

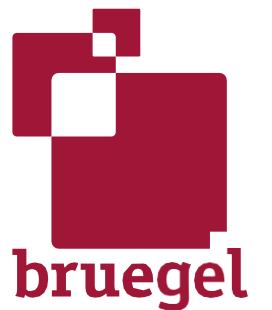
What do strong labour markets tell us about monetary tightening in the euro area, US and UK?

Zsolt Darvas, Bruegel and Corvinus University of Budapest

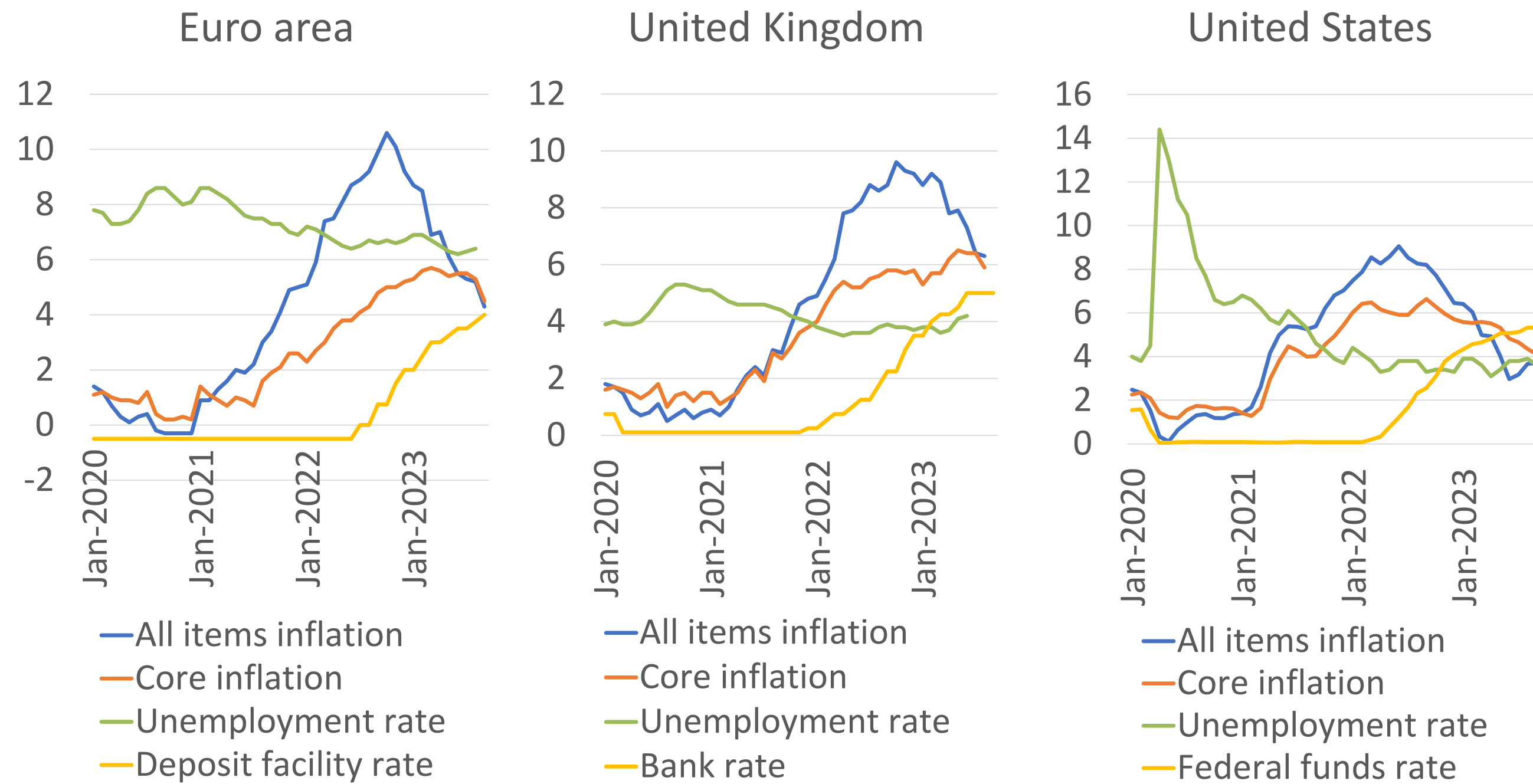
Based on joint work with Catarina Martins

Nomura Foundation's Macro Economy Research Conference 2023 on 'Monetary Policy and its Impact during Inflation', Tokyo, 19 October 2023

Puzzle: strong labour markets despite significant monetary tightening



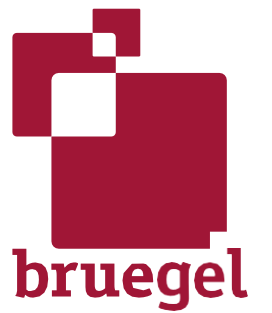
Central bank interest rate, inflation and unemployment, January 2020-September 2023



- Other labour market indicators, such as the growth rate of jobs, activity rate, and vacancy rates, suggest similarly strong labour markets

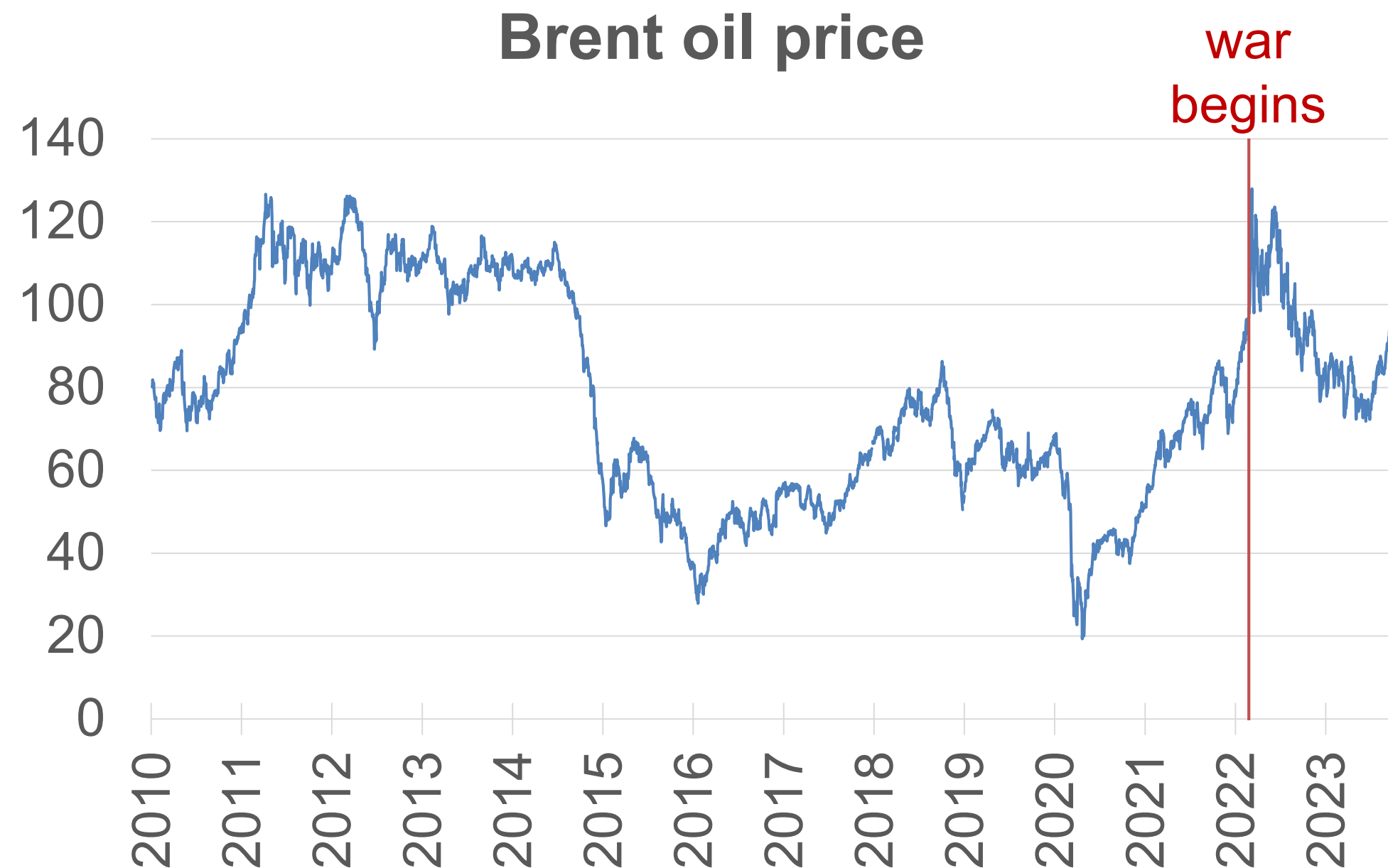
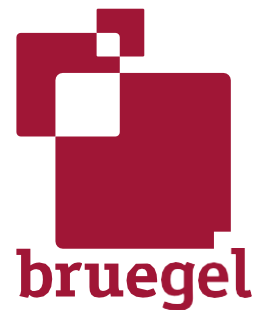
Sources: OECD main economic indicators for All items inflation, Core inflation and Unemployment rate (the September 2023 values for the euro-area inflation are from Eurostat and for the US from the Bureau of Labor Statistics); national central bank websites for interest rates.

