BANK OF ENGLAND

Speech

On returning inflation back to target

Speech given by

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OMFIF

21 January 2022

I would like to thank Lennart Brandt, Andrew Bailey, Tom Belsham, Dario Bonciani, Ben Broadbent, Philip Bunn, Alan Castle, Ambrogio Cesa-Bianchi, Jenny Chan, Michael Goldby, Jonathan Haskel, Michael McLeay, Huw Pill, Michael Saunders, Fiona Shaikh, Bradley Speigner, Matthew Swannell, Silvana Tenreyro, Lukas von dem Berge, and Boromeus Wanengkirtyo for their comments and help with data and analysis.

1. Introduction and summary

As an international economist, I have always studied domestic economic conditions through the lens of global influences. This year the UK offers an excellent laboratory. Global factors have been at the forefront of the inflation surge in the UK, and their effects will persist into early 2022. However, expectations for wages and prices for this year, if realized, could keep UK inflation strong for longer, which might then generate a reinforcing cost-price dynamic. To return inflation to target, the Monetary Policy Committee's first line of defence is to dampen expectations of future price increases. Achieving an inflection in these expectations along with tailwinds from global factors could mean that a shallower path of future rate rises is needed to bring inflation back to target.

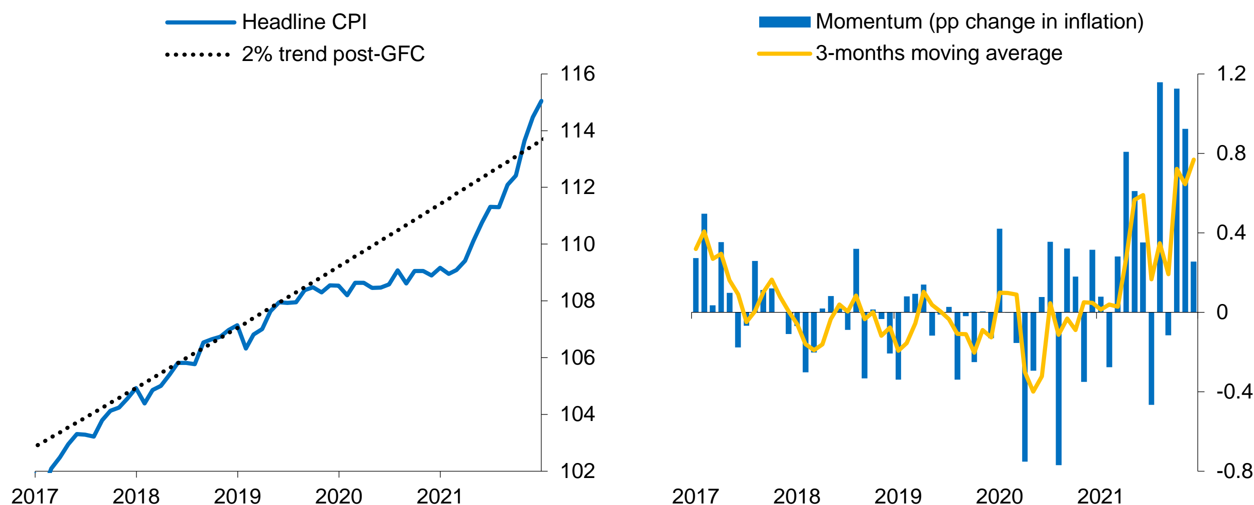
In the last half of 2021, UK CPI inflation surged, more than doubling from 2% in July to 5.4% in December. Previously, average earnings had rebounded strongly from their trough in 2020 leading to headline wage inflation rates as high as 9% in the summer. While some of these increases are due to base and compositional effects, demand and supply imbalances both in goods and labour markets built very quickly over the second half of the year. Residual strength in both wages and prices likely will continue for a time into 2022 as the domestic and global mismatch of supply and demand slowly resolve, as firms try to recover margins eroded in 2021, and as labour markets stay tight. Indeed, firms in the latest DMP panel (from December) expect to raise their prices by 5% in 2022 – a bit more than the 4% in 2021. Meanwhile, firms expect continued upward pressure on pay growth in 2022 on the top of the 2-3.5% increases of 2021. These expectations for prices and wages, if realized, are ingredients for headline inflationary pressures that could stay strong for longer, well into 2023. The question for monetary policy then becomes whether the real factors on the one hand and expectations on the other could together create a reinforcing cost-price dynamic.

Certainly, there are headwinds facing these price and wage expectations. Most importantly, will domestic and global demand in 2022 be strong enough for firms to pass through wage and cost increases into their prices? In the end, it is the collective outturns of business pricing that translates into inflation. Monetary policy has a role to play in managing expectations as well as ensuring that the economic and financial conditions facing firms and workers are consistent with the 2% target.

