How Will the Pandemic and the War Shape Future Monetary Policy?

AUGUST 26, 2022

Presentation at Jackson Hole Conference

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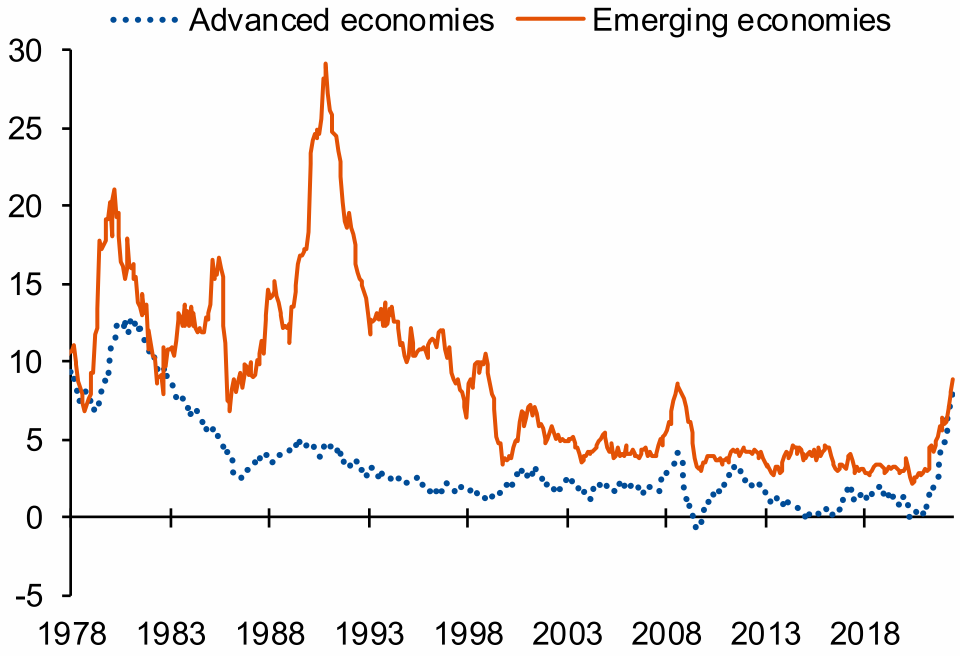
How will the pandemic and the war in Ukraine shape future monetary policy?

Headline inflation
(Percent, year-on-year)



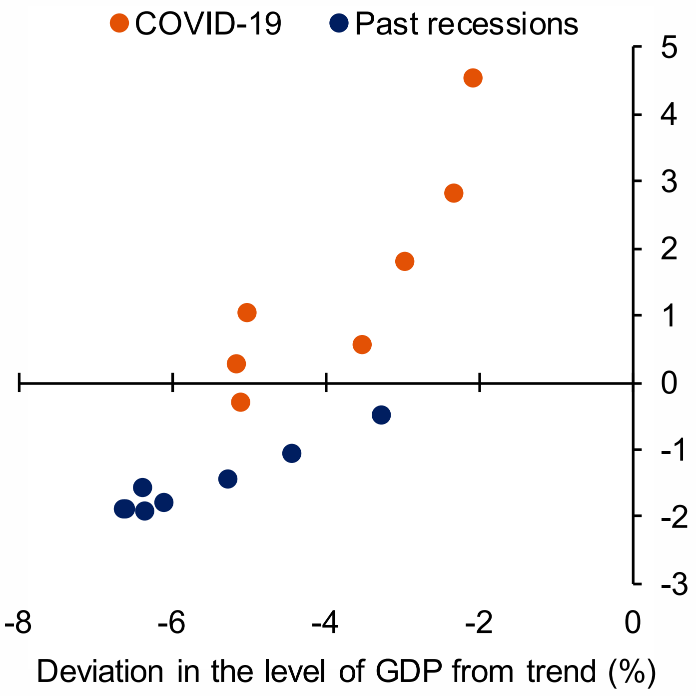
Sources: Haver, OECD, and IMF staff calculations.
Note: Median of year-on-year headline inflation rates across AEs and EMs.

