

Policymakers' uncertainty

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Motivation

Uncertainty is ubiquitous in monetary policymaking

- ▶ “(...) uncertainty is not just a pervasive feature of the monetary policy landscape; it is the defining characteristic of that landscape.” – Alan Greenspan (2004)
- ▶ “Most fundamentally, our discussions of the pervasive uncertainty that we face as policy-makers is a powerful reminder of the need for humility about our ability to forecast and manage the future course of the economy. ” – Ben Bernanke (2007)

- ▶ *(How) does the uncertainty that policymakers' perceive affect their decision-making?*
- ▶ Challenges:
 - No canonical theoretical model: Ambiguous predictions
 - Unobservable/hard-to-measure

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3. Construct broad, forward-looking measure of policy stance from text
 - Hawk-Dove score ("HD")
 - Informative beyond standard policy rule

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3. Construct broad, forward-looking measure of policy stance from text
 - Hawk-Dove score ("HD")
 - Informative beyond standard policy rule
4. New results on how uncertainty affects the Fed's decision-making since mid-1980s
 - **Perceived inflation uncertainty leads to a more hawkish policy stance**
 - Why? Concern about the Fed losing their inflation-fighting credibility

Impact of uncertainty on policy stance

Dependent variable: Hawk-dove policy stance score; standardized coefficients

Inflation PMU_t	0.281*** (3.89)	0.177*** (2.79)	0.183*** (2.80)	0.159** (2.32)
Real-economy PMU_t	-0.151*** (-3.10)	-0.124* (-1.69)	-0.116 (-1.50)	-0.105 (-1.46)
Sentiment	Yes	Yes	Yes	Yes
GB controls	No	Yes	Yes	Yes
Public uncertainty	No	No	Yes	No
Other PMUs	No	No	No	Yes
\bar{R}^2	0.38	0.43	0.44	0.45
N	227	227	227	227

- ▶ **Perceived inflation uncertainty leads to a more hawkish policy stance**
- ▶ Unexplained by
 - Greenbook economic forecasts
 - Public uncertainty measures (VIX, BBD, HRS, survey dispersion)
- ▶ Consistent with Fed-driven uncertainty

Channels through which uncertainty can affect policymaking

- ▶ The Fed sets policy rate in reaction to economic conditions to achieve its objectives:

$$i_t = \beta' \underbrace{\Omega_t}_{\text{Economy}} + m_t \quad (1)$$

i_t : policy rate; β : policymakers' response to the economy Ω_t ; m_t : monetary policy shock

- ▶ Typical empirics: Plug in macro forecasts (Greenbooks) for Ω_t

Channels through which uncertainty can affect policymaking

1. Certainty equivalence

- Uncertainty as time-varying volatility of additive shocks to Ω_t
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3. Uncertainty about parameters and/or models

- Uncertainty about *policy multiplier* → Cautious response
[Brainard's (1967) conservatism]
- Uncertainty about *economic dynamics* → Aggressive response
[Söderstrom (2002) (inflation persistence)]
- Uncertainty about *model specification* → Aggressive response
[Hansen and Sargent (2001); Giannoni (2002); Giordani and Söderlind (2004)]

A simple optimal policy case: No uncertainty

- ▶ Policymaker wants to reduce deviations of inflation π and output y from targets

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- ▶ Policy choice affects the economy, $\delta, \phi > 0$:

$$(\pi_i, y_i)|r_i = \begin{cases} (\pi_0, y_0) & \text{if } r_t = r_0 & \text{(stay)} \\ (\pi_0 - \delta, y_0 - \phi) & \text{if } r_t = r_1 & \text{(hike)} \\ (\pi_0 + \delta, y_0 + \phi) & \text{if } r_t = r_{-1} & \text{(ease)} \end{cases} \quad (2)$$

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- ▶ Policymaker hikes to r_1 if $L_1 < L_0$:

$$\underbrace{\delta(\pi_0 - \pi^*) + \lambda\phi(y_0 - y^*)}_{\text{Burden of proof needed to hike}} > \frac{\delta^2 + \lambda\phi^2}{2}$$

When does uncertainty matter for policymakers?

