



BANK OF ENGLAND

Speech

The inflation outlook

Speech given by

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In this speech I want to discuss recent developments in the economy, and the outlook, and offer some thoughts on the appropriate setting of monetary policy. I would like to make several main points.

- Activity seems to have recovered a bit faster than the central forecast in the May MPR, and risks lie on the side that the output gap will close earlier than previously expected.
- Some of the recent signs of labour market tightness probably reflect temporary frictions associated with the reopening of the economy, Covid-related uncertainty and furlough. Labour market slack is shrinking but probably not yet used up.
- Price pressures in global manufactured goods reflect, at least in part, strong global demand for goods, including consumer goods, ICT, and plant and machinery investment. These price pressures may well have some persistent effects on UK CPI inflation, partly because of lags in the pass through to consumer prices but also because the underlying strength in demand and prices for manufactured goods may prove persistent.
- Even once effects from energy prices fade, the closing output gap and possibility of some persistent effects from global cost pressures point to risks that, with the current policy stance, CPI inflation will remain above the 2% target 2-3 years ahead.
- In my view, if activity and inflation indicators remain in line with recent trends and downside risks to growth and inflation do not rise significantly (and these conditions are important), then it may become appropriate fairly soon to withdraw some of the current monetary stimulus in order to return inflation to the 2% target on a sustained basis. In this case, options might include curtailing the current asset purchase program – ending it in the next month or two and before the full £150bn has been purchased – and/or further monetary policy action next year.

The MPC's most recent assessment of the economic outlook was published in the May Monetary Policy Report.¹ The central forecast in that MPR was that activity would rise strongly in Q2 and the next few quarters, so that real GDP in Q4 this year would slightly exceed the Q4-19 level. The MPR projected that the LFS jobless rate would rise a little in the near term, and peak at just under 5½% in Q3 this year as the furlough scheme starts to wind down and workforce participation recovers. The output gap was projected to close in the second half of this year, with a temporary period of excess demand late this year and in early 2022, but with supply and demand roughly in balance two and three years ahead. The MPR forecast that swings in energy prices and some impact from higher non-oil import and input prices will lift CPI inflation

¹ The forecast was published on 6 May 2021 and was conditioned on the prevailing market path for interest rates, which included a rise in Bank Rate of about 50bp over the next three years.

close to (but slightly below) the 2% target on average in Q2 and Q3 this year, with a temporary overshoot of the target late this year and early next year (and a peak of about 2½% in Q4 this year). Thereafter, the MPR forecast that, conditional on the modest tightening priced into the yield curve at that date, CPI inflation would return close to the 2% target two and three years out.

At the time, I broadly agreed with that forecast. However, since then events have moved on quite a lot. Activity appears to have recovered a bit more than expected. And, even relative to this improving trend, there have been large upside surprises in prices and indicators of labour market tightness. For example, the REC labour market survey shows a sharp imbalance between strong labour demand and low staff availability, with marked increases in pay for new hires. Input and output prices for manufacturing firms have shown strong gains, with a pickup also in producer price inflation among service sector firms. Expectations for selling prices have risen sharply among both manufacturing and service sector firms. CPI inflation has risen from 0.7% YoY in March to 2.5% in June, versus the forecast for June of 1.7% in the May MPR. Over the last six months, in seasonally adjusted terms, core CPI inflation has run at an annualised rate of about 3%, with headline CPI inflation at an annualised rate of about 4%. Timely indicators of consumer prices (eg surveys of retailers' pricing, aggregations of online prices) suggest prices continue to rise quite quickly. At present, it seems likely that CPI inflation will exceed 3% YoY late this year.

In my view, the balance of risks around the central forecast in the May MPR has changed significantly.

Let me go through this in more detail, starting with the activity data.

The level of monthly GDP in May was a little higher than the path consistent with the May MPR forecast, although still about 4% below the pre-pandemic level (ie Q4-19).² With further growth since then, the shortfall versus Q4-19 is smaller now and it is likely that monthly GDP will exceed the Q4-19 level in the next few months. This is one or two quarters earlier than implied by the central MPR forecasts from November 2020 and February this year.

A few months ago, I argued that the central forecast in the February MPR might have been overly pessimistic on the path for potential output, and hence the upside surprises in activity seen at that stage might not necessarily imply a faster closing of the output gap.³ Since then, the May MPR included sizeable upward revisions to the paths for both GDP and potential output. The further recent upside surprises in activity do not seem to be being accompanied by a further improvement in potential output. For example, the level of total hours worked has risen roughly in line with GDP in recent months, with little apparent change in the trend of productivity. The number of furloughed jobs has fallen faster than expected, and around half the remaining furloughed jobs are on flexi-furlough whereby people work part of the time. The number of firms planning redundancies in the next three months has fallen sharply since Q1 and the number of job vacancies

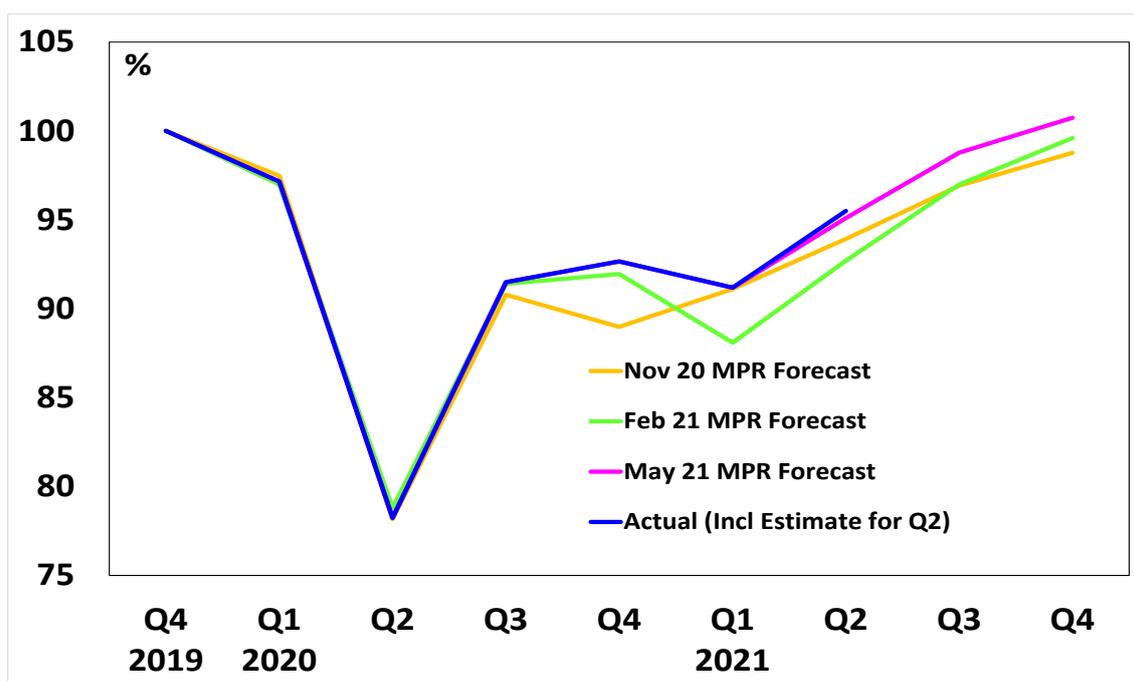
² Monthly GDP in May was around 3% below the average for monthly GDP in Q4-19. Adjusted for the wedge between monthly GDP and quarterly GDP, the shortfall is around 4%.

³ See Saunders (2021).

has risen above the 2019 average. As a result, it seems likely that the recent slightly higher path for GDP will translate into the output gap closing a little faster than expected in the May MPR.