2. Initial conditions and the 2021 surge

Before we can assess the prospects for returning inflation to the 2% target, we need to recall initial conditions and review sources of the 2021 inflation surge. Going into the pandemic, the UK CPI price level was roughly trending along its 2% inflation path, unlike in the US or the euro area which had seen persistently lower inflation than intended. In the first year of the pandemic with lockdowns disrupting a wide range of activities, some firms did cut prices in the UK (and some markets simply did not exist, so there were no prices at all) and the aggregate price level flat-lined.

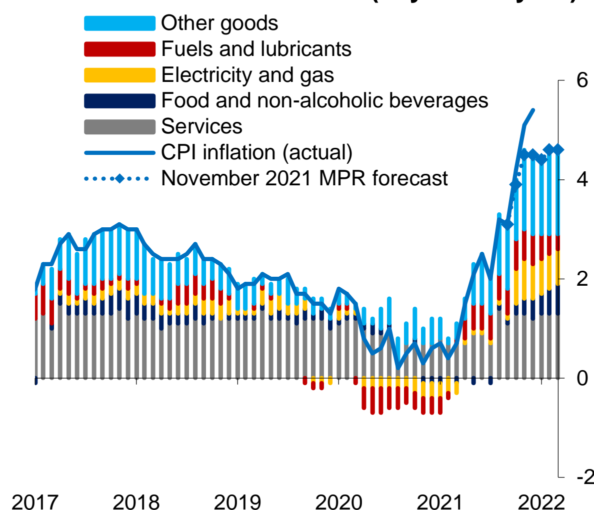
Chart 1: CPI level (index, LHS) and momentum (percentage points, RHS)



Sources: ONS and Bank calculations. Notes: Trend on LHS shows the level of prices if CPI had grown at 2% annualised rates in every month since December 2010. RHS shows momentum of CPI, i.e. the month-to-month percentage point change of year-on-year inflation. Thus, positive momentum means rising inflation (accelerating prices) and negative momentum falling inflation (decelerating prices). Latest observation: December 2021.

Both demand recovery and supply limitations in 2021 have now yielded robust inflation momentum, which if price expectations are realized, is poised to continue into 2022 moving the price level further away from the 2% trend. (Chart 1)

Chart 2: Decomposition of CPI inflation in the November 2021 MPR forecast (% year-on-year)



Source: November 2021 Monetary Policy Report. Latest observation: December 2021 (actual), March 2022 (forecast).

Reviewing key sources of the 2021 inflation surge – energy and core goods – both are importantly driven by sources external to the UK economy. (Chart 2) Global goods prices have been elevated by the rotation away from consumer-facing services towards goods purchases. The dominant driver of global goods price dynamics is the interplay of three successive US fiscal stimuli combined with geographical mismatches of containers and production stoppages in key economies and for key materials. But, a domestic equivalent to the global supply-demand imbalance has also been apparent in the UK, with production constraints and shortages of HGV drivers. Waves of demand-supply uncertainties encourage multiple inventory orders which by accentuating the original shocks are reflected in upward momentum to prices, particularly for intermediates and final goods – the macro manifestation of the bullwhip effect familiar to operations managers. All told, the incoming CPI inflation data

since November have not been consistent with the stabilizing inflation rate which was the forecast at that time.

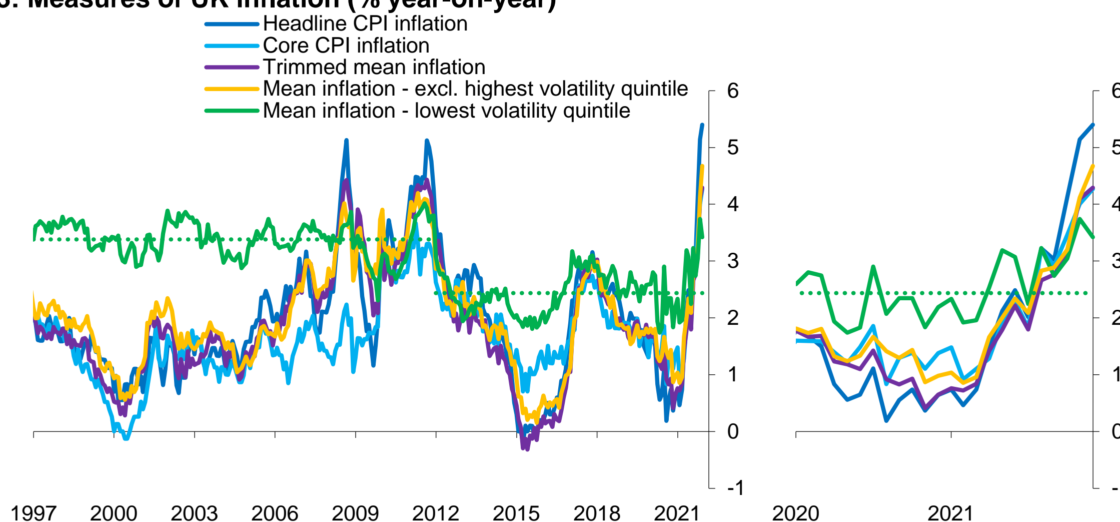
Now, will the underpinnings to the global dynamics and their domestic equivalents moderate, with inflation easing? Or will the 2021 dynamics repeat in 2022 to keep inflation strong for longer? To gauge prospects for inflation I consider a range of data and, importantly, wage and price expectations. With regard to the data, certainly both cost and price inflation have been increasing, and we do not yet see an inflection to turn the momentum back toward the inflation target. But are these dynamics broad-based or in just a few components? The second element – expectations – is harder to judge; since it is outturns that ultimately will matter. If the effects of the demand-supply imbalances apparent in 2021 continue, we could see another jump in wages and prices in 2022 yielding outturns where CPI inflation stays strong for longer. These present the risk that wage and price dynamics become embedded into contracts beyond 2022, thus making for a self-reinforcing inflation dynamic. It matters for forward looking monetary policy whether firms and workers expect to recoup the costs incurred in 2021 in their 2022 wage and price contracts.

