

Monetary Policy Responses to the Post-Pandemic Inflation

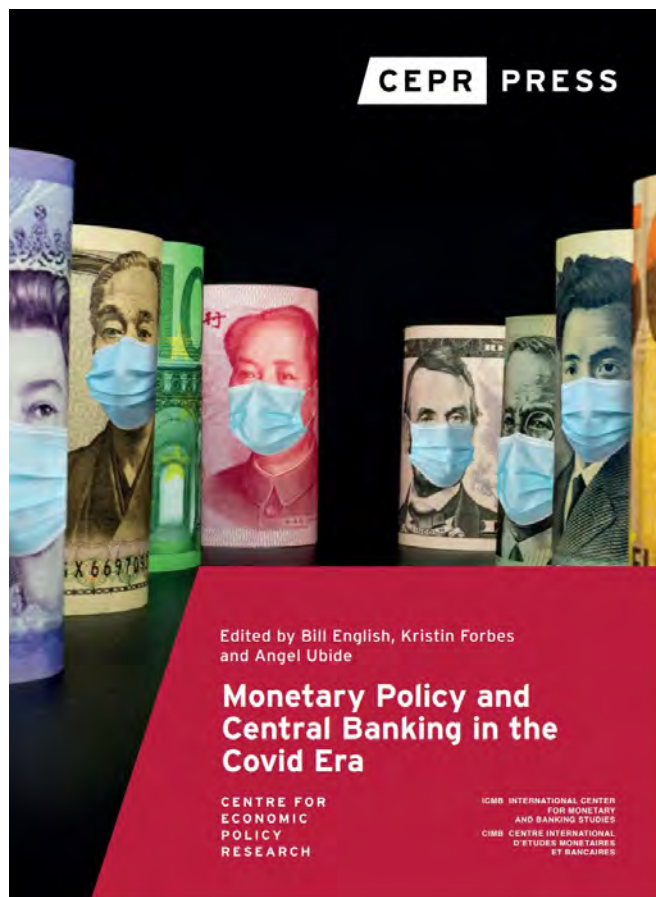
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Presentation at Peterson Institute for International Economics

Washington D.C.

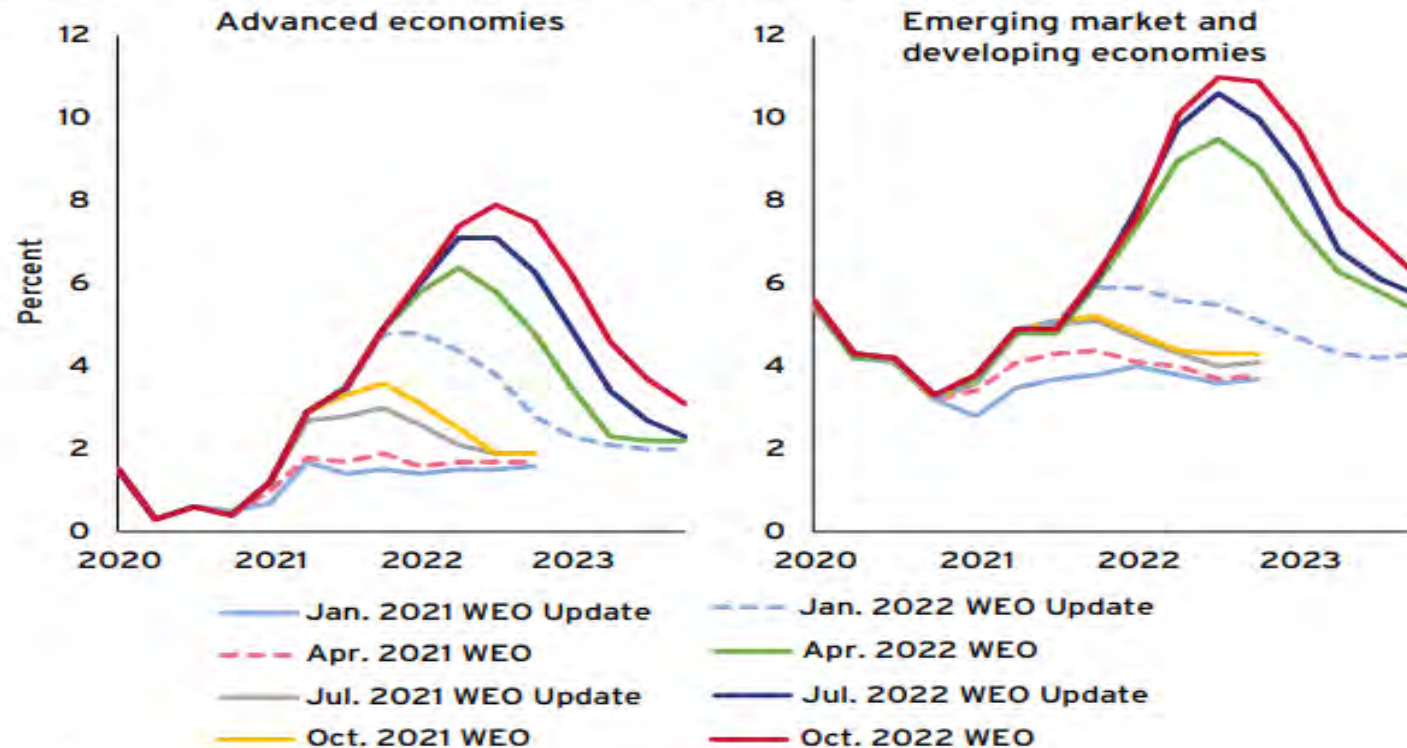
April 2024

Hopefully, the end of the process....



