

# A Rich Vein or Fool's Gold? Economic Forecasts During Large Shocks – speech by Swati Dhingra

Given at ECONDAT

10 May 2024

---

# Speech

---

It is a pleasure to be here at Bush House. I could not agree more with the premise of the ECONDAT conference. Last summer, I gave a speech at Manchester Met University to argue that advances in our analytic toolkit, together with data innovations, are the vital route to a clearer and timelier understanding of the economy ([Dhingra \(2023\)](#)). As the Bank embarks on reforms in the light of the Bernanke Review, it is an appropriate time and place to reiterate this.

Economic forecasting is an enterprise fraught with uncertainty, and even more so during turbulent times. Equally however, forecasts are indispensable to a forward-looking policymaker, so it is important to consider how we might improve them so that we are in a better position to face the shocks of the future. In my view, it is investments in measurement and analysis, and not tweaks to forecasting models or communications, that will advance our understanding of the economy and ultimately lead to better decision-making. Meaningful challenge cannot arise in policymaking unless there is compelling evidence to support it.

ECONDAT is contributing to the progress in credible economics and policymaking, and I am therefore delighted to be giving the closing remarks at the conference.

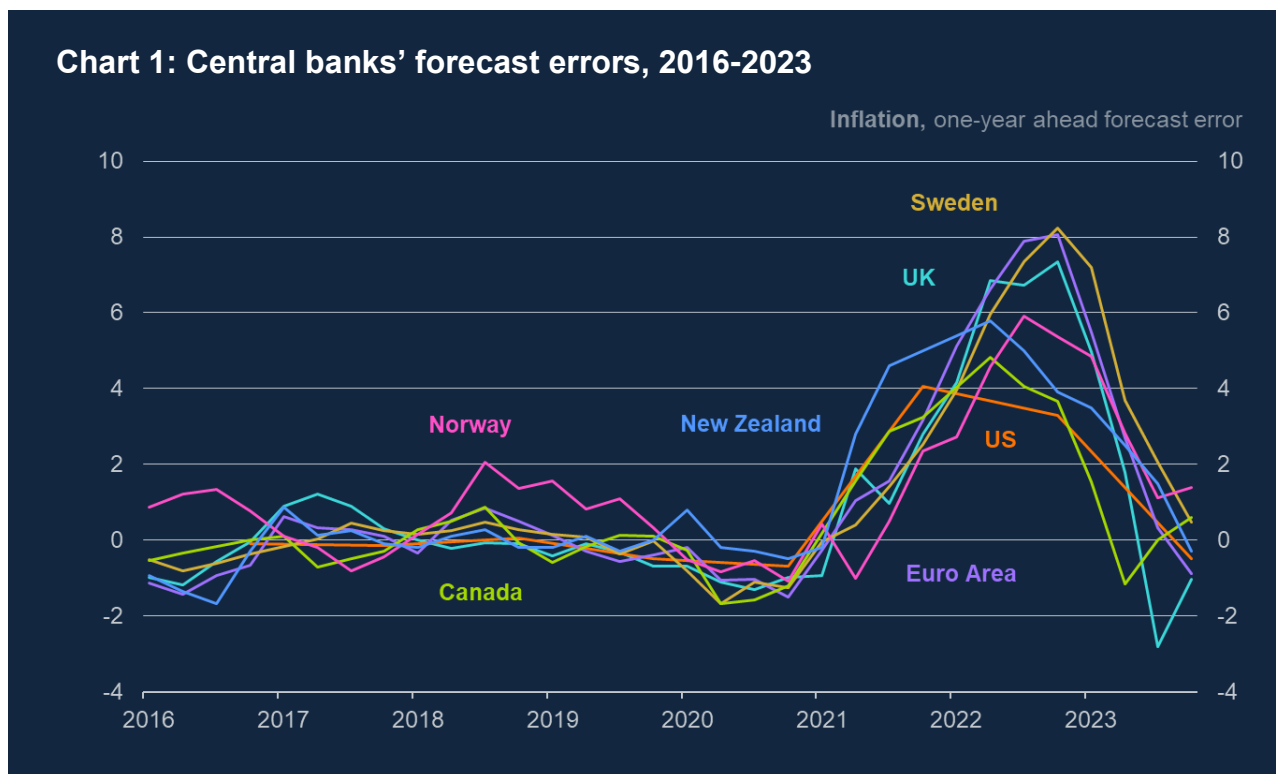
## **Fool's gold<sup>1</sup>: model-based forecasts as a guide to policy during unprecedented times**

This inflationary episode has prompted a reappraisal of the evidence that is needed, both at the micro and macro levels, to support policymaking during large shocks to the economy. In what follows, I will offer my own reflections on recent forecast misses and on some tools that will enable central banks to better assess economic conditions.

