Panel Discussion on

Monetary Policy in the Polycrisis New Normal

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Challenges for monetary policy in the post-pandemic environment

- Main questions
  - Has the inflation surge affected price and wage setting behavior?
  - What implications for monetary policy (MP) from post-pandemic structural developments?

- Focus here on
  - Key element of wage and price setting: inflation expectations
  - Implications for MP of structural developments
    - Larger role of supply side factors --> energy transition, geopolitical tensions
    - Steeper Phillips curve --> population ageing, reduced labor bargaining power
    - Higher r* --> age-related fiscal pressures, investment in green transition and defense

- Results based on De Fiore, Mojon, Rees, and Sandri (2023)
Response of inflation expectations to the inflation surge
Highly synchronized inflation surge across countries

- Black line: quarter when inflation rises above 2%
- Highly synchronised inflation surge
- Lift-off well beyond the initial rise in inflation in all countries
Stable medium- and long-term inflation expectations with some upward movement

- Expectations from Survey of Professional Forecasters

- 1-yr ahead inflation expectations followed closely realized inflation

- 3- and 5 yr ahead expectations remained more stable...

- ... but rose more noticeably in EA and JP
Inflation expectations remained well-anchored during the inflation surge

- Estimates of $\beta$ over the period since inflation exceeds 2% are positive but small
- Mild evidence of stronger de-anchoring in the EA

Regression: $\pi_t^E = \alpha + \beta \pi_t + \epsilon_t$
Recent changes in monetary policy frameworks did not compromise the anchoring

- Did the shift towards more accommodative MP frameworks in 2021 contributed to the de-anchoring?

- Estimates of over 2003Q1-2023Q2

- Some evidence of improved anchoring in EA after framework review

Regression: \[ \pi_t^E = \alpha + (\beta + \gamma \times T_{MPF}) \pi_t + \delta T_{MPF} + \epsilon_t \]
Implications of post-pandemic structural developments for MP
Model-based scenarios

- DSGE model similar to the one of the NY Fed (Del Negro et al., 2023)
- Estimation for the US over the period 1984Q1-2019Q4
- Back up the shocks for post-Covid period 2020Q1 to 2023Q3, using observables
- Run stochastic simulations under
  - post-Covid shocks
  - steeper Phillips curve
  - higher r*
- MP rules:
  - Average inflation targeting (AIT) vs inflation targeting (IT)
  - Simple rules with persistence $\rho_R$ and reaction coefficients $\phi_\pi$ and $\phi_{gap}$
- Welfare measured with loss function: $L = (\pi - \pi^*)^2 + (y - y^*)^2 + 0.5(R - R^*)^2$
1. Implications for monetary policy from higher incidence of supply shocks

- Under IT, a higher incidence of supply shocks:
  - Implies more severe trade-offs for MP, hence higher welfare losses
  - Calls for less aggressive response to inflation and output gap
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- Under AIT, similar considerations apply but
  - need for more aggressive response to output gap if aggressive response to inflation
  - guardrail against excessive output volatility

Welfare losses under AIT framework
2. Implications for monetary policy from a steeper Phillips Curve

- Under IT, a steeper Phillips curve:
  - Implies improved MP ability to control inflation, hence lower welfare losses
  - Calls for more aggressive response to inflation and output gap

- Under AIT, similar considerations apply
  - However, less need for aggressive response to output gap
  - This is because MP can control inflation without inducing as much output volatility

Welfare losses under IT framework
3. Implications for monetary policy from higher r*

- Welfare comparison of AIT vs IT: negative numbers --> AIT reduces losses relative to IT
- Under low r*, AIT reduces ELB incidence and volatility of inflation, output, and interest rates, irrespective of the PC slope and prevalence of supply shocks
- As r* rises and supply shocks become more frequent: output gains from AIT decline and then reverse

### Relative benefits of AIT vs IT

<table>
<thead>
<tr>
<th>r*</th>
<th>Phillips Curve</th>
<th>Shocks</th>
<th>ELB frequency</th>
<th>Volatility of</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Inflation</td>
</tr>
<tr>
<td>0.5%</td>
<td>Flat</td>
<td>Pre-Covid</td>
<td>-5.0</td>
<td>-0.5</td>
</tr>
<tr>
<td>0.5%</td>
<td>Flat</td>
<td>Post-Covid</td>
<td>-4.6</td>
<td>-0.4</td>
</tr>
<tr>
<td>0.5%</td>
<td>Steep</td>
<td>Post-Covid</td>
<td>-4.5</td>
<td>-0.3</td>
</tr>
<tr>
<td>1%</td>
<td>Steep</td>
<td>Post-Covid</td>
<td>-3.8</td>
<td>-0.1</td>
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<tr>
<td>1.5%</td>
<td>Steep</td>
<td>Post-Covid</td>
<td>-2.0</td>
<td>-0.1</td>
</tr>
<tr>
<td>2%</td>
<td>Steep</td>
<td>Post-Covid</td>
<td>-0.7</td>
<td>-0.1</td>
</tr>
</tbody>
</table>
Conclusions

- Inflation expectations remained strongly anchored despite the unprecedented inflation surge
- Higher incidence of supply shocks increases trade-offs and calls for less aggressive MP response
  - Under AIT, output response is key to guard against excessive output volatility
- A steeper Phillips Curve would partly restore MP effectiveness
- A higher $r^*$ would reduce the stabilization advantages of AIT vs IT
  - For sufficiently high $r^*$, IT would improve upon AIT in terms of output stabilization