PGIM
GLOBAL ASSET MANAGEMENT

KING'S College LONDON

KING'S BUSINESS SCHOOL

BANK OF ENGLAND WATCHERS' CONFERENCE 2025

Bank of England

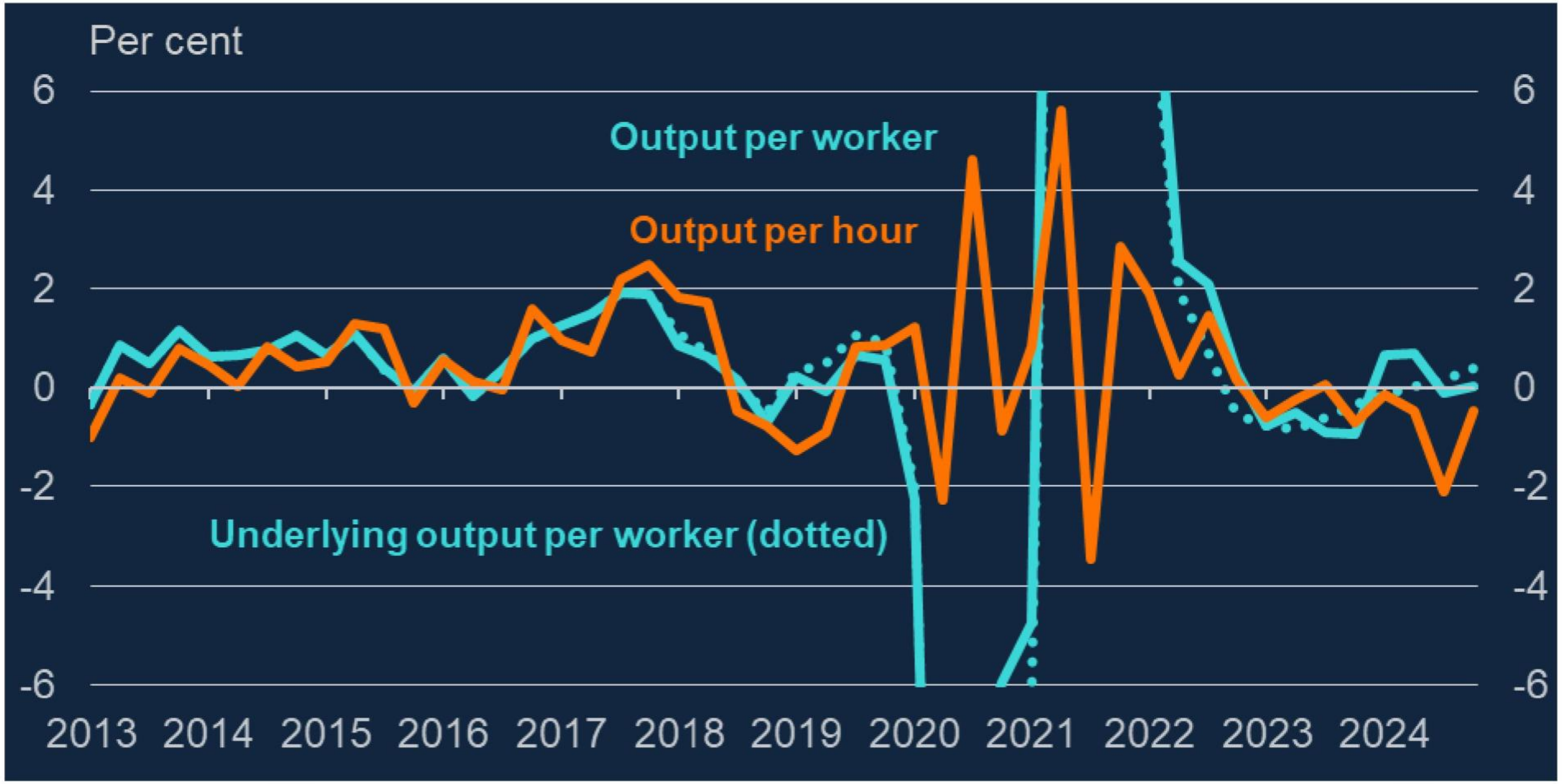
What if things are different?

Speech by Clare Lombardelli

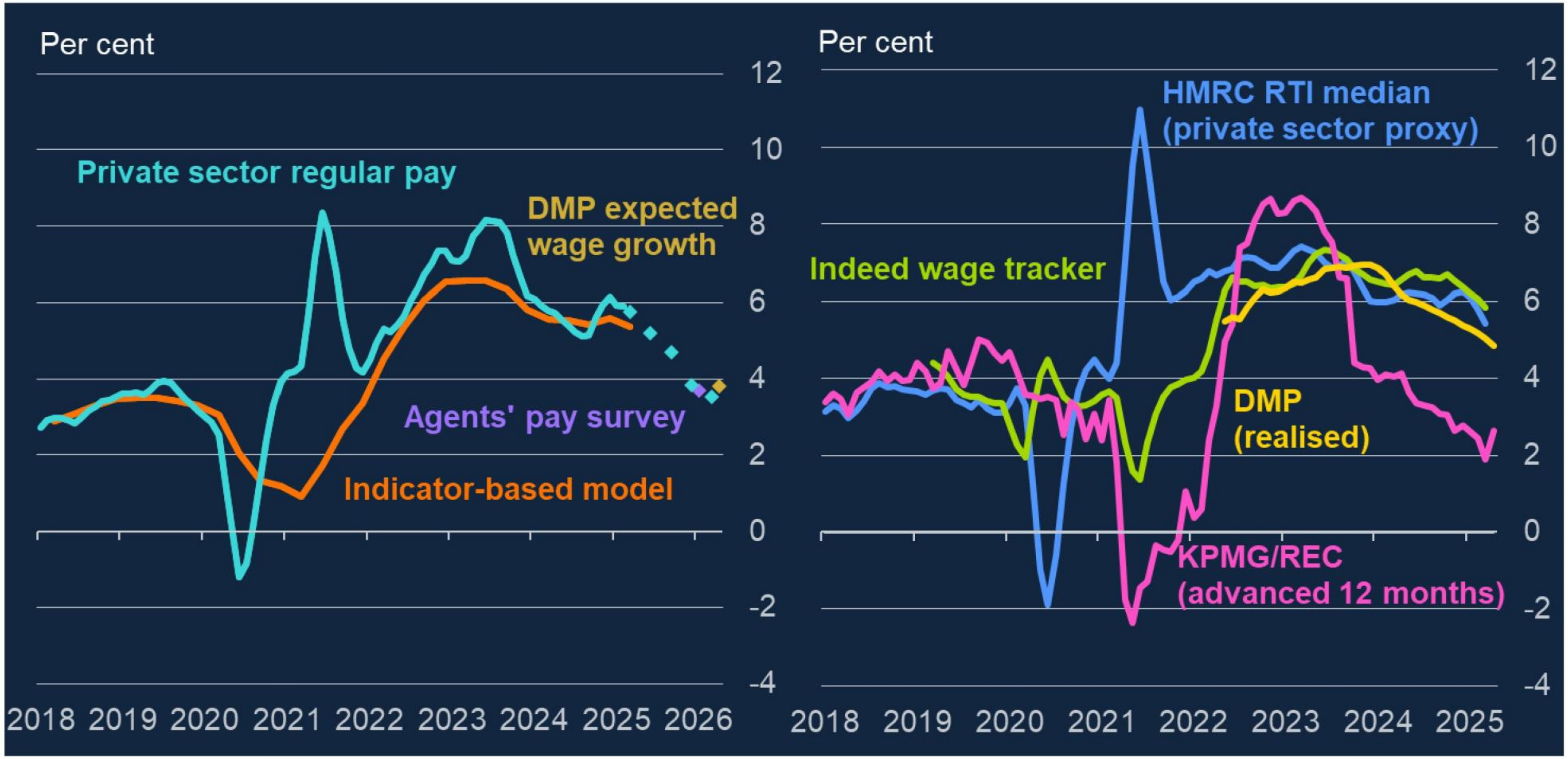
Deputy Governor for Monetary Policy

Bank of England Watchers Conference, London, 12 May 2025

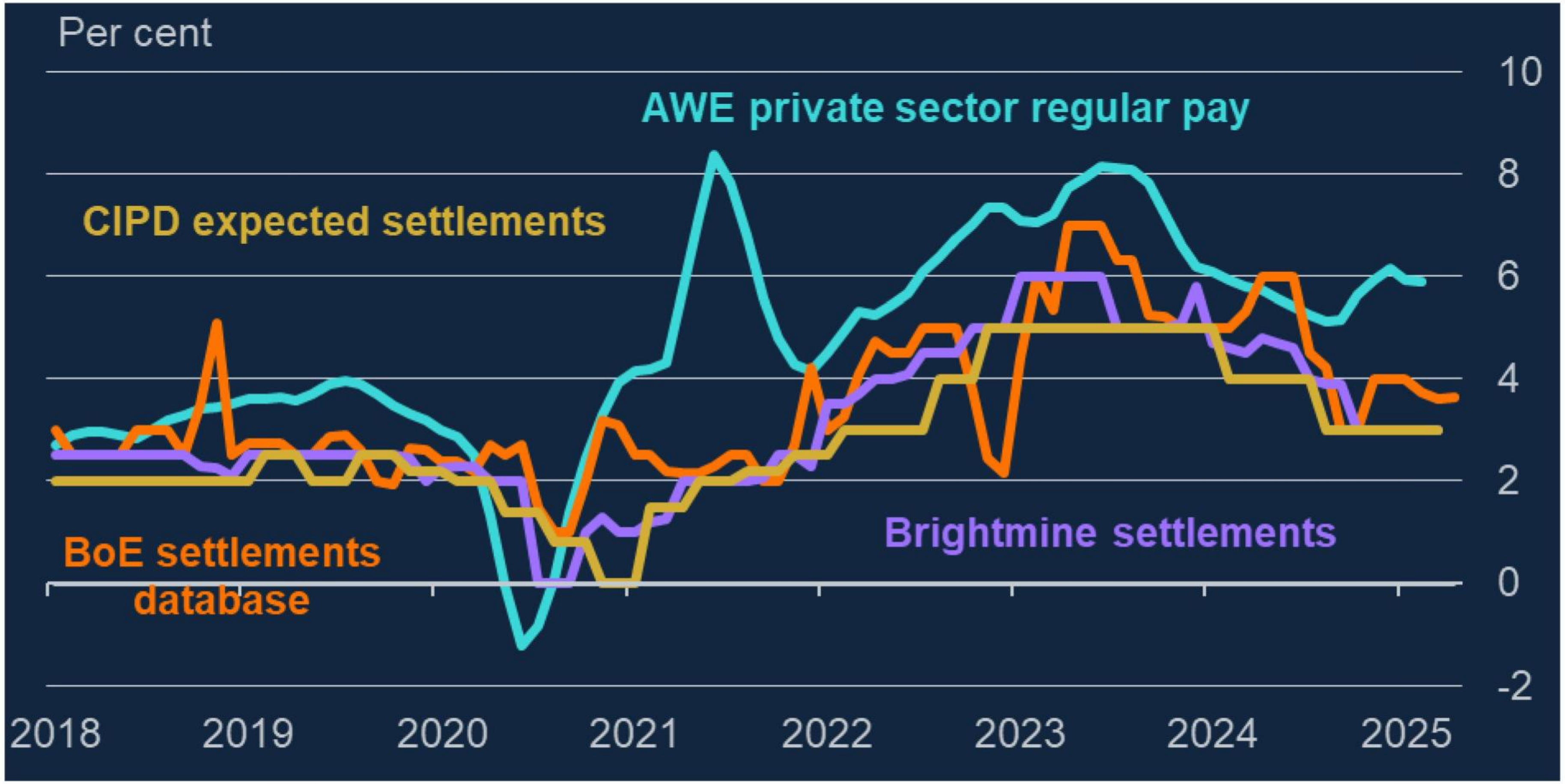
1. Labour productivity growth has been very weak



2. Wage growth higher than target-consistent but gradually easing

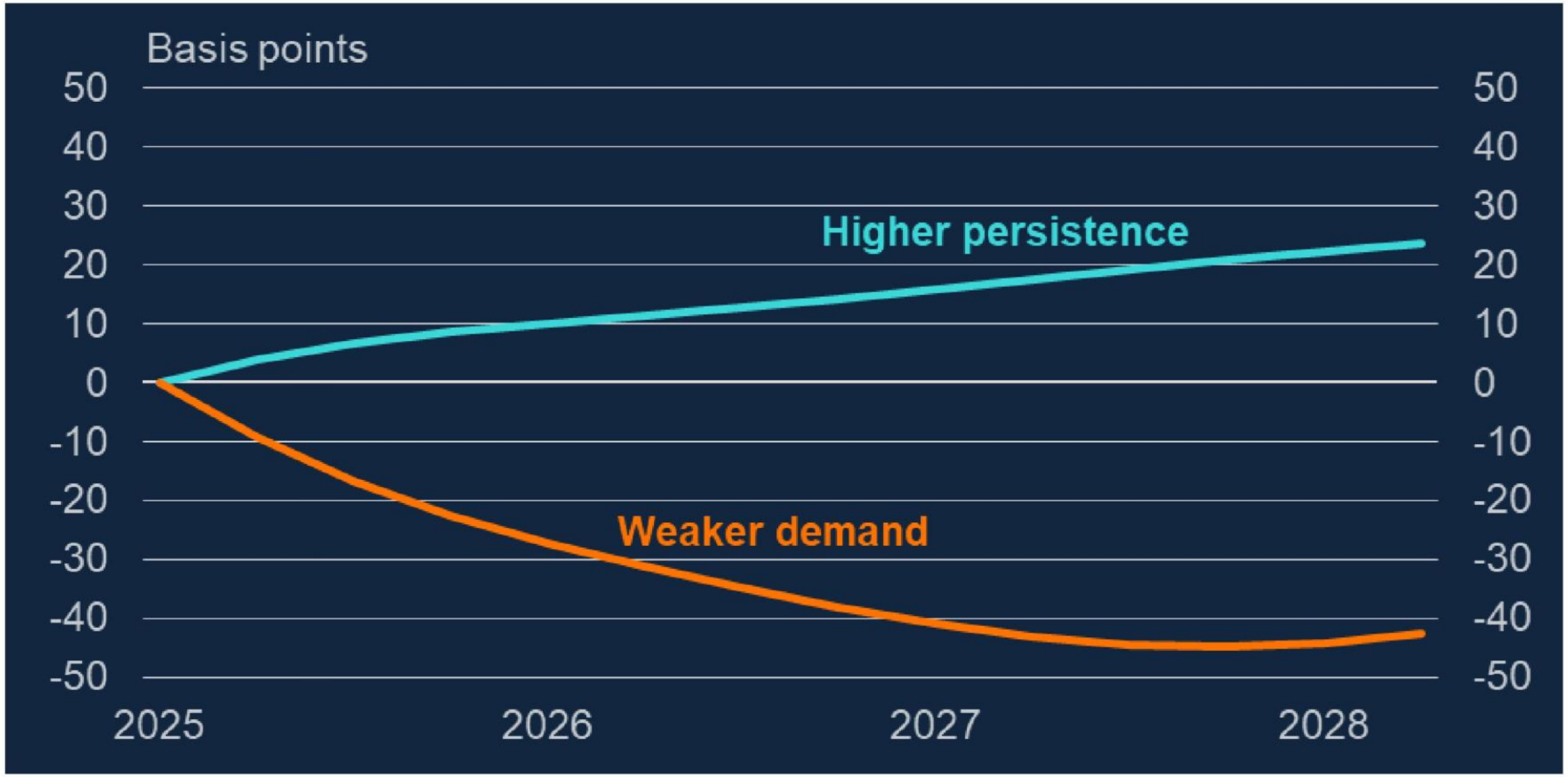


3. Latest pay settlements consistent with steer from Agents' survey



4. Policy tends to respond more strongly to a demand shock than in the presence of a trade-off

Model-based simulations of policy responses in May scenarios relative to baseline model-based path



BANK OF ENGLAND WATCHERS' CONFERENCE 2025

PGIM GLOBAL ASSET MANAGEMENT

KING'S College LONDON KING'S BUSINESS SCHOOL

BANK OF ENGLAND
WATCHERS' CONFERENCE

PGIM
GLOBAL ASSET MANAGEMENT

KING'S College LONDON
KING'S BUSINESS SCHOOL

FISCAL POLICY, THE BOND MARKET, AND IMPLICATIONS FOR MONETARY POLICY

Fiscal Policy, the bond market, and implications for monetary policy

Sushil Wadhwani

Bank of England Watchers' conference

May 12, 2025

Reasons why the “term premium” might rise in the US

- Attacks on Fed independence
- Fear of sanctions
- The US is seen as a less reliable security partner
- Risks include forced debt swaps, taxes on inflows etc
- The rule of law is being undermined
- Japan has described their Treasury holdings as a “card” in trade negotiations
- Fiscal probity is being questioned

What the BOE might do to limit “contagion” from US Treasuries

- Lower short-term interest rates because of an “unwarranted” tightening in financial conditions
- The MPC already makes judgements about other unobservable variables (e.g. the neutral rate of interest, the equilibrium unemployment rate)
- If the QT programme is not on autopilot, it would give the MPC another instrument
- Amend communication-might imply one has to do less

Dealing with the high inflation risk premium embedded in UK gilts

- Long-term breakeven inflation embedded in the UK gilts market is well above the inflation target(by at least 100bp?)
- Long-term breakeven inflation that is embedded in the uS Treasury market is close to the Fed’s inflation target
- Recall that the UK government sets the inflation target, while the Fed(and the ECB) set their own inflation target
- In August-September 2022, there were persistent rumours of an upward revision of the inflation target and twenty year breakeven inflation rose as high as 4.15%
- So perhaps we should allow the BOE to set its own target?

Other measures to reduce the IRP in the UK

- Increase the fraction of gilt issuance accounted for by index-linked gilts
- The BOE becomes more credible itself

BANK OF ENGLAND WATCHERS' CONFERENCE 2025

Fiscal policy, the bond market and implications for monetary policy

Andrew Benito

Eisler Capital

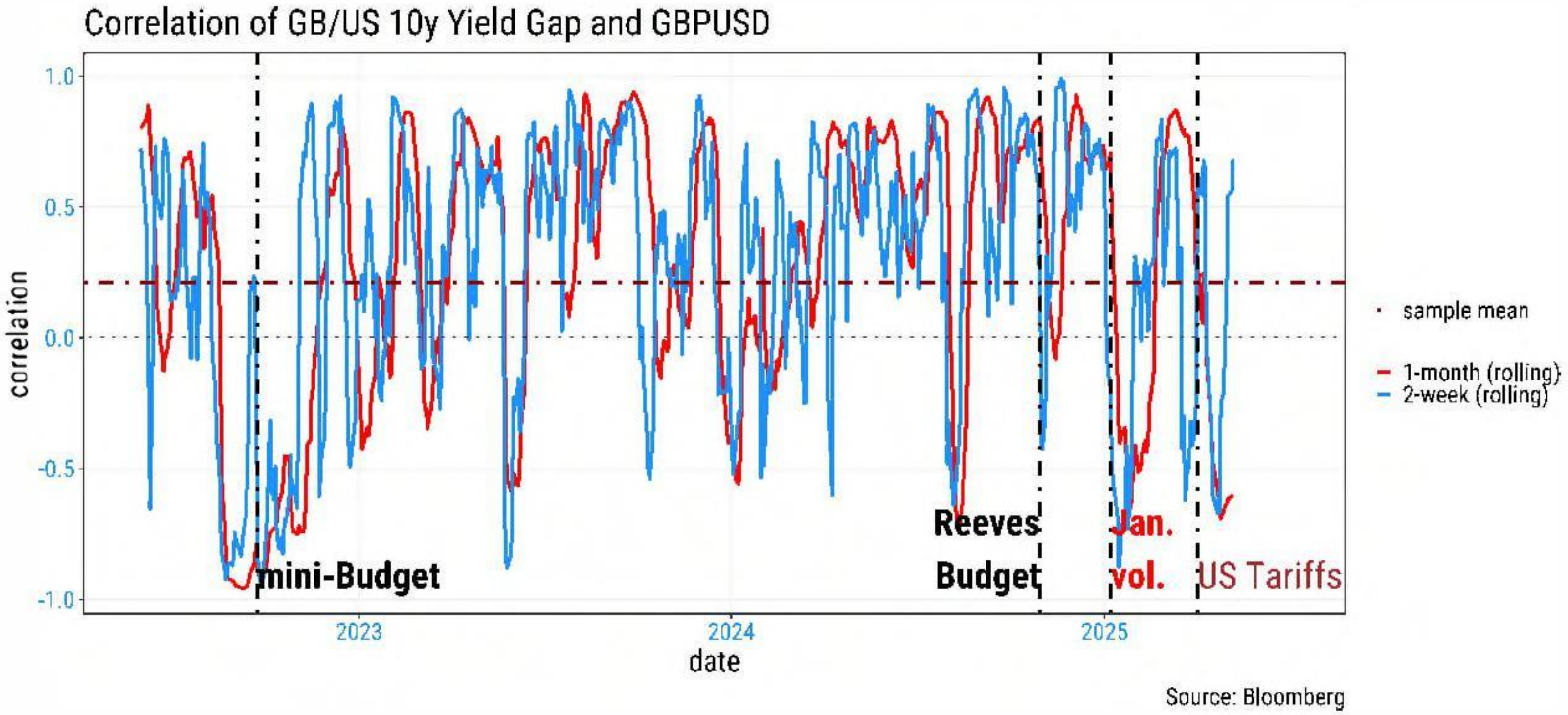
Remarks at BoE Watchers Conference

May 12, 2025

Main messages

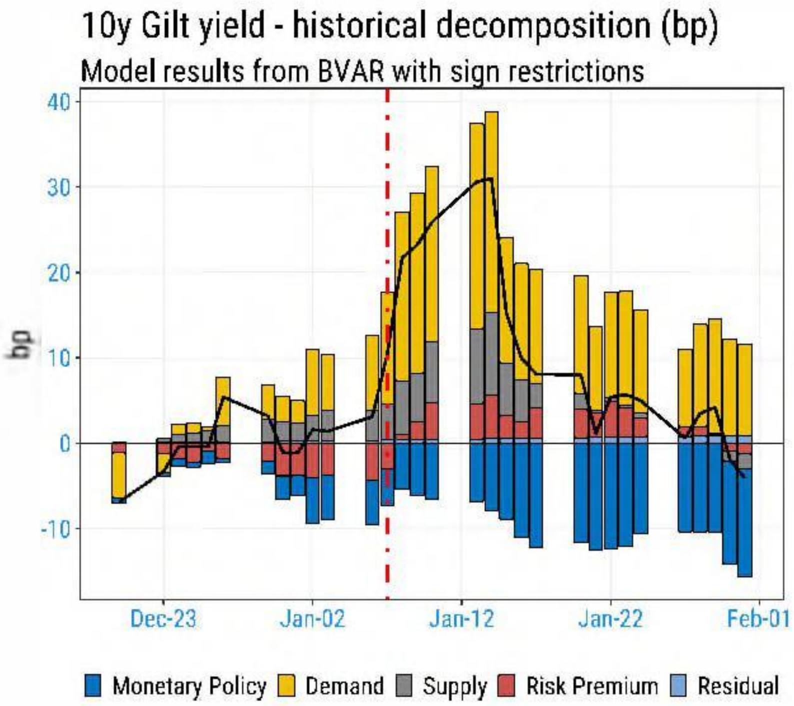
- **Markets** Risk of fiscal fatigue: more fiscal effort is needed but may lack political support, absent risk premium episodes.
- **BoE and Monetary policy**
  - Risk premiums complicate policy transmission and effectiveness.
  - Ease monetary policy as spare capacity opens-up (on fiscal consolidation or US Tariffs), not on fiscal risk premium.
  - Market liquidity: DMO changes preferred. QT changes and capacity to support market functioning facilitated by confidence in the fiscal path.
- Loosening the fiscal rules again would be a symptom of fiscal fatigue. More flexibility can come after more of a track record.

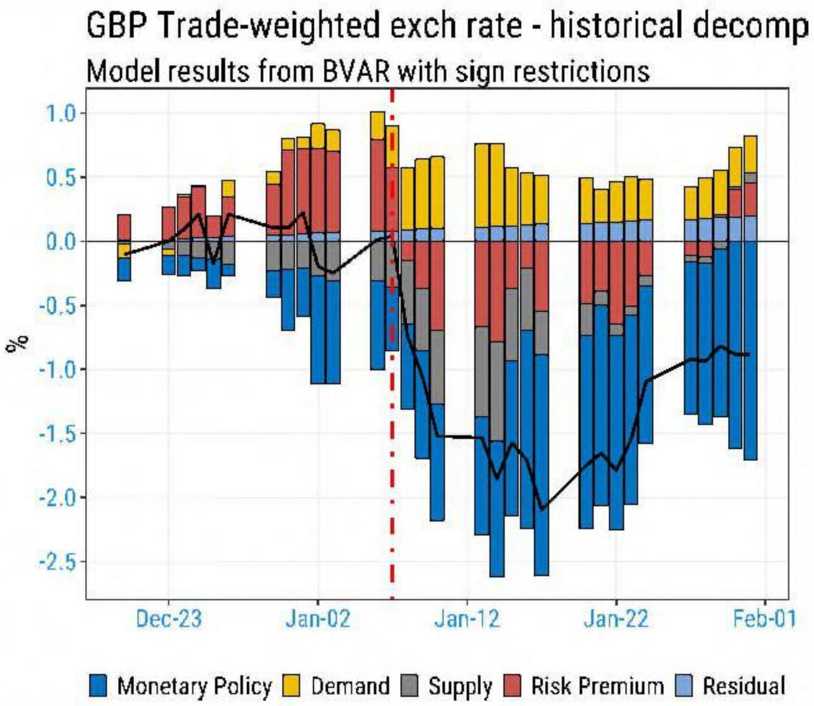
Bouts of (Sterling) risk premium



- Instability reflects changeable roles for different shocks.
- Demand news pushes Yields and Currency in the same direction ($\rho > 0$). Risk premium news pushes them in opposing directions ($\rho < 0$).
- 'Case studies': January episode and US tariffs.

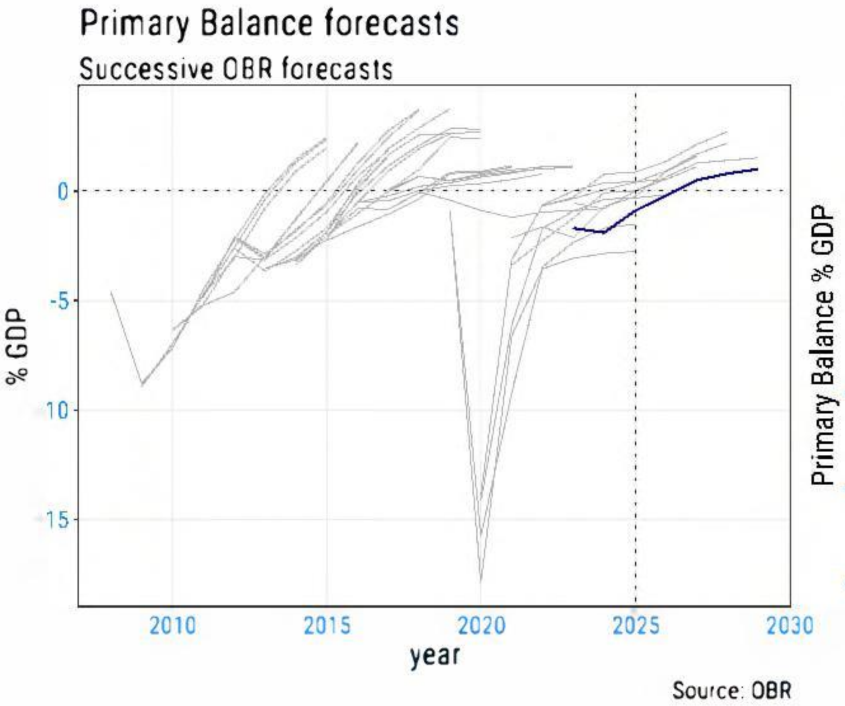
Quantifying January's risk premium effect

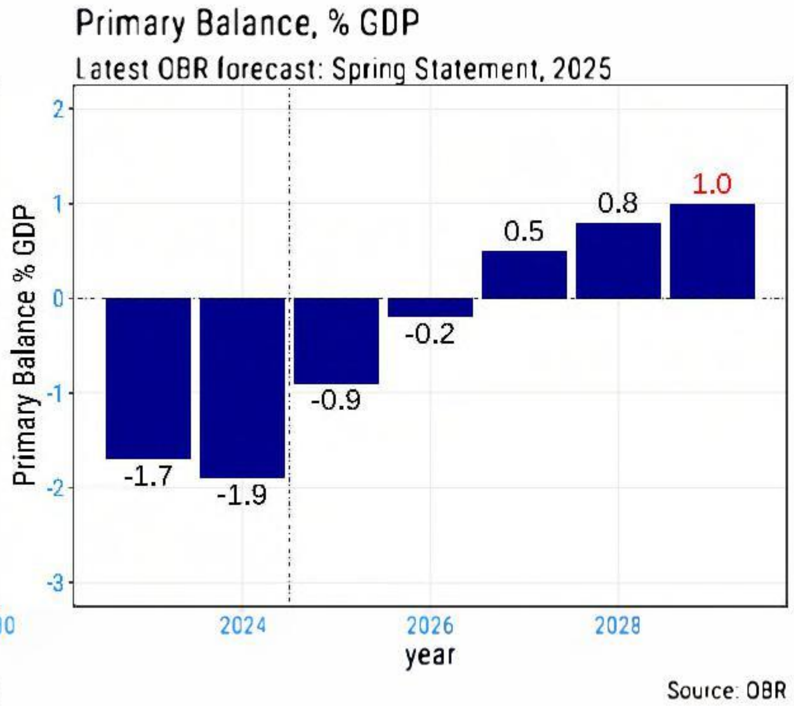




- Risk premium effect accounted for more of the move in foreign exchange than bond yields.

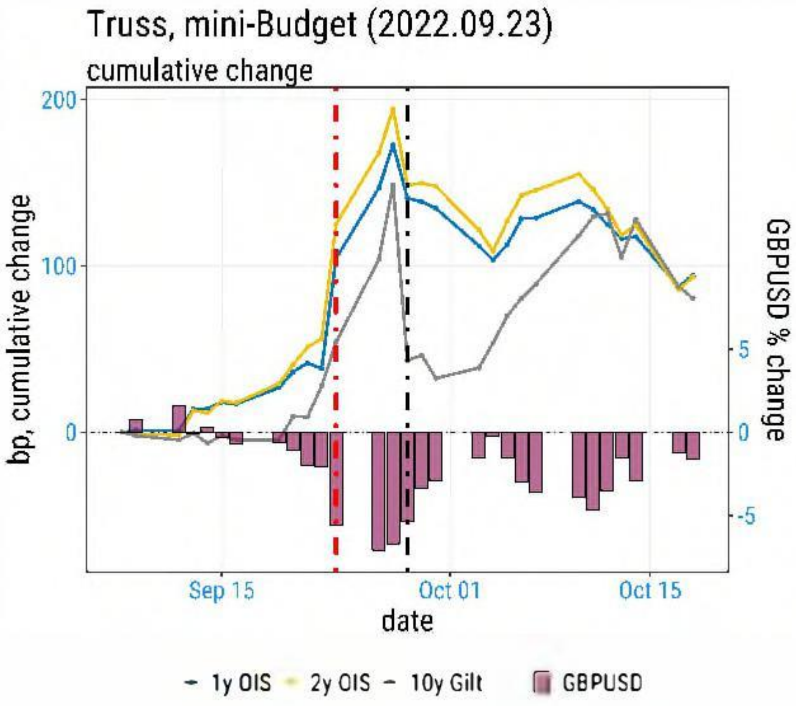
The fiscal effort: expect delays?