A big global surprise, in two steps

FIGURE 7 INFLATION FORECAST VINTAGES, JANUARY 2021 TO OCTOBER 2022

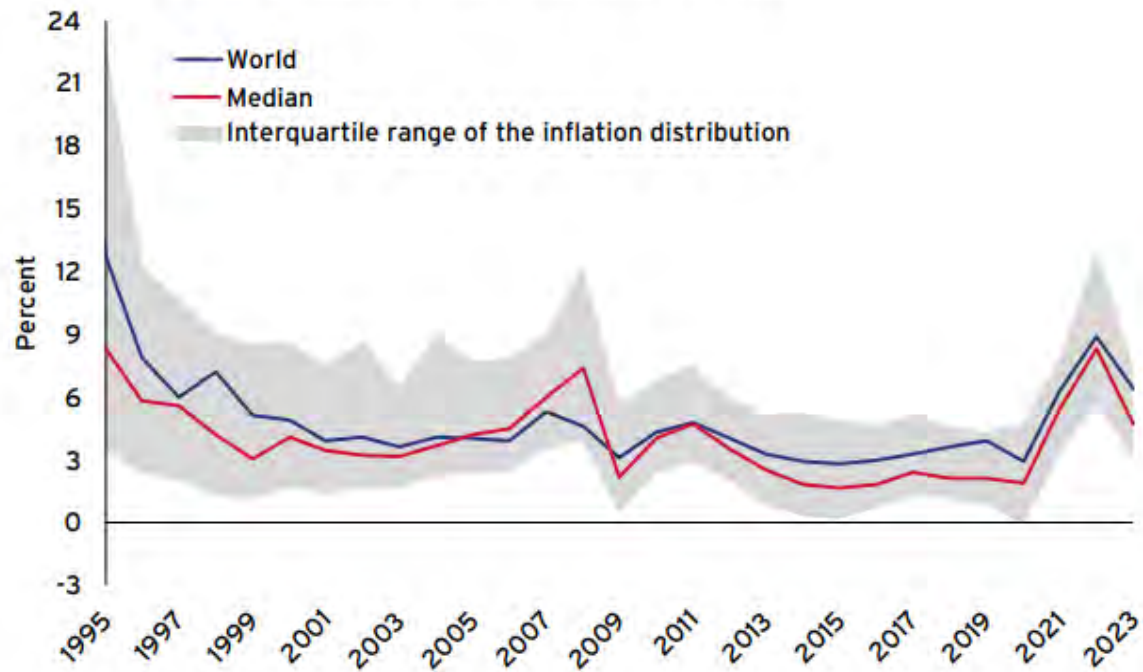


Source: Data based on IMF World Economic Outlook, October 2022.

Note: The lines plot the four-quarter purchasing-power-parity-GDP-weighted inflation forecasts at different dates.

First, a very large global **supply** shock

FIGURE 1 WORLD CONSUMER PRICE INFLATION, 1995-2023



Source: Data from IMF *World Economic Outlook*, October 2023.

Note: End of period annual consumer price inflation. World inflation is purchasing-power-parity-GDP-weighted. Median and interquartile range are calculated over 196 countries in the WEO database.

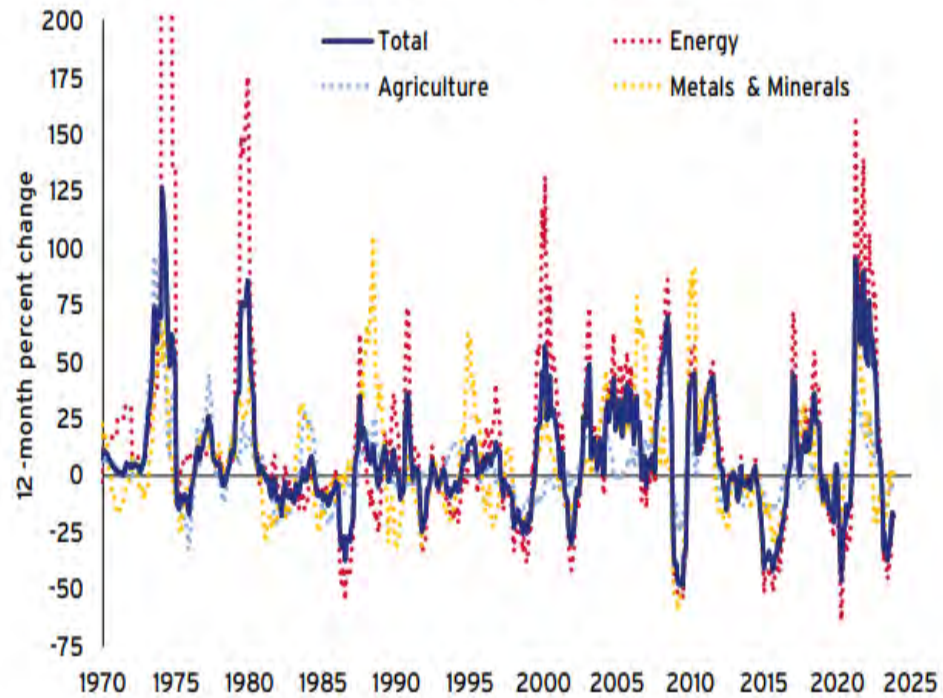
FIGURE 2 FEDERAL RESERVE BANK OF NEW YORK GLOBAL SUPPLY CHAIN PRESSURE INDEX, JANUARY 1998 TO PRESENT



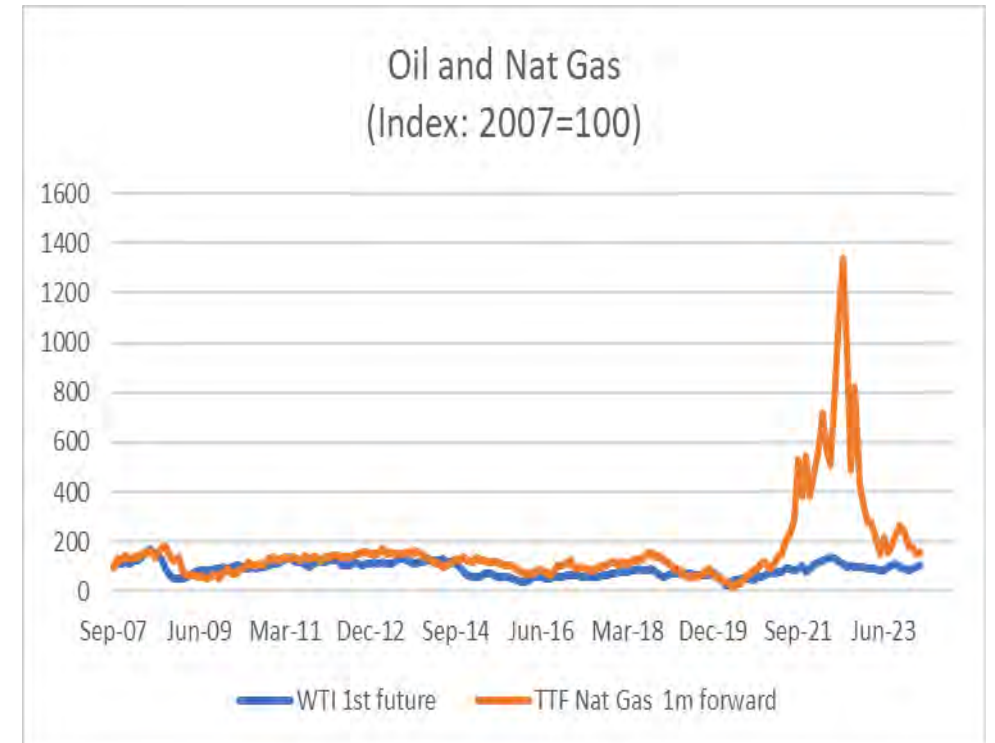
Source: Data from Federal Reserve Bank of New York.

