Discussion of "IS EURO AREA LOWFLATION HERE TO STAY?" by Stevens and Wauters

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The discussion and analysis presented here does not necessarily reflect the views of the Deutsche Bundesbank or the Eurosystem

NBB conference, Brussels, October 2018

OVERVIEW

Key question

Should recent persistence of low inflation translate into permanently lower inflation expectations?

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Approach

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Findings

1. With survey data: inflation trend below but close to 2%
2. Without survey data: trend estimates falling to 1.5%
3. High degrees of information rigidity embedded in surveys

PAUL VOLCKER'S PERSPECTIVE

Washington Post, October 24 2018

On the FOMC's inflation objective

They made up the 2 percent number . . .

I get upset when I hear them fighting over whether 1.75 percent is enough inflation.

On the importance of remaining vigilant:

Two percent inflation isn't going to kill us . . .

But be careful of 2.3 percent being ok and then they say let's let it go to 3 percent.

AGENDA

1. **Survey-based inflation trend estimates**
2. **Sticky information state space**
3. **State dependent stickiness**

TREND INFLATION

Beveridge-Nelson trend in inflation

$$\tau_t \equiv \lim_{k \to \infty} E_t \pi_{t+k}$$

- univariate: Stock & Watson "UCSV" (2007, JMCB)
- multivariate, common trend: Mertens (2016, REStat)

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Survey data

- $F_t \pi_{t+h} = E_t \pi_{t+h} + z_{t+h}$
  where z_t measures deviations from RE
- Weak rationality: $E_t z_{t+\infty} = 0$ (Grant & Thomas, 1999)

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- **τ_t is common trend of inflation and surveys**

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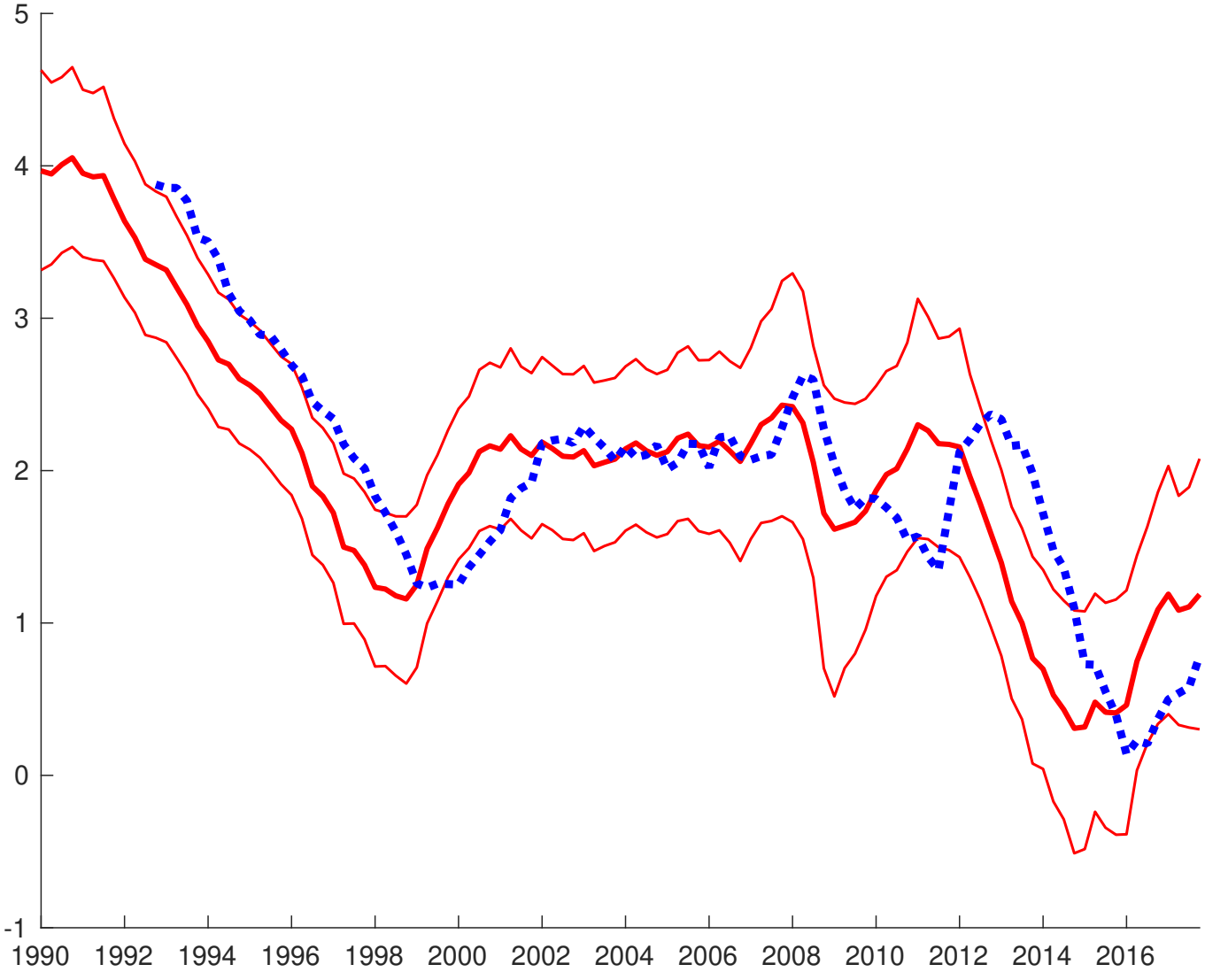
Holds in Stevens-Wauters model

EURO-AREA INFLATION TREND

Univariate UCSV Trend (red), 12m inflation data (blue)



