Policymakers Communication

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Banque de France & CEPR

Central bank communication conference, Reserve Bank of Australia
October 14-15, 2024

Heard at the RBA conference

- Michael M: Narrative extraction
- Bruce: Narrative consistency
- Jill: Public, CBs know what is happening and know what to do about it.
- Jens: Riksbank several scenarios for inflation and for policy rates
- Michael E: Humble central banker
- Luba: Competence for trust, bragging central banker
- Oli: When my information changes, I alter my conclusions, what do you do Sir?

Context

- Central banks use narratives to explain decisions.
  - Narratives describe the current state and future outlook.
  - They focus on the most likely scenario and surrounding uncertainties.
- Successful narratives are consistent but may require revisions.
- How should policy respond?
  - CBs may weigh confidence and uncertainty before acting on a new narrative.
  - CBs choose how much confidence & uncertainty to communicate publicly.

Context

- CBs weigh confidence and uncertainty before acting on a new narrative.

  "We concluded that the challenges facing monetary policy are changing. We have become increasingly confident that the inflation dynamics of the past decade are unlikely to return." Lagarde, March' 22

  "As the magnitude and persistence of the increase in inflation became increasingly clear over the second half of last year, [...] the FOMC pivoted to progressively less accommodative monetary policy." Powell, March' 22

  "The Board needs to be confident that inflation is moving sustainably toward the target before any decision about reduction in interest rates." Bullock, September '24

Central Bank Communication of Uncertainty

Pietro Fadda, Rayane Hanifi, Klodiana Istrefi and Adrian Penalver

- **Two questions**
  - How do CBs express confidence and uncertainty in policy deliberations?
  - How does this communication relates to monetary policy decisions?
- **We quantify policymakers' sentiments of Confirmation and Surprise**
  - Confirmation reflects continuity in the central scenario.
  - Surprise expresses unexpected developments or increased risks.
- **Why it matters?**
  - Surprise and Confirmation can signal economic and policy (in)stability
    $\Rightarrow$ shaping market beliefs about future policy, uncertainty, & CBs credibility.

This paper

- **Novel measures of policymaker's Confirmation and Surprise**
  - Minutes of the Fed, BoE & ECB.
  - Based on our own collection of terms (dictionaries) from Minutes.
    → *Confirmation*: As expected, In line with, Remain, Continue, ...
    → *Surprise*: Than expected, Surprise, Uncertain, Risk, ...

- **Confirmation and Surprise similar properties across CBs**
  - More Confirmation than Surprise, both mostly forward looking.
  - Surprise to Confirmation tends to increase during recessions.
  - Inflation and Economy main topics, their contribution varies over time.

- **Confirmation and Surprise are informative of policy stance**
  - Higher Surprise associated with higher odds of inaction or easier policy.
  - Confirming trends rather higher odds of tighter policy.
  - Important what is the tone/topic of Surprise or Confirmation.

Data, Dictionary, Measures
Communication through Minutes

Central Bank Minutes

- Minutes for the Fed & BoE; the Monetary Policy Accounts for the ECB.
  - Similar in concept, differences in content (dissents) & publication lag.
    → Fed & ECB: staff or member's presentations & **member's deliberation**
    → BoE only **MPC member's views**
  - Our focus: **Policymakers' deliberation**

CBs	Meetings (per year)	Publication lag (in weeks)	Published votes	Number obs.	Period
Fed	8	3	yes	242	1993-2023
BoE	12	0 (since 2015)	yes	277	1998-2023
ECB	8	4	no	67	2015-2023

- Closely watched by media and market participants.
  S&P closes higher after Fed minutes confirm inflation focus. Reuters, Jan'23.
  Uncertainty Prevails Over Future Course of Interest Rates. USNews, May'23.

Dictionaries/Measures of Confirmation and Surprise

- A dictionary approach
  $\rightarrow$ practical, transparent, leveraging on expert knowledge to identify terms.

  Steps

  1. Read, collect & classify quotes in Minutes as Confirmation or Surprise
  2. Identify keywords within these quotes
  3. Build *Expert-curated dictionary* of Confirmation and Surprise
  4. Expand using synonyms, conditional, ... (*ML-enhanced dictionary*)
  5. Count Confirmation & Surprise's keyword occurrences.

$$Sentiment_{i,t} = \frac{\sum x_{i,t}}{N_t}$$

with $x_{i,t}$ being the count of keywords in dictionary $i = [confirmation, surprise]$ in Minutes of meeting t and N_t being the total of words in the Deliberation part.

Examples of quotes

ECB, 23/01/2020: In discussing recent inflation developments, members were encouraged by the fact that headline and underlying inflation had recently evolved in line with the December staff projections.

