the projection is to June 2024.

The recent easing in services CPI inflation follows an easing in cost pressures, and non-labour costs in particular. The S&P Global/CIPS UK services input price PMI has fallen significantly since its peak in mid-2022, but has levelled off in recent months and remains above its long-run average, with recent strength reported to have been mostly driven by higher wage growth. Labour costs make up a large part of services firms' production costs, so while easing non-labour input costs provide some scope for further falls in CPI services inflation, moderation in pay pressures is likely to be required for services inflation to return to target consistent rates.

Services price inflation is expected to ease over the course of 2024, albeit more slowly than other components of the CPI basket (Chart 2.19). Base effects from temporary falls in services prices in January 2023 mean that annual services inflation is expected to increase in January 2024, to 6.6%, before falling towards 5% in 2024 Q2. Within services inflation, the contribution from private sector rents to CPI inflation is expected to remain elevated, as past increases in quoted rents increasingly affect the stock of rented housing and therefore the CPI.

2.4: Inflation expectations

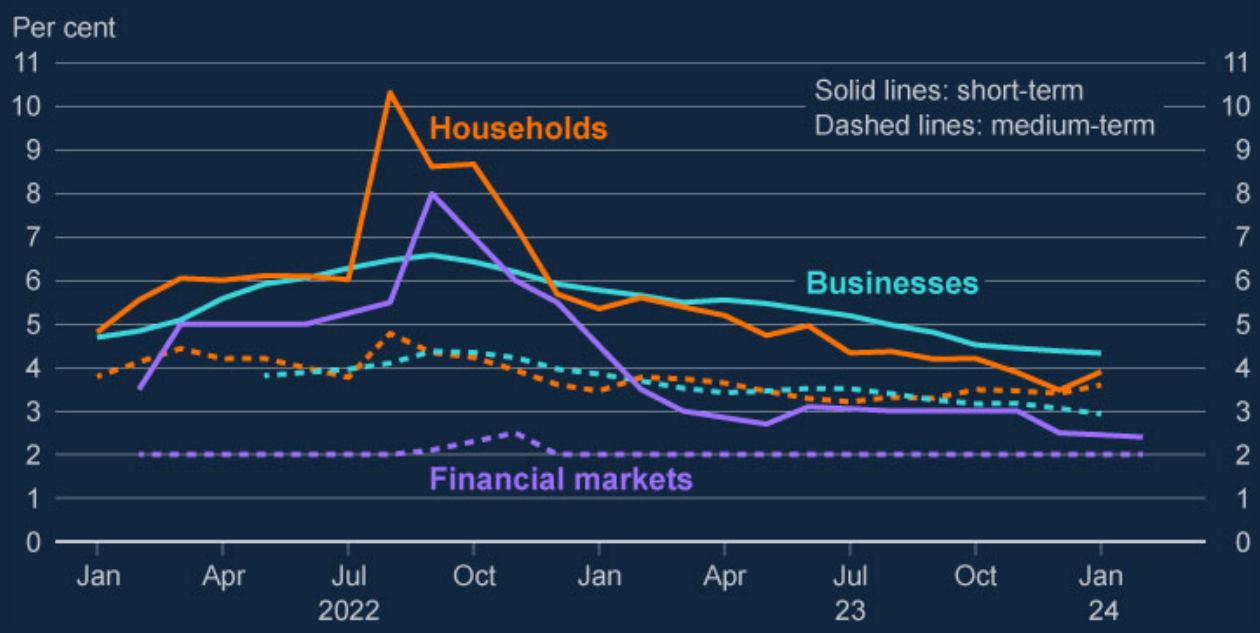
Household and firm inflation expectations have continued to ease.

Household and business inflation expectations are an important indicator of inflationary pressure, as together they can affect wage and price-setting behaviour. Short term, one year ahead household inflation expectations were around 4% in the latest YouGov/Citigroup survey, a fall of a little over 1½ percentage points during the course of 2023 (Chart 2.21). Short-term household inflation expectation measures tend to be strongly related to current inflation rates, which suggests that these measures are likely to fall as headline inflation declines in coming months. Measures of medium-term household inflation expectations, such as the five to 10 year ahead measure in the YouGov/Citigroup survey, have been broadly flat, at close to their 2010–19 averages. Close to a fifth of respondents to this survey expected inflation to be as high as 6% or more on average over the medium term, above the pre-pandemic proportion but well below the peak of 31% of respondents recorded in August 2022.

In the DMP Survey, firms' short-term expectations for CPI inflation in the year ahead declined to around 4% on average in the three months to January, a little below expectations of their own price inflation of around 4.3%. Medium term, three year ahead CPI expectations in the same period ticked down a little to just under 3%, compared to a peak of around 4.5% in September 2022.

Chart 2.21: Inflation expectations have fallen since 2022

Survey-based measures of inflation expectations (a)



Sources: Bank of England, Bloomberg Finance L.P., Citigroup, DMP Survey, YouGov and Bank calculations.

(a) Short-term inflation expectations are shown in solid lines, medium-term expectations in dashed lines. Household expectations are taken from the YouGov/Citigroup survey for the next 12 months (short term) and five to 10 years ahead (medium term). Businesses' expectations are three-month averages from the DMP Survey. Short-term expectations show firms' own-price growth expectations for one year ahead, while medium-term expectations are firms' CPI expectations three years ahead. Short-term financial market expectations are median one year ahead CPI expectations from the Bank's Market Participants Survey (MaPS). Medium-term financial market expectations are five years ahead CPI expectations from the MaPS. The latest data are for January 2024 (DMP and YouGov/Citigroup survey) and February 2024 (MaPS).

Indicators of inflation expectations in financial markets have fallen since the November Report. The median respondent in the February Market Participants Survey expected CPI inflation of just under 2.5% one year ahead, down from 3% in November (Chart 2.21). Median five year ahead expectations were stable at 2%, with the distribution skewed to the upside.

A measure of medium term, five year ahead inflation compensation based on swap prices had risen over most of 2023, but has reversed these gains since September and now lies about ½ percentage point above its 2010–19 average at around 3.8%. A measure focused on shorter-term inflation a year ahead has also fallen since October, although it remains around 1 percentage point above its 2010–19 average.

Box C: Assessing the restrictiveness of the monetary policy stance

Given the significant increase in Bank Rate since the end of 2021, from 0.1% to 5.25%, the MPC has noted in the minutes of its recent meetings that the stance of monetary policy is restrictive. This means that monetary policy is weighing on demand, which in the current environment is necessary to return inflation sustainably to the 2% target. This box discusses the evolution of nominal and real interest rates since the start of this tightening cycle, and then sets out some different approaches that can help to assess the restrictiveness of the monetary policy stance.

Real interest rates have increased steadily since 2022.

One way to consider whether monetary policy is likely to be weighing on demand is to simply look at the evolution of interest rates. Both nominal and real interest rates are likely to be important, since they may operate through different channels (Section 3 of the **November 2023 Report**). Nominal interest rates matter for the transmission of monetary policy, for example via cash-flow effects on mortgagor households. But real interest rates, nominal rates of interest minus expected inflation, are usually judged to be more important when assessing the stance of monetary policy. That is because when making investment and saving decisions, firms and households should also factor in their expectations about future inflation. The evolution of real rates will depend on the measure of inflation expectations that is being used to compute them, various of which could be considered appropriate.

Real interest rates in financial markets have increased steadily since early 2022 across a range of maturities (Chart A).

Chart A: Real interest rates have risen since early 2022

Annual real interest rates from index-linked bonds (a)

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

(a) UK implied real spot curves based on yields on UK index-linked government bond prices. Data to 23 January 2024. The proposal from the UK Statistics Authority to align methods and data sources of RPI to CPIH in February 2030 is likely to impact the moves in the 10-year rates.

One way of characterising that monetary policy is weighing on demand is when the real interest rate is higher than the equilibrium real interest rate.

The stance of monetary policy describes the impact of the policy rate today, in combination with expectations of future policy rates, on demand. Assessing the monetary stance requires identifying a point at which the level of Bank Rate neither stimulates nor depresses the level of activity. If the real policy rate, r, is above this neutral level, then monetary policy is considered to be weighing on demand. That is, the stance of policy is restrictive.

This neutral level, or ‘equilibrium real interest rate’, can be defined as the time-varying real interest rate that, if the economy started from a position of no output gap and inflation at target, would sustain output at potential and inflation at target. The equilibrium real interest rate, r*, fluctuates around its trend level, R*, as a result of shorter-term influences on the economy. Therefore, r* should not be used as a guide for where the policy rate will settle in the long run (these issues are discussed in Box 6 of the **August 2018 Inflation Report**).

The stance of monetary policy can be assessed using the gap between real Bank Rate and the equilibrium real rate, also known as the real-rate gap. This means that the stance can remain restrictive even if Bank Rate is reduced, if r remains above r*. It also means that other factors, over and above developments in Bank Rate, can influence the stance of policy if they lead to a shift in the equilibrium real rate.

However, setting Bank Rate equal to the equilibrium interest rate would not deliver inflation at the 2% target at all times. For example, if output were below its potential, leading to insufficient inflationary pressure, Bank Rate would need to be set below the equilibrium rate for a period of time in order to return output to potential and ensure inflation is at target. The opposite would be true if output were above its potential. Furthermore, some shocks to the economy may have differing effects on output and inflation, creating a trade-off between the speed at which inflation is returned to target and the support provided to activity. So, for example, if inflation is expected to remain above target, the MPC may need to set Bank Rate above the equilibrium rate for a period of time, even if this does not lead to activity being at potential.

