Bank of England

Trade Fragmentation and Monetary Policy

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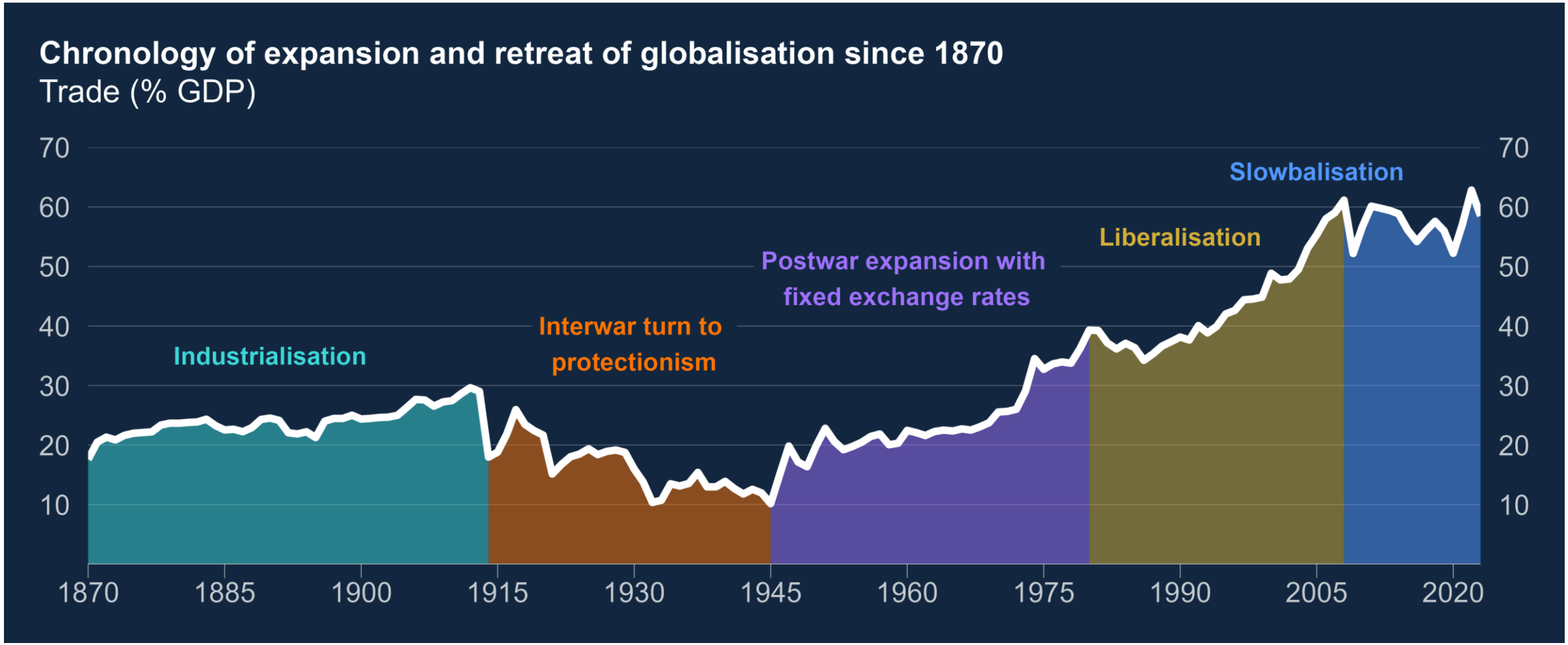
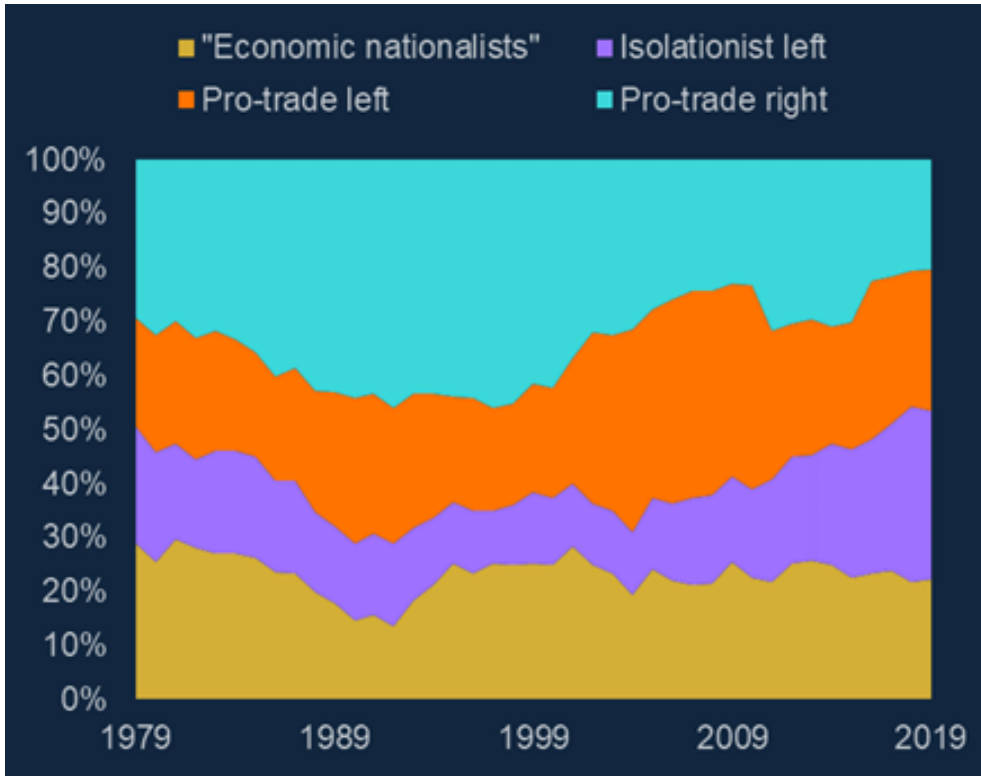
Delivered at the Bank of Finland-CEPR Conference

Globalisation has had periods of expansion and retreat...