- Even if no structural change:
  - What lessons for future monetary policy strategy?
- Pandemic/war may induce structural change:
  - Aggregate supply shifts that significantly affect monetary policy tradeoffs?
  - Persistent effects on r*, or on transmission of policy to aggregate demand?

Existing models cannot explain the inflation surge

Flat Phillips curve does not fit well post-COVID

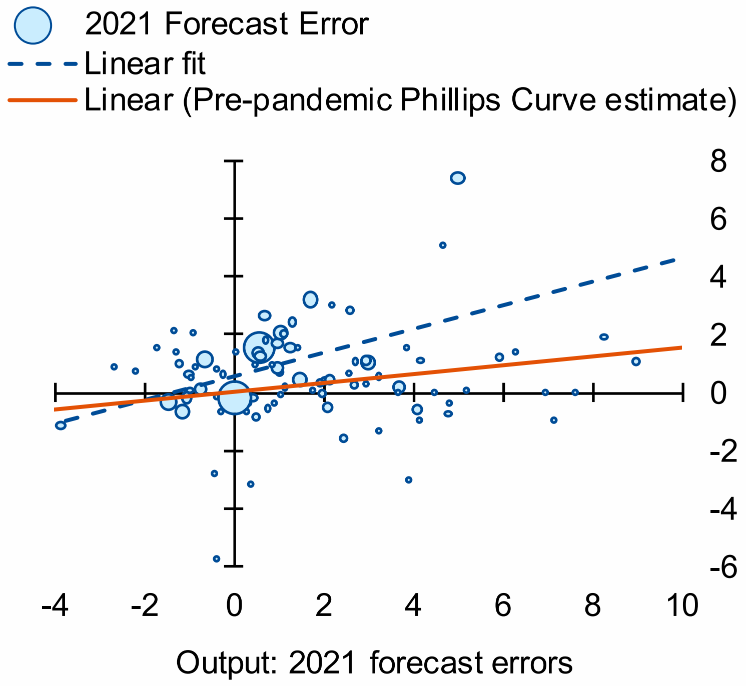
Core inflation and GDP: trend deviation
(Percent, quarter-on-quarter, annual rate)



Sources: Gudmundsson and others (forthcoming), Haver, IMF staff estimates.

IMF forecasts underpredicted core inflation

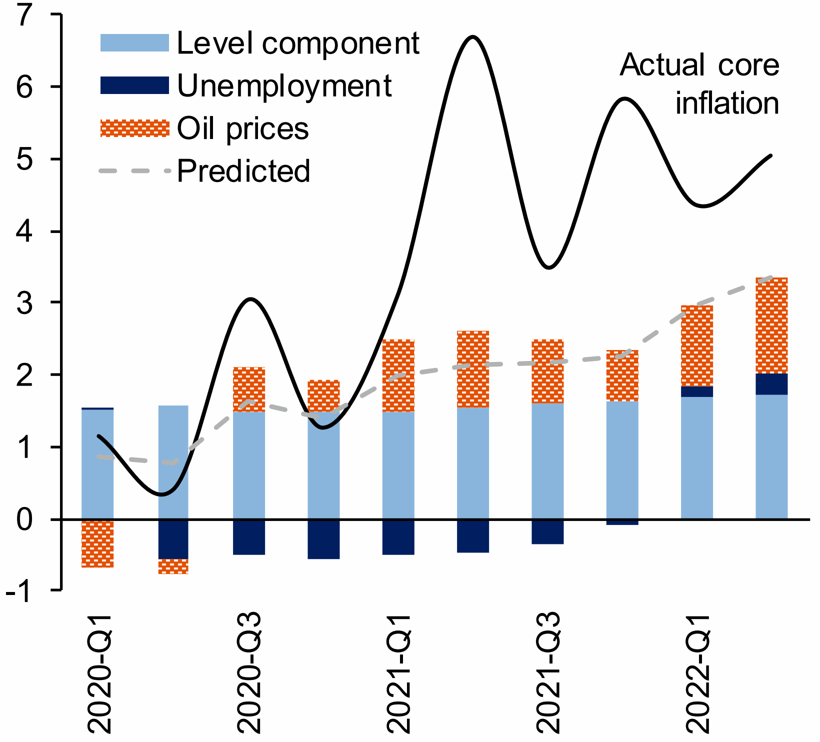
Core inflation: 2021 forecast errors
(Percent)



Sources: IMF WEO, IMF staff calculations.
Note: Size of bubble indicates purchasing-power-parity GDP. Forecast errors relative to January 2021 WEO projections.