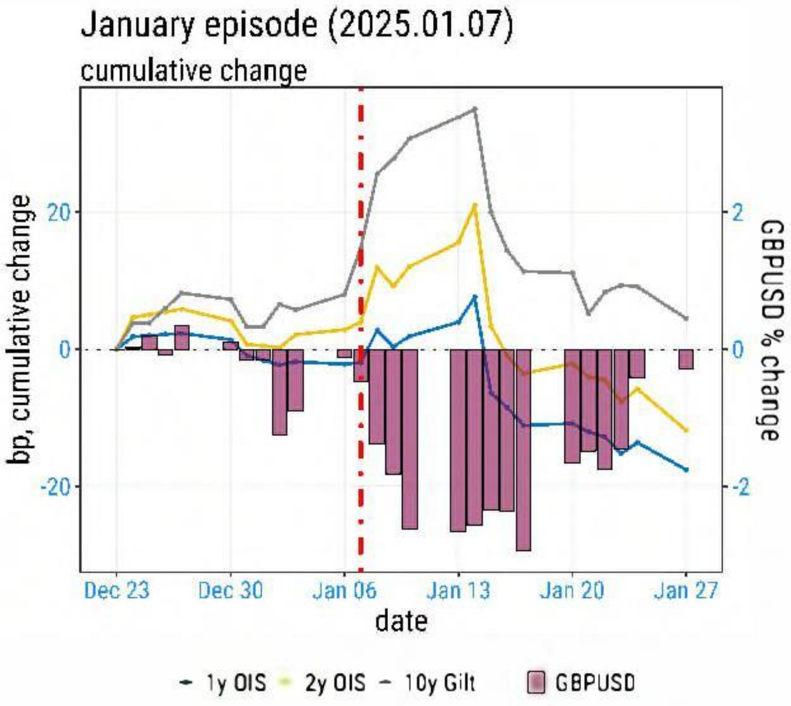




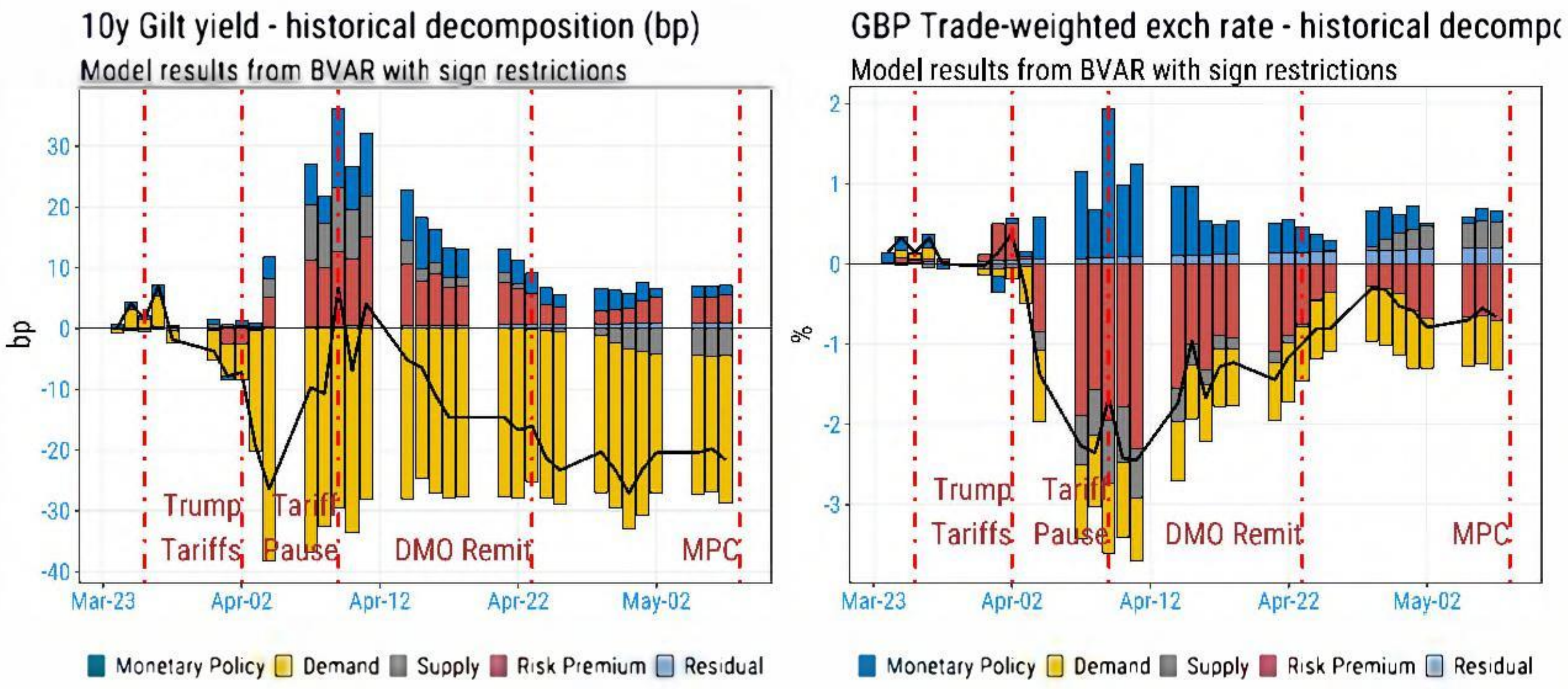
- Required, Debt-stabilising primary balance has increased from -2.0% of GDP to +1.0% (on r↑, g↓).
- Excl. 2020/21, ‘t+4’ forecast error for the primary balance averages -2.4pp.

BoE: Risk premium episodes complicate policy effectiveness + predictable MPC Comms



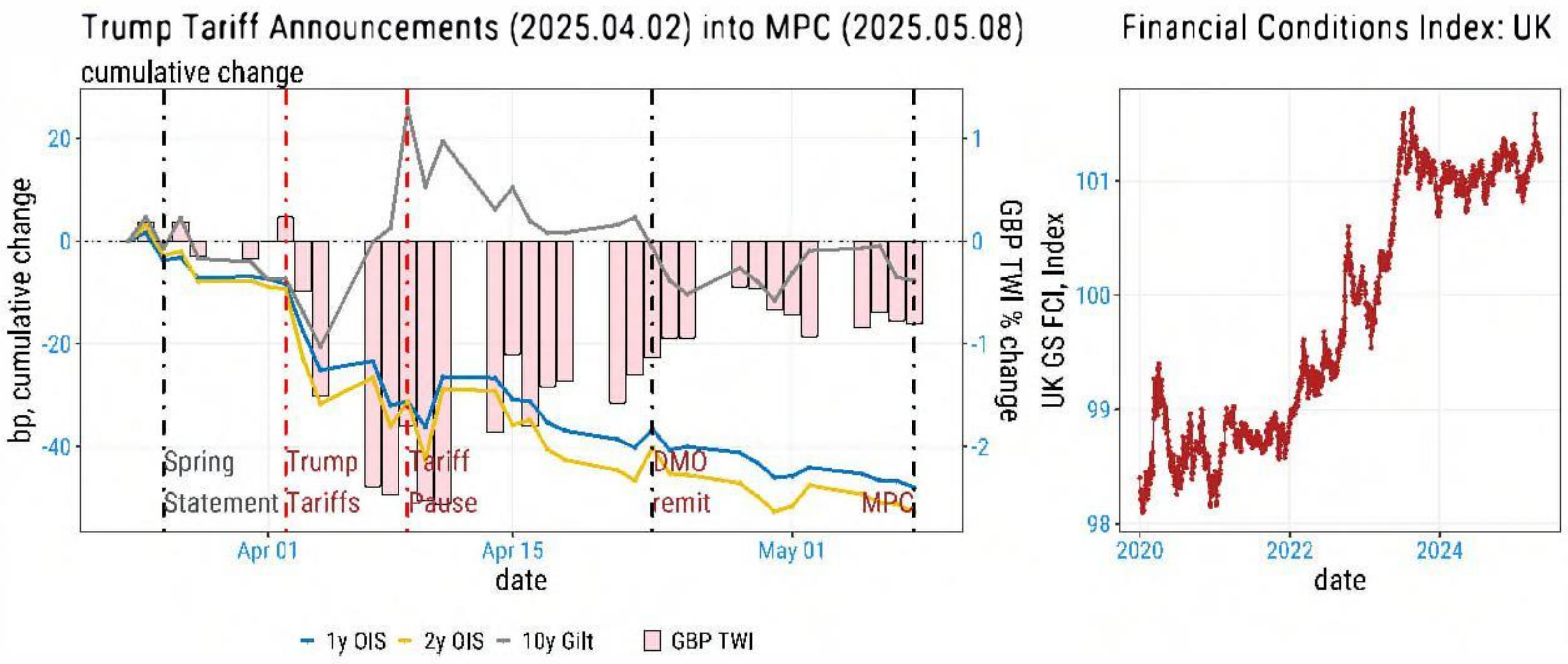


US Tariffs: Decomposing GBP market reactions



- US Tariffs as a negative Demand shock (for the UK), with a temporary Risk premium effect.
- Needed: allowance for a US risk premium and its spillovers.

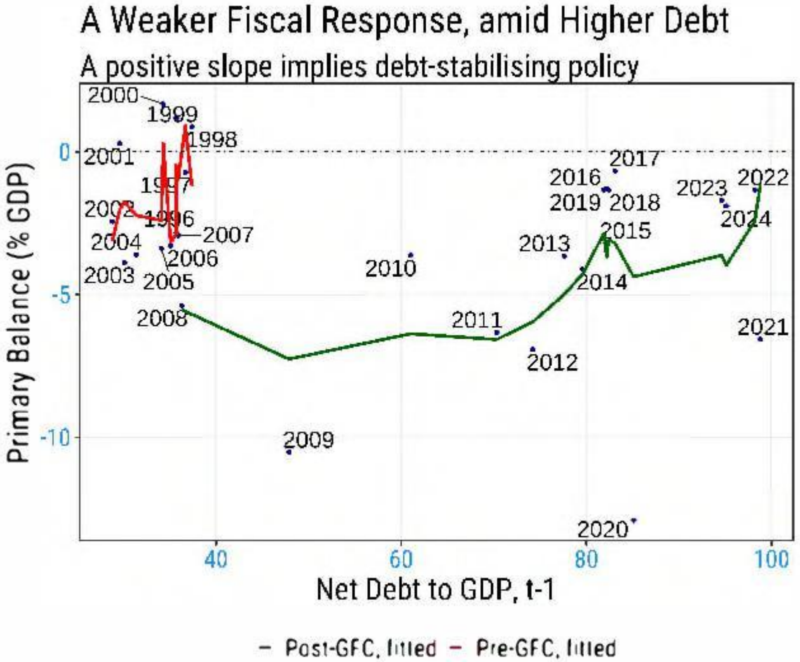
BoE: weak Demand effects are Dovish. (Fiscal) Risk premium effects not so much



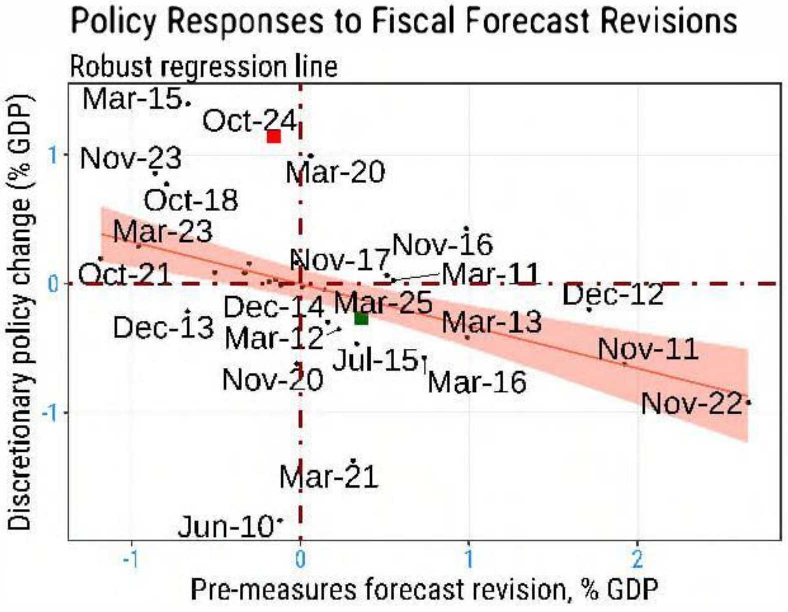
Sources: Goldman Sachs, Bloomberg

- Commitment to fiscal rules gives BoE greater flexibility to adjust QT (eg.10/04). A high bar on temporary and targeted interventions. DMO response (eg.23/04) preferred.

HMT: The fiscal reaction



Note: The Bohn regressions control for the Output gap



Source: OBR

- Suspending or revising fiscal rules would reinforce a sense of UK fiscal fatigue.

PGIM
GLOBAL ASSET MANAGEMENT

KING'S College LONDON

KING'S BUSINESS SCHOOL

BANK OF ENGLAND WATCHERS' CONFERENCE 2025

Bank of England Watchers Conference 2025

Fiscal policy, the bond market and implications for monetary policy

Isabelle Mateos y Lago
Group Chief Economist

May 12, 2025

Fiscal and Monetary Policy Relationship in the UK: It's (Uniquely) Complicated

Annual remit set by HMT but
. Indemnification of QT losses
. Fast normalization of QT

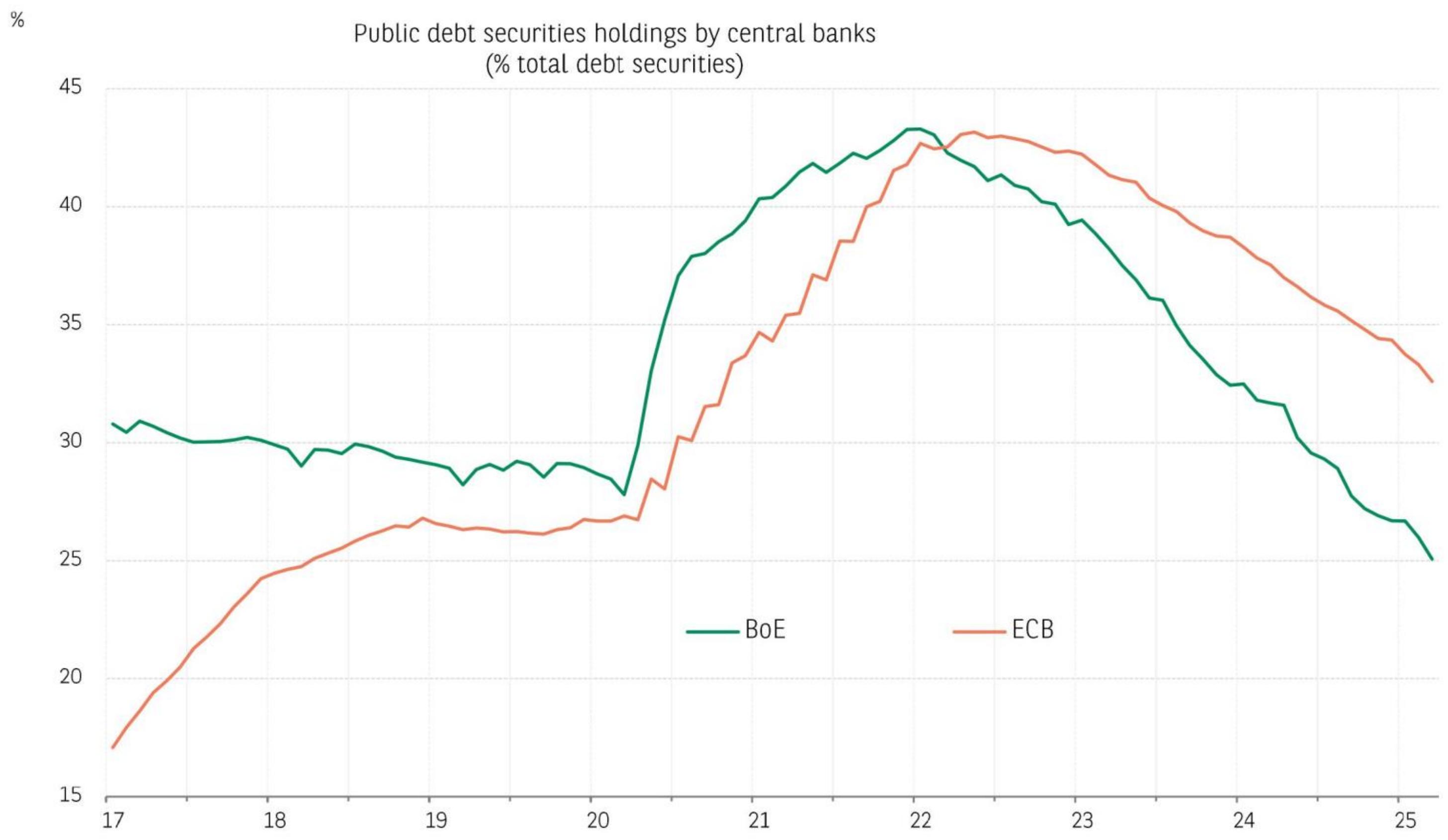
. Alignment of objectives via large share of inflation-indexed gilts

. Reflexivity / procyclicality from use of market interest rates - in BOE forecasts
- in fiscal rules

. Hightened risk premia and vulnerability to UST moves

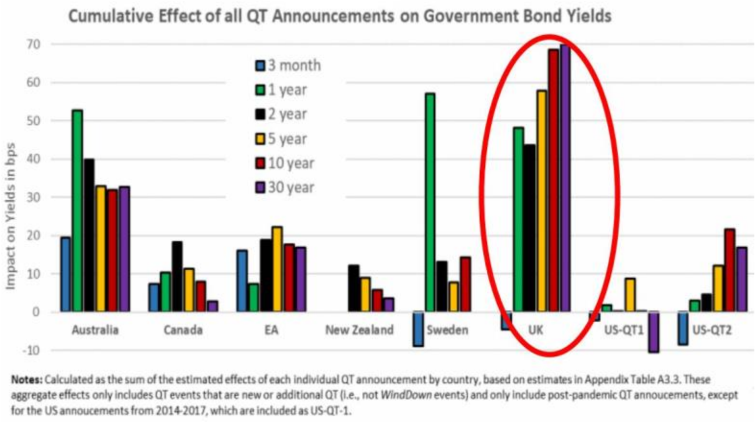
. Somewhat opaque framework complicates both monetary policy and financial stability missions

BOE chose a sharper path to balance sheet normalization



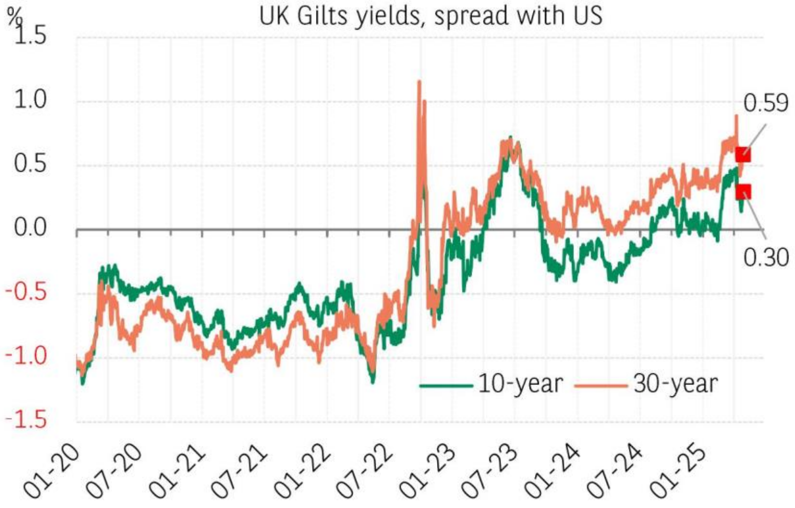
Source: BoE, ECB, BNP Paribas calculations

"Active" QT and economic uncertainty create upside risk to gilt yields



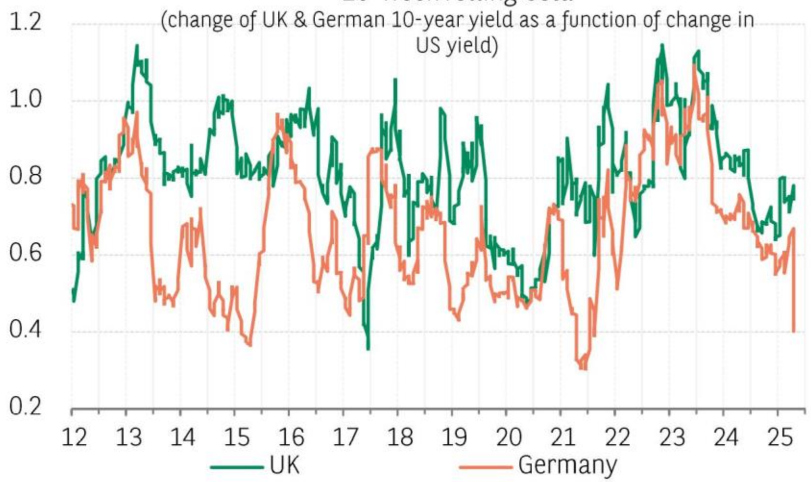
Source: W. Du et al. (2024), Quantitative tightening around the globe: what have we learned?, NBER working papers

Repricing in Gilts in 2025 sharper than in the US



Source: Thomson Reuters

Gilts Increasingly Driven by Treasuries



Source: Thomson Reuters, BNP Paribas calculations

BANK OF ENGLAND
WATCHERS' CONFERENCE

PGIM
GLOBAL ASSET MANAGEMENT

KING'S College LONDON
KING'S BUSINESS SCHOOL

MONETARY POLICY OUTLOOK

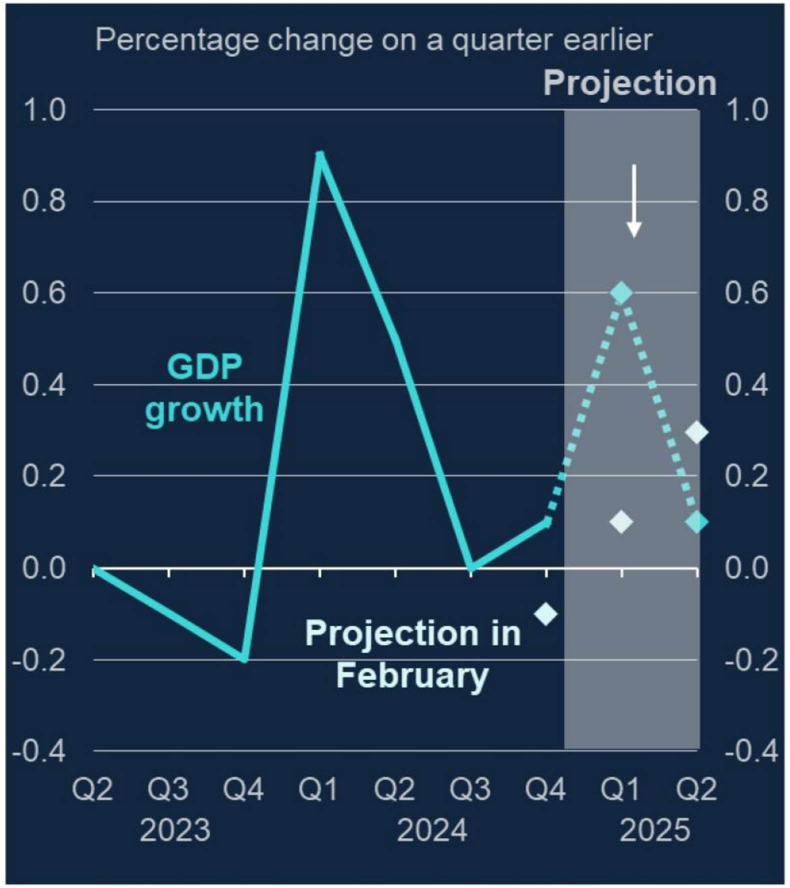
Bank of England

Monetary policy outlook

Megan Greene

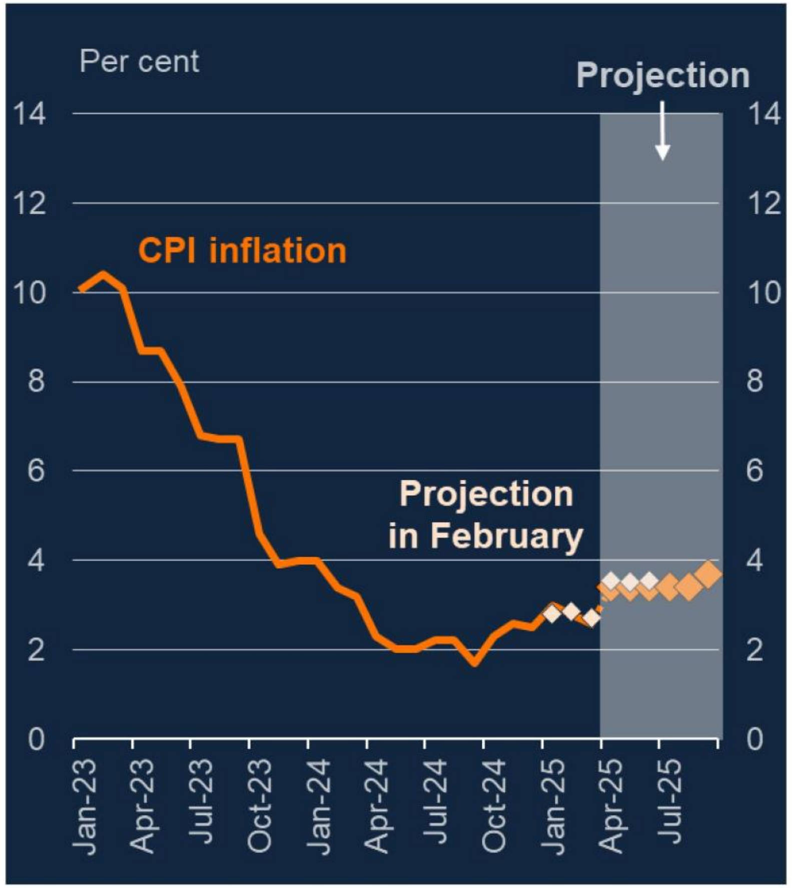
Where are we now vs. the start of the year?

GDP growth



Unemployment rate

CPI inflation

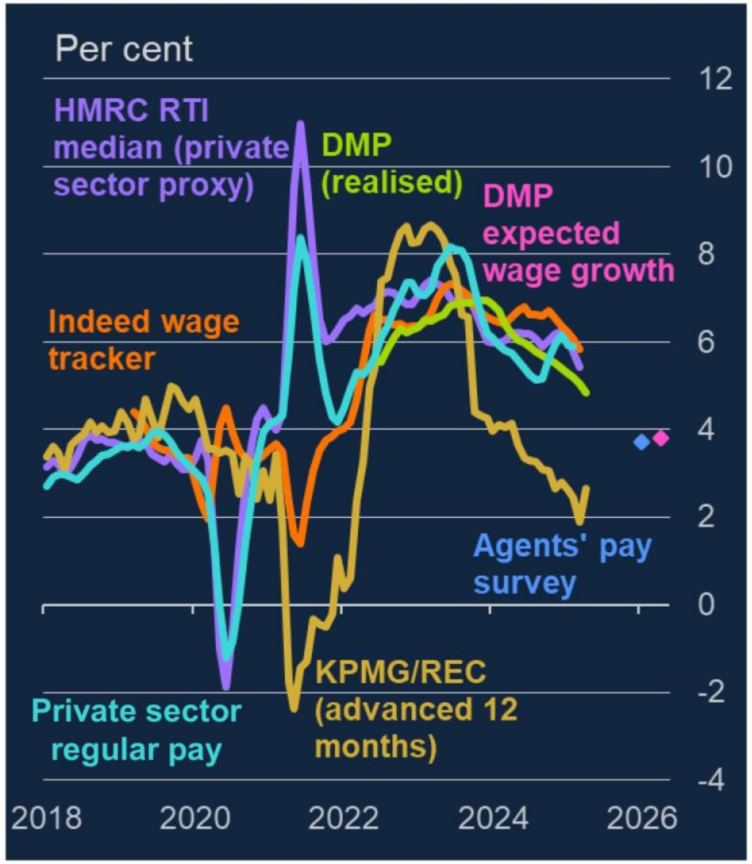


Sources: BCC, CBI, Lloyds Business Barometer, ONS, S&P Global and Bank calculations. The lighter diamonds show Bank staff's projections at the time of the February Report. The darker diamonds show Bank staff's current projections. The projections for headline GDP growth and the unemployment rate are quarterly and show 2025 Q1 and 2025 Q2 (February projections show 2024 Q4 to 2025 Q2). The projections for CPI inflation are monthly and show April to September 2025 (February projections show January 2025 to June 2025). The GDP growth and unemployment rate projections for 2025 Q1 are based on official data to February 2025, while the CPI inflation figures over the same quarter are outturns. Although LFS unemployment data have been reinstated by the ONS, they are badged as official statistics in development and the LFS continues to suffer from very low response rates, which can introduce volatility and potentially non-response bias (Box D of the **May 2024 Monetary Policy Report**).

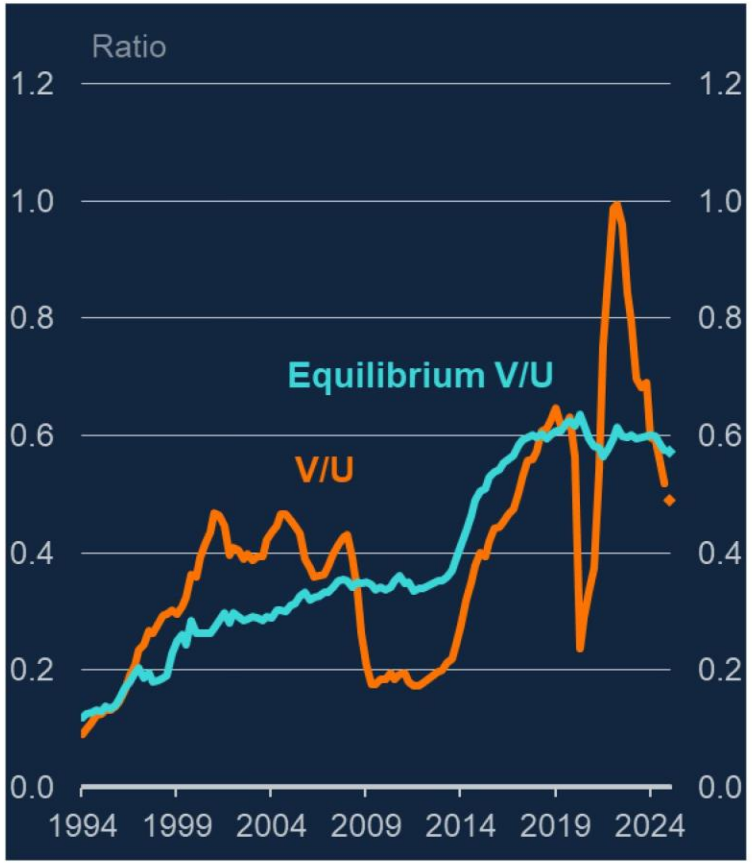
Inflation persistence remains in focus

Services inflation

Pay growth



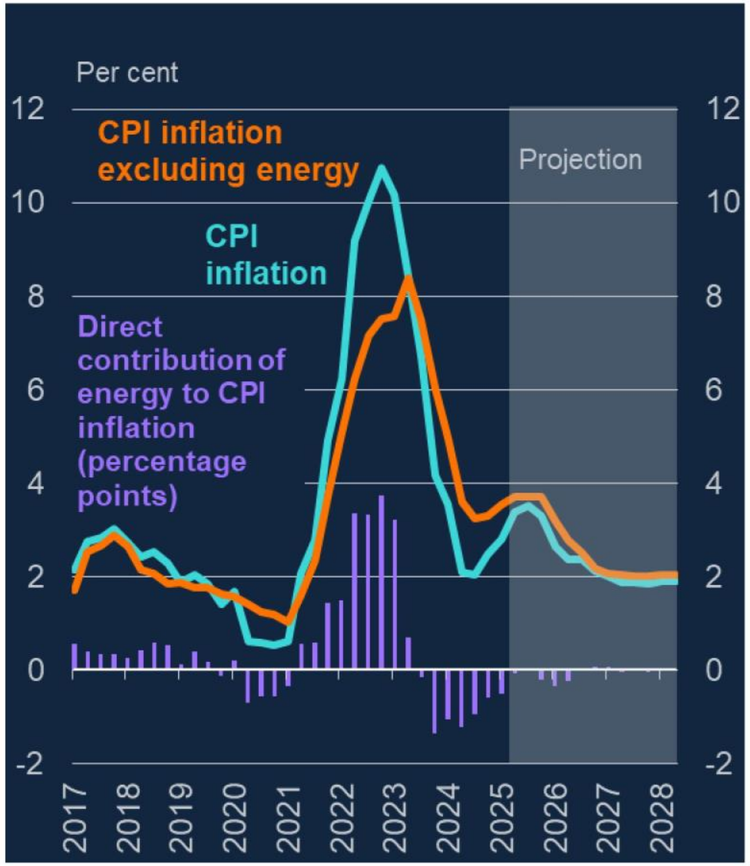
The observed V/U ratio and the estimated equilibrium level



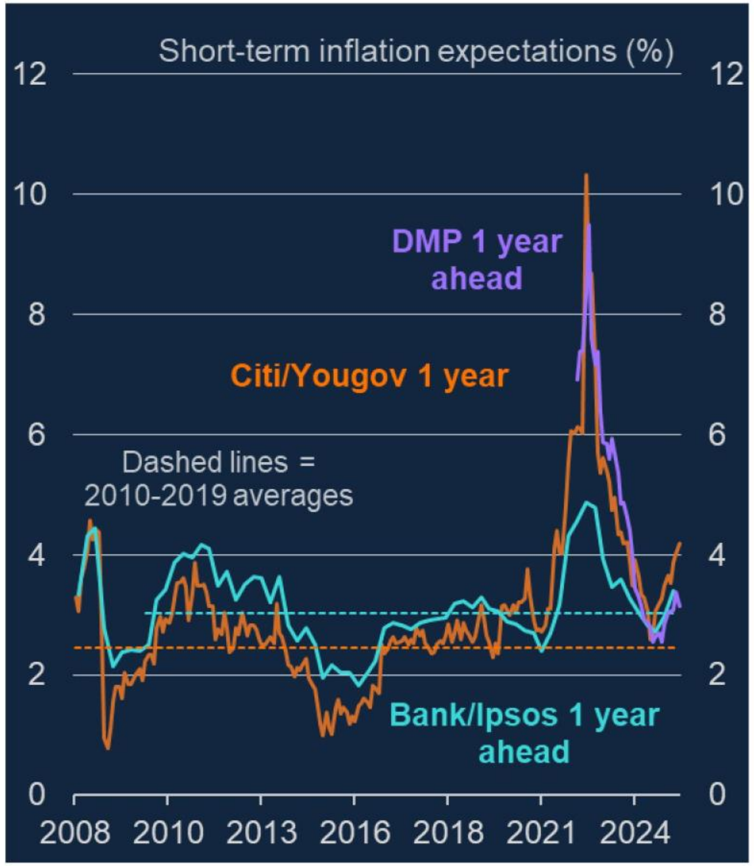
Sources: . LHS chart: ONS and Bank calculations. The low variance measure is calculated by weighting each component of services inflation by the inverse variance of the change in 12-month inflation of that component from 12 months previously. The maximum adjusted weight is capped at twice its original value. Details on the components which have been included/excluded from the 'Services excluding indexed and volatile components, rents and foreign holidays' measure are included in the accompanying spreadsheet published online. All measures are seasonally adjusted. The trimmed mean measure excludes the 10% largest and 10% smallest price changes. The latest data points shown refer to March 2025. Centre chart: Bank of England Agents, DMP Survey, HMRC, Indeed, KPMG/REC UK Report on Jobs, Lloyds Business Barometer, ONS and Bank calculations. Private sector regular pay growth in the aqua line shows the ONS measure of private sector regular average weekly earnings growth (three-month average on same three-month average a year ago). Latest data points are for the three months to February 2025 for private sector regular pay. DMP shows three-month average realised pay growth from the DMP Survey. KPMG/REC shows average starting salaries for permanent staff compared to the previous month. The KPMG/REC index is mean-variance adjusted to ONS private sector regular pay growth over 2002–19 and is advanced by 12 months, which better reflects the leading relationship between the KPMG/REC index and the ONS measure of pay growth. HMRC Real-Time Information (RTI) shows median of private sector employee pay growth. Indeed shows annual average job title matched pay growth for UK job vacancies. Latest data points are March 2024 for Indeed, HMRC RTI and the KPMG/REC index, and April 2025 for the DMP Survey. The Agents' pay survey diamond shows respondents' expected average pay settlements in 2025, weighted by employment and sector. The DMP diamond shows average expected pay growth one year ahead for respondents to the April 2025 DMP Survey. RHS: AA/WARC Expenditure Report, ONS and Bank calculations. The equilibrium V/U ratio is estimated using an error-correction model over the period 1982–2023. The real cost of vacancy posting and hourly labour productivity are included as long-run determinants for the level of vacancies. The model also includes controls for short-term movements in these variables (Stelmach et al, 2025). The final data points for both series in the chart are 2024 Q4, while diamonds represent projections for 2025 Q1.