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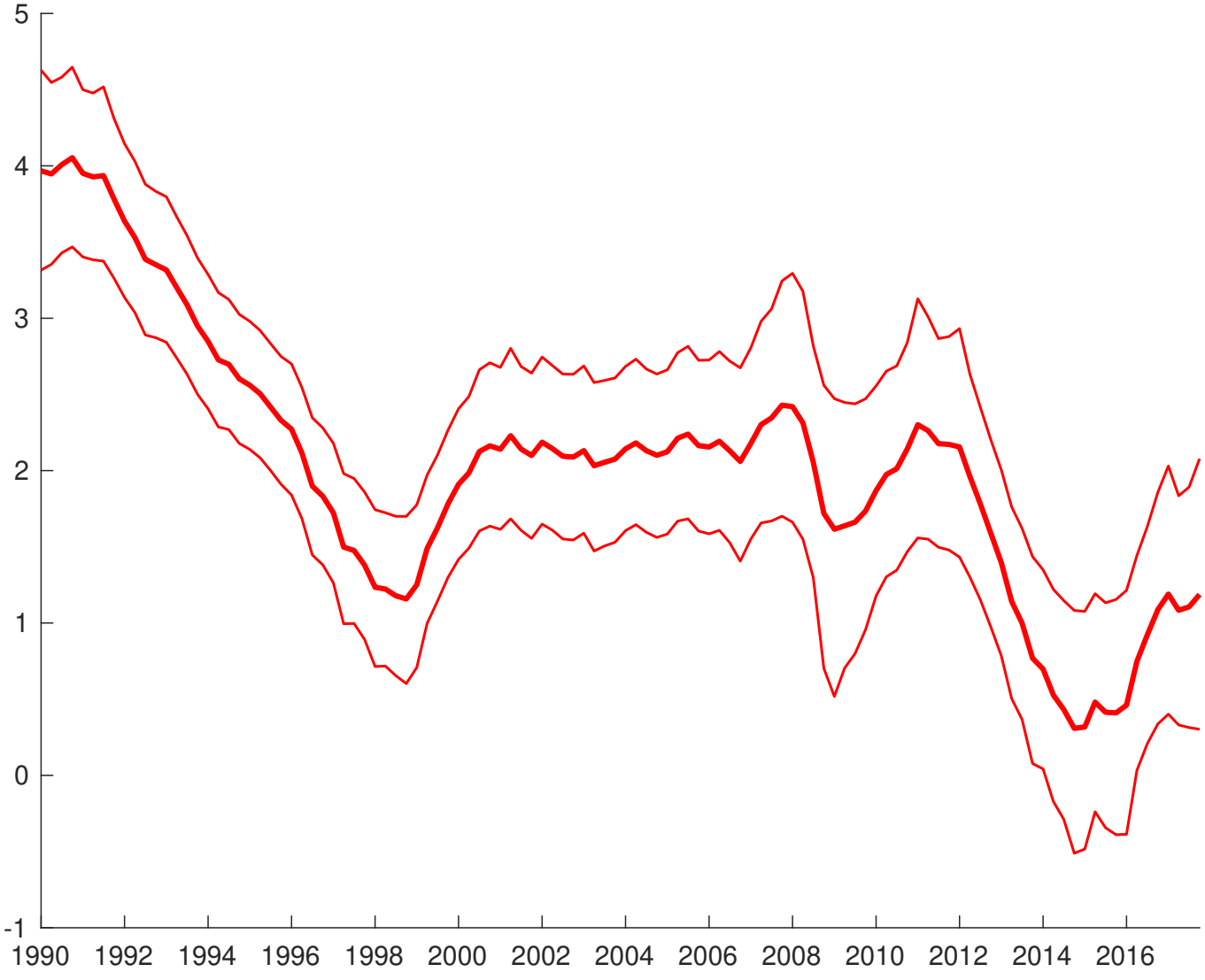
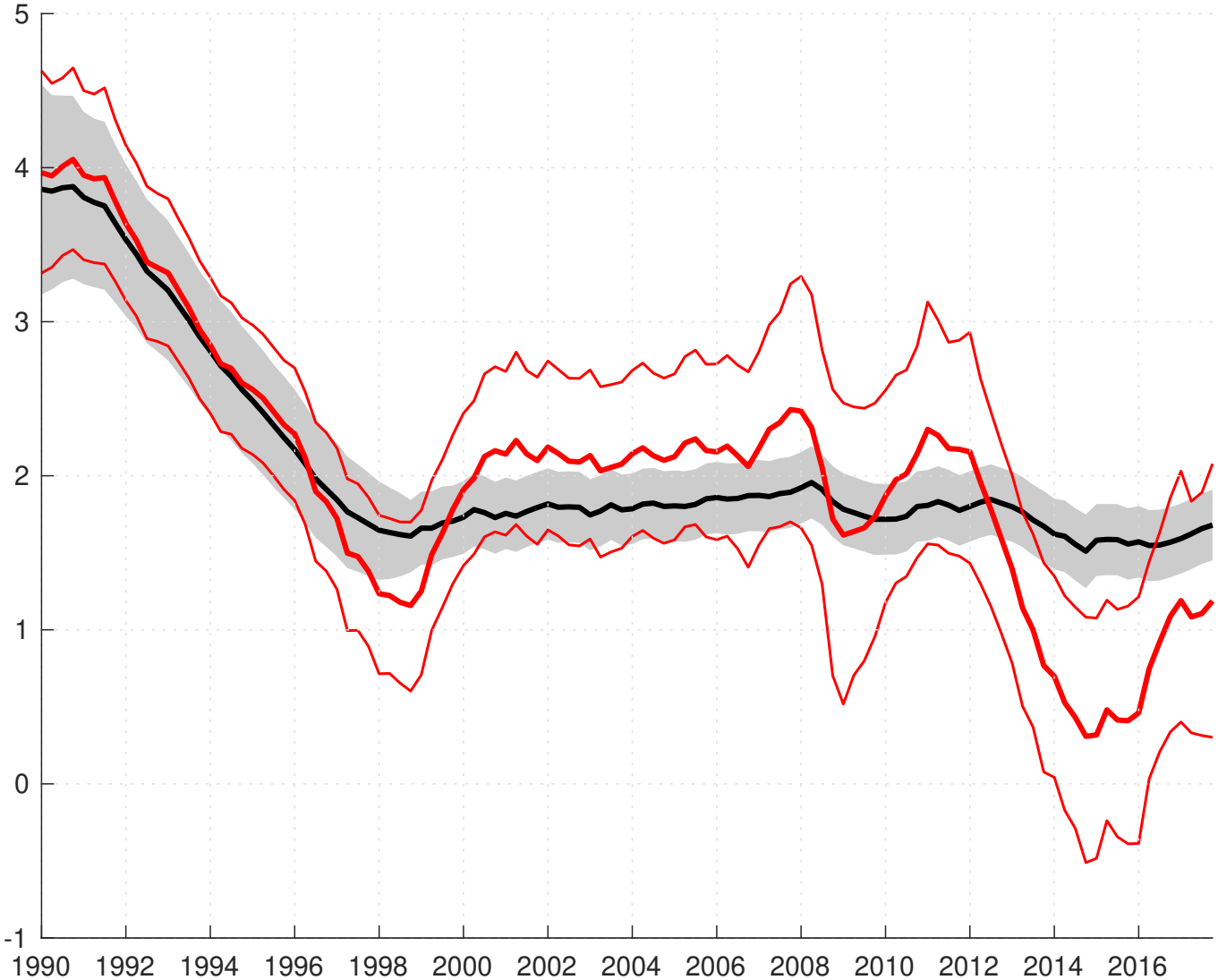
Univariate UCSV Trend (red)