- ▶ Introduce uncertainty in outcomes
 - $\bar{x}_i, \hat{x}_i, \sigma_{x,i}^2 = \text{mean, mode, and variance } x \in \{y, \pi\} \text{ under } r_i$
- ▶ Policymaker believes that they could affect volatility: $\sigma_{x,i}^2 = \sigma_{x,0}^2 + \Delta\sigma_{x,0 \rightarrow i}^2$

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- ▶ *For uncertainty to matter in decision-making*, policy needs to affect variances of outcomes
→ Fed-driven uncertainty
- ▶ E.g., If hike reduces inflation variance ($\sigma_{\pi,1}^2 < \sigma_{\pi,0}^2$) → more aggressive response relative to certainty case

Measuring policymakers' uncertainty and stance from text

- ▶ Wealth of information
 - Manually labelled FOMC transcripts at speaker-sentence level
 - Sample: 1987:07–2015:12 (227 meetings)
 - Controls for staff Greenbook/Tealbook forecasts
- ▶ Allows to construct proxies for policymakers' beliefs and decisions in a consistent way
 - Rarely feasible in other contexts
- ▶ Challenges in mapping framework $(\bar{\pi}_0, \bar{y}_0)$ onto data
 - Modal forecasts \hat{x}_0 (Greenbook, SEP,...), not means \bar{x}_0
 - Staff forecasts $(\hat{\pi}_{GB}, \hat{y}_{GB})$, not FOMC
 - Additional wedges:
 - Skews/asymmetry: $s_x = \bar{x}_0 - \hat{x}_0$
 - Staff-FOMC disagreement: $d_x = \hat{x}_0 - \hat{x}_{GB}$ (assume small)

Three types of textual proxies to capture hard-to-measure factors in decision-making:

- ▶ Topic-specific PMU indices: policymakers' perceptions of uncertainties
- ▶ Topic-specific sentiment: directional views about the economy
Greenbook forecasts are likely modal; sentiment to capture differences in central tendencies or skews
- ▶ Policy stance: relative hawkisness/dovishness

Textual measures

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▶ Policy stance: relative hawkishness/dovishness

$$\bar{L}_1 < \bar{L}_0 : \underbrace{\delta(\hat{\pi}_{GB} - \pi^*) + \lambda\phi(\hat{y}_{GB} - y^*)}_{\text{Decision rule under certainty equiv.}} > \frac{\delta^2 + \lambda\phi^2}{2} + \underbrace{\frac{\Delta\sigma_{\pi,0 \rightarrow 1}^2 + \lambda\Delta\sigma_{y,0 \rightarrow 1}^2}{2}}_{\text{Variance}} - \underbrace{\delta s_{\pi} - \lambda\phi s_y}_{\text{Skew/Asymmetry}}$$

PMU

Transcripts reflect regular structure of FOMC deliberations

1. **[Market round]** Discussion of financial market conditions
 - 1.1 Staff presentation
 - 1.2 Q&A on staff presentation
 - 1.3 FOMC member discussions
2. **[Economy round]** Discussion of economic conditions
 - 2.1 Staff presentation
 - 2.2 Q&A on staff presentation
 - 2.3 FOMC member presentations
3. **[Policy round]** Discussion of appropriate monetary policy
 - 3.1 Staff presentation of policy alternatives
 - 3.2 Q&A on policy alternatives
 - 3.3 FOMC members state and justify preferred alternative
4. Other: pleasantries, post elections, special topics, etc.

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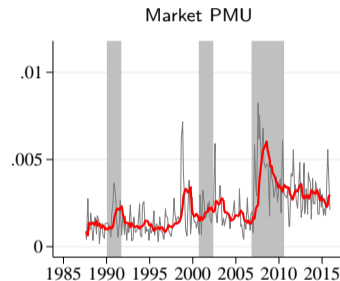
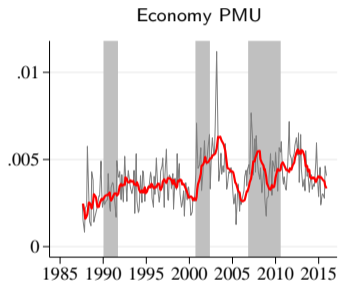
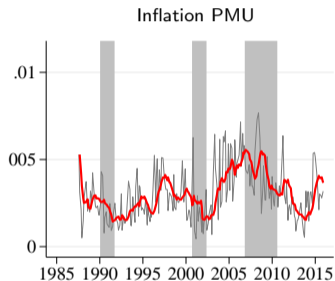
Construction of policymakers' uncertainty (PMU) indices

- ▶ *Word embeddings* to form uncertainty dictionary \mathcal{U} :
 - Neighbors for 'risk(s)' \sim quantification of known probability (e.g., 'probability', 'likelihood', 'odds')
 - Neighbors for 'uncertain(ty)' \sim unquantifiable uncertainty and concerns (e.g., 'angst', 'unclear', 'skepticism', 'ambiguity')
- ▶ Treatment of word "risk":
 - Exclude phrases like "risk spread", "balance of risks," ...
- ▶ Deal with negations:
 - Not, no, don't, never, less, ...: neutralises rather than reduces uncertainty
- ▶ Sentence-level count of risk/uncertainty terms:

$$u_{t,s} = \sum_n \mathbb{1}(\mathbf{w}_{t,s,n} \in \mathcal{U})$$

where $\mathbf{w}_{t,s} = (\mathbf{w}_{t,s,1}, \dots, \mathbf{w}_{t,s,N_{t,s}})$ be list of terms in sth sentence of meeting t