It is unclear at this stage to what extent these upside surprises in activity simply reflect a faster rebound to normal or a more sustained overshoot versus the May MPR path. There are arguments on both sides. We may just be seeing a temporary surge in pent up demand – which will fade at some point – following the major easing of restrictions in recent months. It also is possible that recent strength in activity reflects underlying factors (eg low interest rates, rundown of household savings accumulated during the pandemic) that could sustain further upside surprises. I put some weight on both possibilities. Q2 is likely to be the third consecutive upside surprise in quarterly GDP growth⁴ and, with buoyant readings in consumer confidence and business surveys, so far there is nothing that strongly suggests the upside surprises are temporary. Hence, I expect the level of GDP in the next quarter or two (at least) will also exceed the May MPR path, creating a greater degree of excess demand late this year than in the MPR forecast.

Figure 1. UK – Central forecasts for the level of real GDP in successive MPRs (as per cent of Q4-2019 level)



Note: The estimate for Q2 assumes that GDP in June shows the same monthly growth as in May (0.8% MoM). Sources: ONS and BoE.

⁴ Comparing the latest estimate for Q2-2021 GDP growth with the forecast in the May 2021 MPR, the outcome for Q1-2021 GDP growth with the February 2021 MPR forecast, and the outcome for Q4-2020 GDP growth with the November 2020 MPR forecast.

Even so, one would not normally expect the economy to already be overheating. The output gap is closing, but probably not yet closed. For example, recent data suggest that unemployment and under-employment remain above their Q4-19 levels and there is still a significant (though falling) number of furloughed jobs.⁵

Changes in the composition of activity

My hunch is that the surprising strength of recent price pressures, and in guides to labour market tightness, partly reflects frictions caused by the economy's recovery and shifts in the composition of spending.⁶ Some of these effects are likely to be transitory, but perhaps not all of them.

The economic effects of the pandemic have been very uneven. The drop in consumer spending has been concentrated in services, rather than goods. In the UK, the level of retail sales volumes (exc. fuel) averaged across April and May was 12% up from Q4-19, a growth rate that exceeds the pre-pandemic average. Weakness in investment has been concentrated in buildings and structures (down 8% from Q4-19), whereas investment in ICT and plant and machinery rose by 4% between Q4-19 and Q1 this year.⁷ Investment in housing has risen by 5% since Q4-19. There has been a similar rotation of demand elsewhere, and aggregate consumer spending on goods across advanced economies in Q1 was already 4-5% above the Q4-19 level.⁸ Aggregate ICT and plant and machinery investment across advanced economies has shown a similar rebound. Aggregate spending on durable consumer goods in Q1 was up 11% from Q4-2019, an exceptionally high growth rate. By contrast, aggregate consumer spending on services across advanced economies in Q1 this year was still 9% below the Q4-19 level.

The economic effects of the pandemic have also been uneven in geographic terms. This is the case between regions (eg activity remains further below normal in central London than in the UK as a whole) and at a local level within individual regions.

These large shifts in the composition of activity partly reflect the uneven effects of Covid-related restrictions, which have directly impacted some sectors far more heavily than others. In addition, the pandemic has prompted behavioural changes (eg increased home working, shift to digital business, more widespread automation) which have lifted spending on consumer goods and ICT. Unlike previous recessions, household incomes and company liquidity have been supported by policy measures, and credit availability has been maintained or improved. As a result, the usual pressures on firms and households to cut discretionary spending have been ameliorated and people have substituted spending on goods for unavailable services. Moreover, spending on some items may currently be benefiting from pent up demand, given that some spending was deferred early last year.

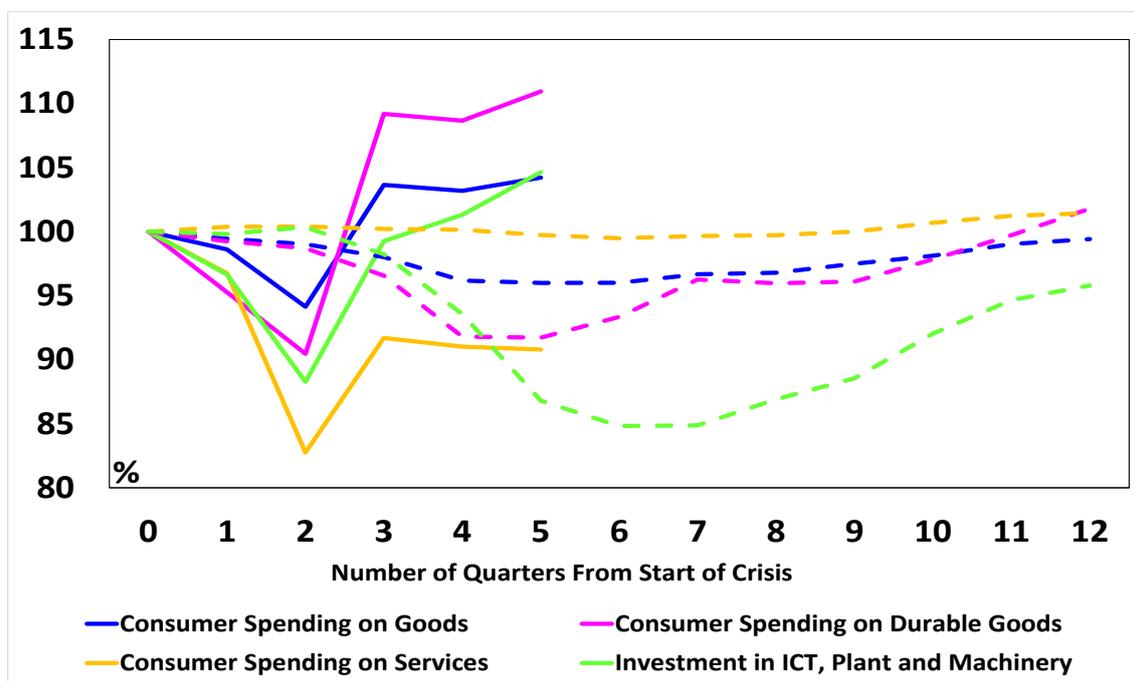
⁵ There are several measures of under-employment, for example, the number of people not in the workforce who would like a job, the number of people working part-time who would like to work full-time, the number of people in temporary jobs who would like a permanent job. The ONS Business Insights and Conditions Survey suggests that about 5% of workers were still on furlough in the two weeks ended June 27 2021.

⁶ See Broadbent (2021).

⁷ Investment in transport equipment also fell over this period, but is very volatile.

⁸ The advanced economies' aggregate for investment is a weighted average of data for the US, EU, Japan, Canada, and the UK. For the split of consumer spending, we use a weighted average of data for most EU countries, the US, Japan, Canada and the UK.

Figure 2. Advanced Economies – Level of spending on goods and services in pandemic and 2008/09 recession as per cent of pre-crisis level, solid line = pandemic, dotted line = 2008/09 recession



Note: In the pandemic, data are shown relative to the average level in Q4-2019. For the 2008/09 recession, they are shown relative to Q4-2007. AE average is weighed average of data for US, EU, Japan, UK and Canada. Sources: Eikon from Refinitiv and BoE.

In general, these disparities in spending have been much greater than in the 2008/09 recession, which saw large declines in consumer spending on both goods and services, and across all the main categories of investment. The result is that, while the economy as a whole is still operating somewhat below pre-pandemic levels, some firms and sectors already face excess demand.