The equilibrium real interest rate cannot be observed directly and there is conceptual uncertainty around its definition. These are just two reasons why it is not used by the MPC as a direct guide to setting policy. Any estimate of the equilibrium real interest rate is subject to uncertainty from several sources. There is uncertainty associated with the model specification used to infer the equilibrium real rate and given a specific model, there is also uncertainty around its parameters and the data used to estimate it. But, to the extent that it can be estimated, it may help to provide some indication as to whether policy is acting on demand as expected.

The rest of this box sets out several approaches to assessing the stance of monetary policy. These approaches make no judgement on how restrictive policy should be, but they can be useful inputs, alongside a broader set of indicators, when judging the restrictiveness of policy.

Model-based estimates suggest that real interest rates are currently above the equilibrium rate…

The economics literature has considered a range of model-based approaches to estimating the restrictiveness of policy (**Obstfeld (2023)**). The focus here is on just one very simple approach based on the IS curve. The IS curve is an equation from standard macroeconomic theory that describes the relationship between the real-rate gap and the output gap. It suggests that this is an inverse relationship: when the real-rate gap is positive, so r is above r*, output is pushed below its potential, resulting in a negative output gap.

As noted by **Greene (2023),** an estimate of the restrictiveness of policy can be obtained by using statistical filtering techniques that extract signals from data on the output gap and real interest rates, taking into account a model-implied relationship between the output gap and real-rate gap.

There are two main issues with the IS curve approach to estimating the restrictiveness of policy. First, potential output is itself unobservable, and as a result, so is the output gap. This means that the output gap data used to infer the equilibrium real rate have to be estimated and are uncertain. Second, it is difficult to estimate the strength of the IS curve-implied relationship between the output gap and real-rate gap. As a result of these caveats, estimates of the real-rate gap using this IS curve method are highly uncertain, and should be interpreted with caution.

The first column of Table 1 shows a range of estimates of the average expected real-rate gap over the next three years using such an approach. The range is positive, indicating that the stance of monetary policy is currently restrictive. The average real-rate gap over the next three years is chosen for illustration because expectations of future policy rates matter for the monetary stance when households and firms base their economic decisions on their expectations for the future. However, there is uncertainty around the appropriate horizon.

The range is obtained by varying the output gap and expected inflation terms that enter into the model. A range of measures of the output gap from different statistical filters are used to account for the uncertainty associated with any approach to estimating it. Various measures of household and business inflation expectations are also used to deflate nominal interest rates, as it is not obvious which is most appropriate.

> **…and cross-checks from finance models and the Market Participants Survey (MaPS) also point to a positive real-rate gap at present…**

Given the significant uncertainty around these estimates, other approaches can be used to provide a cross-check.

Finance models using yield curve data provide one alternative approach. These models use information from the term structure of government bond yields to decompose long-term interest rates into components capturing expected future short rates and bond risk premia. An advantage of these models is that they do not rely on macroeconomic data that are subject to measurement error. However, an important caveat is that they are based on expectations about future rates over longer horizons, and so may provide more of a signal about deviations in real rates, from the long-term trend real interest rate, R*, than from the equilibrium real rate, r*.

Another alternative is to consider market participants' perceptions of the monetary stance. As part of the Bank's quantitative market intelligence gathering, staff conduct the MaPS eight times a year. The survey collects information on market participants' expectations for monetary policy, which can be used to infer market perceptions of the implied stance of policy.

The second and third columns of Table 1 show estimates of interest-rate gap measures using these alternative approaches. The estimates from finance models show the real-rate gap based on 10-year forward real-rate expectations and indicate that the stance of monetary policy is currently restrictive. The MaPS estimate indicates that market participants perceive the monetary stance to be restrictive.

Table 1: A range of approaches to measuring the monetary stance indicate that it is currently restrictive

	IS curve model (a)	Finance models (b)	MaPS (c)
Annual interest-rate gaps (percentage points)	1–1¼	0–1½	¾

Sources: Bank of England, Bank of England/Ipsos Inflation Attitudes Survey, Bank of England MaPS, Bloomberg Finance L.P., Consensus Economics, HMT, ONS, TradeWeb and Bank calculations.

(a) Estimate for 2023 Q4. Model estimated with data from 1988 Q3 to 2023 Q3. Estimates of the average real-rate gap over the next three years are attained from a model using the Kalman filter. The model specification relates the current output gap to past and expected future output gaps, as well as the real-rate gap.
(b) Estimate for December 2023. Range of estimates from three models. The models estimate the nominal policy rate and are adjusted for inflation expectations. Nominal interest rates are zero-coupon 10-year forward rates derived from UK government bond prices. Inflation expectations estimates are for consumer price inflation six to 10 years ahead from the half-year Consensus survey and are assumed constant in the intervening months. Expected policy rates are derived by stripping out term premia estimated using the following three models: the benchmark models in **Malik and Meldrum (2016)**, **Vlieghe (2016)** and **Meldrum and Roberts-Sklar (2015)**.
(c) Estimate for February 2024. MaPS implied perceptions of the average monetary stance over the horizon, calculated as the difference between each MaPS respondent's weighted mean nominal Bank Rate expectations over the next three years and their own perceptions of the nominal neutral rate, averaged across respondents.

…meaning there is a common signal that policy is currently restrictive.

Each approach comes with caveats and uncertainties, so they form part of a broader assessment about the restrictiveness of the monetary stance. That said, all of the estimates considered here contain a common message that the real-rate gap is positive, consistent with policy being restrictive. That will change as Bank Rate and the equilibrium rate change in response to the playing out of shocks hitting the economy, developments in both demand and supply and the evolution of actual and expected inflation.

Box D: Agents' update on business conditions

The key information from Agents' contacts considered by the MPC at its February meeting is presented in this box, which summarises intelligence gathered in the six weeks to mid-January.

Agents' intelligence suggests that a widespread weakening of real activity has continued into 2024 Q1, although there are expectations that activity may start to pick up in 2024 H2. Employment intentions have stopped falling since the last update and suggest low or no employment growth in 2024. Recruitment is reported to be easier than 6 to 12 months ago.

The Agents' annual survey suggests pay settlements will fall to an average of 5.4% in 2024, compared with reported settlements of around 6% in 2023.

Contacts report that they expect to pass on less of the increase in their labour costs than over the past year. There is also strong evidence that consumer price inflation will continue to fall, and ease faster for goods than services.

> **Annual nominal growth in consumer spending on goods and services is still positive, but this is due entirely to price inflation. Volumes are flat or falling.**

Pre-Christmas retail sales were broadly in line with the previous year, and most retailers entered the new year without a substantial overhang of seasonal items. Supermarket contacts report that food and drink sales were supported by increased levels of promotion ahead of the holiday period, indicating that customers remain highly price sensitive. Demand for big-ticket discretionary items, such as furniture, white goods, and home improvement items remains very weak, in part due to reduced housing market activity.

The greater availability of new cars is substantially reducing demand for used cars. Demand for new cars is more resilient but showing signs of easing due to higher costs of finance.

Consumers' efforts to prioritise spending on Christmas celebrations led to them cutting back spending on services in the lead-up period. Accommodation and restaurants were notably quieter in October and November than they were the previous year, but many contacts were expecting Christmas trading to be more normal. Hotel occupancy levels have held up so far, but demand is expected to weaken in 2024 Q1. Food and beverage demand has been weaker, including at large fast-food chains at which volumes were down around 3% to 5% in 2023 Q4 compared to a year ago.

Travel companies and airports report buoyant demand as consumers prioritise their main summer holidays. Airports expect activity to be back to 2019 levels in 2024, if not already.

Consumers have been offsetting higher costs in services contracts, such as mobile phones and insurance, by reducing discretionary services and the level of cover.

Overall, contacts remain pessimistic, as reduced discretionary spending continues to weigh on consumer demand in the short term. Disruption of Red Sea shipping routes is not yet affecting goods supply, but some contacts say that delays and temporary shortages are possible.

Investment intentions softened towards the end of 2023 and look to remain modest going into 2024. Investment spending could fall slightly this year.

Contacts frequently cite uncertainty, weakening demand, costs of and access to finance, and recent capital expenditure decisions as reasons to postpone or reduce investment in the coming year. While many mention technology investment over the coming year, it is more focused on software or digital developments than major IT overhauls.

Automation and efficiency continue to motivate investment given the recent tightness of the labour market, but this tends to be ongoing from previous plans rather than new or additional investment. Investment in energy efficiency and renewables has been mentioned less than in previous rounds.

In terms of financing investment, contacts do not often mention interest rates specifically as a major constraint. Rather, it is constrained cash positions and tighter financing conditions including more restrictive covenants that are leading contacts to scrutinise investment plans more closely. A few contacts are optimistic that interest rates will start to come down this year.

Total export volumes of goods are now lower than a year ago, as growth to non-EU markets is no longer able to offset a decline in trade to the EU. Services export values have continued to grow.

Contacts report reduced export demand due to EU trade frictions, global customers' previous overstocking alongside China’s slowing demand and export restrictions. This may be compounded by new UK-EU trade regulations taking effect in 2024. Contacts expect global goods demand to remain subdued throughout 2024, with some recovery as destocking ends. In contrast, nominal exports of professional services and inward tourism have experienced sustained growth driven primarily by prices with volumes seeing only modest increases. Contacts expect the growth in services exports values to be maintained. Trade disruption due to events in the Red Sea may occur, although contacts are yet to report any impacts.

Business services revenue growth remains positive, driven by price increases, but the volume of activity is slightly below a year ago.