Outline



1. Inflation drivers
2. Belated start of central bank rate hikes
3. Comparison of the current monetary tightening episode with earlier episodes
4. Market-based real interest rates
5. The natural rate of interest
6. The drivers of equilibrium real interest rates
7. The expected path of short-run and long-run real interest rates
8. Conclusions and policy implications

1. Inflation drivers



Source: Bloomberg and investing.com

- Inflation pressures in the United States from the spring of 2021 (recovery from the COVID-19 pandemic recession, monetary & fiscal stimulus)
- Supply disruptions due to the pandemic
- Commodity prices were low during the 2020 pandemic recession
- Europe: Russia's gas supply cut before the war, drought, French nuclear power plant problems

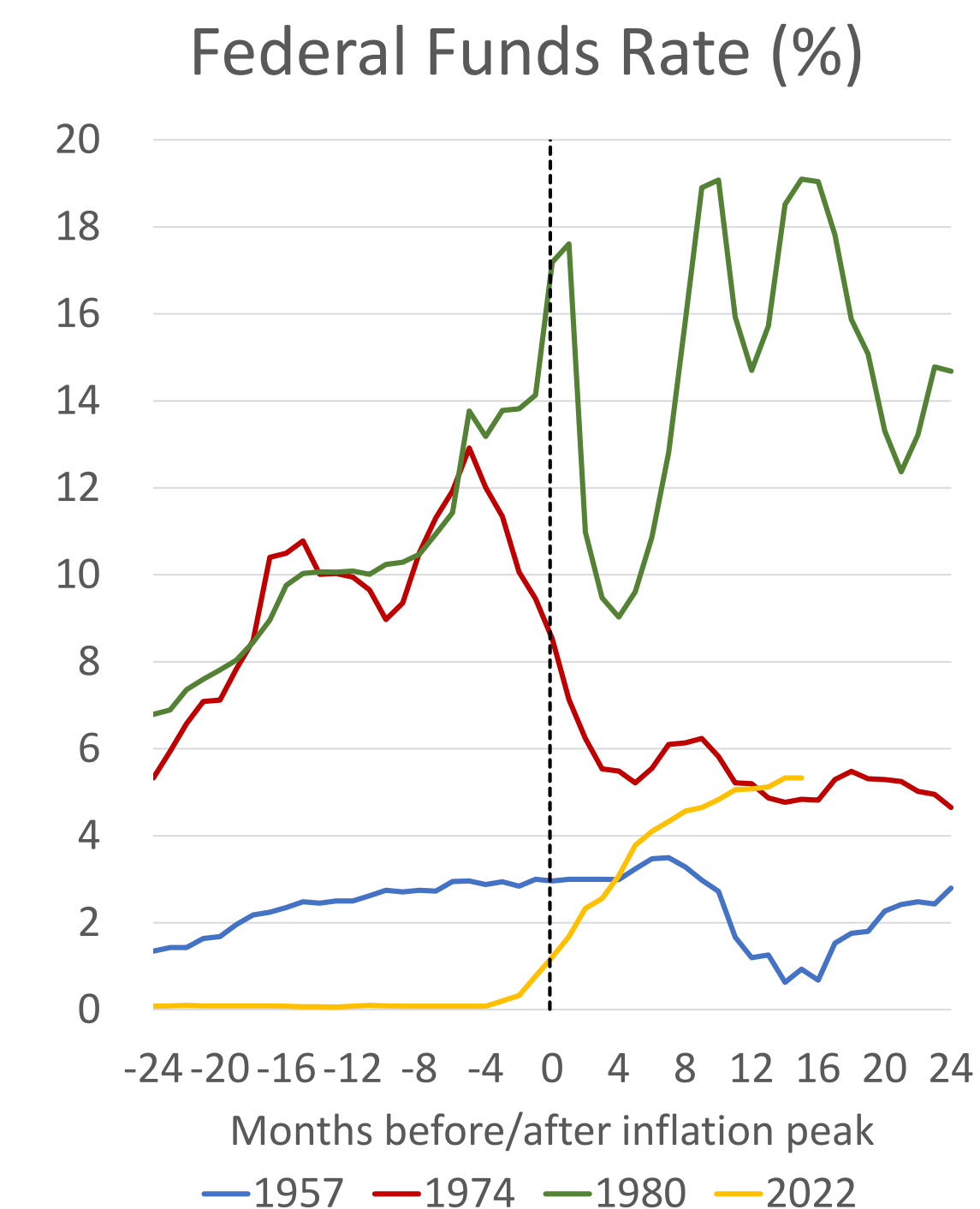
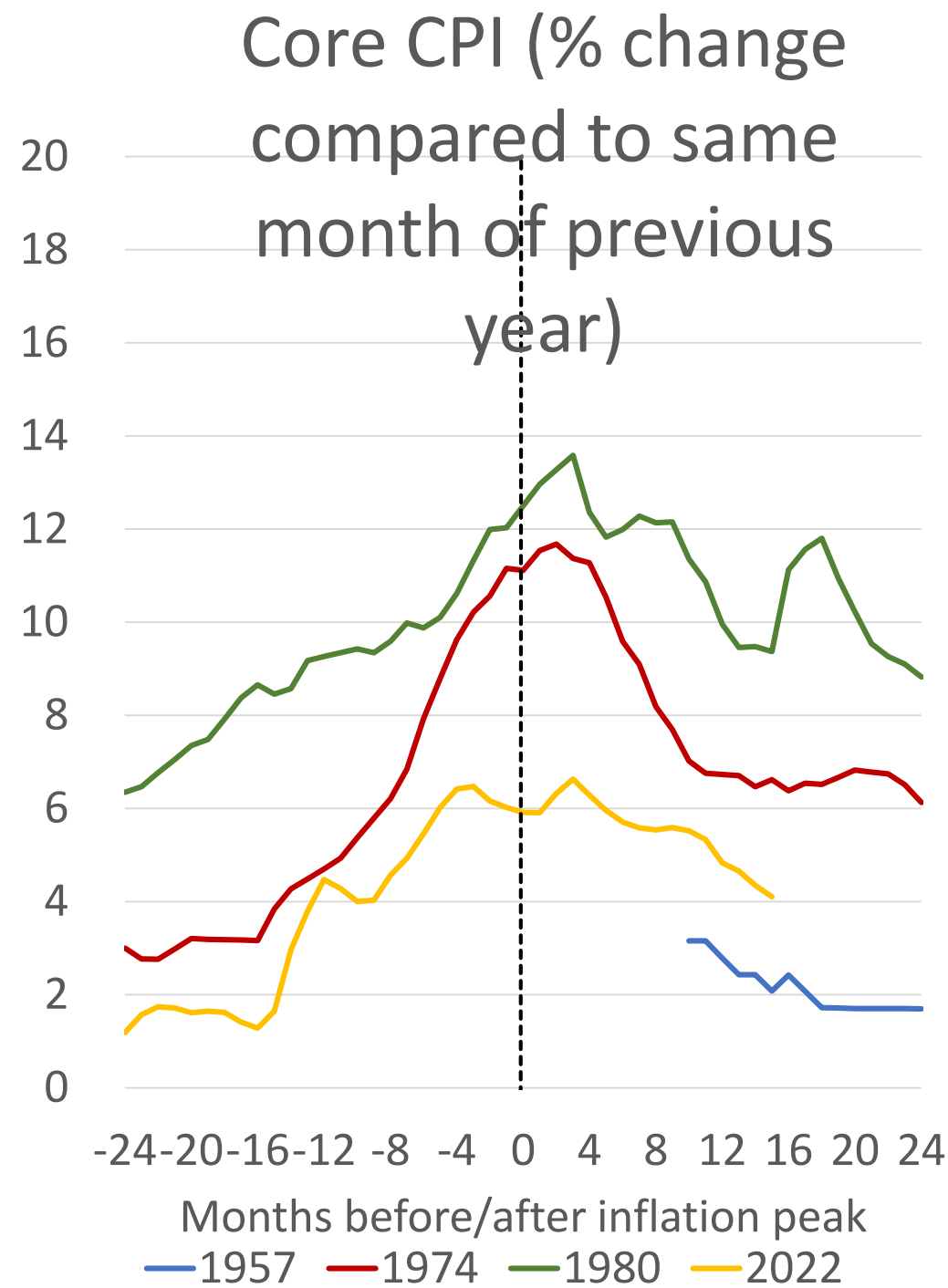
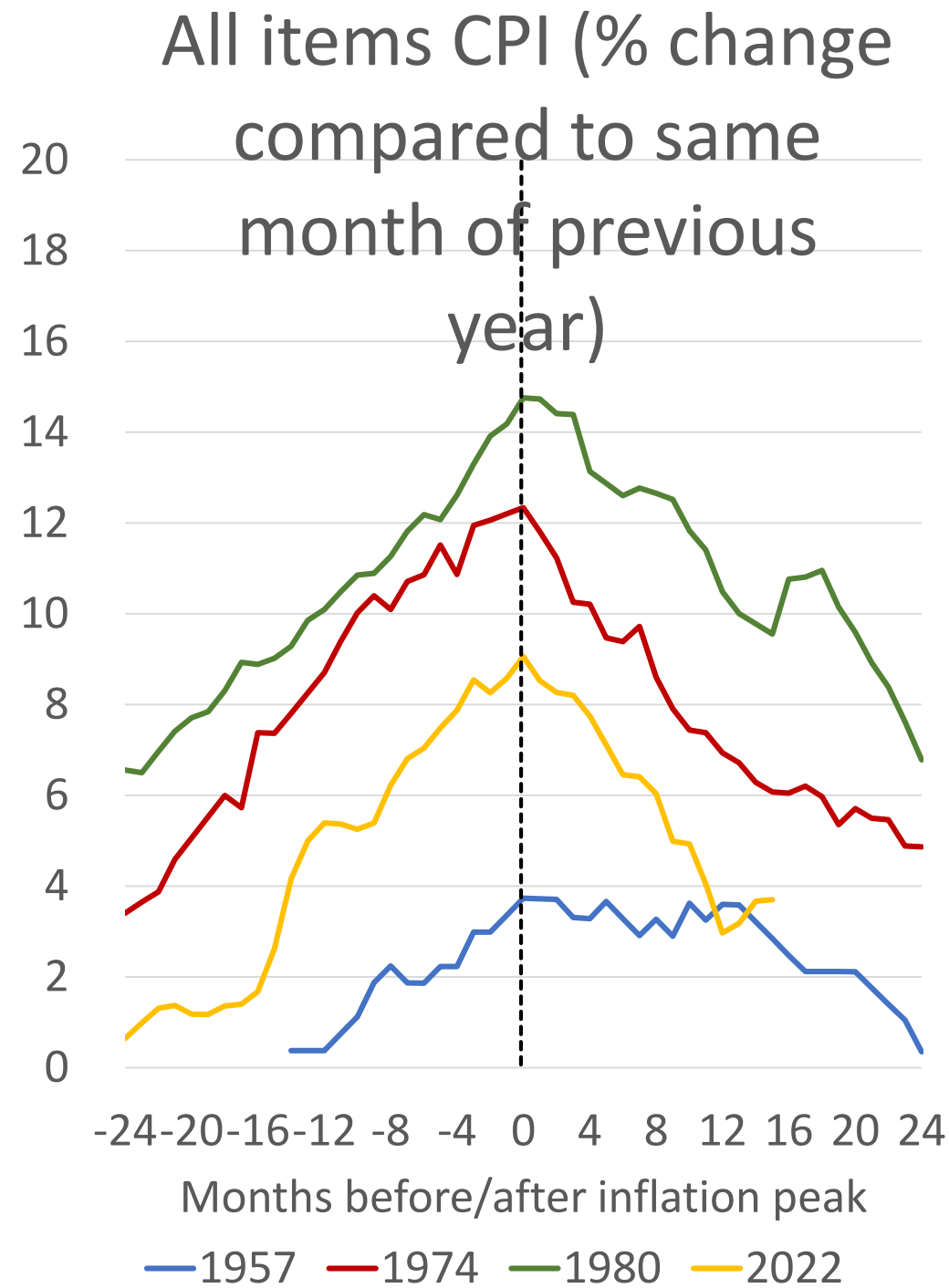
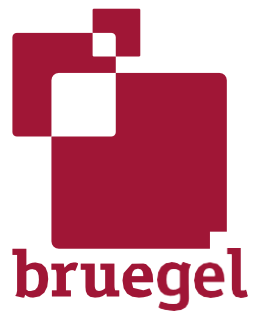
2. Belated start of central bank rate hikes