Unemployment gap only accounts for small part of rise in US core inflation

US core inflation: out-of-sample forecasts
(Percent, quarterly average, annual rate)

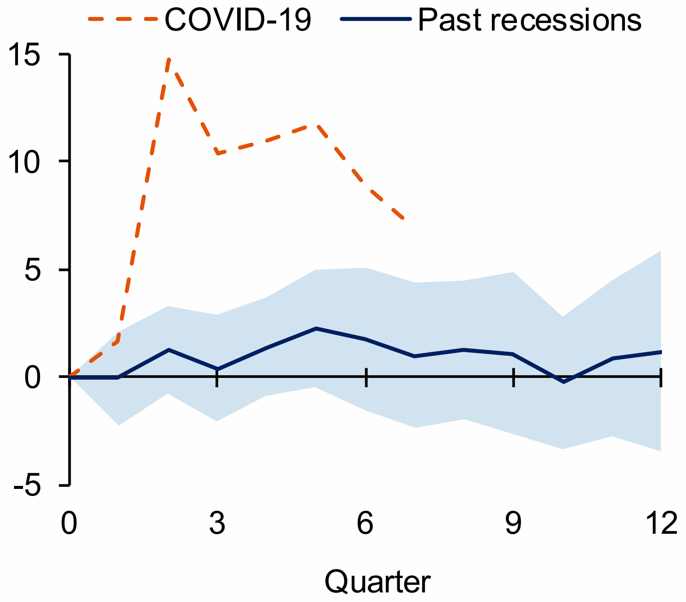


Source: IMF staff estimates based on model of Hooper, Mishkin, and Sufi (2020).

What factors have driven the inflation surge?

Massive global stimulus

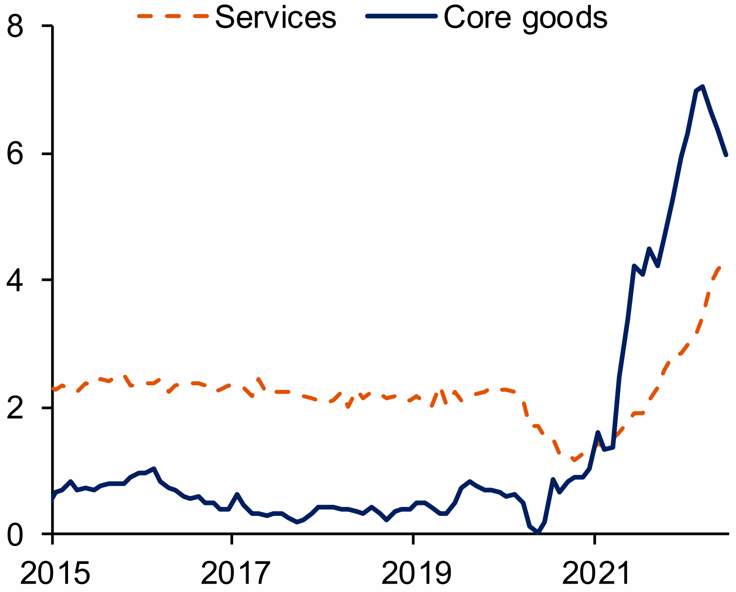
Primary government expenditure
(Percent, Level change vs. trend)



Sources: Gudmundsson and others (forthcoming), Haver, OECD, and IMF staff estimates.
Note: Average response using local projections estimated on advanced economies since 1990. Shaded area represents 90% confidence interval.