EURO-AREA INFLATION TREND

Univariate UCSV Trend (red), Common Trend (black) w/surveys



As in Mertens (2016): Deviations from trend as VAR

COMMON TREND PERSPECTIVE: TAKE AWAYS

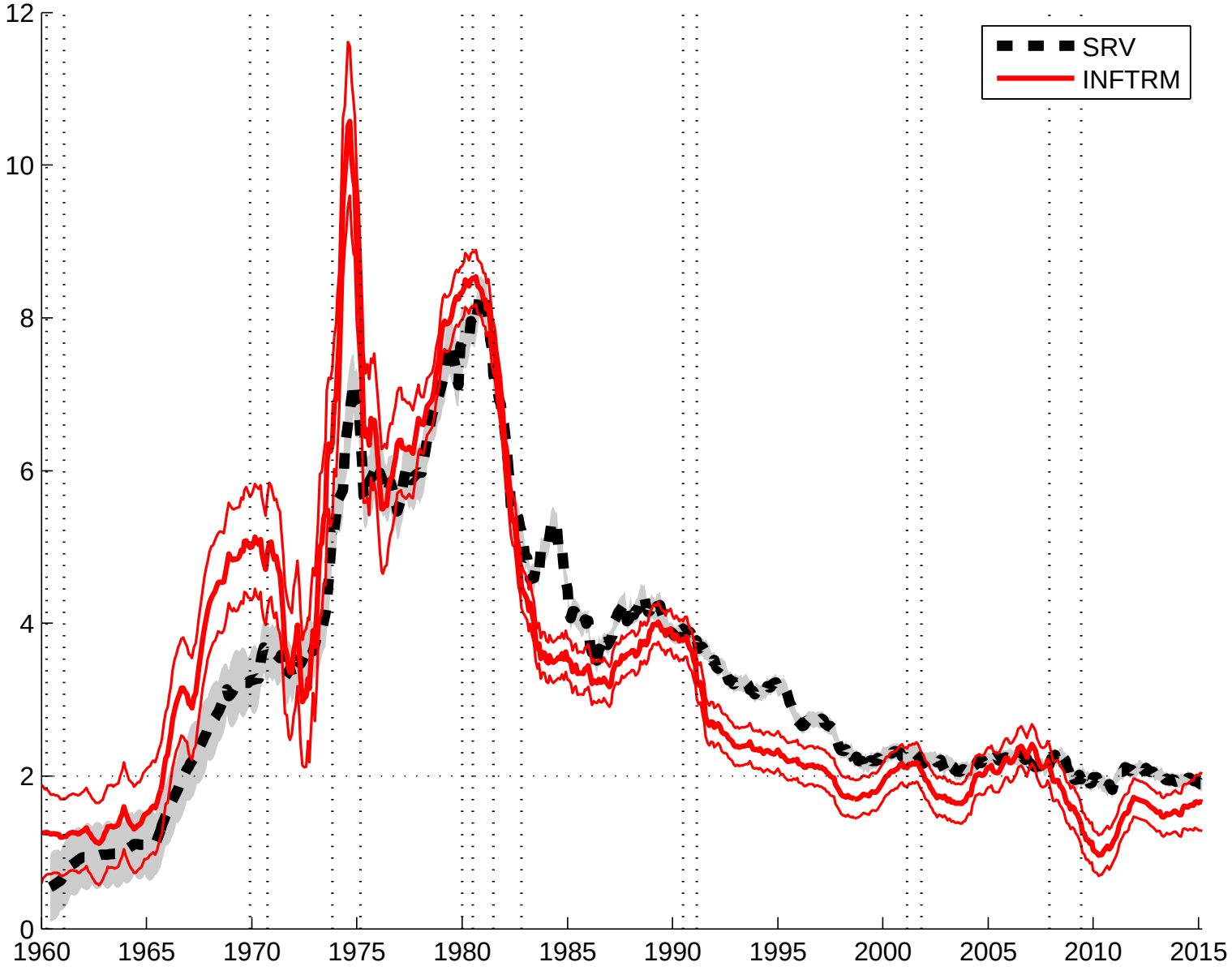
- **Cointegration between surveys and realized inflation useful to exploit**

  How much to gain from the specific Phillips-curve model for gap inflation used here?