	First rate hike	Inflation at the date of first rate hike
Bank of England	December 2021	5.40%
Federal Reserve	March 2022	5.80%
European Central Bank	July 2022	8.90%

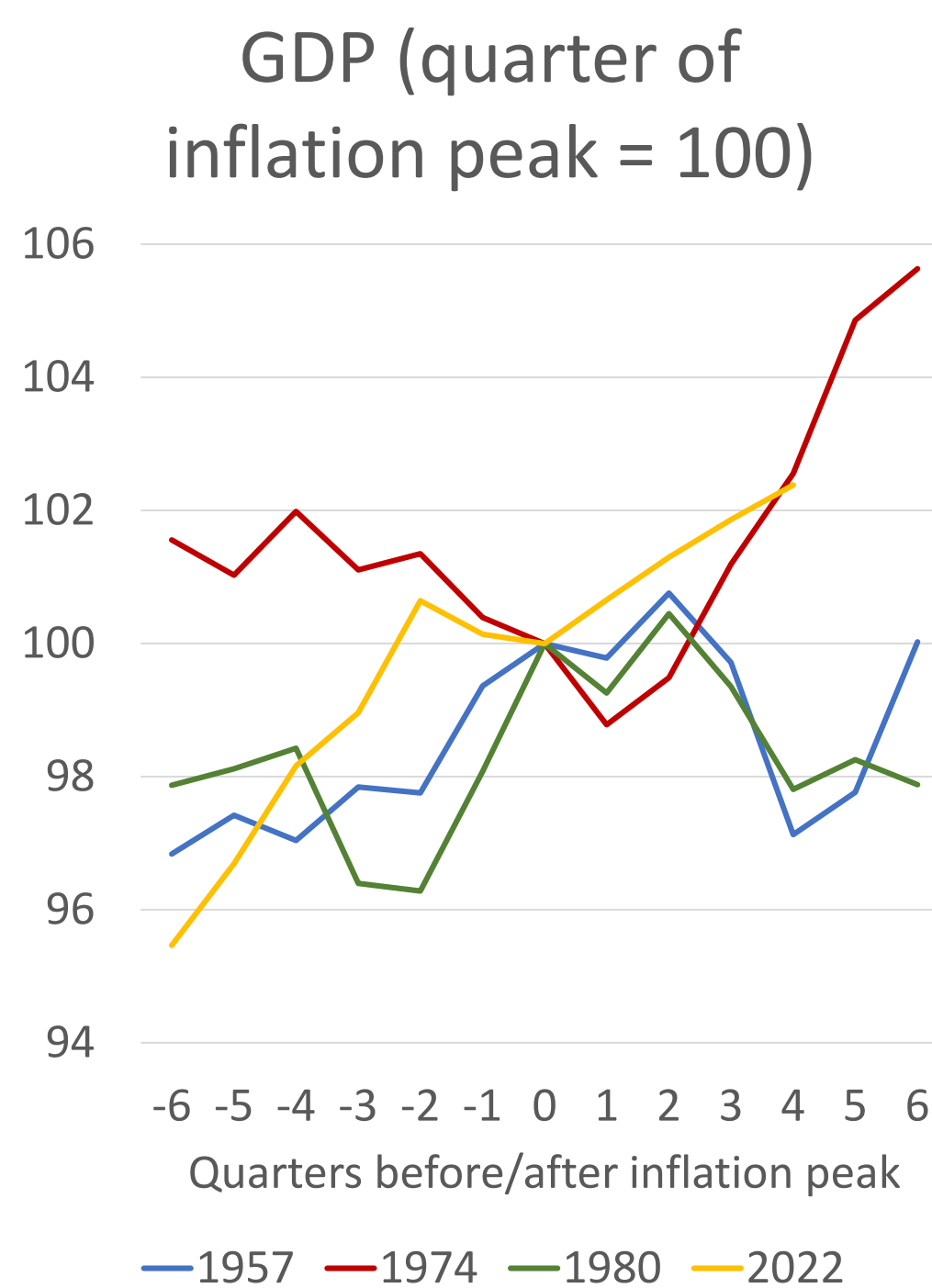
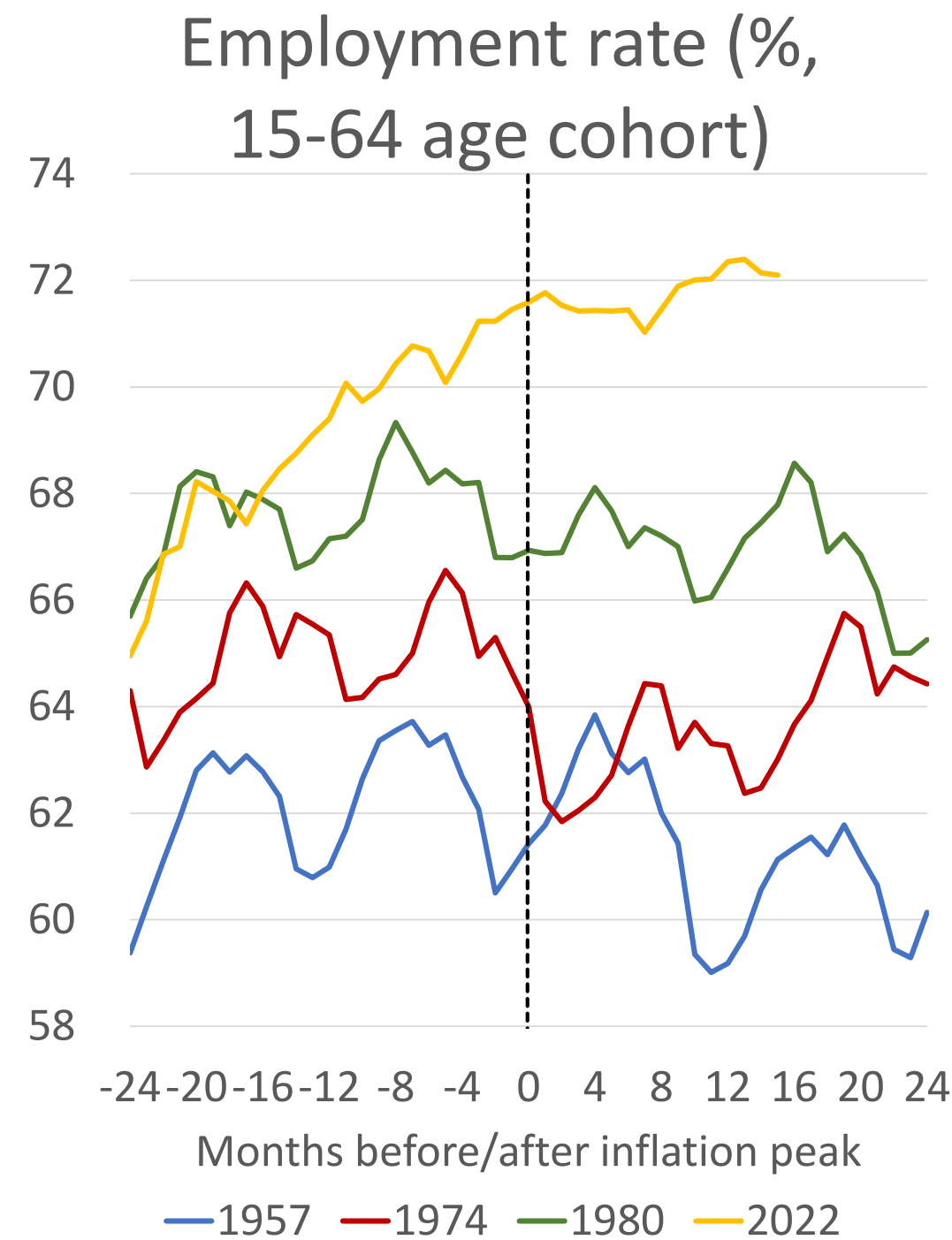
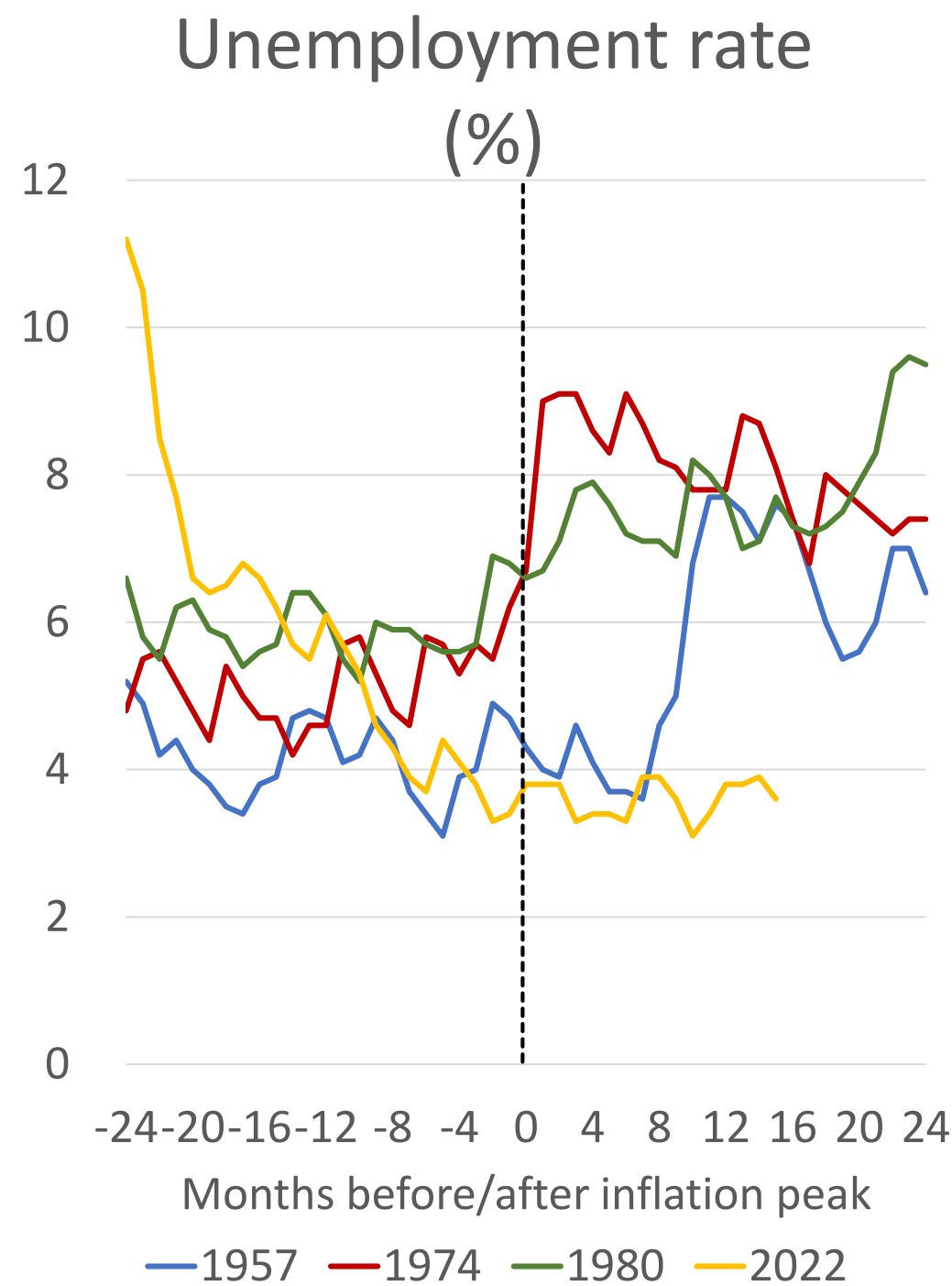
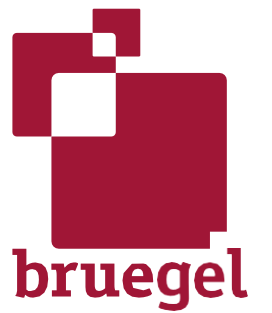
- Possible reasons for the belated start:
- Despite rising inflation in 2021, all forecasters foresaw only a small and temporary rise in inflation
 - Pre-2021 “*low for long*” narrative
 - Uncertainty about the demand-side and supply-side drivers of inflation
 - Long-term inflation expectations seemed to remain anchored
 - ECB: flawed forward guidance