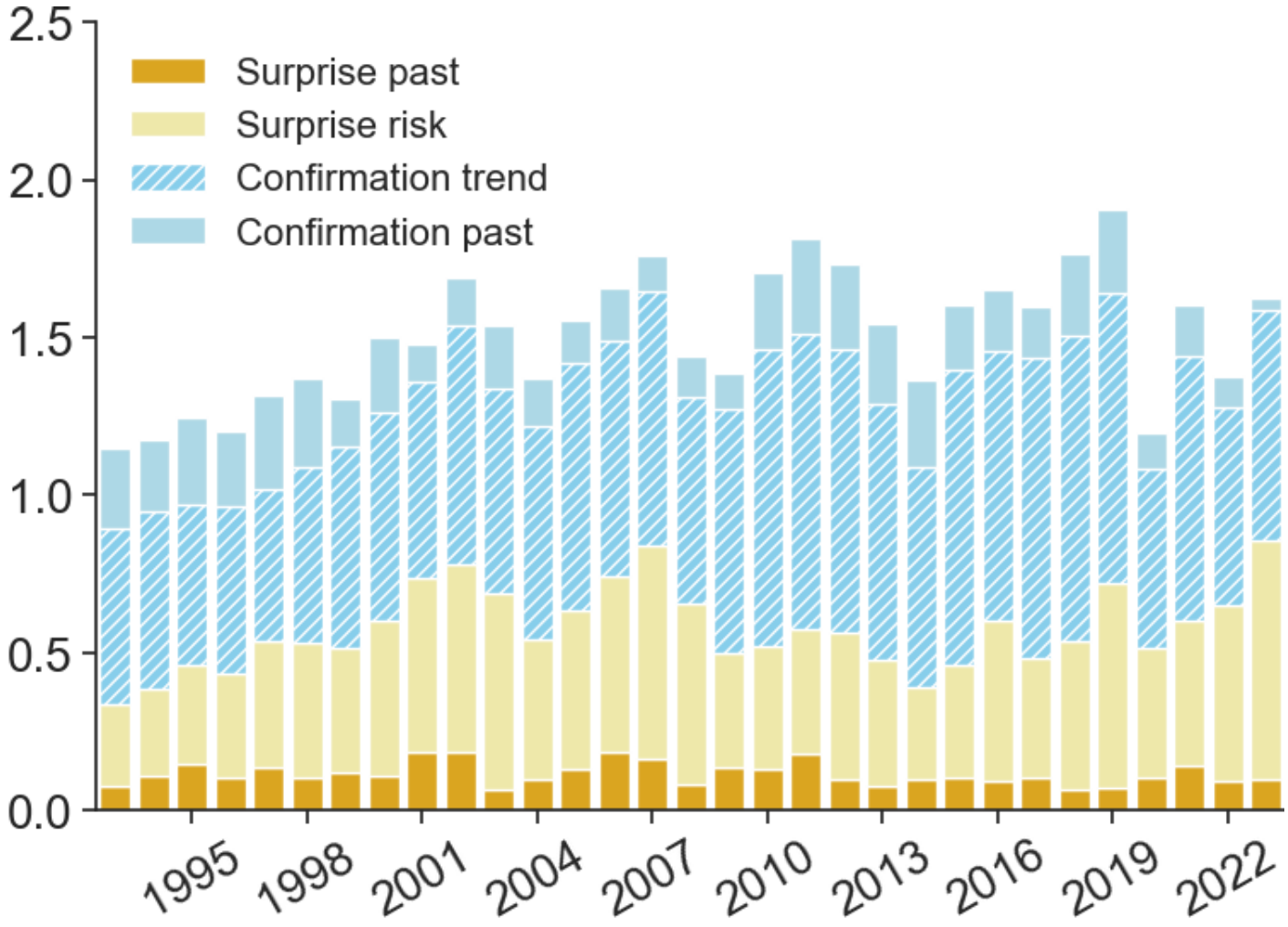
Fed, 29/01/2020: Participants acknowledged the staff report suggesting that overall financial vulnerabilities remained moderate and that the financial system remained resilient.

Fed, 29/01/2020: The threat of the coronavirus, in addition to its human toll, had emerged as a new risk to the global growth outlook, which participants agreed warranted close watching.