3. How broad-based is inflation?

A first consideration is how broad-based are current inflation dynamics. Much inflation commentary over the last year has explained high current rates by pointing out a few very volatile components such as fuel or automobiles while arguing that "underlying inflation" was still benign. While this may have been true initially, going into 2022, this story no longer holds up.

Chart 3 shows a number of different measures of inflation – headline CPI (the MPC's target series), core (purging, among others, energy and food), the trimmed mean (purging the 10% outliers on either side), and two volatility-based series. As we all know, headline inflation reached historical rates this winter at 5.4% in December but the two other common measures of underlying inflation – the core and the trimmed mean – also are well above the MPC's target.

Chart 3: Measures of UK inflation (% year-on-year)



Sources: ONS and Bank calculations. Notes: Mean inflation by volatility is constructed by ranking the 85 class-level COICOP categories in the inflation basket by their realised volatility in the period 1997-2019 and then computing average monthly year-on-year inflation within or excluding some portion of the basket. Latest observation: December 2021.

It is often said that monetary policy should "look through" volatile components of inflation, such as energy and food because these tend to quickly revert to their mean. Responding to every up-and-down move would whip-saw monetary policy, confuse the signals, and likely cause instability in markets and the economy. The core and the trimmed mean are two ways to evaluate volatility, but I go directly to the concept by constructing a measure of underlying inflation based on the historical volatility of CPI components. I can then look at average inflation within certain volatility buckets.

As expected, if I strip out the highest-volatility quintile of components, I get something close to trimmed mean inflation as shown by the yellow line. What is more surprising – and perhaps more worrying – is the behaviour of the lowest-volatility fifth of components (green line). By definition, these components tend to adjust relatively little over time – after all they are the low volatility components. Some examples are pharmaceutical products and hairdressing, but also housing rents, and restaurants and canteens – these latter two each account for over 8% in the CPI basket. The low volatility components do not anchor inflation to the target – indeed they run above the target for the whole period since 1997. But, inflation within this bucket has been confined to rather narrow and stationary bands around some mean for most of the last 25 years, with the mean apparently having shifted down by about one percentage point in the post-2011 period.

Starting in the second half of 2021, however, rates in the lowest-volatility bucket have left their range of the last decade and now look more in line with the period of 2011 and before. This tells me that high inflation is no longer limited to components that are usually quite volatile, but has seeped into those that typically are rather stable. Are these components just experiencing a Covid-related jump, to settle down soon? Or, are cost-price inflation dynamics that push the volatile components being embedded throughout. If robust inflation can be found in more than just isolated pockets, how will it get it back to target?

4. Strong for longer

As I look to 2022, there is a key role for expectations, which if realized could mean that inflation stays strong for longer. For firms, 2021 exposed them to significant cost-push factors including increasing costs of shipping and raw materials, export-related costs, rising wholesale energy prices and increasing wage pressures (arising from both staff shortages and underlying wage pressures such as minimum wage increases). In our DMP surveys, some firms also mentioned higher costs associated with insurance, debt repayments, CO2 emission reductions, and Covid safety measures.[1] Will firms be able to pass-through these costs into their prices in 2022?