3.1 Comparison of the current monetary tightening episode with earlier episodes – United States



- The Federal Funds Rate reached or exceeded peak inflation in the past
- Now: it remains well below peak inflation

3.2 Comparison of the current monetary tightening episode with earlier episodes – United States

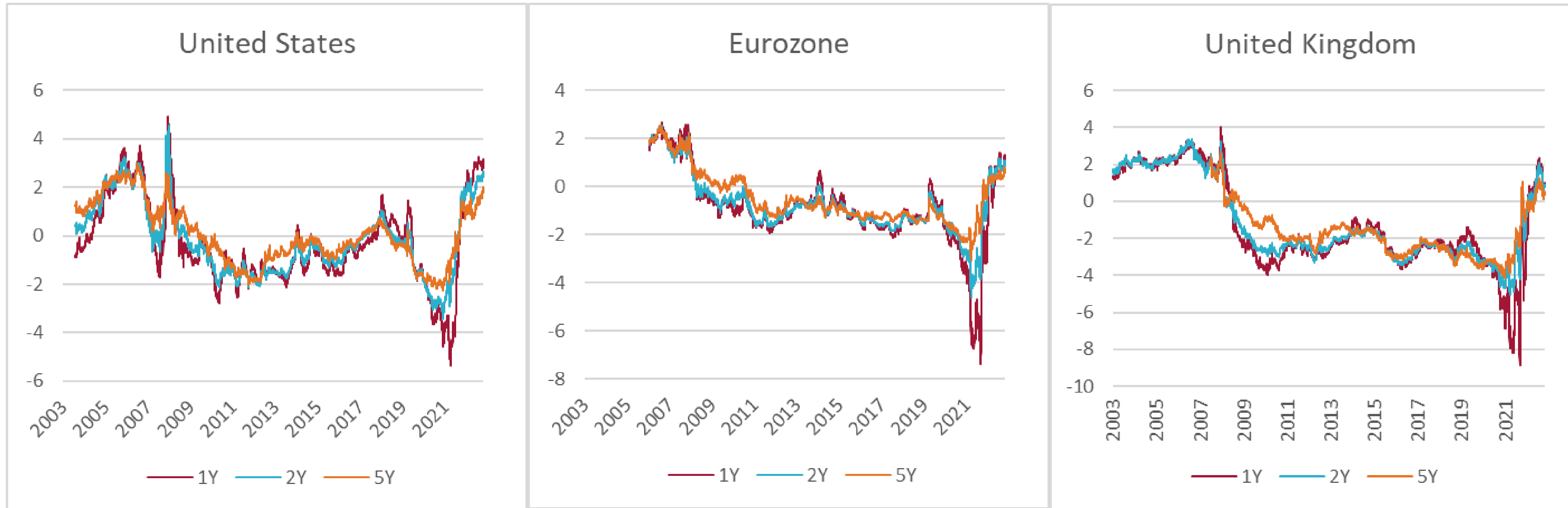


- Unemployment went up significantly in the past; now close to the historical low
- Employment rate fell in the past; now close to the historical high
- There was a recession in the past, but not now

4. Market-based real interest rates



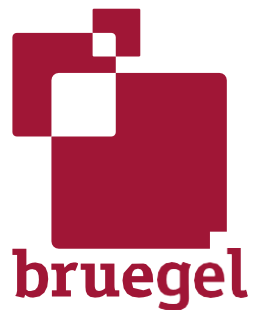
Financial market-based real interest rates (percent per year)