A near-term bump in inflation is expected to fall back though expectations remain elevated

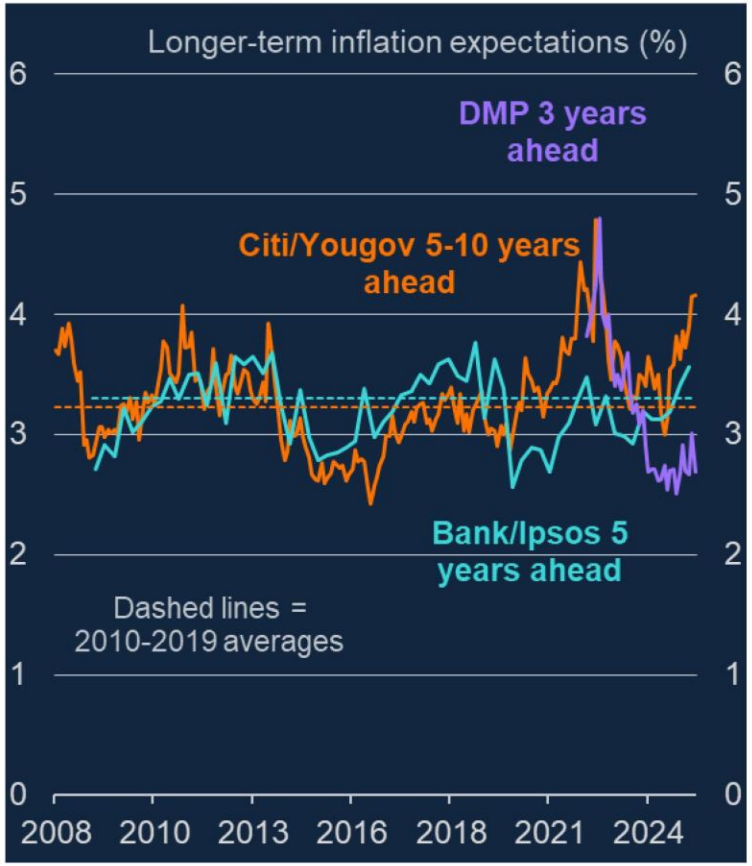
CPI inflation and CPI inflation excluding energy



Household and business short-term inflation expectations



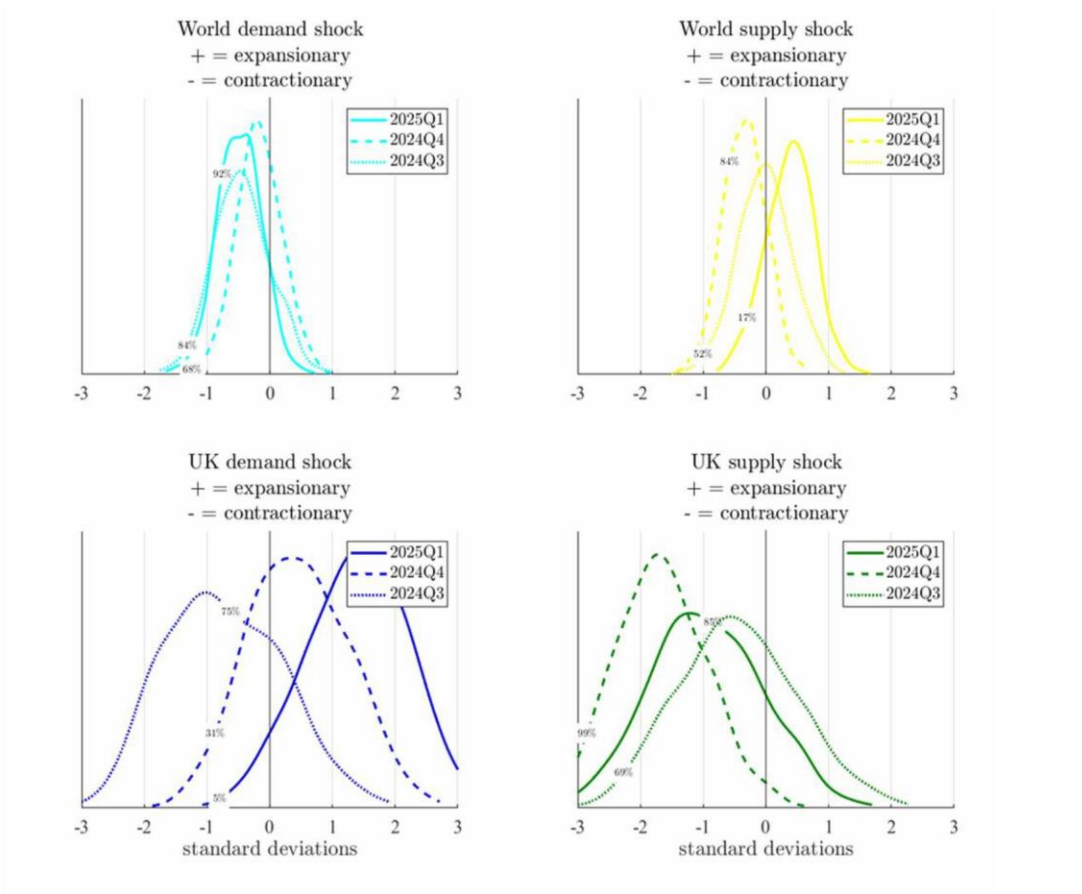
Household and business longer-term inflation expectations

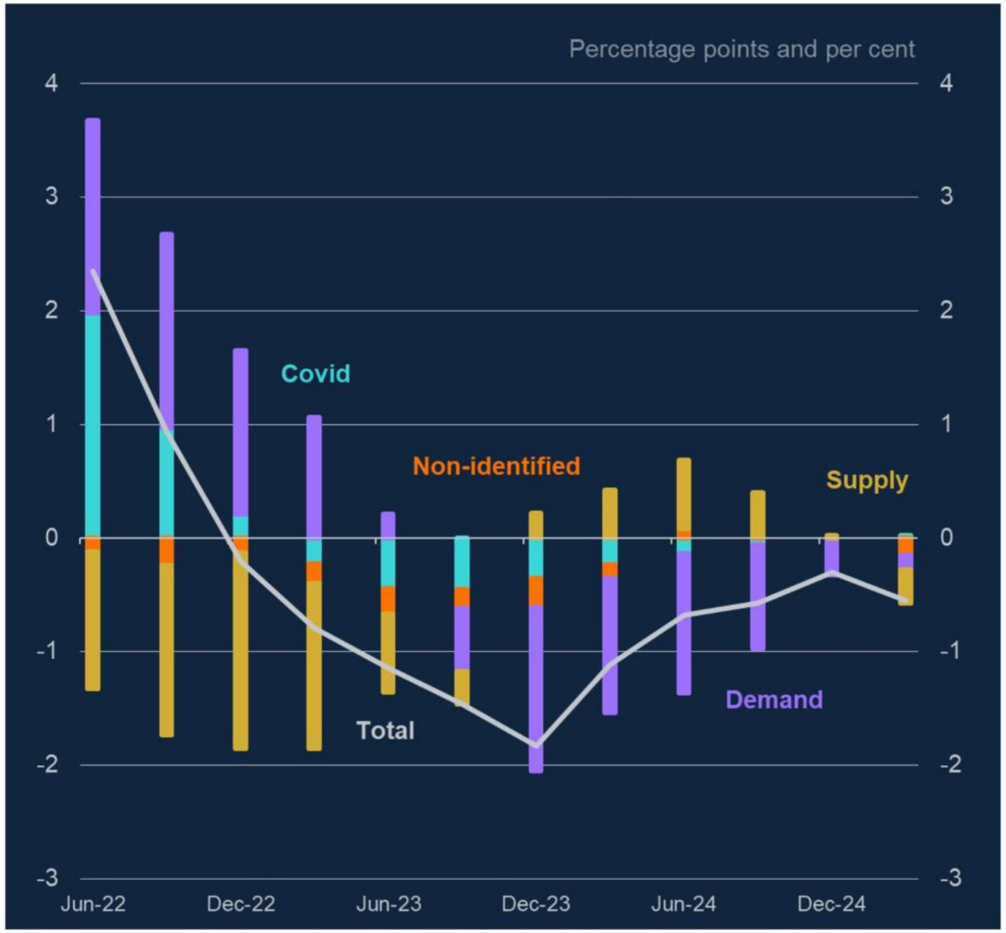


Sources: LHS: Bloomberg Finance L.P., ONS and Bank calculations. Energy prices include fuels and lubricants, electricity, gas and other fuels. Centre and RHS: Bank/Ipsos Inflation Attitudes Survey (IAS), Citigroup, YouGov, DMP and Bank calculations. Bank/Ipsos IAS data shows median responses. Data shown are the one year and five year ahead inflation expectations measures. Dashed lines represent the series averages over 2010–19. A methodological break occurred during the Covid pandemic that means a degree of caution should be taken when making long-run comparisons with these data. The methodology notes linked in the latest IAS release for February 2025 provide more information. Data are not seasonally adjusted and the latest data points are for 2025 Q1. Citi/YouGov survey data shown are the one year and five to ten year ahead inflation expectations measures. Dashed lines represent the series averages over 2010–19. Since August 2022, the YouGov/Citigroup survey has been based on updated response buckets. Data are not seasonally adjusted and the latest data points are for April 2025. DMP data is 1 year and 3 year ahead CPI expectations. Latest data points are for April 2025.

A key question remains whether weakness in activity is supply or demand driven – or both

Results from Bank staff's SVAR

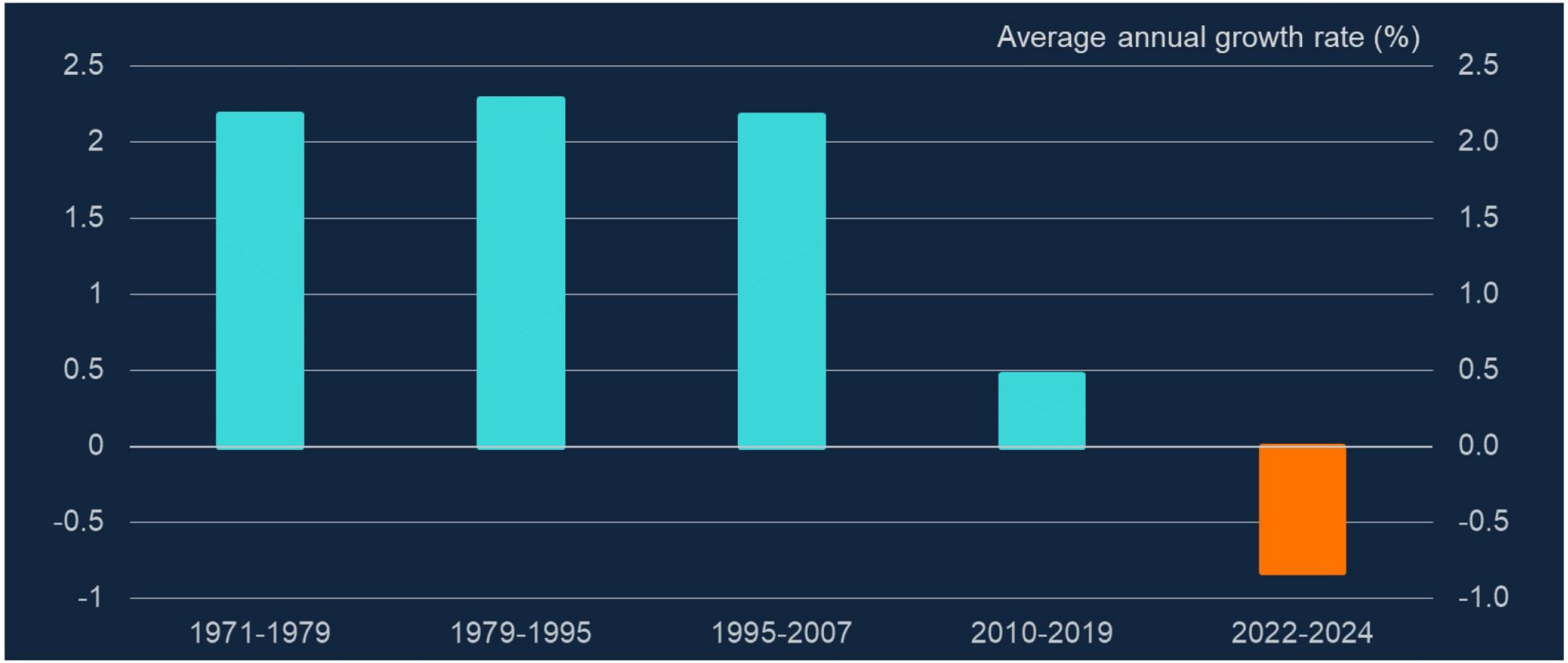




Sources: LHS: Chart shows the estimated distribution of domestic and global demand and supply shocks that have hit the UK economy in 2024 Q3, 2024 Q4 and 2025 Q1. These shocks are derived from a SVAR model for the UK economy, estimated using Bayesian techniques on data from 1992 Q1 to 2025 Q1. The shocks are identified through zero and sign restrictions. Moreover, the SVAR also estimates a global energy shock and a domestic monetary policy shock, not shown here. See **here** for further details on the model. RHS: Chart shows a decomposition of YoY headline GDP growth using results from the SVAR model. The chart is expressed in deviation from deterministic component (around 2%).

Productivity continues to be surprisingly weak

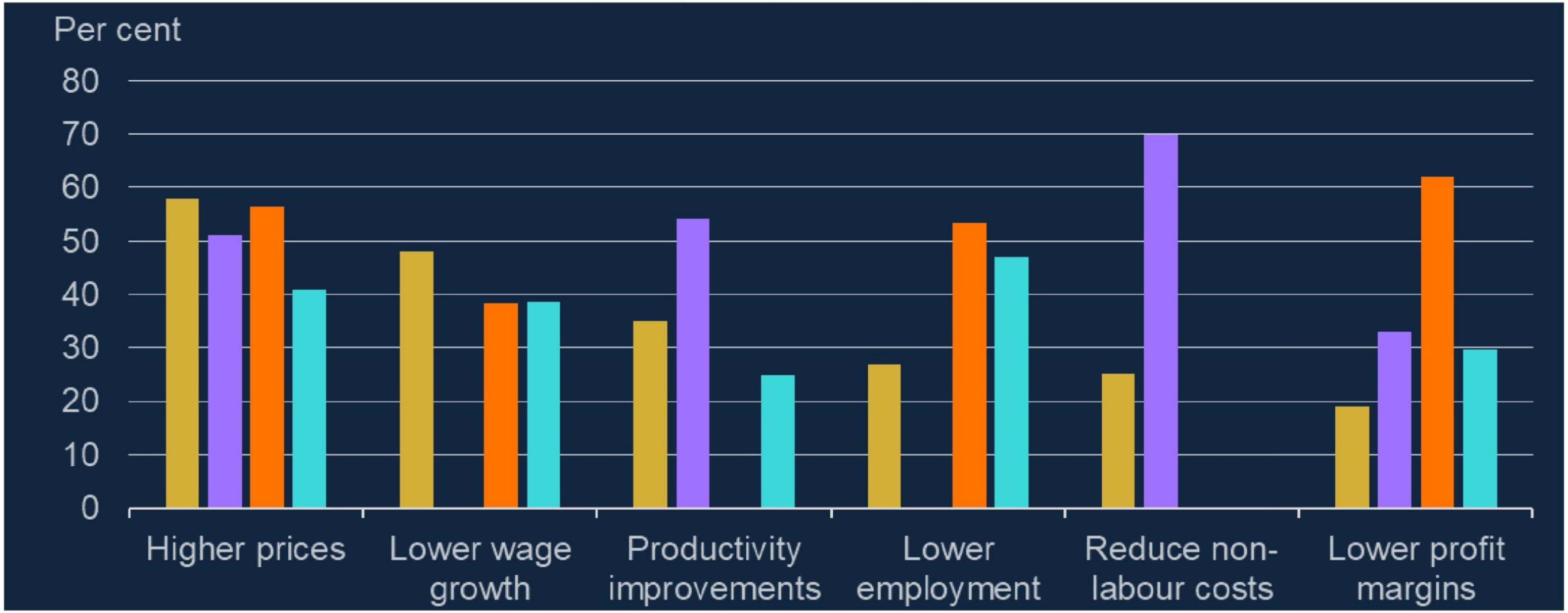
Average annual growth rate of whole economy labour productivity



Sources: ONS and Bank calculations.

Businesses' responses to the rise in the NICs is still unclear

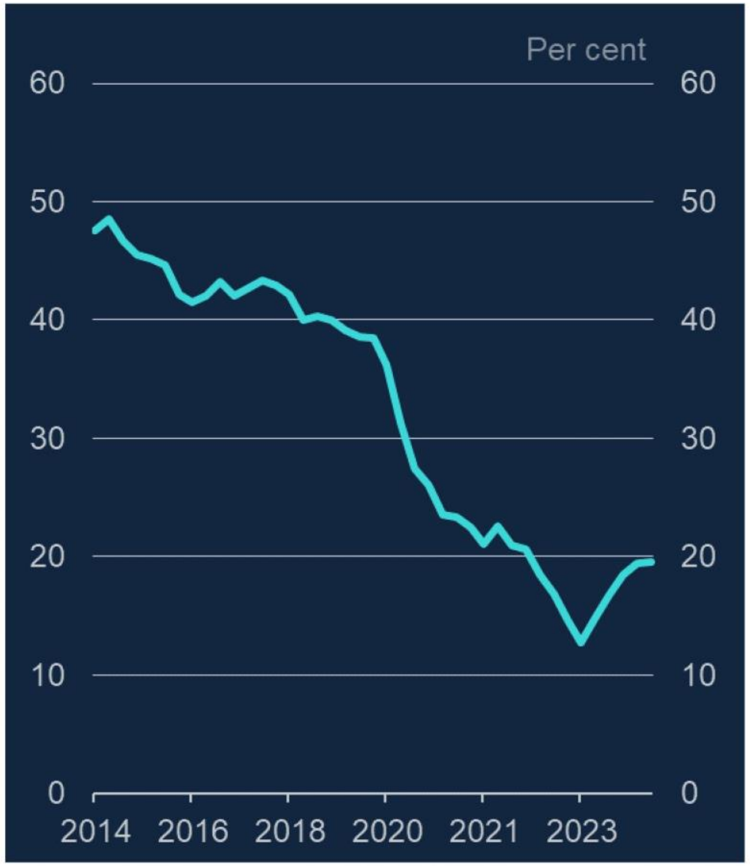
Proportion of firms reporting responses to Autumn Budget policy changes by margin of adjustment



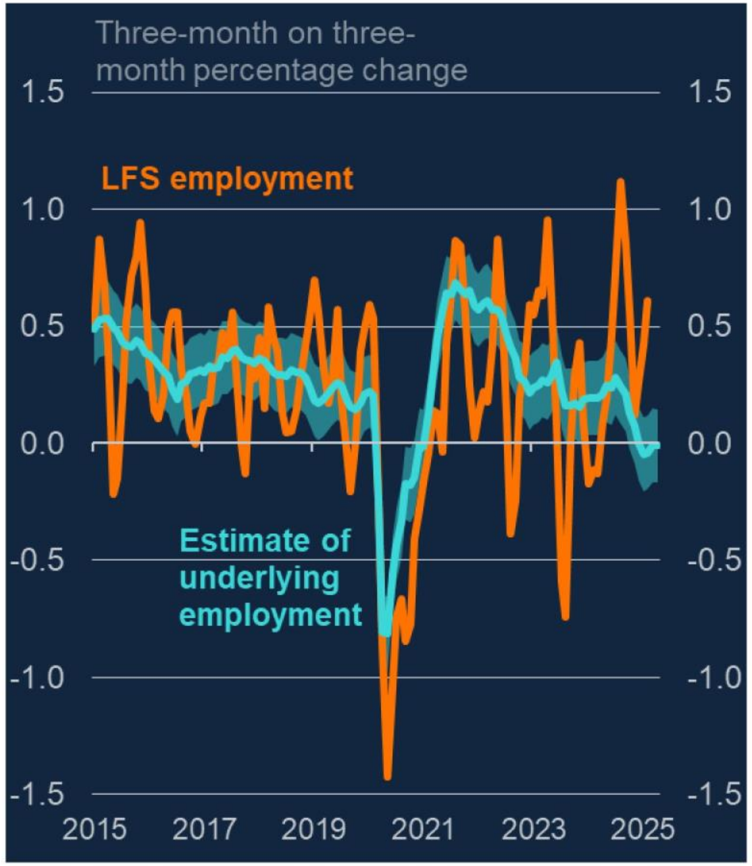
Sources: Agents' pay survey, Deloitte, DMP Survey, IoD and Bank calculations. Agents' pay survey results are based on the question: 'In response to the April 2025 increases in employers' National Insurance contributions (NICs) and National Living Wage/National Minimum Wage (NLW), and other changing labour market policies (including proposals in the Employment Rights Bill), what actions do you plan to take (select up to three that are most relevant/significant to you)?'. Firms are allowed to select multiple options, although limited to three options, therefore the percentages do not add up to 100. Responses are weighted by firm industry and size. Responses are for November and December 2024. Deloitte CFO survey results are based on weighted-average ratings on a scale of 0–100 for how likely chief financial officers are to pursue the following strategies in response to the forthcoming rise in employer National Insurance contributions. Zero stands for not pursuing at all and 100 stands for pursuing to the greatest extent. Latest data are for 2024 Q4. DMP results are based on the question: 'How do you expect your business to respond to the changes to employer National Insurance contributions announced in the November 2024 Budget?'. Firms are allowed to select multiple options, therefore the percentages do not add up to 100. Responses are weighted by firm industry and employment. Responses are for January 2025. IoD results are based on responses the question: 'You said the changes will increase your employer National Insurance bill. How do you plan to respond to the resulting higher costs of employment?'. Latest data are for February 2025. Other option not shown in chart had response of 6.5%.

Official statistics still face some challenges

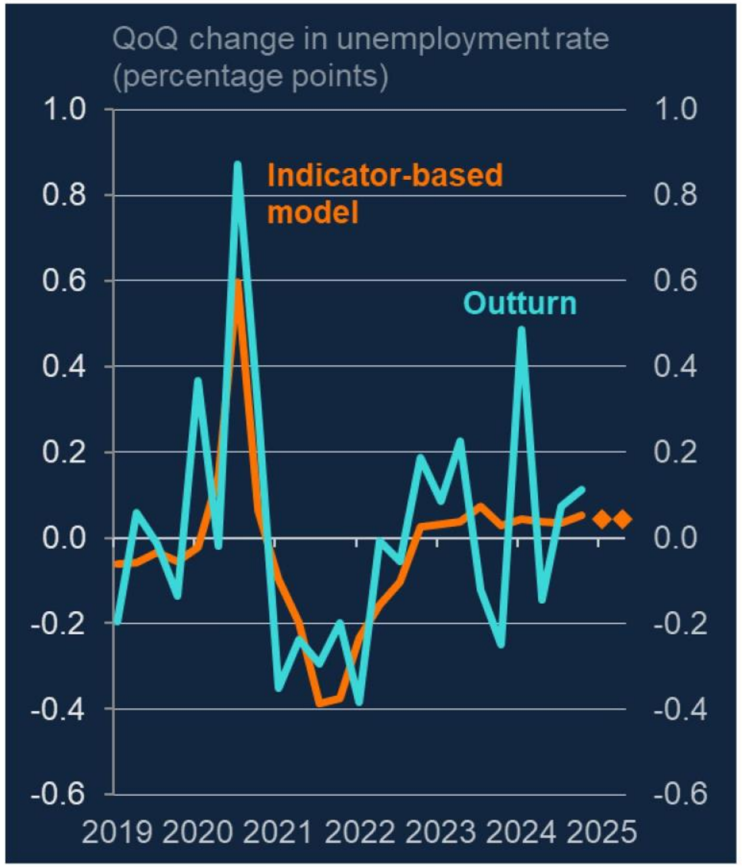
LFS response rates, excluding imputed households



Measures of employment growth



Quarterly change in the unemployment rate



Sources: LHS: ONS. Latest data is for 2024Q4. Response rate shown is total response rate. The total response rate is the cumulative response rate for the quarter across all waves, based on all eligible, in-scope households. Centre: Bank of England Agents, DMP survey, HM Revenue and Customs, KPMG/REC/S&P Global UK Report on Jobs, Lloyds Business Barometer, ONS, S&P Global and Bank calculations. (a) Bank staff's indicator-based measure of underlying employment growth is constructed using a dynamic factor model following the approach of Doz et al (2011). The model extracts a common component from monthly survey indicators, capturing co-movements across series. The common component is scaled to align with LFS employment growth between 2000–19. Shaded area represents 95% confidence intervals. Latest data are for the three months to February 2025 for the LFS and April 2025 for the survey data. RHS: Bank of England Agents, Google Trends, S&P Global, KPMG/REC UK Report on Jobs, ONS and Bank calculations. Bank staff's indicator-based models of near-term unemployment use mixed-data sampling (MIDAS) techniques (Daniell and Moreira (2023)). Latest data are to 2024 Q3 and the diamonds show the model implied values for 2024 Q4 and 2025 Q1.

Uncertainty persists surrounding the degree of restrictiveness in the economy

Potential drivers of the change in R*

Potential driver	Likely directional impact on R*
Demographic trends	↓
Global trade fragmentation	↓
Higher risk	↓
Global financial fragmentation	↑
Expansionary global fiscal policy	↑
Artificial intelligence (AI)	↑
Climate change	↑

Sources: LHS: Bank of England February 2025 Monetary Policy Report.

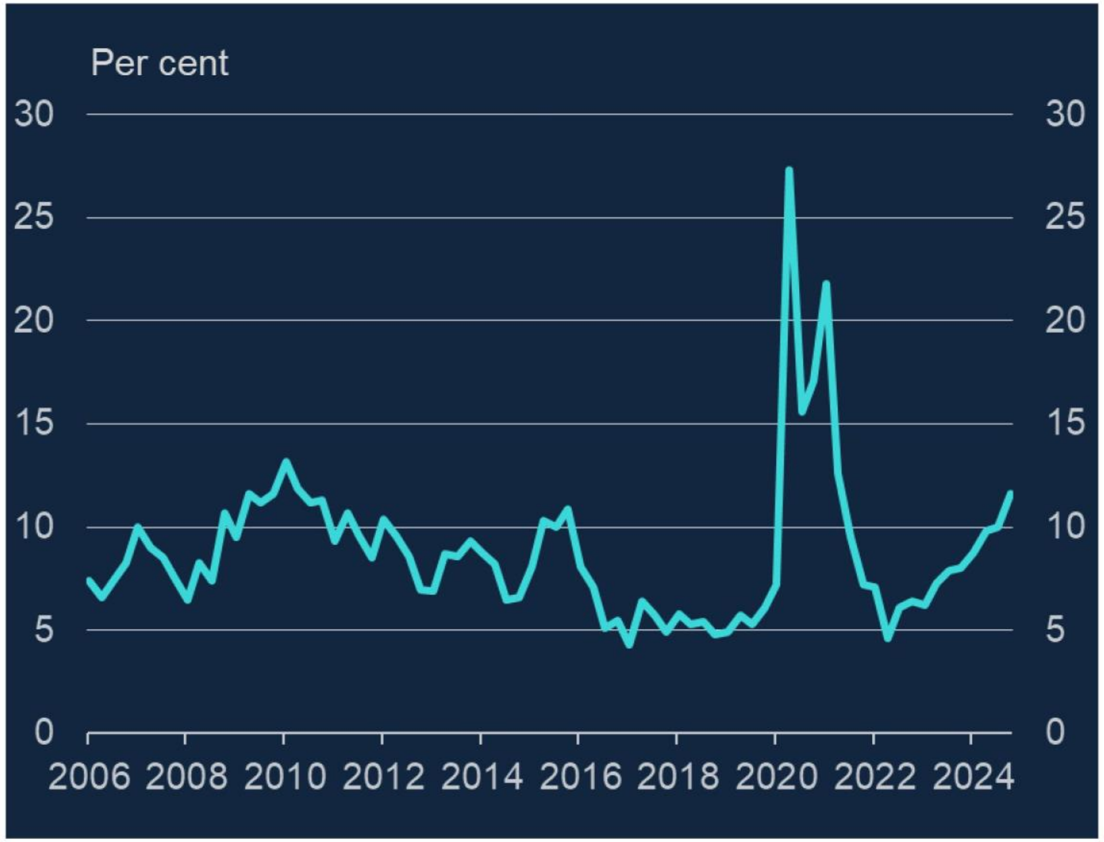
Estimates of change in R* between 2018 and F25

Approach	Change from 2018 to F25 MPR
Financial market measures	>90bps
Survey measures	<25bps-150bps
Macroeconomic models	25bps-75bps

Sources: Financial market measures are based on dynamic term-structure models. 10-year forward expected rates are extracted from nominal bond yields before subtracting survey inflation expectations. The survey measures are based on responses to the Bank of England's MaPS survey and professional forecasts according to Consensus Economics. The macroeconomic models covered in the range are Davis et al (2024) and Del Negro et al (2019). Estimates shown are not exact. More detail can be found in the February 2025 Monetary Policy Report.