INFLATION TREND LEVELS

MERTENS (2016, RESTAT)

INFTRM (red): inflation-data-based, SRV (black): survey-based



COMMON TREND PERSPECTIVE: TAKE AWAYS

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- **U.S.: Survey-based trend estimates lagged inflation-based estimates in 1980s/90s**

- **Forecasts centered around inflation-based trend estimates during 1980s/90s in the U.S. would have worked better**

AGENDA

1. Survey-based inflation trend estimates
2. **Sticky information state space**
3. State dependent stickiness

INFORMATION RIGIDITIES AND FORECASTING

a.k.a. Stevens-Wauters "forecast smoothing"

Coibion & Gorodnichenko (2012 JPE, 2015 AER)

$$F_t \pi_{t+h} = (1 - \xi) E_t \pi_{t+h} + \xi F_{t-1} \pi_{t+h}$$

Encompassing Mankiw-Reis stickiness, noisy information, Sims-Mackowiak-Wiederholt rational inattention

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State space generates RE and SI forecasts for any horizons and events

(see appendix)

STATE SPACE MODEL FOR INFLATION

Mertens & Nason (2018); applicable also to Stevens & Wauters

Inflation dynamics

$$\pi_t = C X_t \qquad X_t = \left[\tau_t^{\pi}, \pi_t - \tau_t^{\pi} \ldots\right]$$

$$X_t = A X_{t-1} + B w_t \qquad E_t \pi_{t+h} = C\, A^h\, X_t$$

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Stevens-Wauters vs Mertens-Nason:

- Similar: Reduced form, independent from survey dynamics
- New: Phillips curve with unemployment-rate gap

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Mertens-Nason not a univariate inflation process

- Inflation driven by multiple state variables whose estimates are informed by SPF
- Given information from SPF, how much to be gained from reduced-form PC?

COMMENTS ON STEVENS-WAUTER INFLATION MODEL

Not a model of forward-looking inflation

- No effects from surveys onto inflation
- **Cannot speak to effects of information rigidities on inflation**
  (e.g. Coibion & Gorodnichenko 2015, AEJM)

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- Surveys affect trend (and gap) **estimates**

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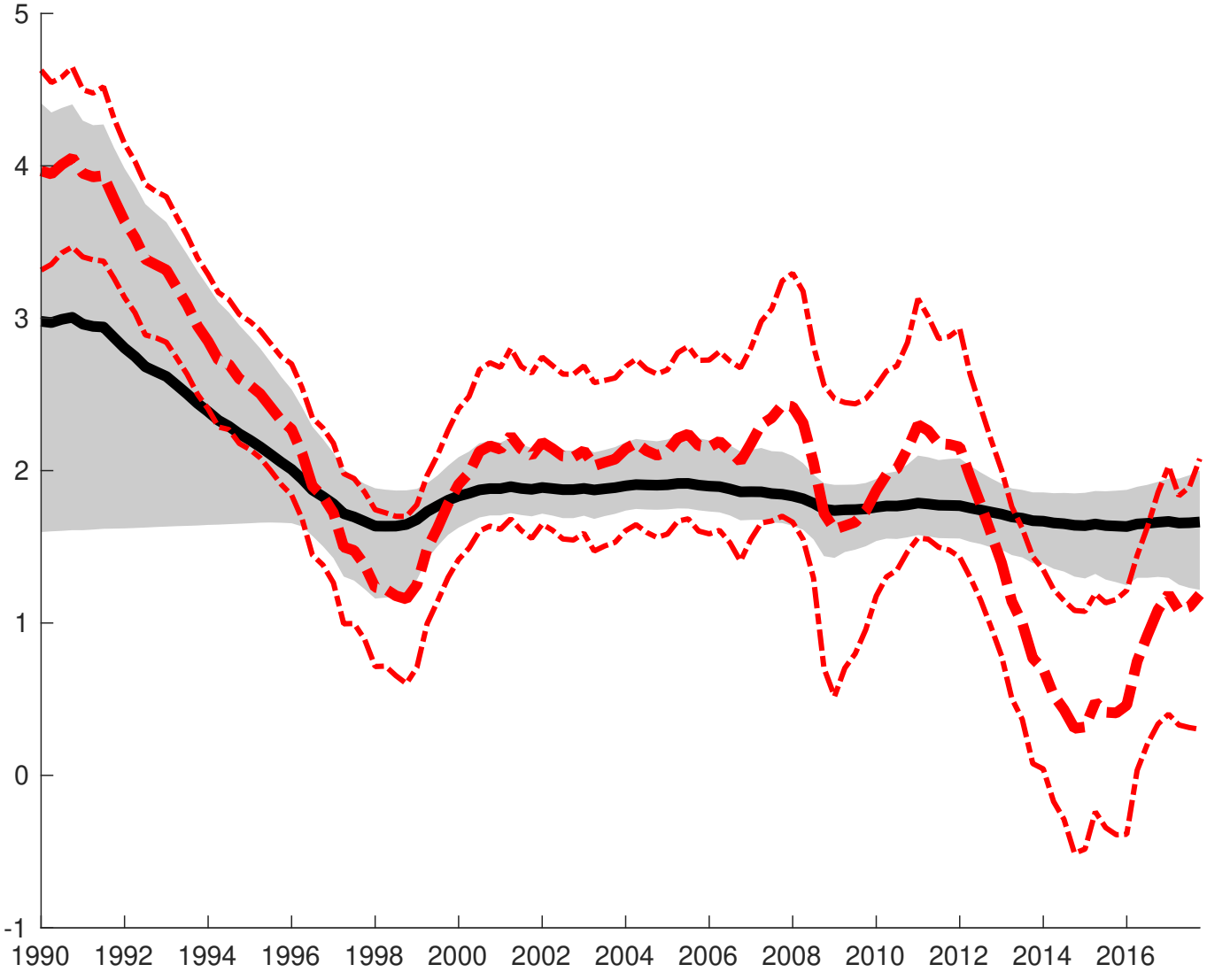
- Embed ECB inflation target (Chan et al bounds)?
- Import prices not relevant for trend identification, only for variance decomposition
- Specification choices: no trend SV, $\rho_t^\pi > 0$, etc ...