Previously strong annual revenue growth in professional services moderated slightly further: corporate transactional activity such as mergers and acquisitions, financing and property remains subdued, while audit and tax activity remain buoyant and solvency and restructuring work continue to pick up. Corporate insurance activity remains firm. Contacts report that clients continue to reduce discretionary spending, leading to weakening revenues in advertising, marketing, consultancy and IT. Corporate events, travel and accommodation continue to recover, though activity remains below pre-Covid levels.

Some contacts anticipate a pickup in transactional activity from 2024 Q2 onwards as funding costs stabilise or reduce. Others, especially those serving the construction and property sectors, are more cautious and expect some recovery towards the end of 2024 or early 2025.

Manufacturing output volumes continued to decline slightly over the past year as demand remained soft, but more contacts report output stabilising compared to the previous update.

Domestic demand has softened for construction products and consumer goods. Food and drink output remains stable, but consumers continue to switch to cheaper brands and products. High-tech sectors such as aerospace, defence, specialised capital and sustainable equipment report activity continuing to pick up. Some contacts' output was also supported by better-performing export markets such as the US and Asia. Vehicle output improved as supply chain disruption eased and demand was resilient.

Food, drink and consumer goods producers expect some recovery in demand later in the year.

Construction output volumes are substantially lower than a year ago, with more reports of public and commercial projects being delayed or cancelled.

House building, which remains the weakest sector, has slowed markedly over the past year due to weak demand and rising cost pressures, and is expected to soften further in the near term.

Commercial development has slowed more modestly, with increasing reports of public and commercial projects facing cancellations or delays. However, existing large infrastructure projects remain stable. Delays in construction schedules persist due to construction firm insolvencies, while planning and utility connections remain key constraints.

Contacts, while less gloomy than six months ago, are still cautious about the outlook, anticipating commercial and residential development to remain subdued. Some contacts expect a modest improvement towards the end of the year.

Contacts expect the secondary housing market to be flat in 2024, an improvement on a quarter ago.

Activity appears to be picking up very slightly in the housing market. Contacts consider that house prices may be close to a trough and could level out in 2024 H1.

There is greater availability in the mortgage market, with lenders changing their offers less frequently. Recent cuts to mortgage rates have stemmed the fall in demand to a degree, but house builders do not expect a rebound in build rates or transactions over the next 12 months.

Rental prices are still increasing though some contacts sense that the rate of increase is slowing as affordability becomes an issue for more tenants. Some buy-to-let landlords are now struggling to sell and so are re-letting properties, while others in tourist areas are repurposing properties as short-term holiday lets.

Credit supply remains constrained for smaller firms, while demand has increased with a greater need for working capital. For large companies, credit supply has improved while demand remains weak, due in part to high interest rates.

There has been little change in conditions for small and medium-sized enterprises which, generally, report difficulties in accessing credit, especially those in consumer-facing, property, and construction sectors. Some contacts express frustration that they are unable to access the finance they need at what they consider a reasonable price. Banks are keen to lend to those with good credit standing and are even willing to reduce spreads or ease terms. For larger corporates, bond market conditions have improved.

Contacts cite the higher cost of finance, lower collateral values and subdued outlook as reasons why demand for credit remains weaker than normal for firms of all sizes. For small firms, repayment of debt continues to be higher than normal as they pay back Covid loans. For some, again mostly small firms, high inflation, tighter trade credit, and large clients taking longer to pay means an increasing need for working capital and consequent demand for credit.

The message from contacts on business distress and insolvencies is little changed since the last update. Trade credit has continued to tighten modestly along supply chains and insolvencies are expected to continue to rise gradually, concentrated among small firms. Bad debts are typically low, and contacts most commonly cite property-related and consumer-facing firms as vulnerable.

Employment intentions have steadied compared to the last update, having eased over the autumn, and suggest low or no employment growth in 2024. It is easier to recruit than 6 to 12 months ago and there are fewer vacancies and reduced churn.

Most contacts intend to maintain employment at current levels. Compared to the last update, there were fewer reports of planned headcount reductions, though they continue in construction and parts of real estate, distribution, and manufacturing. Use of agency, contract, and temporary workers has fallen back, particularly in construction.

Weaker demand for and increased supply of labour mean recruitment is significantly easier than 6 to 12 months ago. This is now being seen in some skilled areas such as construction, real estate and related business services, areas that until recently remained tight. Skills mismatches remain in some local labour markets, occupations, and sectors. Contacts continue to report that they are offshoring some roles to manage costs and that automation and AI investment are supporting productivity and containing recruitment and labour costs.

The Agents' annual pay survey suggests settlements in 2024 will moderate to 5.4% on average, compared with reported settlements of around 6% in 2023.

According to the pay survey, most of the factors that have tended to push up on pay settlements, like headline inflation and the ability to recruit and retain staff, are expected to put less upward pressure on settlements than last year (Chart A). The exception to this is the

NLW, which comes into effect in April 2024 and was a little higher than many contacts anticipated. It is expected to put slightly more upward pressure on pay settlements than last year.

In addition, the factors that have tended to push down on pay settlements, like economic uncertainty and the ability to pass on cost increases to prices, are expected to exert more downward pressure than last year. Respondents expect regular bonus payments to be lower this year, as demand weakens. And, unlike 2022 and 2023, the vast majority of respondents do not expect to make one-off payments beyond regular bonuses. Respondents also anticipate they will not be able to pass on increased labour costs into prices as much as they did in 2023. Within sectors, however, expected pass-through is higher in consumer services than other industries.

Chart A: Most factors affecting pay settlements are expected to exert less pressure in 2024

Factors affecting average pay settlements (a)

Source: Bank of England Agents.

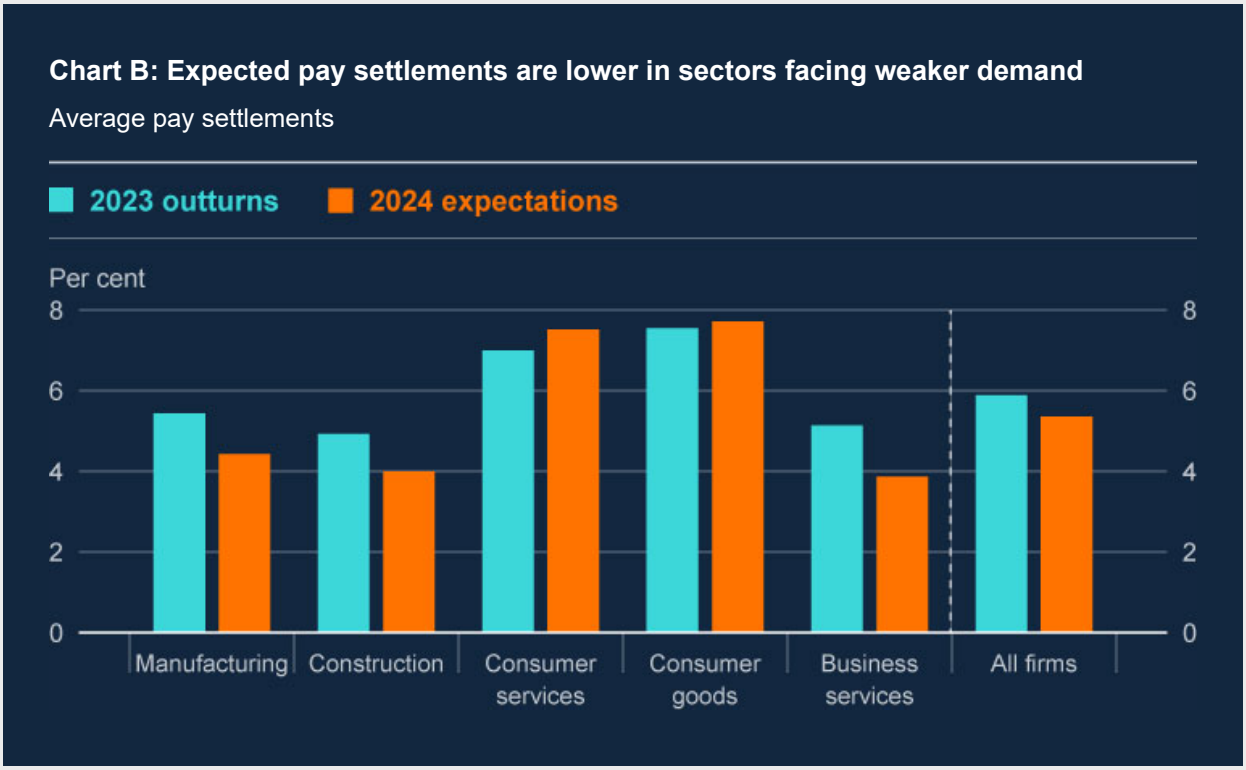
(a) When calculating these balances, reports of 'slight' pressure were given a 50% weight and reports of 'significant' pressure were given 100% weight.

The pay survey suggests that expected settlements will fall compared to last year in sectors where demand has weakened, such as construction, manufacturing, and business services, notably real estate and distribution (Chart B). In the consumer-facing sectors, which tend to be lower-paid, respondents expect settlements for 2024 to be similar to, or larger than, in 2023.

While most companies' settlements take effect prior to May, there is some evidence that for those happening later, the settlements will moderate further reflecting the expected easing in inflation.

Chart B: Expected pay settlements are lower in sectors facing weaker demand

Average pay settlements



Source: Bank of England Agents.