Spending tilted to goods

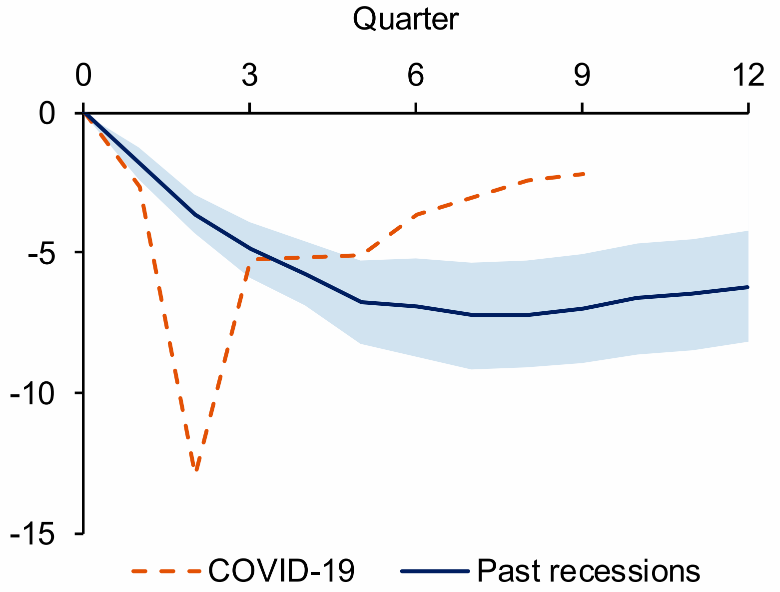
Core inflation
(Percent, year-on-year)



Sources: Haver and IMF staff estimates.
Note: Aggregated across advanced economies and emerging markets using purchasing-power-parity weights.

Speed effects & non-linearities

Gross domestic product
(Percent, Level change vs. trend)



Sources: Gudmundsson and others (forthcoming), Haver, OECD, and IMF staff estimates.
Note: Average response using local projections estimated on advanced economies since 1990. Shaded area represents 90% confidence interval.

- Alongside a contraction in potential output and employment

What lessons for future monetary policy strategy?

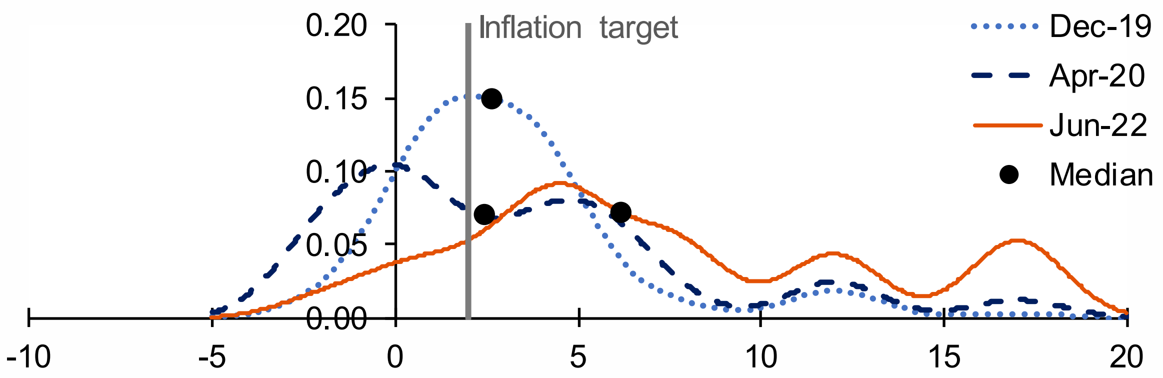
- "Running the economy hot" entails significant risks
  - Mismeasurement of employment gap a serious risk, especially with Phillips curve nonlinearities (Orphanides, 2002; Hooper, Mishkin, and Sufi, 2020)
  - More likely to get overheating in key sectors
  - Speed effects may intensify pressures

- Need to refine when to "look through" temporary supply shocks
  - Size of shocks/initial conditions matter (e.g., react more in hot economy)