Household saving ratio and consumption suggest monetary policy is still restrictive

Household saving ratio

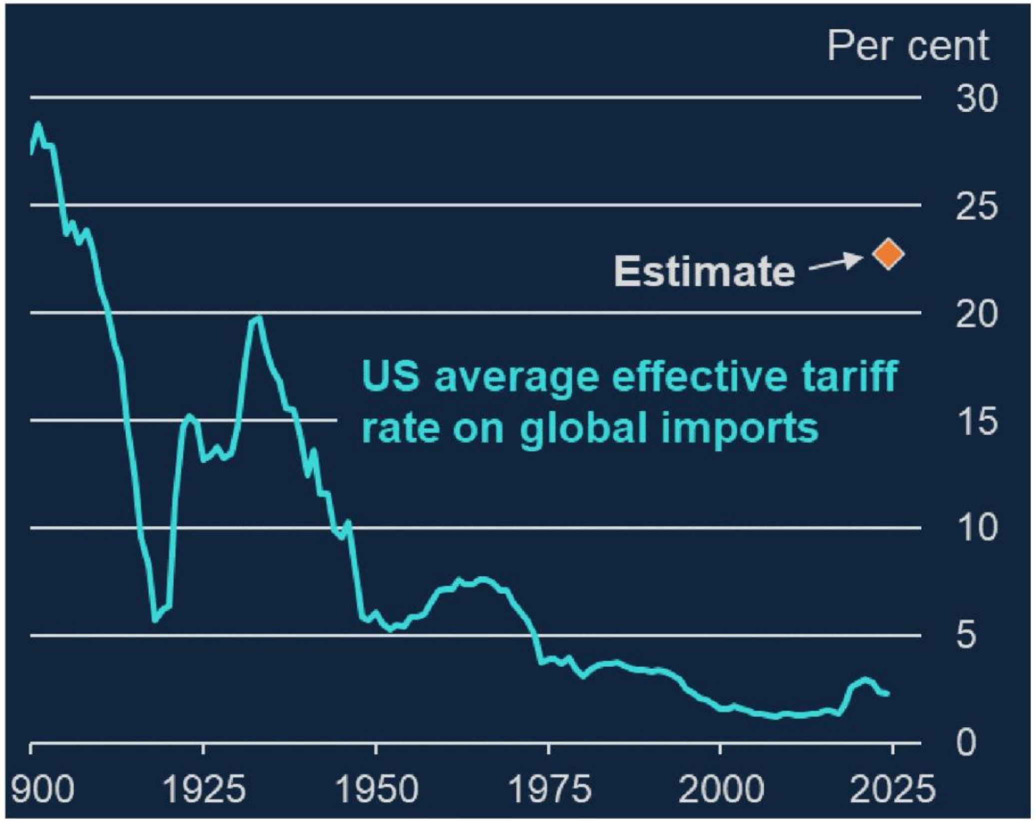


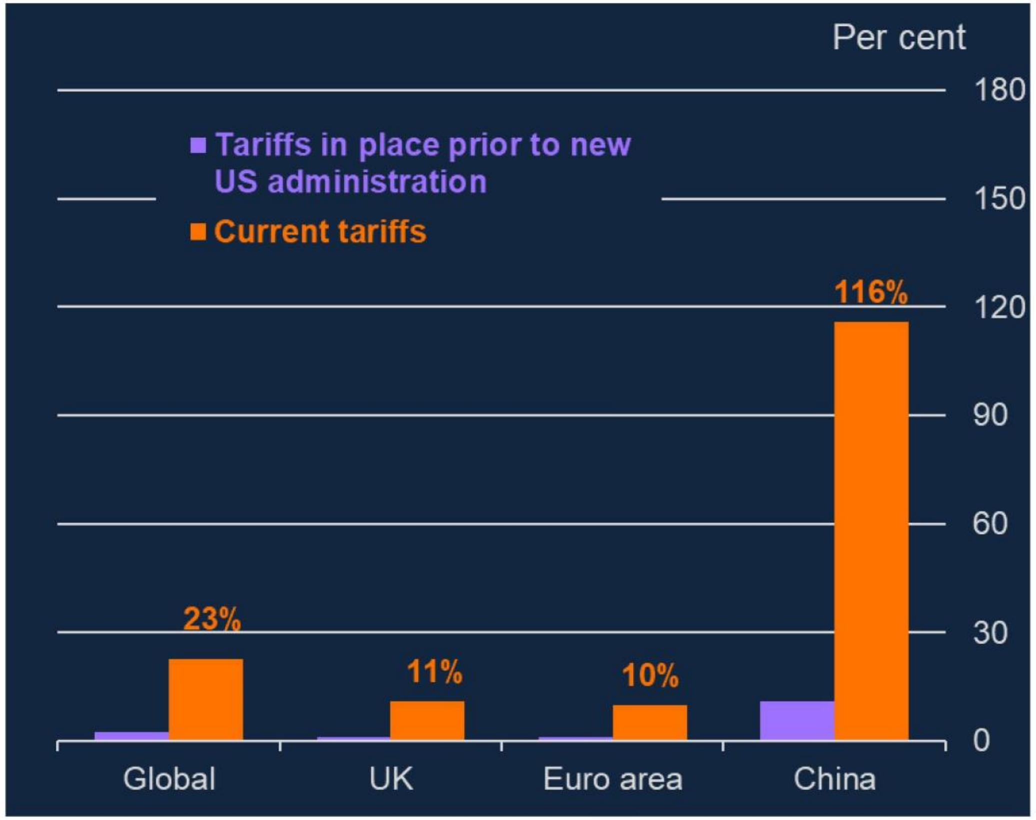
Household consumption

Source: ONS. LHS: Saving as a percentage of total available household resources. Based on NRJS. Final data points are 2024 Q4. RHS: Indexed 2019 Q4. Based on ABJR and HAYO. .

Global shocks have emerged

US effective tariffs

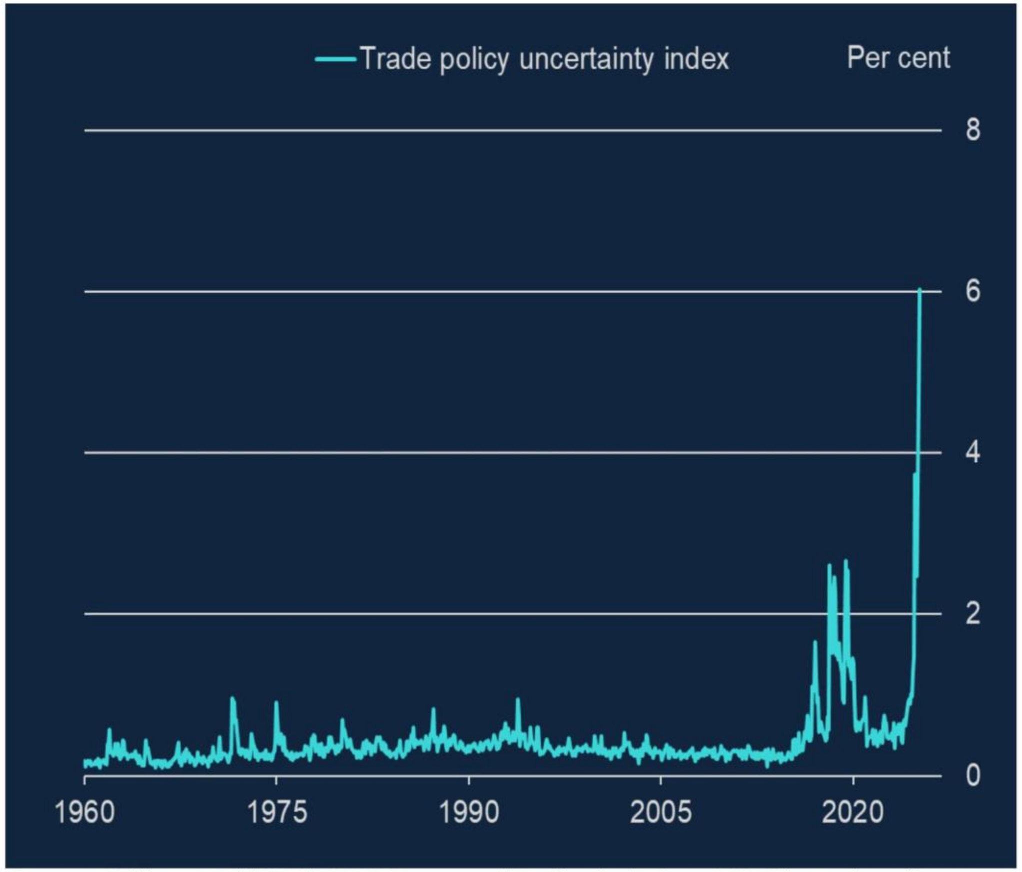




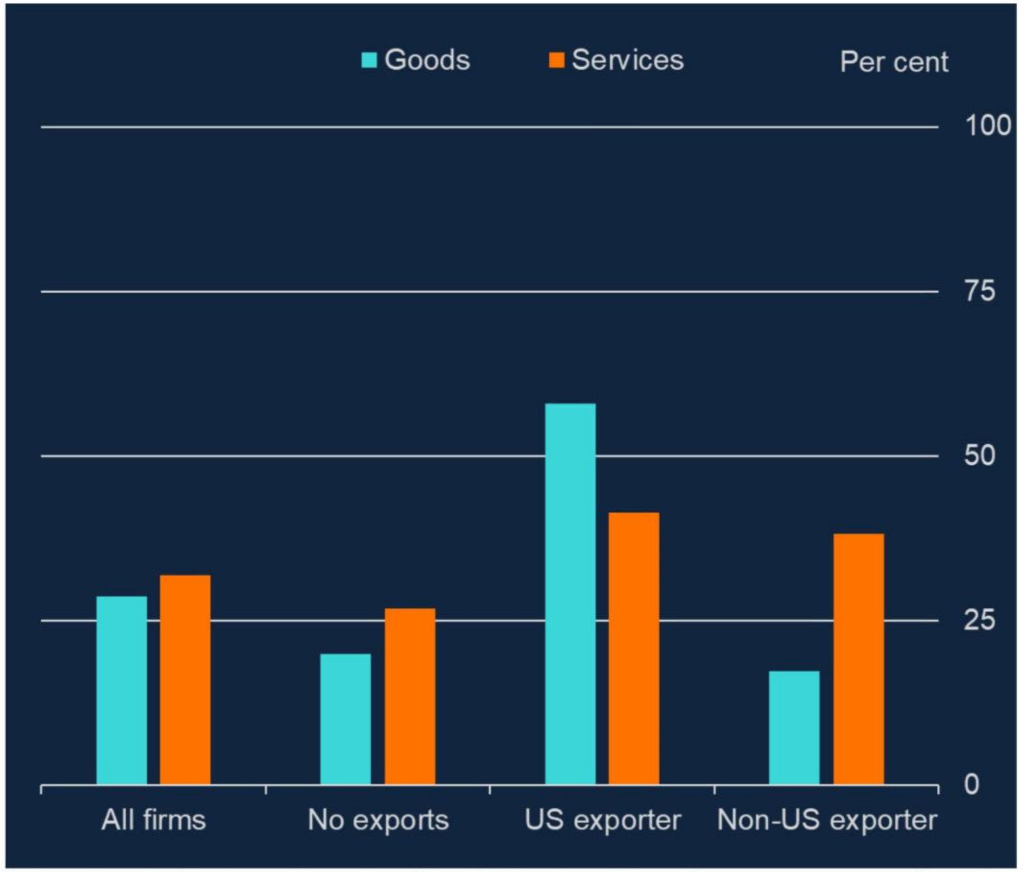
Sources: US Bureau of Economic Analysis, US International Trade Commission, White House and Bank calculations. The effective tariff rate is defined as implied customs duty revenue divided by total goods imports for consumption. Estimates for current effective US tariff rates reflect trade policies in place as of 15 April 2025 and assume that trade weights and flows remain fixed at 2024 levels. In the latest estimates, Bank staff also assume that the share of trade compliant with the free trade Agreement between the US, Mexico and Canada (USMCA) will rise from 2024 levels, with the vast majority of imports from Canada and Mexico adhering to USMCA standards as firms are motivated to demonstrate compliance in response to higher tariffs. A range of external estimates suggest that the US average effective tariff rate on global imports has increased to between 18% and 28% under the new US administration, depending on assumptions, particularly around changes in trade flows and substitution effects in response to tariffs, and the share of USMCA compliant trade.

Tariffs have led to heightened uncertainty

Trade policy uncertainty



Share of UK firms expecting a fall in sales next year because of US tariffs



Sources: Caldara et al (2019), DMP Survey and Bank calculations. LHS: The trade policy uncertainty index reflects automated text search results of the electronic archives of seven newspapers discussing trade policy uncertainty: Boston Globe, Chicago Tribune, Guardian, Los Angeles Times, New York Times, Wall Street Journal, and Washington Post. Data are monthly. The final data point is for March 2024. RHS: The survey results are based on the question: 'How do you expect the implementation of new tariffs on goods entering the United States to affect the sales of your business over the next year?". The survey took place between 4 and 18 April 2025.

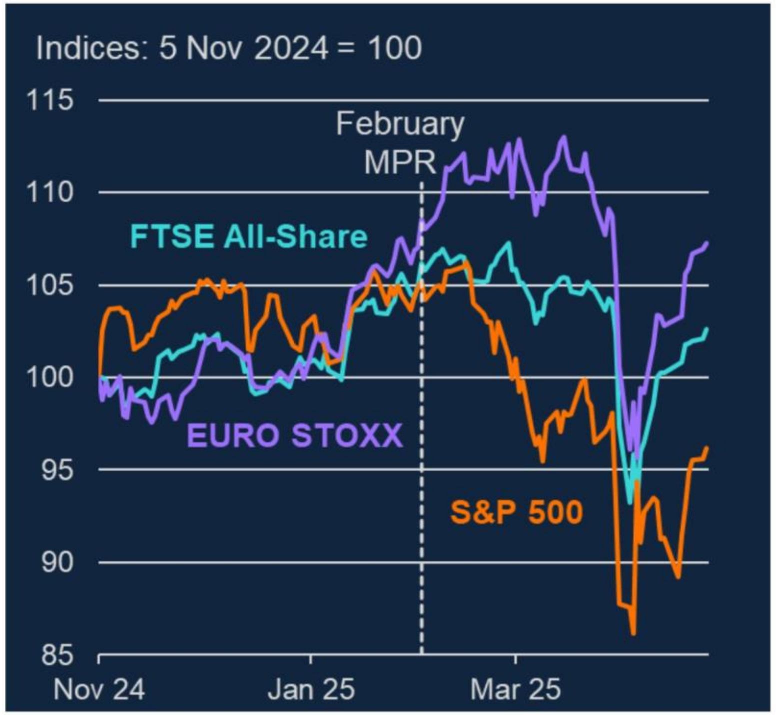
Risks of trade policy to inflation are two-sided, but on balance likely to be disinflationary

	Unilateral tariffs			Retaliation		
Impact on → Channel ↓	UK activity	UK inflation	Explanation	UK activity	UK inflation	Explanation
Included in ECB-G						
Expenditure switching	↓	↓	US demand for UK exports weakens.	↓	↓	US demand for UK exports weakens
Weaker global demand	↓	↓	Additional trade distortions weigh on global demand, weakening demand for UK exports.	↓	↓	Additional trade distortions weigh on global demand, weakening demand for UK exports.
Trade diversion	↔	↓	Other countries lower prices of exports previously destined for US.	↔	↓	Other countries lower prices of exports previously destined for US.
Exchange rate movement	↑	↑	Sterling depreciates against the dollar.	↓	↓	Sterling appreciates against the dollar.
Not included in ECB-G						
Supply chains	↓	↑	Reorganisation temporarily reduces global supply capacity and increases price pressures.	↓	↑	Reorganisation temporarily reduces global supply capacity and increases price pressures.
Lower competition/ knowledge transfer	↓	↔	Reduced trade openness weighs on global potential supply growth.	↓	↔	Reduced trade openness weighs on global potential supply growth.

Source: For further details see (Greene, 2025)

Tariffs have also contributed to some sharp movements in financial markets

Equities



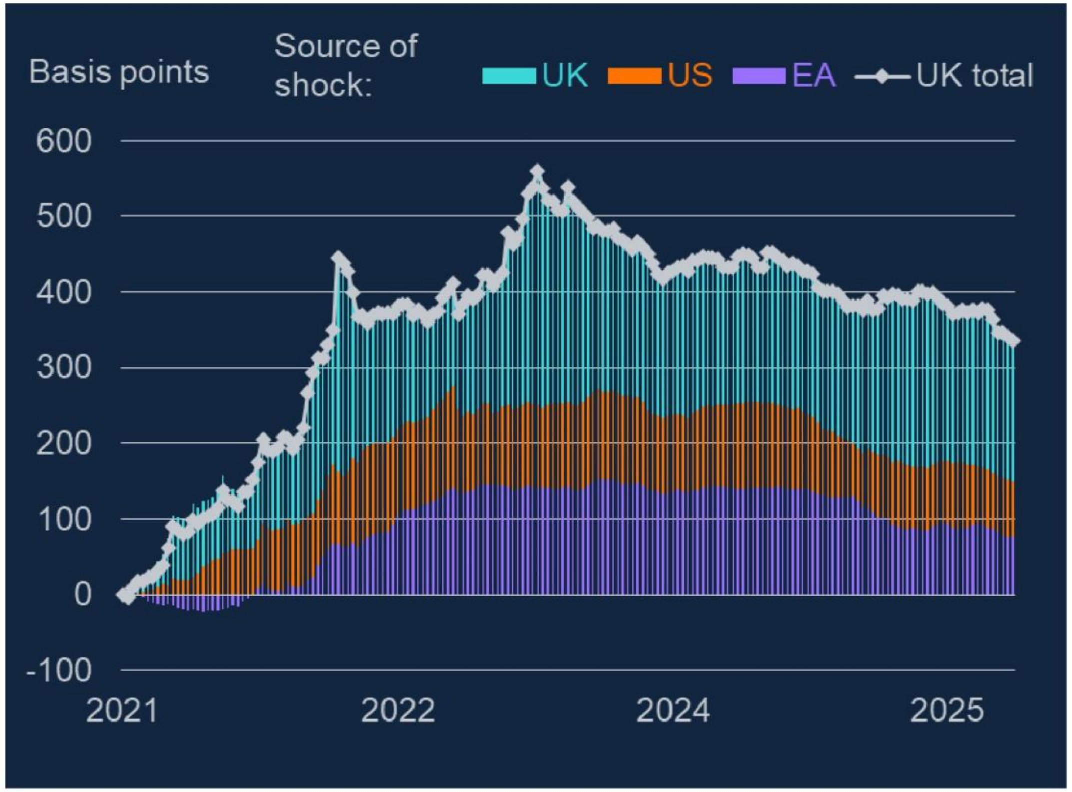
Foreign exchange

Ten-year government bond yields

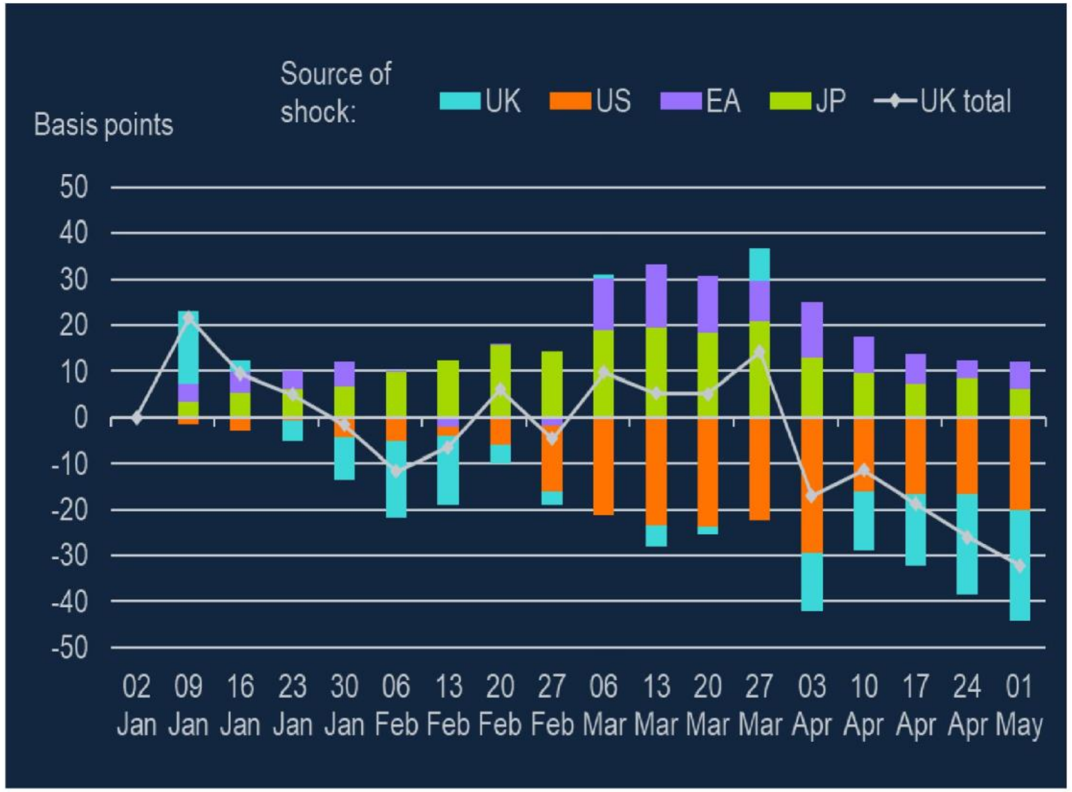
Sources: Bloomberg Finance L.P., Tradeweb FTSE Gilt Closing Data and Bank calculations. Equities and effective exchange rates are indexed to the date of the 2024 US presidential election, while 10-year yields show cumulative changes in yields over the same period. The final data points are for 29 April 2025.

Developments outside the UK significantly shift UK rates

Rigobon decomposition of UK 1y OIS



Rigobon decomposition of UK 3y Gilt Yield



Source: Bloomberg Finance L.P. and Bank calculations. RHS: Decomposition of UK 1-year overnight index swap (OIS) rate cumulative change since December 2021. (LHS) and UK 3-year gilt cumulative change since 2 January 2025 (RHS) yield based on a model following Rigobon (2003). Latest data: 1ST May 2025.

PGIM
GLOBAL ASSET MANAGEMENT

KING'S College LONDON
KING'S BUSINESS SCHOOL

BANK OF ENGLAND WATCHERS' CONFERENCE 2025

PGIM FIXED INCOME

MONETARY POLICY PANEL

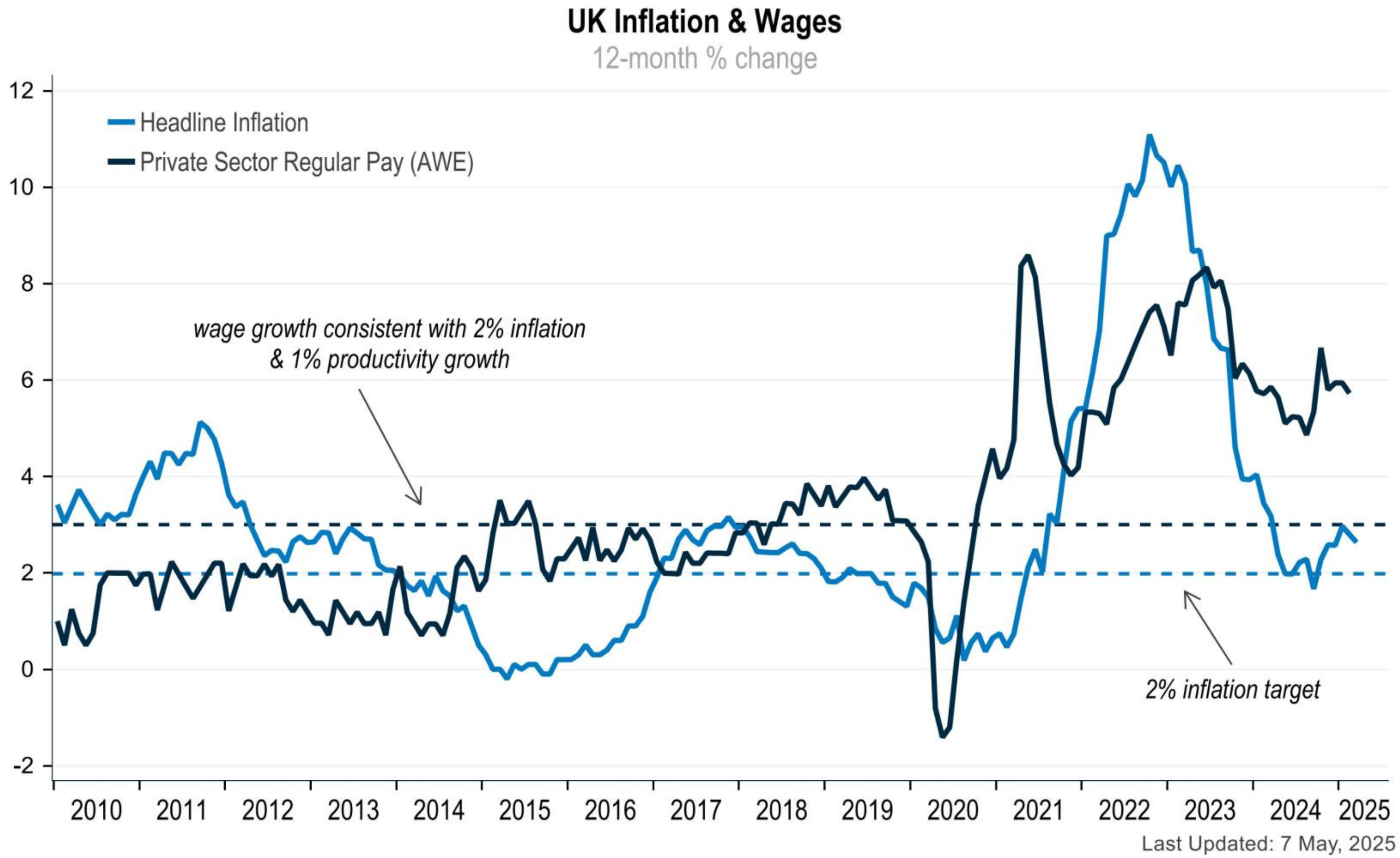
Bank of England Watchers Conference

Katharine Neiss, PhD
Deputy Head of Global Economics and Chief European Economist

May 13, 2025

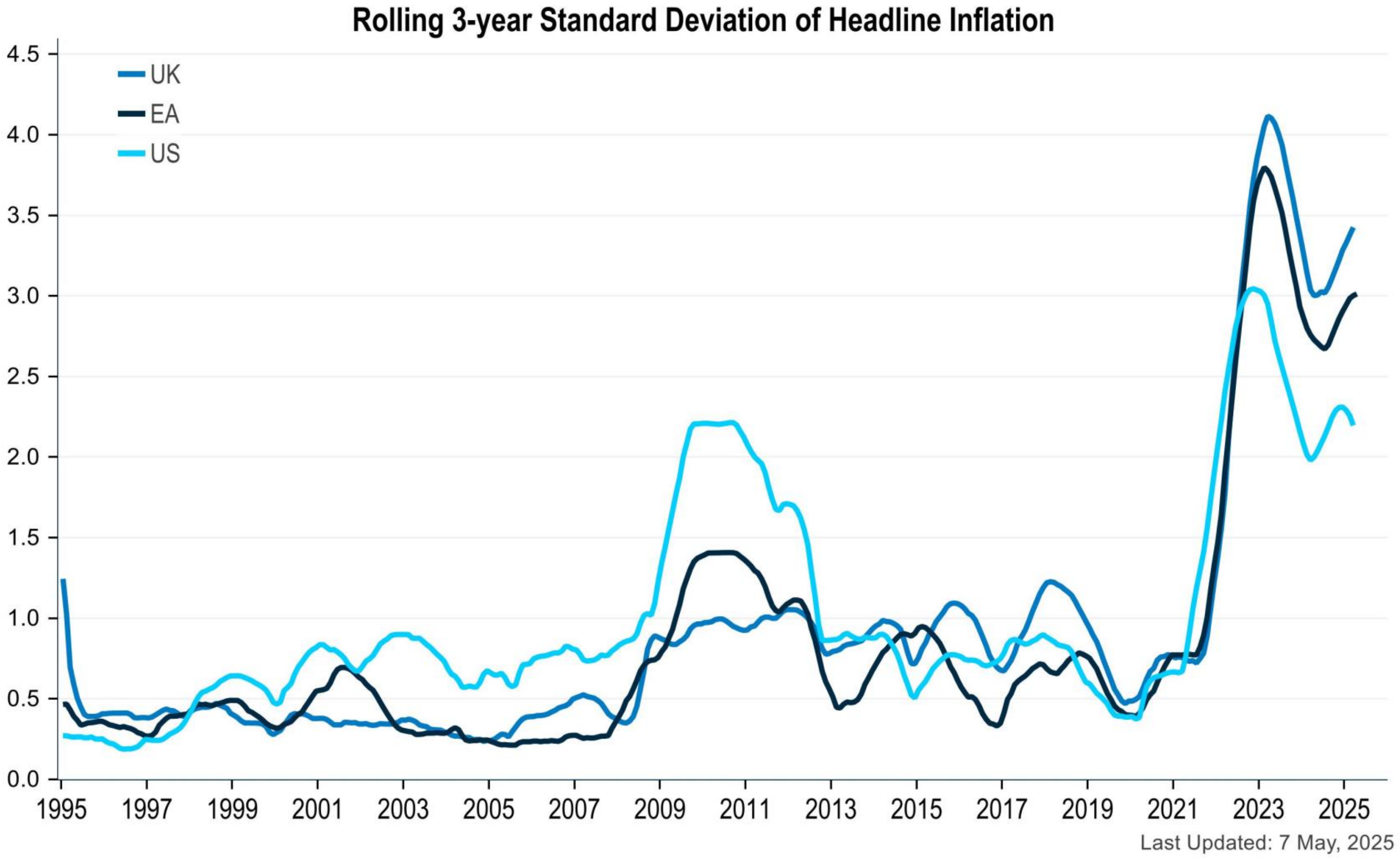
UK Inflation and Wage Growth

Harder for the BOE to be Pre-emptive When Inflation and Wage Growth Still Too High



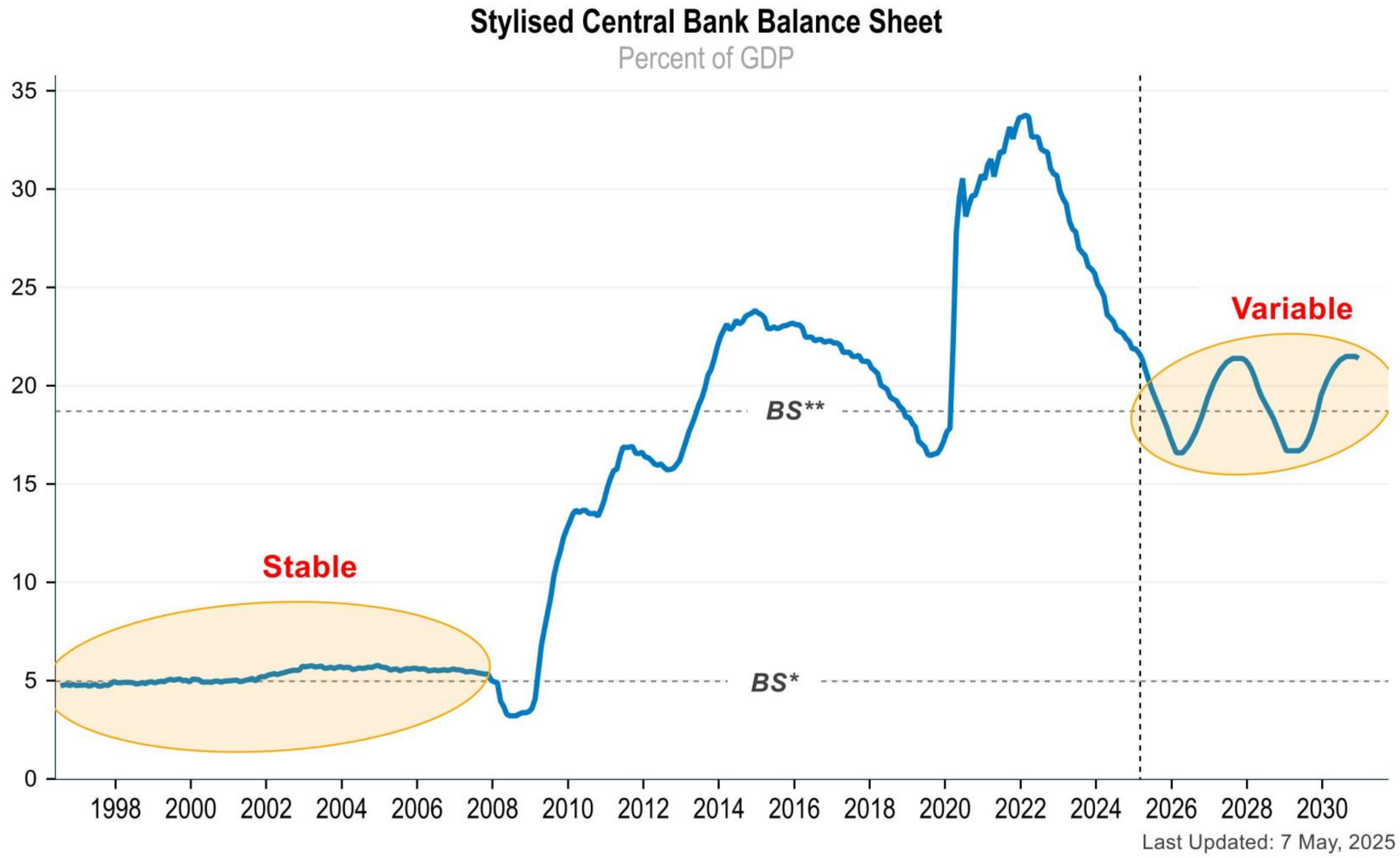
Source: Macrobond.