Topic-specific PMU



- ▶ Classify on average 84% of uncertainty mentions in \mathcal{U}
- ▶ Inflation, real economy and markets PMU capture bulk of uncertainty-related discussions
- ▶ Correlations: $(InfPMU, EcoPMU) = 0.07$; $(InfPMU, MktPMU) = 0.12$; $(EcoPMU, MktPMU) = 0.38$

Identifying policy stance from language in the policy round

- ▶ Summarize policy stance with a balance variable at each meeting

$$HD_t = Hawk_t - Dove_t \quad (3)$$

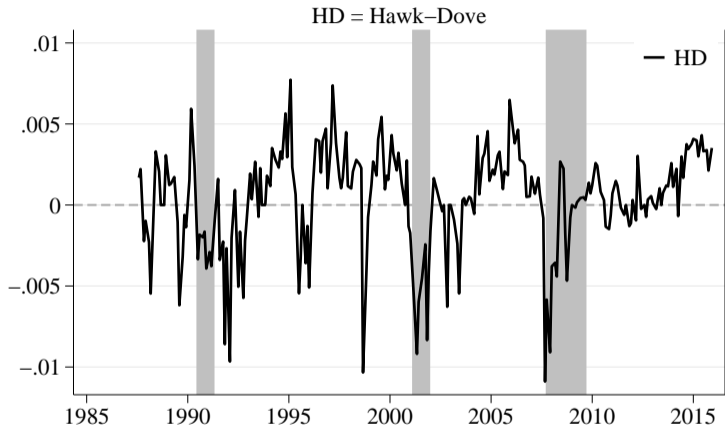
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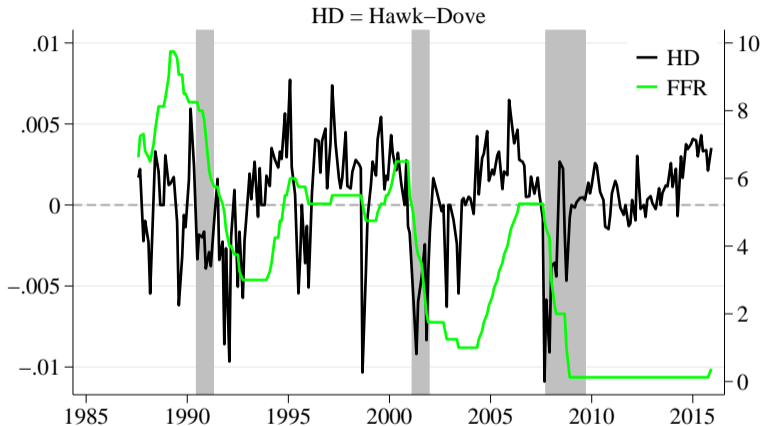
- ▶ Rules to classify a sentence as referring to monetary policy
- ▶ Focus on statements by the FOMC members (not staff) in the policy round
- ▶ Separate hawk/dove leaning by matching policy terms with directional language
 - Match within subsentence for precision
 - Deal with negations
 - Measure frequency of hawk/dove language scaled by number of words in the policy round

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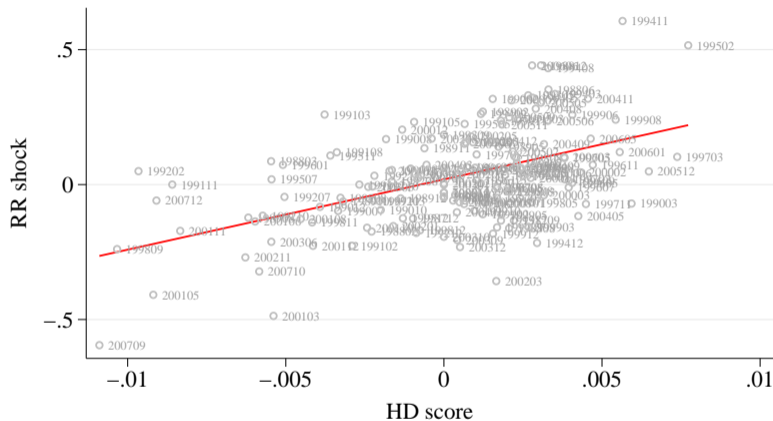
- ▶ *HD* explains policy beyond Greenbook macro forecasts
- ▶ Interpretation: measure of policy “shock,” deviation from rule
- ▶ Forward-looking deliberations: predicts FFR path out to 8 meetings ahead