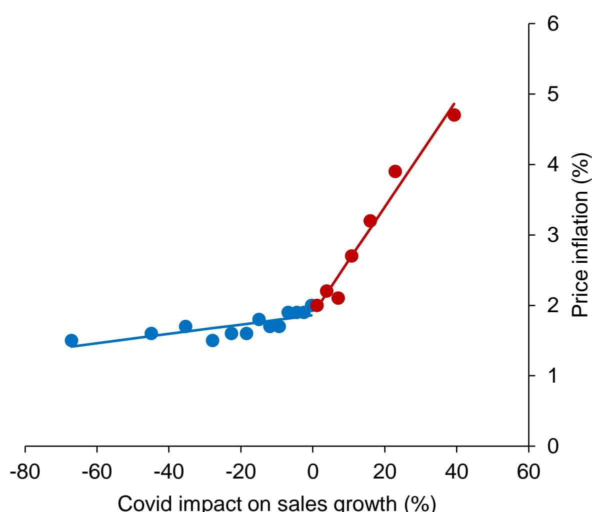
The Bank's Decision Maker Panel shows an asymmetry in the relationship between prices and sales. Firms that experienced faster sales increases due to Covid also hiked their prices at much steeper rates than did firms reduce their prices as their sales fell (Chart 4). This convex price profile using firm-level data is

[1] See results of the December 2021 round of the Bank's Decision Maker Panel.

mimicked in research using macro data that finds a convex Phillips curve relating inflation to slack in the economy.[2]

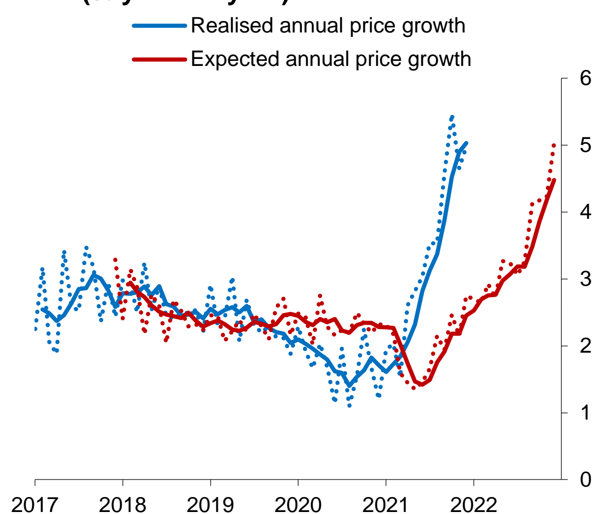
In our November Monetary Policy Report we recognized that downward price rigidity is an upside risk to our inflation outlook as the near-term effects of Covid fall away. Firms' pricing expectations from the DMP survey solidify this upside risk for 2022. Chart 5 shows that firms in the survey report that not only did they raise prices over the last year at much higher rates than before Covid, but also that they plan to repeat similarly steep price increases over the year to come. It should be a concern that the costs from 2021 are becoming reflected in price expectations for 2022.

Chart 4: Price inflation and impact of Covid on sales growth



Source: November 2021 Monetary Policy Report.

Chart 5: Survey expectations of sales prices growth (% year-on-year)

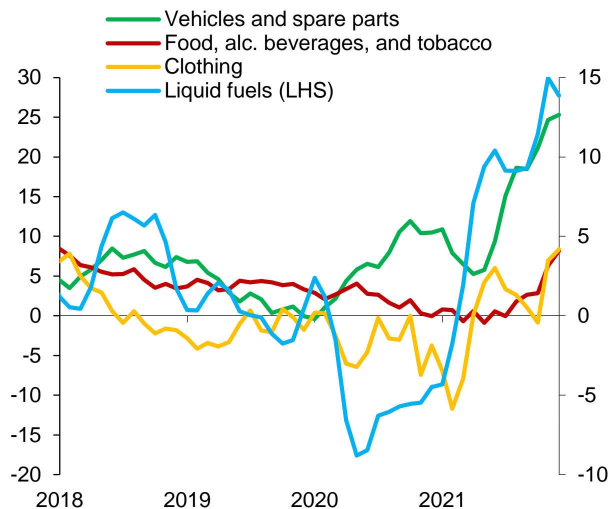


Sources: Bank of England Decision Maker Panel. Notes: dotted line shows monthly data, solid line is the 3-month rolling average. Latest observation: December 2021.

I am also following wage prospects for 2022. Bank research shows inflation expectations tends to be correlated with wage demands, and that items that consumers buy frequently, such as energy, food, and clothing have particular salience for their short-term perceptions of inflation.[3] Given the rapid increase in prices for some of these salient items (Chart 6), it is not surprising that consumer expectations for inflation in the short term have jumped, too (Chart 7). Wage compression has been a feature of the post GFC period, but the environment of higher price inflation and tighter labour markets may herald a regime change for wage outturns.