Job of Central Banks More Difficult in a World of Greater Inflation Variability



Source: Macrobond.

Policy May Need to Become More Reactive in the Case of Larger, More Frequent Shocks



Source: Macrobond.

REFERENCE

Notice Page

For Professional Investors only. All investments involve risk, including the possible loss of capital.

PGIM Fixed Income is a global asset manager primarily focused on public fixed income investments whose U.S. business operates as a unit of PGIM, Inc. PGIM, Inc. is an investment adviser registered with the U.S. Securities and Exchange Commission (the "SEC"), and is a Prudential Financial, Inc. ("PFI") company. Registration with the SEC as an investment adviser does not imply a certain level or skill or training. PGIM Fixed Income is headquartered in Newark, New Jersey and also includes the following businesses globally: (i) the public fixed income unit within PGIM Limited, located in London; (ii) locally managed assets of PGIM Japan Co., Ltd., located in Tokyo; (iii) the public fixed income unit within PGIM (Singapore) Pte. Ltd., located in Singapore; and (iv) the public fixed income unit within PGIM Netherlands B.V., located in Amsterdam. PFI of the United States is not affiliated in any manner with Prudential plc, incorporated in the United Kingdom or with Prudential Assurance Company, a subsidiary of M&G plc, incorporated in the United Kingdom. Prudential, PGIM, their respective logos and the Rock symbol are service marks of PFI and its related entities, registered in many jurisdictions worldwide.

These materials are for informational or educational purposes. The information is not intended as investment advice and is not a recommendation about managing or investing assets. In providing these materials, PGIM Fixed Income is not acting as your fiduciary. Clients seeking information regarding their particular investment needs should contact their financial professional.

This document may contain confidential information and the recipient hereof agrees to maintain the confidentiality of such information. Distribution of this information to any person other than the person to whom it was originally delivered and to such person's advisers is unauthorized, and any reproduction of this document, in whole or in part, or the divulgence of any of its contents, without PGIM Fixed Income's prior written consent, is prohibited. This document contains the current opinions of the manager and such opinions are subject to change. Certain information in this document has been obtained from sources that PGIM Fixed Income believes to be reliable as of the date presented; however, PGIM Fixed Income cannot guarantee the accuracy of such information, assure its completeness, or warrant such information will not be changed. The information contained herein is current as of the date of issuance (or such earlier date as referenced herein) and is subject to change without notice. PGIM Fixed Income has no obligation to update any or all such information; nor do we make any express or implied warranties or representations as to its completeness or accuracy. Any information presented regarding the affiliates of PGIM Fixed Income is presented purely to facilitate an organizational overview and is not a solicitation on behalf of any affiliate.

These materials are not intended as an offer or solicitation with respect to the purchase or sale of any security or other financial instrument or any investment management services. These materials do not constitute investment advice and should not be used as the basis for any investment decision.

This material may contain examples of the firm's internal ESG research program and is not intended to represent any particular product's or strategy's performance or how any particular product or strategy will be invested or allocated at any particular time. PGIM's ESG policies and procedures, rankings and factors may change over time, in PGIM Fixed Income's discretion. ESG investing is qualitative and subjective by nature; there is no guarantee that the criteria used or judgment exercised by PGIM Fixed Income will reflect the beliefs or values of any investor. Information regarding certain ESG practices may be obtained through third-party reporting, which may not be accurate or complete, and PGIM Fixed Income depends on this information to evaluate a company's commitment to, or implementation of, ESG practices. ESG norms differ by region. Accounts managed by PGIM Fixed Income may or may not hold instruments issued by any of the issuers that may be discussed herein. Nothing contained herein should be construed as limiting the investments or strategies that PGIM Fixed Income can pursue when managing a client account. There is no assurance that PGIM Fixed Income's ESG investing techniques will be successful.

These materials do not take into account individual client circumstances, objectives or needs. No determination has been made regarding the suitability of any securities, financial instruments or strategies for particular clients or prospects. The information contained herein is provided on the basis and subject to the explanations, caveats and warnings set out in this notice and elsewhere herein. Any discussion of risk management is intended to describe PGIM Fixed Income's efforts to monitor and manage risk but does not imply low risk. No risk management technique can guarantee the mitigation or elimination of risk in any market environment. Any risk metrics or portfolio characteristics provided are not, and should not be construed as, the past or projected performance of the strategy presented or any investment, which will be impacted by a number of factors not reflected herein. These materials do not purport to provide any legal, tax or accounting advice. These materials are not intended for distribution to or use by any person in any jurisdiction where such distribution would be contrary to local law or regulation.

Any financial indices referenced herein as benchmarks are provided for informational purposes only. The use of benchmarks has limitations because portfolio holdings and characteristics will differ from those of the benchmark(s), and such differences may be material. You cannot make a direct investment in an index. Factors affecting portfolio performance that do not affect benchmark performance may include portfolio rebalancing, the timing of cash flows, credit quality, diversification, and differences in volatility. In addition, financial indices do not reflect the impact of fees, applicable taxes or trading costs which reduce returns. Unless otherwise noted, financial indices assume reinvestment of dividends.

Any forecasts, estimates and certain information contained herein are based upon proprietary research and should not be interpreted as investment advice, as an offer or solicitation, nor as the purchase or sale of any financial instrument. Forecasts and estimates have certain inherent limitations, and unlike an actual performance record, do not reflect actual trading, liquidity constraints, fee. These materials are not intended as an offer or solicitation with respect to the purchase or sale of any security or other financial instrument or any investment management services and should not be used as the basis for any investment decision. PGIM Fixed Income and its affiliates may make investment decisions that are inconsistent with the recommendations or views expressed herein, including for proprietary accounts of PGIM Fixed Income or its affiliates.

Notice Page

Any performance targets contained herein are subject to revision by PGIM Fixed Income and are provided solely as a guide to current expectations. There can be no assurance that any product or strategy described herein will achieve any targets or that there will be any return of capital. Target annualized excess returns are presented on both a gross and net basis solely for the purpose of detailing the anticipated risk and reward characteristics of the strategy in order to facilitate comparisons with other investment types. Gross targets do not reflect the deduction of fees and other expenses to be borne by accounts using the strategy, which will reduce returns and, in the aggregate, may be substantial. Net targets reflect the deduction of model fees and expenses equal to the highest fees borne by a portfolio utilizing the strategy. The target returns presented herein are not a prediction, projection, expectation or guarantee of future performance. There are significant risks and limitations in using target returns, including targets that are based upon assumptions regarding future events and situations, which may prove not to be accurate or may not materialize. Further, the target returns stated herein are based on an assumption that economic, market and other conditions will not deteriorate and, in some cases, will improve. The target returns are also based on models, estimates and assumptions about performance believed to be reasonable under the circumstances, but actual returns of the strategy and its investments will depend on, among other factors, the ability to consummate attractive investments, future operating results, the value of the assets and market conditions at the time of disposition, any related transaction costs and the timing and manner of sale, all of which may differ from the assumptions and circumstances on which the targeted returns are based. PGIM Fixed Income believes that the target returns for the strategy and each investment type reflect in part a measure of the risk PGIM Fixed Income will be taking with respect to the strategy and investments in that investment type. There can be no assurance that any investments, any of the investment types or the strategy will achieve comparable returns to those targeted herein or that PGIM Fixed Income will be able to implement its investment strategy and investment approach or achieve its investment objectives. Target returns do not take into account cash flows into and out of the portfolio, as well as other factors, which could have an impact on actual performance of a client utilizing the strategy. Accordingly, target returns should not be used as a primary basis for an investor's decision to invest in the strategy.

Tracking Error (TE) is one possible measurement of the dispersion of a portfolio's returns from its stated benchmark; it is the standard deviation of such excess returns. TE figures are representations of statistical expectations falling within "normal" distributions of return patterns. Normal statistical distributions of returns suggests that approximately two thirds of the time the annual gross returns of the accounts will lie in a range equal to the benchmark return plus or minus the TE if the market behaves in a manner suggested by historical returns. Targeted TE therefore applies statistical probabilities (and the language of uncertainty) and so cannot be predictive of actual results. In addition, past tracking error is not indicative of future TE and there can be no assurance that the TE actually reflected in your accounts will be at levels either specified in the investment objectives or suggested by our forecasts.

In the **United Kingdom**, information is issued by PGIM Limited with registered office: Grand Buildings, 1-3 Strand, Trafalgar Square, London, WC2N 5HR.PGIM Limited is authorised and regulated by the Financial Conduct Authority ("FCA") of the United Kingdom (Firm Reference Number 193418). In the **European Economic Area** ("EEA"), information is issued by PGIM Netherlands B.V., an entity authorised by the Autoriteit Financiële Markten ("AFM") in the Netherlands and operating on the basis of a European passport. In certain EEA countries, information is, where permitted, presented by PGIM Limited in reliance of provisions, exemptions or licenses available to PGIM Limited including those available under temporary permission arrangements following the exit of the United Kingdom from the European Union. These materials are issued by PGIM Limited and/or PGIM Netherlands B.V. to persons who are professional clients as defined under the rules of the FCA and/or to persons who are professional clients as defined in the relevant local implementation of Directive 2014/65/EU (MiFID II). In **Switzerland**, information is issued by PGIM Limited, London, through its Representative Office in Zurich with registered office: Kappelergasse 14, CH-8001 Zurich, Switzerland. PGIM Limited, London, Representative Office in Zurich is authorised and regulated by the Swiss Financial Market Supervisory Authority FINMA and these materials are issued to persons who are professional or institutional clients within the meaning of Art.4 para 3 and 4 FinSA in Switzerland. In certain countries in **Asia-Pacific**, information is presented by PGIM (Singapore) Pte. Ltd., a regulated entity with the Monetary Authority of Singapore under a Capital Markets Services License to conduct fund management and an exempt financial adviser. In **Japan**, information is presented by PGIM Japan Co. Ltd., registered investment adviser with the Japanese Financial Services Agency. In **South Korea**, information is presented by PGIM, Inc., which is licensed to provide discretionary investment management services directly to South Korean investors. In **Hong Kong**, information is provided by PGIM (Hong Kong) Limited, a regulated entity with the Securities & Futures Commission in Hong Kong to professional investors as defined in Section 1 of Part 1 of Schedule 1 of the Securities and Futures Ordinance (Cap.571). In **Australia**, information is issued by PGIM (Australia) Pty Ltd ("PGIM Australia") for the general information of its wholesale clients (as defined in the Corporations Act 2001). PGIM Australia is an Australian financial services ("AFS") licence holder (AFS licence number 544946). In **Canada**, pursuant to the international adviser registration exemption in National Instrument 31-103, PGIM, Inc. is informing you that: (1) PGIM, Inc. is not registered in Canada and is advising you in reliance upon an exemption from the adviser registration requirement under National Instrument 31-103; (2) PGIM, Inc.'s jurisdiction of residence is New Jersey, U.S.A.; (3) there may be difficulty enforcing legal rights against PGIM, Inc. because it is resident outside of Canada and all or substantially all of its assets may be situated outside of Canada; and (4) the name and address of the agent for service of process of PGIM, Inc. in the applicable Provinces of Canada are as follows: in **Québec**: Borden Ladner Gervais LLP, 1000 de La Gauchetière Street West, Suite 900 Montréal, QC H3B 5H4; in **British Columbia**: Borden Ladner Gervais LLP, 1200 Waterfront Centre, 200 Burrard Street, Vancouver, BC V7X 1T2; in **Ontario**: Borden Ladner Gervais LLP, 22 Adelaide Street West, Suite 3400, Toronto, ON M5H 4E3; in **Nova Scotia**: Cox & Palmer, Q.C., 1100 Purdy's Wharf Tower One, 1959 Upper Water Street, P.O. Box 2380 -Stn Central RPO, Halifax, NS B3J 3E5; in **Alberta**: Borden Ladner Gervais LLP, 530 Third Avenue S.W., Calgary, AB T2P R3.

PGIM
GLOBAL ASSET MANAGEMENT

KING'S College LONDON

KING'S BUSINESS SCHOOL

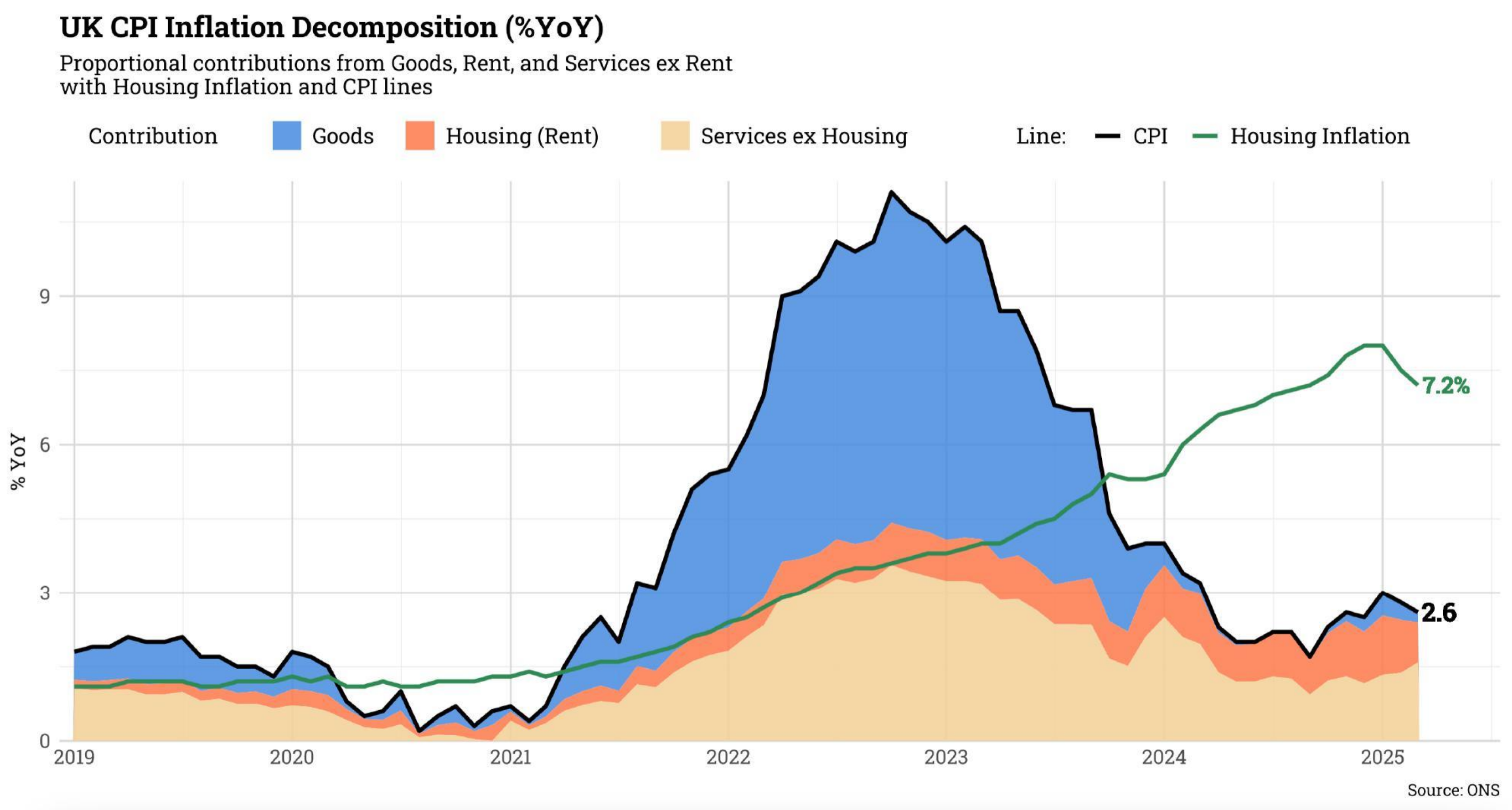
BANK OF ENGLAND WATCHERS' CONFERENCE 2025

The Flip Side of Monetary Policy

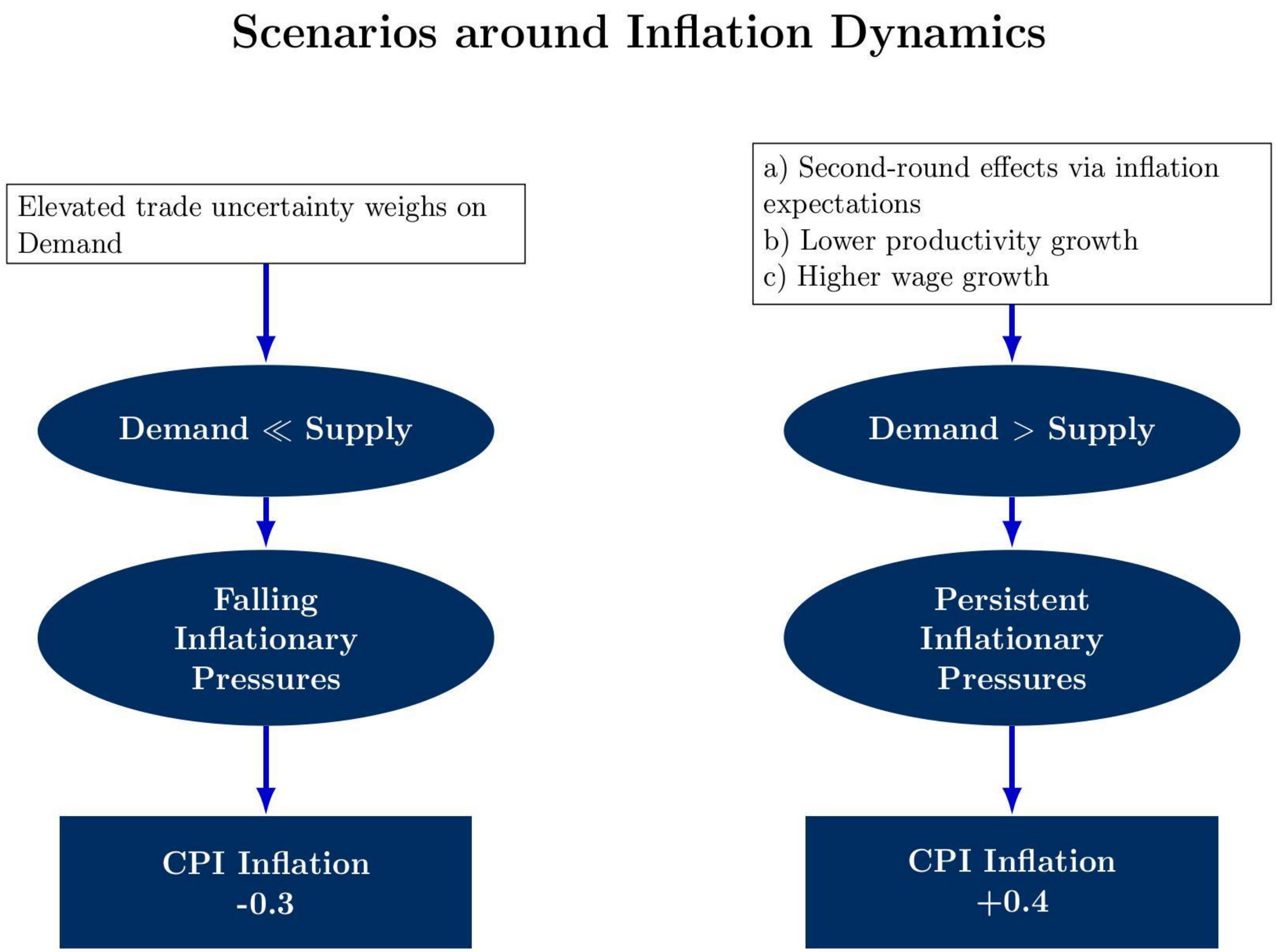
Gianluca Benigno, HEC-Lausanne

Bank of England Watcher Conference, 12th May 2025

UK inflation



Bank of England's Scenario Analysis



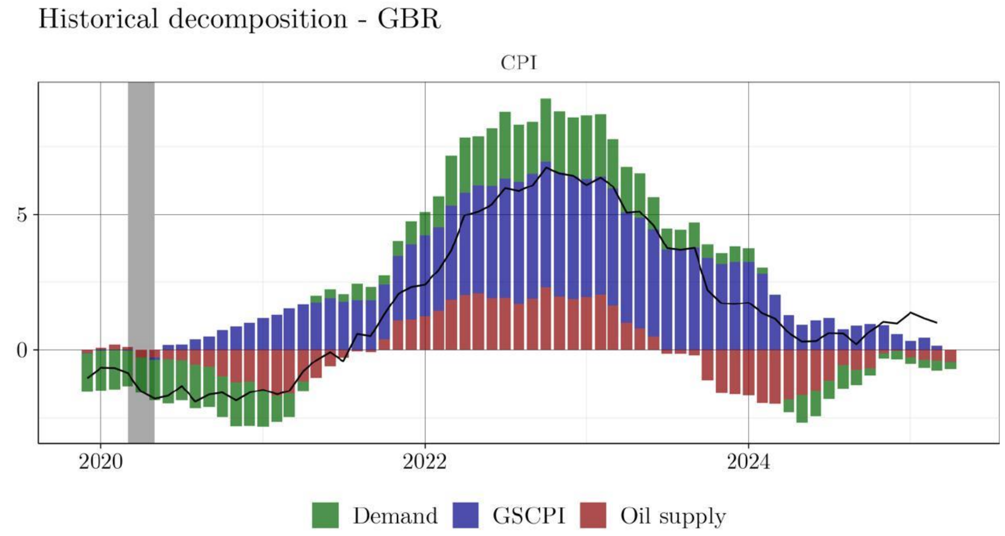
Background: Inflation Analysis

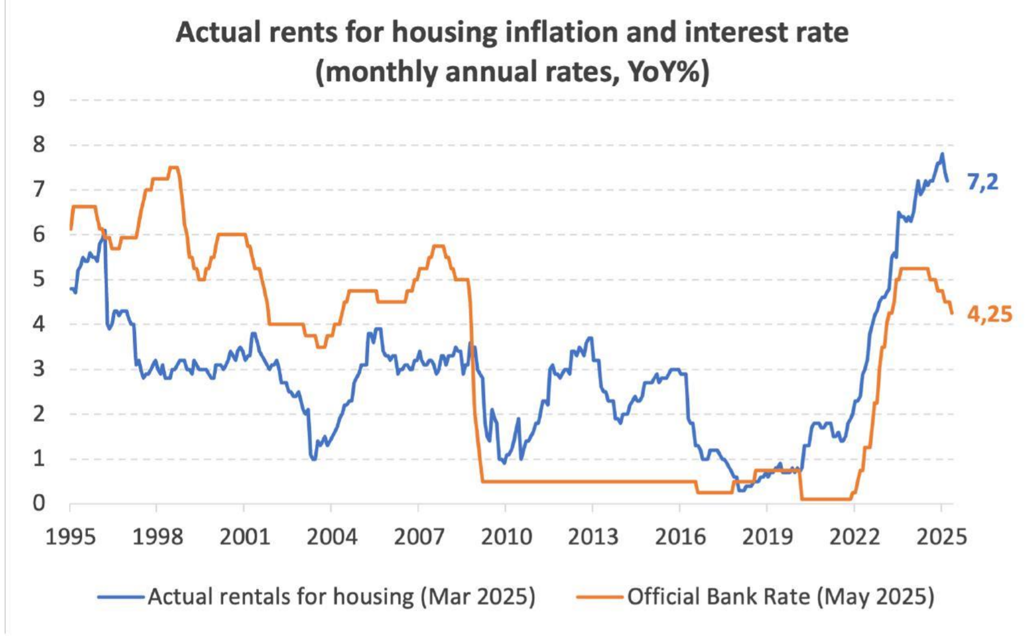
Two aspects:

a) Global factors (supply chain disruption and natural gas)

b) Cost-Channel: interest rates increase passed on tenants.

Note: relevance of regulated and indexed prices.

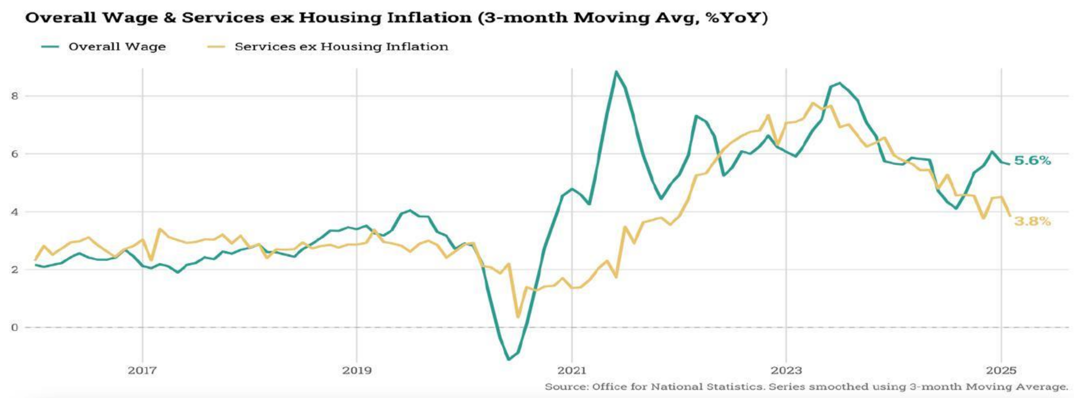


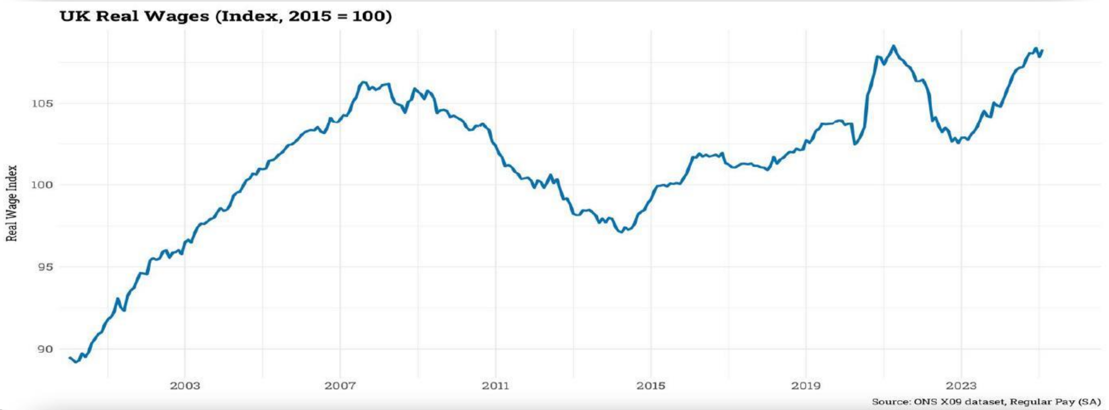


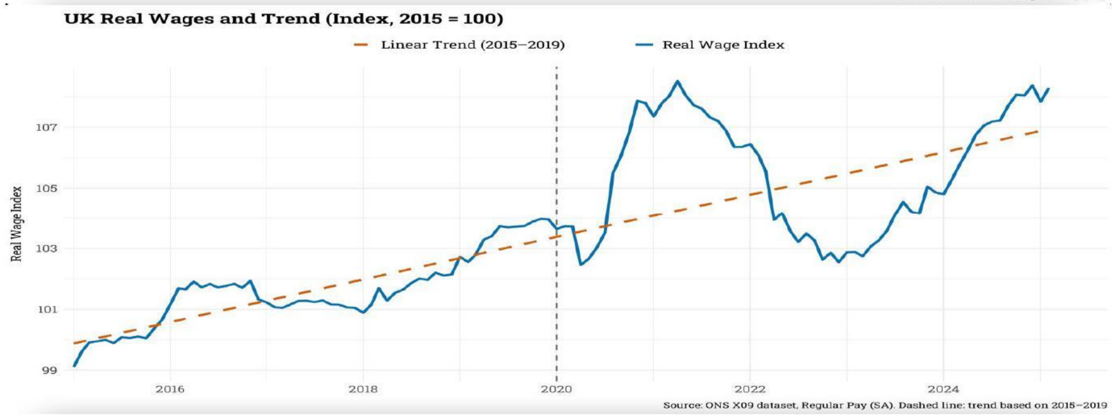
Wage and Demand

Nominal wage growth not just input costs.

Flip side: wage growth as income to support aggregate demand







Implications for Monetary Policy: the Flip Side

Less cautious and gradual cuts: more convinced and regular.

Interest rate cuts to support spending, limiting cash flow channel and reversing cost channel.

Other effects: fiscal policy (supportive) exchange rate (less so to the extent to which might amplify trade disruptions).

Conclusions

- Keeping rates high may contribute to inflation persistence.
- Nominal wage growth supports aggregate demand more than it acts as a cost driver.
- In a demand-deficient economy with structurally low productivity, the direct impact of tariffs on the UK economy is less relevant.

There are more certainties than uncertainties in the current policy landscape.

PGIM
GLOBAL ASSET MANAGEMENT

KING'S College LONDON
KING'S BUSINESS SCHOOL

BANK OF ENGLAND WATCHERS' CONFERENCE 2025

BANK OF ENGLAND
WATCHERS' CONFERENCE

PGIM
GLOBAL ASSET MANAGEMENT

KING'S College LONDON
KING'S BUSINESS SCHOOL

THE NEUTRAL RATE OF INTEREST

Bank of England

The neutral rate of interest – and its relevance for monetary policy

Bank of England Watchers' Conference

12 May 2025

Dr. Catherine L. Mann
External member of the Monetary Policy Committee

What is the neutral rate of interest?

What is the neutral rate of interest?

- Definition: Varies across institutions, papers and studies
  - My preferred definition: the interest rate that neither stimulates nor depresses inflation
  - But, the time horizon of 'neither stimulate nor depress' is key, as time horizon incorporates the presence and dynamics of shocks, transmission, lags, and spillovers
- Synonyms? Neutral, natural, terminal, equilibrium rate… R-star, r-star…
  - In practice these are <u>not</u> all synonymous, they are different concepts, and differ by interlocutor
  - For my decision-making, the 'neutral rate' is the <u>short-term rate</u> at which the economy is neither stimulated nor contracted within the monetary policy horizon, and inflation is sustainably at target
- Measurement challenges:
  - Few of the elements underpinning the neutral rate are observable

Bringing the concepts together…

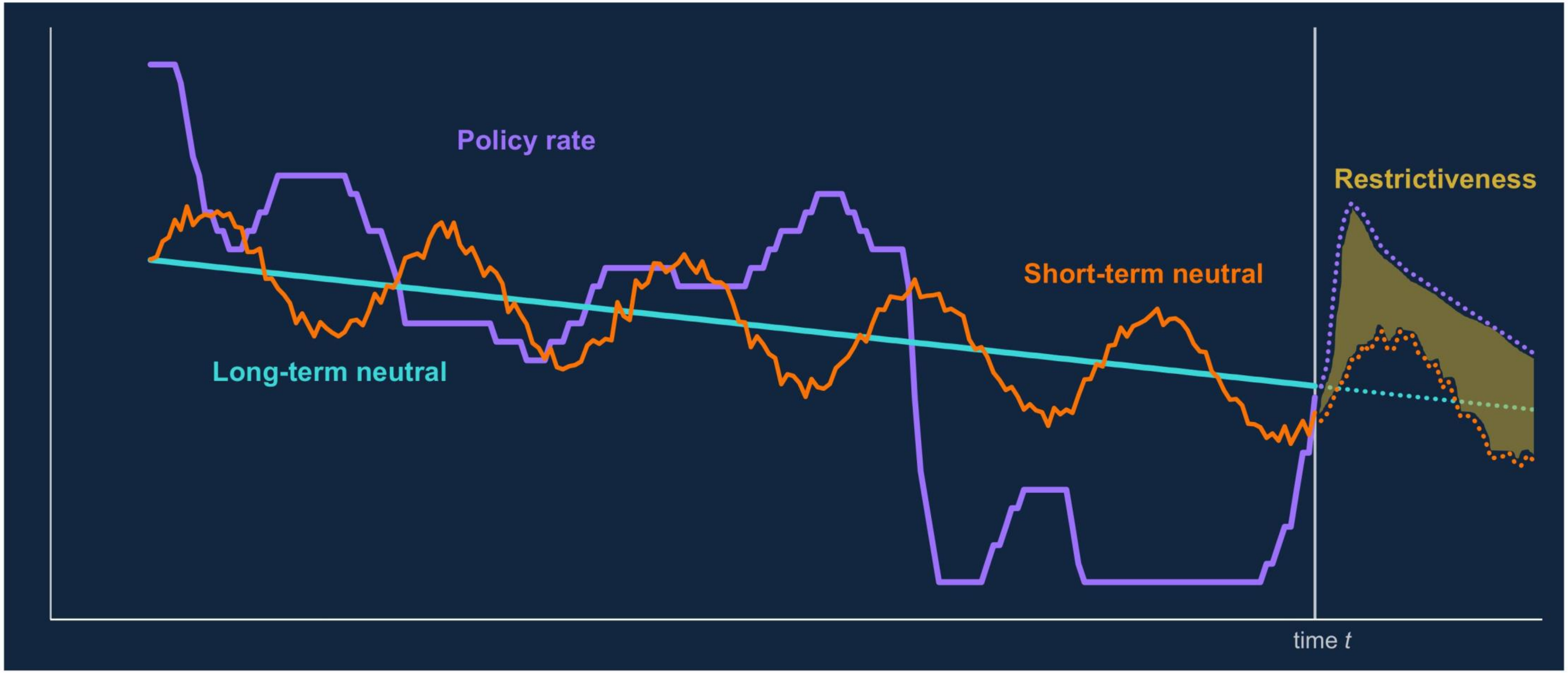
Illustrative example of the interaction between notions of nominal neutral and the nominal policy rate

Sources: Bank calculations.
Notes: Because the illustration asserts that (policy rate – short-term neutral) = degree of restrictiveness or accommodation, it follows that short-term and long-term neutral in this illustration is in nominal terms.