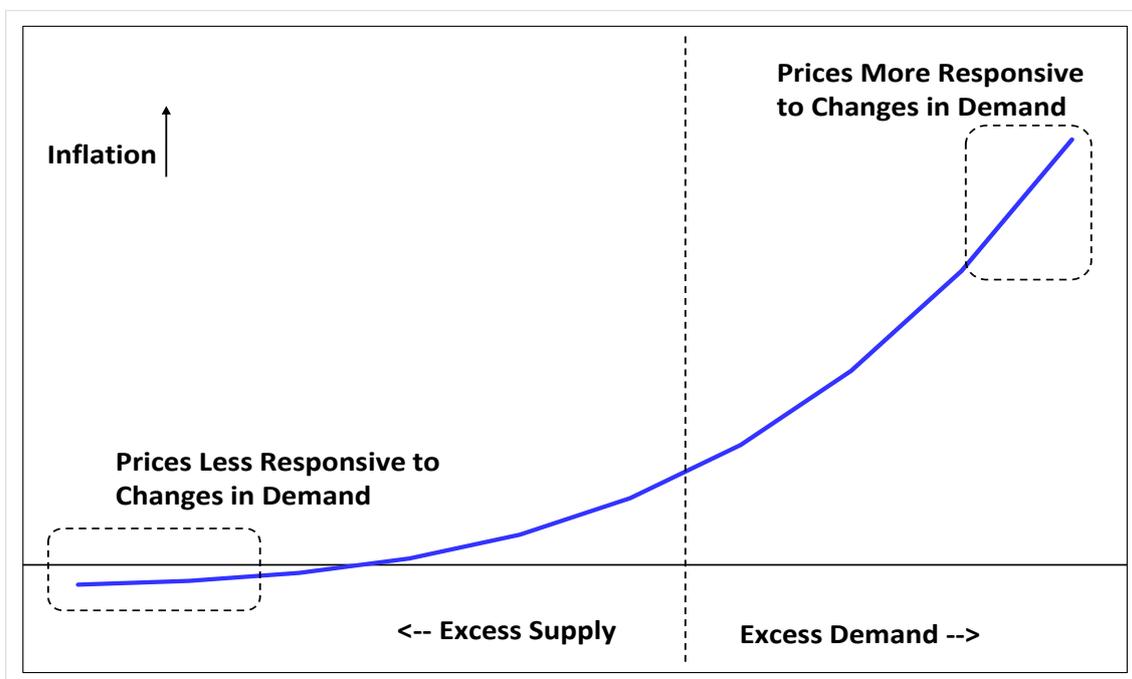
If the economy was equally split between goods and services, with (for example) excess demand in goods and a similar amount of excess supply in services, and the response of prices in both sectors to a given amount of excess demand was the same (with the sign reversed) as for the same amount of excess supply (ie the slope of the Phillips curve is the same, and linear, for both sectors), then changes in the composition of spending would not affect aggregate inflation. You would simply get a relative price shift between goods (up) and services (down). Over time, resources would shift from producing services to goods.

Much of the time, that is a reasonable approximation. The composition of spending usually does not change much from quarter to quarter, and inflation trends are driven by the aggregate balance between supply and demand.

However, changes in the composition of spending may not be neutral for inflation at present. Phillips curves in general tend to be non-linear and convex, flatter in sectors with significant excess supply (ie prices less responsive to changes in capacity use) and steeper in sectors with significant excess demand (ie prices

more responsive to changes in capacity use).⁹ And these differences in the slope of the Phillips curve tend to be more pronounced when activity is further away from normal. The responsiveness of prices to excess supply may have been further reduced in the pandemic by extensive government support measures, including for example the furlough scheme (which has reduced downward pressure on wages in sectors with weak activity). Moreover, frictions generated by the pandemic may make it more costly and slower to reallocate resources, hence potentially steepening the Phillips curve in sectors with excess demand (ie increased upward pressure on prices in these sectors). The reallocation of resources may be further hindered by uncertainty over the extent to which the changes in the composition of spending will persist. In addition, shifts in the composition of demand in other countries are further adding to global cost pressures that affect UK inflation.

Figure 3. UK – Stylised Price Phillips Curve



Source: BoE.

The implication of all this is that the recent demand rotation, with significant excess demand in some sectors and significant excess supply in others, may for a period generate aggregate upward effects on inflation. More of the weak sectors are in the relatively flat parts of the Phillips curve, and more of the strong sectors are in the relatively steep parts of the curve. If the overall output gap is modest (which it probably is), it is

⁹ In other words, a 10% shortfall in demand relative to potential causes prices to fall less than twice as much as a 5% shortfall, and the upward effect on prices of excess demand of 5% is greater than the downward effect on prices of a 5% shortfall in demand. The notion of a convex Phillips curve was of course included in Phillips (1958). For more recent work on this see for example, Doser *et al* (2017). There are several mechanisms that could produce such a non-linear and convex Phillips curve, including real rigidities in price- and wage-setting, financial frictions and liquidity constraints, downward rigidities for some wages and prices, and convex adjustment costs. See for example, Aruoba *et al* (2017), Gilchrist *et al* (2017), Lindé and Trabandt (2019), Broadbent (2021). BoE staff analysis supports the idea that the response of prices and wages to changes in the output gap declines notably (by around a third to a half) when there is significant excess supply.

possible these “frictional” inflation pressures could outweigh conventional “output gap” disinflation pressures. These effects may become clearer as we go through the recent labour market and consumer prices data.

Rotation of activity might be exacerbating mismatch in the labour market

It is unlikely that the demand for labour in the UK at present exactly matches the existing allocation of labour across sectors, firms and regions. For example, compared to Q4-19, the number of online job vacancies is only slightly up in London, but is up by more than 40% in 5 of the UK’s 12 regions and devolved nations.¹⁰ Likewise, out of 27 categories of online job vacancies, six are up at least 50% since Q4-19 and three are still below the Q4-19 level.¹¹

This is partly because the pandemic has, as noted, shifted the composition of activity in the UK. Moreover, there has been a sizeable outflow of EU nationals since late-2019, reducing UK labour supply. This has probably cut UK aggregate demand by a similar amount, but may not affect demand and supply equally in individual sectors. Behavioural shifts also may be affecting labour supply in some sectors. For example, some people currently may be reluctant to work in consumer-facing services because of health worries or because of the risk of having to self-isolate if they come into close contact with someone who tests positive.

Usually, labour market mismatches sort themselves out, as people move to more suitable (or better-paid) jobs. However, this may take some time if mismatch is high, given that some jobs require considerable training or specialised skills. Moreover, at present, people that already have a job seem to be relatively reluctant to move to a different job, which is hindering this reallocation of labour. For example, the share of employees that are looking for another job has fallen during the pandemic, and in Q1 was around the lowest level seen over the 25 years before the pandemic.¹² Within this group, job search rates are higher among people who are furloughed, but especially low among people who are employed and not furloughed. By contrast, prior episodes of rising unemployment usually saw rising job search rates, perhaps because more of those in work feared they might lose their job and looked for something safer and also because people that lost their job may have gone through a few short-lived jobs before finding something more permanent.¹³

This stickiness in the labour market at present may be a side effect of uncertainties over the future developments in the pandemic and Covid-related restrictions. Some people may fear that if they move job and restrictions rise in a way that triggers job losses, it may be a case of “last in, first out”. In addition, given that new hires are generally not eligible for the existing furlough scheme, people may prefer to stay with their

¹⁰ These are Northern Ireland, North East, East Midlands, West Midlands and East England.

