Discussion of Signaling Effects of Monetary Policy by L. Melosi

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  (3) Firm j mixes its idiosyncratic TFP shock, $A_{j,t}$ with labor to produce its good and, although a monopolist, is afflicted by time-dependent reset pricing rules.

Information Structure and Incentives

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  (1) Firms expect govt to produce surprise inflation. Will it?

  (2) Either govt committed to its Taylor rule or it isn't.

  (3) Household may not want inflation surprise anymore than firms; could sell $\mathcal{H}_\tau$ to firms at a price.

Firms and Dispersed Information

- Dispersed information: firm j's $\mathcal{H}_{j,\tau}$ never equals firm ℓ's.

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  $\Longrightarrow$ *iterate expectations forward by averaging instead of law of iterated expectations.*

- Not Townsend's "Forecasting the Forecasts of Others".

  $\Longrightarrow$ *where agents know same stuff with a lag.*

Higher-Order Beliefs

- NK model has firm j computing its optimal reset price,

$$\ln P^*_{j,t} = \int \mathbf{E}\Big\{\mathcal{K}\Big(\ln mc_{j,t},\ \ln P_t,\ \ln P^*_{j,t+1}\,\Big|\,\mathcal{H}_{j,t}\Big)\Big\}dj.$$

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- Solution using $\ln P^{*1}_{j,t+1|t} = \int \mathbf{E}\Big\{\ln P^*_{j,t+1}\Big|\mathcal{H}_{j,\tau}\Big\}dj$.
- Can iterate forward and average, but a linearized NK model.

Approximation Error?

- Implicit in iterate forward, average expectations, iterate forward, ..., average expectations, iterate forward, ...,

$$\ln P^{*k}_{j,t+k|t+k-1|...|t+1|t} = \int \mathbf{E}\left\{\ln P^{*}_{t+k-1|t+k-2|...|t+1|t} \,\middle|\, \mathcal{H}_{j,\tau}\right\} dj$$

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- Implies impact of expectations shock decays, say, as a persistent high order AR to shock.

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- Monetary policymaker may be able to signal to firms the source of the shock.
- Dispersed information is a mechanism to evaluate forward guidance of monetary policy, say, of the sort the FOMC offered after its August 2011 meeting.
- If you work for a member or members of the FOMC, this paper could be useful.

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- Similar to Sargent (JPE, 1989).

  $\Longrightarrow$ *Econometrician handles measurement error in data adding VAR(1) to state equations when constructing likelihood via the KF.*

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- Smith draws on Gottfries and Persson (QJE, 1988): construct optimal recursive projection of RE forecast and survey forecast turning hybrid NKPC into OLS regression.

