

## FT ALPHAVILLE

### Measuring the Bank of England's global-local dilemma

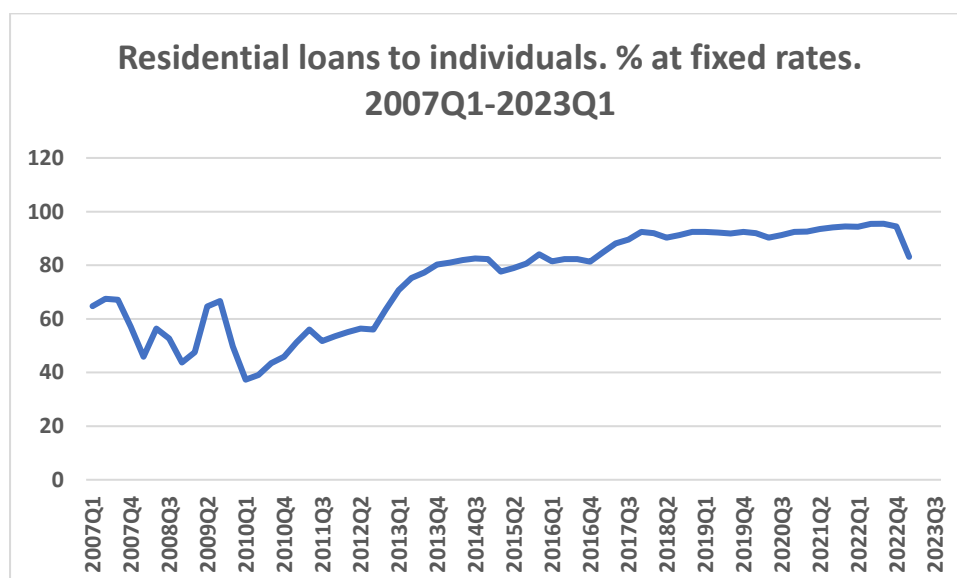
#### Transmission impossible?

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The Bank of England has implemented successive interest rate rises since December 2021. Currently, the Bank's base rate stands at 5 per cent and financial markets are expecting at least another interest rate hike in August. Despite the tightening in monetary policy, UK CPI inflation remains "stubbornly" high. CPI inflation [reached a high of 11.1 per cent last October](#) and has, at a turtle's pace, come down to 7.9 per cent in June.

It has been suggested that the very slow drop in inflation relates to the high proportion of households tied up on fixed mortgage rates as opposed to variable rates. This distorts the impact of monetary tightening on inflation because it takes more time for higher interest rates to reduce household spending and, consequently, drive inflation back to the 2 per cent target.

The website of the Financial Conduct Authority provides [some historical data](#) on the proportion of borrowers on fixed mortgages as opposed to variable mortgage deals. The proportion has risen considerably since 2007 and currently stands at around 83 per cent:

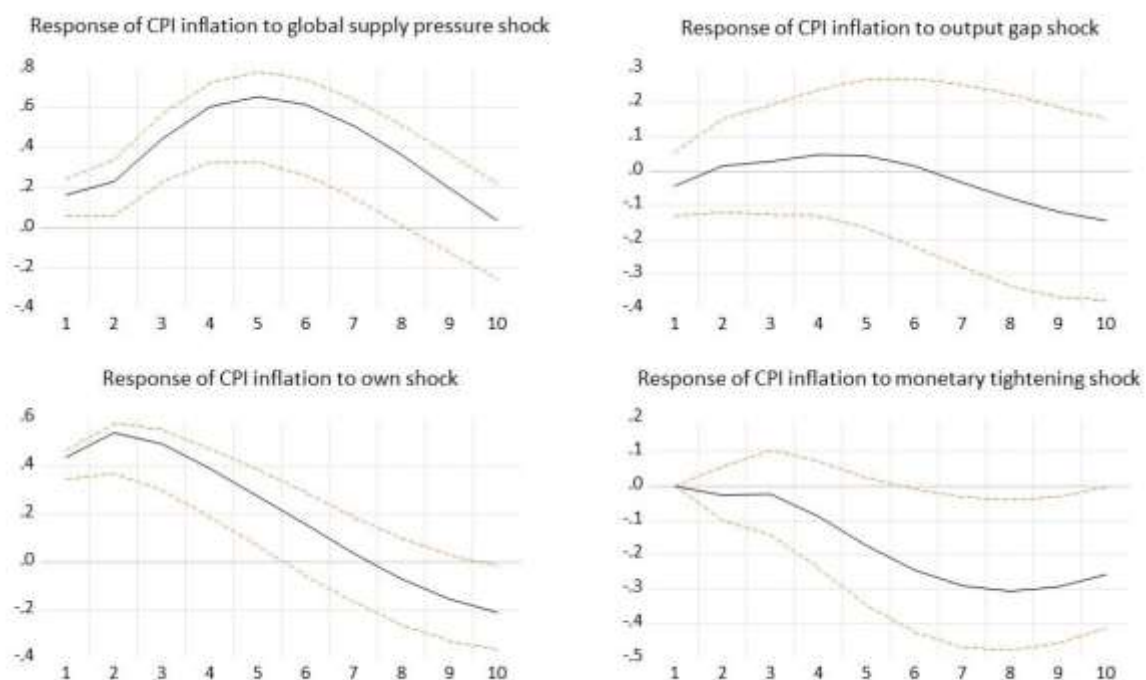


The impact of monetary policy on CPI inflation can be examined via an econometric [vector autoregressive](#) (VAR) model. The model looks at the dynamic interrelationships of the four variables: inflation, global supply pressures, excess demand in the economy and the proportion of individuals on fixed rates.

Global supply pressures are proxied by [the Federal Reserve Bank of New York index](#), which reached a peak in December 2021 and has been trending downwards since then. The Office for Budget Responsibility's [output gap](#) measure serves as a proxy for excess demand in the economy, where inflation rises or falls whenever output exceeds or undershoots potential.

The information set is further extended to allow for the exogenous effects of the pandemic, which I proxy by Economic Policy Uncertainty's [infectious disease volatility tracker](#). In light of Russia's invasion of Ukraine and its adverse spillover effects I also incorporate Caldara and Iacoviello's [global geopolitical risk index](#).

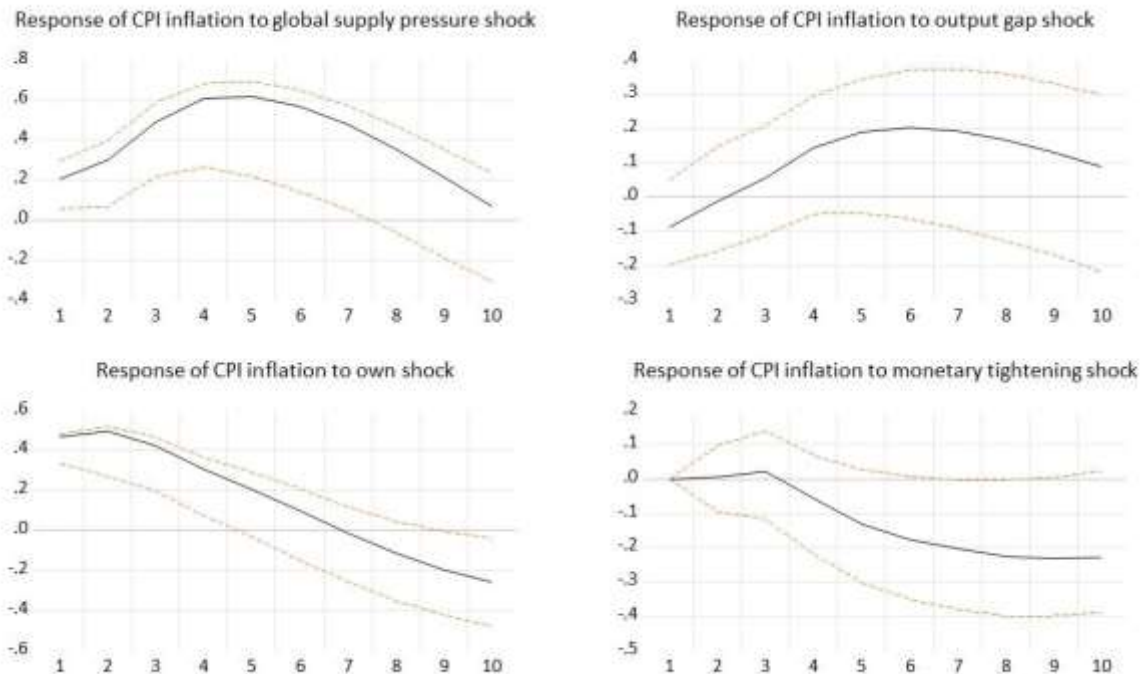
A VAR model lets us trace the impact of the different economic shocks. The below charts (which estimate the response of CPI inflation together with the corresponding 95 per cent confidence intervals over a period of 10 quarters, based on 5,000 [bootstrap replications](#)) don't take into account the issue of fixed versus variable mortgage rates:



I note the following:

1. Global supply shocks affect inflation for at least 8 quarters;
2. Excess demand shocks raise inflation but their impact is statistically insignificant;
3. Own inflation shocks (inflation persistence, that is) affect inflation for at least 6 quarters;
4. Monetary tightening lowers inflation. Nevertheless, the impact of monetary tightening on inflation takes, from a statistical point of view, 6 quarters to kick in and lasts for 10 quarters.

Here's what happens when the same model is augmented by the proportion of individuals on fixed rates:



The main difference relates to the monetary policy tightening shock, where from a statistical point of view the inflation effects kick in slightly later than before. Indeed, the impact kicks in quarter 7 and lasts for up to 9 quarters.

In addition, the effect is weaker than before. The maximum depressing impact on inflation, at quarter 9, is around 0.2 percentage points. In the model that ignores fixed rates the maximum depression is around 0.3 percentage points in quarter 8.

Nevertheless, these differences in terms of timing and impact are not substantial enough to justify the (in)effectiveness of monetary policy on rising proportion of individuals on fixed rates.

What happens if we introduce the effects of quantitative easing? One way is to switch the Bank's base rate in the model with the so-called shadow interest rate. The shadow rate (as discussed in [a BoE Working Paper](#) and available from the website of [Rafael de Rezende](#)) is allowed to take negative values between 2009 and early 2022.

Reproducing the above charts using shadow rates leads to the conclusion that monetary tightening shocks in the UK have a minor depressing economic effect on inflation. Nevertheless, the effect remains statistically insignificant over 10 quarters which, of course, reinforces the argument that QE has (sadly) [been inflationary](#).

All findings are based on a VAR model that ignores non-linear economic effects. With a much more sophisticated model, one might explore whether the proportion of individuals on fixed rates above a particular threshold distorts the effects of monetary tightening.

The reader's sharp eye will also notice that, for both models, excess demand effects are very weak and statistically insignificant. Does this mean that excess demand plays no role in pushing inflation upwards? Of course not. It is notoriously difficult to estimate [the economy's output gap](#) and different measures provide a different picture of the strength of the economy at a given time.

To sum up, monetary policy is slightly less effective when the rising proportion of individuals at fixed rates is taken into account. At the same time, global supply pressures have a strong and lasting effect on UK inflation.

The implication of the latter point is that UK inflation will fall quickly because of rapidly receding global supply pressures. Although global supply pressures reached their peak in the fourth quarter of 2021, they now stand at their lowest point for almost 15 years.

Which brings me to Rishi Sunak's pledge to halve inflation to around 5 per cent by the end of the year. My model suggests that this pledge is likely to materialise. Rather than crediting Rishi Sunak with this achievement, however, the heavy lifting towards lowering inflation will be down to global supply conditions.