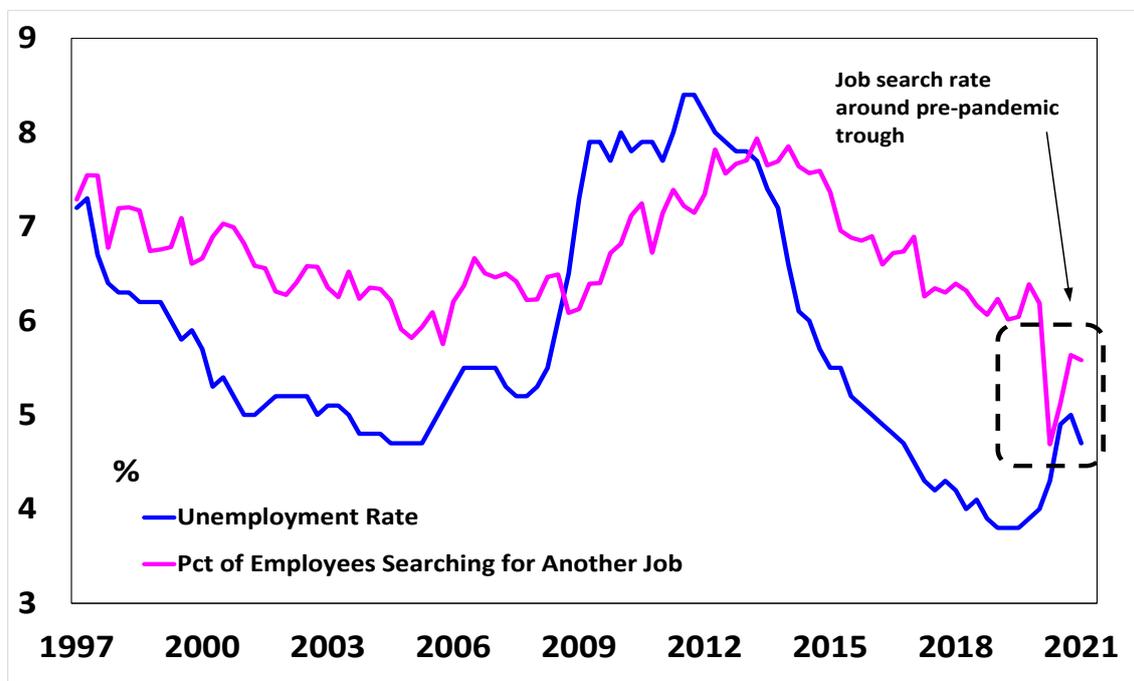
¹¹ The categories with vacancies up at least 50% are manufacturing, construction, transport/logistics/warehouse, facilities/maintenance, HR & recruitment, and domestic help. The sectors with vacancies still below Q4-19 levels are energy/oil & gas, graduate jobs, healthcare and social care. Data as of 2 July 2021. Source is experimental estimates of online job adverts provided by Adzuna released on 8 July 2021 as part of the ONS real-time indicators.

¹² Job search rates have been especially low relative to normal among people in the lower half of the income distribution. This is consistent with the hypothesis that the income insurance provided by furlough eligibility is especially important at present.

¹³ See Pries (2004).

existing job and keep eligibility for furlough rather than move to a new job (even if higher paid) and lose furlough eligibility.¹⁴

Figure 4. UK – Unemployment rate and per cent of employees searching for another job



Sources: ONS and BoE.

As a result, some firms might need to pay a premium to persuade people to move job at present. But this is not the same as a generalised upturn in pay growth. Although average earnings growth has been affected by composition effects and base effects, the median for pay deals has been roughly stable at around 2½% in the last few quarters.¹⁵

Shifts in the composition of spending are probably also fuelling the strength in global manufactured goods prices

The rise in global cost pressures partly reflects the roundtrip in oil prices, which fell sharply as the pandemic developed last year, and have since rebounded above the 2019 average level.¹⁶ In addition, there may be unusual bottlenecks and disruptions in the supply of particular non-oil products.

However, a sizeable part of the strength in non-energy costs (and bottlenecks) probably reflects above-average demand for goods rather than below-average supply capacity. For example, recent gains in

¹⁴ The CJRS has been extended to end-September, but only for people that were employed by their current firm on 2 March this year. People hired since then are not eligible for furlough over this period.

¹⁵ Changes in the composition of employment and base effects are exerting upward bias on the growth of average weekly earnings (AWE) at present, see Vlieghe (2021). These effects are likely to further lift AWE growth in coming months, but will eventually fade.

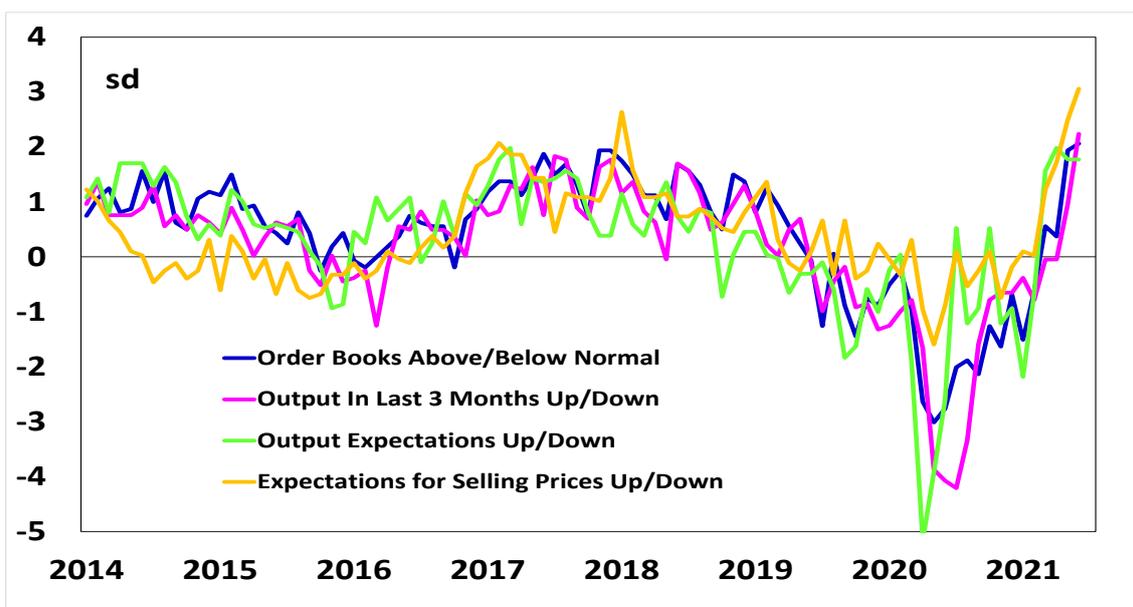
¹⁶ Brent (spot) averaged around \$65/barrel in 2019, fell to an average of just below \$45/barrel in 2020 and has since risen back to around \$75/barrel.

non-energy commodities have generally been associated with rising equity prices, whereas if below-average supply was the main issue then one would expect that higher commodity prices would be associated with lower equity prices (because of worsening prospects for economic activity).¹⁷ Likewise, business surveys suggest that rapid growth in UK manufacturers' selling prices is going alongside very high levels of order books and output growth across the sector as a whole (and this is the same in the US and EU), whereas if supply capacity was below-average one would expect to see rapid price growth without rapid output growth.

Consumer goods, and plant and machinery investment equipment, have a relatively high import content. So the rapid rebound in spending in these areas has helped produce a prompt recovery in world trade in goods and global manufacturing output, which regained their pre-pandemic levels late last year. Given the further rise in activity since then, world trade volumes and manufacturing output now exceed their pre-pandemic trends. By contrast, after the GFC, it took several years for spending on goods to recover, and 2-3 years for world trade and global industrial production to regain their pre-crisis levels.

Given the limited scope to expand capacity quickly, there probably is excess demand in some global goods markets, especially durable consumer goods, even while there is excess supply in advanced economy consumer services. Against this backdrop, it is perhaps not surprising that global cost and capacity pressures in manufacturing and commodities have risen markedly. Even if the UK economy has some spare capacity, these global cost pressures are feeding back to the UK, especially via gains in import prices, input prices and manufacturing output prices, and hence into consumer goods prices.