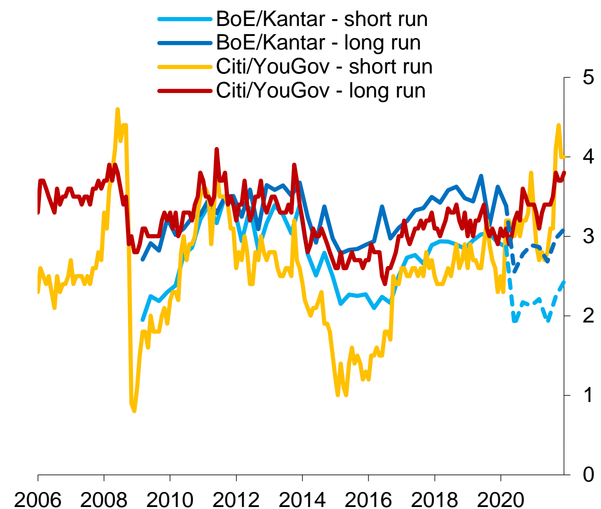
[2] See Collins, Forbes, and Gagnon (2021) "Low Inflation Bends the Phillips Curve around the World", CEPR Discussion Paper 16583.
[3] See Bonciani, Masolo, and Sarpietro "Individual Experiences and Inflation Expectations", mimeo.

Chart 6: Inflation in selected salient CPI categories (% year-on-year)



Sources: ONS and Bank calculations.
Latest observation: December 2021.

Chart 7: Survey-based household inflation expectations (% year-on-year)



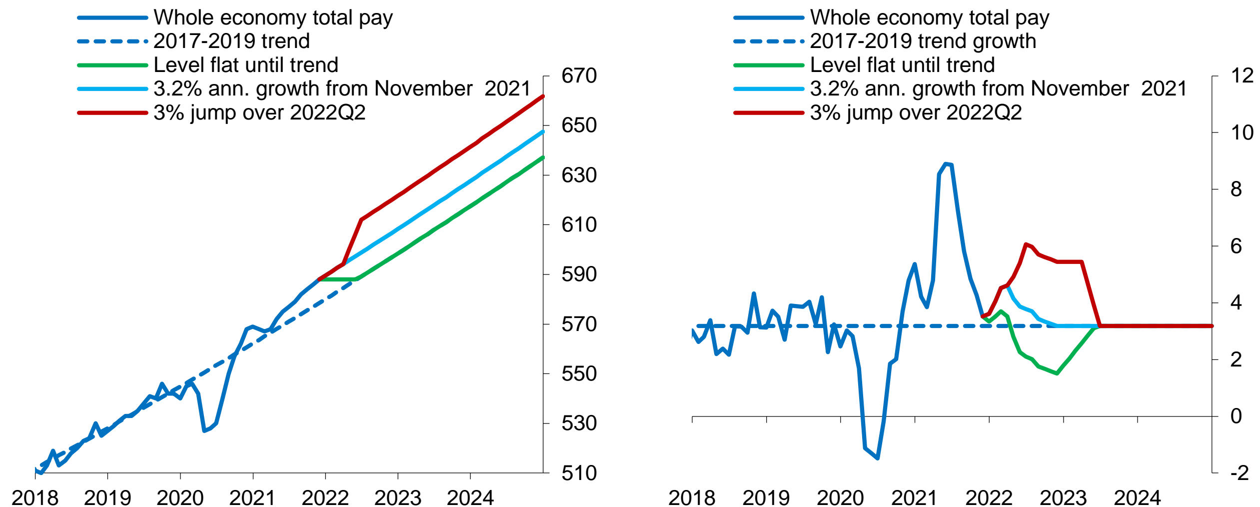
Sources: Refinitiv Datastream and Bank of England. Notes: Dashed lines show BoE/Kantar results after the methodological break in the 2020 Q2 round. Latest observation: December 2021.

In the following section, I want to show some simple illustrations about how wages and goods prices might evolve going forward if some of the 2021 increases are repeated in 2022, as has been suggested by DMP and Agent surveys. Just to be clear, these are arithmetic exercises not predictions. We will publish the new MPC forecast in just a couple of weeks together with our February monetary policy decision.

Let's consider wages first. As Chart 8 shows, wages have rebounded from their 2020 trough, leading to high year-on-year outturns in 2021. As of December, wages were slightly elevated compared to their pre-Covid trend but showed little sign of spiralling. For the arithmetic exercise, to project forward from the current data, I make three very simple assumptions: One scenario holds wages fixed until they reach their pre-Covid trend (green line), another continues the historical trend from the latest data point (light blue line). Finally, a third scenario shows what would happen to wages if there is another strong settlement season in 2022 (red line). According to the Bank's agents, some further upward pressure on wages is to be expected in the coming months as firms and workers adjust to the higher costs of doing business and costs of living.[4] To stand in for such a scenario, I let average weekly pay rise by 3% over the second quarter, then return to its pre-Covid trend growth. From the perspective of wage inflation, wage settlements even only as strong as last year would keep wage inflation strong for longer (red line in right panel).

