Bank of England

What's driving inflation: wages, profits, or energy prices?

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Summary

- Inflation is too high!
  - UK April 2023: Headline = 8.7%, Core = 6.8%
  - BoE target = 2%
- Some alleged proximate causes
  - Energy prices
  - “Profiteering”
- My view on UK data
  - The contribution of business profits to recent domestically-generated inflation is small
- My view on UK policy
  - I prefer to lean against the risks of inflation momentum
  - As difficult as the economy’s current conditions are, embedded inflation would be worse
  - In my view, we cannot rule out further rate rises

This talk

- Background: inflation in the UK, US and EA compared
- Using National Accounts data to look at (proximate) inflation contributions of
  - Payments to capital
  - Payments to labour
  - Payments for energy
- UK monetary policy implications

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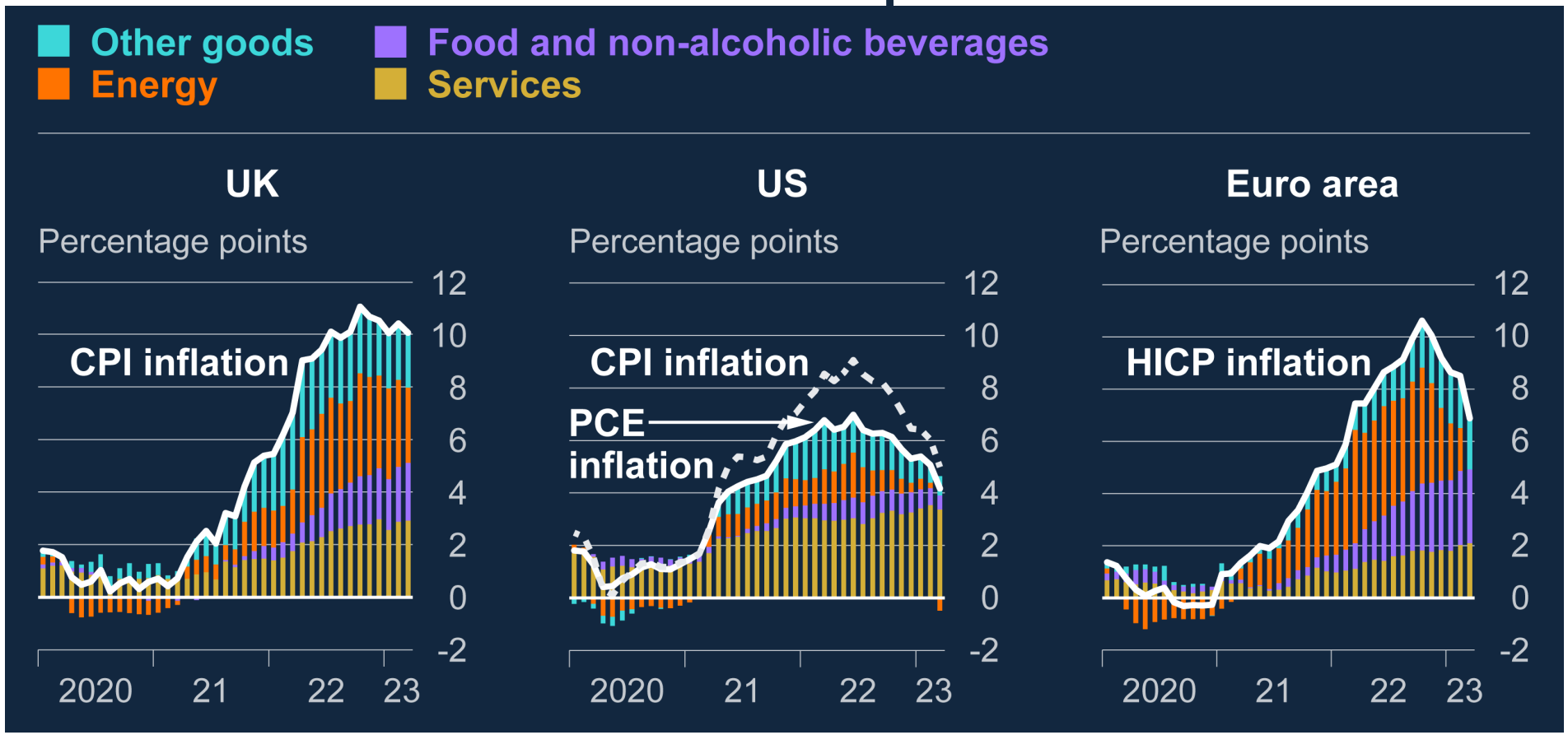
UK inflation: why higher and longer-lasting?