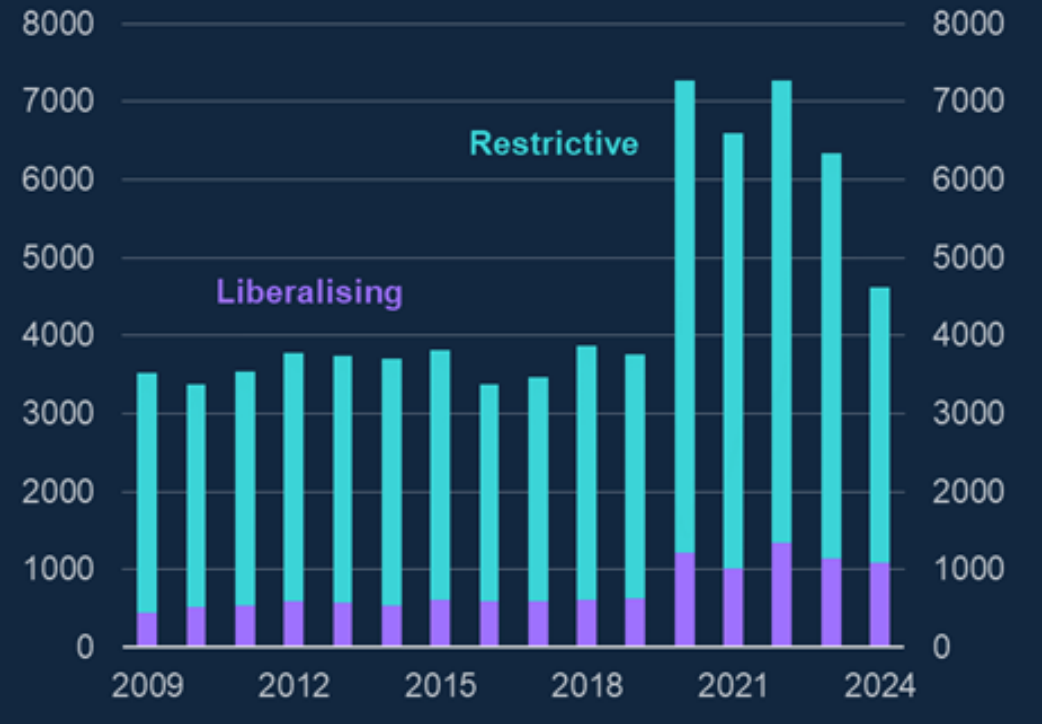


… and has come under renewed pressure in recent years, with the political consensus around openness appearing to fracture

Vote share of pro-trade party groups versus others across several countries (Colantone et al. 2022)



Trade policy measures by trade-restrictive or trade-liberalising (Global Trade Alert, Colantone et al. 2022)



Global and supply factors as drivers of inflation

Monetary policy

focus has been on domestic and demand-driven price dynamics in recent decades and over the last few years global factors have seen a resurgence

Inflationary Dynamics

can differ when inflation is driven by global and supply side factors

Example, global prices transmitting through longer supply chains

Central Bank Toolkits

needed to assess the drivers of inflation in real time amid less developed global and supply side modelling and data

Global and supply factors as drivers of inflation

Brexit

was the first big episode of recent deglobalisation trends

Pandemic and War

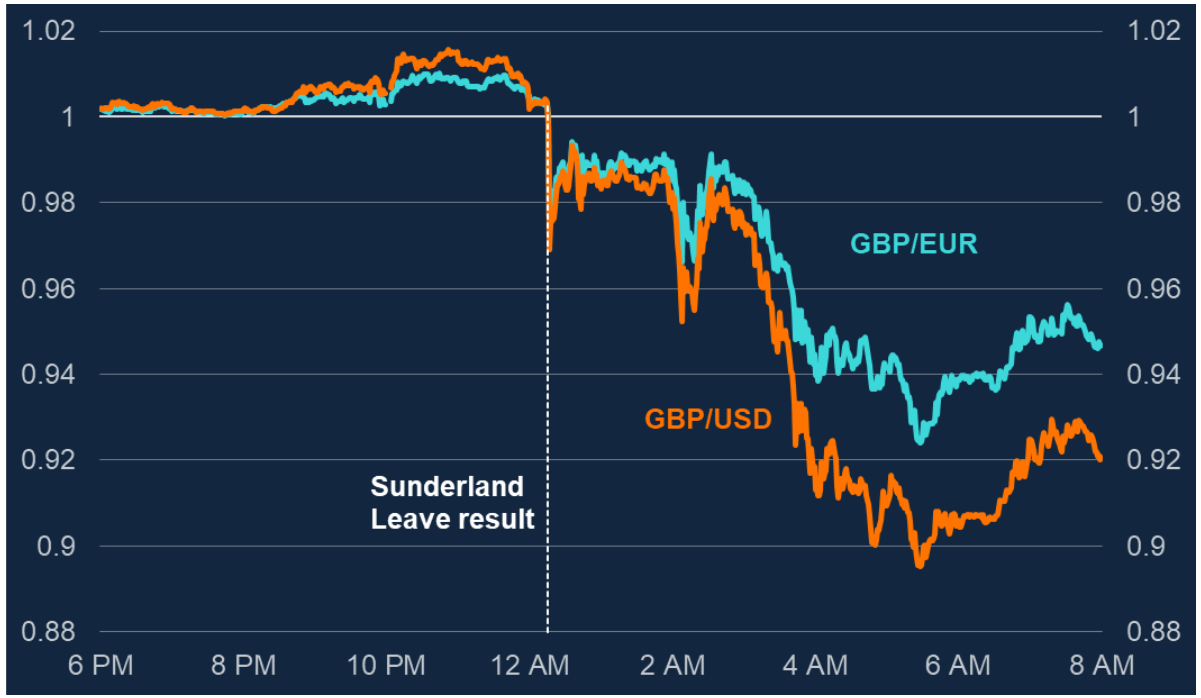
led to global supply chain disruptions and a massive terms of trade crisis

Geopolitics

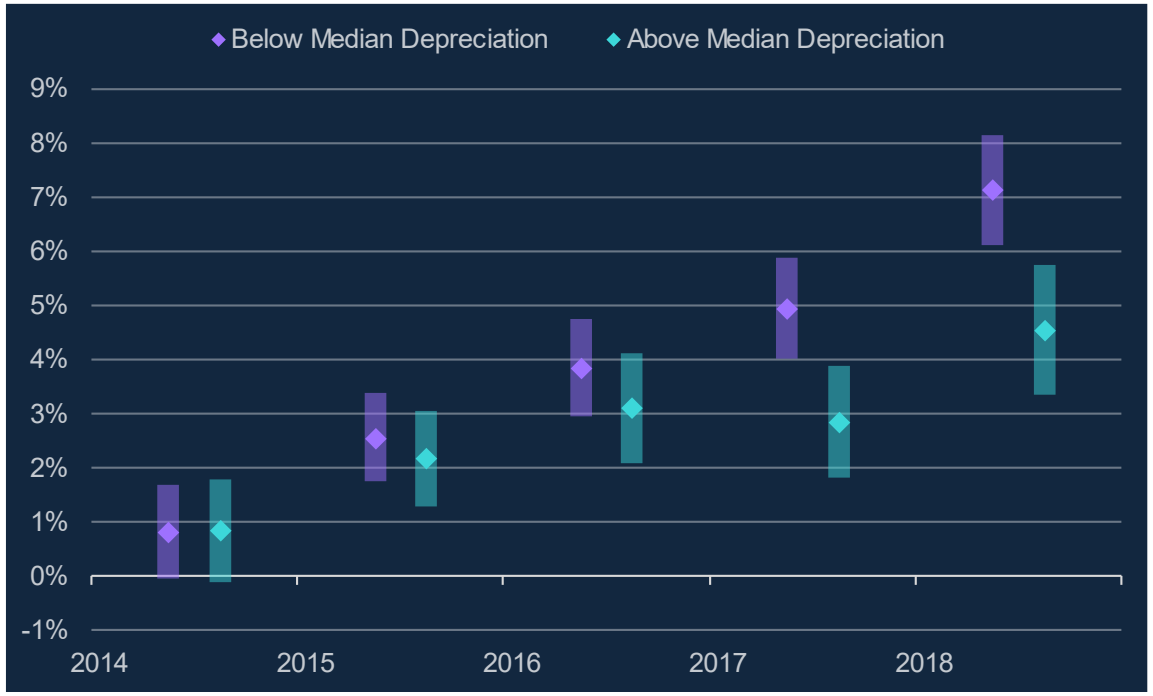
poses more risks to the global economy

Brexit was the first major reset of trade relations. Sterling depreciated. Imported input cost increases caused real wage stagnation till 2019.