Expert-curated dictionary of Confirmation and Surprise

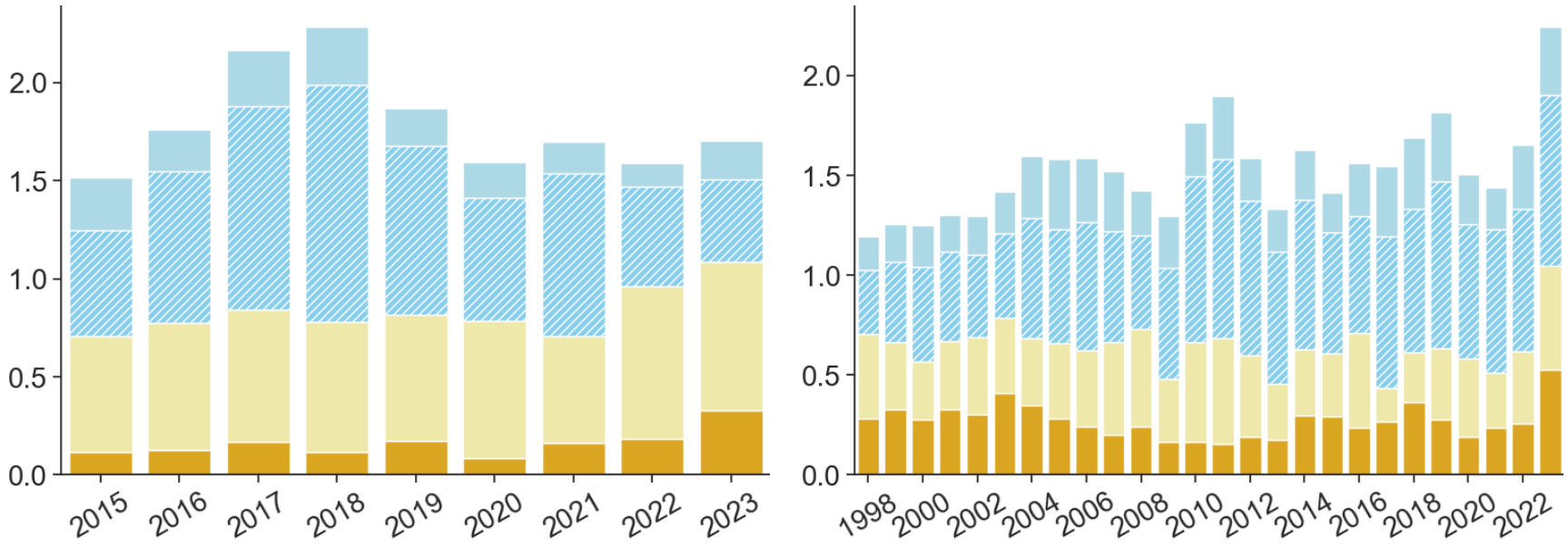
Confirmation	
Confirmation about past expectations	*Confirmation of an on-going trend*
"As [...] expected"; "In line with"; "Unchanged"; "Little changed"; "Changed little"; "Consistent with"	"Remain"; "Continue"
Surprise	
Surprise about past expectations	*Surprise: other*
"Than [...] expected"; "Than [...] envisaged"; "Than [...] anticipated"; "Than [...] thought"; "Than at the previous meeting"; "Less likely"; "In contrast to expected"; "Surprise"; "Forecast/outlook/growth/inflation [...] revised"	"Shock"; "Uncertain"; "Risk"

Confirmation and Surprise measures: Fed



Note: These shares represent the count of keywords in respective dictionaries weighted for the total words in the Deliberation part (as moving average of eight meetings).

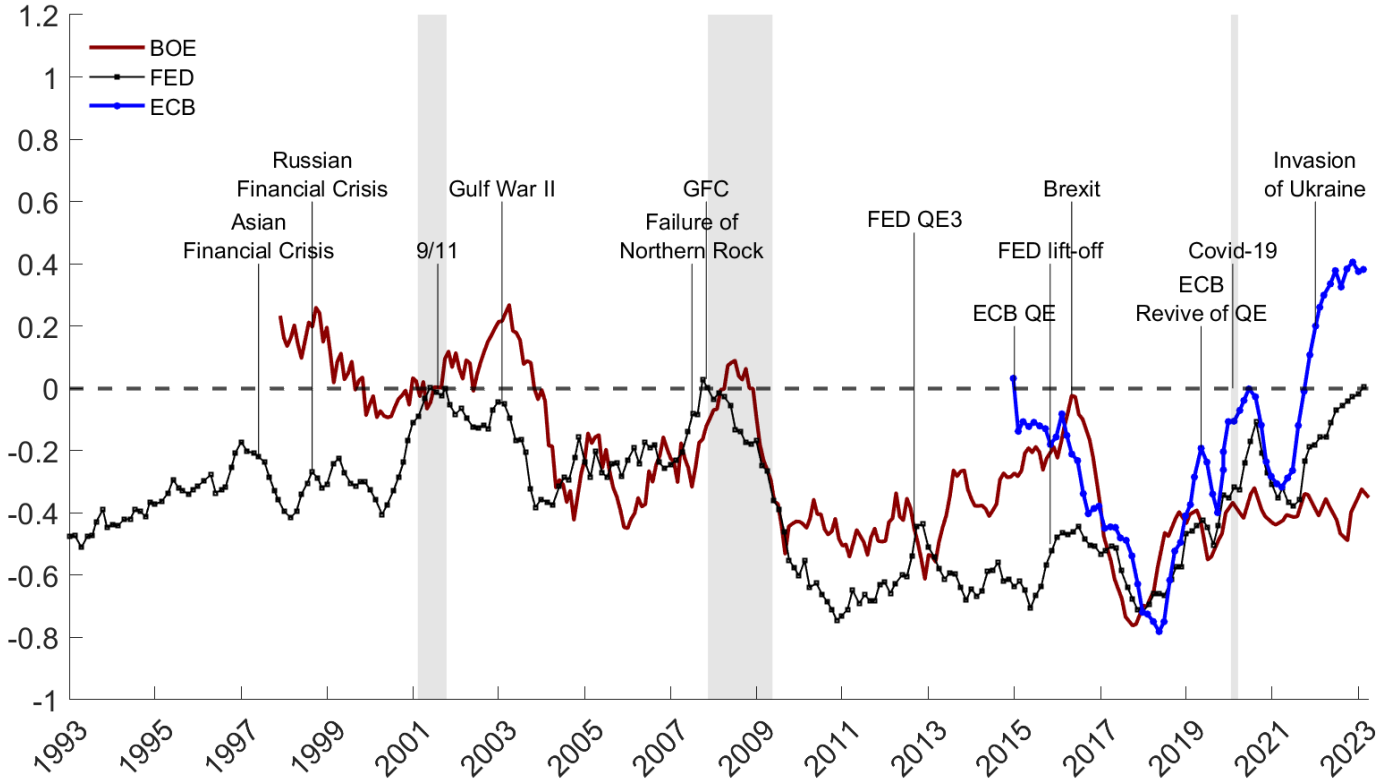
Confirmation and Surprise measures: ECB and BoE