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  Average across SPF participants,
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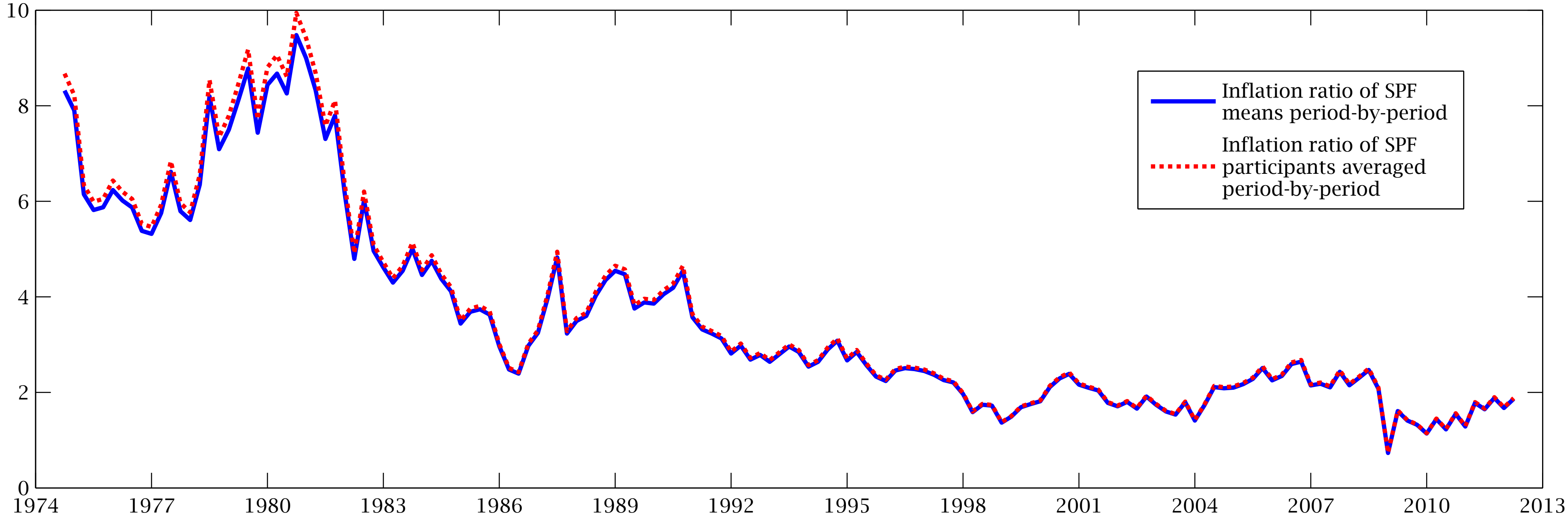