Contributions to annual consumer price inflation



- Higher exposure to the natural gas price shock
- Regulation means lagged energy price changes
- Example: UK April 2023 CPI falls from 10.8% to 8.7%

Source: **Bank of England May 2023 Monetary Policy Report**, Chart 2.4.

Notes: Energy includes fuel and household energy bills. Other goods is the difference between overall inflation and the other contributions identified on the chart, and therefore includes alcohol and tobacco. The latest data are March 2023 outturns.

Natural gas prices

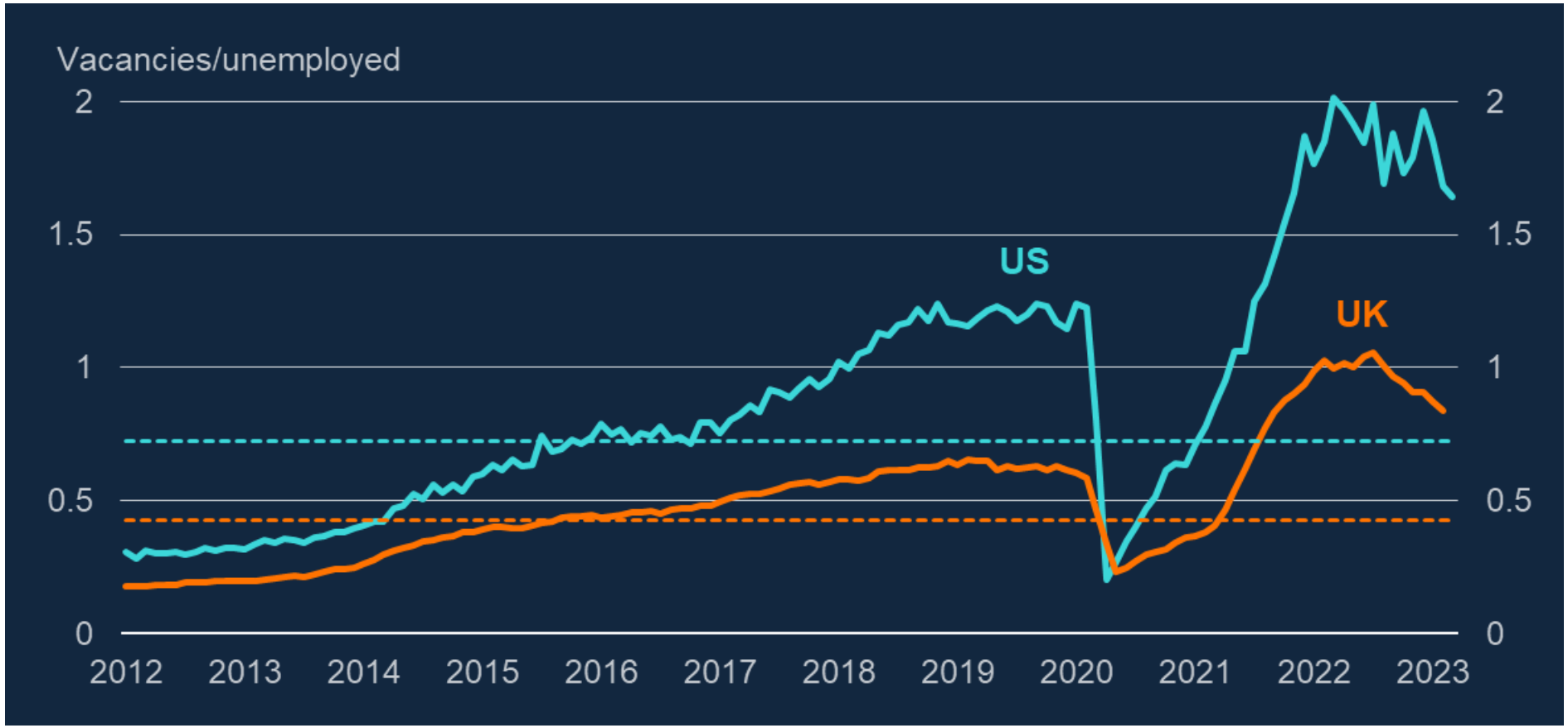
International wholesale gas spot and futures prices

- Scale: barrels of oil equivalent at peak:
- $400
- Prices in US are much lower and increased much less (10-50-12)

Sources: Bloomberg Finance L.P. and Bank calculations.
Notes: The Dutch Title Transfer Facility pricing point is used for the European price. UK prices have been converted to euros. Dashed lines refer to the 15-day average to 24 January 2023. Dotted lines refer to the 15-day average to 28 April 2023.