---

<sup>1</sup> Fool's gold, typically pyrite, is a yellow mineral that looks like gold but is not as valuable ([Oxford Advanced Learner's Dictionary](#)). It has small amounts of real gold ([Fougerouse \(2021\)](#)).

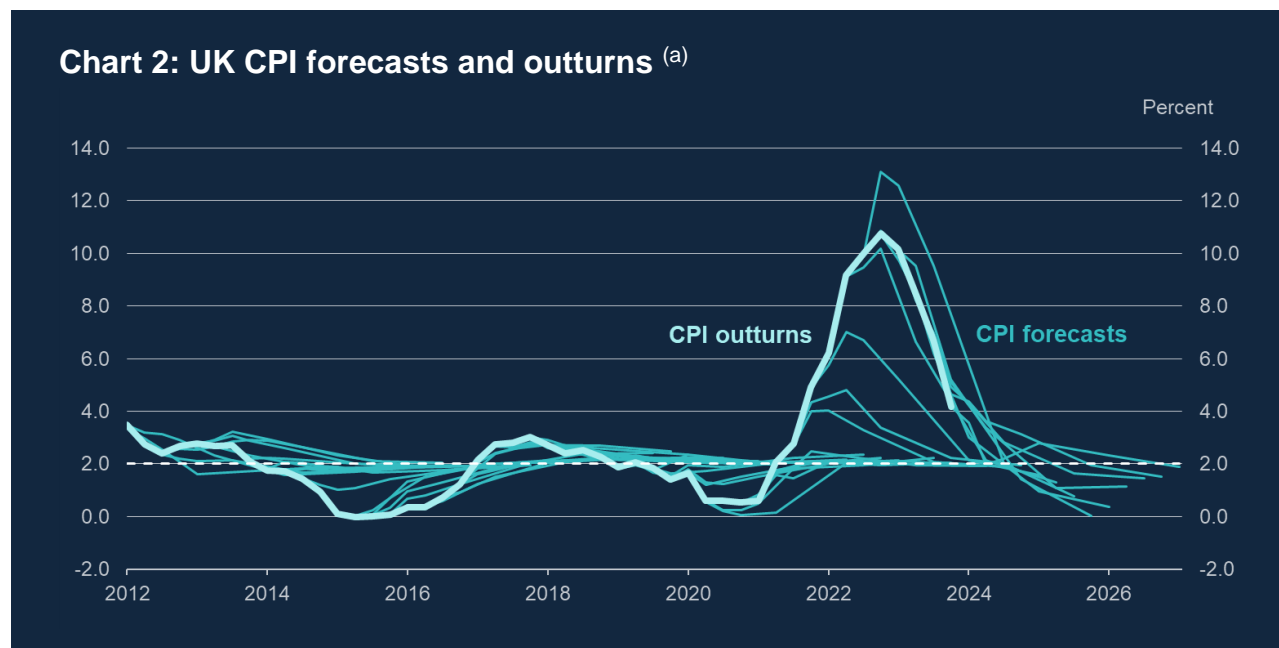
Forecast errors across central banks were large and relatively similar during this inflationary episode despite different forecasting models and tools.



Source: Bernanke Review (2024).

The UK was in the middle of the pack in terms of inflation misses across various central banks, each of which employed a different suite of forecasting tools. Whilst forecasting performance has been relatively similar over the recent inflationary episode (at least at the one-year horizon), the scale of the energy shock with which central banks have had to contend varied significantly across countries. Energy-exporting countries, such as Norway and the United States, faced a less dramatic surge in energy prices than importing countries, which may have been expected to simplify the task of anticipating price developments. However, when the peak energy price in each country is taken into account, the forecast misses continue to show a similar pattern, though the UK fares comparatively better in this context (see Appendix for details).