EURO-AREA INFLATION TREND

Smoothed trend estimates: Univariate UCSV (red), Mertens-Nason (black)



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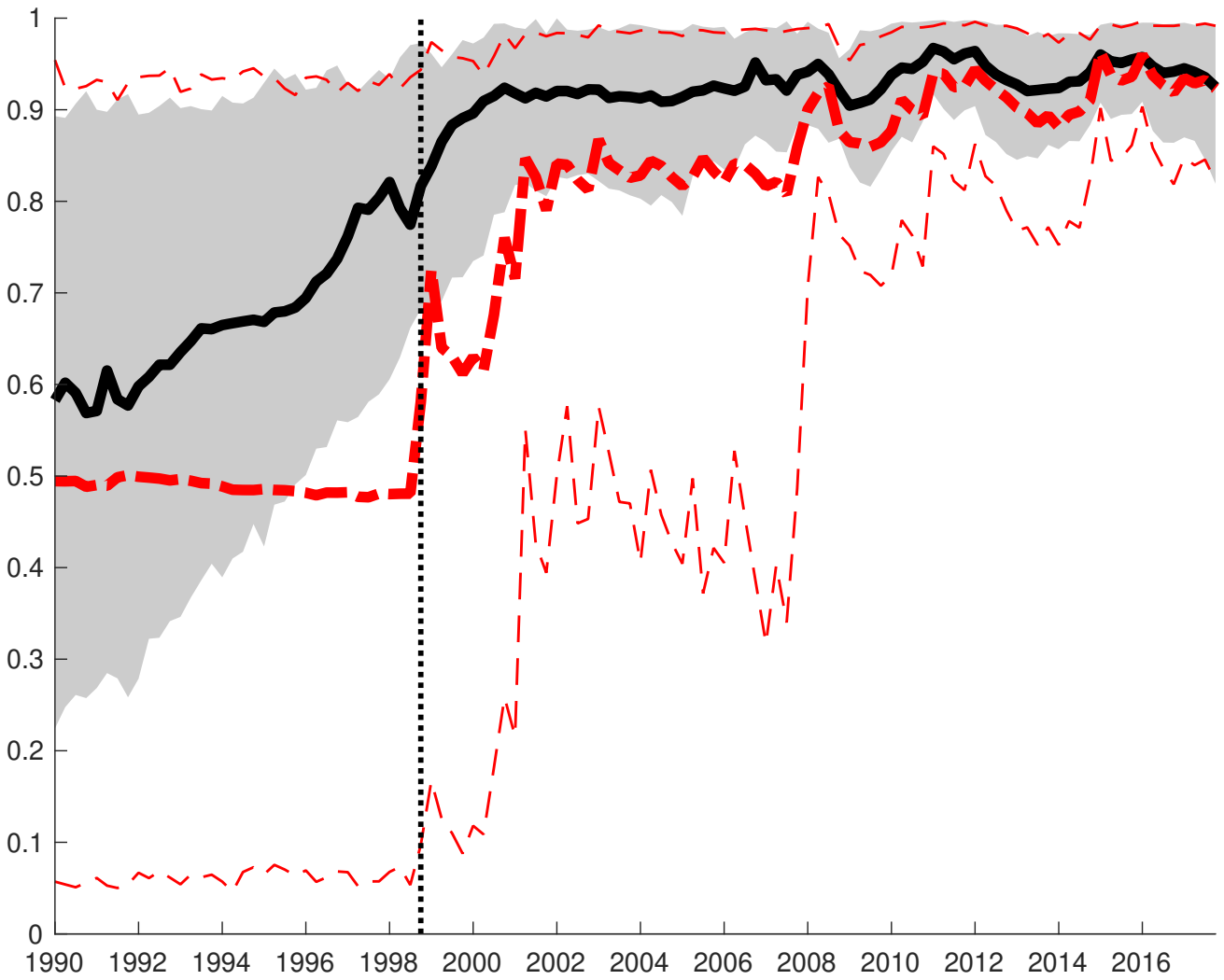
SI WEIGHT ξ_t

EURO AREA

Mertens-Nason w/Stevens-Wauters data, smoothed (black), filtered (red)