(a) ECB (b) BoE

Note: These shares represent the count of keywords in respective dictionaries weighted for the total words in the Deliberation part (as moving average of eight meetings).

Net Surprise Sentiment in Minutes



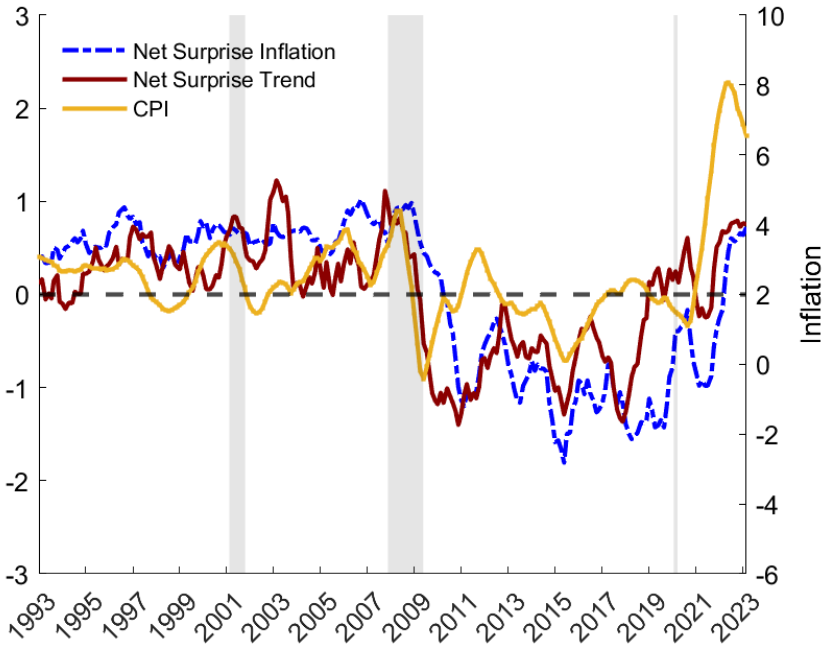
Note: Surprise risk minus Confirmation trends measure (as moving average of eight meetings).

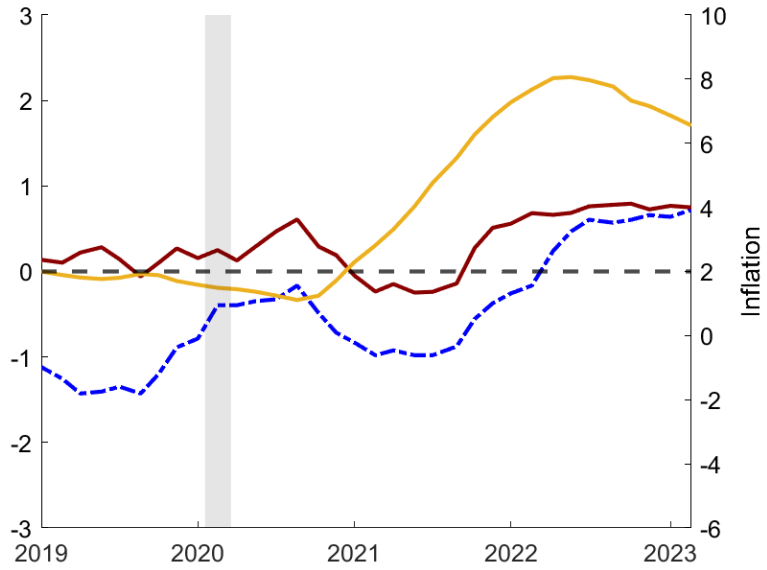
- CBs communicate about uncertainty even when discussing Confirmation
- Net Surprise Sentiment, difference between Surprise and Confirmation sentiments $\rightarrow$ signaling a potential change in the existing narrative

Other characteristics...

- Surprise measures, low but positive correlations with MPU/EPU of BBD (2016).
- Surprise measures carry a negative tone sentiment (corr. -0.44 with LM tone)
- Confirmation measures rather a neutral sentiment
- Inflation and Output are main topics in Confirmation and Surprise quotes

Net Surprise Inflation & Net Surprise Trend, Fed





- *Net Surprise Inflation* and *Net Surprise Trend* high when inflation above 2%.
- They picked up several meetings after inflation above 2% in 2021
- A slow shift from the narrative of low inflation environment that prevailed?

Communication of Confirmation and Surprise & Policy Decisions

Confirmation and Surprise & Policy Decisions

How does communication of Surprise and Confirmation relate with monetary policy decisions?