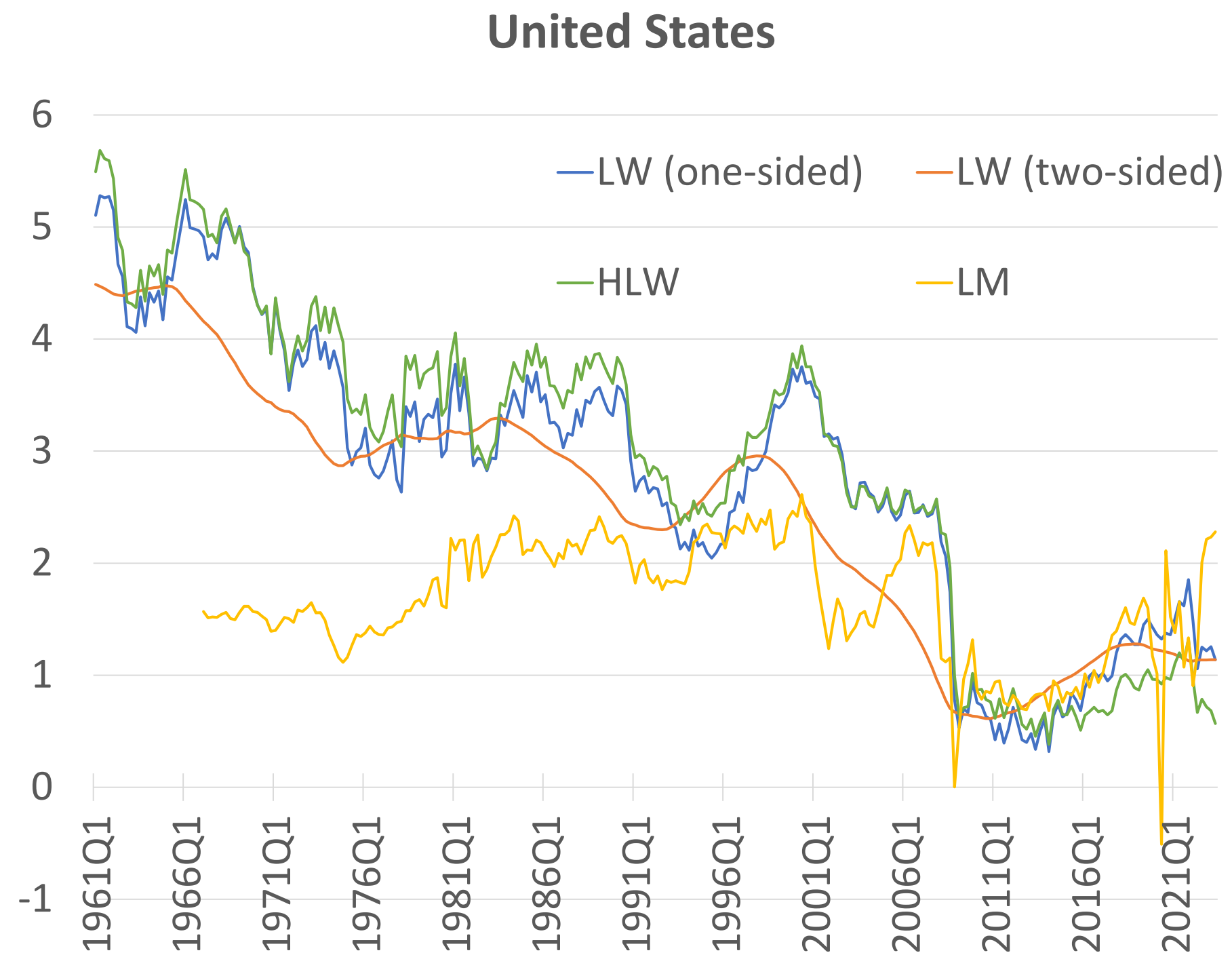
Source: Bloomberg.

Note: the last observation is 10 October 2023.

5. The natural rate of interest, r^*



Alternative estimates for the natural rate of interest (percent per year), 1961Q1-2023Q2



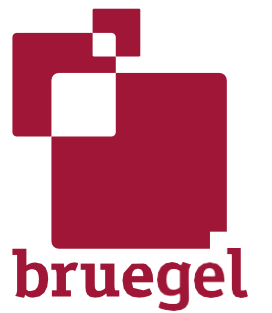
- The natural rate of interest (r^*): the equilibrium value of the short-term real interest rate that is expected to prevail when the economy is operating at its full sustainable level
- This is an unobserved variable and must be estimated
- The latest estimate for 2023Q2 ranges from 0.6% (HLW) to 2.3% (LM)
- Each of these estimates is characterised by considerable uncertainty

Sources: Federal Reserve Bank of New York and Federal Reserve Bank of Richmond.

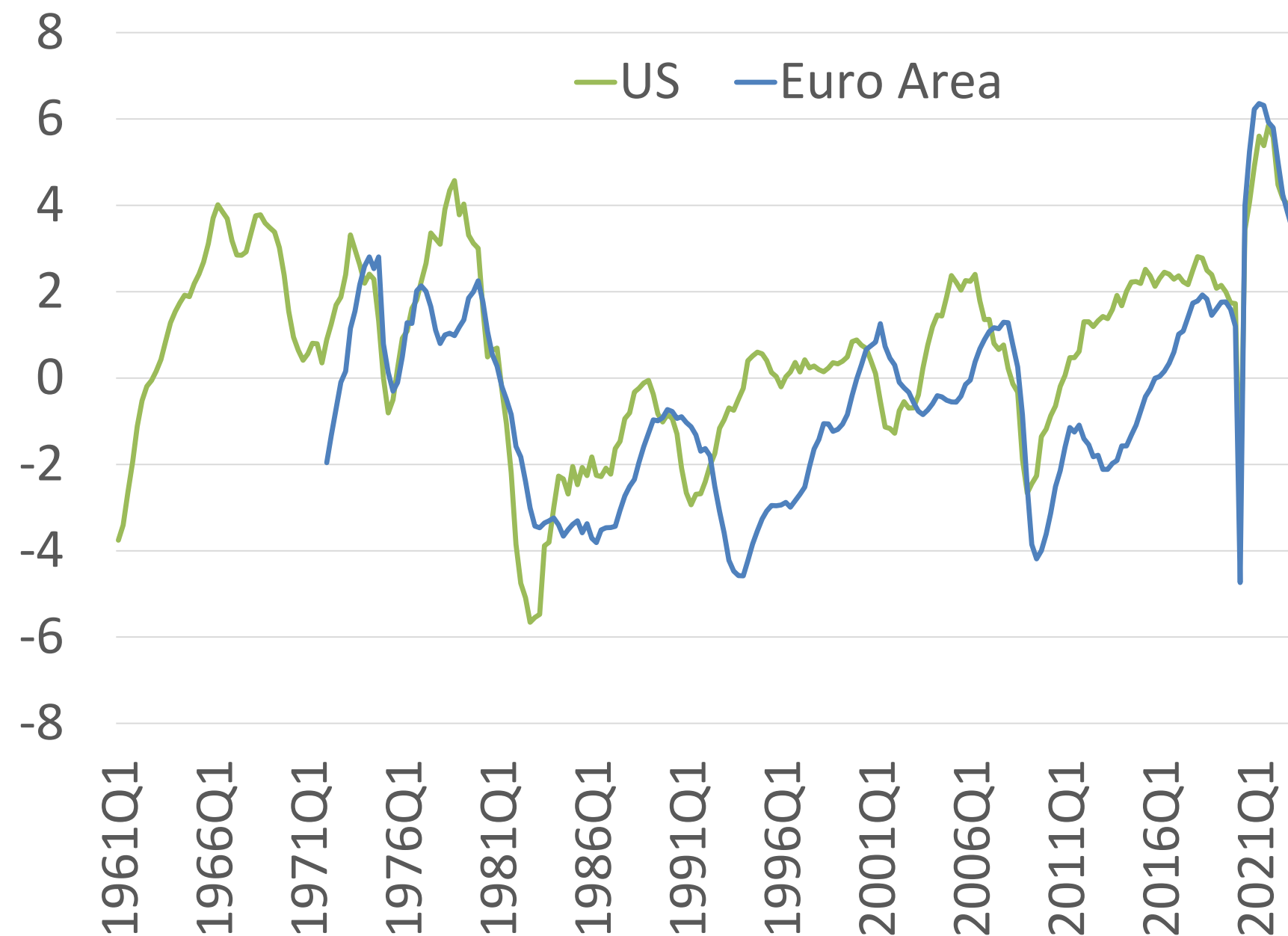
Note: LW: based on Laubach and Williams (2003); HLW: based on Holston, Laubach, and Williams (2017);

LM: based on Lubik and Matthes (2023)

The model for the natural rate results in unusual output gap estimates for the pandemic era



Output gap estimates from the HLW model (percent of potential output), 1961Q1-2023Q2



Implied average annual output gaps from the natural rate model:

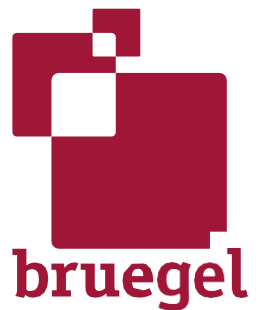
	United States	Euro area
2020	1.6	1.4
2021	5.4	6.2
2022	4.6	4.7
2023	3.5	2.7

IMF WEO October 2023 output gaps:

	United States	Euro area
2020	-2.5	-4.8
2021	1.5	-2.0
2022	1.4	0.2
2023	1.4	-0.4

Source: Federal Reserve Bank of New York.