Minute-by-minute sterling depreciation on the night of the Brexit referendum (Costa et al. 2022)

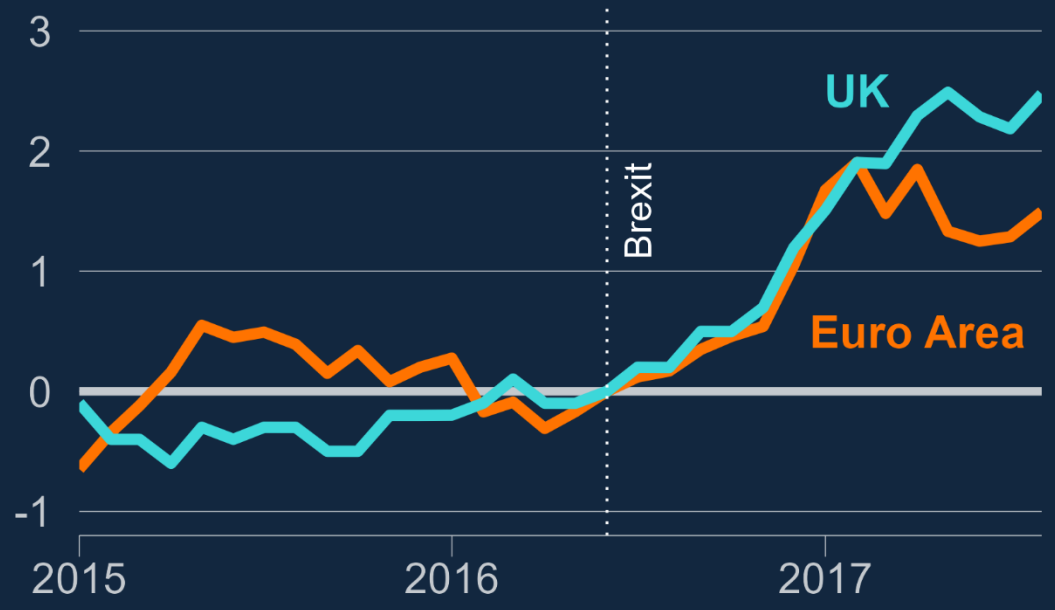


Real wage growth in sectors more and less exposed to the sterling depreciation through imported inputs



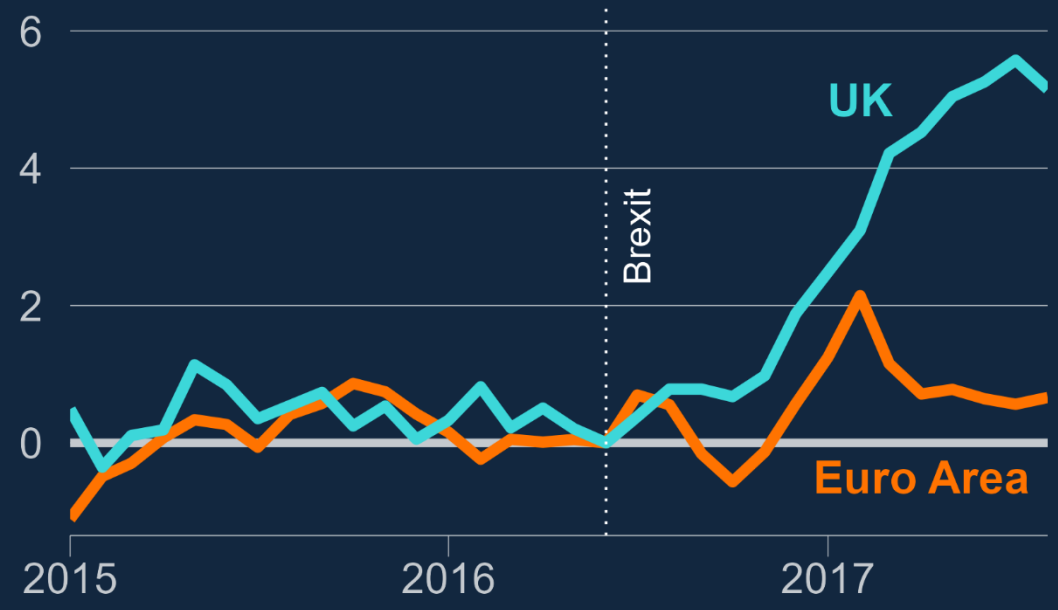
Inflation spiked following the sterling depreciation from the referendum but did not create inflation persistence

Headline CPI
Price growth (%) in excess of rate in June 2016



Source: De Lyon, Dhingra and Machin (2017).

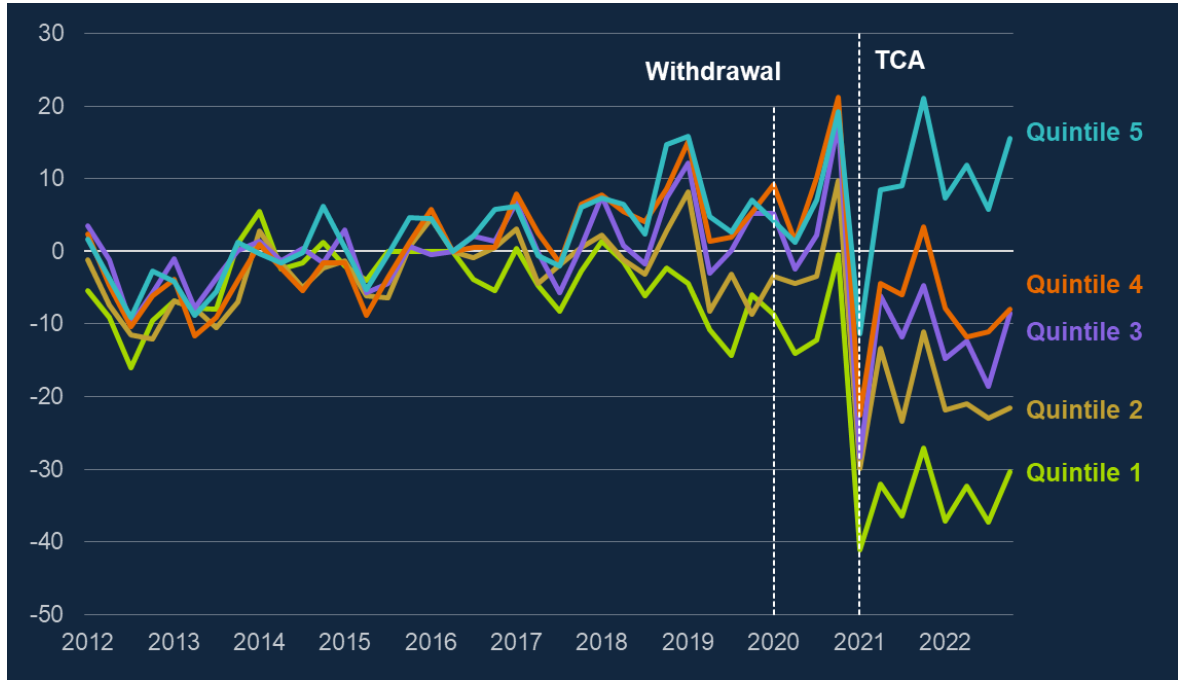
CPI Food & Non-Alcoholic Beverages
Price growth (%) in excess of rate in June 2016