[4] See the 2021 Q4 Agents' summary of business conditions.

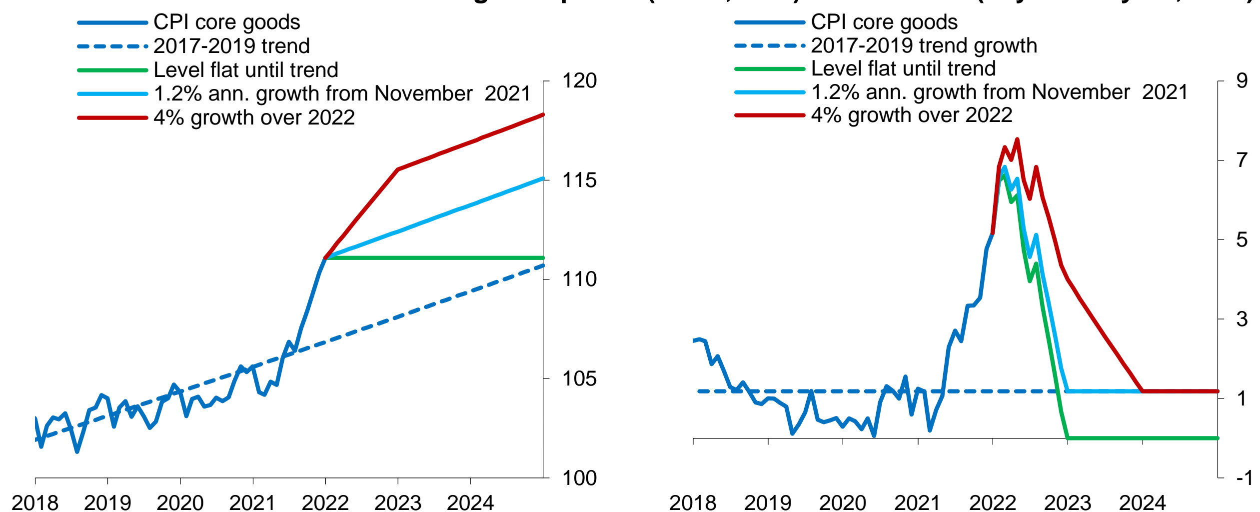
Chart 8: Illustrative scenarios for average weekly earnings (GBP, LHS) and their growth (% year-on-year, RHS)



Sources: ONS and Bank calculations. Notes: These charts show illustrative scenarios based on simple log-linear trend assumptions. Latest observation: December 2021.

Ultimately, however, it is firms' pricing that generates inflation. The next set of charts explores what would happen if the goods price rises of 2021 were repeated in 2022 as firms apparently plan to try to do. Over the course of last year, core goods prices had already risen markedly and now stand about 4% above their trend level (Chart 9, LHS). Similar to the wages example above, I show three scenarios for goods prices, with the only difference being a 4% rise in prices in 2022, consistent with the outturn for 2021.

Chart 9: Illustrative scenarios for core goods prices (index, LHS) and inflation (% year-on-year, RHS)



Sources: ONS and Bank calculations. Notes: These charts show illustrative scenarios based on simple log-linear trend assumptions. Core goods here denotes the index of non-energy industrial goods in the CPI basket. Latest observation: December 2021.

From the right hand panel it is immediately apparent that all of these pricing scenarios imply robust goods price inflation rates by year-on-year metrics. If we take the current level of prices as given, most inflation in

the near term is already baked in. Even if prices stopped rising right now, goods inflation would arithmetically increase to over 6% in February. Peak goods inflation does not differ much between scenarios, either: It is going to be between 6 and 8%, and sometime in the first half of this year. What does differ significantly is the length of time for the price shock to work through and return inflation to trend.

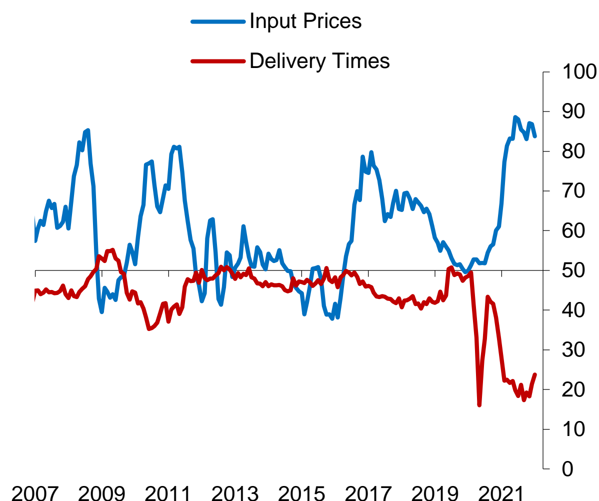
In the two more benign scenarios – where goods prices are unchanged or only grow at the historical average of 1.2% – core goods inflation reaches its pre-Covid average by the end of the year. But in the scenario where firms push through another 4% price increase, inflation remains strong for longer. From a mechanical perspective, any shocks to the price level only wash out after one full year has passed. This "strong-for-longer" scenario potentially makes for a very uncomfortable year 2023. Further, this exercise assumes that the jump in prices is not repeated in 2023 or beyond – i.e. that cost inflation does not get embedded in pricing behaviour.