Restrictiveness at time *t*:

Determined by the term structure of expected interest rates, including the transmission through financial markets relative to the neutral rate, and the policy rate

Illustrative example of the term structure of neutral and the policy rate



Sources: Bank calculations.

Notes: Because the illustration asserts that (policy rate – short-term neutral) = degree of restrictiveness or accommodation, it follows that short-term and long-term neutral in this illustration is in nominal terms.

The term structure of the neutral rate: short-run versus long-run

- The distinction between short and long-run neutral rate has been previously made in the literature (Platzer et al., 2022; Obstfeld, 2023) and in policy-making (Seim, 2024; Baker et al., 2023)
- Short-run neutral can be moved around by economic shocks, changes in first stage financial market transmission, volatility, and spillovers of varying sources (e.g. risk, fiscal, demand shocks)
- Long-run neutral is determined by the equilibrium level of savings and investment in the economy. It is the risk-less return that equates the demand and supply for savings. It is linked to slow-moving structural changes in the economy, such as demographics and productivity growth
- For me, short-run neutral has greater monetary policy relevance. Long-run neutral is far off-stage, but it is helpful to the extent that this is the trend around which short-run fluctuates

Assessing the degree of restrictiveness

1) interest rate gaps

Monetary policy strategy: measuring restrictiveness

Let restrictiveness be defined as:

$$\text{real interest rate} - \text{neutral rate} = r - r^* \tag{1}$$

Monetary policy strategy: measuring restrictiveness

Let restrictiveness be defined as:

$$\text{real interest rate} - \text{neutral rate} \\ = r - r^* \tag{1}$$

where

$$r = i - E(\pi) \tag{2}$$

and

$$r^* = i^* - E(\pi^*) \tag{3}$$

i = nominal interest rate set by the MPC (i.e. Bank Rate), $E(\pi)$ is expected inflation, $i^* =$ nominal neutral interest rate and $E(\pi^*)$ is expected long-run inflation (2% is the BoE inflation target).

Monetary policy strategy: measuring restrictiveness

Let restrictiveness be defined as:

$$\text{real interest rate} - \text{neutral rate} \tag{1}$$
$$= r - r^*$$

where

$$r = i - E(\pi) \tag{2}$$

and

$$r^* = i^* - E(\pi^*) \tag{3}$$

i = nominal interest rate set by the MPC (i.e. Bank Rate), $E(\pi)$ is expected inflation, $i^* =$ nominal neutral interest rate and $E(\pi^*)$ is expected long-run inflation (2% is the BoE inflation target).

Putting (2) and (3) into (1):

$$r - r^* = [i - E(\pi)] - [i^* - E(\pi^*)] \tag{4}$$

Monetary policy strategy: measuring restrictiveness

Let restrictiveness be defined as:

$$\text{real interest rate – neutral rate} \quad (1)$$
$$= r - r^*$$

where

$$r = i - E(\pi) \quad (2)$$

and

$$r^* = i^* - E(\pi^*) \quad (3)$$

i = nominal interest rate set by the MPC (i.e. Bank Rate), $E(\pi)$ is expected inflation, $i^* =$ nominal neutral interest rate and $E(\pi^*)$ is expected long-run inflation (2% is the BoE inflation target).

Putting (2) and (3) into (1):

$$r - r^* = [i - E(\pi)] - [i^* - E(\pi^*)] \quad (4)$$

Rearranging (4):

$$r - r^* = [i - i^*] - [E(\pi) - E(\pi^*)] \quad (5)$$

Monetary policy and measuring restrictiveness: what do we know?

$$r - r^* = [i - i^*] - [E(\pi) - E(\pi^*)] \qquad (5)$$

- The elements of the real rate gap $r - r^*$ are not observable
- The policy rate i is known (it's my job), but i^* has to be measured
- The inflation target $E(\pi^*)$ is pre-determined, but inflation expectations $E(\pi)$ need to be measured (and managed)

a) The nominal rate gap

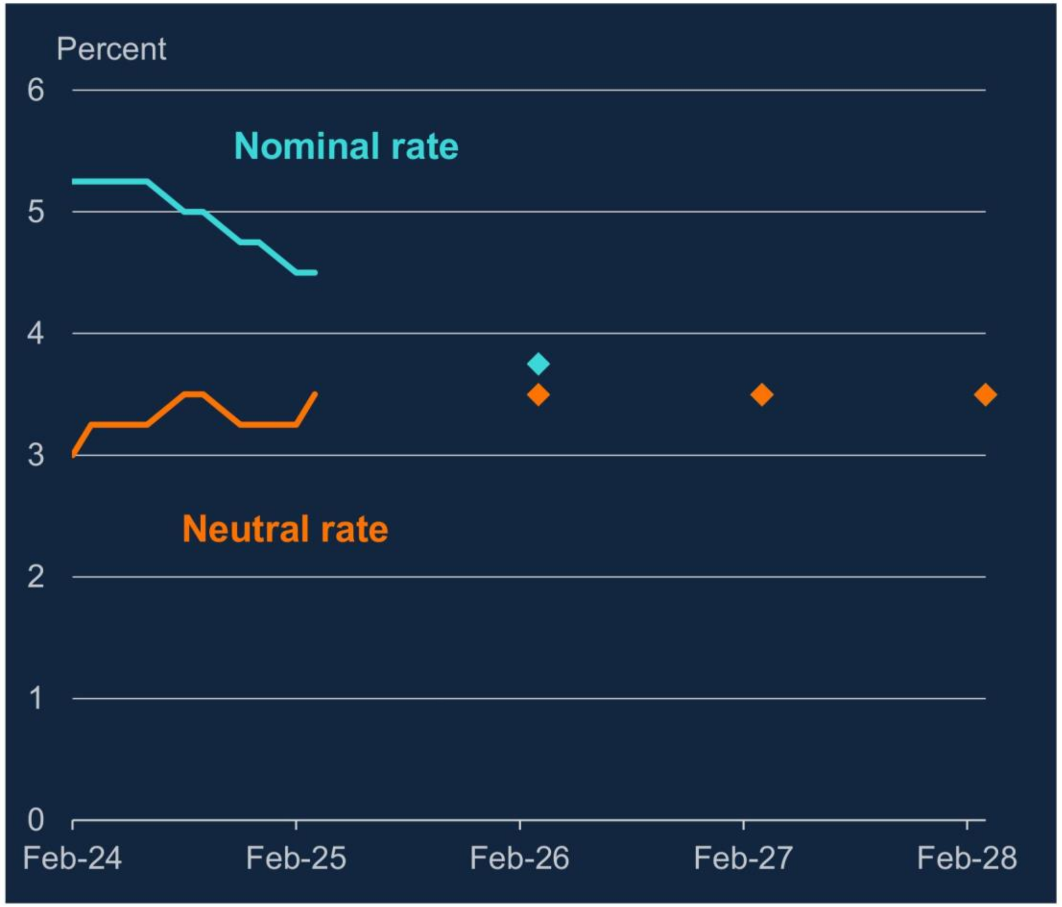
$$r - r^* = \underbrace{[i - i^*]}_{\text{Nominal rate gap}} - [E(\pi) - E(\pi^*)] \quad (5)$$

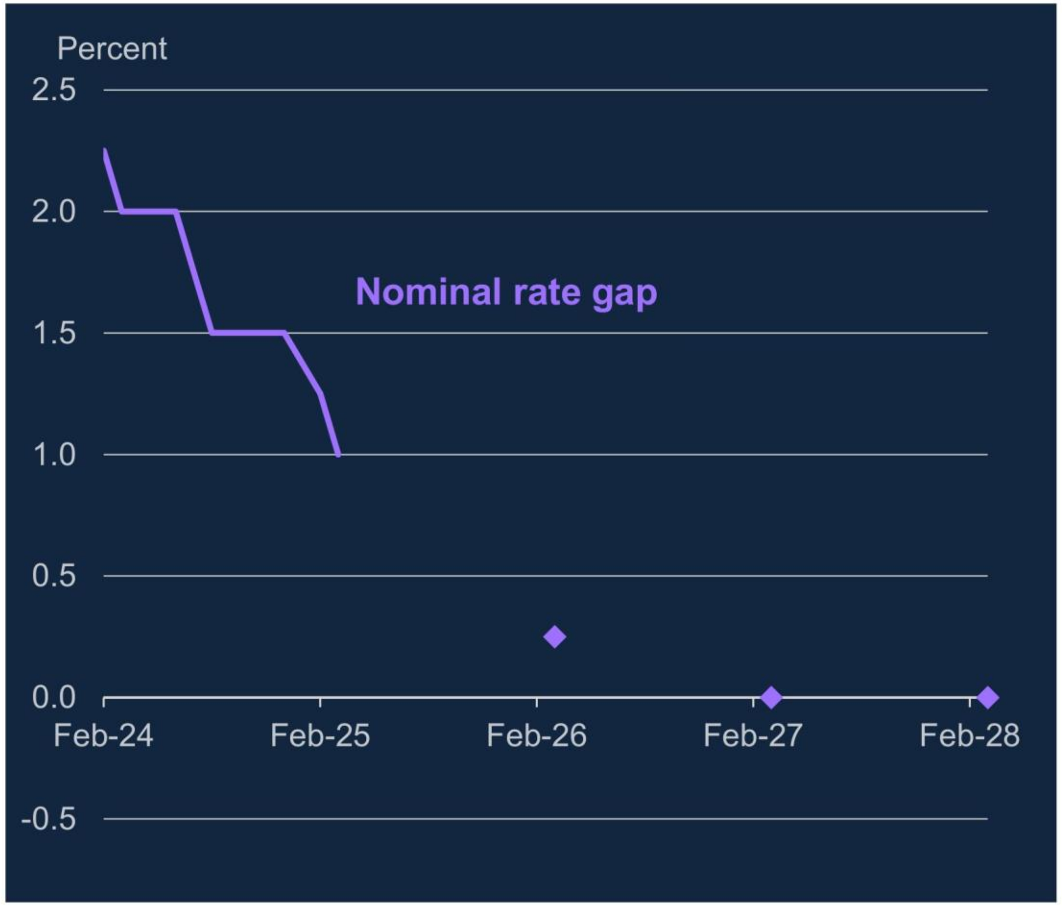
- Some channels of the monetary transmission mechanism (mainly the cash flow channel, through mortgage rates for instance) are nominal in nature

- Monetary policymakers affect monetary conditions, and therefore financial conditions, by changing i and/or by affecting inflation expectations $E(\pi)$ while keeping long-term inflation expectations anchored at the inflation target $E(\pi^*) = 2\%$

Measuring $[i - i^*]$:
A majority of MaPS respondents expect policy to turn neutral within 2 years

MaPS-implied nominal rate gap





Sources: Market Participant Survey and Bank calculations.
Notes: Diamonds show the MaPS median response of interest rate expectations 1-, 2- and 3-years ahead (aqua). The nominal rate gap (purple) is calculated at the nominal rate (aqua) minus the neutral rate (orange), in realised (solid lines) and expectations (diamonds) terms. Latest data: March 2025 survey.

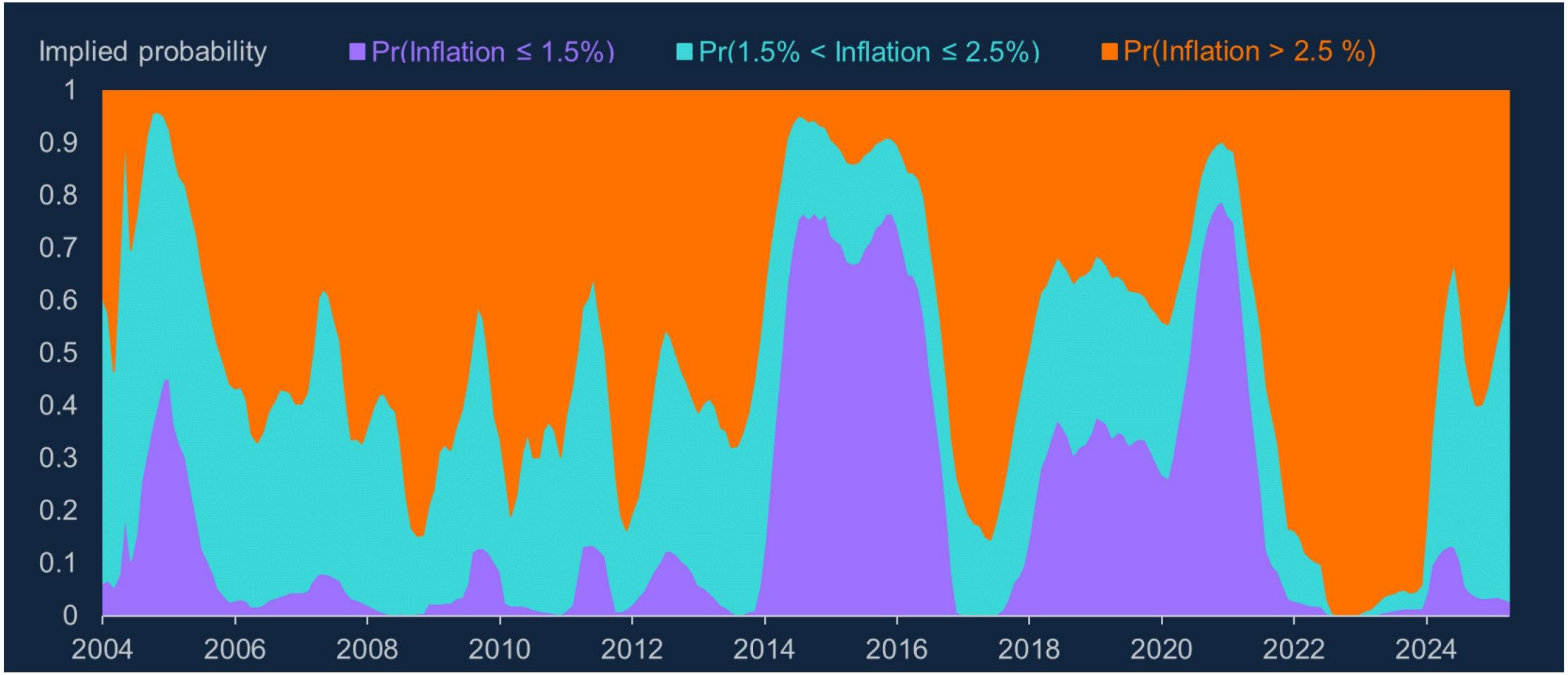
b) Inflation expectations 'drift'

$$r - r^* = [i - i^*] - \underbrace{[E(\pi) - E(\pi^*)]}_{\text{Inflation expectations drift}} \tag{5}$$

- Monetary policymakers affect monetary conditions, and therefore financial conditions, by changing i and/or by affecting inflation expectations $E(\pi)$ while keeping long-term inflation expectations anchored at the inflation target $E(\pi^*) = 2\%$
- Many factors that affect $E(\pi)$ are not directly under the control of the monetary policymaker, but to which it needs to respond (supply shocks, degree of forward-vs-backward-lookingness in expectation formation, frequency of price changes)

Measuring $E(\pi) - E(\pi^*)$:
Implied probabilities of expected CPI inflation outcomes

Asset-price-implied probabilities of lower, around target and higher 12-months-ahead UK CPI outcomes



Sources: Bloomberg Finance L.P., Consensus Economics, LSEG Datastream, Office for National Statistics, Tradeweb, ICE BofAML and Bank calculations.
Notes: 6-month moving average of asset-price-implied probabilities of 12-months-ahead UK CPI inflation outcomes. Asset-price-implied probabilities are based on a monthly quantile regression of 12-months-ahead CPI inflation on asset prices from which probability density functions are obtained, adopting the methodology of Adams et al. (2021) and the New York Fed. Asset prices include UK 3-year OIS rate, UK 10-year govt. bond yield, FTSE All-Share, UK IG corporate bond spread, sterling ERI.

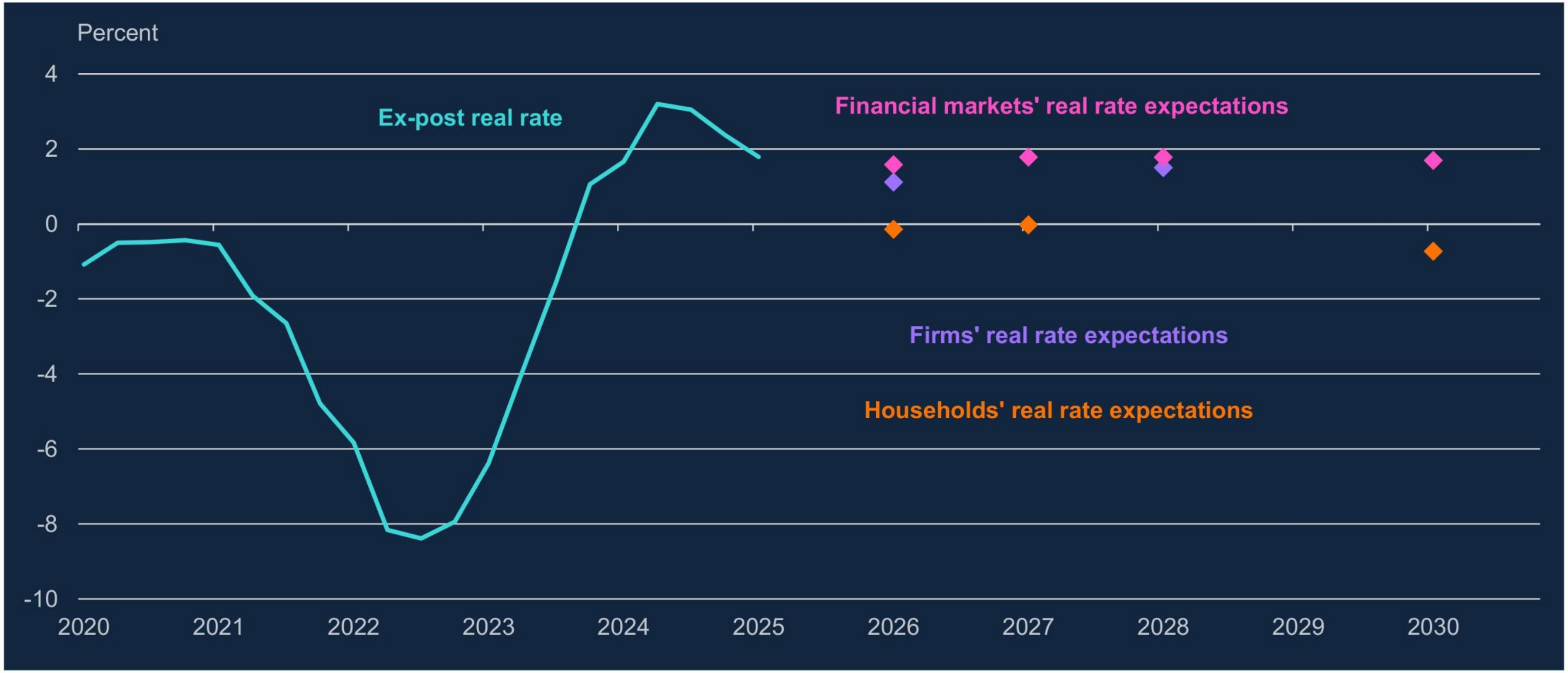
c) The real rate gap

$$\underbrace{r - r^*}_{\text{Real rate gap}} = [i - i^*] - [E(\pi) - E(\pi^*)] \tag{5}$$

- Real rates are not directly observable
- Monetary policymakers affect real rates indirectly through their effect on i and $E(\pi)$
- So the real rate gap is endogenous to policy and shocks

Measuring r using survey-based $E(\pi)$:
Real interest rates differ across economic agents

Measures of ex-ante real interest rates by economic agent



Sources: Bank of England, Bank of England/Ipsos, Bloomberg Finance L.P., Decision Maker Panel, Market Participants Survey, ONS, Tradeweb and Bank calculations.
Notes: Ex-ante real interest rates are calculated as the 1, 2, 3 and 5-year ahead OIS rate respectively, minus the (maturity-matched) survey-implied inflation expectation. Quarterly data. For households, the Bank of England/Ipsos Inflation Attitudes Survey is used, the Decision Maker Panel for firms' and the Market Participants survey for financial markets. The ex-post real interest rate is calculated as Bank Rate minus realised headline CPI inflation.

Assessing the degree of restrictiveness

2) the role of volatility, uncertainty, risk premia

The role of uncertainty, volatility, and risk premia

$$\underbrace{r - r^*}_{\text{Uncertainty affects the real rate gap}} = \underbrace{[i - i^*]}_{} - \underbrace{[E(\pi) - E(\pi^*)]}_{} \tag{5}$$

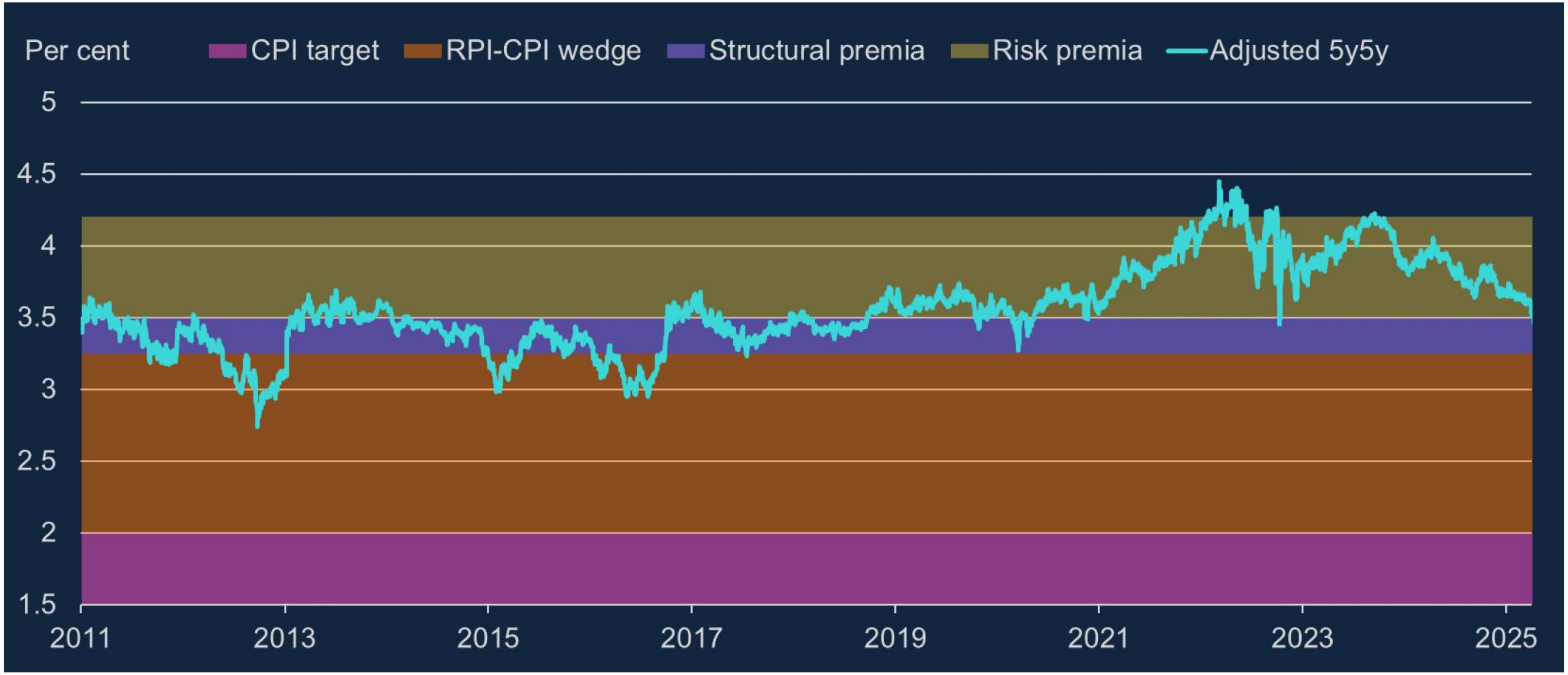
Uncertainty affects the real rate gap

Volatility affects the nominal rate gap and the inflation expectations drift

- Uncertainty reduces consumption and investment, lowering r^*
- Volatility in (π) is positive and asymmetrically related to (π), raising i^*
- Higher risk premia in financial markets yield higher r^* and i^*

Risk premia are significant, but often assumed away when looking at inflation expectations

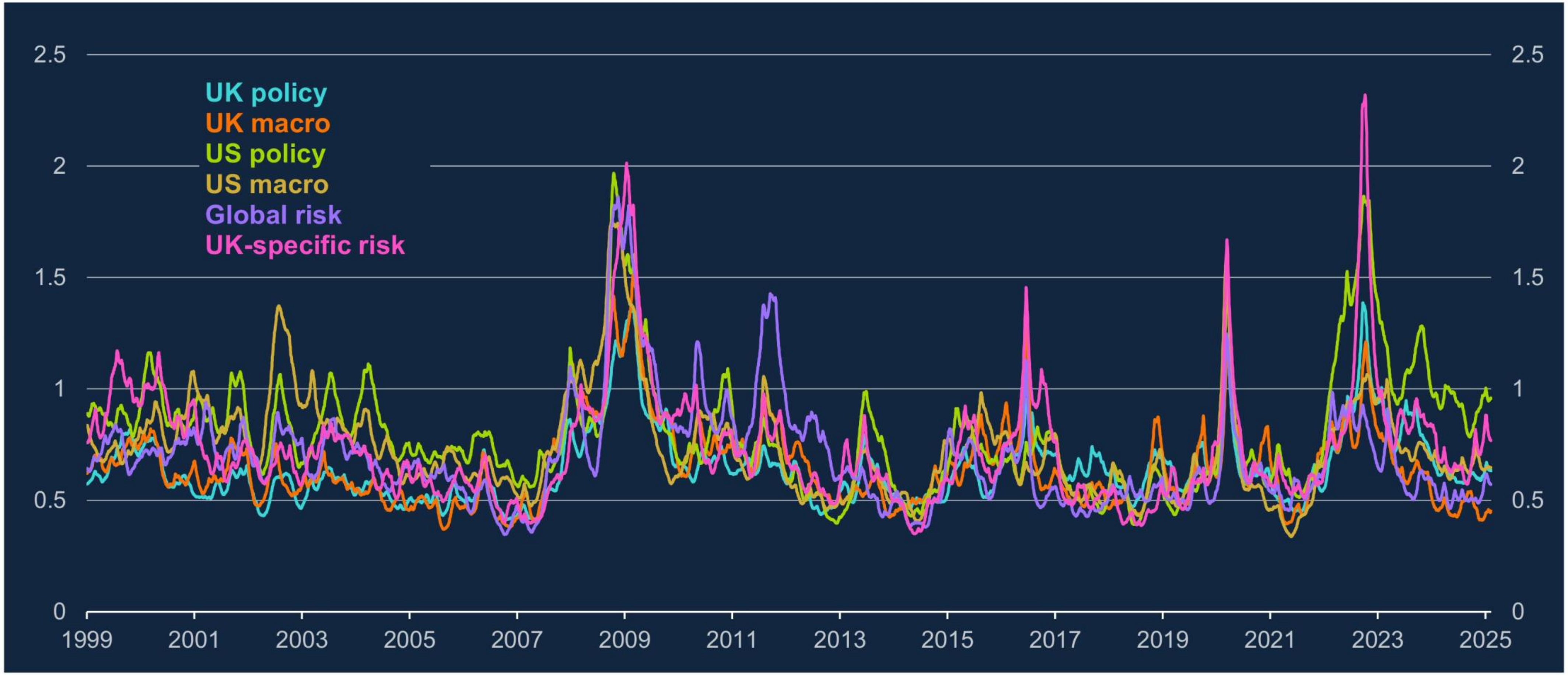
RPI-reform adjusted UK 5-year, 5-years ahead measure of inflation compensation



Sources: Bloomberg Finance L.P. and Bank calculations.
Notes: Latest data: 1st April 2025. UK RPI adjusted 5y5y is derived by adjusting the five-year, five-year rate to account for UK RPI reform. From 2030, UK RPI will be aligned with the CPIH measure of consumer prices.

Volatility and spillovers affect UK financial conditions:
US monetary policy factor remains elevated, but UK specific risk is present too.

Stochastic volatility of asset price factors



Source: Bloomberg Finance L.P. and Bank calculations

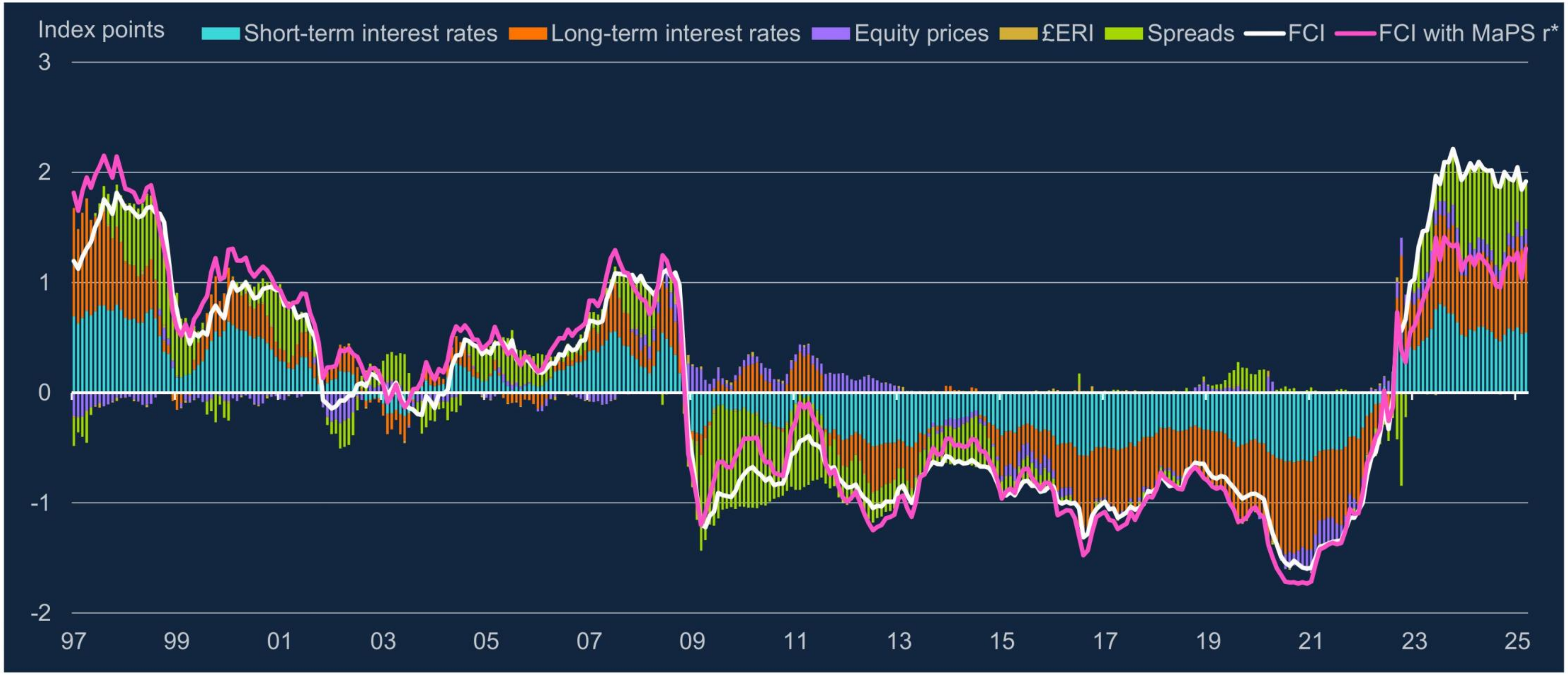
Notes: See Mann (2025) for more detail. The calculations are based on a structural VAR identified using sign and magnitude restrictions following Brandt et al. (2021). The model is extended to analyze monetary policy spillovers between the UK and its two most important trading partners and dominant currency blocks, the US and EA.