6.1 The drivers of equilibrium real interest rates



The real interest rate balances savings and investments, and thus higher savings and lower investments can result in a fall in the real interest rate. Higher savings resulted from:

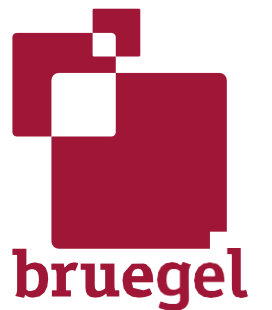
- higher life expectancy
- higher income inequality
- 'global savings glut'

Low investment demand in advanced countries could have resulted from:

- low population growth
- fall in the relative price of durable equipment
- a financial sector which does not properly incentivise investments
- monopoly positions in some industries
- the reduced capital intensity of leading industries
- the decline in public investment after the global financial crisis and the euro crisis

Greater demand for safe assets could also have exerted a downward pressure on real interest rates (tighter prudential regulations, global savings glut)

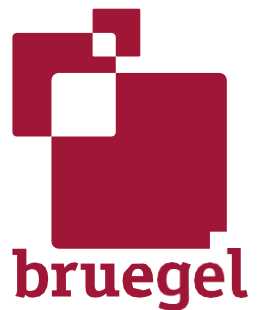
6.2 The drivers of equilibrium real interest rates



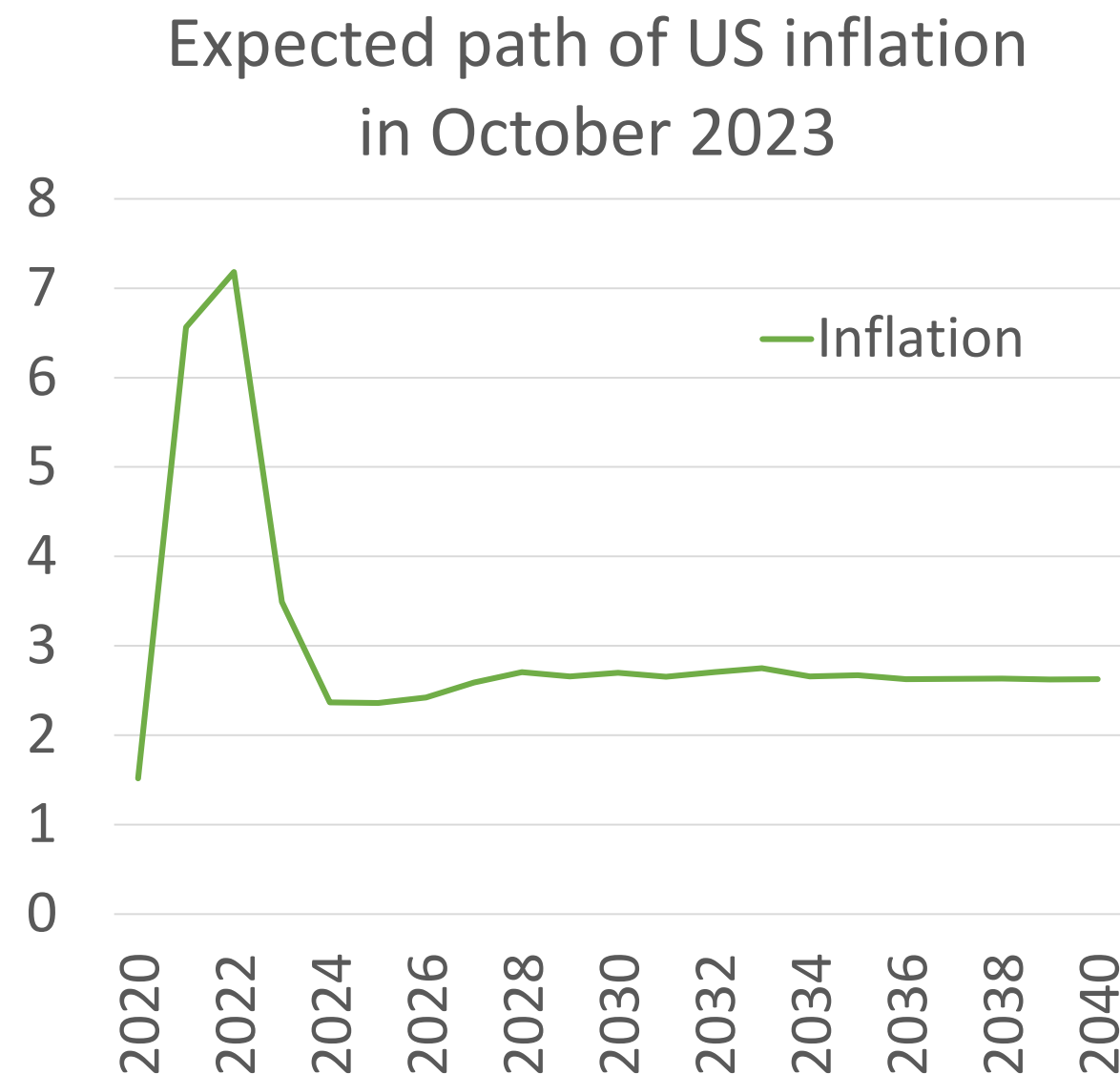
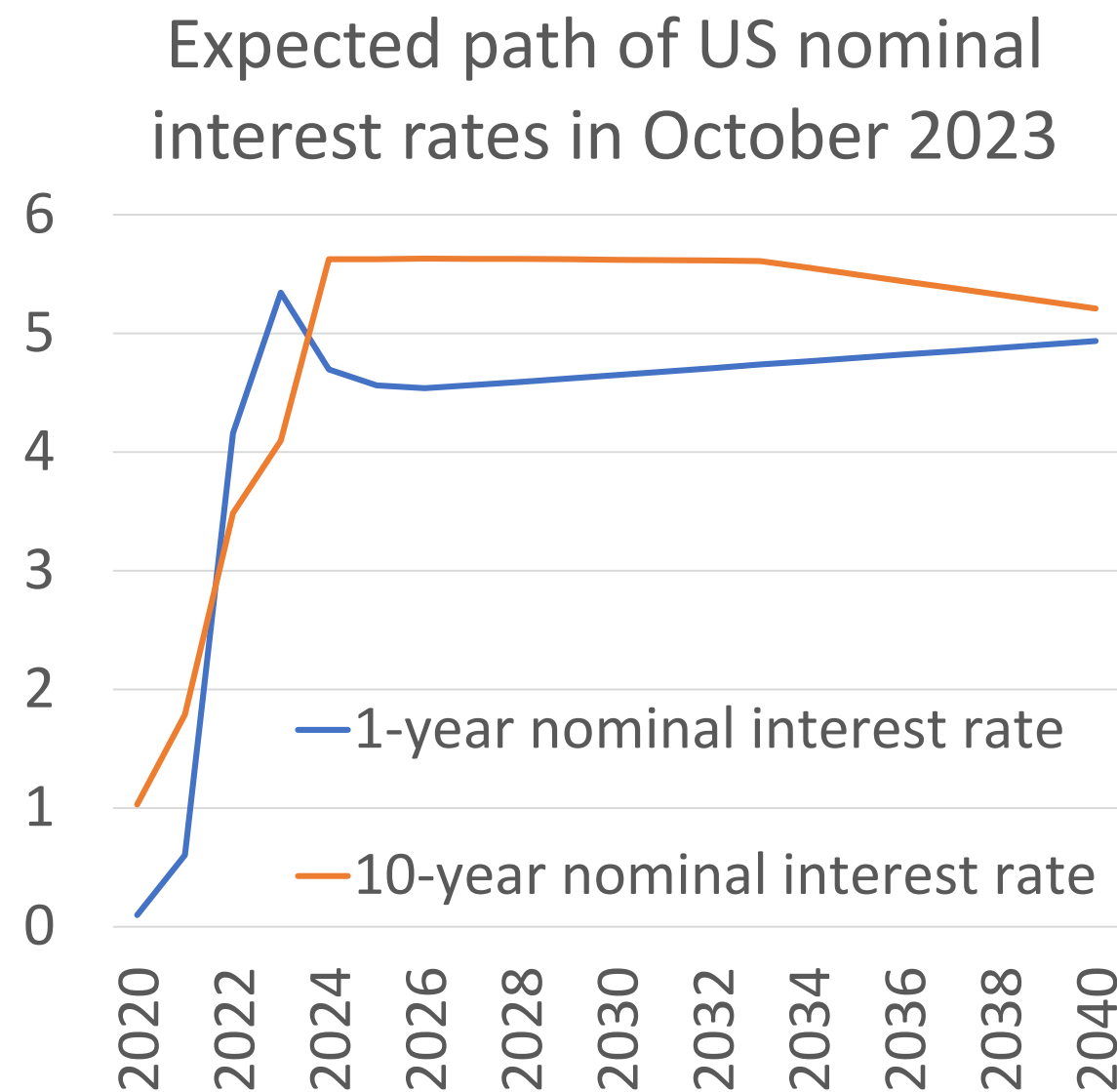
While some of the factors listed in the previous slide might keep real interest rates low once the current inflation-induced central bank tightening ends, others might be reversed, and some new considerations might suggest permanently higher real interest rates in the future:

- reserve accumulation by emerging markets, most notably by China, has declined
- the retirement age is gradually increased in many countries, which could dampen the increase in saving
- increased bargaining power of low-income workers in advanced countries could reduce income inequality in favour of households with a lower propensity to save
- investment demand could pick up due to:
 - reshoring in the aftermath of the pandemic and amid geopolitical tensions
 - development of new technologies
 - climate change mitigation
 - public investment increases to meet new challenges, such as defence, digital and green transition