The labour market

Vacancy to unemployment ratio, January 2012 to March 2023



Relative to 2012-2019 average:

- UK = +100%
- US = +130%

Relative to pre-pandemic peak:

- UK = +35%
- US = +40%

Sources: ONS, BEA, authors' calculations.
Notes: UK data uses centred three-month moving averages. US data uses single-month data. Latest US data is March 2023; latest UK data is three months to March 2023.

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GDP, domestically-produced output, is earned income…

$$P_V V = WL + RK + TxS$$

$$\Rightarrow$$

$$dp_V = s_V^L \underbrace{(dw - (dv - dl))}_{\text{Unit labour costs}} + s_V^K \underbrace{(dr - (dv - dk))}_{\text{Unit capital costs}} + s_V^T \underbrace{(dT - dv)}_{\text{Unit taxes}} - s_V^S \underbrace{(dS - dv)}_{\text{Unit subsidies}}$$

- Interpretation: “domestically generated inflation” is
  - Unit labour costs
  - Unit capital costs
  - Unit taxes less subsidies, examples:
    - Furlough: subsidies for firms to pay inactive workers (payments high, but value added is low)
    - Energy price cap and subsidies: energy producers receive subsidy, but not payment for value added

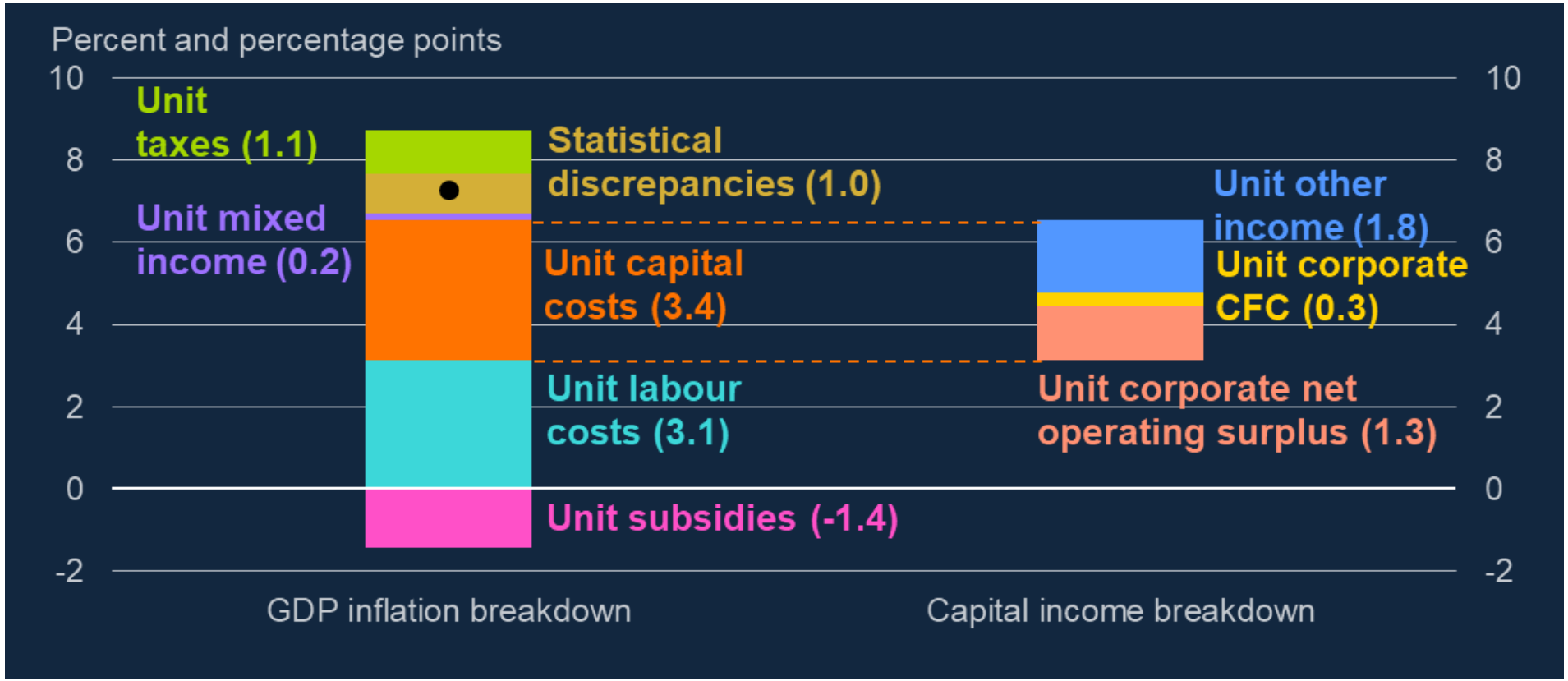
Do payments to capital tell us about “greedflation”?