> **Agents are seeing clear evidence that inflation will continue to ease and faster for consumer goods than for services, especially in food and consumer durables.**

Input costs are stabilising. Factors such as repriced energy contracts, falling raw material prices, decreasing factory gate prices in Asia, and large reductions in freight rates means most costs are either the same or lower than last year. Contacts report little impact yet from the conflict in the Middle East or disruptions in the Red Sea but regard them as near-term upside risks to input costs. Given the significant easing in input cost pressures, manufacturers are reporting a return to normal price increases, in frequency and amount, and in some cases no increase at all.

Price inflation in business services is easing only moderately, held up by elevated wage inflation in areas such as professional services. Sectors such as marketing, public relations and logistics are the exception to this. Here prices are flat or falling due to softer demand.

Aggregate profits remain squeezed, though there has been recent moderate improvement given the recent falls in some input costs. There is widespread scepticism that normal margins can be restored this year given the economic outlook.

Broad-based easing of consumer goods inflation continues. Contacts expect food inflation to be around 4% by the spring, down from 6% to 7% at the end of 2023. Non-food goods inflation is returning to normal levels. The prices of bulky retail items such as furniture are falling, where input costs have fallen significantly and/or demand has softened.

Consumer services inflation is moderating but more slowly than for goods, reflecting the high labour content in services prices.

Looking ahead, retailers cite the increase to the NLW, changes to business rates, and potential supply shocks such as the Red Sea disruption, as upside risks to inflation.

3: In focus – The supply side of the economy

The supply side of the economy determines the level of output that generates neither excess nor insufficient domestic inflationary pressure. It is therefore an important consideration for monetary policy. While potential supply is not directly observable, the MPC routinely conducts in-depth assessments of supply-side conditions in order to estimate it. This In focus sets out the conclusions of the MPC's latest assessment.

Supply growth has been weak in recent years following a series of significant shocks. The MPC judges that the lasting effects of the Covid and energy price shocks on productivity have broadly run their course. Notwithstanding LFS data uncertainties, the pandemic-related drag on participation also seems to be unwinding faster than anticipated.

Potential supply growth is expected to rise from an average of 0.6% over 2020–23 to 1% this year, before rising gradually to 1.3%. That would leave potential supply growth broadly in line with its assumed long-run trend rate at the end of the forecast, albeit lower than its growth rate prior to the global financial crisis (GFC).

3.1: What is potential supply?

An economy's supply capacity, or potential supply, is determined by both the amount of labour and capital available, as well as the efficiency with which these factors can be combined.

Growth in potential supply can be thought of as the underlying trend growth rate of GDP. It can be decomposed into contributions from underlying growth in labour supply and productivity. Those variables are referred to here as 'potential labour supply' – capturing the amount of labour available to work in the economy – and 'potential productivity' – the efficient productivity of that labour.

These variables can be further broken down into their constituent drivers. For example, aggregate potential labour supply is determined by the size of the population, how many of those people are likely to participate in the labour force and to be employed in equilibrium, and their desired hours worked. Potential productivity can be decomposed into contributions from capital deepening – the amount of capital available per worker – and 'total factor productivity' – the efficiency with which capital and labour are combined to produce output.

> **In the long term, growth in the economy's potential supply capacity is largely determined by structural factors…**

In the long term, the rate of potential supply growth represents where the growth rate of GDP is expected to settle after the economy has fully adjusted to business cycle shocks. These long-run trends are determined by slow-moving structural factors such as technological progress, capital accumulation and determinants of the size and skills of the labour force, such as demographic trends.

…but, over the shorter term, potential supply growth can also be impacted by temporary factors.

In the shorter term, potential supply can be affected by temporary factors, as well as those slow-moving structural trends. The public health measures introduced during the Covid pandemic are one example of this, with nationwide lockdowns resulting in many businesses being forced to close and a large proportion of the workforce placed onto furlough. As closures were only enforced temporarily, they had no effect on supply in the long run.

Periods where there are few job opportunities in the labour market offer another example. Some people may search for work less intensively during these periods or even leave the labour force entirely. If they then take up another opportunity, such as full-time study, they may be unlikely to re-enter the labour market for a period of time. This would temporarily weigh on potential labour supply but would not affect long-running trends if these people eventually returned.

While shorter-term factors may provide a temporary drag or boost, potential supply growth should return towards its estimated long-term rate as their effects fade.

Potential supply determines how much output can rise before it generates inflationary pressure.

The extent to which the prevailing level of GDP falls short of the level of potential supply represents the degree of spare capacity in the economy. Spare capacity can be within the labour market, for example if people are out of work or working fewer hours than they desire, or within companies, if capital is underutilised. This matters for monetary policy because it affects inflationary pressures. For example, if measured GDP is below potential supply, there is excess supply and firms may want to boost demand for their goods and services by slowing the pace of price rises. If measured GDP exceeds potential supply, there is excess demand in the economy and that puts upward pressure on inflation.

Potential supply cannot be observed directly, however, and therefore must be estimated. Estimates are inherently uncertain as it is difficult in practice to identify precisely how factors affecting measured GDP are also affecting its potential level.

3.2: How has potential supply responded to past shocks?

Potential supply growth slowed materially after the global financial crisis (GFC).

Estimates suggest that potential supply growth slowed markedly after the GFC (Chart 3.1 and Table 3.A). Potential supply growth is estimated to have fallen from its average of 2.9% in the decade leading up to the GFC to around 1.4% over 2010–14 and 1.8% over 2015–19.

Chart 3.1: Potential supply growth has been weak in recent years, but it is expected to recover to around 1¼% by the end of the forecast horizon

Estimated contributions to potential supply growth (a)

Source: Bank calculations.

(a) Average annual growth rates for periods stated. Estimates for 2023 Q4 onwards are projections consistent with the MPC's forecast. Contributions to estimated potential supply growth are approximations calculated as the growth rate of the individual series and so do not exactly sum to the total.

The slowing was consistent with a sharp decline in measured productivity growth. In particular, productivity growth in the manufacturing sector had been notably elevated in the decade prior to the GFC but fell back materially in the decade that followed – a pattern observed across many advanced economies. Much of the decrease in measured productivity growth across the economy was judged to be due to structural changes, such that the falls were also likely to have been reflected in potential productivity growth. Potential productivity growth is estimated to have fallen from 2.2% in the decade prior to the GFC to 0.8% over 2015–19 (Chart 3.1). There are a range of different hypotheses about the structural shifts that may have resulted in the slowing in trend productivity growth (Section 3 of the **February 2023 Report**).

Providing a partial offset, potential labour supply growth is judged to have picked up somewhat in the decade following the GFC. This primarily reflected the end of the pre-crisis trend towards shorter average working hours alongside continued strength in other components of labour supply, particularly population growth.

> **In recent years, a series of significant economic shocks have had a notable impact on the economy's supply capacity.**

The UK has been hit by successive shocks over recent years that were judged to have had some lasting implications for its supply capacity, such as: the change in the trading relationship with the EU, the Covid pandemic, and the global energy price shock (**Bailey (2023)**). Potential supply growth is estimated to have been particularly weak over 2020–23 (Chart 3.1).

It is difficult to estimate the precise impact that each of these shocks had individually given the quick succession in which they hit the economy, alongside the inherent uncertainty in assessing supply capacity. Despite these measurement difficulties, understanding how these shocks affected supply as well as demand, and how lasting these effects have been, is important for assessing inflationary pressures.

The MPC judges that the supply impacts from the change in the UK's trading relationship with the EU are evolving broadly as expected.

The change in trading relationship with the EU is judged to be weighing on the level of potential supply, with that effect building gradually over time. Greater openness to trade is likely to increase productivity through an increase in innovation, a greater degree of specialisation across countries and through improving the allocation of labour and capital in an economy. Barriers to trade between the UK and EU have increased, which is judged to have resulted in lower trade between the two regions than would have occurred otherwise, and hence a lower level of productivity. The MPC judged previously that these effects would leave the level of productivity 3¼% lower than otherwise in the long run (Box 1 of the **November 2019 Report**). In addition, it is likely that Brexit affected business investment for some time, owing to increased uncertainty and resources being diverted to preparations for the new arrangements (**Haskel and Martin (2023)**).

Having reviewed the latest evidence from surveys and official data, the MPC judges that these impacts on the level of productivity are evolving broadly as assumed in its previous assessment (Section 3 of the **February 2023 Report**).

Data revisions suggest that the pandemic has had less of a persistent effect than expected on both actual and potential output.

Data revisions relating to the pandemic period have continued to be sizable, as additional data and updated methodologies have improved our understanding of how the economy evolved over this time. For example, in the latest Blue Book, the ONS raised its estimates of GDP growth over 2020 and 2021 (Box C of the **November 2023 Report**). These revisions shifted up the level of GDP by around 2%. The revisions to GDP were concentrated in the healthcare industry, where actual output had been particularly hard to measure during the pandemic. Revisions to historic estimates of GDP are not typically judged to have implications for the balance between demand and supply and hence inflationary pressures, since the inflationary dynamics will have already played out in the data. In light of that, the MPC judged it appropriate to revise up potential supply in line with the revisions to measured GDP, such that the balance between them over the past was unchanged.

The latest data also suggest that the Covid-related drag on participation is unwinding faster than anticipated...

At the time of the MPC's previous assessment of supply conditions, labour market participation was materially lower than before Covid (Chart 3.2 of this report and Section 3 of the **February 2023 Report**). Many people who left the labour market during the pandemic did not immediately return as the economy recovered. Some of this had been expected as the population continued to age. But there was also a sharp and persistent increase in those stating they were not active in the labour

market due to long-term sickness. Given evidence at the time that suggested many of those people were unlikely to return soon (**Haskel and Martin (2022)**), the MPC judged that the fall in participation was in part owing to structural factors, and thus would also affect the profile for potential participation.