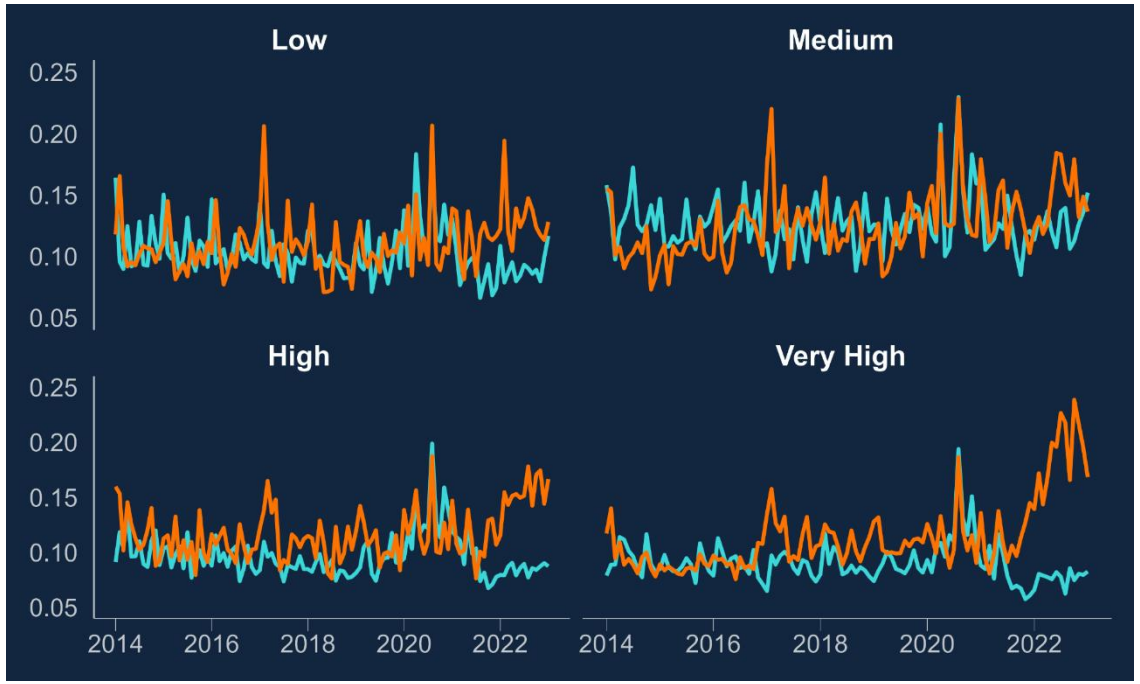
Source: De Lyon, Dhingra and Machin (2017).

UK goods exports to the EU fell after Brexit. Food prices increased more for items with higher EU import exposure after Brexit.

Goods exports of small firms (quintile 1 by initial employment) to EU fell relative to exports to the rest of the world (Freeman et al. 2025)



Proportion of food prices that moved up (orange) or down (blue) by low (<40%) to very high (>80%) EU import share (Bakker et al. 2025)



But overall activity and inflation effects from Brexit have generally been more subdued, relative to the global shocks from the pandemic and the Ukraine war.

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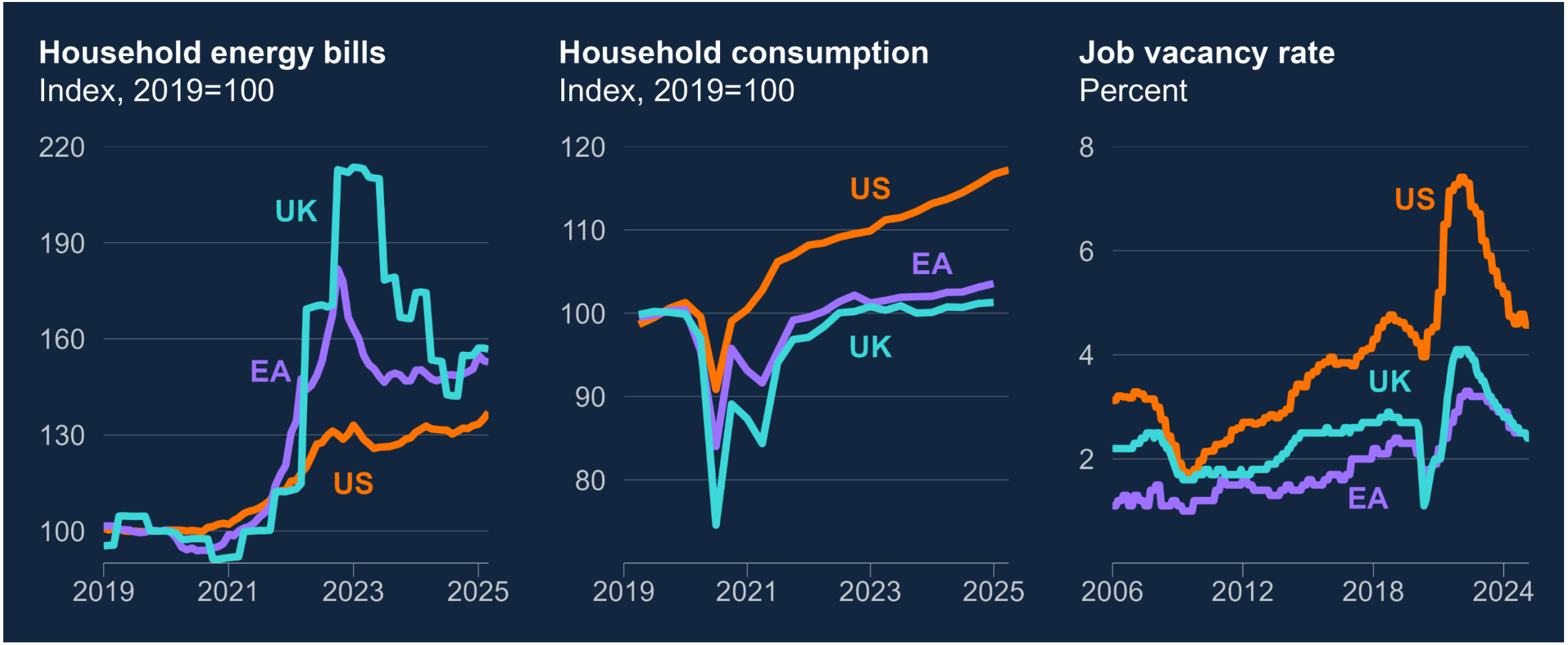
Shocks and adjustment after pandemic/war differed across regions



Decomposition of Inflation into Costs and Profits

- CPI can be written as the sum of all unit costs (observable) incurred by the domestic sellers of that item and their residual profits (unobservable) to study the contributions of costs and profits on inflation (Dhingra and Page 2022, Dhingra 2025 Dow Lecture).
- Let C be a matrix of Consumer Price Index where rows denote time and columns denote different 2-digit COICOP items.
- Similarly, M and D are matrices containing 2-digit CPA import price indices and domestic producer price indices, that are recorded from price quotes of firms in the economy, including services.
- Residual profits of retailers selling consumer products is V.