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Identifying policy stance from language in the policy round



- ▶ Explains 25% of Romer-Romer shock variation
- ▶ Predicts market-based monetary policy surprises (GSS, GK, NS)

**(How) does uncertainty affect
policy stance?**

Impact of uncertainty on policy stance: meeting-level

Dependent variable: HD_t policy stance score; standardized coefficients

	(1)	(2)	(3)	(4)
$InfPMU_t$	0.341*** (3.39)		0.281*** (3.89)	0.291*** (4.06)
$EcoPMU_t$	-0.238*** (-3.97)		-0.151*** (-3.10)	-0.128** (-2.37)
$MktPMU_t$				-0.069 (-0.70)
$InfSent_t$		0.204** (2.54)	0.085 (1.17)	0.081 (1.08)
$EcoSent_t$		0.498*** (5.71)	0.471*** (5.91)	0.436*** (5.60)
$MktSent_t$				0.048 (0.66)
GB controls	No	No	No	No
Public uncertainty	No	No	No	No
Other PMUs	No	No	No	No
\bar{R}^2	0.15	0.30	0.38	0.38
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- Inflation uncertainty $InfPMU$ predicts hawkishness in the policy round

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$MktPMU_t$				-0.120 (-1.19)
$InfSent_t$	0.085 (1.17)	0.066 (1.16)	0.088 (1.52)	0.063 (1.07)
$EcoSent_t$	0.471*** (5.91)	0.392*** (4.38)	0.374*** (3.62)	0.347*** (3.91)
$MktSent_t$				0.038 (0.54)
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- ▶ $InfPMU$ and $EcoPMU$ affect policy stance in opposite directions ↷
- ▶ $EcoPMU$ has no effect on policy beyond standard controls
- ▶ Consistent with demand channel of uncertainty which FOMC takes as given

Inflation PMU effect driven by FOMC members

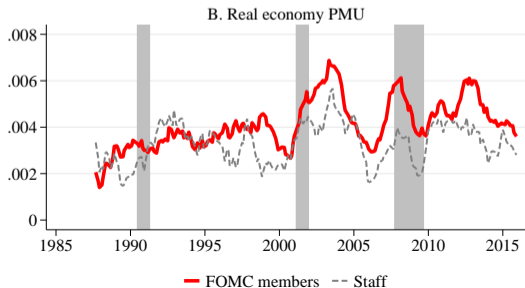
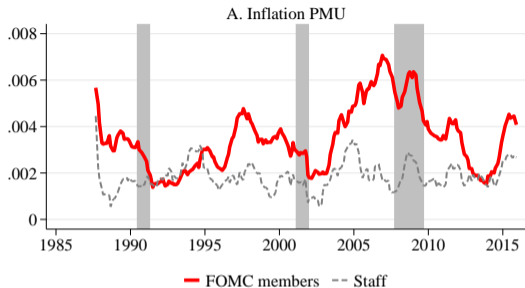
- ▶ Fed-driven uncertainty? Expect stronger link for FOMC members' than staff's PMU

Dependent variable: HD_t policy stance score; standardized coefficients

	(1)	(2)	(3)
$InfPMU_t$ (FOMC)	0.180*** (2.84)		0.183*** (3.18)
$EcoPMU_t$ (FOMC)	-0.093 (-1.48)		-0.087 (-1.36)
$InfPMU_t$ (Staff)		0.109* (1.81)	0.011 (0.23)
$EcoPMU_t$ (Staff)		-0.137* (-1.93)	-0.038 (-0.65)
GB controls	Yes	Yes	Yes
Sentiment	Yes	Yes	Yes
\bar{R}^2	0.43	0.33	0.43
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- ▶ Main effect ($InfPMU \rightarrow$ Hawkishness) driven by FOMC members rather than staff

Inflation PMU effect driven by FOMC members

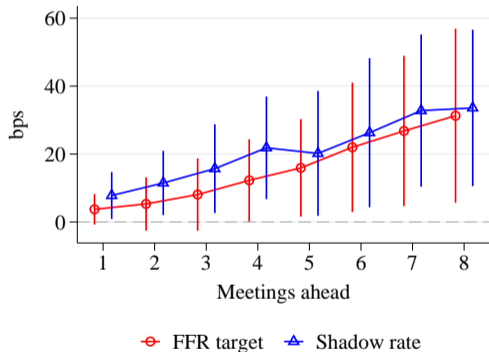


- ▶ Main effect ($InfPMU \rightarrow$ Hawkishness) driven by FOMC members rather than staff
- ▶ Inflation uncertainty statements in the economy round associated with *concerns about credibility* in the policy round (more below)