Assessing the degree of restrictiveness

3) the effect of monetary policy on financial conditions and the economy

Financial market transmission matters:
It's not just the short-term interest rate that affects restrictiveness

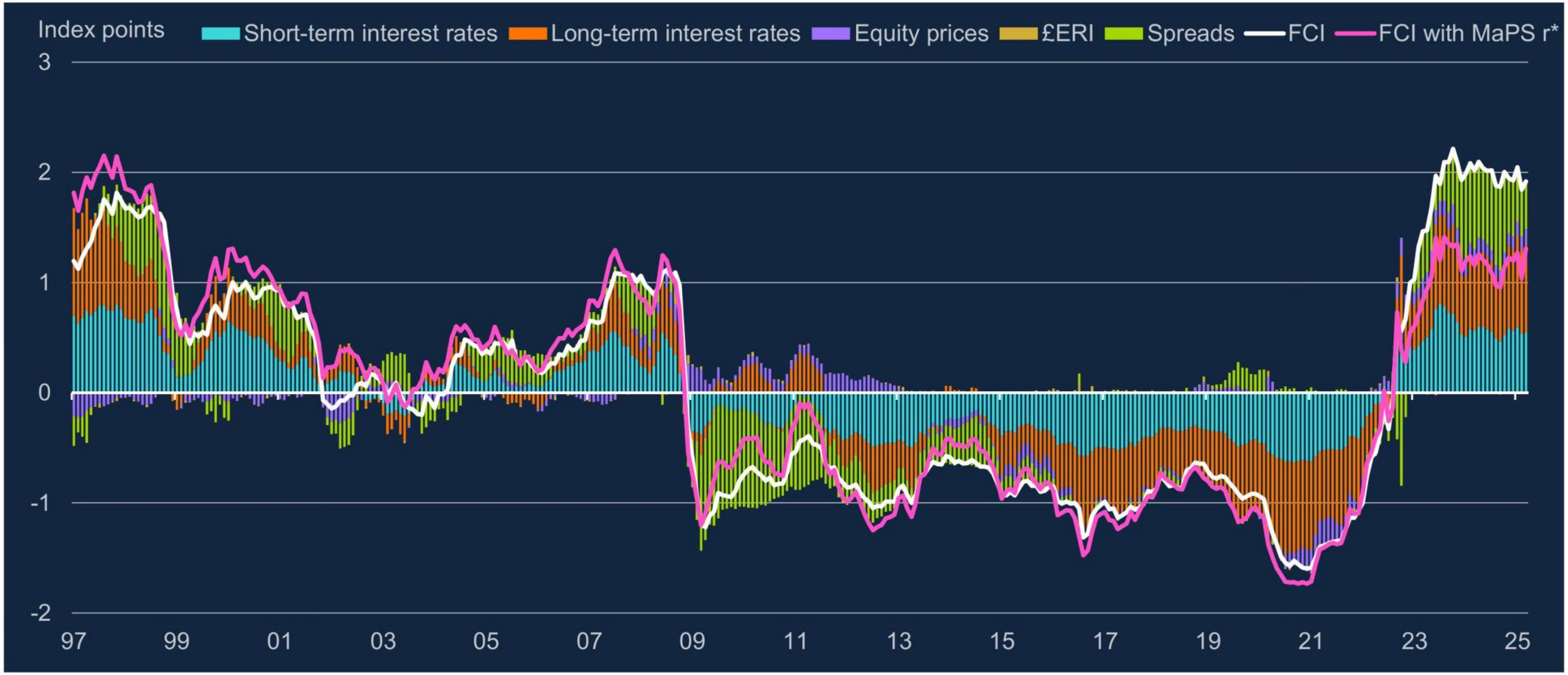
UK financial conditions index



Sources: Bloomberg Finance L.P., Moneyfacts, LSEG, Tradeweb and Bank calculations.
Notes: The pink line is an adaptation of Burr (2023), where interest rates are detrended using the MaPS median estimate of the neutral rate.

The choice of r^* matters: Underestimating r^* implies overestimating restrictiveness

UK financial conditions index



Sources: Bloomberg Finance L.P., Moneyfacts, LSEG, Tradeweb and Bank calculations.
Notes: The pink line is an adaptation of Burr (2023), where interest rates are detrended using the MaPS median estimate of the neutral rate.

Conclusions for monetary policy and research

- Evaluating restrictiveness of policy in real-time is challenging, with various methodologies which have strengths and weaknesses
  - Real rate gap:
    - Allows monitoring in real-time, but subject to strong assumptions
  - Nominal rate gap:
    - Allows monitoring of policy transmission to financial conditions, and is an early-indicator, but involves uncertainty about second-stage monetary policy transmission to output and inflation
  - Inflation expectations gap:
    - Allows a direct assessment of the effectiveness of policy, but is subject to measurement challenges and the channels of monetary policy transmission
- Biggest research gaps? Treatment of uncertainty, volatility, and risk

PGIM
GLOBAL ASSET MANAGEMENT

KING'S College LONDON
KING'S BUSINESS SCHOOL

BANK OF ENGLAND WATCHERS' CONFERENCE 2025

PIIE PETERSON INSTITUTE FOR INTERNATIONAL ECONOMICS

International aspects of natural and neutral real interest rates

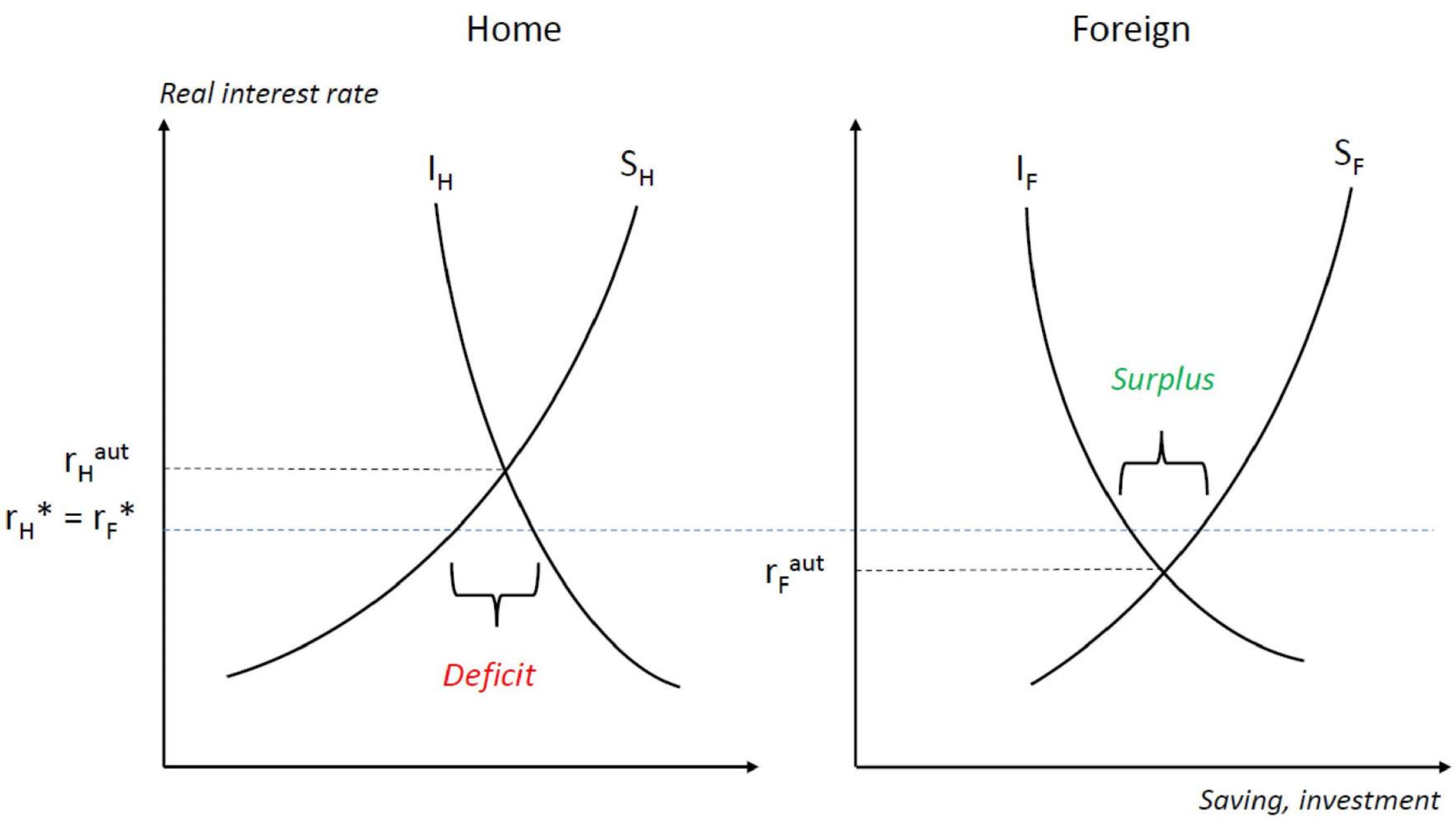
Maurice Obstfeld

Bank of England Watchers’ Conference 2025

King’s Business School, London, May 12, 2025

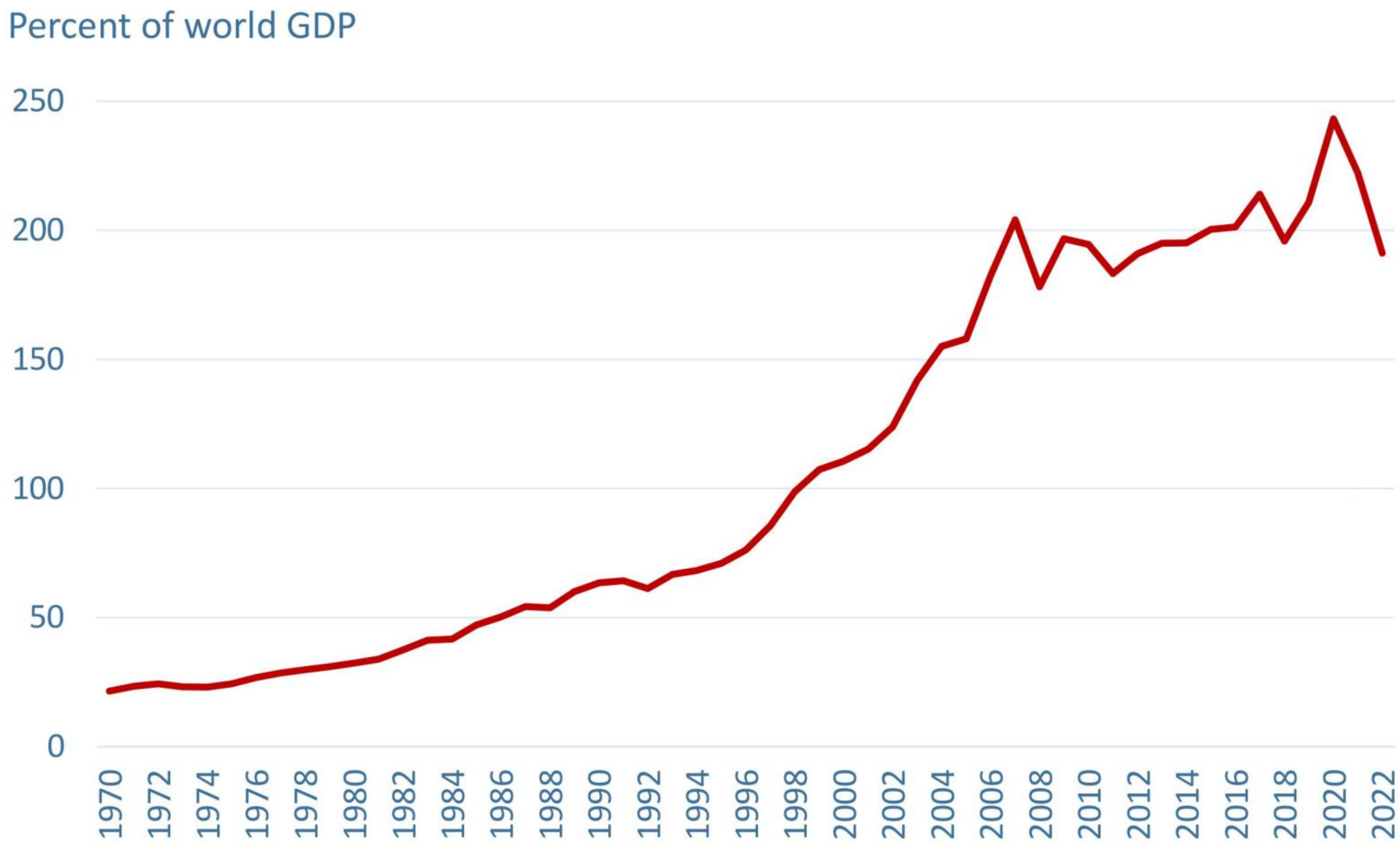
In an integrated capital market, r is global

One-good model of Metzler (1968)



International financial integration is high

Average of external assets and liabilities, from G. M. Milesi-Ferretti, Brookings EWN database



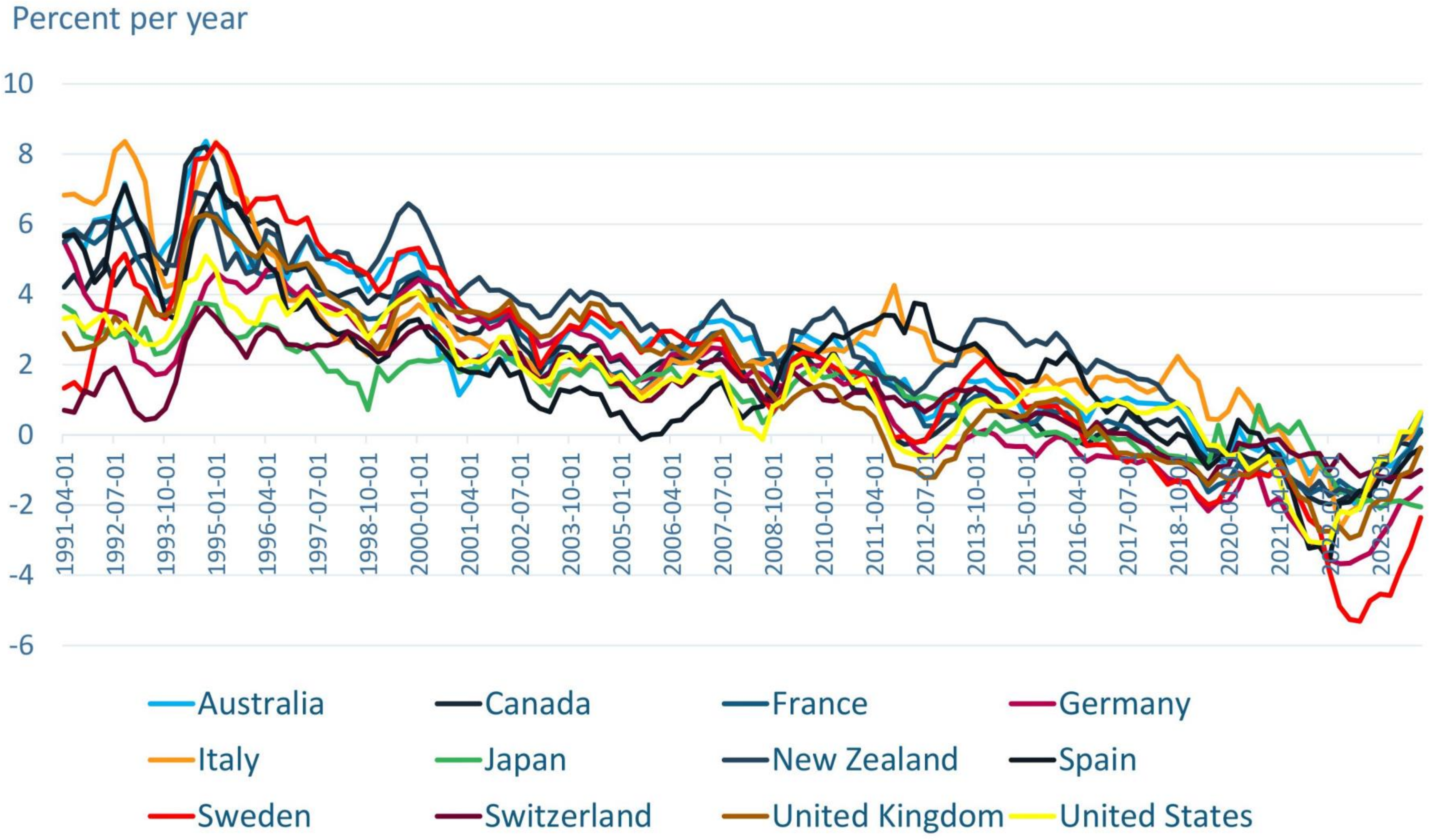
Real-world complications

$r_H = r_F + \mathrm{E}\Delta q + ?$

- Interest parity: expected change in real exchange rate
    - Mean-reverting?
    - In part a reflection of *merchandise trade* costs
- Currency risk premium
- Term premium
- Liquidity premium
- Default risk in sovereign yields
- Tax treatment
- Barriers to cross-border capital movement

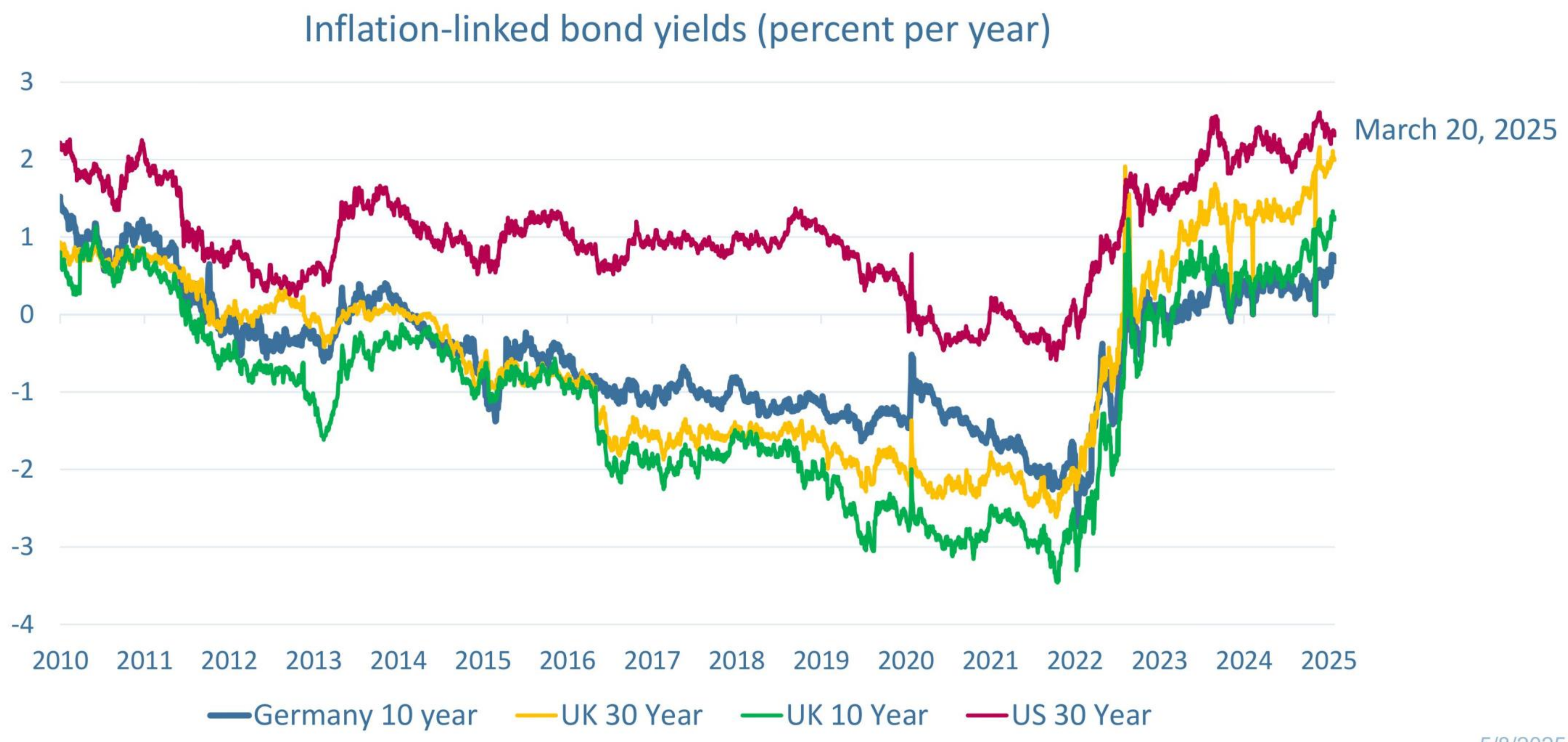
Advanced–economy real interest rates trend together

Partially ex post real rates on long-term government bonds



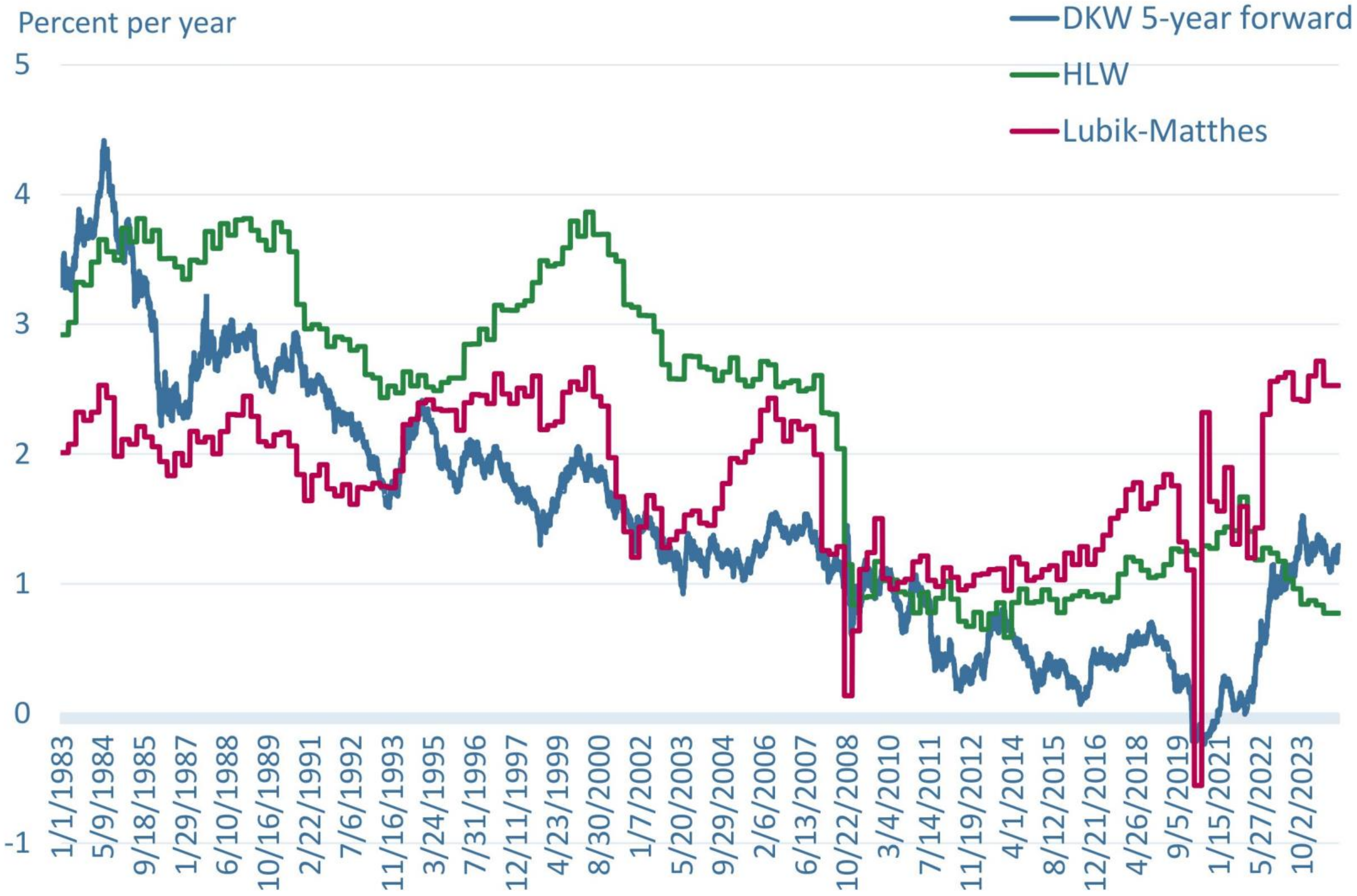
Long-term inflation-linked bond yields indicate higher expected r^*, global gaps

Source: Bloomberg



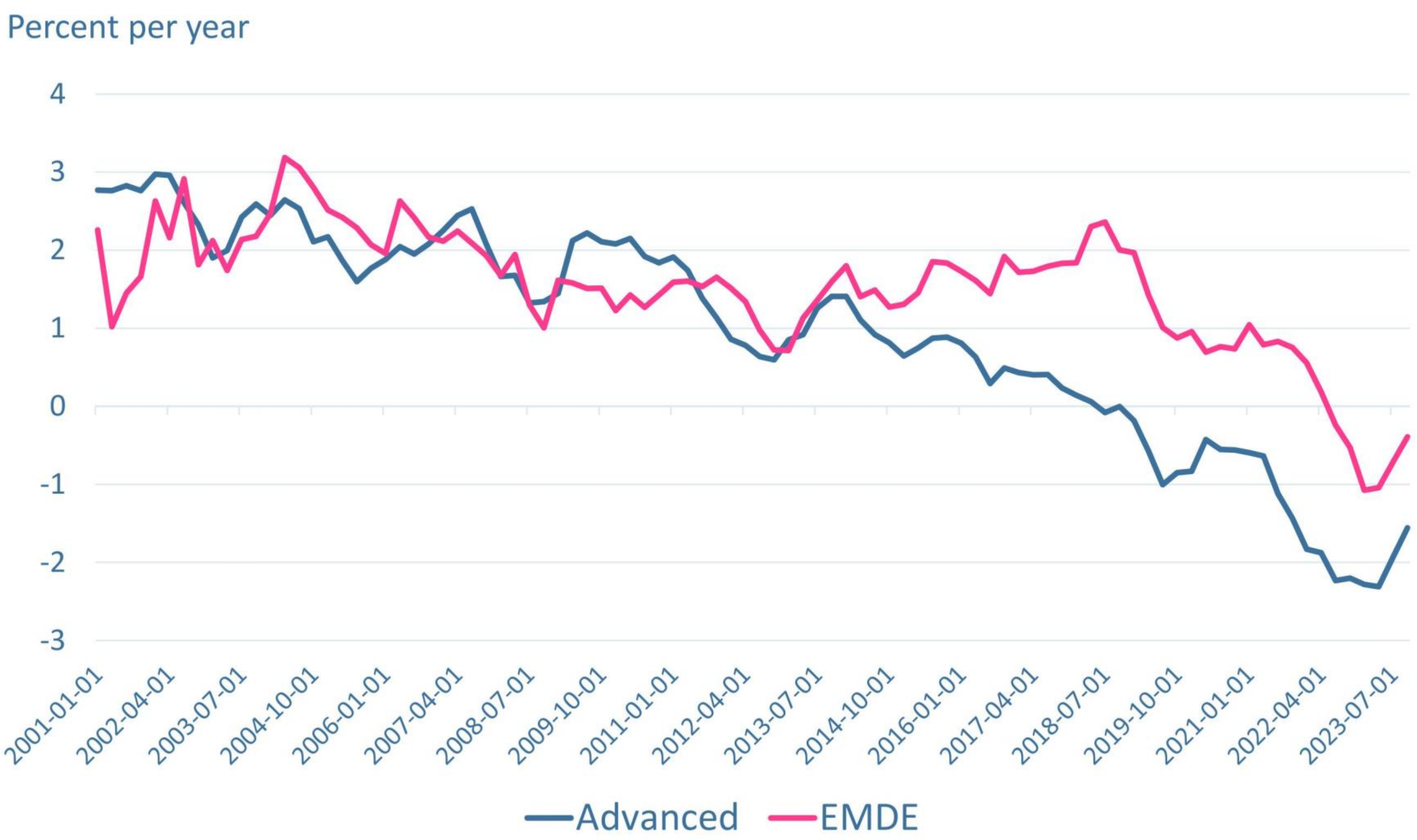
r^* estimates can diverge widely

Results of three different estimation methodologies for the U.S. natural real rate

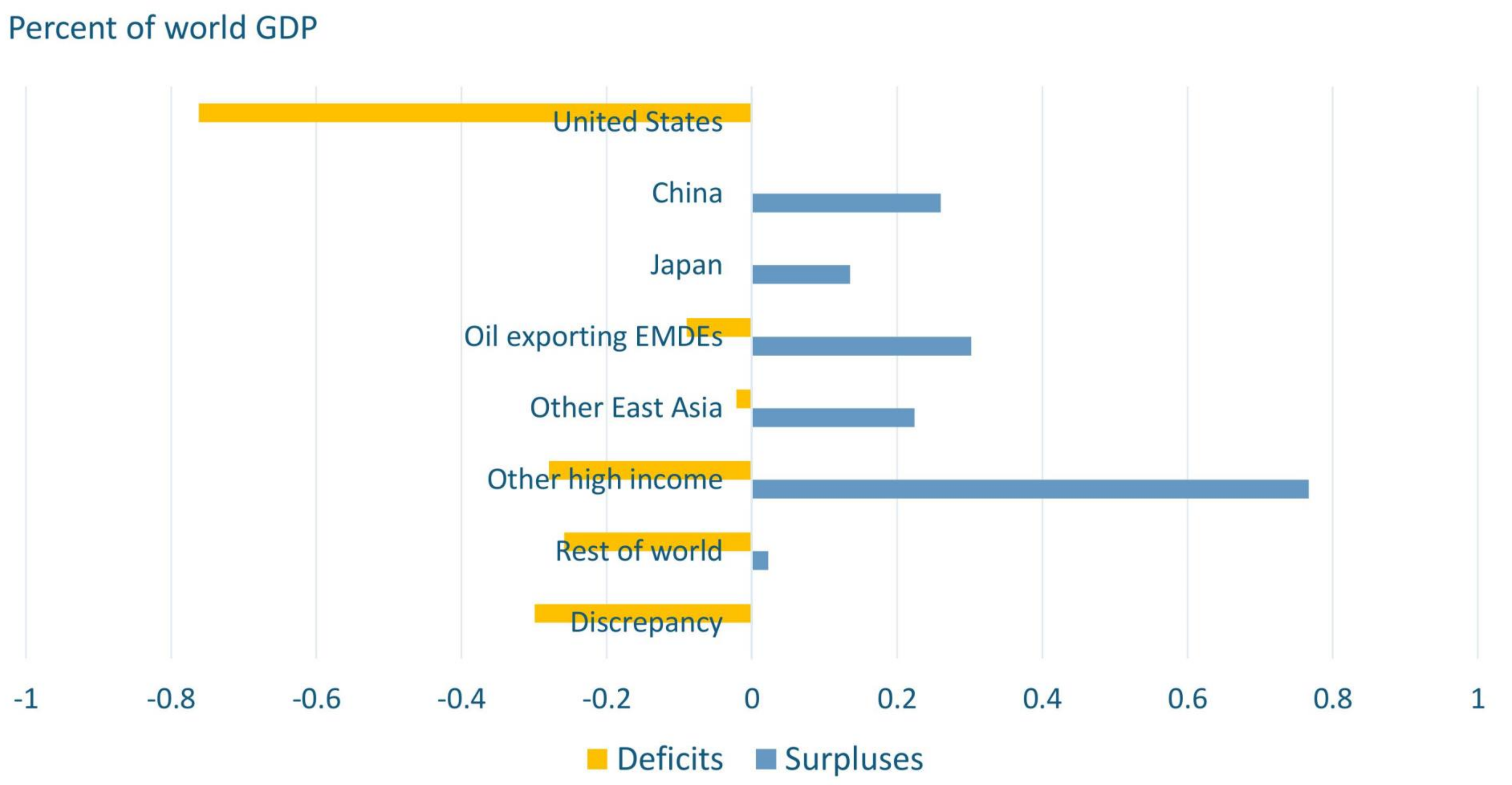


EM rates have been higher than AE rates since the GFC

Simple averages for 12 high-income and 23 middle-income economies



Global current accounts in 2023: High-income economies dominate for global real interest rates



Some takeaways

- Real rates, even at long term, aren't fully equalized across countries
- Even bigger divergences in real policy rates are possible
- But international capital markets have expanded markedly
- For high-income economies, real rates trend together (Del Negro et al., *JIE*, 2019)
- Indexed bond markets show long-term r gaps – something of a puzzle
- Emerging market rates have been persistently higher since the GFC
- Rates in high-income group largely determined by high-income factors
- Everywhere, global events influence domestic r^*
- The external trade balance (current account) matters for r^*, which depends on a real exchange rate that could be out of equilibrium in the short run – e.g., if the currency is stronger, r^* is lower

PETERSON INSTITUTE FOR INTERNATIONAL ECONOMICS

Thank you.