7.1 The expected path of short-run and long-run real interest rates



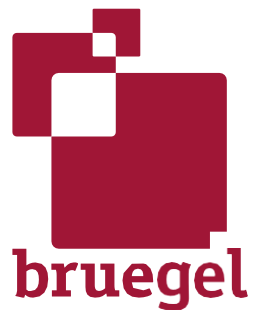
The expected path of 1-year and 10-year **nominal** interest rates and inflation (percent per year)



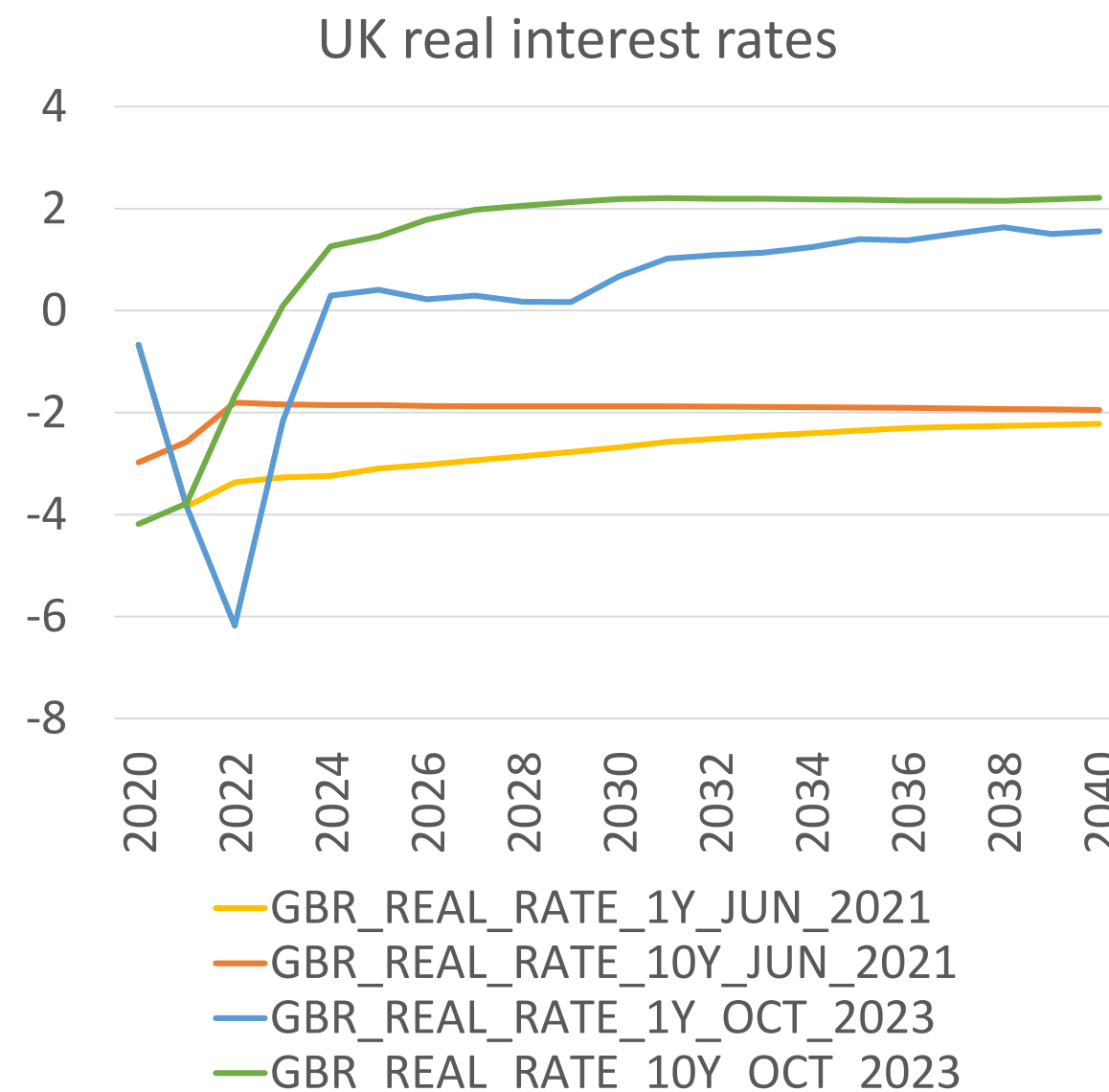
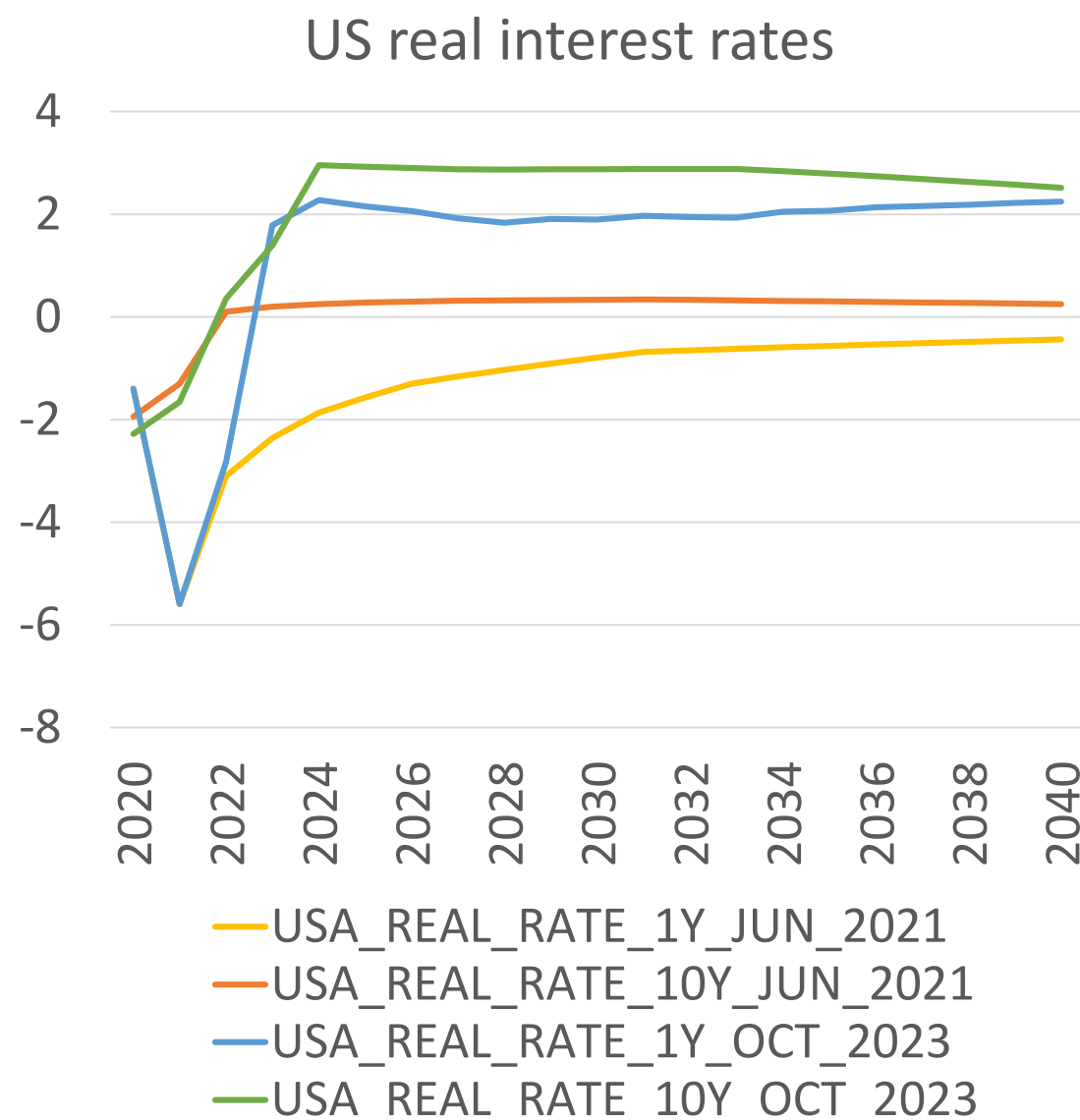
Expected future real interest rate = expected future nominal interest rate - expected future inflation. E.g.:

- Expected 1-year real interest rate in 2025 = expected 2025 value of the 1-year nominal interest rate minus the expected 2026 value of annual inflation
- Expected 10-year real interest rate in 2025 = the expected 2025 value of the 10-year nominal interest rate minus the average of expected annual inflation between 2026 and 2035

7.2 The expected path of short-run and long-run real interest rates

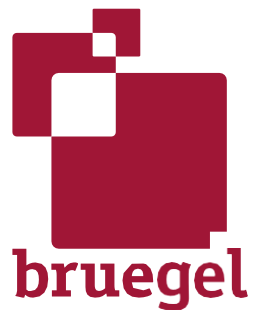


The expected path of 1-year and 10-year **real** interest rates in June 2021 and October 2023 (percent per year)