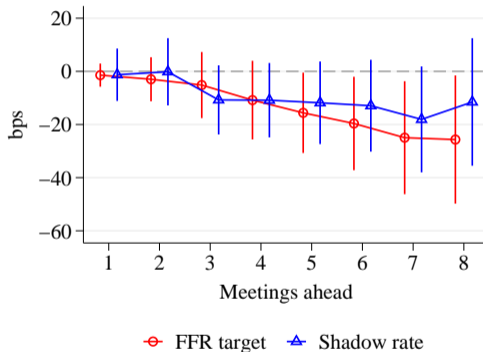
Dynamic effect on policy rate

Effect of 1- σ change in FOMC members' PMU on the policy rate

A. InfPMU \rightarrow Policy rate

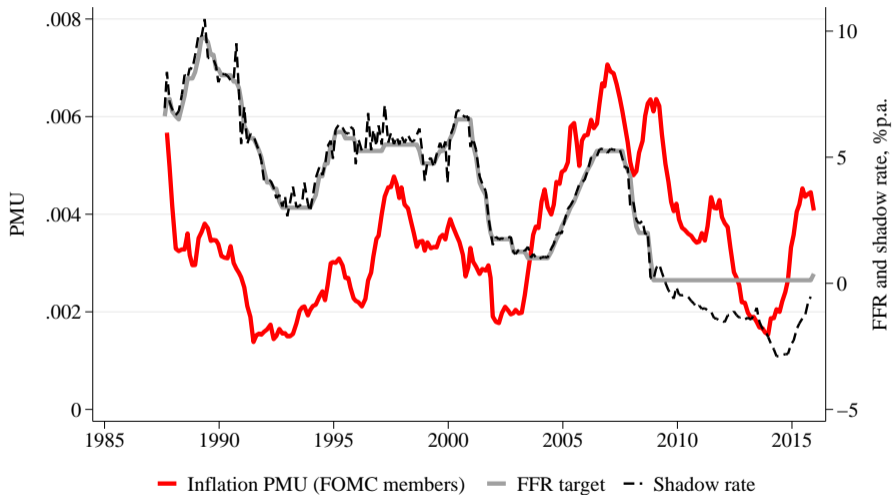


B. EcoPMU \rightarrow Policy rate



- ▶ Controls: GB forecasts and updates, BBD-EPU index, 2 lags of policy rate
- ▶ Magnitude = 31 bps at 8 meetings ahead; comparable impact to RGDP growth (28 bps)
- ▶ 2004:03–2006:06 = 3.2- σ move in inflation PMU

Dynamic effect on policy rate



Individual-level text-based policy rule (FOMC members only)

Dependent variable: Individual member HD_{it} policy stance score

	(1)	(2)
<i>InfPMU_{it}</i> (ind)	0.12*** (2.86)	0.12*** (2.82)
<i>EcoPMU_{it}</i> (ind)	-0.074 (-1.65)	-0.058 (-1.43)
<i>InfPMU_t</i> (agg)		
<i>EcoPMU_t</i> (agg)		
<i>MktPMU_{it}</i> (ind)		
<i>ModPMU_{it}</i> (ind)		
<i>OthPMU_{it}</i> (ind)		
Sentiment	No	Yes
Meeting FE	No	No
Member FE	Yes	Yes
R^2	0.028	0.048
N	3925	3925

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Dependent variable: Individual member HD_{it} policy stance score

	(1)	(2)	(3)	(4)
$InfPMU_{it}$ (ind)	0.12*** (2.86)	0.12*** (2.82)	0.00014 (0.00)	-0.011 (-0.30)
$EcoPMU_{it}$ (ind)	-0.074 (-1.65)	-0.058 (-1.43)	0.018 (0.45)	0.012 (0.30)
$InfPMU_t$ (agg)			0.93*** (4.97)	
$EcoPMU_t$ (agg)			-0.74*** (-3.63)	
$MktPMU_{it}$ (ind)				
$ModPMU_{it}$ (ind)				
$OthPMU_{it}$ (ind)				
Sentiment	No	Yes	Yes	Yes
Meeting FE	No	No	No	Yes
Member FE	Yes	Yes	Yes	Yes
R^2	0.028	0.048	0.070	0.26
N	3925	3925	3925	3925

- $InfPMU$ effect not driven by heterogeneity but common variation over time

Individual-level text-based policy rule (FOMC members only)