In the latest LFS data, the measured participation rate appears to have bounced back faster than previously anticipated (Chart 3.2). For example, there has been a decline in the number of people reporting they are outside the labour force due to looking after family or the home, or due to retirement. Partially offsetting this, there has been a continued rise in the number of people saying they are unable to participate in the workforce due to sickness. The ONS has recently suspended its publication of the LFS estimates replacing them with alternative experimental estimates (Box B of the **November 2023 Report**). The preceding fall in response rates and assumption of fixed population weights have also made these data more difficult to interpret than usual. Issues around the quality of the LFS data notwithstanding, in its latest supply assessment the MPC has reduced its assumption about the size and persistence of the drag from Covid on the potential participation rate.

Chart 3.2: The measured participation rate has risen since the previous stocktake

Labour force participation rate **(a)**

Source: ONS.

(a) Quarterly data to 2023 Q3 based on those aged 16+. The LFS series shown here uses official LFS estimates to 2023 Q2 and the ONS's experimental alternative labour market statistics for Q3. See Box B of the **November 2023 Report** for further information. Stalk represents data that were available at the time of the previous supply assessment, which was conducted in February 2023.

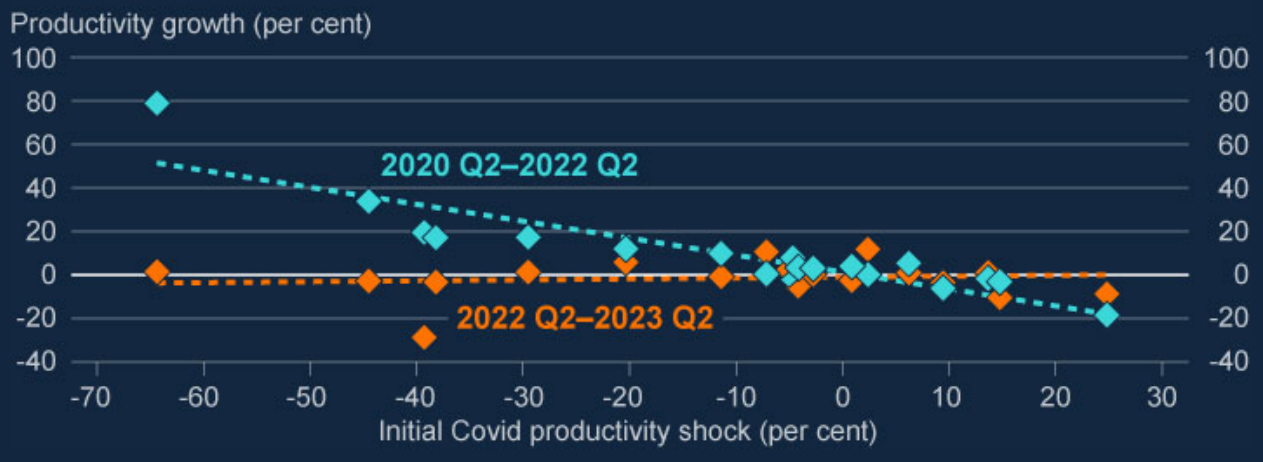
…and the lasting effects of the pandemic on productivity may also be smaller than previously assumed.

As discussed in previous stocktakes, it is likely that the pandemic had some negative effects on the level of potential productivity (Section 3 of the **February 2023 Report**). For example, the economic uncertainty associated with the pandemic probably weighed on business investment. In addition, evidence from the DMP Survey collected over 2022 suggested that businesses expected the pandemic to continue to drag on productivity in 2023 and beyond, with this particularly the case for the accommodation and food services, manufacturing and transport and storage sectors. That was despite some potential positive effects on productivity, for example from innovation or digital investment spurred by the pandemic, or possibly from voluntary working from home.

The Committee no longer assumes that any lingering effects of the pandemic will weigh on productivity in the long term. Expectations of a persistent drag have steadily reduced over time as developments have unfolded. Recent Bank staff analysis suggests that many of the industries that experienced the biggest hits to productivity during the pandemic have rebounded more quickly than expected, with recent growth rates more comparable across sectors (Chart 3.3). This might suggest that the lasting negative effects of the pandemic on productivity are smaller than previously assumed or that they are being offset by more positive effects.

Chart 3.3: Industry-level data suggest that productivity growth is no longer sensitive to the initial productivity shock during the pandemic

Initial pandemic productivity shock against productivity growth in stated periods **(a)**



Sources: ONS and Bank calculations.

(a) The horizontal axis shows productivity growth between 2019 Q2 and 2020 Q2, in order to proxy the initial Covid productivity shock. The vertical axis shows the average annual growth rate in productivity from 2020 Q2 to 2022 Q2 (aqua), and productivity growth between 2022 Q2 and 2023 Q2 (orange). The diamonds represent particular sectors and the dashed series the lines of best fit across them.

Similarly, analysis of energy-intensive industries suggests that risks of a persistent hit to supply from the global energy price shock may have reduced.

In its last stocktake of supply, the MPC considered the potential for the extended period of higher energy prices to affect businesses in a way that reduced potential productivity (Section 3 of the **February 2023 Report**). For example, the energy price shock, and subsequent downturn, was expected to weigh on investment over several years. In addition, some sources suggested that the unusually large size of the energy price shock, and therefore the scale of adjustment required by businesses, could lead to resource misallocation or lower utilisation of energy-intensive capital (**Harrison et al (2011)**).

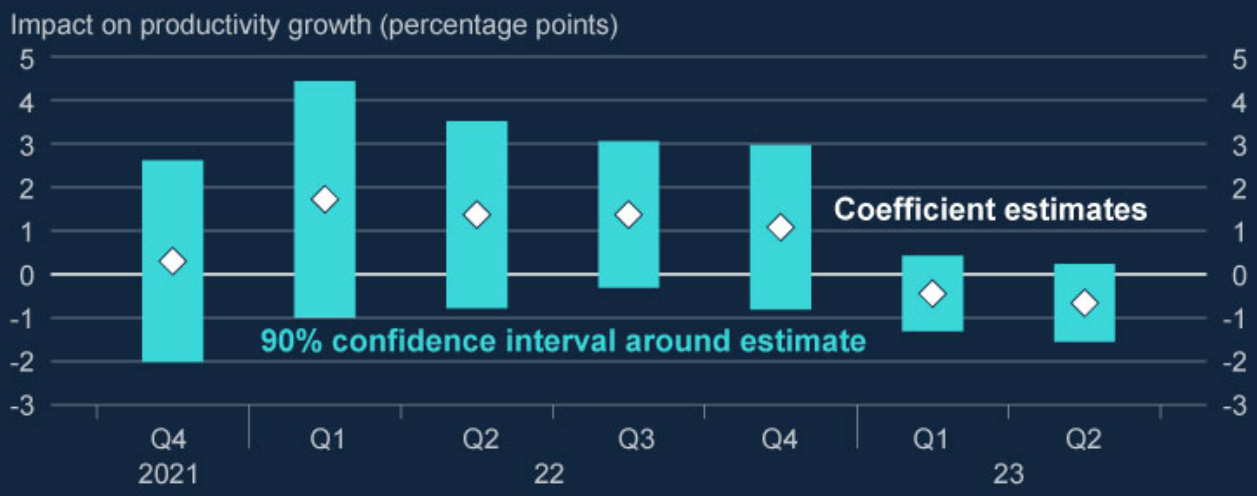
More recent Bank staff analysis using industry-level productivity data from the ONS, however, suggests there is little evidence of persistent negative productivity effects in more energy-intensive sectors. Chart 3.4 shows the estimated coefficients from a simple regression of energy intensity on the rate of productivity growth at the industry level, using data from 2021 Q4 to 2023 Q2. As shown in the chart, there does not seem to have been a statistically significant relationship between the energy intensity of an industry and that industry's labour productivity growth – as demonstrated by the 90% confidence bands around the coefficient estimates encompassing zero.

As well as evidence that the supply effects from a given energy shock may be lower than previously assumed, energy prices have also fallen back materially since the last stocktake in early 2023 (Section 2.1), further reducing the risk of persistent effects on supply.

There is still some risk, however, that potential productivity could be affected through different channels. For example, a recent paper by the **IMF (2023**) suggests that some of the impact of the global energy price shock could come via an increase in the number of firm exits. In the UK, there has indeed been a rise in the number of firms dissolving, or in the process of doing so, over the past year. Bank staff analysis suggests that firm exits to date have been concentrated in relatively small firms and those that have opened since Covid. Further evidence suggests that firms at risk of dissolving – for example those who have issued a dissolution notice – appear to be mostly micro firms with lower productivity, such that their exit could result in a small boost to the level of productivity.

Chart 3.4: Analysis suggests there is no significant evidence of the global energy price shock having negatively affected productivity

Estimated sensitivity of productivity growth to energy intensities at the industry level (a)



Sources: ONS and Bank calculations.

(a) This chart shows coefficient estimates from a regression of energy intensity estimates on division-level quarter-on-quarter productivity growth between 2021 Q4 and 2023 Q2. Energy intensity is calculated as each industry's energy costs at the SIC2 level using ONS Supply and Use Tables. Specifically, these measure intermediate consumption that is energy, such as petroleum, gas or electricity, as a share of total intermediate consumption including labour compensation. 90% confidence intervals are reported in the aqua bars. Given these intervals encompass zero, there does not seem to have been a statistically significant relationship between the energy intensity of an industry and that industry's labour productivity growth.

The MPC has been increasing its assessment of the degree of excess demand in the economy over the recent past, implying weaker supply.