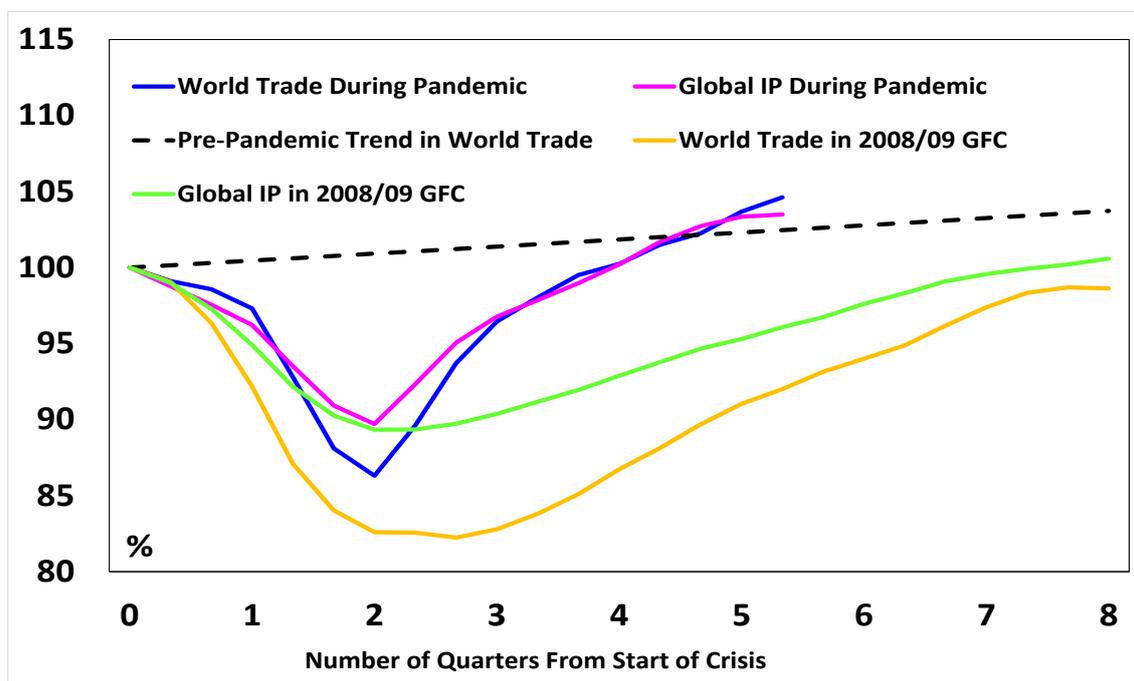
Figure 5. UK – Manufacturing orders books, output expectations and price expectations (standard deviations from 1997-2019 average)



Sources: CBI and BoE.

¹⁷ See Appendix A at the end of the speech.

Figure 6. Global – World trade volumes and industrial production during the pandemic and 2008/09 recession (as per cent of level at start of crisis)



Note: Data shown as 3-month averages. In the pandemic, world trade and industrial production are shown relative to the average level in Q4-2019. For the 2008/09 recession, they are shown relative to the averages for Q3-2008 (world trade volumes did fall slightly before that). The trend in world trade is estimated over 2014Q4 to 2019Q4. The pre-pandemic trend in global industrial production is very similar to the trend in world trade: the two lines, plotted on a chart, are virtually indistinguishable. Sources: CPB and Bank of England.

Will these pressures persist?

The effects on YoY CPI inflation from recent and announced swings in energy prices are likely to be transitory. Unless energy prices go on rising, these effects will fade after a year or so.

In the labour market, some frictions that seem to be hindering the reallocation of resources may prove fairly temporary. For example, labour mobility may rise as more people are vaccinated, as vaccinated people no longer need to go into self-isolation if they come into close contact with Covid (scheduled for mid-August), and the furlough scheme closes (scheduled for end-September). In any case, while these frictions may create temporary upward pressure on pay, it is unlikely that they could cause persistent upward pressure. If people are persistently reluctant to move jobs then, as well as having a bigger pay premium for new hires, we might expect relatively low pay growth among existing staff, because employers would not need to increase pay as much to retain them.

In my view, it is unclear if the effects on inflation from the rotation of demand towards goods will prove transitory or more persistent.

If this demand rotation fully unwinds, then its effects on aggregate inflation are likely to prove fairly temporary. This scenario would imply softer spending on goods, and hence some weakness in goods prices. It would imply a marked recovery in spending on services and hence some pick up in services inflation. In terms of aggregate inflation, the downward pressure on goods inflation might well outweigh the upward pressure on services inflation (because goods sectors are more likely to be in steeper parts of the Phillips curve, and services sectors in flatter parts), the reverse of what seems to have been occurring recently. In such a scenario, inflation trends over time will be driven mainly by the output gap, which has pointed to some disinflationary pressures over the last year, but may point to some modest upward pressures on inflation relative to target over the next year.

However, in my view it is far from certain that the rotation of demand towards goods will *fully* unwind, at least in the next 2-3 years, both in the UK and other advanced economies. Some persistent widespread working from home may mean persistently less spending on commuting and catering. Moreover, even with the ongoing vaccination program, the continued prevalence of Covid in the UK and globally may limit spending on some consumer-facing services, perhaps because of public health restrictions, extra costs, or health worries.¹⁸ If spending on services is restrained by such factors, this may (as recently) support demand rotation towards goods. The shift to digital business may continue to underpin spending on ICT. More generally, stated government policy measures may support investment (eg investment to limit climate change, UK Corporation Tax super-deduction, US infrastructure investment plans). As a result, spending on manufactured goods may remain relatively buoyant. So far, firms' investment intentions in the UK remain strong, as do trends in guides to global demand for goods (eg EU manufacturers' order books, US durable goods orders, new orders in purchasing managers' surveys).

Over time, this scenario probably would imply that resources shift from service-producing sectors to goods. But this shift may not be rapid. Most services bought in the UK are produced in the UK, whereas many consumer goods bought in the UK (and a high share of ICT and plant and machinery purchases) are imported: it is not easy to shift resources from one to the other. If firms are unsure whether spending on goods will remain strong, they may be unwilling to commit resources to expand capacity in overheating sectors. Hence, at least for some time, the imbalance between supply and demand for manufactured goods may be resolved by continued relatively strong price and cost pressures.

This scenario of continued strong demand for goods might well imply a somewhat slower recovery in services activity than one in which demand rotation fully unwinds. Even so, recent weakness in CPI services inflation may not persist, given that services activity is likely to continue to recover and, more broadly, the output gap is closing. As noted, producer prices and expectations for selling prices among service sector firms have already risen markedly in recent months. With the appropriate monetary policy, we can achieve the 2% inflation target even if global goods price inflation does remain high, but it would require relatively lower services inflation than usual.

