Gauging (dis)inflationary pressures: comparing tools and current findings

SUERF

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Monetary Analysis
Unobserved components (UC) models determine our bottom-up approach to short-term inflation forecasts

CPI inflation rose to 11% in 2022 Q4, but is expected to fall back to 8% by 2023 Q2\(^1\)

\(^1\)Figures in parentheses are CPI basket weights in 2022. Data to December 2022. Bank staff projections from January to June 2023. Fuels and lubricants estimates use Department for Business, Energy and Industrial Strategy petrol price data for January 2023 and then are based on the sterling oil futures curve. Other goods is the difference between CPI inflation and the other contributions identified in the chart.

Sources: Bloomberg Finance L.P., Department for Business, Energy and Industrial Strategy, ONS and Bank calculations.
Utilise staff research to improve the accuracy of the models

1/3 to 2/3 of STIF components by weight were improved at the 1 to 6 month horizon\(^2,3\)

- UC model with stochastic volatility and automatic outlier adjustment
  - Stochastic volatility is useful as certain components experience periods of higher volatility
  - The outlier detection feature handles the one-off changes in volatility
  - The outlier detection feature is comparable to most recent developments in the literature during the Covid period that accounts for the fat-tails/\(t\)-distribution

Sources: ONS and Bank calculations.

\(^2\) Component Level Short-Term Inflation Forecasting for the UK (Esady and Mate, mimeo)
\(^3\) We exclude non-comparable components for our forecast comparison. These include petrol, utilities, education, financial services, other household goods and other household services. Actual STIF includes staff judgement which may have improved forecasting performance, so comparison not purely like-for-like
We use an indicator model as a top-down cross-check

We draw on a number of different indicators...

...which allow us to cross-check against our main forecast

Notes:
- CPIX excludes energy, housing, education and financial services
- Text in squares indicates source of indicators; more than one indicator can be drawn from any single data source

Sources: ONS, S&P Global/CIPS and Bank calculations.
Food price inflation has reached a 45-year high reflecting higher agricultural prices and producer input costs.

Commodity prices and food PPIs remain elevated but are expected to slow.

Source: ONS.
Energy prices have soared; we aim to capture both direct and indirect effects on CPI

Contributions from energy are expected to fall but remain high

As we also estimate the indirect effects of energy

Sources: Bloomberg Finance L.P., Department for Business, Energy and Industrial Strategy, ONS and Bank calculations.
We track measures of underlying inflation and higher frequency movements to assess the risk of inflation persistence

Underlying inflation model (UIM) captures common movements between components

High frequency measures help us to understand changes in momentum

Sources: ONS and Bank calculations.

How broad-based is the increase in UK inflation? (G. Potjagailo, B. Wanengkirtyo and J. Lam, 2022) [link]
Households’ inflation expectations have fallen, but remain elevated

Bank/Ipsos and Citigroup/YouGov one-year household inflation expectations

Sources: Inflation attitudes survey and Citigroup/YouGov and Bank calculations.

Citigroup/YouGov one-year ahead inflation expectations distribution

Sources: Citigroup/YouGov and Bank calculations.
As DMP business inflation expectations also remain elevated

Decision Maker Panel CPI and own price expectations

Decision Maker Panel text analysis\textsuperscript{5,6}

Sources: DMP survey.

Sources: DMP survey and Bank calculations.

\textsuperscript{5}Firm inflation expectations in quantitative and text data (G. Thwaites, I. Yotzov, Ö. Öztürk, P. Mizen, P. Bunn, N. Bloom, . Anayi, 2022) [link]

\textsuperscript{6}Text analysis of reasons for firms’ own price expectations in 12 months time, August to October DMP surveys. Data are for August-October 2022 period
The high inflation environment is driving pay growth

Models show inflation expectations are the main contributor to pay growth...

...and results from our Agents’ survey corroborate this story

Sources: DMP survey.

Sources: ONS and Bank calculations.
With pay contributing to underlying strength in services inflation

Median and underlying measures appear better correlated with pay than headline services

Adjusted R-squared, regressing services inflation on AWE regular pay growth

Sources: ONS and Bank calculations.