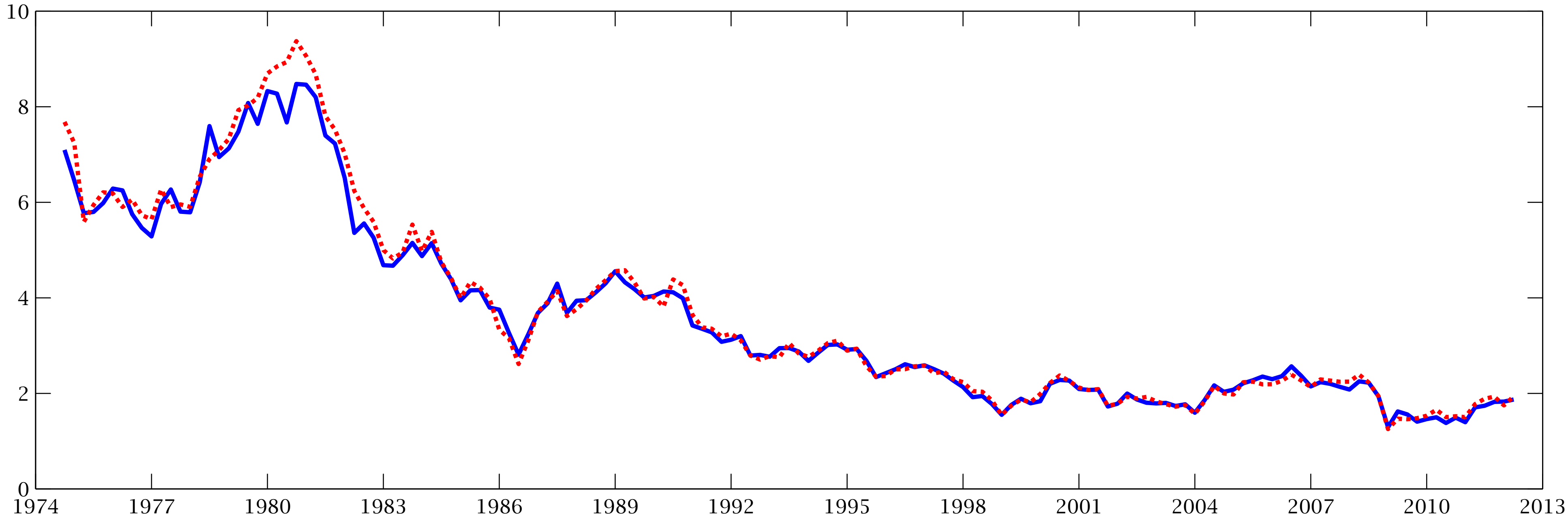
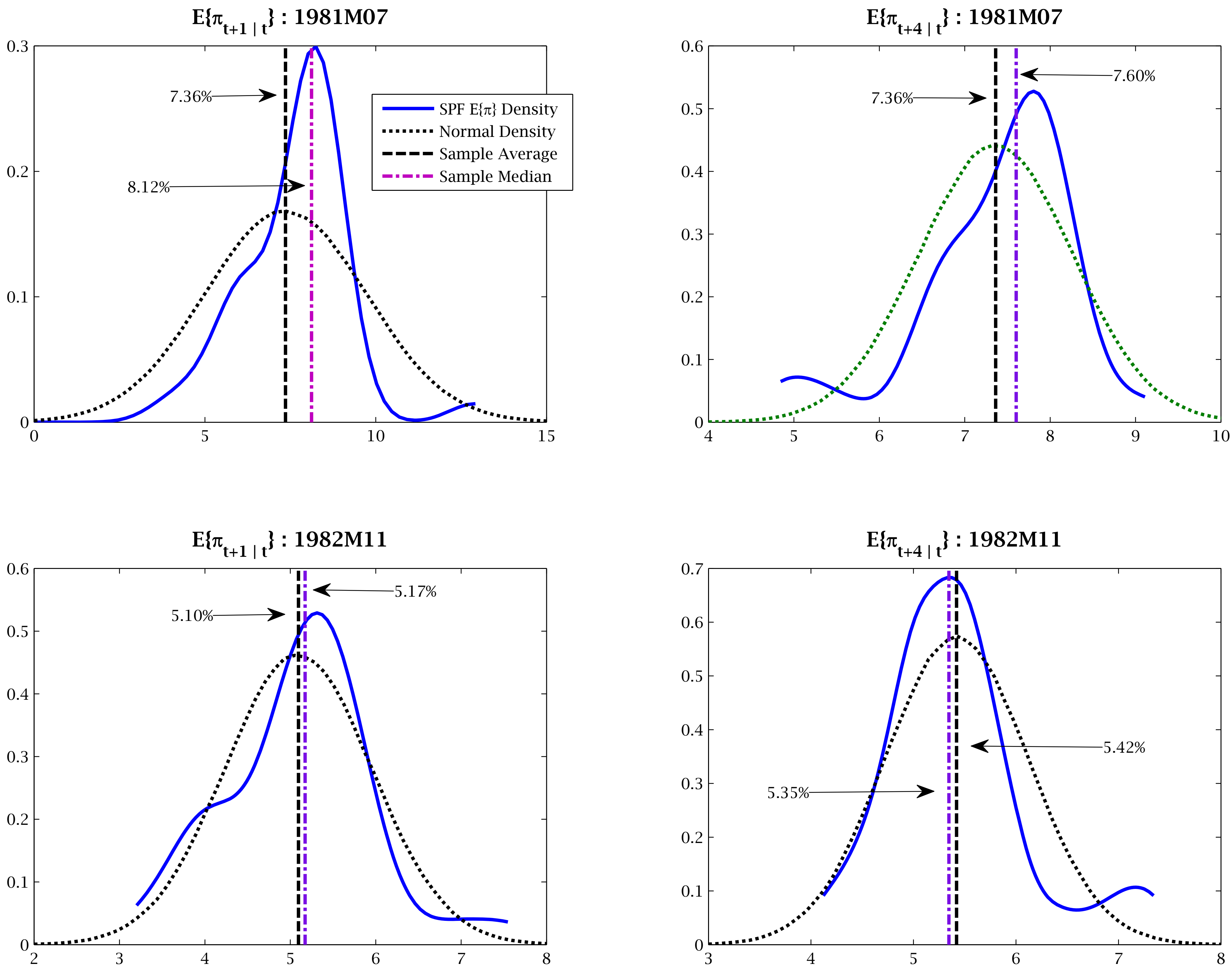
- Why? Avoid outliers, changing composition of SPF participants, and Jensen's inequality problems.
- Does this matter ....