**While the shocks could not have been anticipated, the forecast errors of the models were persistent and systematic.**



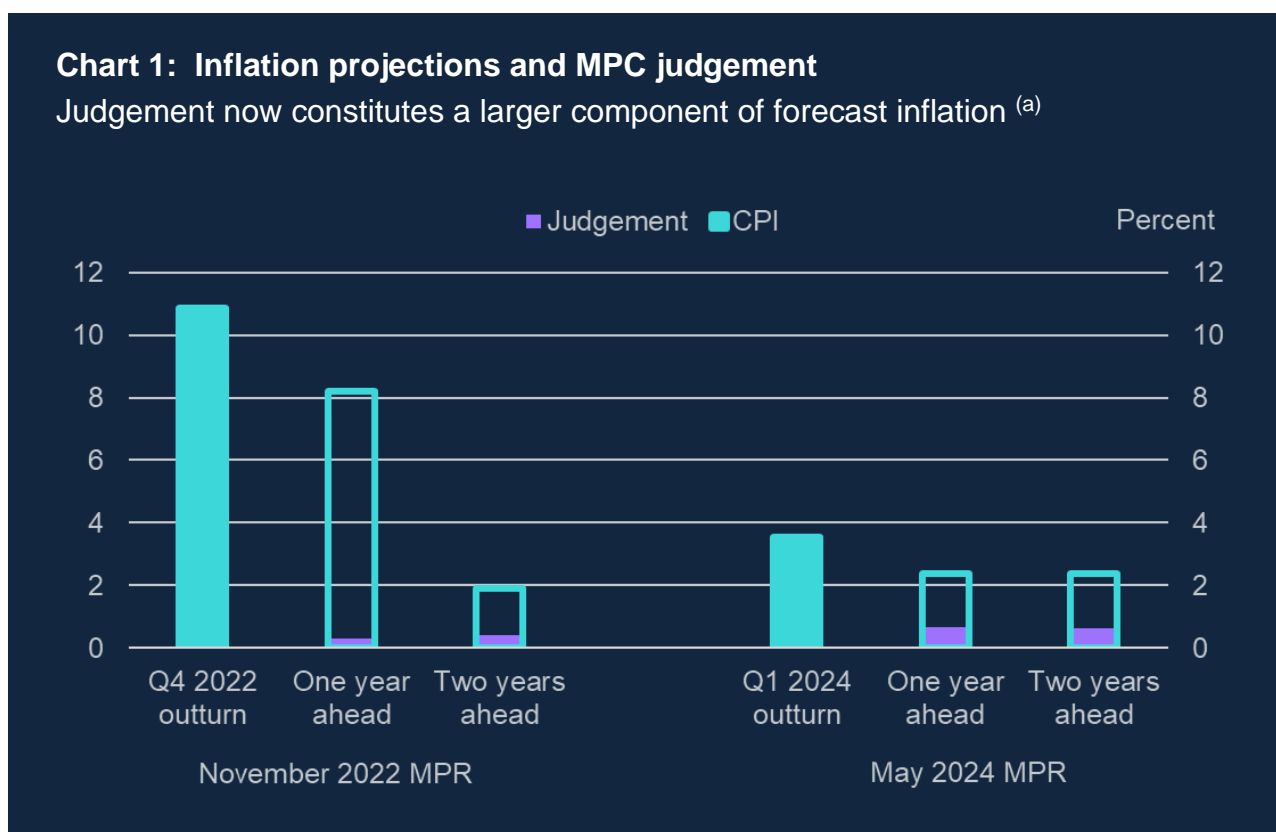
Source: Kanngiesser and Willems (2024).

(a) Light aqua line depicts the UK CPI inflation outturns. Dark aqua lines depict CPI modal inflation forecasts. The depicted outturns in the blue line refer to the outturns  $k = 12$  quarters after the first data release. For the last 12 quarters, the latest available vintage is used.

Forecast deviations are large when absolute changes in inflation are large. But errors tend to be systematically in one direction – either above the outturn or below it. In this inflation episode, all but one forecast under-predicted inflation. The only over-predictions were due to the introduction of the energy price guarantee on the way up and during the last quarter of 2023 after inflation had started to fall back rapidly.

**Judgements were placed to offset some of the systematic forecast errors, but they needed to be disciplined with late-cycle data outturns that are less forward-looking.**