There are a variety of underlying factors which might push up prices in 2022. Uncertainty is one of them: Chan (2021)[5] finds that, in a model with incomplete information, beliefs about competitors' pricing can affect the optimal pricing behaviour of the firm, and thereby affect aggregate outcomes. A loosening of supply constraints, perhaps paradoxically, could also support faster price growth in the short run as loosening supply is met with even stronger demand.[6] Global trade is another: The disruptions in global trade are likely to persist through 2022 in some shape or form. Although shipping rates look like they may have peaked, they are still very high compared to their history, raising the cost of trade around the world. UK PMIs (Chart 10) reflect this ongoing disruption. We know that variation in delivery times generally has small effects on aggregate prices. But the especially severe disruptions in 2021, which are likely to persist, will likely show up in prices into 2022. After all – time is money.

The UK's evolving trading situation post-Brexit may exacerbate any inflationary impulse from global goods and commodity markets by adding another wedge of administrative costs as well as changing the competitive landscape and perhaps altering the variety of products available. Bank research estimates a widening Brexit wedge on the supply side of the economy of some 2% by the end of 2024 from the pre-Covid trend. Already, the UK export volumes have been tracking well below their G7 peers. And do note that these are flows not stocks – every month below potential reflects lost business for firms and lost wages for workers. (Chart 11)

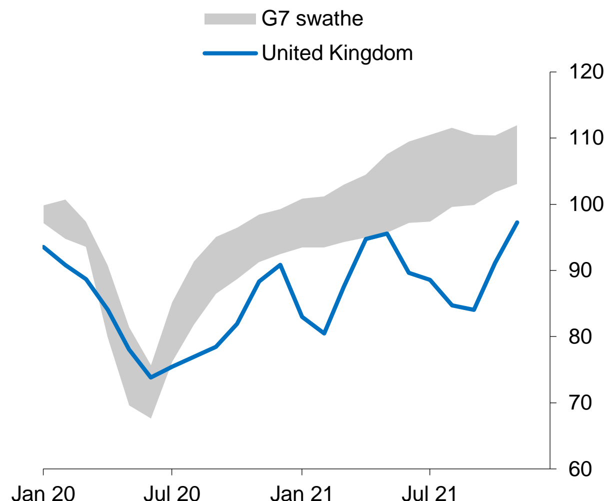
[5] See "Monetary Policy and Sentiment-Driven Fluctuations", working paper.
[6] See for example, Cesa-Bianchi and Ferrero (2021) who, in US data, find evidence for complementarities at the product level through which sectoral shocks can cause aggregate fluctuations.

Chart 10: Manufacturing PMIs (diffusion index)



Sources: Refinitiv Datastream.
Latest observation: December 2021.

Chart 11: Exports (index 100 = 2019Q4)

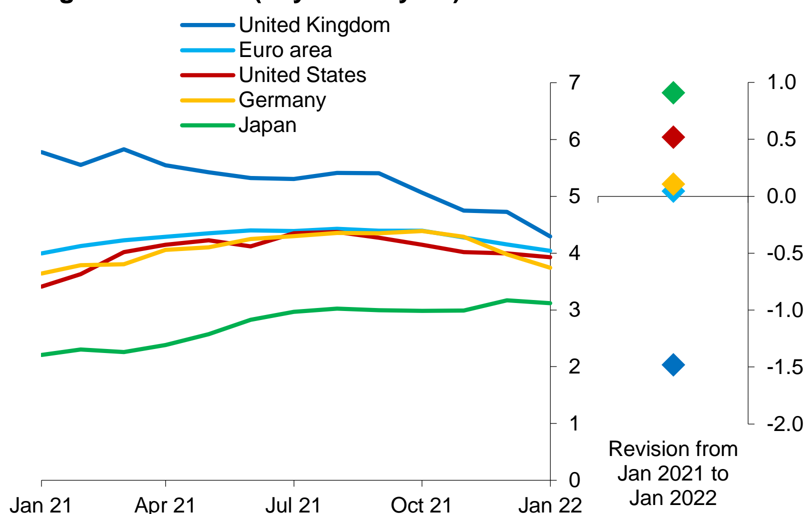


Sources: Refinitiv Datastream.
Latest observation: November 2021

5. Factors that could dampen the cost-price dynamic

The ingredients appear to be in place for inflation to stay strong for longer, but costs becoming embedded in prices to create a reinforcing dynamic is not inevitable. There are headwinds facing firms pricing strategies, and ultimately, it is whether firms can raise prices systematically that determines the inflation path. Of course, among those headwinds is the monetary policy commitment to temper any such reinforcing inflation dynamic. Before getting to that one, there are others potentially in evidence already.