$$P_V V = WL + RK + TxS$$

- Capital payments are rewards to national accounts capital assets. They are:
  - Business capital
    - Covers depreciation and net rate of return
    - Much business capital is unmeasured “intangible” capital
  - Government/not-for-profit capital (payments for depreciation)
  - Housing capital “dwellings”: an owner-occupied imputed rent
- Mixed income
  - Payments to the self-employed: part capital and part labour
- Conceptual question: which of these are “greedflation”?
- Some data answers, starting with UK…

UK data

Detailed decomposition of UK GDP deflator growth, 2022 Q4



Unit capital costs look large, but

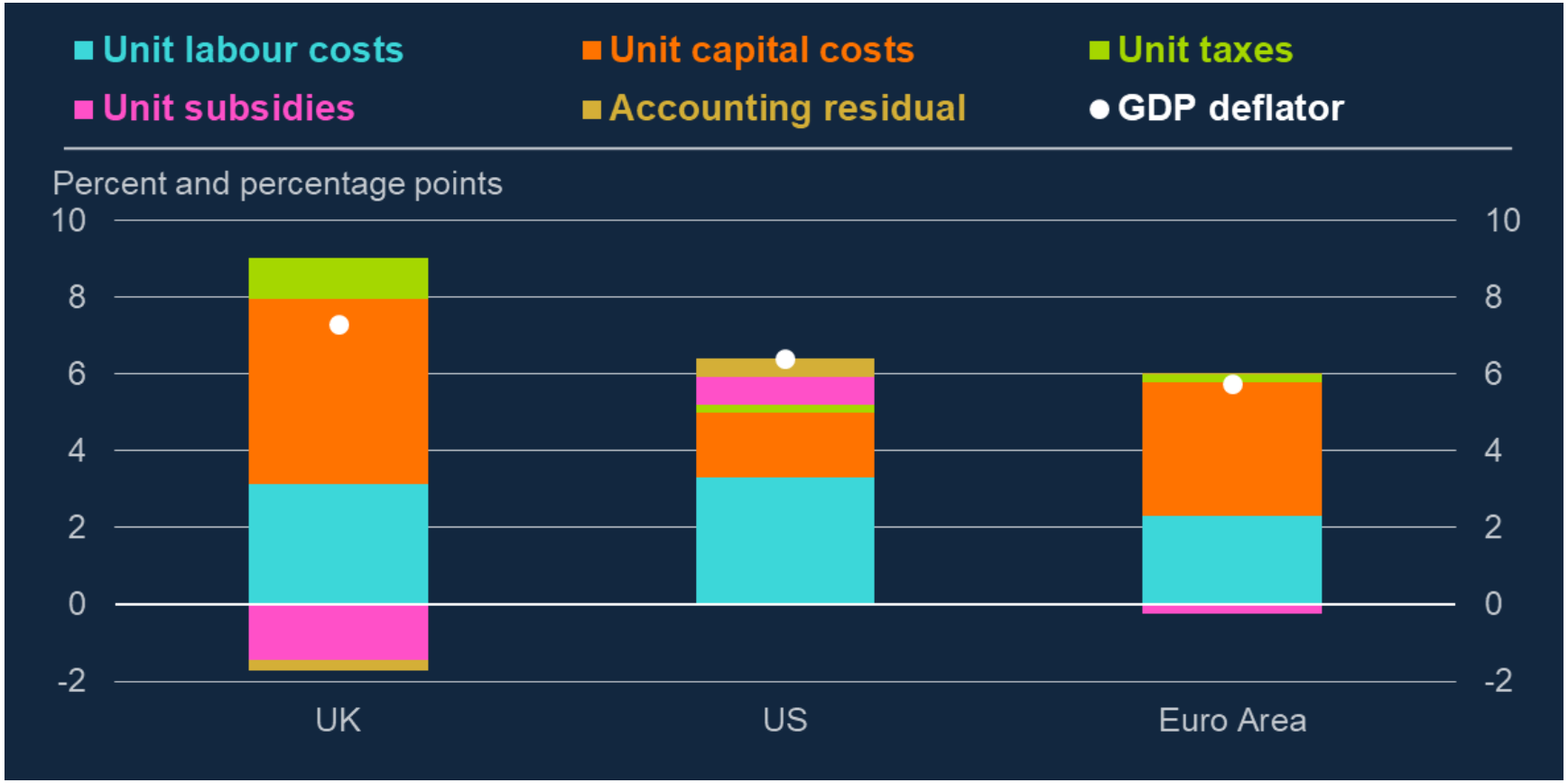
- Much is housing income
- Rather little is corporate net surplus
- Subsidies