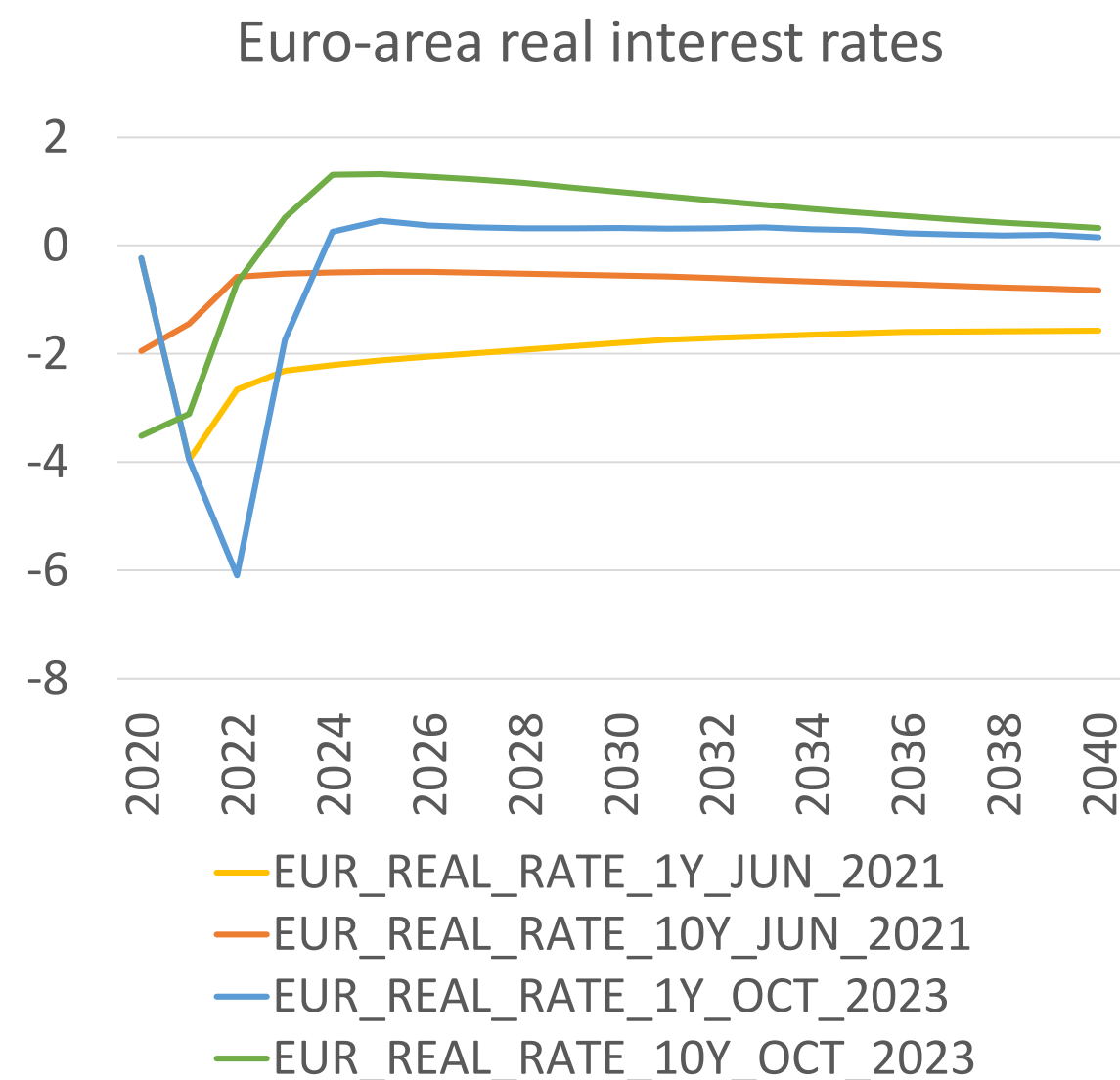
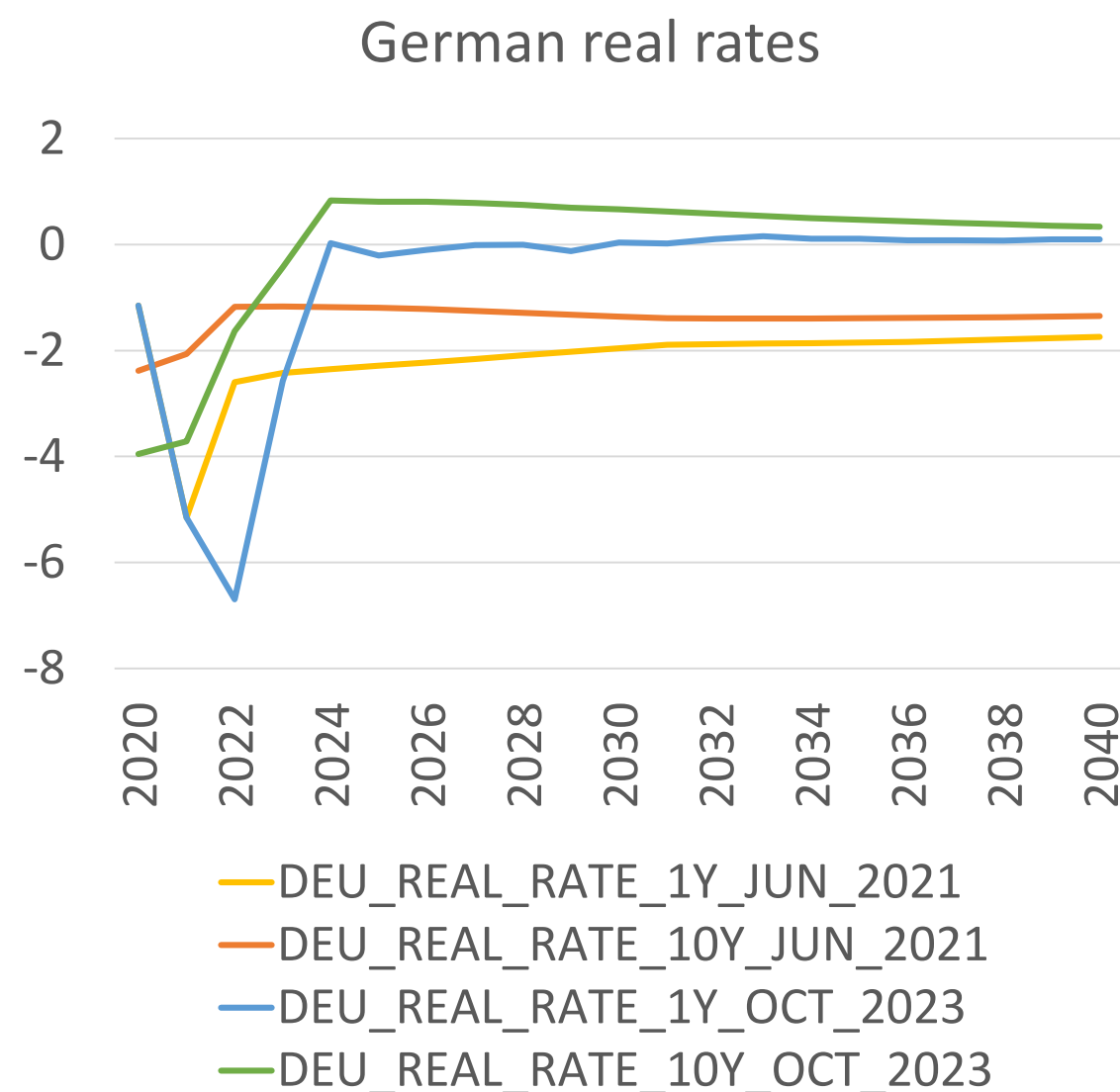


- To document the changes in market real interest rate expectations, the charts show expectations in June 2021 and October 2023
- June 2021: US: expected negative 1-year and close to zero 10-year real interest rate; UK: the 10-year real rate also highly negative
- October 2023: real rates are expected to remain at 2% or above in the US; slightly lower in the UK

7.3 The expected path of short-run and long-run real interest rates

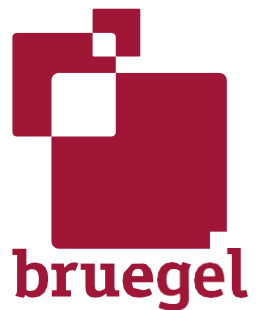


The expected path of 1-year and 10-year **real** interest rates in June 2021 and October 2023 (percent per year)



- Germany and euro area: lower real rates than in the US and UK both in June 2021 and October 2023
- Major increase from June 2021 to October
- October 2023: real rates are at or above zero

8. Conclusions and policy implications



- Inflation in most advanced economies rose sharply along with the recovery from the COVID-19 pandemic recession, yet no forecaster foresaw that inflation could reach close to 10% values
- Both demand and supply factors contributed to the inflation surge
- The Bank of England, the European Central Bank, and the Federal Reserve started to tighten monetary policy belatedly
- Puzzle: despite significant rate increases (and global shocks: Ukraine war, China slowdown), labour markets remained strong, and recessions have been avoided (so far)
- Our explanation: a highly accommodative monetary policy stance was changed to a broadly neutral (but not contractionary) monetary policy stance
- Pre-pandemic negative real interest rates turned to positive
- Various estimates for the natural rate of interest are unreliable
- Markets expect the current level of real interest rates to persist for many years, suggesting that current rates could be close to their equilibrium values
- Implications: (1) monetary policy is unlikely to exert a significantly negative effect on the economy, (2) the reduction of core inflation might prove to be challenging, while headline inflation falls along with a decline in energy prices, and (3) high nominal interest rates might persist for long

Thank you!

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