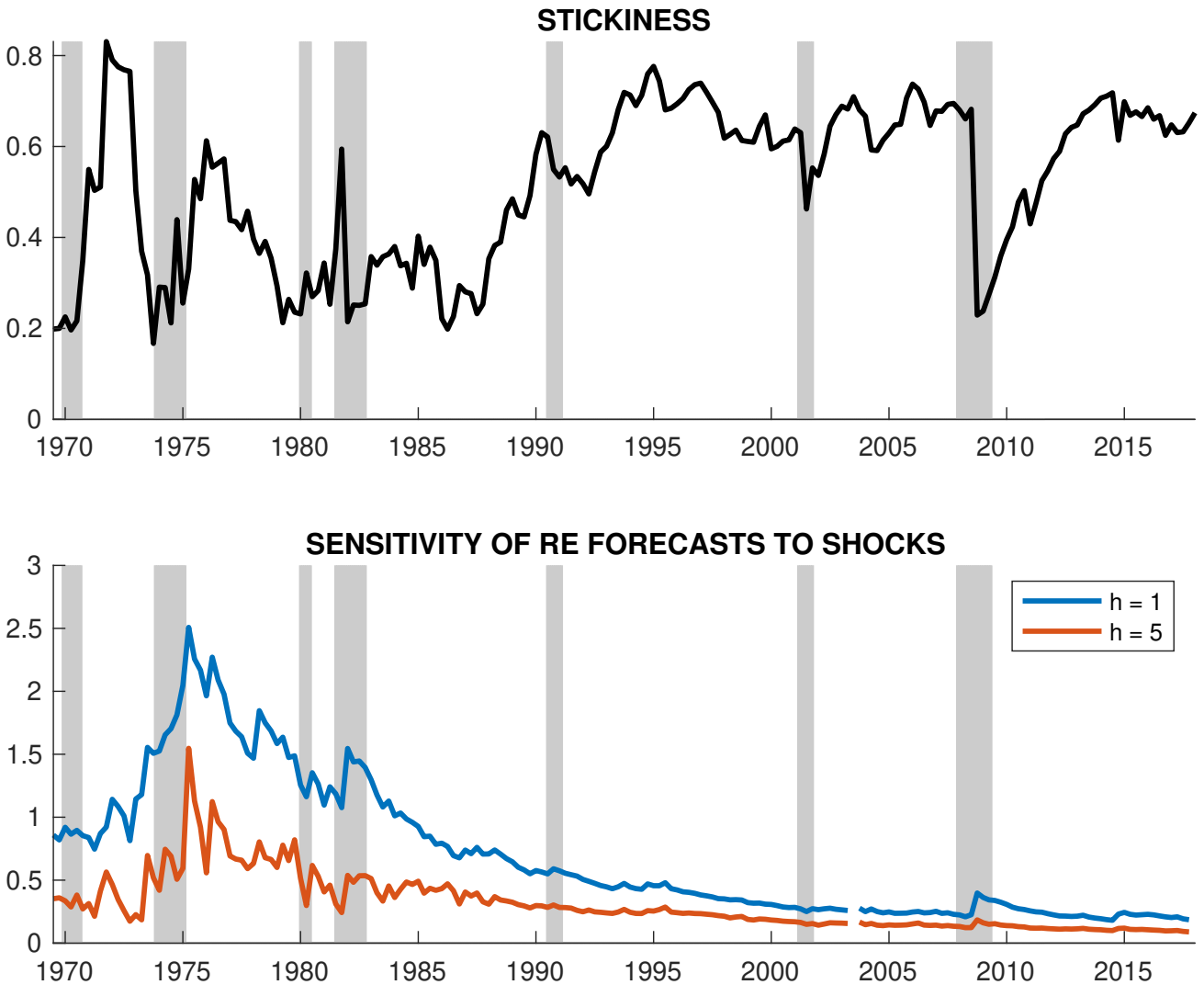


No significant movements since 2001 (see appendix)

Survey data available since 1998:Q4

INFLATION PERSISTENCE AND SI WEIGHT

Filtered estimates from Mertens & Nason (2018), U.S. data.



Link between inflation persistence and attention?

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The question was . . .

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The answer is . . .

No, at least not when
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Thoughts

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- Causes of survey stickiness?
- Relative constancy of euro-area stickiness indicative of succesful anchoring?

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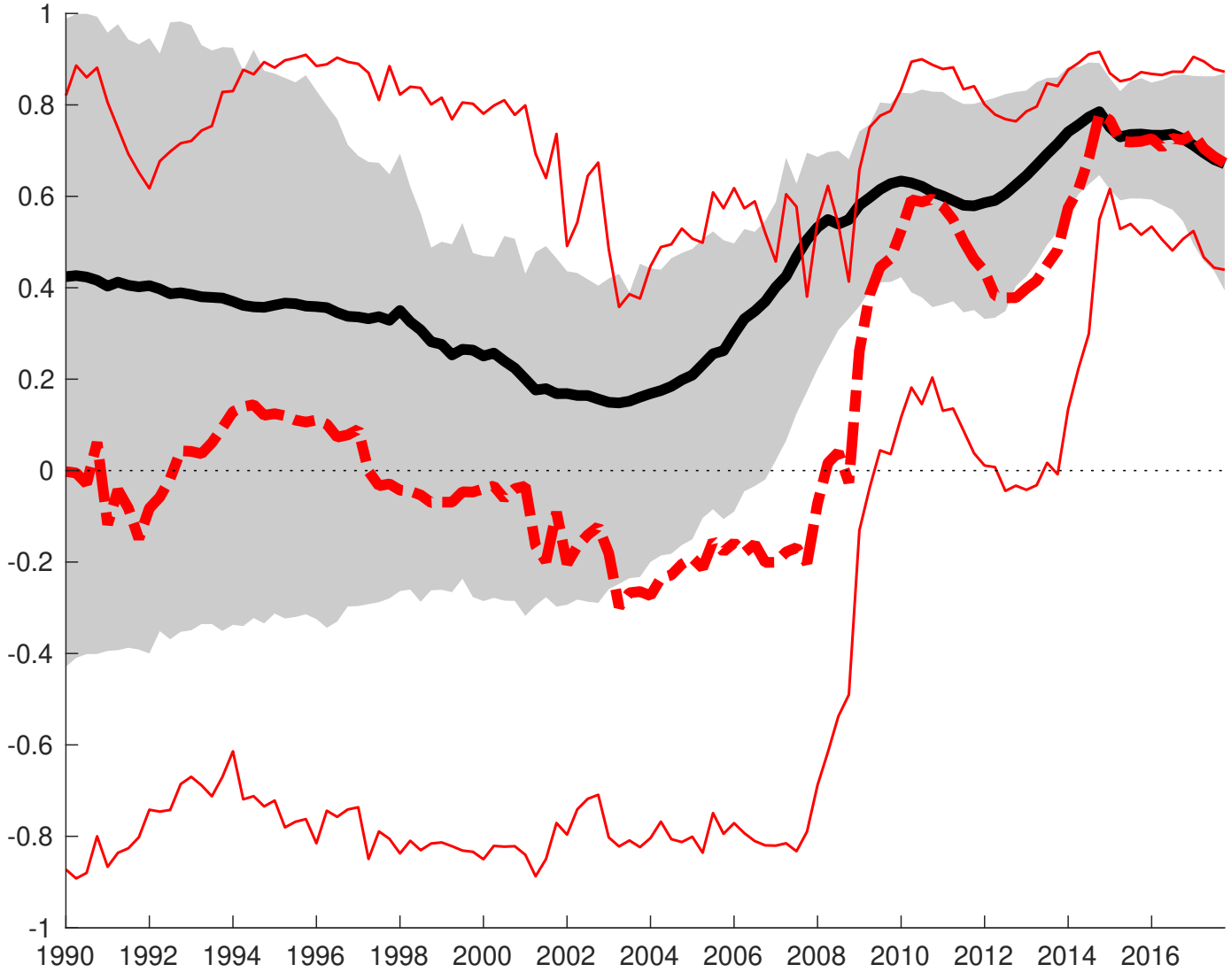
Very nice paper!