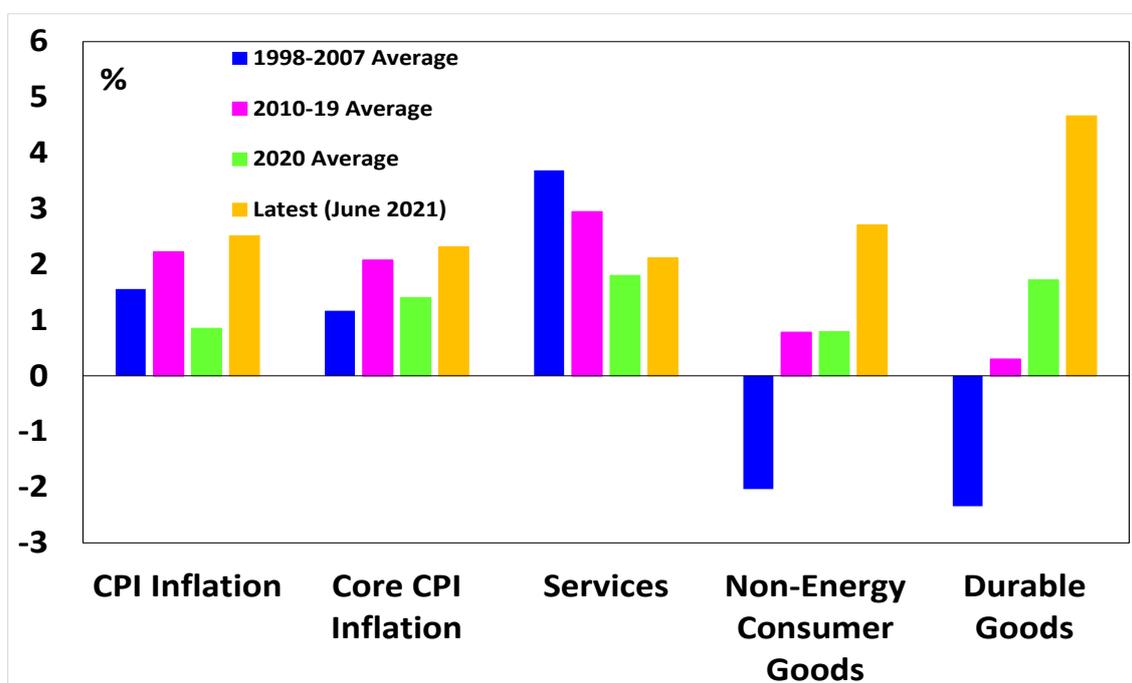
¹⁸ For example, some services (eg international travel) may require Covid tests, which adds to the cost. Some services may have limits on the numbers of people that can attend. In some cases, health worries or health precautions may limit demand.

Let me turn to recent trends in UK inflation and the outlook

During most of last year, CPI inflation was well below the 2% target, reflecting direct and indirect effects of the pandemic. Falling energy prices cut 0.7pp off CPI inflation on average between April last year and January this year. Moreover, the inflation rate for services (which generally responds less to external influences and relatively more to domestic factors) weakened last year (compared with Q4-19), including partial pass through from the cut in VAT for restaurants and tourism-related sectors. By contrast, the inflation rate for non-energy consumer goods (which is generally much less sensitive to domestic capacity pressures and driven mainly by swings in non-oil import prices) was little changed on average last year.¹⁹

In recent months, CPI inflation has risen faster than expected and is now a bit above the 2% target. The rebound in energy prices has contributed to this, and is adding about 0.5pp to the YoY inflation rate at present.²⁰ But there also are clear signs of wider pass through from the rise in global cost pressures. For example, the inflation rate for non-energy consumer goods is up from 0.2% YoY in February to 2.7% in June, the highest since 2017 (when prices were lifted by the depreciation of sterling that followed the EU referendum vote), with especially strong gains in prices for consumer durables. Core CPI inflation (which includes both goods and services) has risen from 0.9% YoY in February to 2.3% YoY in June, and is a little above a target-consistent pace (the target is for headline CPI inflation).

Figure 7. UK – Components of CPI inflation (YoY per cent changes)



Sources: ONS and BoE.

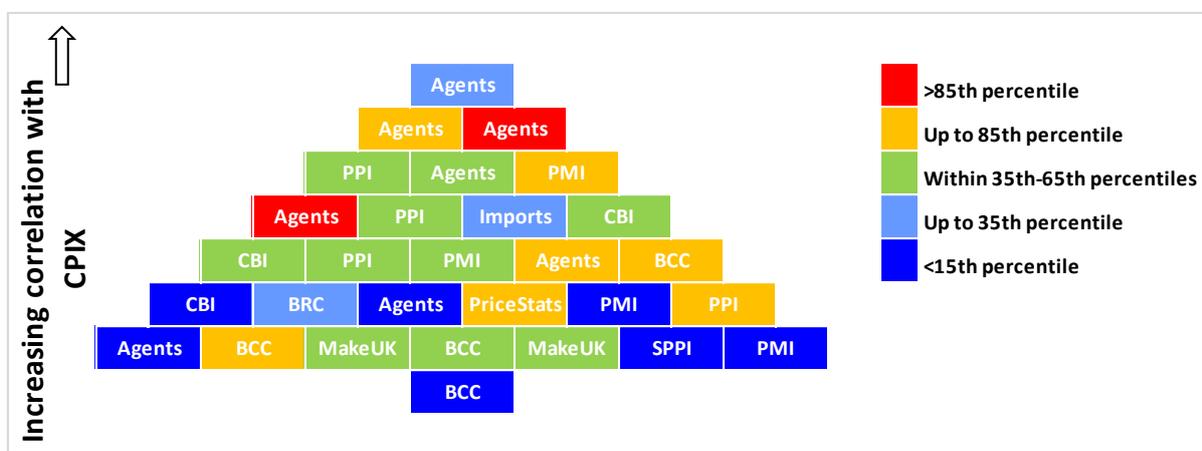
¹⁹ See Saunders (2019) for discussion of the role of domestic and external factors on different components of the CPI.

²⁰ In January, the previous fall in energy prices cut 0.6pp off the YoY CPI inflation rate (CPI inflation was 0.7% YoY, CPI ex energy was 1.3% YoY). In June, energy prices added 0.5pp to the YoY CPI inflation rate (CPI inflation at 2.5% YoY, CPI ex energy at 2.0% YoY).

Assuming wholesale energy prices don't fall, there will be further upward effects on the YoY CPI inflation rate from energy prices in coming months, adding perhaps another 0.5pp or so to the YoY CPI inflation rate in Q4 (so that energy prices at that stage will add about 1pp to the annual CPI inflation rate).

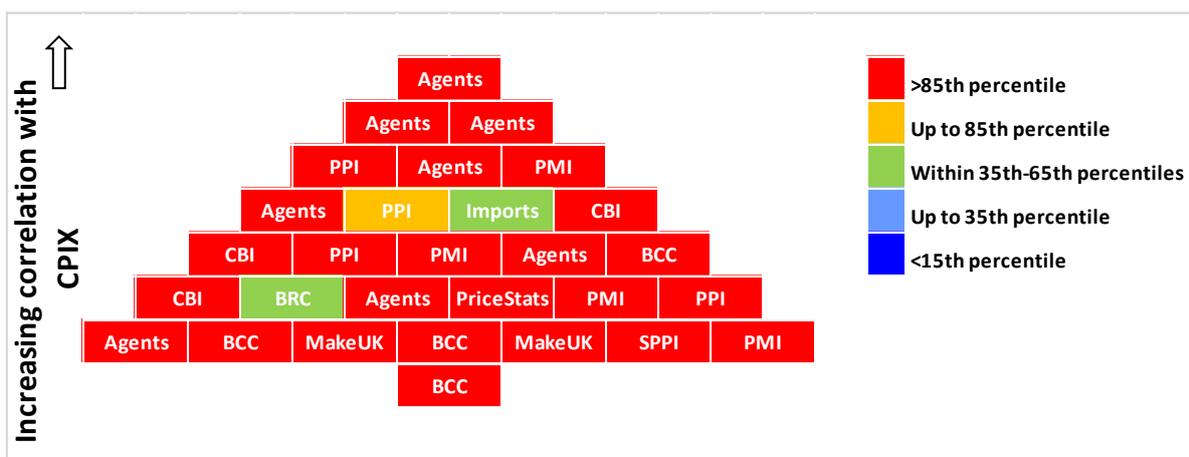
In addition, pass through from global cost pressures is likely to continue to lift inflation. Figures 8 and 9 show a pyramid of price and cost indicators, ranked in terms of their correlation with near-term swings in a measure of core CPI inflation.²¹ Late last year, many of these indicators were around average, a few were above average but a roughly equal number were below average. Now, almost all of them are well above average. As a result, even with subdued services inflation, CPI inflation is likely to exceed 3% later this year. In my view, it would not be surprising if CPI inflation temporarily reaches 3½%-4% YoY.