Market participants look carefully for such clues:

> *"Uncertainty was the key word ... it was mentioned 23 times," Nordea economist Jan von Gerich said. "Such language has been used in the past to signal the central bank is planning further stimulus measures. We expect this to be the case this time as well." Reuters*, Oct' 2020*

*referring to the ECB Accounts of September 2020.

Ordered-probit model for monetary policy stance

- A reaction function with forecasts of inflation & output & *Sentiment*
- We specify a Ordered Probit model:

$$MPstance_t = \phi_\pi E_t \pi_{t+h} + \phi_{dy} E_t dY_{t+h} + \phi_i Sentiment_t^i + \phi_{MPU} MPU_t + u_t$$

- $MPstance_t$, ordinal variable (+1, 0, -1) for stance (tightening, no change, easing)
- $E_t \pi_{t+h}$ and $E_t dY_{t+h}$, forecasts of inflation & GDP growth, one-year ahead.
- $Sentiment_s = Surprise_s, Confirmation_s$, for $s = total, trend, past$.
- MPU_t, policy uncertainty measures from Baker, Bloom and Davis (2016).

Stance

Overall

- Higher Surprise correlates with lower likelihood of tighter policy.
- Higher Confirmation correlates with higher likelihood of tighter policy.
  $\Rightarrow$ Results align with the tone direction of Surprise and Confirmation.

- The significance of topics in Surprise and Confirmation quotes:
  - Increased inflation focus in Confirmation $\Rightarrow$ higher odds of tightening [all].
  - Increased inflation focus in Surprise $\Rightarrow$ lower odds of tighter policy [BoE, ECB].

- Relation to literature
  - Higher uncertainty functions like negative demand shock (Bloom, 2009))
  - Policymakers should act more cautiously under uncertainty (Brainard, 1967)
  - Uncertainty can justify stronger or preemptive policy responses (Söderström, 2002)
  - Risk management approach to policy, asymmetric responses (Greenspan, 2004)
  - More needed .....

Concluding remarks

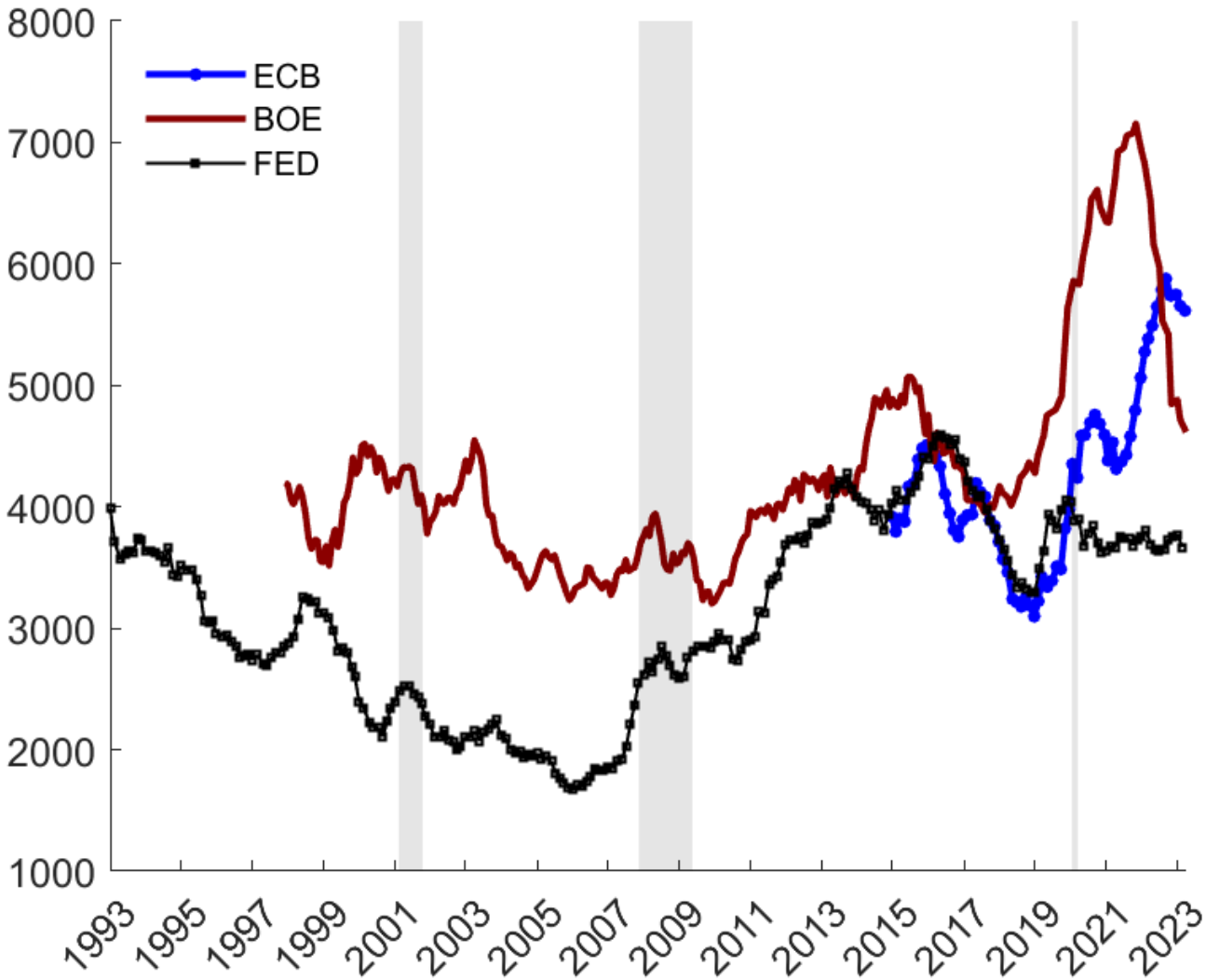
- We analyze Minutes of the Fed, BoE & ECB, constructing:
  - Dictionaries for Confirmation and Surprise
  - Measures of Confirmation and Surprise.
- Our measures capture CBs assessment of the balance of risk (& persistence) and where is CB's objective focus (inflation or growth).
- Committee members will adopt their policy stance depending not only on their (staff) forecasts but also on their assessment whether the economy is evolving as expected (Confirmation) or not (Surprise).