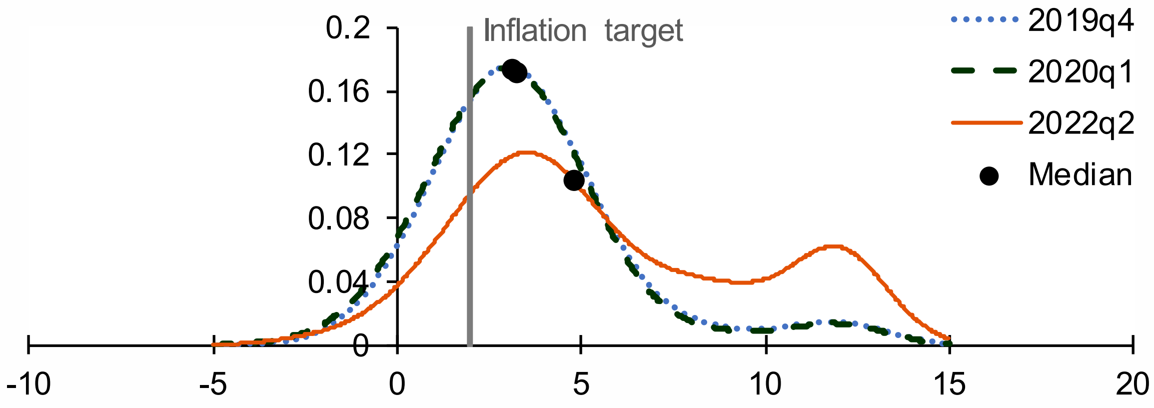
Will the pandemic induce persistent structural shifts?

- Key supply-side risk: high inflation causes de-anchoring of inflation expectations
- Estimates from options suggest elevated risk that inflation may run persistently high
- Also, household expectations have shifted
- Would worsen policy tradeoffs

US: 1-year household inflation expectations



UK: 1-year household inflation expectations



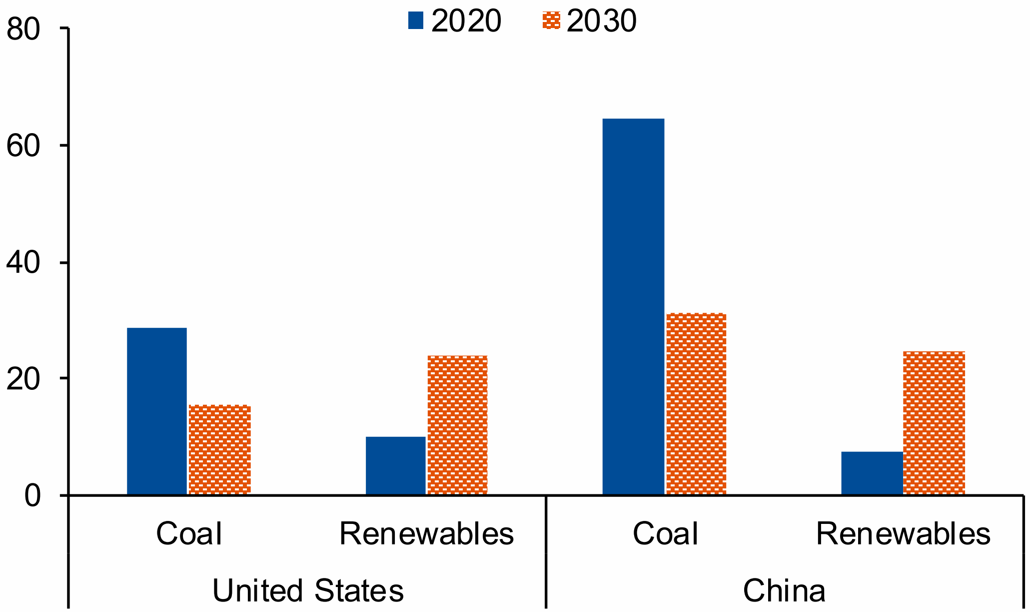
Source: Gelos and others (forthcoming).
Note: The charts fit kernel densities to households' inflation forecasts, using methodology similar to Reis (2021).