As well as assessing the impact of particular shocks on components of potential supply, the MPC also forms a top-down view of spare capacity and uses this view to pin down its assessment of the current and past level of potential supply in aggregate.

The Committee has judged in recent rounds that there has been a significant margin of excess demand in the economy over the past two years, in part reflecting the weakness of potential supply. That excess demand has been accounted for by the tightness of the labour market and, prior to 2023, a higher than normal degree of capacity utilisation within companies. Throughout the past year, the Committee has made successive upward revisions to its view on the degree of excess demand.

The Committee reviews the steer from a range of top-down statistical filter-based models to inform its assessment of the degree of excess demand or supply. These models use well-established macroeconomic relationships between key variables, such as GDP, unemployment and inflation, to separate changes in actual output into a trend and cyclical component (**Tóth (2021)** and **Jarociński and Lenza (2018)**). That trend can be interpreted as an estimate of the economy's potential supply capacity. The latest filter estimates suggest the degree of excess demand has been a little higher

over the recent past than was assumed in the November Report. This judgement is small in the context of the Committee's recent judgements on the degree of excess demand and potential supply in the past.

In absolute terms the margin of excess demand is now judged to have peaked at around 1¾% of potential GDP at the start of 2022, before declining steadily to around zero in 2023 Q4 (Section 1). The sections that follow consider how potential supply and the degree of spare capacity are expected to evolve over the next three years.

3.3: How might potential supply evolve in the future?

Potential productivity

Long-run trend growth in productivity is judged to be around 1%.

The MPC currently estimates the long-run trend of potential productivity growth to be around 1% per year, in turn contributing 1 percentage point to the 1¼% assumed long-run trend in potential supply growth. That reflects a judgement that potential productivity growth is likely to settle closer to rates witnessed prior to the pandemic than those pre-GFC, given the structural drivers that appear to have led to a slowdown in trend productivity globally since 2009 (Section 3 of the **February 2023 Report**).

In the long run, potential productivity growth may also be impacted by factors like new technologies and factors affecting capital accumulation, including human capital. Innovations in AI technologies and an increase in the degree of climate-related business investment may therefore present risks to that assumption about the rate of long-run trend productivity growth.

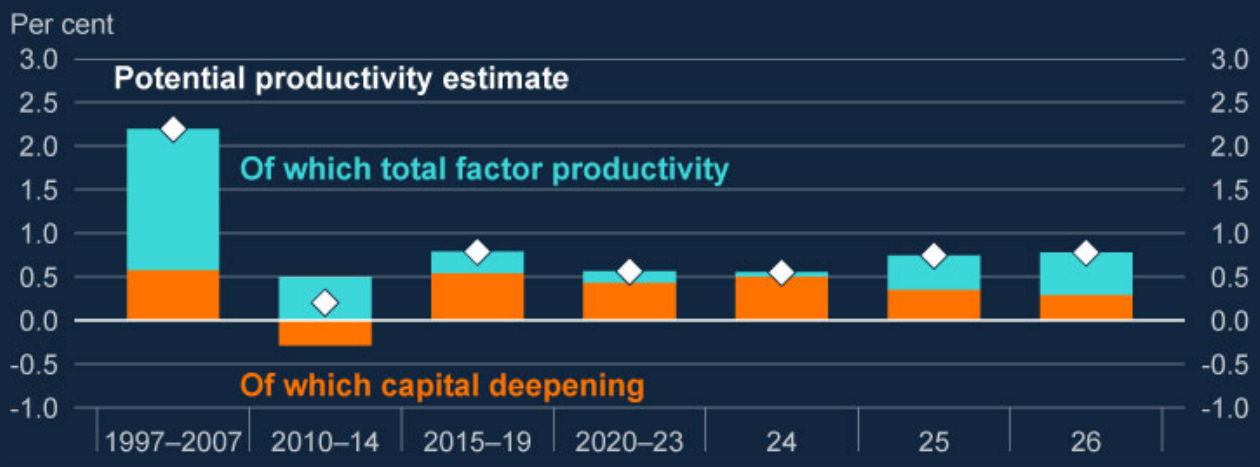
Potential productivity growth is estimated to be below its long-run trend rate over the forecast horizon.

Over the forecast period, potential productivity growth is expected to edge up to around 0.8% (Chart 3.5), a little lower than its long-run rate, owing in part to the continued effects of Brexit (Section 3.2).

Chart 3.5 shows that, over the forecast period, contributions from growth in capital deepening to potential productivity growth are expected to decline whilst contributions from growth in total factor productivity are expected to increase.

Chart 3.5: Potential productivity growth is expected to be accounted for by growth in capital per worker and total factor productivity over the forecast period

Estimated contributions to potential productivity growth (a)



Source: Bank calculations.

(a) Average annual growth rates for periods stated. Estimates for 2023 Q4 onwards are projections consistent with the MPC's forecast. Contributions to estimated potential productivity growth are approximations calculated as the growth rate of the individual series and so do not exactly sum to the total.

Capital deepening is expected to play somewhat less of a role in driving potential productivity growth over the forecast horizon.

Business investment is the mechanism through which businesses can increase their capital stock, making it one of the key determinants of capital deepening. The level of business investment was revised higher following upward revisions in the ONS's latest Blue Book. Business investment is, however, expected to be flat over the next 18 months, before increasing modestly over the latter half of the forecast horizon (Section 1). According to intelligence from the Bank's Agents, spending should be supported over the medium term by the need to invest for a number of reasons such as digitisation, efficiency, sustainability and maintenance (Box D of the **November 2023 Report**).

Innovations in AI technologies are likely to bring about changes in the way some sectors operate, but the speed of take-up and implications for productivity are uncertain.

AI refers to a branch of computer science which focuses on programming computers or machines to perform tasks normally requiring human intelligence. According to a recent survey by the Bank's Agents, almost 30% of companies in the UK reported making new significant or transformative AI investments in the past year. These technologies are likely to impact productivity because they have the potential to bring large changes in the way some sectors work. This is especially the case for generative AI – a form of AI that is trained using large data sets and is capable of generating new content.

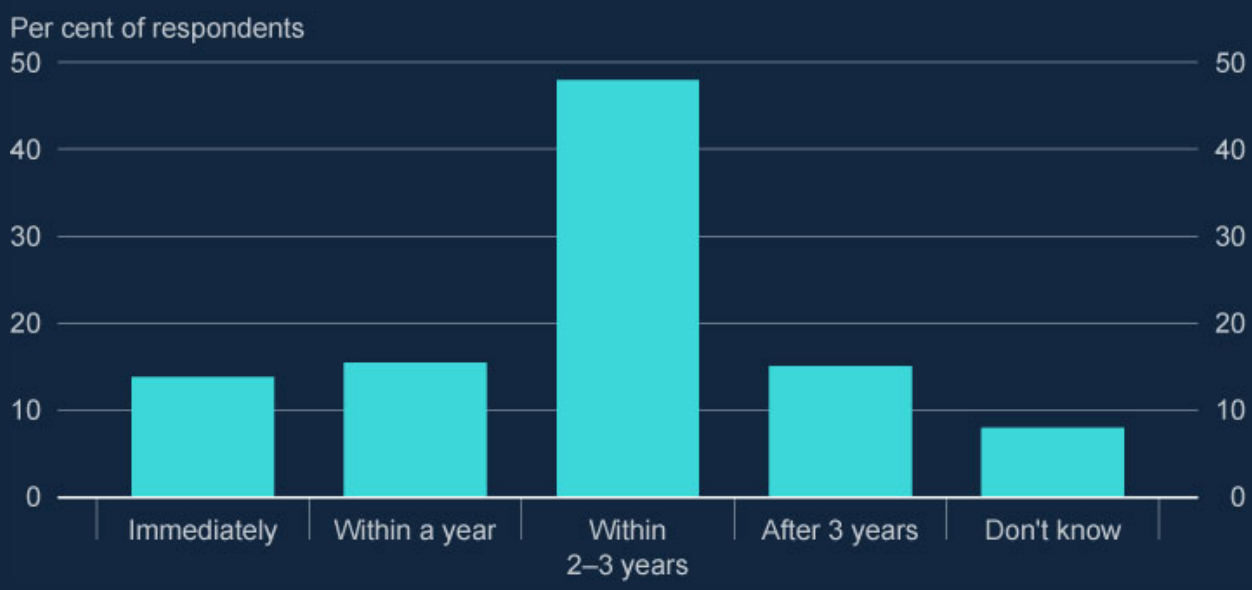
By automating or assisting humans in a number of tasks, AI could affect labour productivity through two main channels. The first is the efficiency channel, by increasing workers' productivity. This channel captures the fact that AI could reduce the effort required by workers or complement workers' skills (**Noy and Zhang (2023)**), such that humans and AI work together to produce more than they could do individually. A second channel through which AI might affect productivity is via the acceleration of innovation. Some sources argue that generative AI in particular could change the nature of the innovation process in such a way that accelerates technological progress and further boosts productivity growth (**Cockburn et al (2019)**). This could make the impact of AI on productivity comparable to that of information and communication technologies, which were widely considered to have sparked the Third Industrial Revolution (**Crafts (2021)**).

As development and take-up of these technologies are still at an early stage, it is particularly difficult to predict their future effects on actual and potential productivity. There remain large uncertainties around how easy it will be to integrate AI into businesses' processes, what exactly the overall impact on trend productivity will be and how fast any effects will come through.

According to a number of external studies the productivity effects of generative AI might be either relatively small (**McKinsey (2023)**), or unlikely to be realised within the current forecast period in the UK (**Goldman Sachs (2023)**). Evidence from the Agents' survey, however, suggests many businesses are more optimistic about the horizon over which productivity gains will be realised. Just over three-quarters of businesses who reported that they had invested in AI expect to see productivity gains from their investments within the next few years (Chart 3.6).