  $\Rightarrow$ Indicates risk management approach to policy

Thank you for your attention!

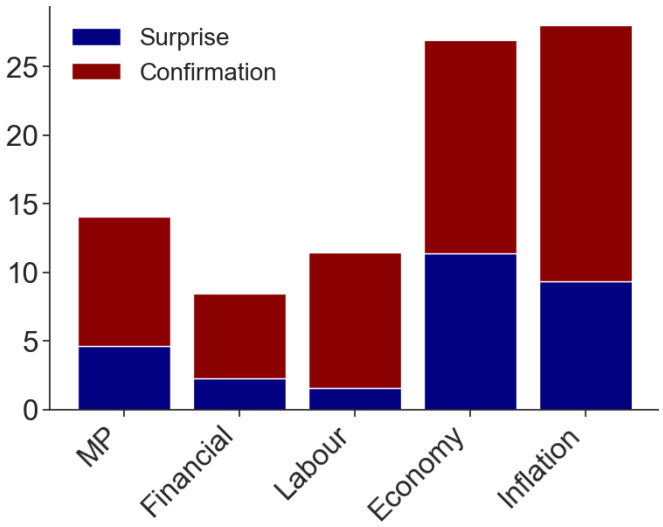
Appendix

Focus: Deliberation part of Minutes, Fed, BoE & ECB

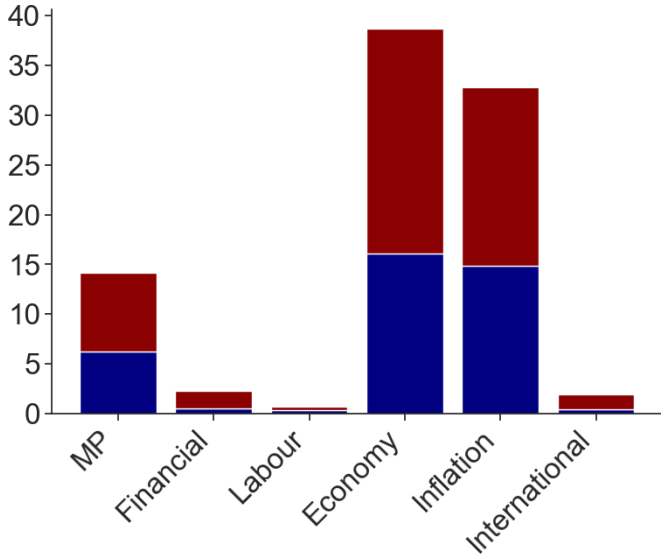


Note: Number of words in the *Deliberation* part of Minutes, as moving average of eight meetings. The shaded areas depict the NBER recession dates for the U.S.

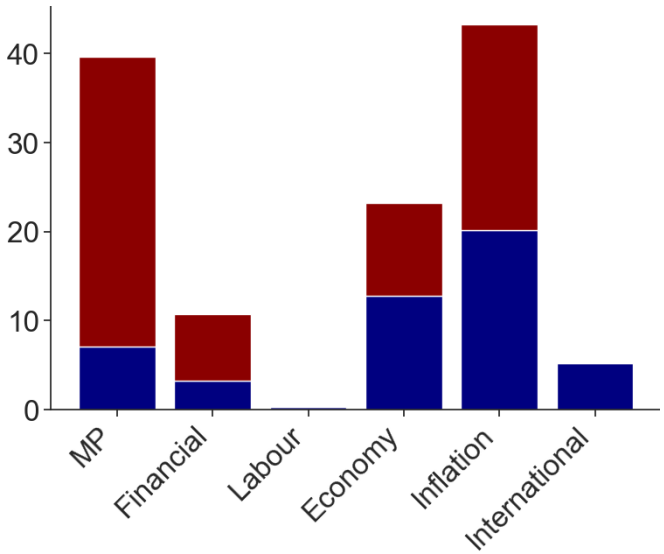
Main topics in Confirmation and Surprise