Data

- CPI, Output PPIs, Services PPIs and Import PPIs at a monthly frequency/ quarterly for services from the Office for National Statistics (ONS).
- Concordance of Coicop and CPA provided by the ONS for the UK.
- Energy prices and wages are available at a monthly frequency from the ONS.
  - Domestic energy prices come from the ONS and imported energy prices from BEIS.
  - Wage rates are obtained for each 2-digit CPA category (which maps one-to-one to the 2-digit SIC classification).
- Tax shares in prices are derived from the tax series using the tax share in the supply-use tables.

Methodology

- CPI = Domestic cost of retailer + Import cost of retailer + Residual retailer profits:

$$C^T \equiv A_d^T D^T + A_m^T M^T + V^T \quad (1)$$

- Domestic producer price = Domestic cost of producer + Import cost of producer + Residual producer profits:

$$D^T \equiv B_d^T D^T + B_m^T M^T + V_d^T \quad (2)$$

- We do not typically have direct measures of residual profits V, V_d. Infer them from the CPI and PPI identities of equations 1 and 2 respectively because we have the other variables in the equations.

Methodology

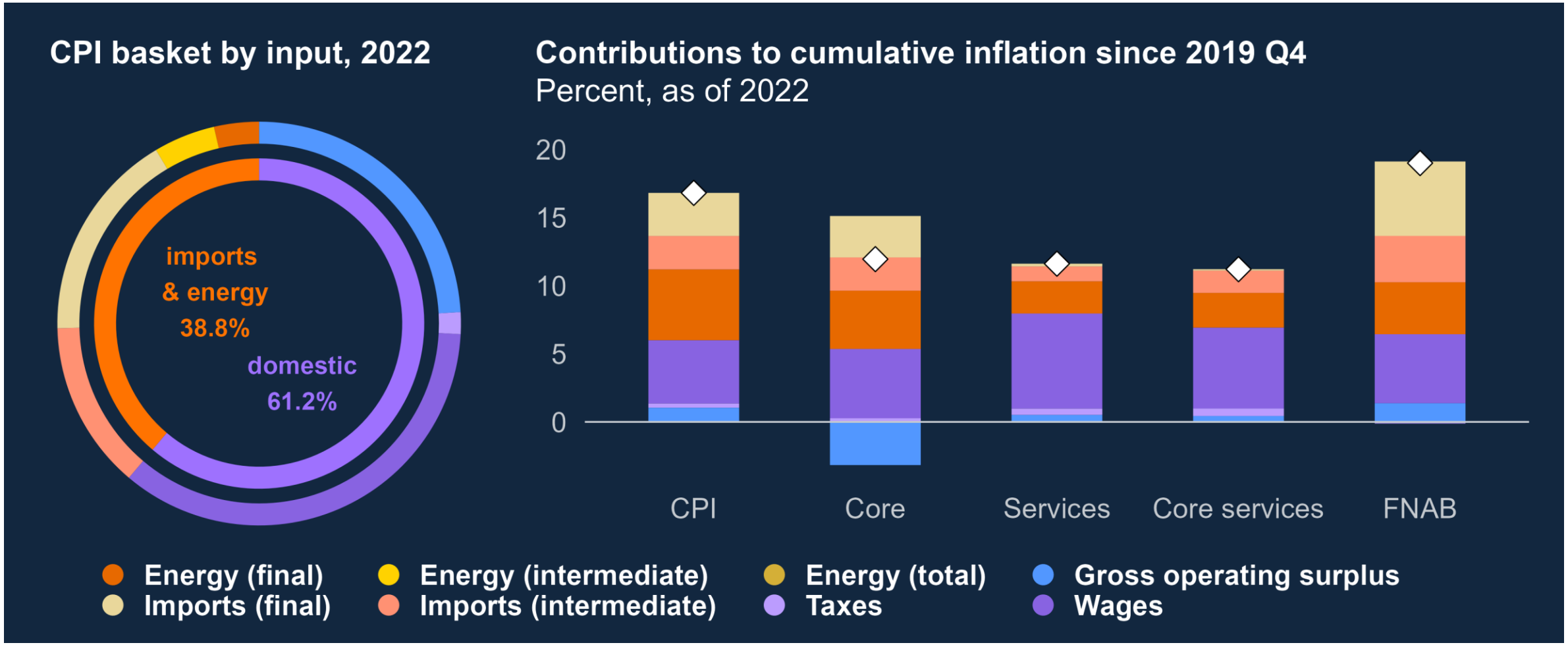
- From the domestic price index identity, get the the domestic producer prices in terms of import prices and residual profit margins as

$$D^T \equiv \left[I - B_d^T\right]^{-1} D^T + B_m^T M^T + V_d^T \quad (3)$$

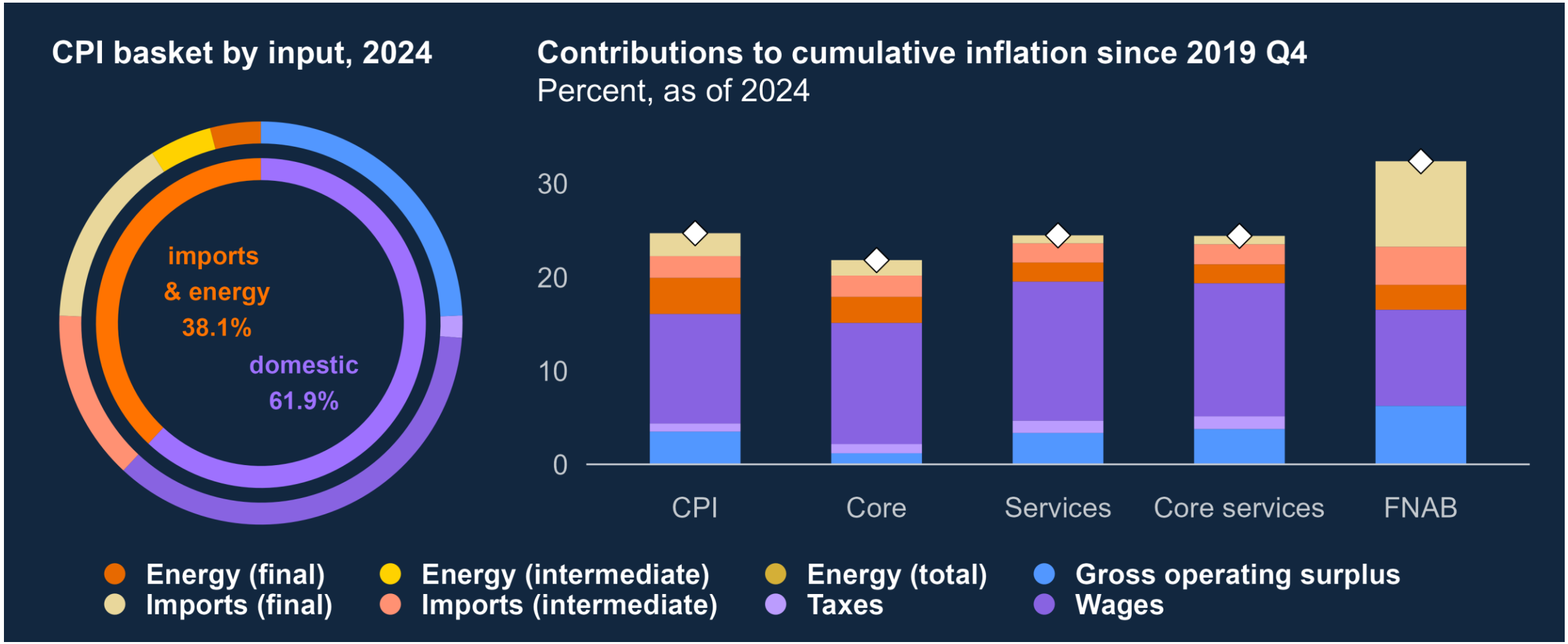
- Substituting into the CPI identity, inflation consists of the direct contribution of imports in the CPI basket (first term on the RHS), the indirect contribution of imports (through domestic inputs that use imported inputs themselves), the residual profits of domestic suppliers (third term) and the residual profits of domestic retailers (last term).