Chart 3.6: Businesses that have invested in AI expect productivity gains within a few years

Firm expectations of the speed of productivity gains from AI investments (a)



Source: Bank's Agents.

(a) Chart shows responses to the question: 'How quickly do most of the productivity gains from the new AI investments accrue to your UK business?' from respondents who had answered 'Yes' to the question: 'In the past 12 months have you made any new significant or transformative AI investments in your UK business?'.

Increases in investment in order to try and achieve net-zero emissions by 2050 may spur an increase in long-run trend productivity growth.

Climate change will affect the macroeconomy through a number of channels (**Angeli et al (2022)**). Physical impacts, for example extreme weather events and rising temperatures, can lead to disruptions in both output and inflation. Likewise, the transition to a low-carbon economy can impact activity through changes in policies, preferences, and technology. These channels will have resulting impacts for trends in labour productivity.

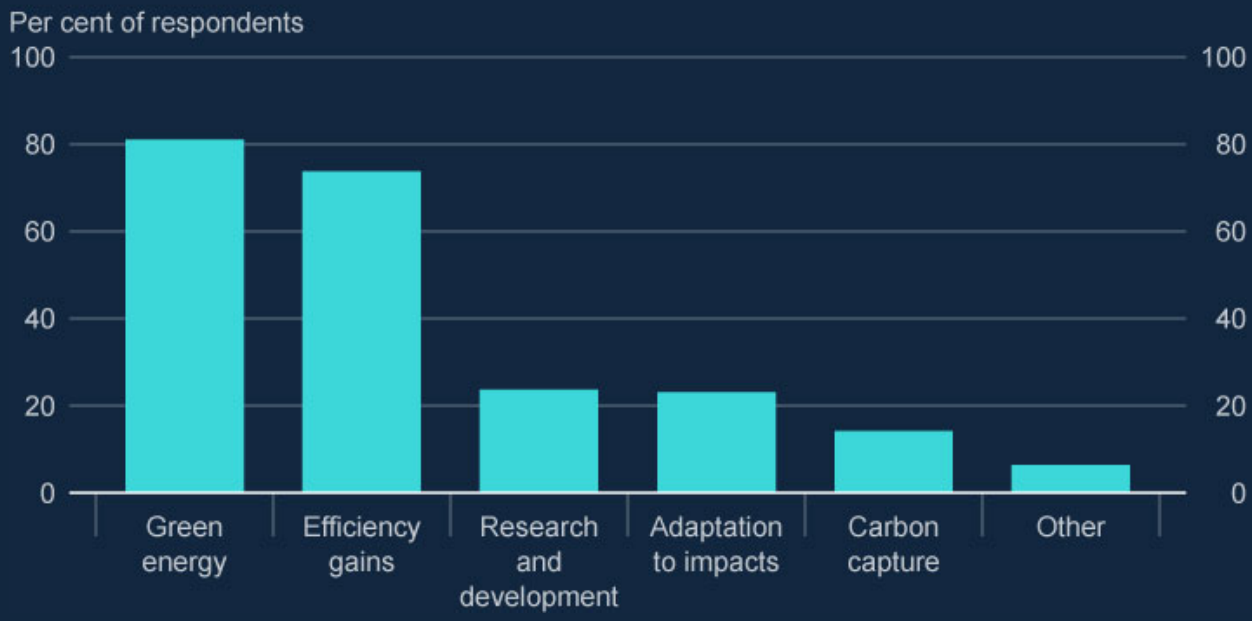
Around a third of DMP Survey respondents reported that climate change has resulted in an increase in their expenditure on capital over the past three years. Those who expected to increase their climate-related investments over the next three years are most likely to do so by investing in switching to green energy sources or production methods that use energy more efficiently (Chart 3.7).

Recent scenarios released by the **Network for Greening the Financial System (NGFS) (2023)** model, among other things, the impact on trend labour productivity from chronic physical and transition risks under existing climate policies versus those that would achieve net-zero emissions by 2050. The NGFS scenarios suggest that, compared to existing climate policies, net-zero consistent policies could drag on trend productivity growth in the medium term, but boost it in the long run.

Efforts to replace ‘dirty’ energy with ‘green’ energy could lead to some assets being stranded, which would drag on potential productivity and supply growth. But, over a longer horizon, there should be a boost to productivity growth on account of net-zero consistent policies reducing the cost of energy through green innovation and lowering the threat of adverse physical impacts from climate change, which would also yield wider welfare benefits.

Chart 3.7: The most commonly reported climate-related investments include switching to green energy sources or energy-saving production methods

Firm expectations of type of climate-related investments (a)



Sources: DMP Survey and Bank calculations.

(a) The DMP Survey asks firms who expect a positive impact of climate change on their capital expenditure over the next three years about the sources of climate-related investment they expect to make. Firms are asked to select from: (i) energy-efficiency improvements, (ii) switching to greener energy sources, (iii) carbon capture, (iv) research and development in new green technologies, (v) adaptation to physical impacts, and (vi) other. Firms are allowed to select multiple sources of investment, therefore the percentages do not add up to 100.

Potential labour supply

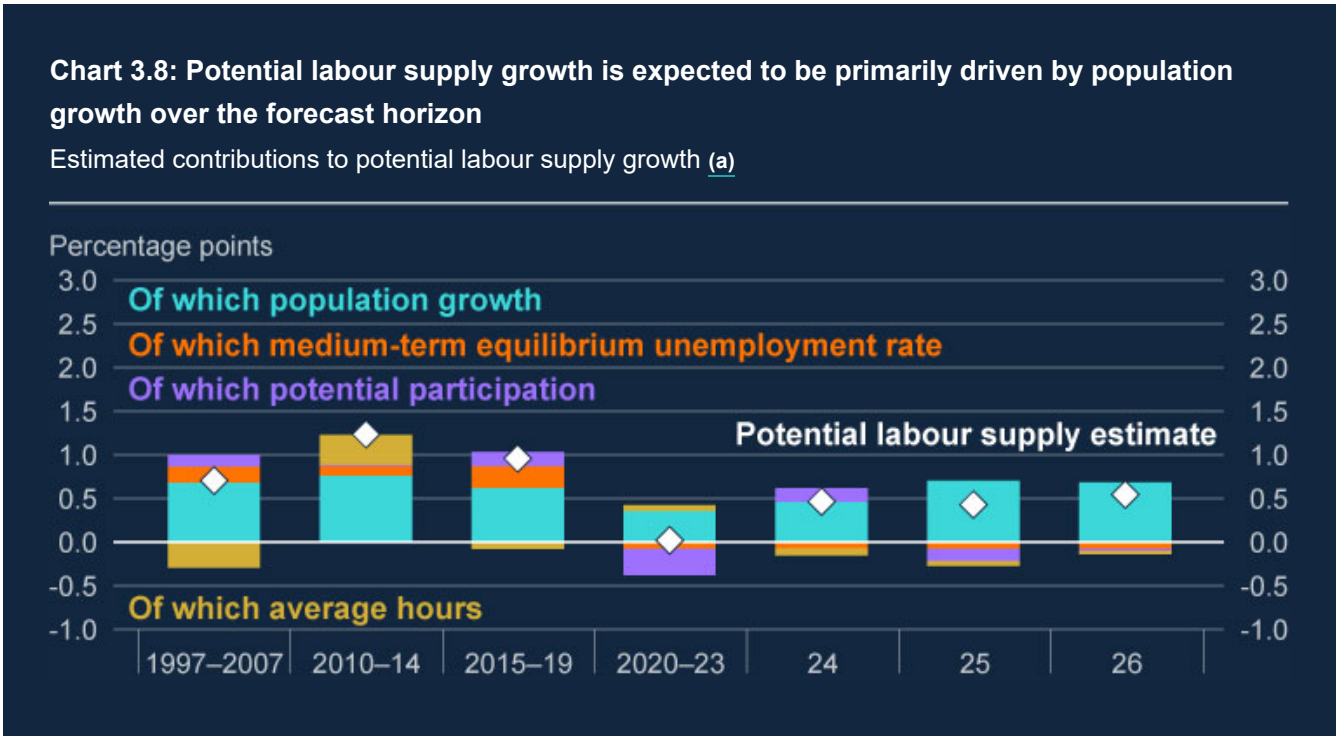
Population growth is expected to support potential labour supply growth, although long-term demographic trends provide a slight drag.

Potential labour supply growth has been notably weak over 2020–23 (Chart 3.8). It is expected to rise to around ½% in 2024, however, a rate at which it is broadly expected to remain for the rest of the forecast period.

Long-term slow-moving demographic factors have been, and are expected to continue to be, playing a large role in the evolution of potential labour supply growth. In particular, an ageing population is expected to continue to weigh on trend labour force participation and average hours worked. Potential labour supply growth over the forecast horizon is instead supported by population growth (Chart 3.8).

Chart 3.8: Potential labour supply growth is expected to be primarily driven by population growth over the forecast horizon

Estimated contributions to potential labour supply growth (a)



Source: Bank calculations.

(a) Average annual growth rates for periods stated. Estimates for 2023 Q4 onwards are projections consistent with the MPC's forecast. Contributions to estimated potential labour supply growth are approximations calculated as the growth rate of the individual series and so do not exactly sum to the total.