(a) Fed

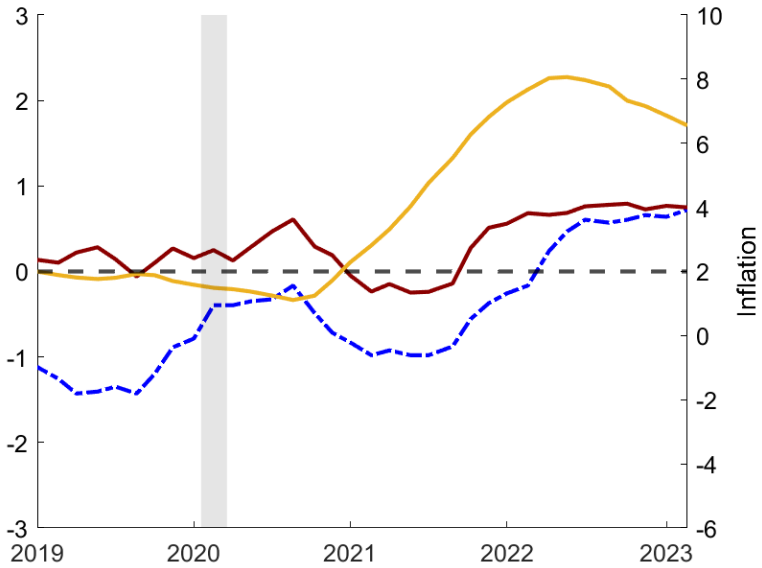


(b) BoE

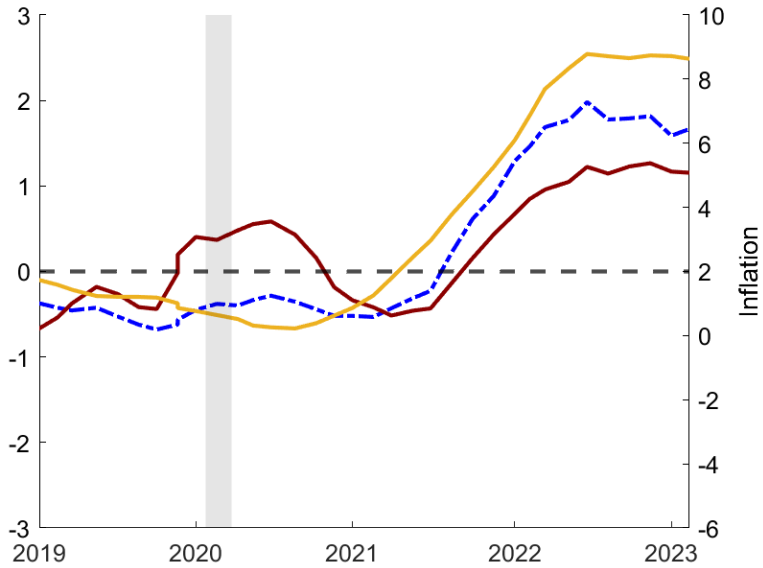


(c) ECB

Delayed Net Surprise Inflation: Fed and ECB



(a) Fed



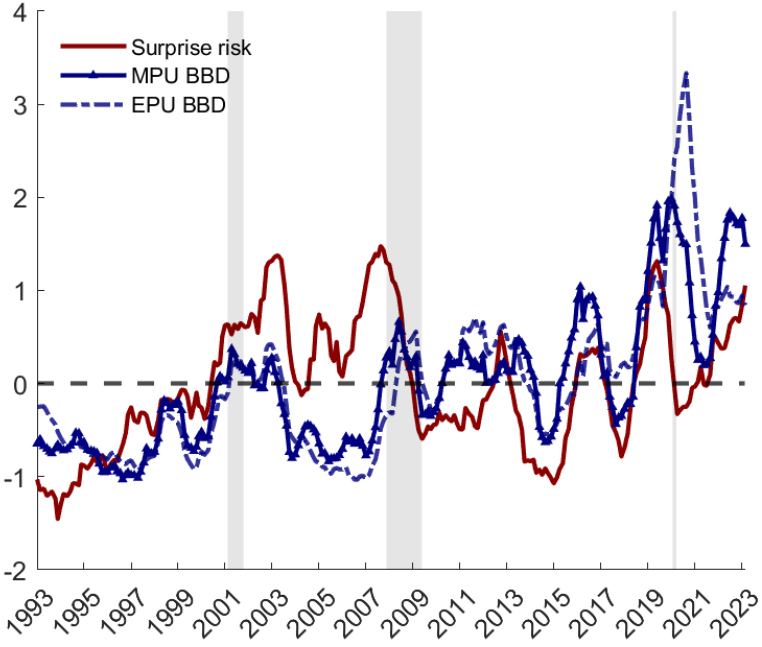
(b) ECB

- *Net Surprise Inflation* and *Net Surprise Trend* pick up several meetings after inflation above 2%.
- A slow shift from the narrative of low inflation environment that prevailed?