Second, a very large (and new) **energy** shock

FIGURE 3 COMMODITY PRICE INFLATION, 1970 TO PRESENT



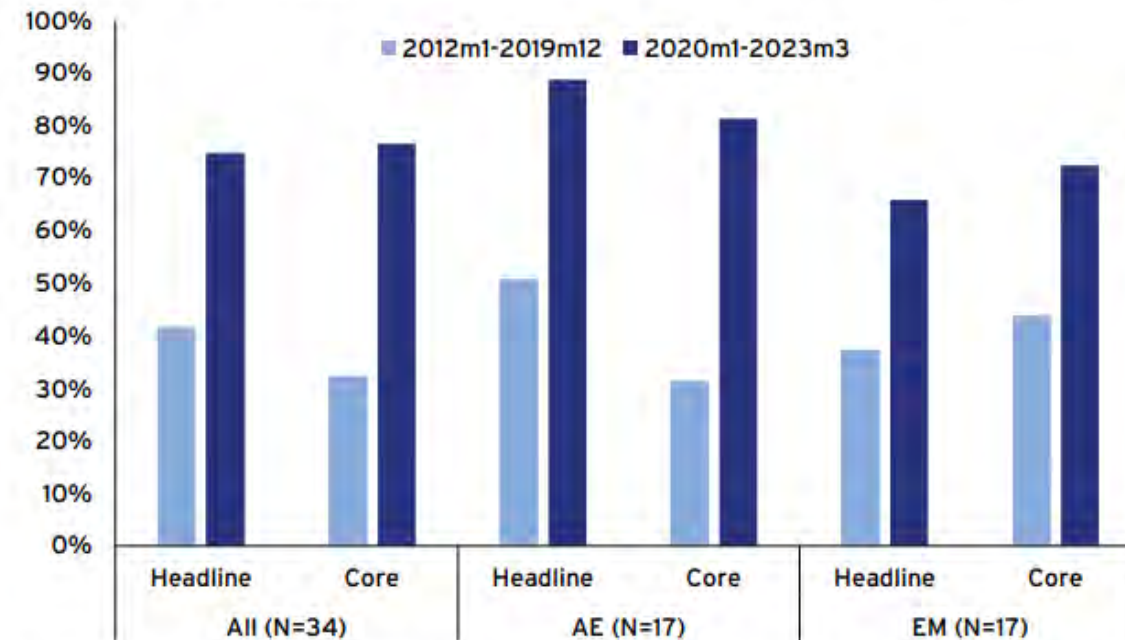
Source: Data from World Bank.



Source: Bloomberg

A global shock to headline and core prices

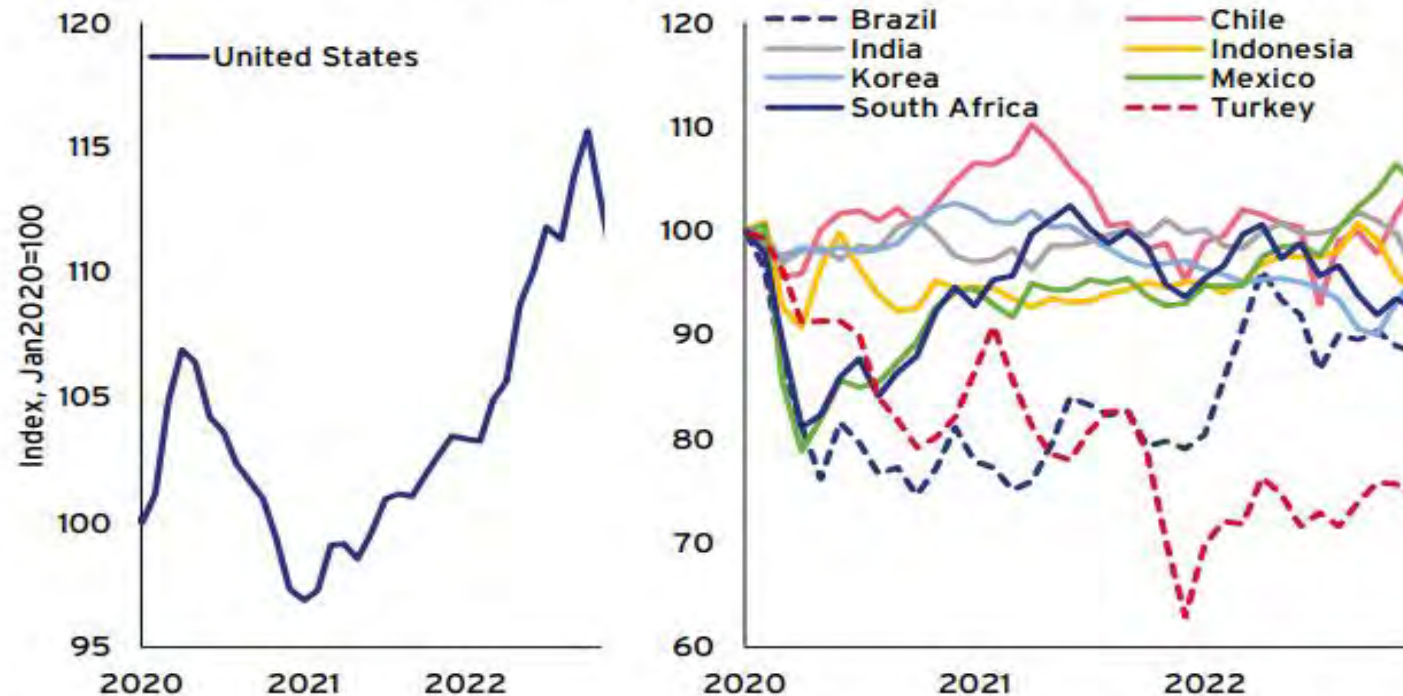
FIGURE 4 PERCENT VARIANCE OF 12-MONTH INFLATION EXPLAINED BY FIRST PRINCIPAL COMPONENT



Source: Calculations based on inflation data from the OECD, IMF, World Bank Global Inflation Database, national sources.
Note: Sample includes 34 economies; 17 advanced economies (CAN, CHE, CZE, DEU, DNK, ESP, FRA, GBR, HKG, HUN, ISR, ITA, JPN, KOR, NOR, SGP, SWE, USA) and 17 emerging markets (BRA, CHL, CHN, COL, IDN, IND, MEX, MYS, PER, PHL, POL, RUS, THA, TUR, TWN, ZAF).