Figure 8. UK – Pyramid of price and cost indicators late last year



Note: The series are detailed in the appendix at the end of the document. Sources: Multiple sources and BoE Calculations.

Figure 9. UK – Pyramid of price and cost indicators now



Note: The series are detailed in the appendix at the end of the document. Sources: Multiple sources and BoE Calculations.

²¹ See Appendix B at the end of the speech.

Assuming energy prices do not continue to rise, much of that overshoot versus the 2% target is likely to fade during next year. But I am not confident that (with the current policy stance) all the inflation overshoot will prove temporary. We may face some persistent upside inflation pressures from lagged effects of recent gains in global costs²², and the possibility of some further strength in global goods prices. In addition, domestic cost pressures are likely to build, given the faster closing of the output gap and prospective move into excess demand late this year. These pressures could be reinforced if the upcoming period of above-target inflation lifts inflation expectations. In my view, with the current policy stance (which includes the £150bn increase in the target stock of purchased assets announced late last year), risks are tilted more to persistent above-target inflation over the next 2-3 years.

Implications for monetary policy

The MPC's remit is to aim for 2% CPI inflation "at all times". Of course, the remit recognises that inflation may be pushed away from the 2% target by temporary factors, and it would be counter-productive (and create damaging volatility in the economy) if monetary policy were to seek to prevent that.²³ The effects of swings in energy prices (which play a sizeable role in the expected inflation overshoot late this year) are in this category of "temporary factors", and it would not be appropriate to seek to fully prevent this expected near term rise in inflation.

This does not mean that we should totally look through the recent broad rise in global costs, especially pressures driven by strong demand that may persist. Given lags, a persistent rise in non-energy global costs can affect UK inflation two or three years ahead, and hence carries some weight in setting monetary policy.

A modestly tighter stance, as described at the start of the speech, would help ensure that inflation risks 2-3 years ahead are balanced around the 2% target, rather than tilted to the upside (which I suspect is the case with the current policy stance). And it should help ensure that the prospective further rise in inflation above target later this year does not feed through to a damaging rise in medium-term inflation expectations. It would still leave in place considerable stimulus and hence probably not derail the welcome recovery in the economy: it would be more akin to easing off the accelerator rather than applying the brakes. With the output gap likely to close soon, and the prospect of excess demand late this year, the Committee currently does not face a significant trade-off between returning inflation to target and reducing the variability of output.²⁴

As regards timing, at the recent monetary policy meeting, the Committee retained its guidance which states: "*The Committee does not intend to tighten monetary policy at least until there is clear evidence that*

²² BoE staff estimates suggest that a sustained 5% rise in import prices adds 0.8% to CPI inflation after four quarters, 0.5% to inflation after eight quarters and 0.3% to inflation 12 quarters ahead. The total effect is to raise the level of the CPI by about 1½% after 3 years.

²³ The remit states "*The framework is based on the recognition that the actual inflation rate will on occasion depart from its target as a result of shocks and disturbances. Such factors will typically move inflation away from the target temporarily. Attempts to keep inflation at the inflation target in these circumstances may cause undesirable volatility in output due to the short term trade-offs involved, and the Monetary Policy Committee may therefore wish to allow inflation to deviate from the target temporarily.*"

²⁴ The remit states "*In exceptional circumstances, shocks to the economy may be particularly large or the effects of shocks may persist over an extended period, or both. In such circumstances, the Monetary Policy Committee is likely to be faced with more significant trade-offs between the speed with which it aims to bring inflation back to the target and the consideration that should be placed on the variability of output.*"

significant progress is being made in eliminating spare capacity and achieving the 2% inflation target sustainably.” My view is that these guidance conditions have now been met. There is “*clear evidence*” that the level of GDP has regained most of the lost ground in recent months, that spare capacity in the labour market is declining, and that the economy continues to grow rapidly. It is likely that the level of GDP will regain its pre-pandemic peak, and the output gap will close, in the next few months. There is “*clear evidence*” that core inflation is no longer below a target-consistent pace (indeed, if anything, it is slightly above such a pace). It is likely to rise further in coming months. In my view, this backdrop meets the test of “*significant progress in eliminating spare capacity and achieving the 2% inflation target sustainably.*” Of course, that guidance does not say that we must tighten once it is met. The phrase “*at least until*” indicates these conditions are necessary but not sufficient for tightening. But, in my view, the guidance no longer rules out tightening.

At the June MPC meeting, I preferred to wait and see a bit more data to confirm the economy is developing as expected. There were (and still are) some downside risks to the economic outlook from the continued prevalence of Covid in the UK and globally. The recent rise in cases in the UK may have some adverse effects on people’s willingness to spend. And there is the possibility of further Covid mutations that may reduce the efficacy of existing vaccines and require health restrictions to be maintained (or perhaps even increased, maybe at a local level). In addition, with relatively limited monetary policy space to return inflation to target from below, risk management considerations imply it may be safer to err on the side of providing a bit too much stimulus initially (and then withdraw some stimulus at the appropriate time) rather than provide too little stimulus.

Nevertheless, these risk management considerations have limits. In my view, they are becoming less important as the economy and inflation pick up. Conversely, there are increasing risk considerations on the other side, in particular that continuing with asset purchases when CPI inflation is above 3% and the output gap is closed (the likely situation later this year) might cause medium-term inflation expectations to drift higher. Such an outcome could require a more substantial tightening later and might limit the Committee’s scope to respond promptly the next time the economy needs more stimulus.

There is an argument that we should keep the current policy stance at least until it is clear that the end of the furlough scheme (scheduled for end-September) has not been followed by a significant rise in unemployment. Given that full labour market data for Q4 will only become available in mid-February next year, this argument might imply that the current policy stance should be maintained until at least then. In my view, that strategy would exacerbate risks that inflation expectations drift higher in coming months. Conversely, the advantage of waiting to see Q4 LFS data may not be large, given the more timely evidence on the economy that will be available near term. If unemployment and the number of furloughed jobs continue to track below our forecast in the near term (while the furlough scheme is open), economic activity remains above the May MPR central forecast, and firms’ employment expectations remain strong, then I would be willing to assume that the end of furlough will still leave unemployment in coming quarters below the May MPR central forecast.

So for me, the question of whether to curtail our current asset purchase program early will be under consideration at our forthcoming meetings.²⁵ I am not going to announce now how I might vote at that stage. We do not as a matter of course announce monetary policy votes in advance. Those decisions will be made at the appropriate time, and there is a lot of data and analysis to come before then.

Beyond the next few meetings, I want to stress that if Bank Rate does rise in the next year or so, it is likely that any rise would be relatively limited. The neutral level of rates has fallen significantly over the last 10-15 years, and it is not clear we would even need to get close to neutral in the next year.²⁶ Of course, if (and this is not my central expectation) the economy were to develop in such a way that further easing is required at some stage in the next year or two, the MPC would have the scope and the tools to do so.

Either way, the Committee will remain focussed on fulfilling our remit, which is to return inflation to the 2% target on a sustained basis in a way that supports output and jobs. Ultimately, the framework of an independent central bank with a clear remit and effective policy tools is why the UK will not face a persistent inflation problem.

²⁵ In May 2018, the MPC issued guidance on the sequence of tightening: "*Reflecting this, the MPC now intends not to reduce the stock of purchased assets until Bank Rate reaches around 1.5%, compared to the previous guidance of around 2%. Any reduction in the stock of purchased assets will be conducted at a gradual and predictable pace.*" A decision to stop the current asset purchase program before any rise in Bank Rate would be consistent with this guidance. The guidance rules out a decision to reduce "*the stock of purchased assets*" (ie reversing asset purchases that have been made) before Bank Rate rises, but does not rule out a decision to stop an incomplete asset purchase program and thereby leave the stock of purchased assets unchanged.