$$C^T \equiv A_m^T M^T + A_d^T \left[I - B_d^T\right]^{-1} B_m^T M^T + A_d^T \left[I - B_d^T\right]^{-1} V_d^T + V^T \quad (4)$$

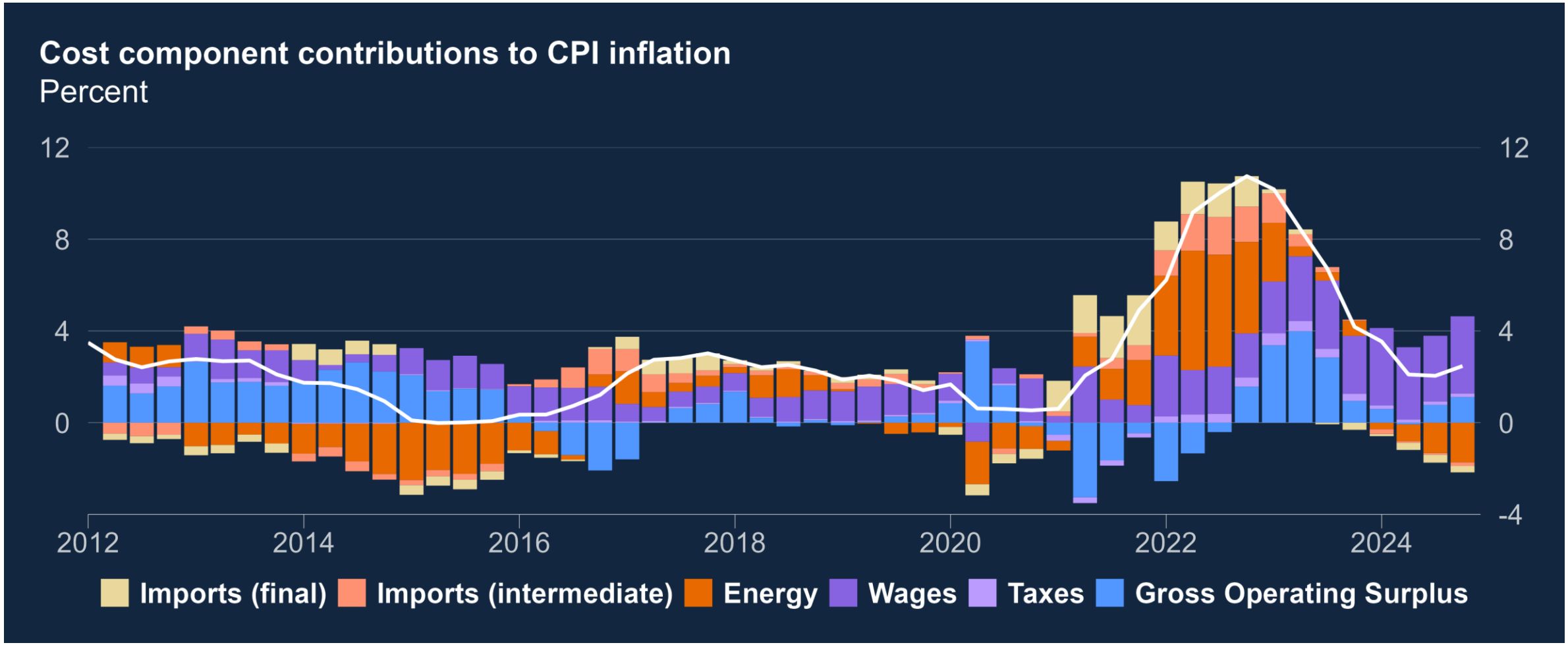
Inflation decomposition into input costs and margins, 2022



Inflation decomposition into input costs and margins, 2024



Energy and imports are key contributors to inflationary dynamics



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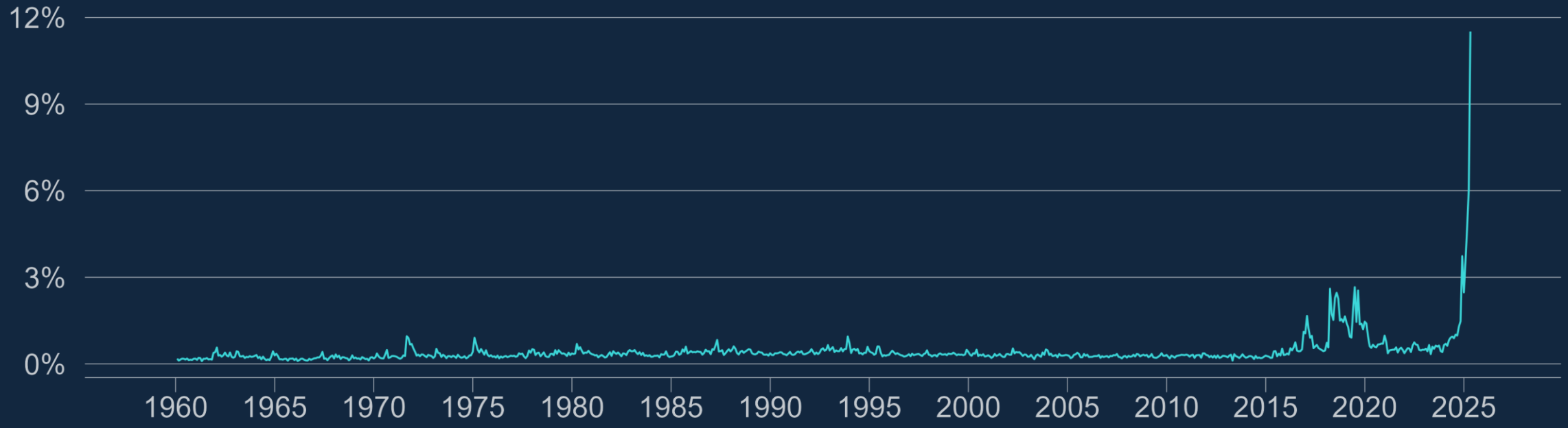
Trade policy uncertainty has soared since the US election