Amplified by exchange rates

FIGURE 5 REAL EFFECTIVE EXCHANGE RATES, JANUARY 2020 TO DECEMBER 2022

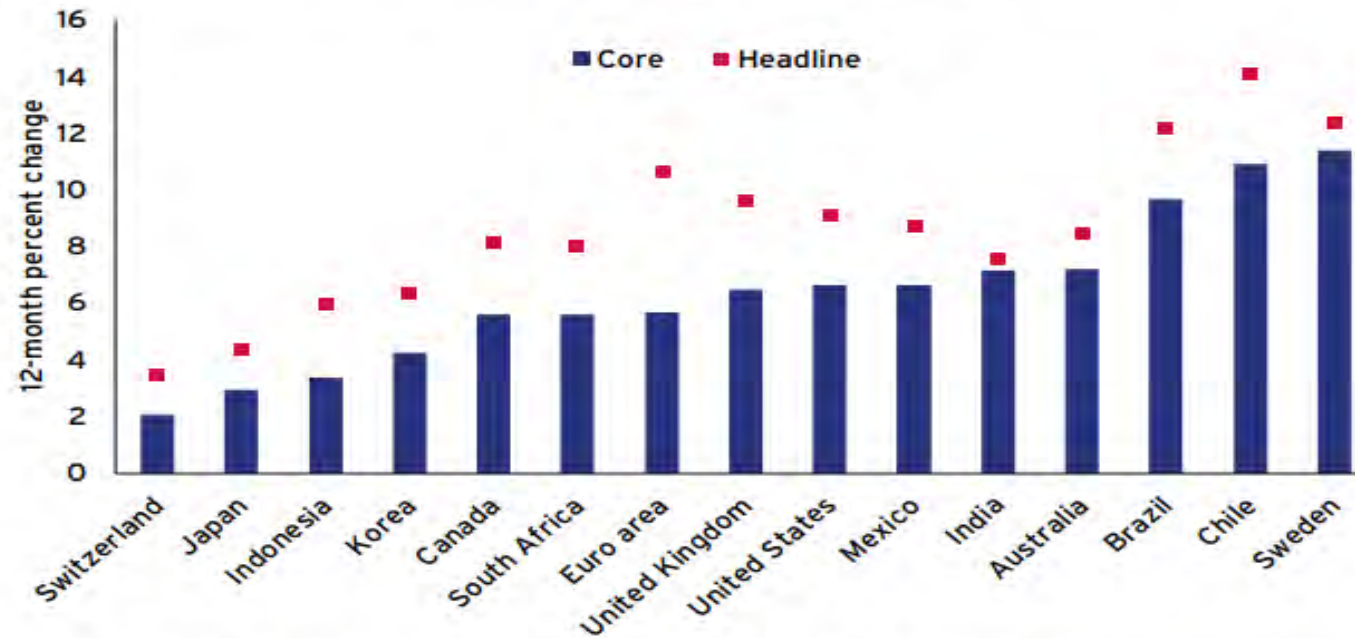


Source: Data from BIS.

Note: Real (CPI-based), broad exchange rate indices.

But country experiences varied - levels

FIGURE 6 PEAK INFLATION RATES, JANUARY 2020 TO PRESENT



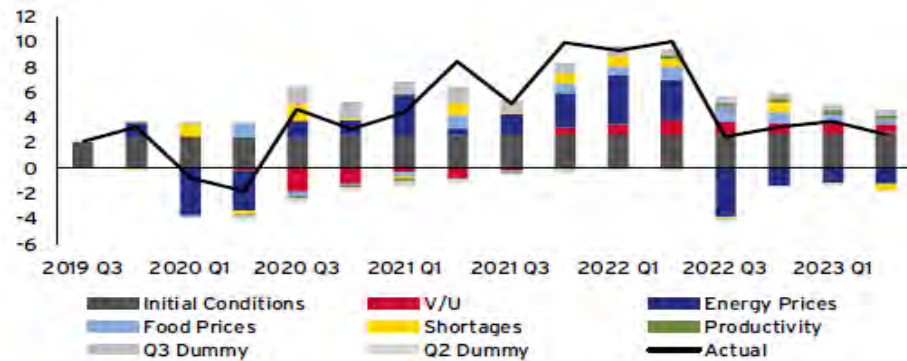
Source: Based on data from the World Bank Global Inflation Database, OECDStat, National Sources.

Note: Economies ordered by peak core inflation rate. Türkiye excluded. Inflation rates are for the 12-month period ending in the month of the latest data release available at the time of liftoff. Core inflation for most economies is all items excluding food and energy. For Indonesia, core is all items excluding food. For Australia, data is the Monthly CPI Indicator, rather than the quarterly CPI, and core excludes volatile items and holiday travel.

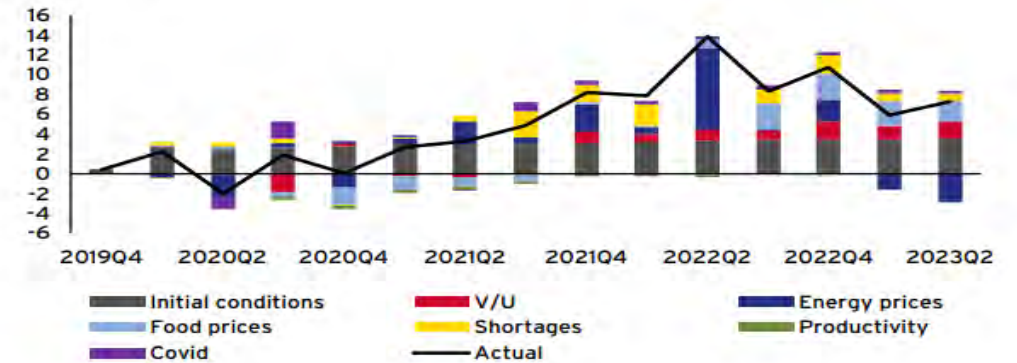
But country experiences varied – composition