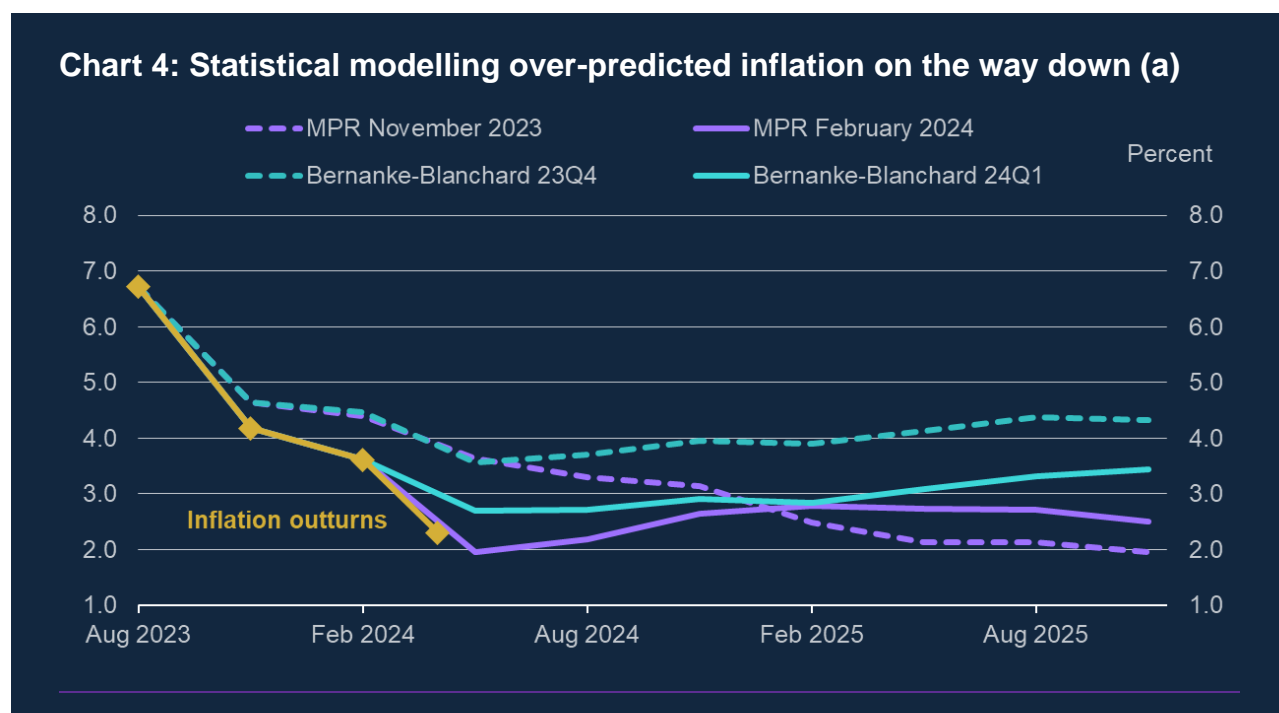
To some extent, forecasting will always involve an element of judgement. By drawing on the rich and varied expertise across the Bank, judgement remains a valuable input to the forecast process. To monitor the direct impact of external shocks on the labour markets, and the extent of second-round effects, our judgments have relied on late-cycle indicators, such as wage growth and relatedly services price inflation (which contains a higher share of labour in costs than goods). As inflation has fallen back, judgement now represents a larger relative share of projected inflation and requires greater scrutiny of developments informing it.



(a) Projections and judgements are a four-quarter average. Judgement refers to the MPC's judgement of inflation persistence.

**Statistical models can improve incrementally by learning from past forecast errors, but learning is confined to what is in the data. At turning points that lack historical precedent, these models remain liable to systematically over-predict or under-predict outcomes.**

The Bernanke-Blanchard model provided a useful approach for decomposing the drivers of post-pandemic inflation into the relative contributions from external shocks, labour market tightness, and the monetary policy response. While such models were successful in explaining the surge in inflation, they have tended to over-predict inflation as these pressures moderate (Chart 4).



(a) The dashed lines show inflation projections with data until 2023 Q4. Solid lines show inflation projections with data until 2024 Q1. Inflation outturns are in solid yellow.

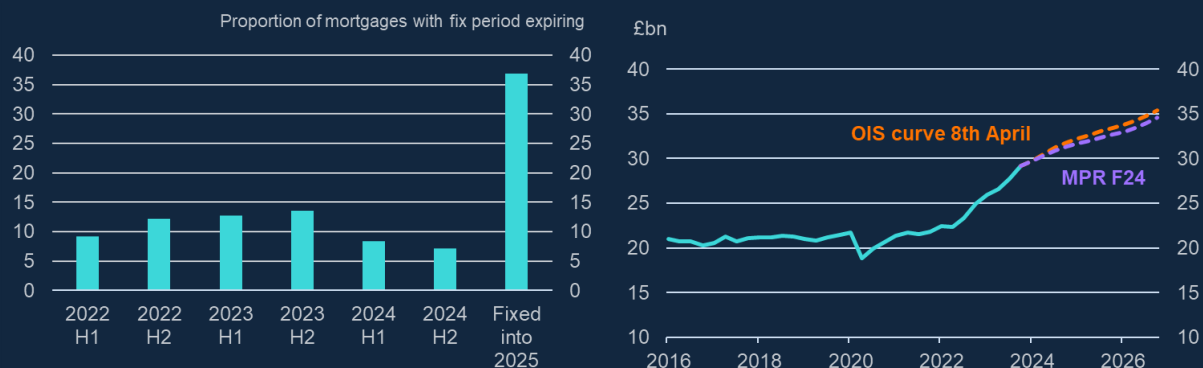
**Better data and research design can reduce forecast uncertainty by providing more accurate forward-looking measures and by enabling tests of different mechanisms driving inflation, as in the examples of mortgage contracts data, company dissolution registries and granular labour market analysis.**

Example 1. Mortgage contracts data is reducing forecast uncertainty through more accurate modelling of monetary policy transmission.