Other key risks to aggregate supply in medium-term

- Post-pandemic labor supply more uncertain (Duval and others, 2022; Faberman, Mueller, and Sahin,2022)
- Disorderly climate transition: need to support renewables
- Disorderly global supply chain restructuring: need to support diversified trade

Need big shift toward renewables

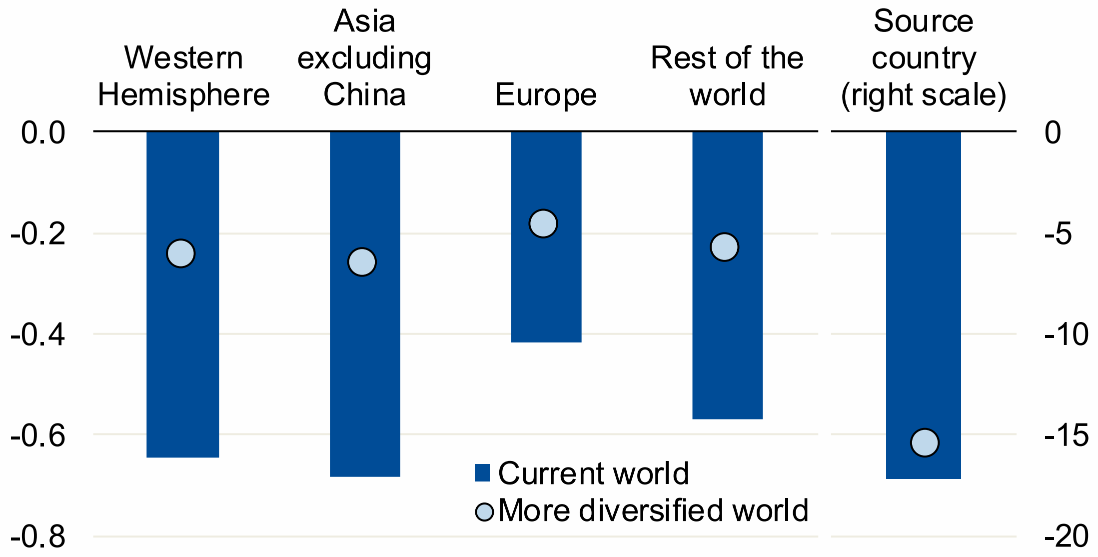
Share in electricity generation
(Percent)



Source: IMF WEO (October 2020), Chapter 3.
Note: 'Renewables' only include wind and solar energy and exclude hydroelectric.

Greater diversification reduces GDP losses following a supply disruption

GDP losses following a supply disruption in a large supplier country
(Percent)



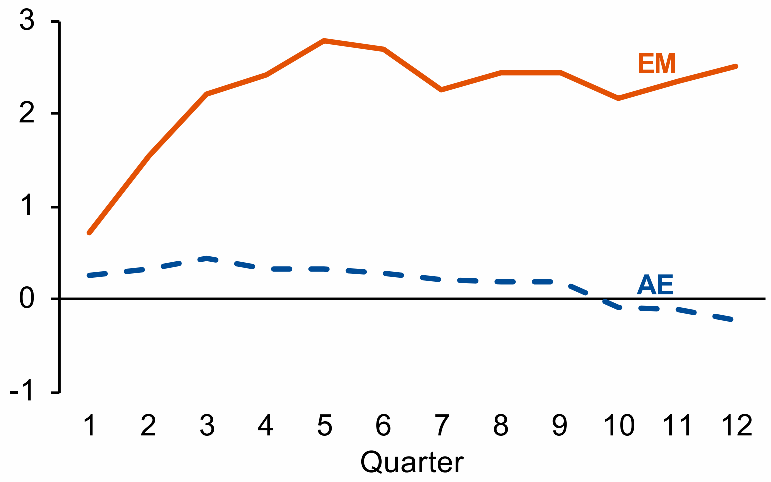
Source: IMF WEO (April 2022), Chapter 4.

Risks more acute for emerging markets (EMs)

- Tradeoffs worse: pass-through of commodity price and exchange rate changes higher
- De-anchoring of inflation expectations a bigger risk
  - Central bank independence less secure