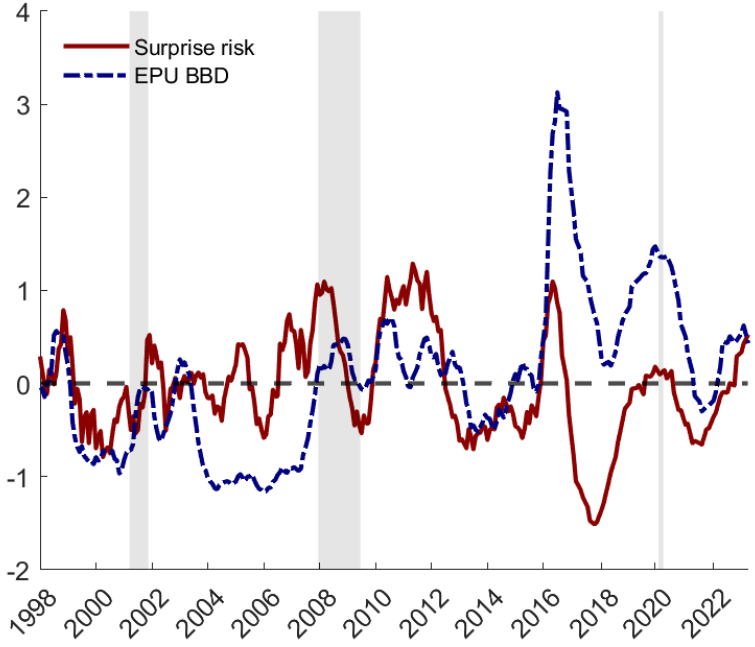
Low & positive corr. with MPU/EPU of BBD (2016)

Uncertainty about policy vs uncertainty of policymakers

> *"Uncertainty was the key word ... it was mentioned 23 times," Nordea economist Jan von Gerich said." Reuters, October 8, 2020*



(a) Fed



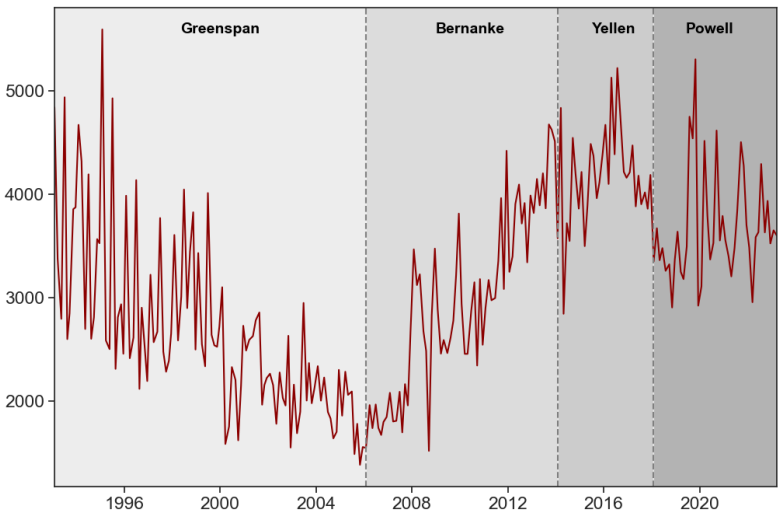
(b) BoE

Defining monetary policy stance

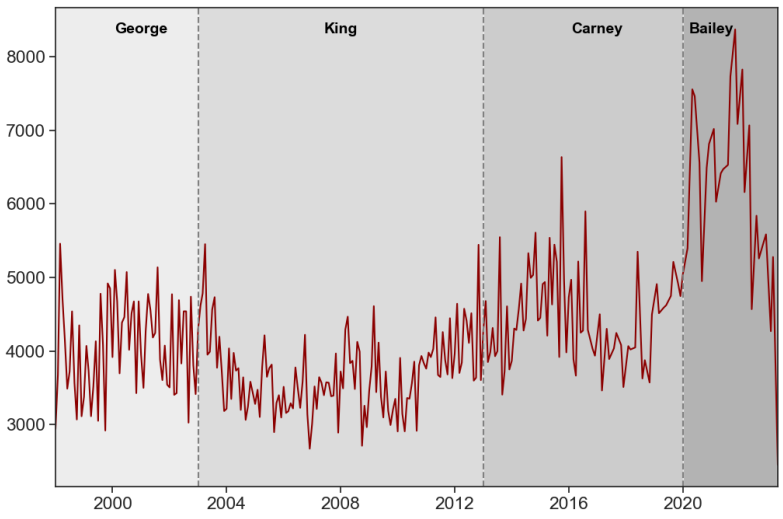
- Our sample periods of conventional and "unconventional" policy tools
- At each meeting, policymakers face three mutually exclusive choices: tighten policy stance, loosen it or keep it unchanged.
- We define monetary policy changes as easing (tightening) if one of the following three criteria is met:
  - a decrease (increase) in policy rate was announced
  - new unconventional measures were announced that aimed at providing more (less) monetary stimulus
  - the parameters of unconventional measures were adjusted to provide more (less) stimulus.
- We arrive at: 40 (30) tightening (easing) events for the Fed (1993-2019), 17 (33) tightening (easing) for the BoE (1998-2019) & 9 easings for the ECB (2015-2019).

Back

Deliberating monetary policy - Chair



(a) Fed



(b) BoE

Back

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