Maurice Obstfeld

obstfeld@berkeley.edu

mobstfeld@piie.com

BANK OF ENGLAND WATCHERS' CONFERENCE 2025

PGIM
GLOBAL ASSET MANAGEMENT

KING'S College LONDON
KING'S BUSINESS SCHOOL

BARCLAYS

Research

Silvia Ardagna
Head of European Economics Research
+44 20 7773 1715
silvia.ardagna@barclays.com
Barclays, UK

The neutral rate of interest

Bank of England Watchers' Conference 2025

Please see analyst certification(s) and important disclosures at the end of this presentation.

Outline

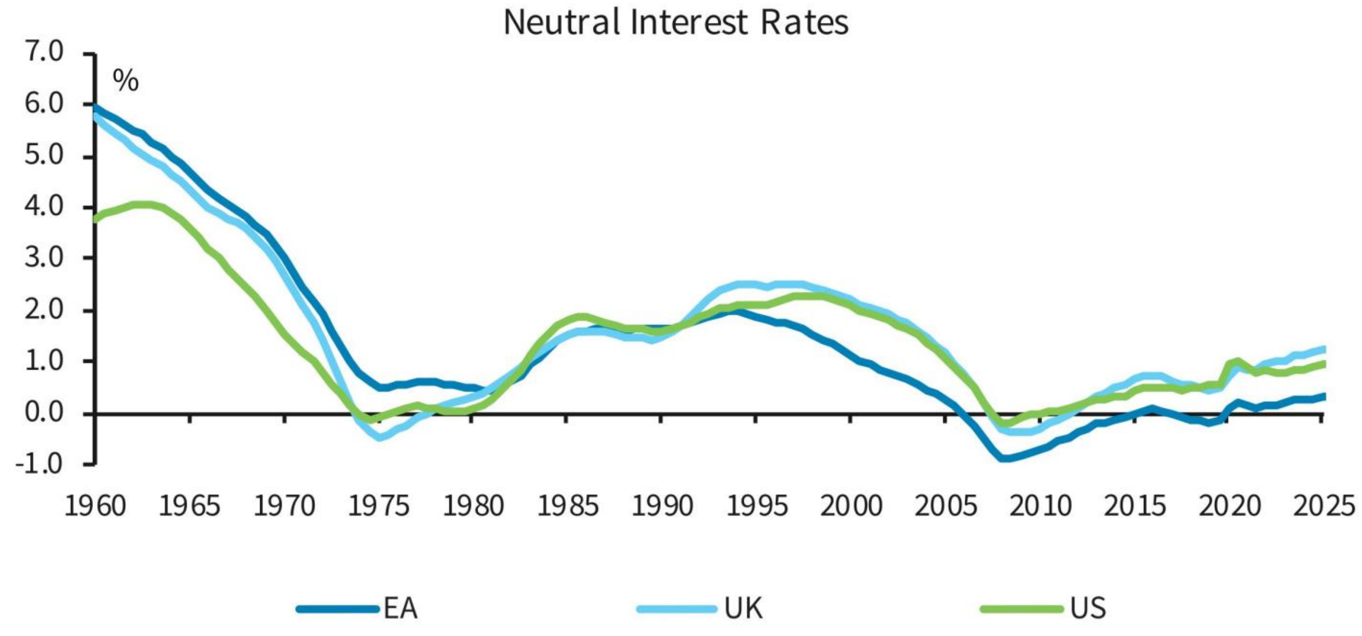
1. Global neutral interest: *Quo vado*?
    1. The demographic drag
    2. The productivity bounce back
    3. The supply of safe assets

2. Central Bank Watchers' focus: neutral or terminal?

Analysis uses model, data, replication codes from Ferreira T., S. Shousha (2023), Determinants of Global Neutral Interest Rates, Journal of International Economics, vol. 145

Global neutral interest rates: long-run trend and recent past

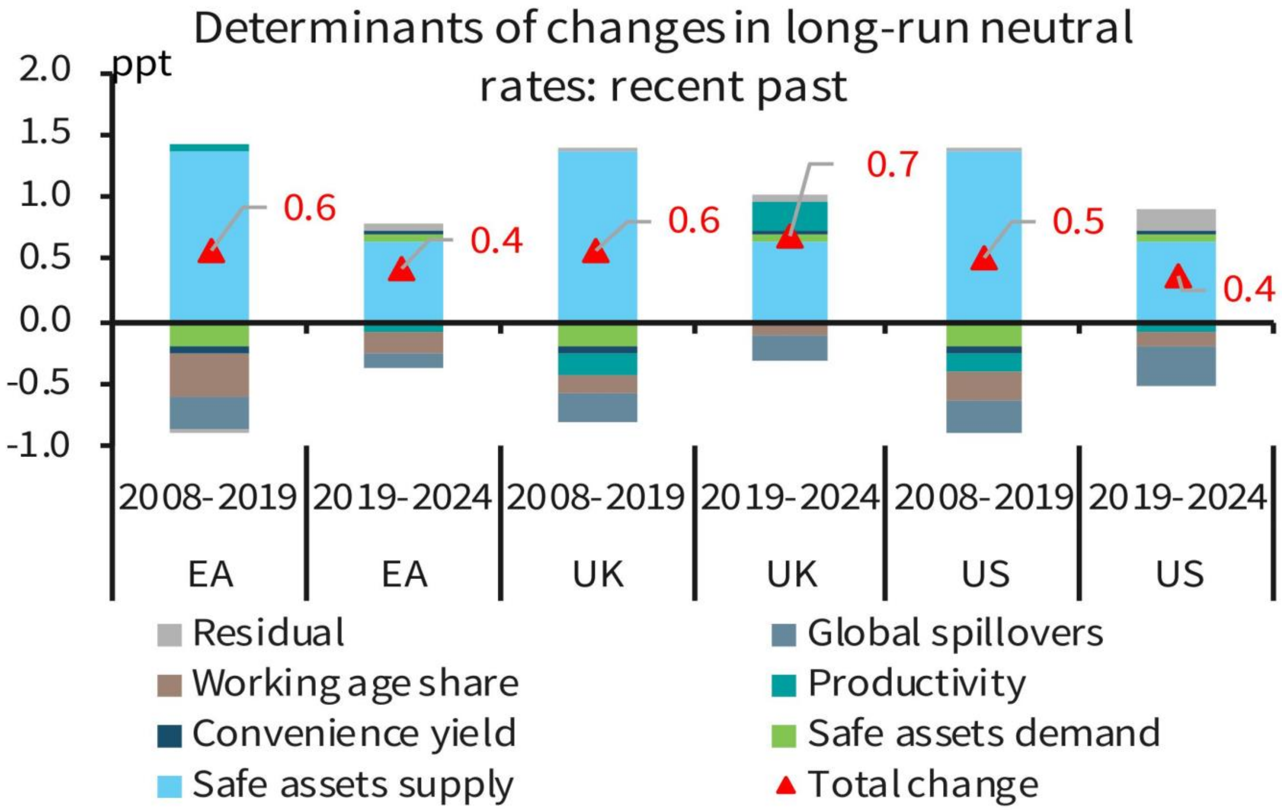
A long decline and the recent uptick



Source: Ferreira T., S. Shousha (2023), Determinants of Global Neutral Interest Rates, Journal of International Economics, vol. 145

Global neutral interest rates: long-run trend and recent past

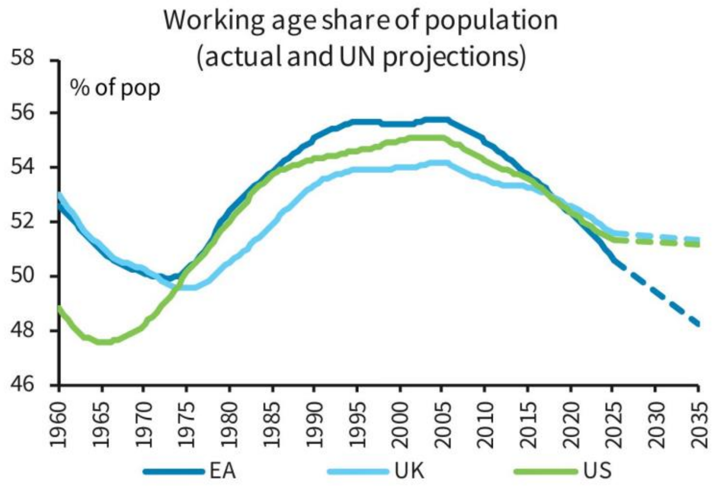
Safe assets supply offset most other determinants



Source: Ferreira T., S. Shousha (2023), Determinants of Global Neutral Interest Rates, Journal of International Economics, vol. 145

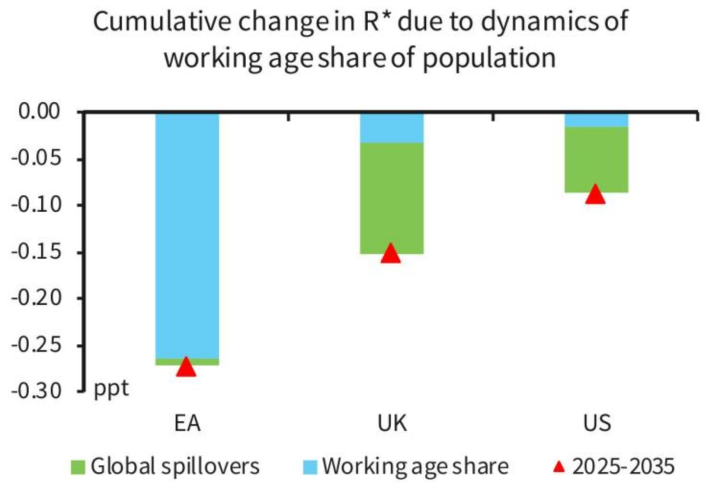
Global neutral interest rates: the next 10 years

Ageing society will be a drag…



Source: United Nations, Eurostat, Barclays Research

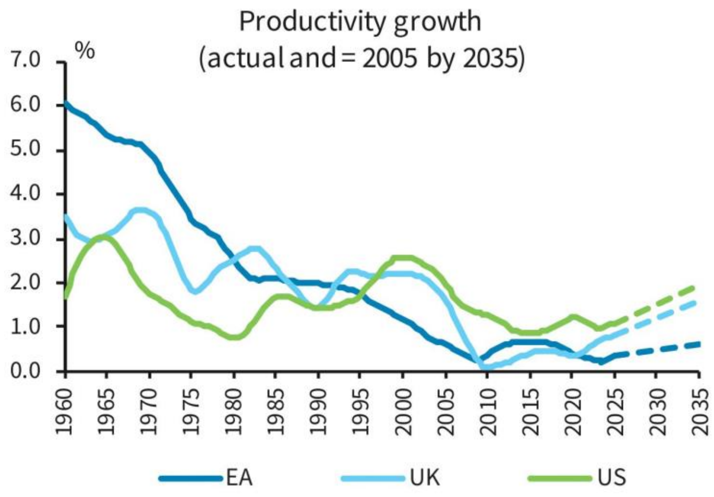
…particularly in the euro area



Notes: Contributions to changes in R* uses methodology and estimates based on Ferreira T., S. Shousha (2023), Journal of International Economics, vol. 145
Source: Ferreira T., S. Shousha (2023), United Nations, Eurostat, Barclays Research

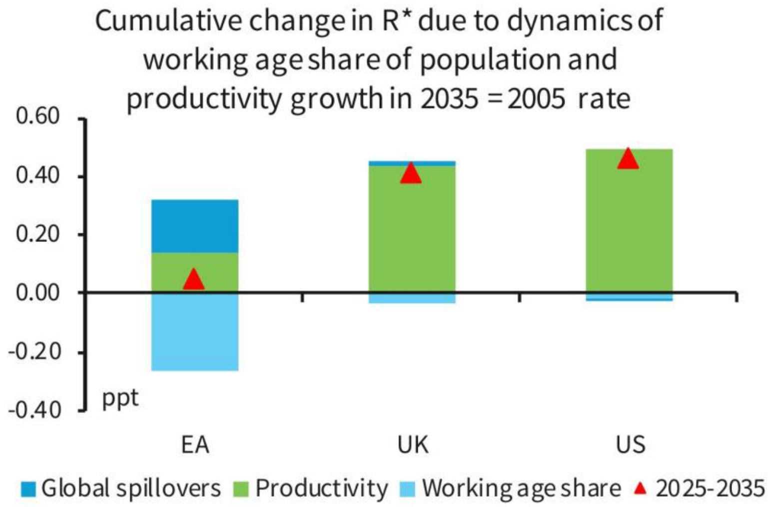
Global neutral interest rates: the next 10 years

A bounce back of productivity to pre-GFC would…



Source: Ferreira T., S. Shousha (2023), Barclays Research

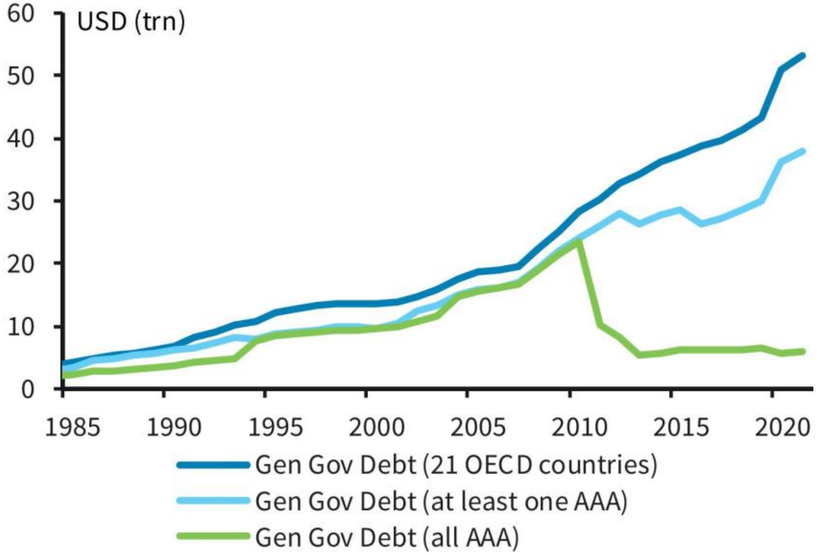
…not make much difference for the EA neutral rate



Notes: Contributions to changes in R* uses methodology and estimates based on Ferreira T., S. Shousha (2023) , Journal of International Economics, vol. 145
Source: Ferreira T., S. Shousha (2023), United Nations, Eurostat, Barclays Research

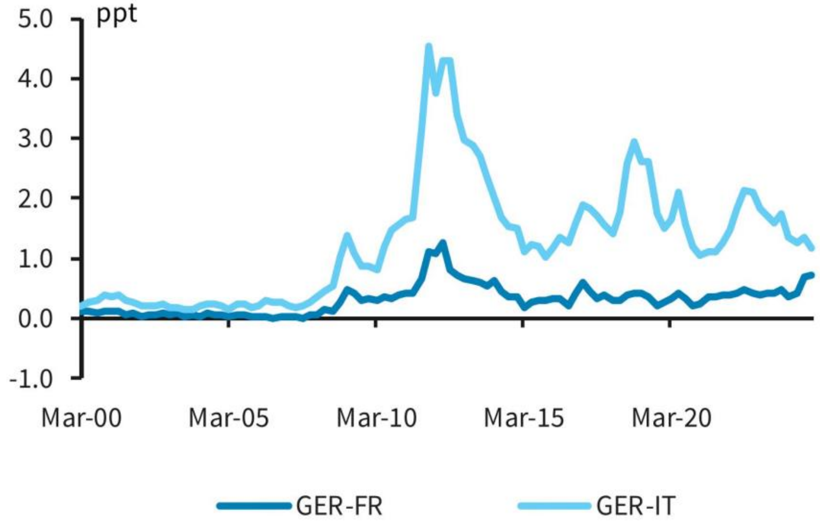
The supply of safe assets: regime shifts

The pool of safe assets can change abruptly



Sovereigns rated AAA by all three starting in 2008				
AUT	FRA	NLD	SWE	US
CAN	GER	NOR	SWI	
FIN	IRE	SPA	UK	

Financial markets tend to anticipate rating agencies



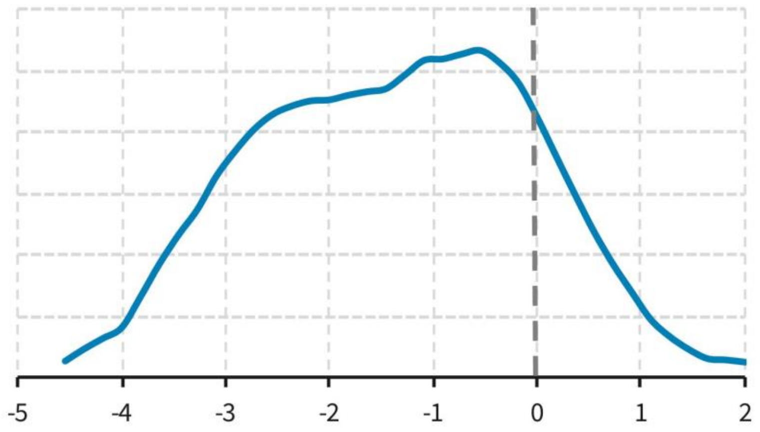
Sovereigns not rated AAA by all three starting from			
2009	IRE	2012	AUT, FRA
2010	SPA	2013	NLD, UK
2011	US		

Source: OECD, Bloomberg, Barclays Research

CB Watchers' focus: neutral or terminal?

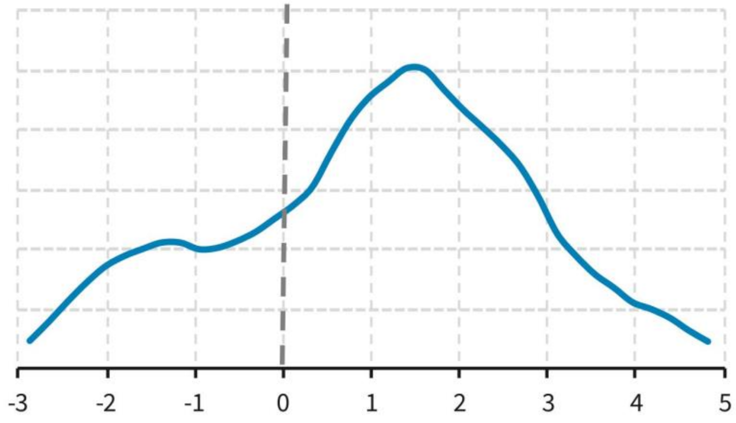
Terminal rate more likely to be below neutral in cutting cycles but…

Terminal-neutral rate differential in cutting cycles starting from 2000



…above it in hiking cycles

Terminal-neutral rate differential in hiking cycles starting from 2000



Source: Ferreira T., S. Shousha (2023), Barclays Research

Key conclusions

1. Global neutral interest rate: *Quo vado*?

    i. Demographics dynamics point to low neutral rate particularly for the EA, with spillovers also to UK and US.

    ii. A pretty significant bounce back in productivity in major economies would be needed to offset the drag from demographic forces for the neutral rate to increase in EA over the next 10 years, in our view. The evidence is less clear-cut for the UK and US.

    iii. The supply of safe assets increased in the past 10 years and pushed the neutral rate higher. However, what is safe today might not be safe tomorrow. Mind non-linearities/multiple equilibria/financial stability: regime shift from “high” to “low” R*.

2. CB Watchers’ bank for the buck: neutral or terminal?

    The terminal rate is more likely to be lower than the neutral rate in cutting cycles and more likely to be higher in hiking cycles.

Analyst(s) Certification(s):

I, Silvia Ardagna, hereby certify (1) that the views expressed in this research report accurately reflect my personal views about any or all of the subject securities or issuers referred to in this research report and (2) no part of my compensation was, is or will be directly or indirectly related to the specific recommendations or views expressed in this research report.

Important Disclosures:

Barclays Research is produced by the Investment Bank of Barclays Bank PLC and its affiliates (collectively and each individually, "Barclays").
All authors contributing to this research report are Research Analysts unless otherwise indicated. The publication date at the top of the report reflects the local time where the report was produced and may differ from the release date provided in GMT.

Availability of Disclosures:

For current important disclosures regarding any issuers which are the subject of this research report please refer to https://publicresearch.barclays.com or alternatively send a written request to: Barclays Research Compliance, 745 Seventh Avenue, 13th Floor, New York, NY 10019 or call +1-212-526-1072.
Barclays Capital Inc. and/or one of its affiliates does and seeks to do business with companies covered in its research reports. As a result, investors should be aware that Barclays may have a conflict of interest that could affect the objectivity of this report. Barclays Capital Inc. and/or one of its affiliates regularly trades, generally deals as principal and generally provides liquidity (as market maker or otherwise) in the debt securities that are the subject of this research report (and related derivatives thereof). Barclays trading desks may have either a long and / or short position in such securities, other financial instruments and / or derivatives, which may pose a conflict with the interests of investing customers. Where permitted and subject to appropriate information barrier restrictions, Barclays fixed income research analysts regularly interact with its trading desk personnel regarding current market conditions and prices. Barclays fixed income research analysts receive compensation based on various factors including, but not limited to, the quality of their work, the overall performance of the firm (including the profitability of the Investment Banking Department), the profitability and revenues of the Markets business and the potential interest of the firm's investing clients in research with respect to the asset class covered by the analyst. To the extent that any historical pricing information was obtained from Barclays trading desks, the firm makes no representation that it is accurate or complete. All levels, prices and spreads are historical and do not necessarily represent current market levels, prices or spreads, some or all of which may have changed since the publication of this document. Barclays Research Department produces various types of research including, but not limited to, fundamental analysis, equity-linked analysis, quantitative analysis, and trade ideas. Recommendations and trade ideas contained in one type of Barclays Research may differ from those contained in other types of Barclays Research, whether as a result of differing time horizons, methodologies, or otherwise.
In order to access Barclays Statement regarding Research Dissemination Policies and Procedures, please refer to https://publicresearch.barclays.com/S/RD.htm. In order to access Barclays Research Conflict Management Policy Statement, please refer to: https://publicresearch.barclays.com/S/CM.htm.

Disclosure(s) regarding Information Sources

Bloomberg® is a trademark and service mark of Bloomberg Finance L.P. and its affiliates (collectively "Bloomberg") and the Bloomberg Indices are trademarks of Bloomberg. Bloomberg or Bloomberg's licensors own all proprietary rights in the Bloomberg Indices. Bloomberg does not approve or endorse this material, or guarantee the accuracy or completeness of any information herein, or make any warranty, express or implied, as to the results to be obtained therefrom and, to the maximum extent allowed by law, Bloomberg shall have no liability or responsibility for injury or damages arising in connection therewith.

All pricing information is indicative only. Unless otherwise indicated, prices are sourced from LSEG Data & Analytics and reflect the closing price in the relevant trading market, which may not be the last available price at the time of publication.

Types of investment recommendations produced by Barclays FICC Research:

In addition to any ratings assigned under Barclays' formal rating systems, this publication may contain investment recommendations in the form of trade ideas, thematic screens, scorecards or portfolio recommendations that have been produced by analysts in FICC Research. Any such investment recommendations produced by non-Credit Research teams shall remain open until they are subsequently amended, rebalanced or closed in a future research report. Any such investment recommendations produced by the Credit Research teams are valid at current market conditions and may not be otherwise relied upon.

Disclosure of other investment recommendations produced by Barclays FICC Research:

Barclays FICC Research may have published other investment recommendations in respect of the same securities/instruments recommended in this research report during the preceding 12 months. To view all investment recommendations published by Barclays FICC Research in the preceding 12 months please refer to https://live.barcap.com/go/research/Recommendations.
Barclays does not assign ratings to asset backed securities. Barclays Capital Inc. and/or one of its affiliates may have acted as an underwriter for public offerings of any asset backed securities that are otherwise recommended in trade ideas contained within its securitised research reports.

Legal entities involved in producing Barclays Research:

Barclays Bank PLC (Barclays, UK)
Barclays Capital Inc. (BCI, US)
Barclays Bank Ireland PLC, Frankfurt Branch (BBI, Frankfurt)
Barclays Bank Ireland PLC, Paris Branch (BBI, Paris)
Barclays Bank Ireland PLC, Milan Branch (BBI, Milan)
Barclays Securities Japan Limited (BSJL, Japan)
Barclays Bank PLC, Hong Kong Branch (Barclays Bank, Hong Kong)
Barclays Bank Mexico, S.A. (BBMX, Mexico)
Barclays Capital Casa de Bolsa, S.A. de C.V. (BCCB, Mexico)
Barclays Securities (India) Private Limited (BSIPL, India)
Barclays Bank PLC, Singapore Branch (Barclays Bank, Singapore)
Barclays Bank PLC, DIFC Branch (Barclays Bank, DIFC)

Non-U.S. persons should contact and execute transactions through a Barclays Bank PLC branch or affiliate in their home jurisdiction unless local regulations permit otherwise.

This material is distributed in Canada by Barclays Capital Canada Inc., a registered investment dealer, a Dealer Member of Canadian Investment Regulatory Organization (www.ciro.ca), and a Member of the Canadian Investor Protection Fund (CIPF).

This material is distributed in Mexico by Barclays Bank Mexico, S.A. and/or Barclays Capital Casa de Bolsa, S.A. de C.V. This material is distributed in the Cayman Islands and in the Bahamas by Barclays Capital Inc., which it is not licensed or registered to conduct and does not conduct business in, from or within those jurisdictions and has not filed this material with any regulatory body in those jurisdictions.

Japan: This material is being distributed to institutional investors in Japan by Barclays Securities Japan Limited. Barclays Securities Japan Limited is a joint-stock company incorporated in Japan with registered office of 6-10-1 Roppongi, Minato-ku, Tokyo 106-6131, Japan. It is a subsidiary of Barclays Bank PLC and a registered financial instruments firm regulated by the Financial Services Agency of Japan. Registered Number: Kanto Zaimukyokucho (kinsho) No. 143.

Asia Pacific (excluding Japan): Barclays Bank PLC, Hong Kong Branch is distributing this material in Hong Kong as an authorised institution regulated by the Hong Kong Monetary Authority. Registered Office: 41/F, Cheung Kong Center, 2 Queen's Road Central, Hong Kong.

All Indian securities-related research and other equity research produced by Barclays' Investment Bank are distributed in India by Barclays Securities (India) Private Limited (BSIPL). BSIPL is a company incorporated under the Companies Act, 1956 having CIN U67120MH2006PTC161063. BSIPL is registered and regulated by the Securities and Exchange Board of India (SEBI) as a Research Analyst: INH000001519; Portfolio Manager INP000002585; Stock Broker INZ000269539 (member of NSE and BSE); Depository Participant with the National Securities & Depositories Limited (NSDL): DP ID: IN-DP-NSDL-478-2020; Investment Adviser: INA000000391. BSIPL is also registered as a Mutual Fund Advisor having AMFI ARN No. 53308. The registered office of BSIPL is at Nirlon Knowledge Park, 9th floor, Block B-6, Off. Western Express Highway, Goregaon (East), Mumbai – 400063, India. Telephone No: +91 22 61754000 Fax number: +91 22 61754099. Any other reports produced by Barclays' Investment Bank are distributed in India by Barclays Bank PLC, India Branch, an associate of BSIPL in India that is registered with Reserve Bank of India (RBI) as a Banking Company under the provisions of The Banking Regulation Act, 1949 (Regn No BOM43) and registered with SEBI as Merchant Banker (Regn No INM000002129) and also as Banker to the Issue (Regn No INBI00000950). Barclays Investments and Loans (India) Limited, registered with RBI as Non Banking Financial Company (Regn No RBI CoR-07-00258), and Barclays Wealth Trustees (India) Private Limited, registered with Registrar of Companies (CIN U93000MH2008PTC188438), are associates of BSIPL in India that are not authorised to distribute any reports produced by Barclays' Investment Bank.

This material is distributed in Singapore by the Singapore Branch of Barclays Bank PLC, a bank licensed in Singapore by the Monetary Authority of Singapore. For matters in connection with this material, recipients in Singapore may contact the Singapore branch of Barclays Bank PLC, whose registered address is 10 Marina Boulevard, #23-01 Marina Bay Financial Centre Tower 2, Singapore 018983.

This material, where distributed to persons in Australia, is produced or provided by Barclays Bank PLC.

This communication is directed at persons who are a "Wholesale Client" as defined by the Australian Corporations Act 2001.

Please note that the Australian Securities and Investments Commission (ASIC) has provided certain exemptions to Barclays Bank PLC (BBPLC) under paragraph 911A(2)(l) of the Corporations Act 2001 from the requirement to hold an Australian financial services licence (AFSL) in respect of financial services provided to Australian Wholesale Clients, on the basis that BBPLC is authorised by the Prudential Regulation Authority of the United Kingdom (PRA) and regulated by the Financial Conduct Authority (FCA) of the United Kingdom and the PRA under United Kingdom laws. The United Kingdom has laws which differ from Australian laws. To the extent that this communication involves the provision of financial services by BBPLC to Australian Wholesale Clients, BBPLC relies on the relevant exemption from the requirement to hold an AFSL. Accordingly, BBPLC does not hold an AFSL.

This communication may be distributed to you by either: (i) Barclays Bank PLC directly, (ii) Barrenjoey Markets Pty Limited (ACN 636 976 059, "Barrenjoey"), the holder of Australian Financial Services Licence (AFSL) 521800, a non-affiliated third party distributor, where clearly identified to you by Barrenjoey. Barrenjoey is not an agent of Barclays Bank PLC or (iii) such other non-affiliated third-party distributor(s) as may be clearly identified to you. Such non-affiliated third-party distributor(s) are not agents of Barclays Bank PLC.

This material, where distributed in New Zealand, is produced or provided by Barclays Bank PLC. Barclays Bank PLC is not registered, filed with or approved by any New Zealand regulatory authority. This material is not provided under or in accordance with the Financial Markets Conduct Act of 2013 ("FMCA"), and is not a disclosure document or "financial advice" under the FMCA. This material is distributed to you by either: (i) Barclays Bank PLC directly or (ii) Barrenjoey Markets Pty Limited ("Barrenjoey"), a non-affiliated third party distributor, where clearly identified to you by Barrenjoey. Barrenjoey is not an agent of Barclays Bank PLC. This material may only be distributed to "wholesale investors" that meet the "investment business", "investment activity", "large", or "government agency" criteria specified in Schedule 1 of the FMCA.

Middle East: Nothing herein should be considered investment advice as defined in the Israeli Regulation of Investment Advisory, Investment Marketing and Portfolio Management Law, 1995 ("Advisory Law"). This document is being made to eligible clients (as defined under the Advisory Law) only. Barclays Israeli branch previously held an investment marketing license with the Israel Securities Authority but it cancelled such license on 30/11/2014 as it solely provides its services to eligible clients pursuant to available exemptions under the Advisory Law, therefore a license with the Israel Securities Authority is not required. Accordingly, Barclays does not maintain an insurance coverage pursuant to the Advisory Law.

This material is distributed in the United Arab Emirates (including the Dubai International Financial Centre) and Qatar by Barclays Bank PLC. Barclays Bank PLC in the Dubai International Financial Centre (Registered No. 0060) is regulated by the Dubai Financial Services Authority (DFSA). Principal place of business in the Dubai International Financial Centre: The Gate Village, Building 4, Level 4, PO Box 506504, Dubai, United Arab Emirates. Barclays Bank PLC-DIFC Branch, may only undertake the financial services activities that fall within the scope of its existing DFSA licence. Related financial products or services are only available to Professional Clients, as defined by the Dubai Financial Services Authority. Barclays Bank PLC in the UAE is regulated by the Central Bank of the UAE and is licensed to conduct business activities as a branch of a commercial bank incorporated outside the UAE in Dubai (Licence No.: 13/1844/2008, Registered Office: Building No. 6, Burj Dubai Business Hub, Sheikh Zayed Road, Dubai City) and Abu Dhabi (Licence No.: 13/952/2008, Registered Office: Al Jazira Towers, Hamdan Street, PO Box 2734, Abu Dhabi). This material does not constitute or form part of any offer to issue or sell, or any solicitation of any offer to subscribe for or purchase, any securities or investment products in the UAE (including the Dubai International Financial Centre) and accordingly should not be construed as such. Furthermore, this information is being made available on the basis that the recipient acknowledges and understands that the entities and securities to which it may relate have not been approved, licensed by or registered with the UAE Central Bank, the Dubai Financial Services Authority or any other relevant licensing authority or governmental agency in the UAE. The content of this report has not been approved by or filed with the UAE Central Bank or Dubai Financial Services Authority. Barclays Bank PLC in the Qatar Financial Centre (Registered No. 00018) is authorised by the Qatar Financial Centre Regulatory Authority (QFCRA). Barclays Bank PLC-QFC Branch may only undertake the regulated activities that fall within the scope of its existing QFCRA licence. Principal place of business in Qatar: Qatar Financial Centre, Office 1002, 10th Floor, QFC Tower, Diplomatic Area, West Bay, PO Box 15891, Doha, Qatar. Related financial products or services are only available to Business Customers as defined by the Qatar Financial Centre Regulatory Authority.

BANK OF ENGLAND WATCHERS' CONFERENCE 2025

PGIM
GLOBAL ASSET MANAGEMENT

KING'S College LONDON
KING'S BUSINESS SCHOOL