# Monetary Policy During the Inflation Scare

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Comments draw heavily on research with Jongrim Ha and Ayhan Kose at the World Bank. Views in this paper are those of the authors and do no represent those of any institutions with which they are affiliated

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### **Post-Pandemic Inflation Scare** *In Advanced Economies*



**CPI Inflation in Advanced Economies** 



Source: Data from IMF World Economic Forecast, April 2025.

### **Post-Pandemic Inflation Scare** *In Different Groups of Economies*



**CPI Inflation** 



Source: Data from IMF World Economic Forecast, April 2025.

## Large Shared Global Component In All Economies

Percent Variance of 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).

Source: English, Forbes and Ubide (2024). Monetary Policy Responses to the Post-Pandemic Inflation. CEPR e-book



### Role of Global Component Increasing Part of Longer-term Trend: Not Just the Pandemic

#### **Contributions of Shocks to Variation in Inflation** (mean in sample of advanced economies)



Role of global shocks>domestic shocks in 2020-24



**Source:** From Forbes, Ha and Kose (2024). "Rate Cycles", paper prepared for ECB Forum on Central Banking in Sintra, Portugal (July 2024).

## **My Comments**

# What lessons did we learn from the "Inflation Scare" for monetary policy?

- 1. The Strategy
- 2. Was it Successful?
- 3. Evaluating the Tradeoffs
- 4. Conclusions



# 1. The Strategy: Start Late...then Sprint



### **1. The Strategy: Start Late...then Sprint** *Late Liftoff Based on Inflation Developments*



Inflation at Liftoff

**Notes:** Headline and core CPI inflation rate in each country at the time of "liftoff," i.e., the first rate hike after the pandemic. **Source:** English, Forbes and Ubide (2024). *Monetary Policy Responses to the Post-Pandemic Inflation*. CEPR e-book



#### **1. The Strategy: Start Late...then Sprint** *Late Liftoff Based on Broader Macro Developments*



**Notes:** A higher value of the index indicates a slower start to the tightening phase based on the underlying macroeconomic variables. This index is calculated as the first principal component of four macroeconomic indicators that can influence the timing of the first rate hike: headline inflation, core inflation, the unemployment gap, and output gap. **Source:** Forbes, Ha and Kose (2025), "Tradeoffs over Rate Cycles: Activity, Inflation and the Price Level," *NBER Macroeconomics Annual* (April).

### 1. The Strategy: Start Late...then Sprint Followed by Unusually Aggressive Rate Hikes

Policy Interest Rates over Tightening Phases Median in Advanced Economies, Different Sub-periods



**Note:** Euro area members included individually before 1999 and the ECB from 1999. **Source**: Forbes, Ha and Kose (2024), "Rate Cycles". Paper for ECB Forum on Central Banking in Sintra, Portugal.

Aggressive by many measures:

- <u>Velocity</u>: rate hikes over 1<sup>st</sup> 6 months
- <u>Amplitude</u>: total magnitude of rate hikes
- <u>Pace</u>: Average rate hike per month
- <u>Holding period</u>: Number of months rates held at peak before easing



## **1. The Strategy: Start Late...then Sprint** *Combined with Quick Start to Balance Sheet Unwind*



Source: From Du, Forbes and Luzzetti (2024), "Quantitative Tightening Around the World: What Have We Learned?"



### **1. The Strategy: Start Late...then Sprint** *Some Impact of Balance Sheet Unwind*



#### Cumulative Effect of all QT Announcements on Government Bond Yields

**Notes:** Calculated as the sum of the estimated effects of each individual QT announcement by country. These aggregate effects only includes QT events that are new or additional QT (i.e., not *WindDown* events) and only include post-pandemic QT annoucements, except for the US annoucements from 2014-2017, which are included as US-QT-1. **Source:** Replicated from Du, Forbes and Luzzetti (2024).



#### **1. The Strategy: Start Late...then Sprint** *But Rate Hikes the Main Tool*







**Source:** Replicated based on results in Du, Forbes and Luzzetti (2024), "Quantitative Easing Around the World: What Have We Learned?"

# 2. Was it Successful?



# 2. Was it Successful? Sharp Inflation Reduction + Low Sacrifice Ratio



**Notes:** Median policy interest rates in advanced economies with t=0 the start of the tightening phase.

Sacrifice Ratios during Tightening Phases



(Ratio of acumulated negative output gaps to inflation reduction)

**Notes:** Ratio is the accumulated negative output gap relative to the reduction in CPI inflation (or PCE for the US) from the first rate hike of each tightening phase through 12 months after the phase ends. Chart shows the median ratio over each time period for 24 advanced economies.

## 2. Was it Successful? Closer Look at US

Sacrifice Ratios during US Tightening Phases

Accumulated negative output gaps to inflation reduction



### 2. Was it Successful? Sacrifice Ratio Components in US

#### **US Experience Relative to Historical Tightening Phases**





#### 2. Was it Successful? Sacrifice Ratio Components: Across Countries & Time





## 2. Was it Successful? An Overlooked Cost: The Price Level





## 2. Was it Successful? Unusual Form of Adjustment Post-Pandemic

#### **Price-Output Tradeoff Ratios during Tightening Phases**

(Ratio of Excess Price Level Change to ANOG)



**Notes:** The Price-Output Tradeoff Ratio is calculated as the ratio of the Excess Price Level Change (relative to that which would occur if inflation was 2%) to the Accumulated Negative Output Gap (ANOG) over each tightening phase. Output gaps are based on the HP filter. The headline and core price indices are based on the monthly CPI indices for all economies except the US (which is based on the PCE indices).