Sources: ONS, author's calculations.

Notes: CFC = Consumption of fixed capital. All terms are expressed relative to real GDP growth, hence are in "unit" terms. "Other income" includes GOS of government, non-profit institutions serving households (NPISH), and households [imputed rental]. "Statistical discrepancies" includes the alignment adjustment and the statistical discrepancy between headline GDP and GDP by income.

Cross country data

Decomposition of GDP deflator growth, 2022 Q4



- Capital costs include depreciation, housing income, mixed income (and alignment adjustment)
- Capital contribution appears large in UK and EA, but
  - Definition
  - Subsidies
  - EA countries vary
- US capital contribution is smaller

Sources: BEA, Eurostat, OECD, ONS, author's calculations.

Notes: This uses internationally comparable data, sourced from OECD, and so differs from the UK decomposition on the previous slide, which used data directly from the ONS which is not available for other countries. "Unit capital costs" includes corporate consumption of fixed capital, corporate net operating surplus, mixed income, non-market consumption of fixed capital, owner-occupied housing income, and (for at least the UK) the quarterly alignment adjustment, all relative to real GDP.

From value added inflation to CPI inflation

- Add in energy prices
  - For many European countries energy is wholly imported
  - Directly consumed, and an indirect cost element
- Amend unit labour and capital in terms of TFP
- This shows (cf first-round effects)

$$dp_C = s_V^L dw + s_V^K dr - dtfp + s_V^T (dT - dv) - s_V^S (dS - dv) + s_C^M (dp_M - dp_X) + \psi''$$