Trade policy uncertainty index

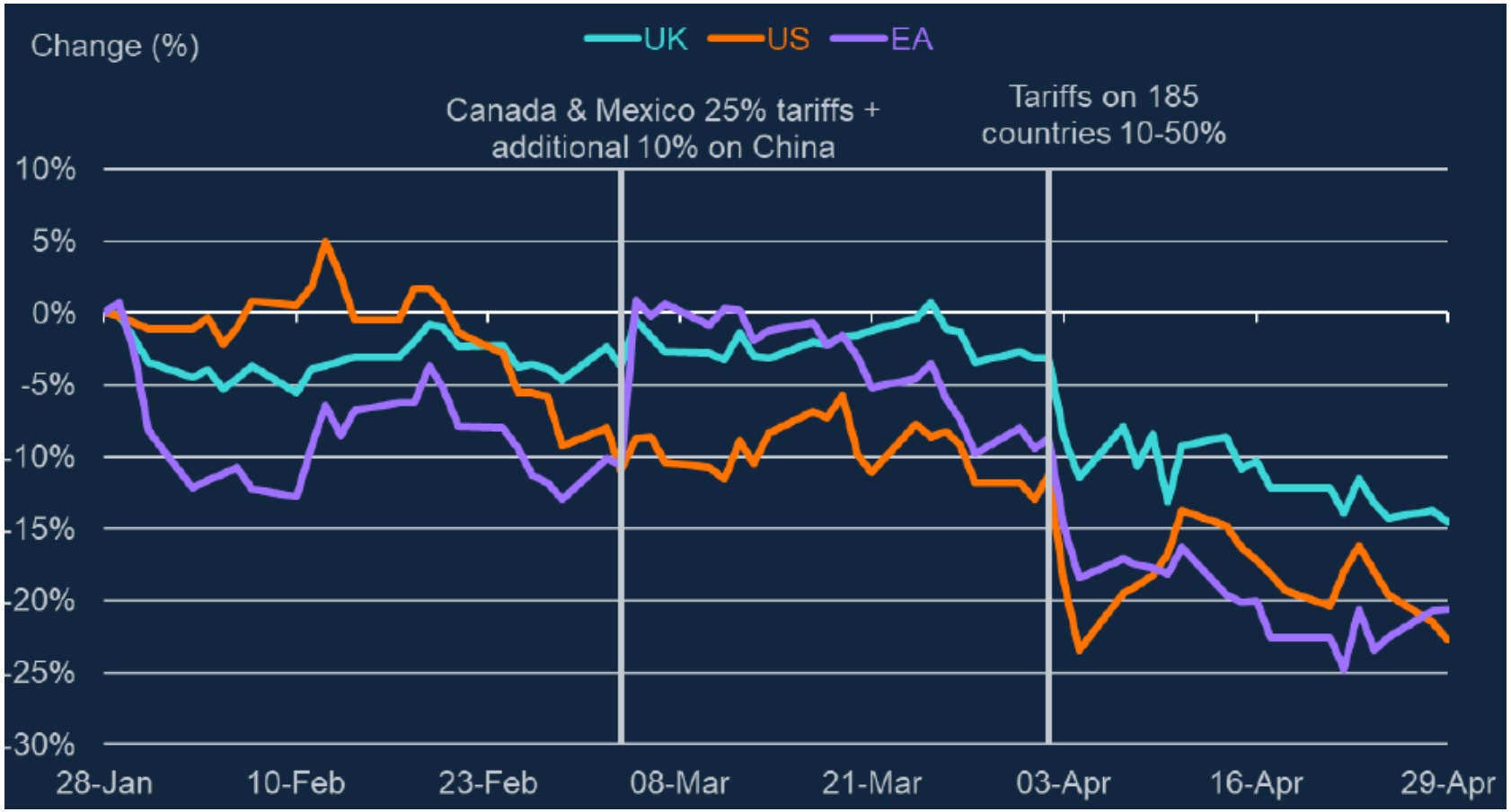
Share of articles in selected publications discussing trade policy uncertainty



Source: Caldara et al (2019) and Bank calculations.

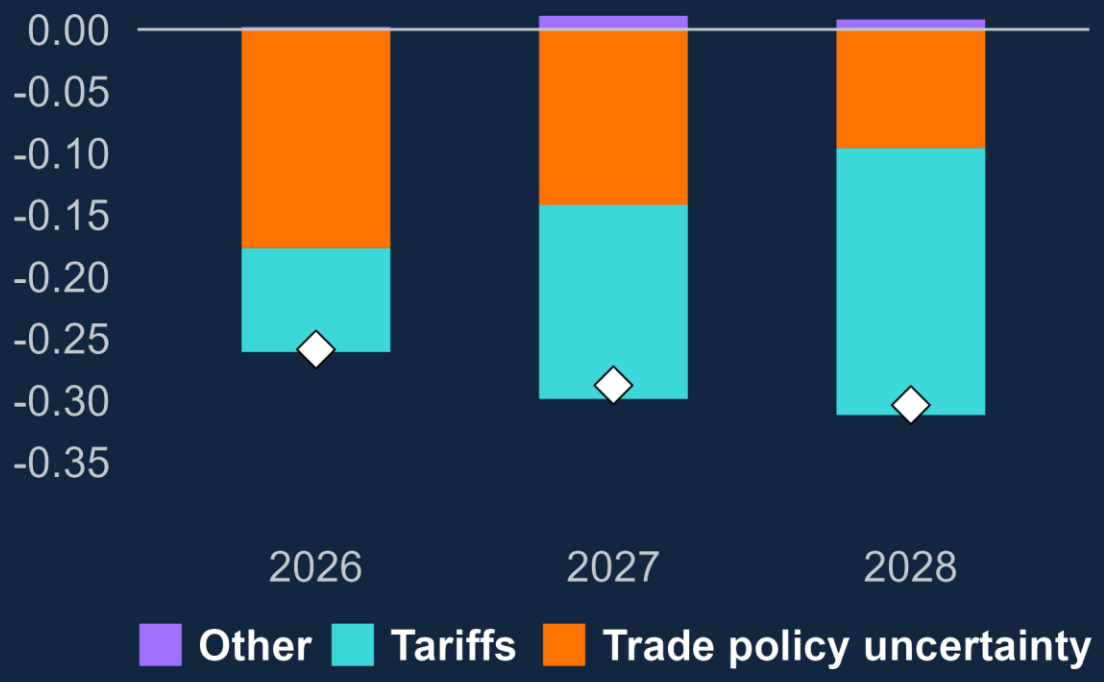
Implementation of an expansive new US tariff regime has come with a step down in short rates across the UK, US, and EA

1y1y OIS rates (%) since February MPR



News on trade policy uncertainty and US tariffs have prompted downward revisions to GDP and CPI in the baseline forecast