Mortgage contracts data (Chart 5, first panel) shows most UK mortgages are fixed-rate and over a third of mortgages have still to come off their fixes since the end of 2021. Consistent with this, the latest shift in the OIS curve has only marginally affected estimates of aggregate mortgage repayments over the forecast (second panel), with around 63 percent of the effects on mortgage repayments expected to come through by the end of the forecast horizon.

### Chart 5: Mortgage Contracts Data

#### Roll Off from Fixes and Effects of Shifts in the OIS curve on Mortgage Payments <sup>(a)</sup>

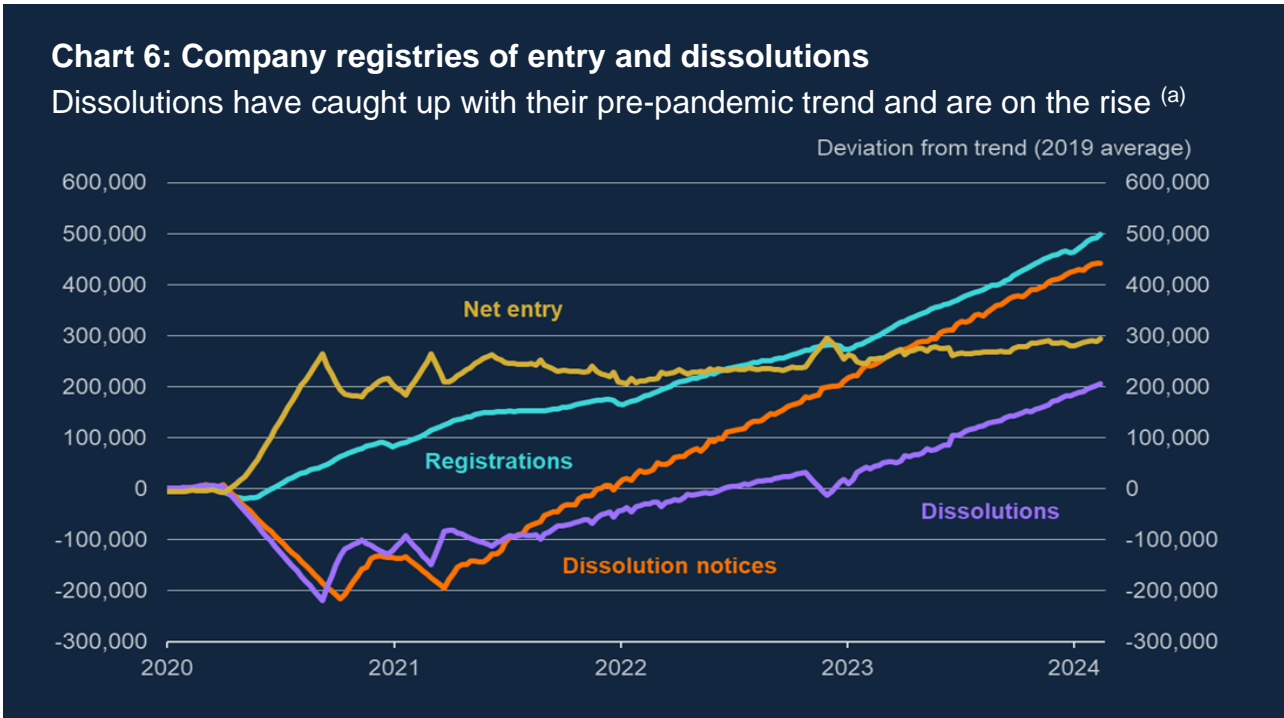


(a) The right hand panel depicts actual (teal line) and projected (dashed lined) cumulative mortgage payments (depending on the OIS curves at different points in time).

Example 2. Company dissolution notices are providing a forward-looking indicator of reduced firm resilience.