Dependent variable: Individual member HD_{it} policy stance score

	(1)	(2)	(3)	(4)	(5)	(6)
$InfPMU_{it}$ (ind)	0.12*** (2.86)	0.12*** (2.82)	0.00014 (0.00)	-0.011 (-0.30)	0.11** (2.62)	-0.0097 (-0.25)
$EcoPMU_{it}$ (ind)	-0.074 (-1.65)	-0.058 (-1.43)	0.018 (0.45)	0.012 (0.30)	-0.041 (-1.03)	0.011 (0.29)
$InfPMU_t$ (agg)			0.93*** (4.97)			
$EcoPMU_t$ (agg)			-0.74*** (-3.63)			
$MktPMU_{it}$ (ind)					-0.16*** (-2.70)	0.011 (0.25)
$ModPMU_{it}$ (ind)					-0.071 (-0.64)	-0.15 (-1.38)
$OthPMU_{it}$ (ind)					-0.19*** (-4.20)	-0.11** (-2.40)
Sentiment	No	Yes	Yes	Yes	Yes	Yes
Meeting FE	No	No	No	Yes	No	Yes
Member FE	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.028	0.048	0.070	0.26	0.059	0.26
N	3925	3925	3925	3925	3925	3925

- ▶ $InfPMU$ effect not driven by heterogeneity but common variation over time
- ▶ Some effect of individual-specific (idiosyncratic) uncertainty on policy stance ($OthPMU$)

Properties of PMU

1. Concern: PMU captures expectations (1st moment) rather than higher moments?
 - PMU not predictive for future macro outcomes
2. Business cycle variation
 - Not countercyclical
 - Asymmetry with expressed sentiment (esp. inflation PMU)
3. PMU vs. external measures of policy uncertainty
 - \neq public perceptions of policy uncertainty (Baker-Bloom-Davis)
 - \neq dispersion in private sector forecasts
4. Risk vs. uncertainty
 - Not distinguishable in policymakers' language (\sim Greenspan (2004))

PMU as measure of expectations? ↻

Predictive regression: $F_{t+h}(\pi_0) = \beta_0 + \beta_1 \text{InfPMU}_t + \beta_2 \text{InfPos}_t + \beta_3 \text{InfNeg}_t + \beta_4 \bar{F}_t(\pi) + \varepsilon_{t+h}$

PMU as measure of expectations? ↷

Predictive regression: $F_{t+h}(\pi_0) = \beta_0 + \beta_1 \text{InfPMU}_t + \beta_2 \text{InfPos}_t + \beta_3 \text{InfNeg}_t + \beta_4 \bar{F}_t(\pi) + \varepsilon_{t+h}$

Dependent variable: Greenbook CPI inflation nowcast h meetings ahead (1987:08–2015:12)

	$h = 1$	$h = 2$	$h = 3$	$h = 4$	$h = 5$	$h = 6$	$h = 7$	$h = 8$
InfPMU_t	0.039 (0.62)	-0.038 (-0.48)	-0.042 (-0.38)	0.011 (0.08)	-0.107 (-0.69)	-0.070 (-0.42)	0.038 (0.27)	0.044 (0.45)
InfNeg_t	-0.260*** (-3.49)	-0.164* (-1.87)	0.012 (0.18)	0.093 (1.30)	0.086 (1.04)	0.010 (0.17)	-0.058 (-0.98)	-0.025 (-0.39)
InfPos_t	0.173*** (3.81)	0.144*** (2.67)	0.025 (0.38)	-0.131 (-1.32)	-0.100 (-0.97)	-0.120 (-1.42)	-0.169* (-1.80)	-0.138 (-1.47)
$\bar{F}_t(\pi)$	0.560*** (8.46)	0.457*** (6.91)	0.378*** (4.30)	0.351*** (3.39)	0.319*** (2.82)	0.321*** (2.90)	0.337*** (3.73)	0.335*** (4.01)
\bar{R}^2	0.50	0.30	0.13	0.11	0.11	0.11	0.12	0.10
N	226	225	224	223	222	221	220	219

Note: In this and subsequent tables: standardized coefficients (expressed in stdev units); HAC t-stats in parentheses

- ▶ No predictive power of PMU for future inflation

PMU as measure of expectations? ↷

Predictive regression: $F_{t+h}(g_0) = \beta_0 + \beta_1 EcoPMU_t + \beta_2 EcoPos_t + \beta_3 EcoNeg_t + \beta_4 \bar{F}_t(g) + \varepsilon_{t+h}$