The MPC has revised up its view of potential participation since the previous supply assessment…

The potential participation rate is now expected to be broadly flat over the forecast as an unwinding of the Covid-related drag (Section 3.2) offsets the effects of an ageing workforce (Chart 3.2). This assessment will be reviewed by the Committee following the publication of reweighted LFS statistics. Potential participation is also expected to be supported by a number of recent government policy announcements (Box A).

…but has also revised up its view of the medium-term equilibrium unemployment rate over the past year…

In recent forecasts, the MPC has made a judgement to increase its estimate of the medium-term equilibrium unemployment rate, which is judged to be around 4½% at present. An increase in the medium-term equilibrium rate of unemployment reduces the amount of people who can be in

employment in the labour market without generating excess inflationary pressures and thus pushes down on aggregate supply.

The equilibrium unemployment rate may have increased if employees and domestic firms have sought compensation in the form of higher nominal pay and domestic selling prices for the reductions in real incomes that they have experienced after the terms of trade shock. Over the forecast, the medium-term equilibrium unemployment rate is projected to rise gradually, in part reflecting the projected rise in the actual unemployment rate over this period.

…though the long-term equilibrium rate of unemployment is still judged to be just above 4%.

In the long term, the equilibrium rate of unemployment is determined by slow-moving structural factors, such as the efficiency with which those seeking work are matched to vacancies (Box 4 of the **February 2018 Inflation Report**). The MPC judges that the equilibrium rate of unemployment remains just above 4% in the long term. Despite some evidence of a decline in matching efficiency, the Committee does not judge there to be sufficient evidence to interpret this as a structural development that would be persistent enough to impact the longer-term trend, although it may present an upside risk. The medium-term equilibrium unemployment rate should converge back towards its long-term trend over time, as the effects of any labour market frictions dissipate.

Updated ONS population estimates and projections, yet to be captured in the MPC's forecasts, imply a higher rate of recent and future labour supply growth.

Changes in the population level are also an important determinant of potential labour supply and therefore the economy's supply capacity. In general, a rise in labour supply caused by stronger population growth will also result in an increase in demand and therefore have only a small impact on inflation. For example, an increase in net migration will boost supply if migrants enter the labour market, but also spending as incoming migrants purchase goods and services in the UK.

The MPC's latest projections are based on the ONS's 2020-based population projections, published in January 2023, which include estimates of international migration to the year ending June 2022. In these projections, the 16+ age population is assumed to increase at a broadly similar pace as in recent decades, as higher net migration flows and longevity offset the long-term effects of past declines in fertility rates.

The ONS recently released updated data on the amount of net migration to the UK, up to the year ending June 2023. Immigration was predominantly made up of skilled migrants from non-EU countries and students. These population revisions have increased estimates of labour supply in the past, although they are yet to be reflected in the ONS's LFS estimates (Section 2.2).

On 30 January, the ONS released an update of their projections for how the population could evolve in future years. These updated 2021-based interim population projections take into account the latest available data on migration patterns discussed above as well as information from the 2021 census. Overall, they imply stronger population growth than in the 2020-based population projections.

The updated population projections were not available in time to be reflected in the Committee's latest supply-side assessment, though it plans to take on these data in its next forecast update in May. Stronger forecast population growth may suggest a somewhat higher path of labour supply and hence potential output in future. Set against this, for a given level of measured GDP, the higher population starting point for these projections may imply a lower level of labour productivity, and so could suggest some downside risks around the path for future productivity growth all else equal.

3.4: Potential supply and spare capacity in the MPC's forecast

Taking productivity and labour supply estimates together, potential supply is estimated to grow by around 1¼% in the final year of the forecast.

Conditioned on the 2020-based population projections, four-quarter supply growth is expected to rise gradually over the forecast from an average of 0.6% over 2020–23 to 1% this year, before rising to 1.3% by the end of the forecast horizon (Chart 3.1 and Table 3.A). That leaves potential supply growth broadly in line with its assumed long-run trend at the end of the forecast, but with the composition more evenly split between potential productivity growth, which is below its assumed long-run rate, and potential labour supply growth, which is above its assumed long-run rate.

Table 3.A: Decomposition of estimated potential supply growth (a)

	Average				Projection		
	1997–2007	2010–14	2015–19	2020–23	2024	2025	2026
Potential supply growth (per cent)	**2.9**	**1.4**	**1.8**	**0.6**	**1.0**	**1.2**	**1.3**
of which potential productivity growth	2.2	0.2	0.8	0.6	0.6	0.7	0.8
of which potential labour supply growth	0.7	1.2	1.0	0.0	0.5	0.4	0.5

Source: Bank calculations.

(a) Average annual growth rates for periods stated. Estimates for 2023 Q4 onwards are projections consistent with the MPC's forecast. Contributions to estimated potential supply growth are approximations calculated as the growth rate of the individual series and so do not exactly sum to the total.

The MPC judges that demand and supply were broadly balanced in 2023 Q4, but that a margin of excess supply is expected to emerge during the first half of the forecast period.

As outlined in Section 1, measured GDP growth is expected to increase only gradually over the forecast period. That reflects subdued potential supply growth but also the significant increase in Bank Rate since the start of this tightening cycle and a waning boost from fiscal policy. As such, a margin of excess supply is judged to emerge during the first half of the forecast period, and to remain around 1% of potential GDP towards the end of the forecast period (Chart 3.9), putting downward pressure on inflation. That is somewhat shallower than its path in the November Report, reflecting the boost to demand from the lower market path of interest rates, which more than offsets somewhat stronger potential supply growth.

Chart 3.9: A margin of excess supply is judged to be emerging and then to widen to around 1% in two years' time

GDP and estimated potential supply (a)

Sources: ONS and Bank calculations.

(a) Diamonds are projections for 2024 Q1, 2025 Q1, 2026 Q1 and 2027 Q1. GDP in 2023 Q4 is a Bank staff projection incorporating official data to November 2023. Estimated potential supply is derived using the MPC's projection for the level of GDP and the level of excess demand/supply as published in Table 1.A. Both GDP and estimated potential supply are indexed to GDP in 2019 Q4. For further information on MPC projections, see Table 1.A.

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 19 January and are summarised in Chart A. These are compared with the MPC's modal projections, which are conditioned on a range of assumptions (Section 1.1) that may differ from those made by external forecasters.

On average, forecasters expected a 0.9% rise in GDP over the four quarters to 2025 Q1 (left panel, Chart A). Four-quarter GDP growth was then expected to rise, on average, to 1.5% in 2026 Q1 and to remain relatively stable at 1.6% in 2027 Q1. These forecasts are higher than the MPC's modal projections for 2025 Q1 and 2026 Q1, of 0.5% and 0.8% respectively and broadly in line for 2027 Q1.

External forecasters expected an unemployment rate of 4.7% in 2025 Q1, in line with the MPC's projection (middle panel, Chart A). The average external forecast then falls to 4.5% for 2026 Q1 and 2027 Q1. By comparison, in the MPC's projection, the unemployment rate increases to 4.9% in 2026 Q1 and remains at that level in 2027 Q1.

CPI inflation was expected to fall on average, to 2.0% in 2025 Q1, below the MPC's projection of 2.8% (right panel, Chart A). The average forecasts for 2026 Q1 and 2027 Q1 were broadly in line with the 2% target at 2.1% for both periods, contrasting with the MPC's modal projections of 2.3% and 1.9% respectively.

Chart A: At the three-year horizon, external forecasters expected four-quarter GDP growth to be 1.6%, the unemployment rate to be 4.5%, and CPI inflation to be 2.1%

Projections for GDP, the unemployment rate and CPI inflation

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.

CPIH – consumer prices index including owner-occupiers' housing costs.

DMP – Decision Maker Panel.

ERI – exchange rate index.

GDP – gross domestic product.

HICP – harmonised index of consumer prices.

LFS – Labour Force Survey.

M4 – UK non-bank, non-building society private sector's holdings of sterling notes and coin, and their sterling deposits (including certificates of deposit, holdings of commercial paper and other short-term instruments and claims arising from repos) held at UK banks and building societies.

OIS – overnight index swap.

PCE – personal consumption expenditure.

PMI – purchasing managers' index.

REC – Recruitment and Employment Confederation.

RPI – retail prices index.

Abbreviations

AI – artificial intelligence.

CCS – Credit Conditions Survey.

CFO – chief financial officer.

CIPS – Chartered Institute of Purchasing and Supply.

ECB – European Central Bank.

EU – European Union.

FNAB – food and non-alcoholic beverages.

FOMC – Federal Open Market Committee.

FPC – Financial Policy Committee.

FTSE – Financial Times Stock Exchange.

GFC – global financial crisis.

GfK – Gesellschaft für Konsumforschung, Great Britain Ltd.

HCOB – Hamburg Commercial Bank.

HMRC – His Majesty's Revenue and Customs.

HMT – HM Treasury.

ILO – International Labour Organization.

IMF – International Monetary Fund.

IOFC – intermediate other financial corporation.

ISM – Institute for Supply Management.

IT – information technology.

LTV – loan to value.

MaPS – Market Participants Survey.

MIDAS – mixed-data sampling.

MPC – Monetary Policy Committee.

MTIC – missing trader intra-community.

NGFS – Network for Greening the Financial System.

NLW – National Living Wage.

OBR – Office for Budget Responsibility.

OFC – other financial corporation.

Ofgem – Office of Gas and Electricity Markets.

ONS – Office for National Statistics.

OPEC – Organization of the Petroleum Exporting Countries.

PAYE – Pay As You Earn.

PPP – purchasing power parity.

REC – Recruitment and Employment Confederation.

RTI – Real Time Information.

S&P – Standard & Poor's.

SME – small and medium-sized enterprise.

TLFS – transformed Labour Force Survey.

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.