# 3. Evaluating the Tradeoffs



# **3. Evaluating the Tradeoffs** *Role of Monetary Policy Strategy*

#### 1. Delayed Start...

- <u>Benefits</u>: more time to assess outlook & ensure recovery
  Avoids breaking past policy commitments (guidance/asset purchases)
- <u>Costs</u>: Contributed significantly to inflation and price level overshoot
  Required more aggressive rate hikes to counter larger inflation overshoot

#### 2. Aggressive rate hikes...

- <u>Benefits</u>: significantly faster inflation reduction Reinforced central bank commitment to disinflation
- <u>Costs</u>: Potentially much larger output losses
  Increased risks that "something breaks"

#### 3. Central bank credibility/ inflation anchoring

- <u>Benefits</u>: Lower sacrifice ratios
  Smaller output losses
  Smaller increases in the price level
- <u>Costs</u>: ??

# **3. Evaluating the Tradeoffs** *Explaining Tradeoffs across Countries and Time*

#### What drives these "Tradeoffs" over time and across countries?

- For Sacrifice Ratio (and components) and Accumulated Price Level Change (vs 2%)

#### $Tradeoff_{cp} = \alpha + \beta * CB\_Strategy_{cp} + \delta * Country\_Characs_{cp} + \gamma * OilShocks_{cp} + \varepsilon_{cp}$

#### Focus: Central Bank Strategy

- Timing of first rate hike: relative to evolution of macroeconomic variables
- **Aggressiveness of rate hikes**: first principal component based on 5 characteristics of rate cycles (from above)
  - # rate hikes, pace, total amplitude, initial velocity, use of "supersized" hikes

#### Other control variables:

- <u>Country Characteristics (from prior literature explaining traditional Sacrifice Ratio)</u>: central bank credibility, trade and financial openness, exchange rate regime, labor market flexibility
- <u>Shocks:</u> focus on global oil shocks (normalized in terms of total variance); many others
- **Details:** Data for 1970-2024 for 23 countries (include individual EA members)
  - Standard errors clustered by country and over the five long periods
  - Results supported by simulations with FRB/US model



#### **3. Evaluating the Tradeoffs** *Back-of Envelope Calculations: Role of Different Strategies*

#### 10 0.8 0.4 5 0 Ω -0.4 -0.8 \_5 Sacrifice Ratio ANOG Inflation Reduction Price Level Increase (>2%) Delayed start (vs. pre-2019 timing) Central Bank Credibility (vs. 1972) 2022 Actual Aggressive path (vs 2015 path)

#### **Impact of Different Strategies for US**

**Notes:** Graphs shows estimate impact of changing one variable based on coefficient estimates from baseline regression and assuming no other changes. **Source**: Forbes, Ha and Kose (2025), "Tradeoffs over Rate Cycles: Activity, Inflation and the Price Level," *NBER Macroeconomics Annual* (April).

## **3. Evaluating the Tradeoffs** *Risks from Post-Pandemic Strategy*

#### 1. Changes in wage-price setting process

- Non-linear effects of price shocks: larger shocks cause more frequent price adjustments
- Khalil and Lewis 2024, Alvarez et al 2024, Burns et al 2021, Beaudry et al 2024

#### 2. Weaker inflation anchoring/CB credibility

- Greater attentiveness to inflation; prices changes more salient
- Coibion and Gorodnichenko (2025)

#### 3. Impact on real wages/ consumer sentiment

- Households believe inflation diminishes purchasing power and is "unfair"
- Coibion et al 2023, Stantcheva 2024, Binetti et al 2024; Cournede & Moccero 2009, Honkapohja & Mita 2020

#### 4. Consumer sentiment/politics

- Elevated inflation→ voting gains for anti-system & populist parties
- Federle, Mohr and Schularick (2024)





### **3. Evaluating the Tradeoffs** *Impact on US <u>Real</u> Wages*



Source: Forbes, Ha and Kose (2025), "Tradeoffs over Rate Cycles: Activity, Inflation and the Price Level," NBER Macroeconomics Annual (April).



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## **3. Evaluating the Tradeoffs** *Impact on <u>Real</u> Wages in UK and Germany*



Source: Forbes, Ha and Kose (2025), "Tradeoffs over Rate Cycles: Activity, Inflation and the Price Level," NBER Macroeconomics Annual (April).

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# 4. Conclusions



# **Final Thoughts**

- Post-pandemic disinflation successful by many metrics....
  - Large disinflation
  - Small output losses/unemployment increases
- But also important costs...
  - Large increase in price level & decline in real wages (household satisfaction/politics)
  - Changes in wage & price setting process
  - Potential weaker anchoring of inflation expectations
- Response to the next inflation shock should be different
  - Consider extent and duration of deviations in inflation i.e., impact on price level
  - Act preemptively (if possible) to avoid "sprinting" / aggressive tightening
  - Protect the anchoring of inflation expectations
  - **Overall: consider a more balanced adjustment (**not entirely through prices)
- Lessons timely in world of more frequent and larger global & supply shocks
  - Particularly in world with weaker anchoring of inflation expectations



#### What's Next????



**Notes:** Graph shows annual CPI inflation in the United States starting in 1970 (in black) or in 2018 (in red). **Source:** Data from FRED.