CPI inflation

Wages

Capital returns

(total factor) productivity

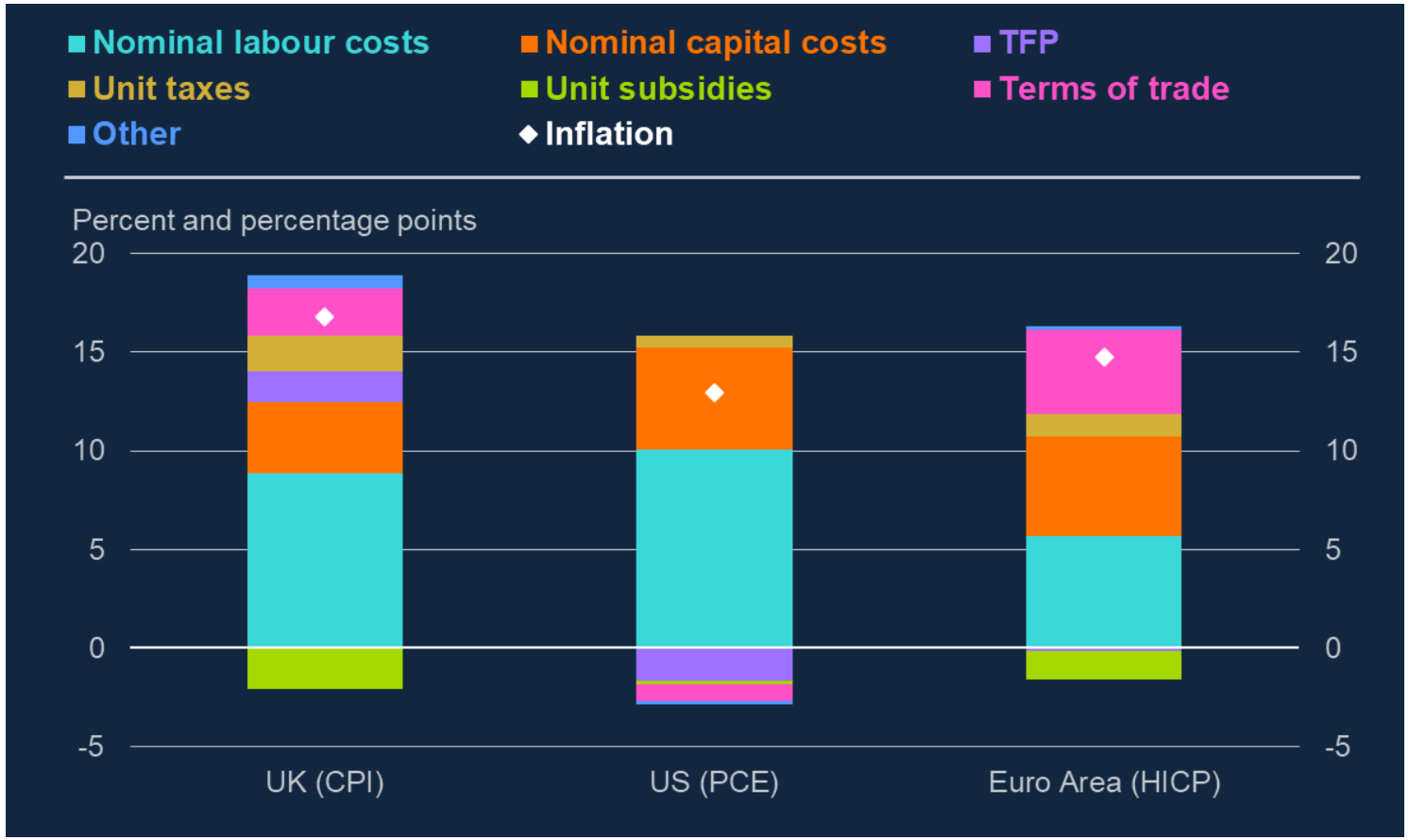
Taxes less subsidies

Import prices, net of export prices

Other

Consumer price inflation, 2019 Q4 – 2022 Q4

Contributions to cumulative change in consumer prices, 2019 Q4 to 2022 Q4



- Capital contribution
  - Roughly: 25% UK, 33% US and EA
- Terms of trade appears small
  - But this is net of imports and exports effect
  - Imports effect large in UK and EA, but offset by fairly large exports effect
  - Was larger in 2022 Q3, imported gas prices fell in 2022 Q4
  - Positive terms of trade effect in US
- Labour income large contributor in UK and US

Sources: BEA, BLS, EU KLEMS, Eurostat, OECD, ONS, author's calculations.

Notes: Consumer price inflation is measured by the Consumer Price Index (CPI) for the UK, the Personal Consumption Expenditure (PCE) deflator for the US, and the Harmonised Index of Consumer Prices (HICP) for the Euro Area. "Nominal capital costs" includes corporate consumption of fixed capital, corporate net operating surplus, mixed income, non-market consumption of fixed capital, owner-occupied housing income, and (for at least the UK) the quarterly alignment adjustment.