APPENDIX

INFLATION GAP AR(1) PARAMETER

BACKUP

Mertens-Nason w/Stevens-Wauters data, smoothed (black), filtered (red)



TREND SHOCK VOL

BACKUP

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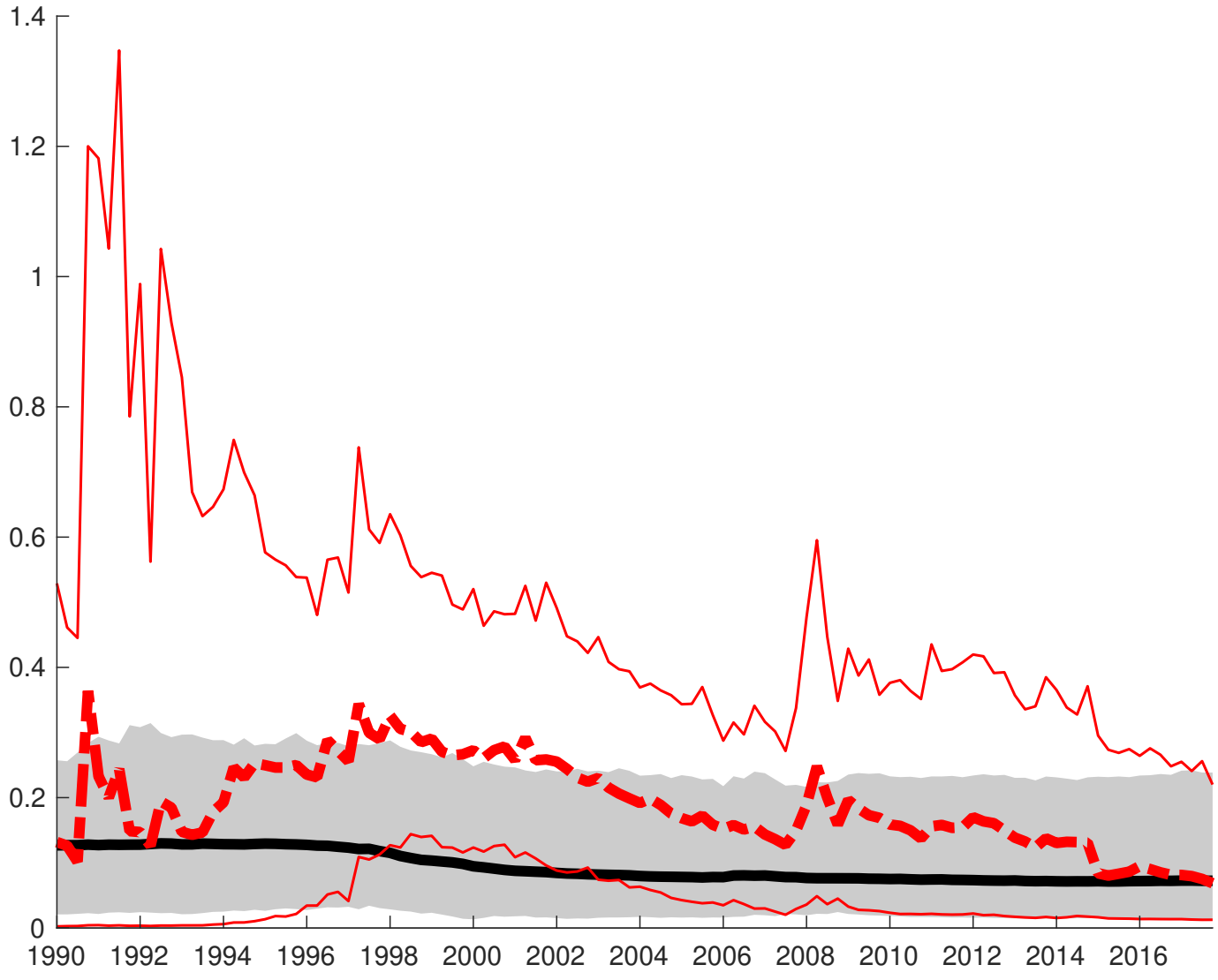