$E\{\pi_{t+1\,|\,t}\}$, 1974Q3 - 2012Q2



$E\{\pi_{t+4\,|\,t}\}$, 1974Q3 - 2012Q2

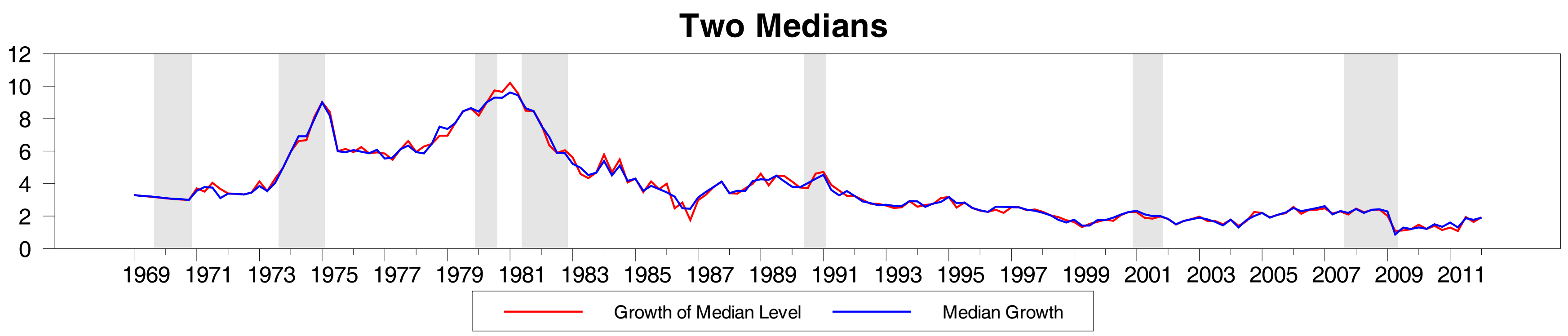


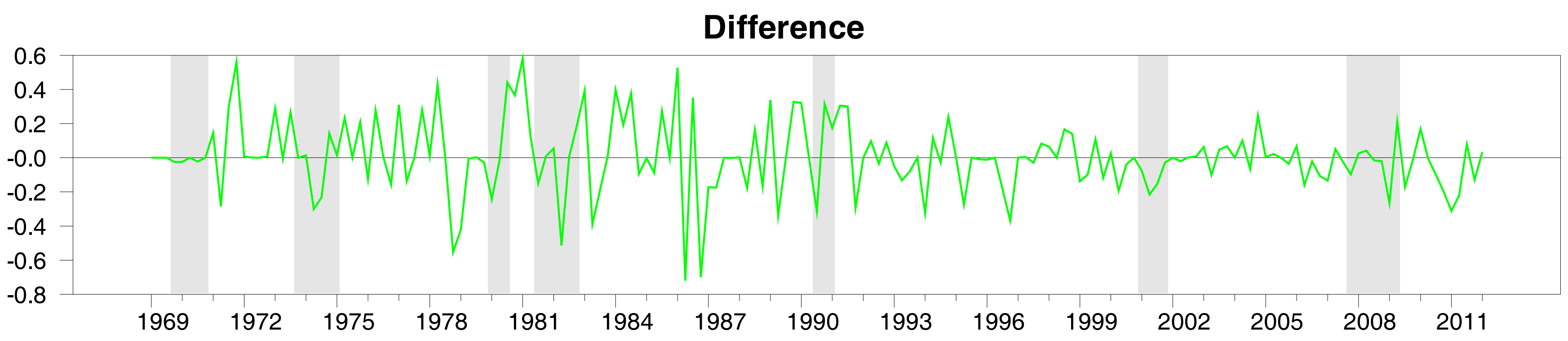


E{π t+1 | t} : 1981M07
7.36%
8.12%
SPF E{π} Density
Normal Density
Sample Average
Sample Median
E{π t+4 | t} : 1981M07
7.60%
7.36%
E{π t+1 | t} : 1982M11
5.17%
5.10%
E{π t+4 | t} : 1982M11
5.42%
5.35%

SPF - Alternative Medians for Q/Q Inflation (PGDP)

Horizon: 1 Quarters Ahead





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- What matters for expectations formation of firms with dispersed information sets?
- Averaging their expectations? Or endowing firms and econometrician with stationary auxiliary DGP that approximates expectations with a reduced-form joint probability density of shocks not observed by firms?
- Is using SPF as source of expected inflation consistent with firms facing problem of dispersed information?