Chart 12: Consensus mean expectations and revisions for real GDP growth in 2022 (% year-on-year)



Sources: Refinitiv Datastream and Bank calculations.

The most important potential headwind to price inflation comes from demand conditions. As shown above, strong sales support robust pricing. But, prospects for 2022 GDP growth in the UK, coming from Consensus Economics for example, have been systematically downgraded over the course of 2021 to the January 2022 survey. With this downgrade, the UK economy is a clear outlier among advanced economies. (Chart 12) As well, prospects for global GDP growth have been dialled back for 2022 by the international institutions and in any case, UK trade has underperformed the pace of recovery in global trade perhaps augmenting domestic headwinds from global demand.

Second, consumer purchasing power has already been eroded by the inflation to date. Going forward into 2022, energy prices (including via the Ofgem pricing formula), housing costs (including the Bank Rate rise from December), as well as additional taxes in train could further weigh on consumers. Unless wages pick up substantially, or unless consumers dip into their accumulated savings by more than we assume, consumer demand could temper firms' ability to raise their prices as much as they expect to. And, Covid-related social distancing could continue to weigh on consumption.

Third, global prices could decelerate more than expected, especially if US demand for goods slows as the waves of US fiscal stimulus cease; but also if the global consumer holds on to their accumulated savings, if supply responds robustly and if the geography of shipping normalizes those costs and delays. However, whereas UK goods prices tend to evolve with global goods prices, a Brexit wedge could temper how much of this possible global downward momentum translates into domestic prices.

It is also relevant that the financial markets exhibit a very steep yield curve, which would tend to raise borrowing costs, reduce investment, moderate house prices and wealth accumulation and thus temper economic activity.

6. Implications for monetary policy

The inflation surge in 2021 was initially viewed as transitory and based on narrow categories exposed to demand rotation and supply constraints and disruptions. But as the key categories of goods prices (and their inputs) experienced multiple waves of global and domestic demand rotation amid supply scarcity, what was "transitory" at first morphed to more product categories and into labour markets, raising even the least volatile components of the CPI. Going into 2022, current price and wage expectations coming from the DMP survey are inconsistent with the 2% target, and if they are realized in 2022 are likely to keep inflation strong for longer. The concern is that strong-for-longer could embed a reinforcing price-wage dynamic. In my view, the objective for monetary policy now should be to lean against this "strong-for-longer" scenario, but at what time horizon and using what tool?

As the scenarios show, inflation rates in the very near term are mostly a matter of arithmetic, not one of policy. Further to the extent that global inflation underpins UK domestic inflation, monetary policy's reaction would have to be more severe than appropriate for domestic conditions alone. What monetary policy needs to do now is to temper the 2022 expectations for wage and price increases to prevent them from being embedded in the decision-making of firms and consumers.

I know that here has been a lot of talk already about the cost-of-living squeeze. And to be clear, it is not my goal to make this worse than it already is – to the contrary, I aim to bring inflation back down to target such that workers can enjoy real wage gains from their labor. The small Bank Rate rise that I voted for in December was to act on the commitment to the 2% target so as to influence the 2022 strategic decisions that

workers, businesses, and asset holders are now making. Changing expectations is the first defence against a reinforcing wage-price dynamic.

The Monetary Policy Committee will meet in the coming weeks. Preparatory briefings will assess current and expected strength of domestic and global demand, prospects for supply disruptions and costs, and expectations for prices and wages, among other considerations, including health developments. I will make an assessment with regard to policy only after reviewing the research from the Staff, as of course will other members of the Committee.

The path for monetary policy must have the medium-term objective of steering the economic and financial environment in which expectations, wages, and prices evolve so as to reach the 2% target. To the extent that monetary policy actions now dampen expectations, and to the extent that any deceleration of global prices is passed-through to UK inflation, and to the extent that financial markets are already cautioning decisions, the next steps could exhibit a shallower path.

Lastly – a teaser. In addition to the external forces of demand and supply that have loomed large in the evolution of UK inflation in 2021, going forward there is another important external factor relevant for UK economic performance. Policy actions by other central banks have cross-border ramifications which will be important for the Committee to consider. But that is a topic for another speech.

Thank you.