GAP SHOCK VOL

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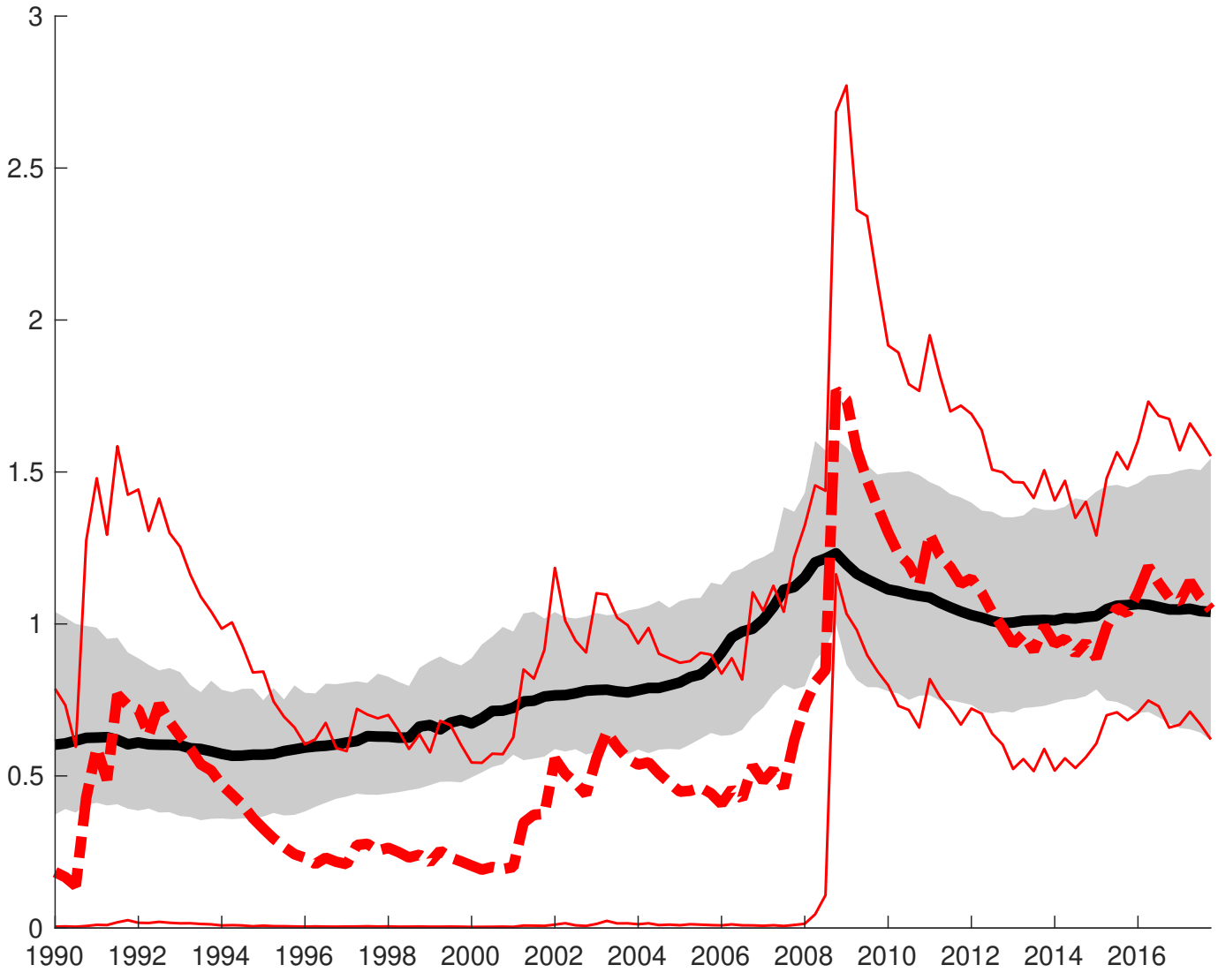
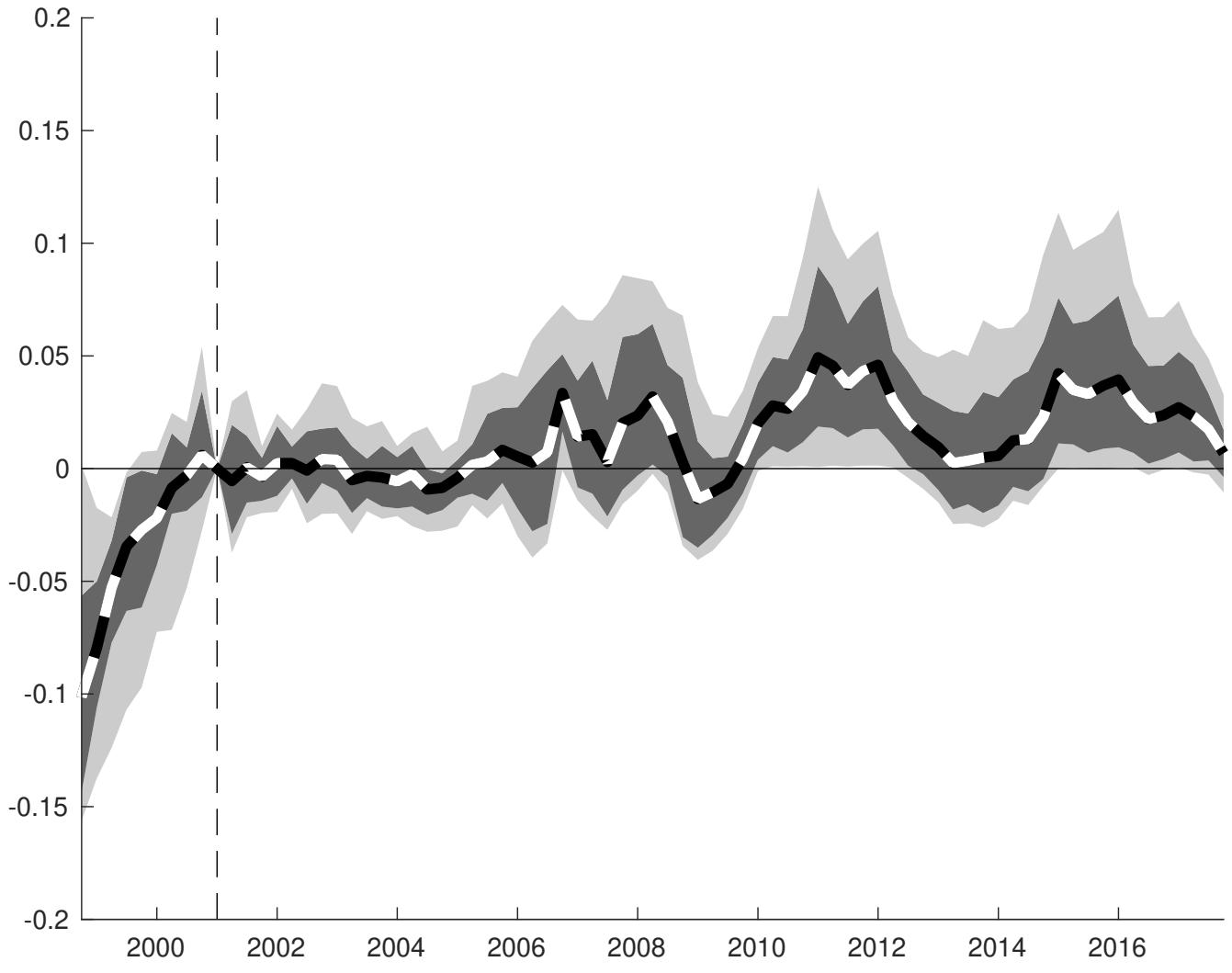


DIFFERENCES IN SI WEIGHT OVER TIME ξ_t

EURO AREA

$\xi_{t|T} - \xi_{2001|T}$



Inference based on joint uncertainty between ξ_t and ξ_{2001}

RECURSIVE STATE SPACE WITH SURVEYS

Mertens & Nason (2018); applicable also to Stevens & Wauters

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Sticky-information survey states

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$$F_t X_t = (1 - \xi_{t-1}) X_t + \xi_{t-1} F_{t-1} X_t$$

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Can construct survey forecasts
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(w/AUM forecasts of time-varying parameters)

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