FIGURE 4 HISTORICAL DECOMPOSITIONS

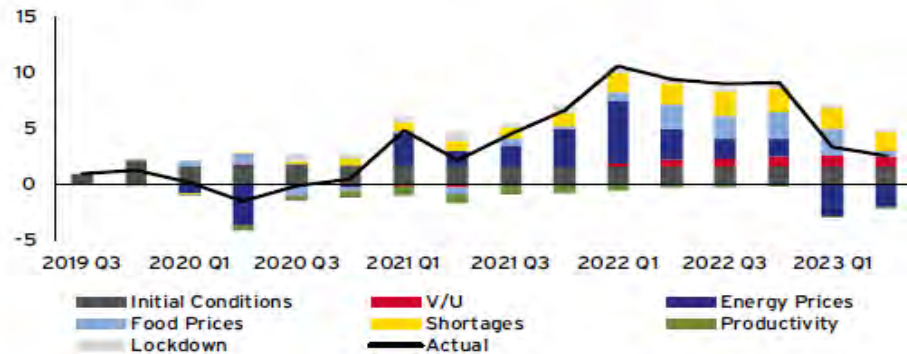
a) United States



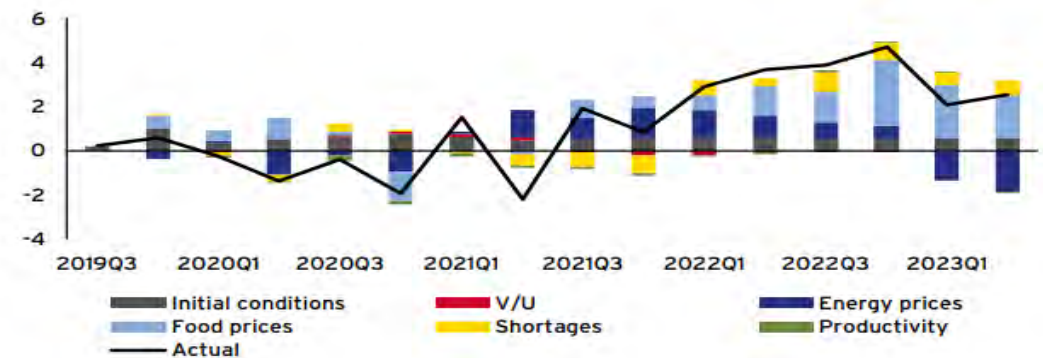
c) United Kingdom



b) Euro area



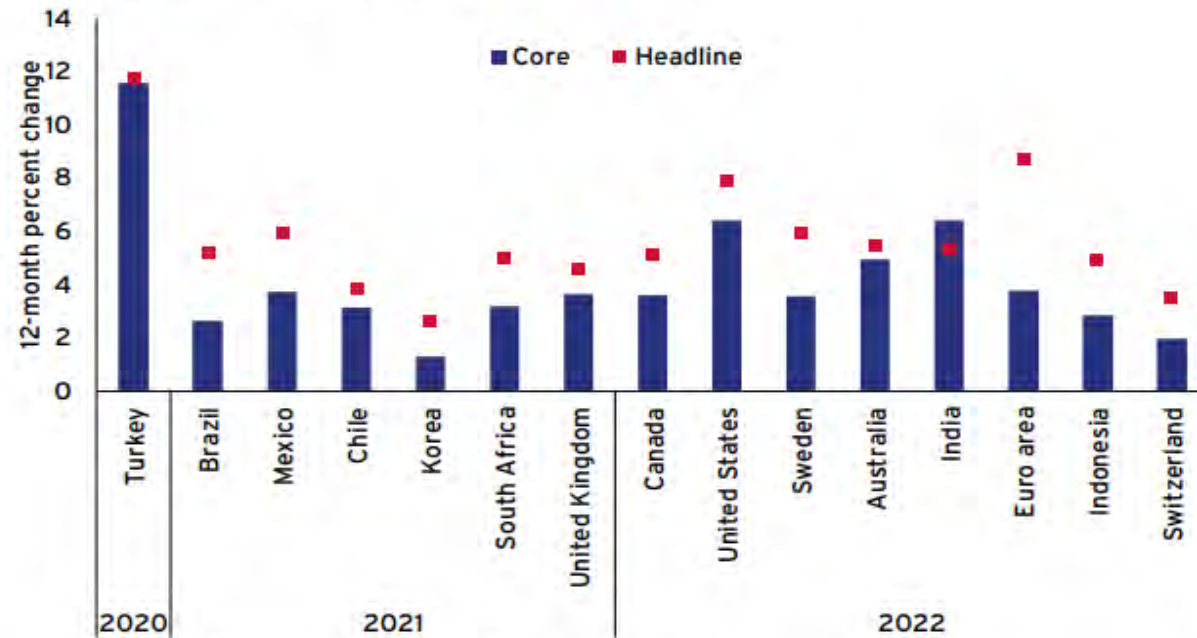
d) Japan



Source: Blanchard and Bernanke (2024), Analysing the inflation burst in eleven economies

As did the monetary policy strategies

FIGURE 8 INFLATION RATES AT TIME OF LIFT-OFF



Source: World Bank Global Inflation Database, OECDStat, national sources.

Note: Economies ordered by date of lift-off. Japan excluded. Inflation rates are for the 12-month period ending in the month of the latest data release available at the time of lift-off. Core inflation for most economies is all items excluding food and energy. For Indonesia, core is all items excluding food. For Australia, data are the Monthly CPI Indicator, rather than the quarterly CPI, which was not produced until after lift-off in August 2022, and core excludes volatile items and holiday travel.

Three stages of tightening

- Raise rates quickly towards “restrictive” level to anchor inflation expectations
 - Has r^* increased?
- Fine tune to “sufficiently” restrictive
 - Table Mountain vs Matterhorn
- Hold at sufficiently restrictive for long enough to be “confident” inflation will return to target
 - Does confidence require a weaker labor market?

Did **fiscal** policy help? Yes, with some luck

FIGURE 6 SCENARIO: HEADLINE INFLATION WITH AND WITHOUT ENERGY MEASURES (12-MONTH RATE, %)

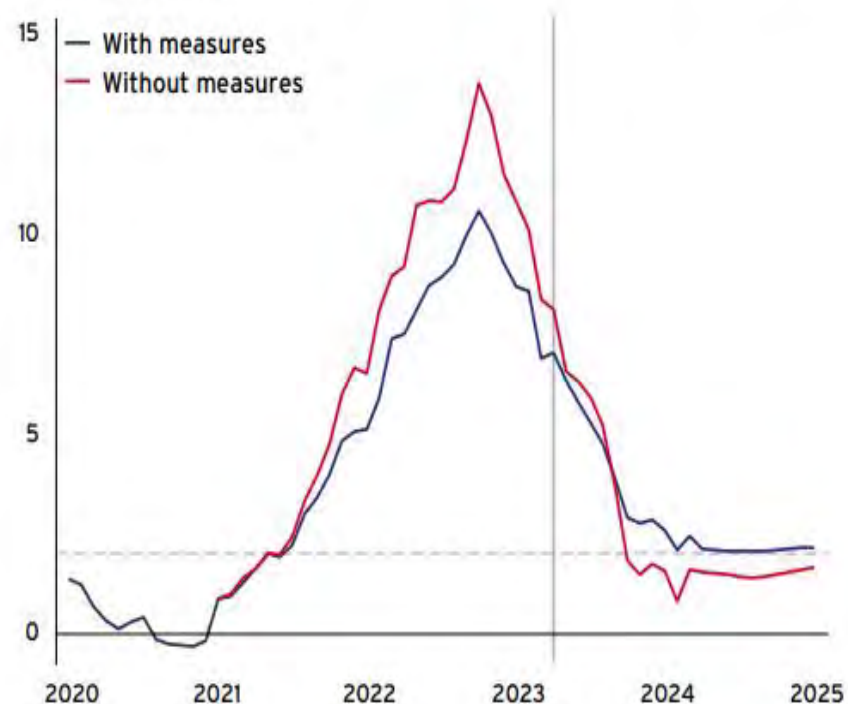
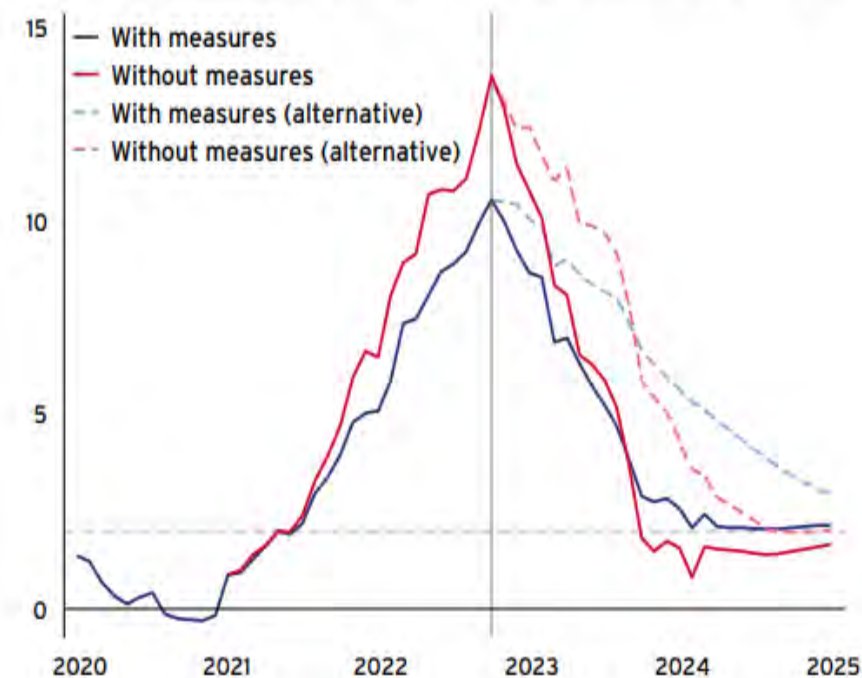