Using granular data from Companies House and the Insolvency Service, [Barkema, Froemel, Piton \(2024\)](#) document a set of facts about the rising number of corporate dissolutions. First, the increase in dissolutions that have already materialised reflected a catch-up following Covid and was concentrated among firms started during Covid. Second, while these firms were small and had a limited macroeconomic impact, firms currently in the process of dissolving are larger. Their exit might therefore be more material from a macroeconomic perspective. Finally, the recent economic environment could contribute to further rises in dissolutions and particularly insolvencies in the future that could have more material macroeconomic impact.

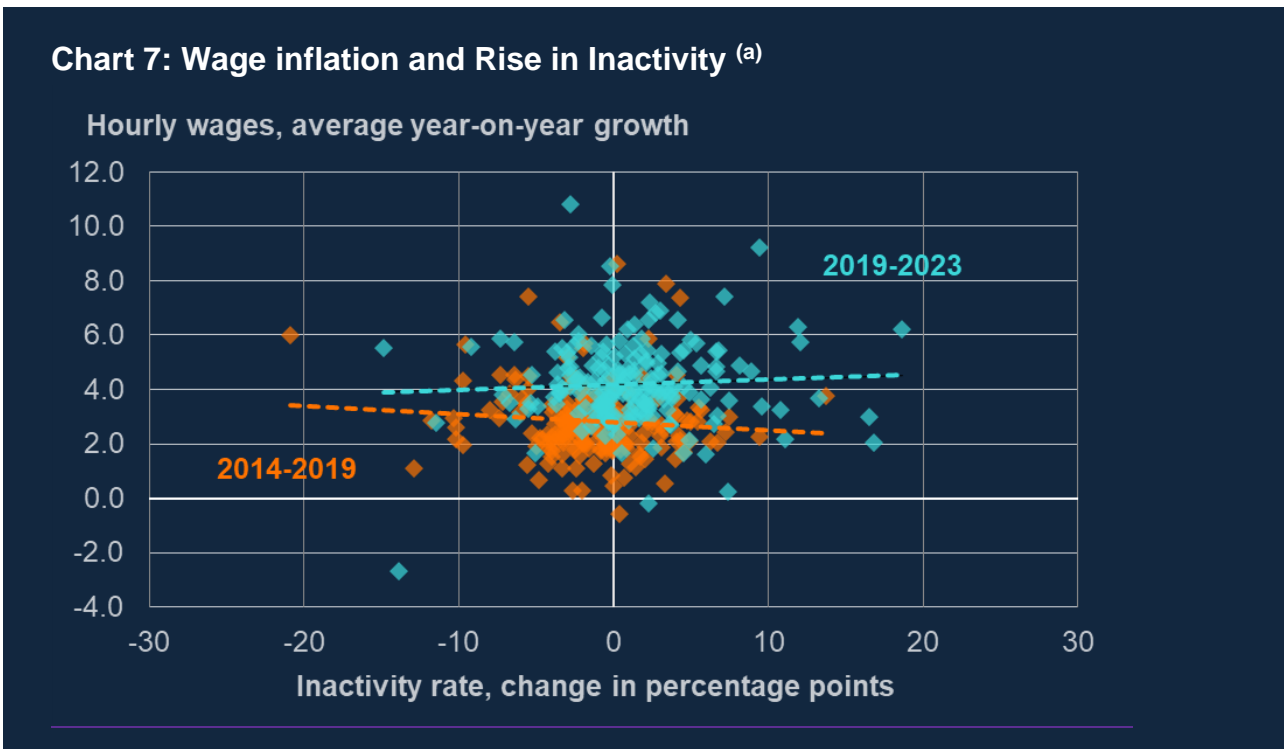
We highlight some of these trends in Chart 6. This dataset indicates that registrations have been rising since 2019, primarily in retail and information and communications, and potentially due to technological changes since the pandemic. While dissolutions were suspended during the pandemic, they have now finished catching up, rising above their 2019 average. Dissolution notices are rising faster and are now occurring among larger firms, suggesting a larger impact from dissolutions than has been seen so far.



Source: ONS

(a) Registrations and dissolutions are cumulative (in deviation from trend).

Example 3. Granular wage and inactivity data from local labour markets in the UK offers little evidence of positive correlation, suggesting rising inactivity was not a key driver of wage inflation during the current episode.



(a) Each dot in the scatter plot represents a Travel to Work Area in the UK. The x-axis is the rise in inactivity from 2013 to 2023 from APS data and the y-axis is the average growth rate in hourly wages from 2013 to 2023 from ASHE data.



Past publications ([May 2022 MPR](#)) have partially attributed labour market tightness to rising inactivity. Causal statements can be put to more rigorous empirical testing with granular data to overcome some of the limitations posed by short time series during large shocks.