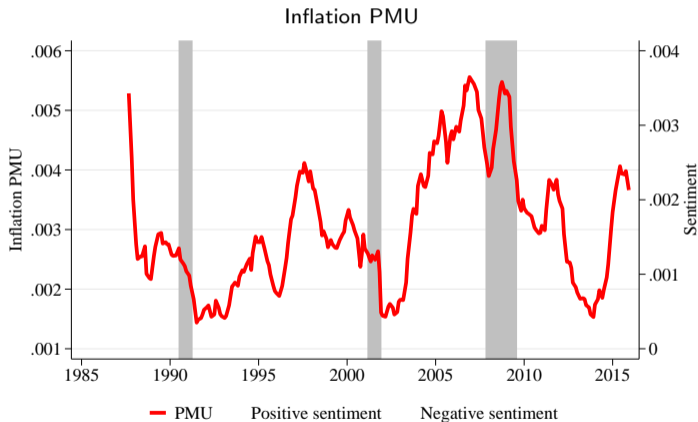
Dependent variable: Greenbook real GDP growth nowcast h meetings ahead (1987:08–2015:12)

	$h = 1$	$h = 2$	$h = 3$	$h = 4$	$h = 5$	$h = 6$	$h = 7$	$h = 8$
<i>EcoPMU_t</i>	-0.081 (-1.60)	-0.058 (-1.15)	0.032 (0.69)	0.069 (1.03)	0.029 (0.36)	-0.001 (-0.02)	0.087 (1.01)	0.113 (1.23)
<i>EcoNeg_t</i>	-0.150*** (-2.92)	-0.163** (-2.40)	-0.220*** (-2.65)	-0.275*** (-3.00)	-0.313*** (-4.29)	-0.226** (-2.28)	-0.238** (-2.05)	-0.237** (-2.32)
<i>EcoPos_t</i>	0.116** (2.39)	0.127** (2.17)	0.147** (2.07)	0.149* (1.68)	0.151* (1.72)	0.193** (2.25)	0.203** (2.30)	0.190** (2.14)
$\bar{F}_t(g)$	0.623*** (7.20)	0.553*** (5.78)	0.401*** (5.03)	0.287*** (3.20)	0.227** (2.12)	0.174 (1.31)	0.112 (0.80)	0.075 (0.51)
\bar{R}^2	0.56	0.48	0.35	0.28	0.26	0.19	0.16	0.13
N	226	225	224	223	222	221	220	219

Note: In this and subsequent tables: standardized coefficients (expressed in stdev units); HAC t-stats in parentheses

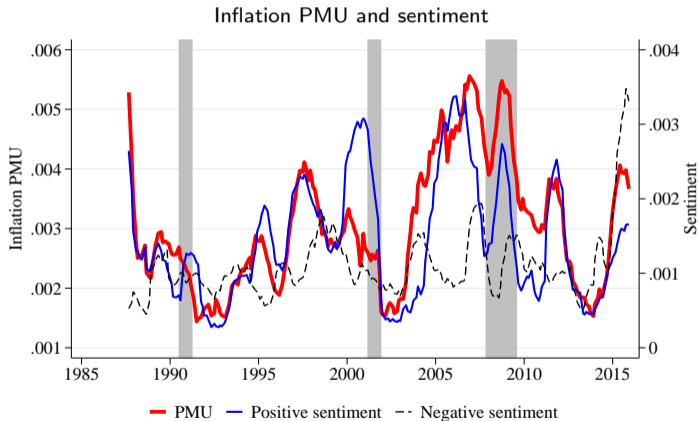
- ▶ No predictive power of PMU for future real GDP growth

PMU and sentiment: Asymmetry



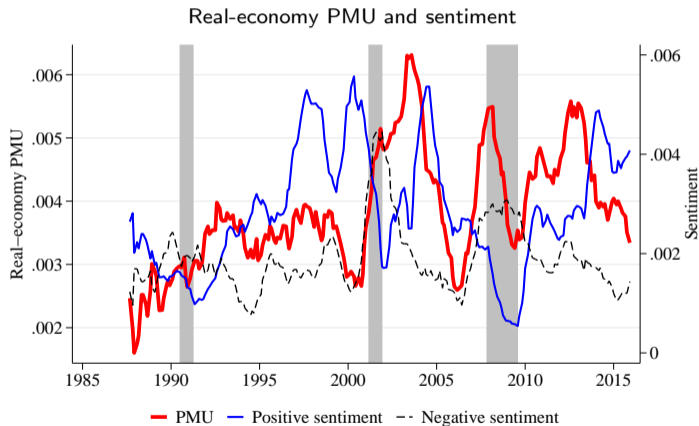
- ▶ Inflation PMU is procyclical (\neq public uncertainty)
- ▶ More inflation uncertainty in expanding economy

PMU and sentiment: Asymmetry



- ▶ Strong comovement of inflation PMU with positive sentiment (inflation \uparrow)
- ▶ Concern about rising inflation that does not materialize in sample (No predictive power of sentiment for future inflation) \curvearrowright