Exchange rate shocks have a larger effect on price levels in EMs

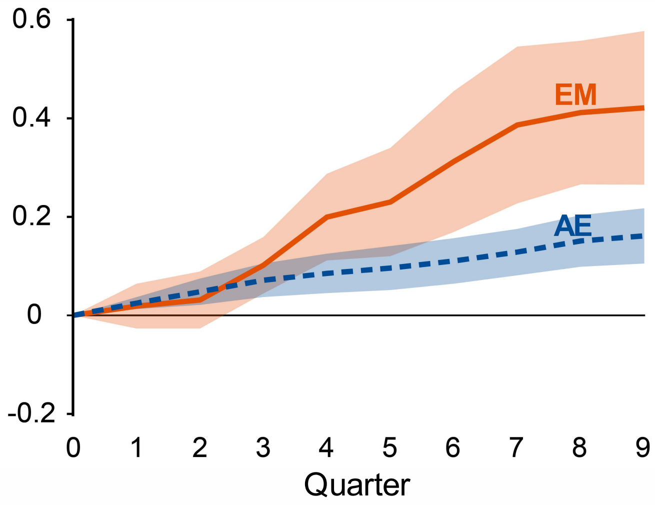
CPI responses to an exchange rate shock
(Percent)



Source: Brandao-Marques, Gornicka, and Kamber (forthcoming).

Oil price shocks have a larger effect on price levels in EMs

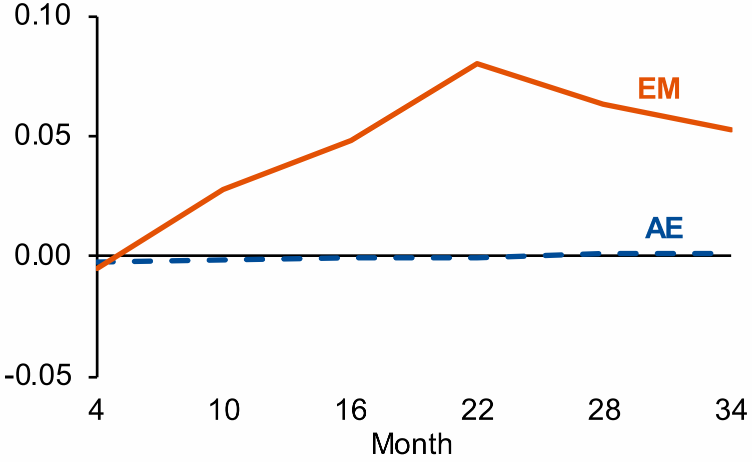
Core CPI responses to an oil price shock
(Percent)



Source: Baba and Lee (forthcoming).
Note: Sample covers European EMs and AEs.

Debt surprises in EMs boost inflation expectations, not in AEs

Impact of debt surprises on 3-year-ahead inflation expectations
(Percent, quarter-on-quarter, annual rate)



Sources: Brandao-Marques and others (forthcoming), Consensus Forecasts, IMF WEO, IMF staff calculations.

Potential shifts in r*

- Some factors point to r* staying low, but high uncertainty

Key factors driving r*	Pre-pandemic trends (Impact on r*)	Post-COVID outlook	Likely net effect on r*, relative to trend
Inequality	Increasing inequality (-)	Despite pandemic support programs, wealth inequality higher	Negative
Demographics	Aging societies (-)	No trend change	No effect
Labor supply	Declining labor force (-)	Adverse effect on level of labor supply but unclear on growth	Unclear
Productivity	Declining TFP growth (-)	Pandemic-driven technological advances, but also increase in monopoly power	Unclear
Savings and safe assets demand	Higher savings rates and preference shift to safe assets (-)	Higher uncertainty may increase precautionary savings and demand for safe assets	Negative
Debt	Rise in AE public debt (+)	Pandemic-induced increase in debt	Positive
Climate transition	High investment needs have been mostly postponed (.)	Increased urgency (unrelated to COVID-19)	Positive

Summary: Lessons, future risks, and what central banks must do today

- **Lessons:** Pandemic and war raise new challenges for central banks
  - Risk management must take more account of upside inflation risks
  - Should refine strategies of "running the economy hot" and "looking through" temporary supply shocks
  - Need better models of aggregate supply

- **Regime shifts:** Relative to pre-pandemic, monetary policy tradeoffs could get worse given risks of inflation expectations de-anchoring, and supply shocks playing a bigger role

- **Policies:** Central banks must act decisively to ensure inflation expectations are anchored

- Other policies:
  - Near-term fiscal support should be targeted and not provide macro-stimulus
  - Urgently push ahead on climate agenda and support growth in diversified global trade