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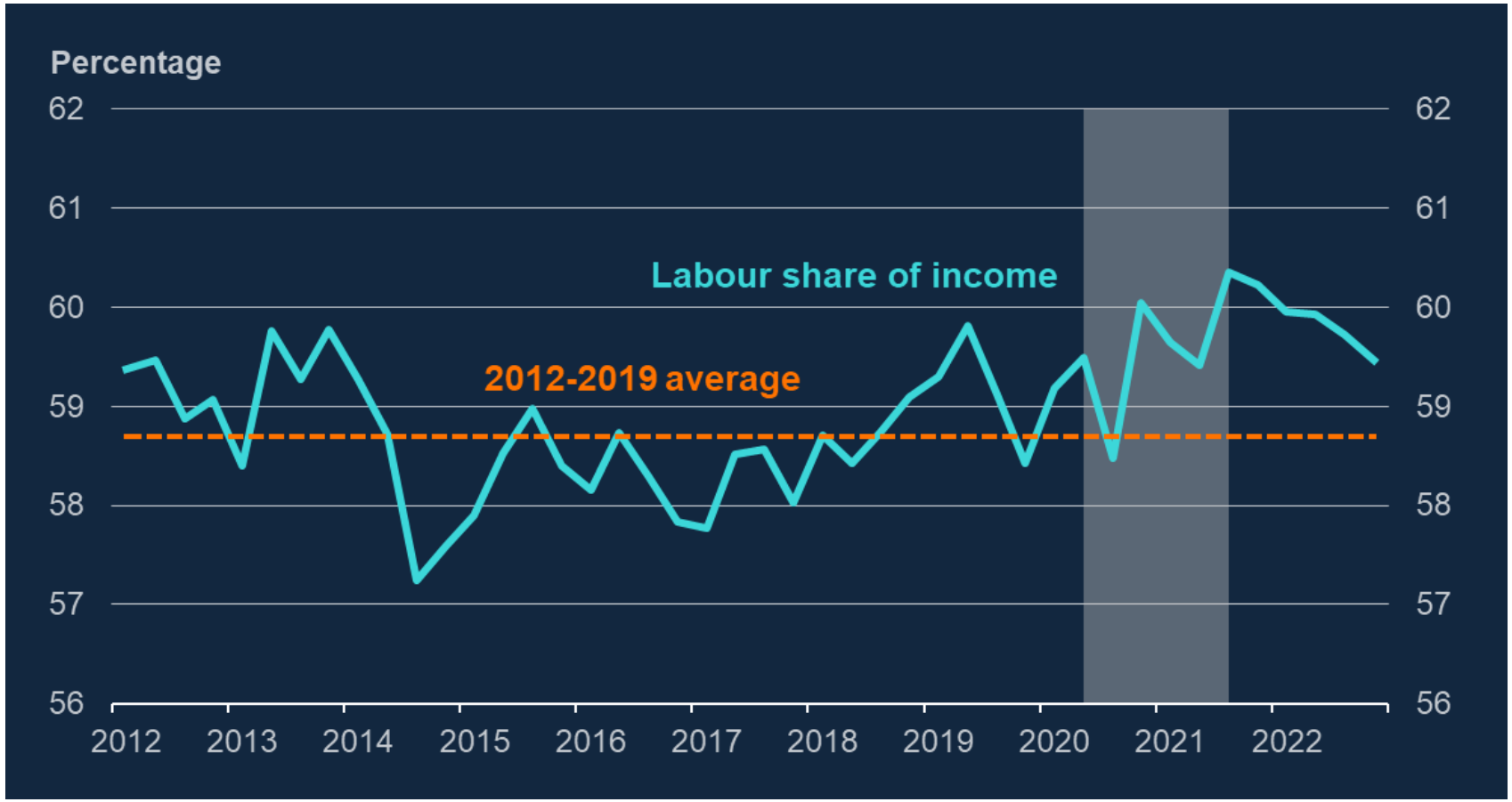
The UK outlook

Labour share of income, UK, 2012 Q1 to 2022 Q4



- The UK labour market
  - Has been tight
  - Is loosening but remains tight
  - The UK labour share has moved accordingly

Sources: ONS, author's calculations.

Notes: The **official ONS labour share measure,** defined as a share of GDP at factor costs, goes to 2022 Q2. We extend it to 2022 Q4 using essentially the same method as ONS, as much as possible from published data. Furlough period shaded.

The UK outlook, contd.

- Will inflation become embedded?
  - We have data and analysis from the 1970s high inflation: Bruno and Sachs
  - And the labour market experiences of the 1980s/1990s (Bean, Blanchard and Wolfers, Layard, Nickell and Jackman, Newell and Symons).
  - But we haven't seen inflation like this since then….
- What to do with such uncertainty?
  - Monitor data on
    - Labour market tightness (e.g. vacancies, hiring and firing expectations)
    - Inflation persistence measures e.g. core and services inflation, underlying persistence and wage growth
  - Policy
    - I prefer to lean against the risks of inflation momentum
    - As difficult as the economy's current conditions are, embedded inflation would be worse
    - Further increases in Bank rate cannot be ruled out