In this example, the correlation evident in aggregate wage and inactivity data does not hold up as a mechanism for wage inflation in more granular data from local labour markets across the country. Travel to work areas that had higher inactivity did not experience higher wage inflation. This is also confirmed by a negative correlation between the change in gross monthly wages and the change in the inactivity rate over the recent period at a regional level ([Machin and Wadsworth \(2023\)](#)). While inactivity had not been a key driver of wage inflation, it is nonetheless contributing to lower productivity, especially in already lagging areas of the country (as highlighted in [Machin and Wadsworth \(2023\)](#) across broader regions of the UK and for different skill levels). Uncertainty over data in recent years makes it much harder to have a deeper understanding of the labour market forces driving inflation, and a joined-up effort to improve these statistics is an important undertaking for the future.

Leveraging quasi and natural experiments with granular data and techniques to estimate policy impacts has already led to significant progress in various fields of economics and our understanding of critical public policy choices ([Angrist and Pischke \(2010\)](#) and [Card \(2023\)](#)). These well-identified granular effects are increasingly being incorporated into economic models to provide a macroeconomic view of the impacts.

## The real gold: forecasts bolstered by better data

Building on these observations from the cost-of-living crisis, I will discuss key avenues that I think will strengthen policymaking during large shocks. These have been informed by my experience on the MPC since August 2022 and more broadly, by discussions on designing and implementing evidence-based policy, particularly those that involve difficult tradeoffs or polarising debates, including through the Economy 2030 Inquiry and the modelling review of Britain's international economic policy ([The Economy 2030 Inquiry \(2023\)](#), [Venables \(2022\)](#)).

King's is the right place to discuss this - the book it has recently published has provided invaluable scrutiny through the responses of many economists to the Bernanke Review. I will reference these contributions from [Aikman and Barwell \(2024\)](#) – AB hereafter – as I discuss the key avenues.

In my view, the main lesson from the last few years is that evidence-based policymaking needs to be our priority. And to state the obvious, **the starting point cannot be anything other than evidence itself.**

To re-state a platitude, models are only as good as the data that is fed into them. Innovations are making data advances more achievable, including for example, through analytics companies and big data (such as contracts and shipping data), developments in national statistics (such as availability of scanner data and online collections) and mandatory data collection (such as tax records, value added transactions and detailed company accounts) ([Dhingra \(2023\)](#), Davies in [AB \(2024\)](#) has concrete suggestions).

The Bank has played a pioneering role in data development before and this is going to be critical in the future, given the current state of affairs and the greater uncertainties in the world economy. As highlighted in the first example, the mechanical relationship obtained from mortgage contract data provides a much more accurate picture of monetary policy transmission than structured economic modelling of household behaviour. If we had similar energy contracts data, we would have had a much more precise picture of the impact of energy prices increases across firms and households.

The imprecision of forecasting medium-term outcomes, particularly during large shocks, means investing in the data and analytical infrastructure would offer much better preparation for future uncertainties. Data uncertainty can be big enough during large shocks that the straitjacketed lens of forecast models is less informative. Even statistical models become wanting because they often miss turning points, as highlighted earlier. Once better data infrastructure is in place, it can be combined with a simplified modelling apparatus to maintain the discipline of a self-consistent economic framework. Simplification of the forecasting apparatus can help free up valuable expertise and resources that can be deployed in more effective avenues, and they would provide transparency and accountability.

A central MPC forecast provides the discipline of an internally consistent narrative. But it comes at an enormous cost of committee and Staff time being devoted to adapting forecast errors into judgements that, in this inflationary episode, were small relative to the scale of the shock being experienced, as shown earlier.

A Staff forecast offers a way of maintaining consistency and of ascertaining the risks without the incrementalism of a best collective judgement. It has the ability to empower Staff to experiment with different assumptions and risks, while taking ownership and credit for analysis that is theirs to begin with. Conducting regular, calendar-based internal reviews would further strengthen the modelling apparatus and provide transparency on forecast errors (Neiss in [AB \(2024\)](#)). Importantly, it would heighten the level of accountability for committee members when they choose to differ from the policy path implied by the Staff forecast.