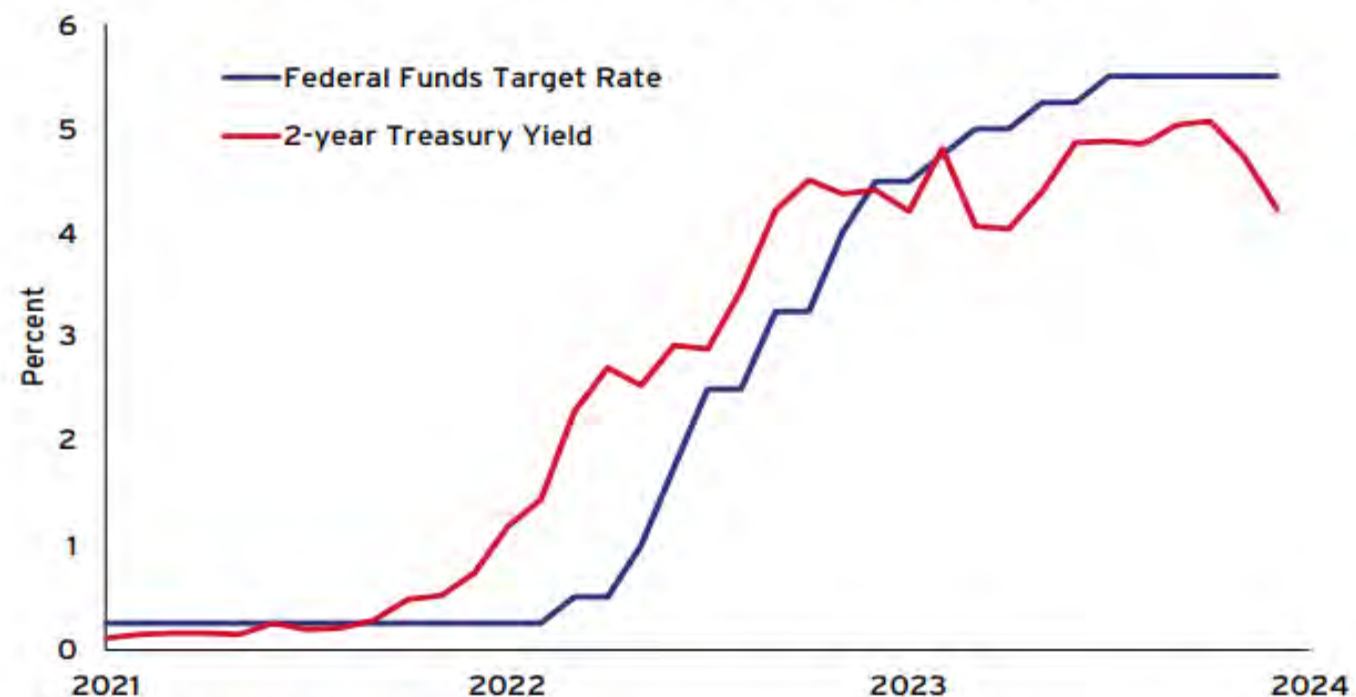
FIGURE 7 ALTERNATIVE SCENARIO WITH ENERGY PRICES STAYING HIGH: HEADLINE INFLATION WITH AND WITHOUT ENERGY MEASURES (12-MONTH RATE, %)



Source: Dao, Zizioli, Jackson, Gourinchas and Leigh (2024), Unconventional fiscal policy in times of high inflation

Were central banks “late”?

FIGURE 9 US INTEREST RATES, JANUARY 2021 TO DECEMBER 2023



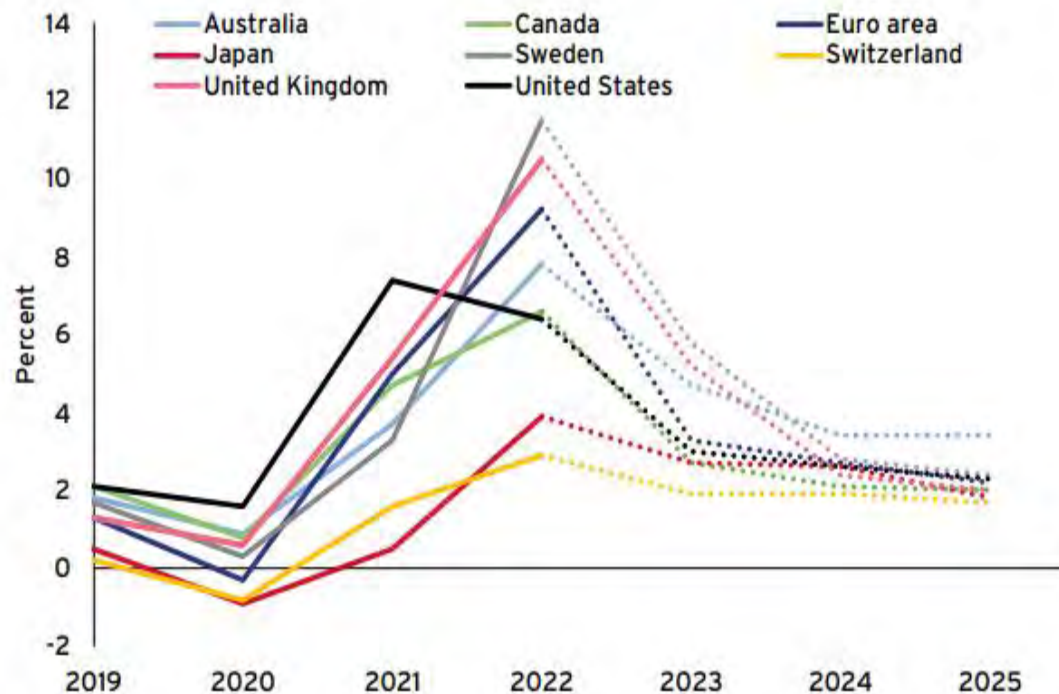
Source: Data from Federal Reserve Board.

Note: Monthly, end of period. Federal Funds Rate Target is the upper limit of the target range.