Update to UK GDP baseline projection in May
Percent, change vs February MPR



Update to UK CPI baseline projection in May
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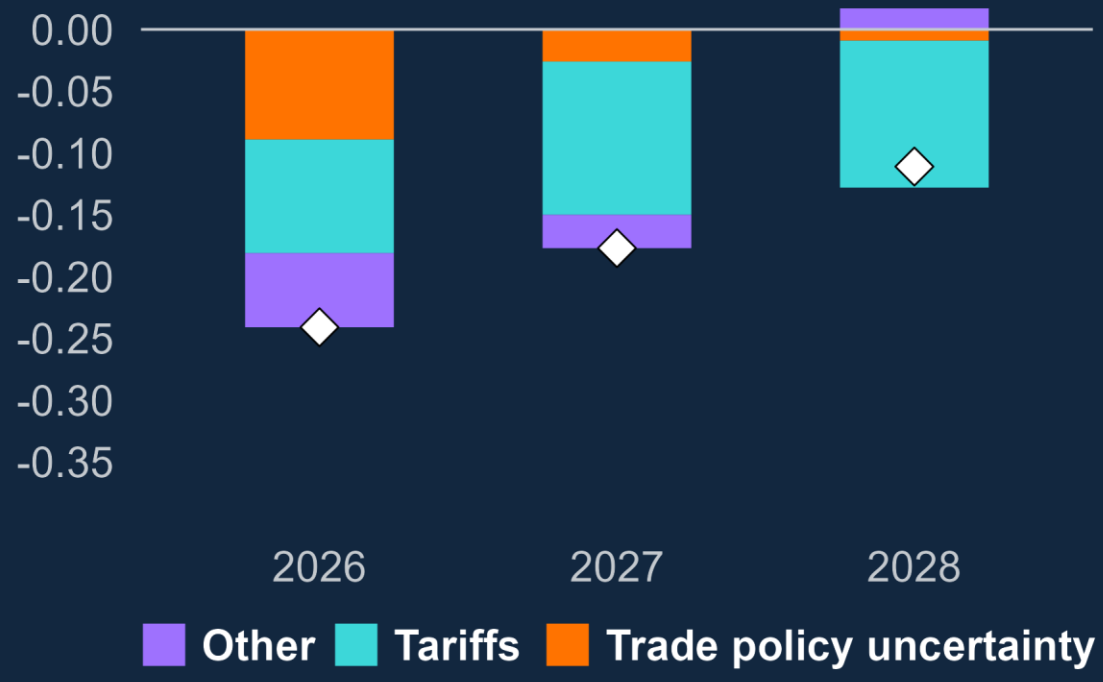

Trade fragmentation and monetary policy in the UK

- **Prices**: expect negative adjustment overall, except in the near term
  - + 10% of UK imports directly from the US (oil in top 5); 35% of UK imports invoiced in dollar
  - - 8 to 18% drop in global prices during 2018 tariffs
- **Activity**: expect negative sectoral effects (transport equipment, pharma)
  - + UK's direct exports to the US performed relatively better during 2018 tariffs
  - - Drag from uncertainty and global growth, amplified from financial channels
- **Monetary policy**: account for one-off adjustments to global reorganisation
  - Sectoral shocks and critical inputs become first-order under (extreme) disorderly fragmentation
  - Expect orderly fragmentation with some reduction in international diversification
  - Calibrating monetary policy to geopolitical reorganisation requires evaluation of the nature of fragmentation shocks, their sectoral impacts and the time horizon over which they would be expected to unwind (**Attinasi et al., 2024**)

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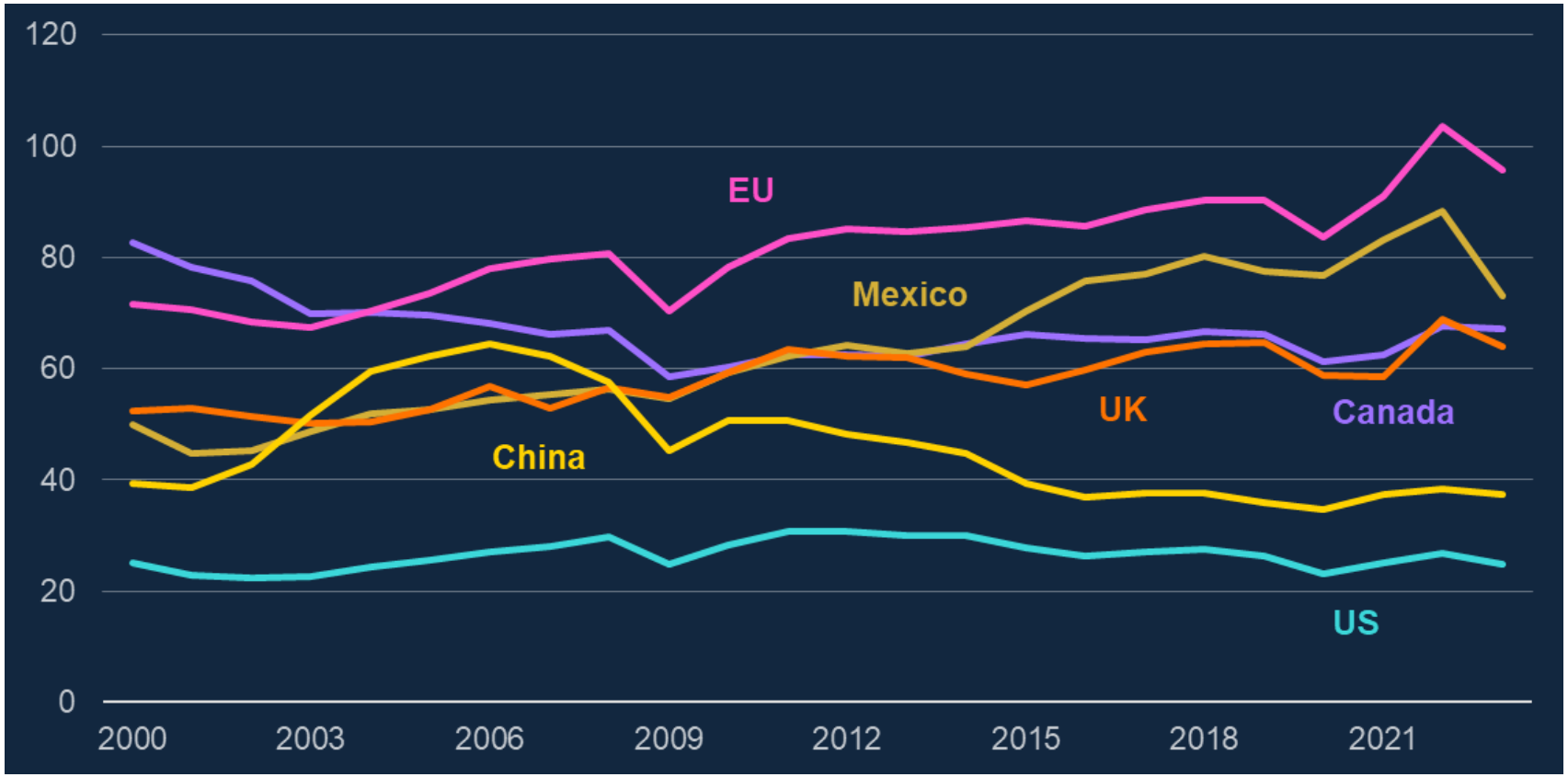
… but trade integration has slowed in recent years, particularly in some regions



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$$C^T \equiv A_m^T M^T + A_d^T \left[I - B_d^T\right]^{-1} B_m^T M^T + A_d^T \left[I - B_d^T\right]^{-1} V_d^T + V^T \quad (4)$$

Methodology

- The fourth step accounts for differences in the share of imports for final consumption in the CPI basket:

$$C^T \equiv F_m^T C^T + F_d^T \left(A_m^T M^T + A_d^T \left[I - B_d^T \right]^{-1} B_m^T M^T + A_d^T \left[I - B_d^T \right]^{-1} V_d^T + V^T \right) \qquad (4)$$

- More generally, the identity can include other factors of production that are in the supply-use tables - energy, imported inputs (other than energy), taxes on products and production, compensation of employees.
- The supply-use table also contain the gross operating surplus for each category to arrive at a rate of change in profit margins.