Staff-led scenario modelling might help assess and explain risks that differ from the central forecast. My assessment from a minority experience is that producing multiple forecasts

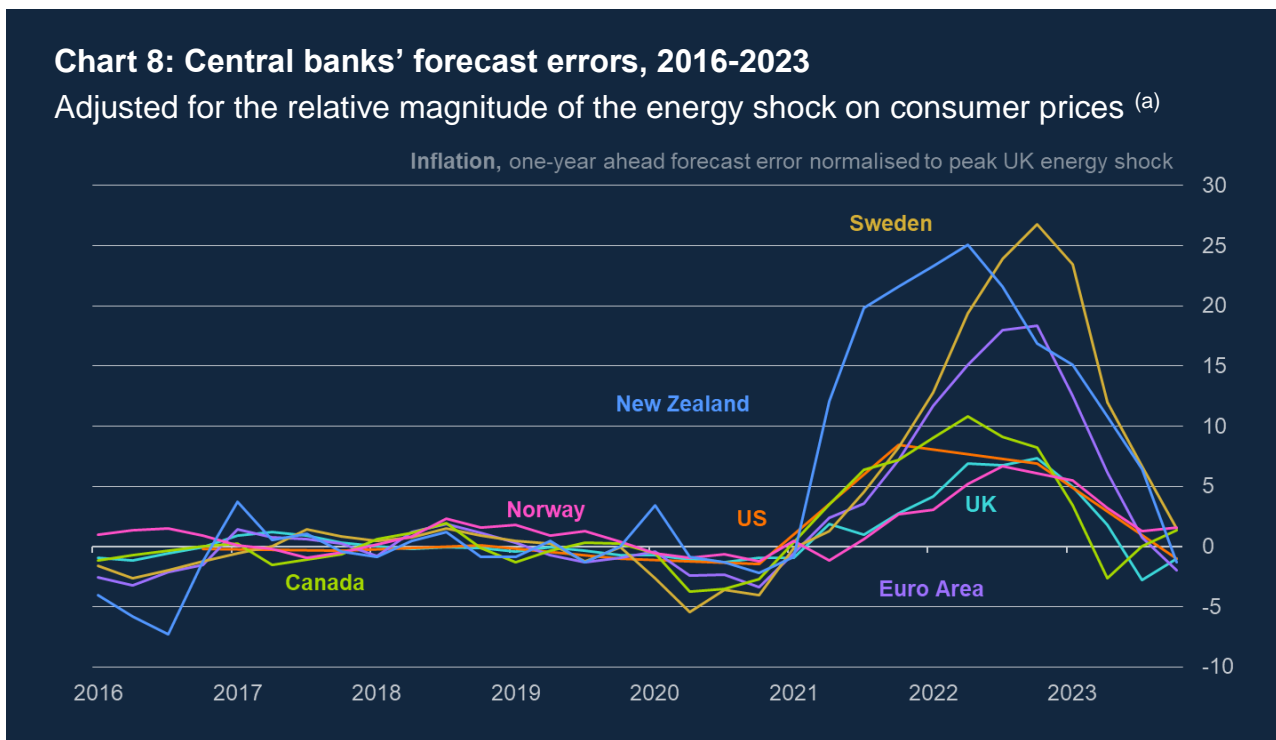
under alternative scenarios during a period of large shocks has been beyond the resource capacity of individual external members and possibly even Bank Staff, particularly given the constraints imposed by the Bank's IT and modelling infrastructure that were highlighted by the Bernanke Review. While experimenting with different assumptions and risks may be helpful in thinking through the uncertainties, getting a handle on the uncertainty over data and interpreting it to assess the evolution of the economy are more crucial. Timely and forward-looking insights into the working of the economy can discipline policymaking by challenging priors.

A critical question would be how scenarios are chosen. The concern here is that it could become an "ad hoc" exercise and add to the incrementalism from the "repeat game" of negotiating a best collective judgement on the choice of scenarios - quite the opposite of what they are intended to do (Aikman, Giles and Goodhart; Grady and Julius in [AB \(2024\)](#)). Staff-led scenarios could reduce these risks, but the implementation details would determine if they are able to do so.

Time and resources are always scarce in policymaking and the best use of them would be to develop the data and analytical infrastructure. Better inputs and a simplified forecasting apparatus would be most meaningful for better calibration of policy responses during large shocks to the economy.

I would like to thank Jenny Chan and Donal McVeigh for their work on these remarks. I am grateful to Daniel Albuquerque, Lauren Barnes, Maren Froemel, Derrick Kanngiesser, Giulia Mantoan, Sophie Piton, Doug Rendle, Dan Steel, Carlo Varriale, and Ivan Yotzov for their analysis, and to Andrew Bailey, Fabrizio Cadamagnani, Andrew Gaffney, Jonathan Haskel, Ed Hill, Waris Panjwani, and Kate Reinold for comments and input.

# Appendix



(a) Forecast errors normalised by the peak energy price relative to the peak energy price in the UK.