PMU and sentiment: Asymmetry



	(1) $InfPMU_t$	(2) $EcoPMU_t$
$InfPos_t$	0.623*** (7.17)	-0.195*** (-2.98)
$InfNeg_t$	0.236*** (4.59)	-0.017 (-0.30)
$EcoPos_t$	-0.154* (-1.68)	0.136* (1.89)
$EcoNeg_t$	-0.063 (-1.10)	0.344*** (6.22)
N	227	227
\bar{R}^2	0.41	0.13

Relationship with measures of public (monetary) policy uncertainty

	(1) BBD EPU	(2) HRS MPU	(3) VXO	(4) Infl disp	(5) Growth disp
<i>InfPMU_t</i>	-0.340*** (-4.32)	-0.080 (-1.04)	-0.103 (-1.30)	0.174* (1.90)	-0.124 (-1.40)
<i>EcoPMU_t</i>	0.218** (2.37)	0.315** (2.20)	0.003 (0.02)	-0.283*** (-2.68)	-0.203** (-2.12)
<i>MktPMU_t</i>	-0.031 (-0.32)	-0.018 (-0.19)	0.032 (0.32)	0.109 (0.94)	-0.173 (-1.49)
<i>InfSent_t</i>	-0.044 (-0.66)	0.079 (1.00)	-0.077 (-0.88)	-0.086 (-1.07)	0.005 (0.05)
<i>EcoSent_t</i>	-0.336*** (-4.44)	-0.012 (-0.12)	-0.176 (-1.61)	-0.382*** (-3.42)	-0.455*** (-3.80)
<i>MktSent_t</i>	-0.207*** (-2.70)	-0.230*** (-3.16)	-0.440*** (-3.83)	-0.144 (-1.27)	-0.081 (-0.72)
\bar{R}^2	0.38	0.13	0.30	0.27	0.25
N	227	227	227	227	227

BBD = Baker, Bloom, Davis (2016); HRS = Husted, Rogers, Sun (2020); Infl/growth disp = survey dispersion

- ▶ Inflation PMU is negatively related with public economic policy uncertainty
- ▶ Public uncertainty conditions on the expected path of the FOMC policy

Why? The role of credibility in policymaking

- ▶ Monetary policy as an exercise in risk management
 - *“a judgment about the probabilities, costs, and benefits of the various possible outcomes under alternative choices for policy”* – Greenspan (2004)
- ▶ Credibility via well-anchored inflation expectations → Better policy trade-offs
- ▶ Loss of nominal anchor is damaging → Re-anchoring without deep recession difficult
 - Great Inflation experience
 - *“We are taking forceful and rapid steps to moderate demand so that it comes into better alignment with supply, and to keep inflation expectations anchored. We will keep at it until we are confident the job is done.”* – Powell (2022)
- ▶ Literature on inflation scares
 - Goodfriend (1993), Orphanides and Williams (2005), King & Lu (2022)

Narrative evidence: Janet Yellen through the years

- ▶ September 1996. *“the risk of an increase in inflation has definitely risen, and I would characterize the economy as operating in an inflationary danger zone” ... “a failure to shift policy just modestly in response to shifting inflationary risks could undermine the assumptions on which the markets’ own stabilizing responses are based.”*
- ▶ November 2005. *“[O]ur credibility going forward does depend on continued vigilance. (...) And annual core inflation (...) remains near the upper end of my comfort zone and, arguably, inflation risks are tilted somewhat to the upside. So with respect to policy, I support at a minimum the removal of any remaining policy accommodation... So a few more increases, including one today, seem to me likely to be required.”*
- ▶ October 2014. *“[W]hile most of you see these recent developments as largely transitory, and thus continue to expect that inflation will move gradually back toward 2 percent, some of you are concerned that we may be seeing the beginning of a worrisome downward adjustment in inflation expectations. (...) a failure on our part to take decisive action could exacerbate this risk by diminishing the credibility of our commitment to our 2 percent inflation objective.”*
- ▶ September 2014. *“By keeping longer-run inflation expectations well anchored, the credibility that we’ve gained over the past 35 years has allowed us to address the extraordinary amount of slack and downward price pressures with extraordinarily accommodative policies without fueling an inflationary wildfire.”*

Inflation uncertainty perceived by policymakers significantly impacts the Fed's decisions.

- ▶ Internal FOMC deliberations as window to understand the Fed's decision-making
 - \neq standard policy rule view
- ▶ Key distinction: Fed-driven uncertainty vs. exogenous economic uncertainty
- ▶ Economically large effect: Inflation PMU predicts more hawkish policy stance
 - More aggressive response \neq Brainard's conservatism
 - FOMC members' inflation PMU \neq staff and \neq public uncertainty proxies
 - Asymmetric concern about rising inflation
- ▶ Why? Fight for credibility
 - Policymakers pursuing a risk management approach