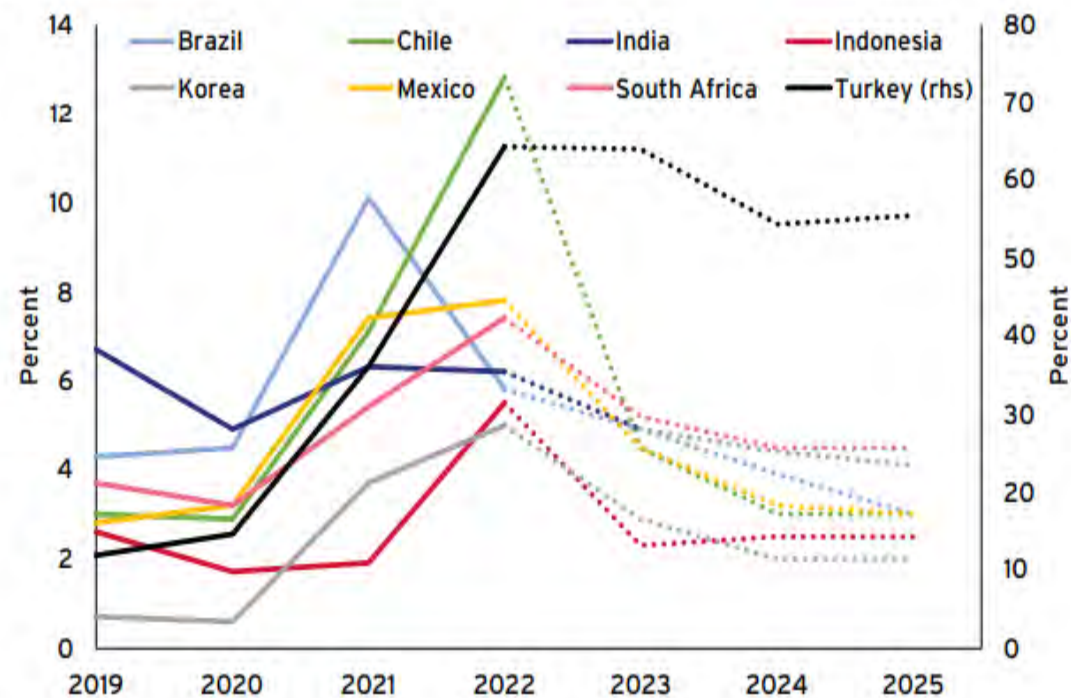
It doesn't look like (*for now*) – inflation

FIGURE 10 CONSUMER PRICE INFLATION, 2019-2025 (EXP.)

a) Advanced economies



b) Emerging markets

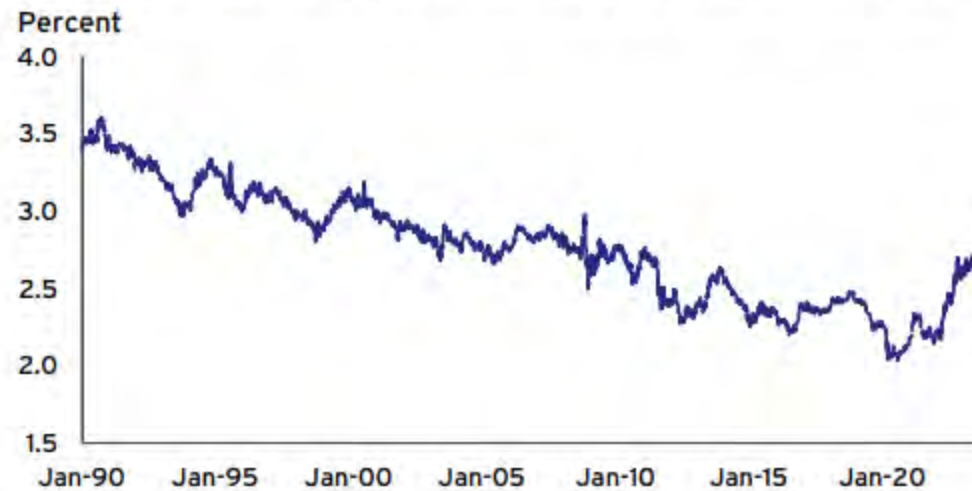


Source: Data based on IMF World Economic Outlook, October 2023.

Note: End of period annual consumer price inflation.

It doesn't look like – inflation expectations

FIGURE 7 MODEL-IMPLIED EXPECTED INFLATION, 5 TO 10 YEARS FORWARD

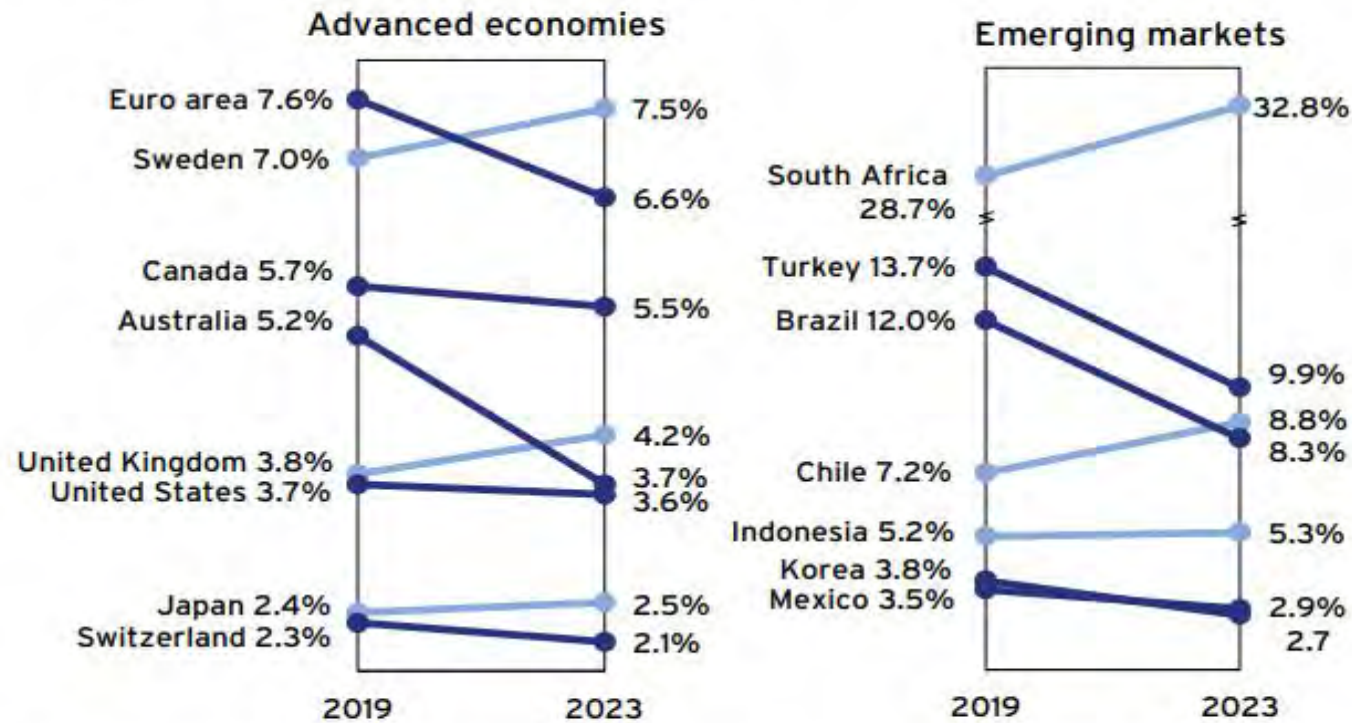


Source: D'Amico, Kim and Wei.