²⁶ See box on pages 39-43 of the *Inflation Report* of August 2018 for discussion of factors behind the decline in the neutral level of rates.

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Appendix A – Determining the extent to which changes in non-energy commodity prices have been driven by demand and supply shocks

To identify the extent to which changes in non-energy commodity prices have been driven by demand and supply shocks we have developed an SVAR with sign restrictions. The table below sets out the sign restrictions we impose:

	Positive demand shock	Negative supply shock
Non-energy commodity prices	+	+
Global equity prices	+	-

A positive demand shock lifts both equity and non-energy commodity prices, while a negative shock to the supply of commodities raises non-energy commodity prices but depresses equity prices. The intuition here is that in response to a negative supply shock a commodity's price increases, making businesses in other sectors less profitable, and hence in turn lowering their market valuation.²⁷

The model is estimated using the daily log change in the Bloomberg non-energy commodity price index and MSCI global equity price index. The VAR is estimated without a constant and includes 4 lags using data from 2006 onwards. The model is estimated within the BEAR toolbox, using the Normal-Wishart prior.²⁸ The model is estimated 5000 times with a 1000 iteration burn in.

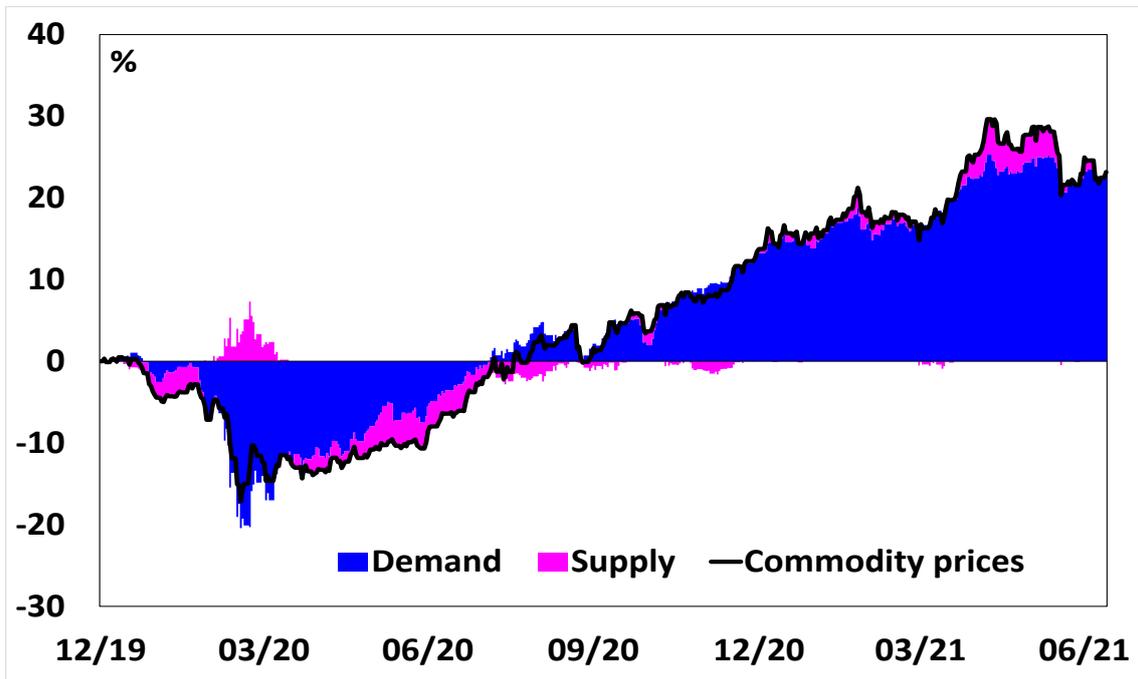
As a robustness check, we replace daily equity data with random data with the equivalent mean and variance.²⁹ Applying the same restrictions as we do in our baseline model, we then retrieve the distribution of the on impact IRF for each of the shocks. A comparison of these histograms with the histograms retrieved from our baseline model shows a clear difference. This suggests that the responses our VAR produces do include some informational content and are not just a function of the structural assumptions that we have made.

²⁷ This model structure is analogous to the framework for identifying oil demand and supply shocks put forward in Kilian and Murphy (2014), IMF (2015) and Kindberg-Hanlon and Middeldorp (2015). The text here focuses on the shocks the model has typically identified over the pandemic period. Nonetheless, the signs and intuition can be reversed in the case of a negative demand or positive supply shock.

²⁸ Dieppe *et al* (2016) and Arias *et al* (2018).

²⁹ Our robustness checks are comparable to those set out in Brandt *et al* (2021). The random data are drawn from a normal distribution.

Figure A. Global – Decomposition of non-energy commodity prices changes since end-2019 into demand and supply shocks



Sources: Eikon from Refinitiv and BoE calculations.

Appendix B – Further information about pyramid of price and cost indicators

Figures 8 and 9 show a pyramid of price and cost indicators produced by Bank staff. The pyramid summarises information from a wide range of indicators, including from the Bank’s Agents’ company visit scores,³⁰ official measures of producer price indices and a wide range of survey based indicators of inflationary pressures (Table 1 includes a complete list of sources).

The order of the indicators in the pyramid is determined by their correlation with near-term swings in a measure of core CPI inflation (CPIX, which excludes energy, education, housing and financial services). Lags of the indicators are regressed on the six-month change in the CPIX measure. The optimal amount of lags of the indicator in each regression is chosen according to the Schwarz Information Criterion. The adjusted R² of the resulting optimal model is used to determine the ranking of the indicator within the pyramid.

The colour of the cell in the pyramid is determined by calculating what percentile the latest forecast generated by each regression falls into (relative to the fitted values from the regression since 2010). Cells in red represent that the indicator suggests six-month ahead inflation is likely to fall in the top 15 percentiles of the historical estimates.

Figure 9 therefore illustrates that most indicators imply inflation over the next six months will be within the top 15 percentiles of their past inflation estimates, while Figure 8 suggests that the equivalent steer from late last year was more neutral.

Table 1. List of variables included in CPIX pyramid

Ranking	Indicator	Ranking	Indicator
1	Bank’s Agents’ consumer services costs (expected)	15	BCC manufacturing raw materials prices
2	Bank’s Agents’ SIC G costs (expected)	16	CBI retail average selling prices - quarterly (expected, one-quarter ahead vs. a year ago)
3	Bank’s Agents’ consumer services costs	17	BRC shop price index
4	ONS PPI input prices	18	Bank’s Agents’ consumer services output prices (expected)
5	Bank’s Agents’ SIC G output prices (expected)	19	State Street Pricestats
6	IHS Markit/CIPS manufacturing input prices	20	IHS Markit/CIPS services input prices
7	Bank’s Agents’ SIC G costs	21	ONS PPI core output prices
8	ONS PPI output prices	22	Bank’s Agents’ consumer services output prices
9	ONS import prices	23	BCC services raw materials prices
10	CBI distributive trades average selling prices - quarterly (expected, one-quarter ahead vs. a year ago)	24	Make UK average selling prices (expected)
11	CBI retail average selling prices - monthly (expected, three-months ahead)	25	BCC manufacturing output prices (expected)
12	ONS PPI core input prices	26	Make UK average selling prices
13	IHS Markit/CIPS manufacturing output prices	27	ONS Services PPI
14	Bank’s Agents’ SIC G output prices	28	IHS Markit/CIPS services output prices
		29	BCC services output prices (expected)

³⁰ The Agents’ indicators use their company visit scores. For more information, see [Research datasets | Bank of England](#).