Perli and LeSuer (2024), The effects of the post-COVID inflation and the Federal Reserve's policy tightening response on financial markets

With, **so far**, little damage to labor markets

FIGURE 11 UNEMPLOYMENT RATES, 2019 AND 2023

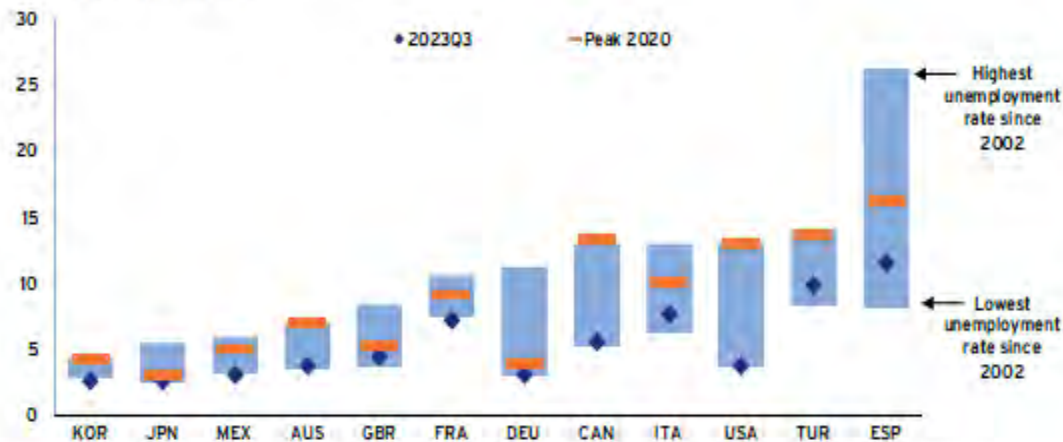


Source: Based on data from the IMF World Economic Outlook, October 2023.

And, **surprisingly**, little pressure on real wages

FIGURE 8 UNEMPLOYMENT RATES ARE LOW IN A HISTORICAL PERSPECTIVE

%, select G20 economies

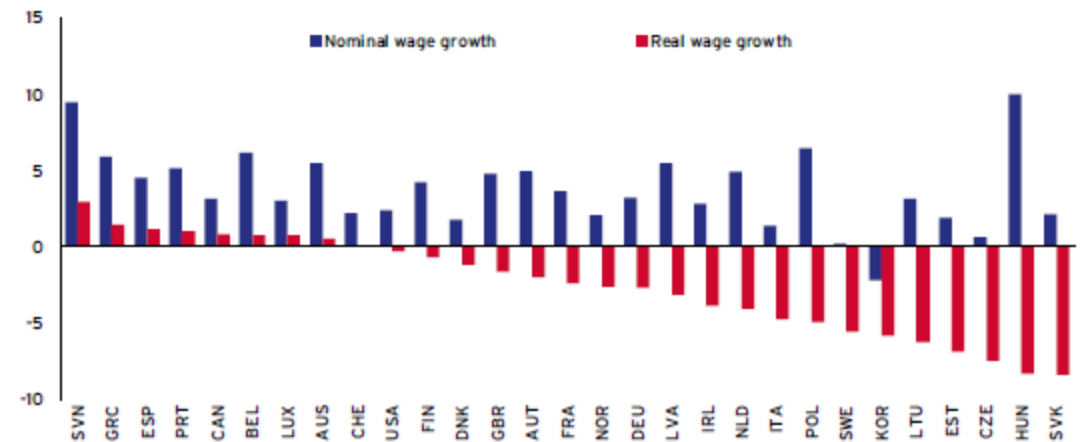


Note: The grey bars represent the range of highest and lowest rates of unemployment between 2002 and 2023Q2.

Source: OECD Labour Market Statistics; OECD calculations.

FIGURE 9 ANNUAL WAGE GROWTH COMPARED TO PRE-PANDEMIC AVERAGE

Percentage point change between average annual pre-pandemic wage growth rate (2015Q1 - 2019Q4) and 2023Q2 or latest available quarter



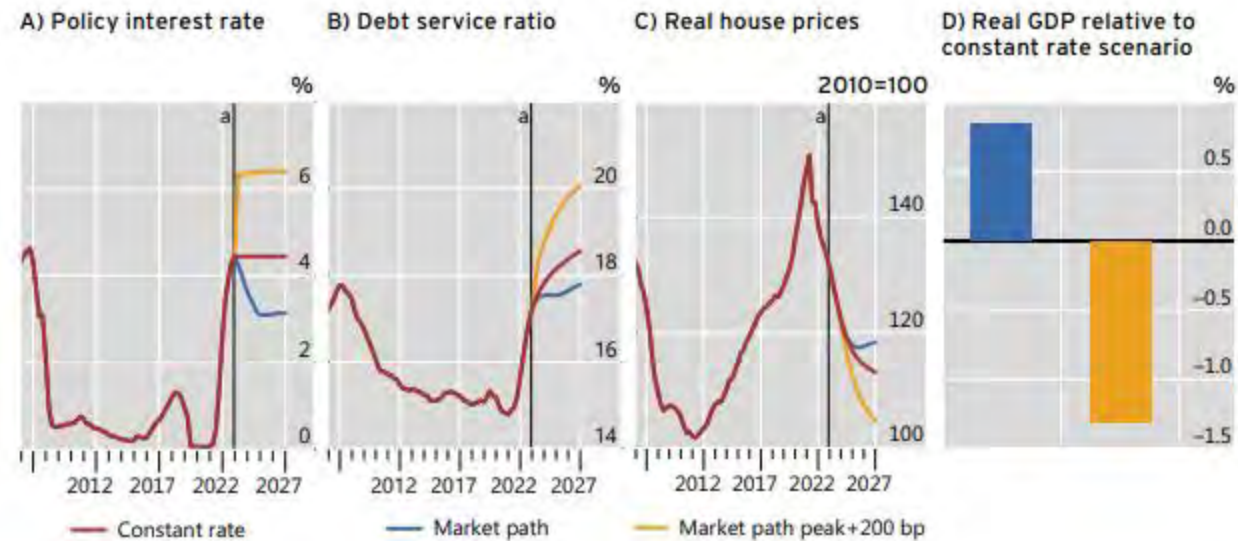
Note: Korea references 2022Q4 data.

Source: OECD Economic Outlook 114; OECD calculations.

Source: Castle and Lombardelli (2024), COVID-19 and post-pandemic challenges: High inflation and labour markets

But clear macro financial risks

FIGURE 4 POLICY RATE SCENARIOS: IMPACT ON DEBT SERVICE BURDENS, ASSET PRICES AND OUTPUT¹



Source: Borio (2024), Macro-financial challenges in the post-COVID world

Seven *lessons* for central bankers

1. Forecasting inflation is difficult, especially when *both* supply and demand move at the same time
2. Don't "look through supply shocks", rather set policy at *right* level
3. Interest rates are *the* tool to tighten policy – passive QT
4. Use *smart* forward guidance - and explain it
5. *Embrace* fiscal policy – the policy mix
6. Beware of *r vs g*, and political pressure
7. *Plan* for financial stability to better manage price stability.

Three parting thoughts

1. Are monetary policy frameworks robust to higher r^* ?
2. Do Flexible Average Inflation Targeting or π^* need an update?
3. Should the “last mile” be symmetric?

Source: Evans (2024), Implications for the Federal Reserve’s monetary policy framework in the future

Thank you

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