Average Inflation Targeting and Household Expectations

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The views expressed here are my own and do not necessarily represent those of the Federal Reserve Bank of Boston or the Federal Reserve System.

How does AIT work?

Rely on strong π^e channel (as other 'make-up' policies i.e. FG or PLT)

Basic NK model:

- EE: $y = y^e - \sigma(i - \pi^e)$
- PC: $\pi = \beta\pi^e + \kappa y$
- MP commitment: $\pi < 0 \Rightarrow \pi^e > 0$
- Transmission: News $\Rightarrow \pi < 0 \Rightarrow \pi^e > 0 \Rightarrow y > 0 \Rightarrow \pi > 0$

Stabilizing MP even if more frequent ZLB due to lower $r^\star$

- e.g. Andrade-Galí-Le Bihan-Matheron (2021) for the euro area

Coibion-Gorodnichenko-Knotek-Schoenle

How is AIT understood by households?

News of move to AIT (given macro outlook) $\Rightarrow \pi^e(y^e)$?

Data: daily survey of households (Cleveland Fed)

Event study: Powell's JH speech on August 27, 2020

RCT: AIT info provided to randomly selected individuals

News of move to AIT (given macro outlook) $\Rightarrow$ π^e (y^e)?

Data: daily survey of households (Cleveland Fed)

Event study: Powell's JH speech on August 27, 2020

- Result 1: no impact on 'perceived news'
- Result 2: no impact on π^e, y^e

RCT: AIT info provided to randomly selected individuals in the survey

- Result 3: no change in π^e, y^e compared to IT treatment

What it means for AIT

π^e channel breaks down because HHs do not pay attention to news, and do not understand (or believe in) AIT commitment

CGKS results:

- EE: $y = y^e - \sigma(i - \pi^e)$
- PC: $\pi = \beta\pi^e + \kappa y$
- MP commitment: $\pi < 0 \not\Rightarrow \pi^e > 0$
- Transmission: ~~News~~ $\Rightarrow \pi < 0 \not\Rightarrow \pi^e > 0 \Rightarrow y > 0 \Rightarrow \pi > 0$

Discussion

Can AIT work despite CGKS results?

- Did more sophisticated agents understood AIT better?
- Does it take time to experiment AIT & to convince AIT $\neq$ IT?

Can AIT be ineffective/counterprod. for other reasons than in CGKS?

- Little reaction of HHs expenditure to marginal changes in real IR
- Risk of de-anchoring

Some remarks on MP in the current low inflation environment

How markets reacted to AIT?

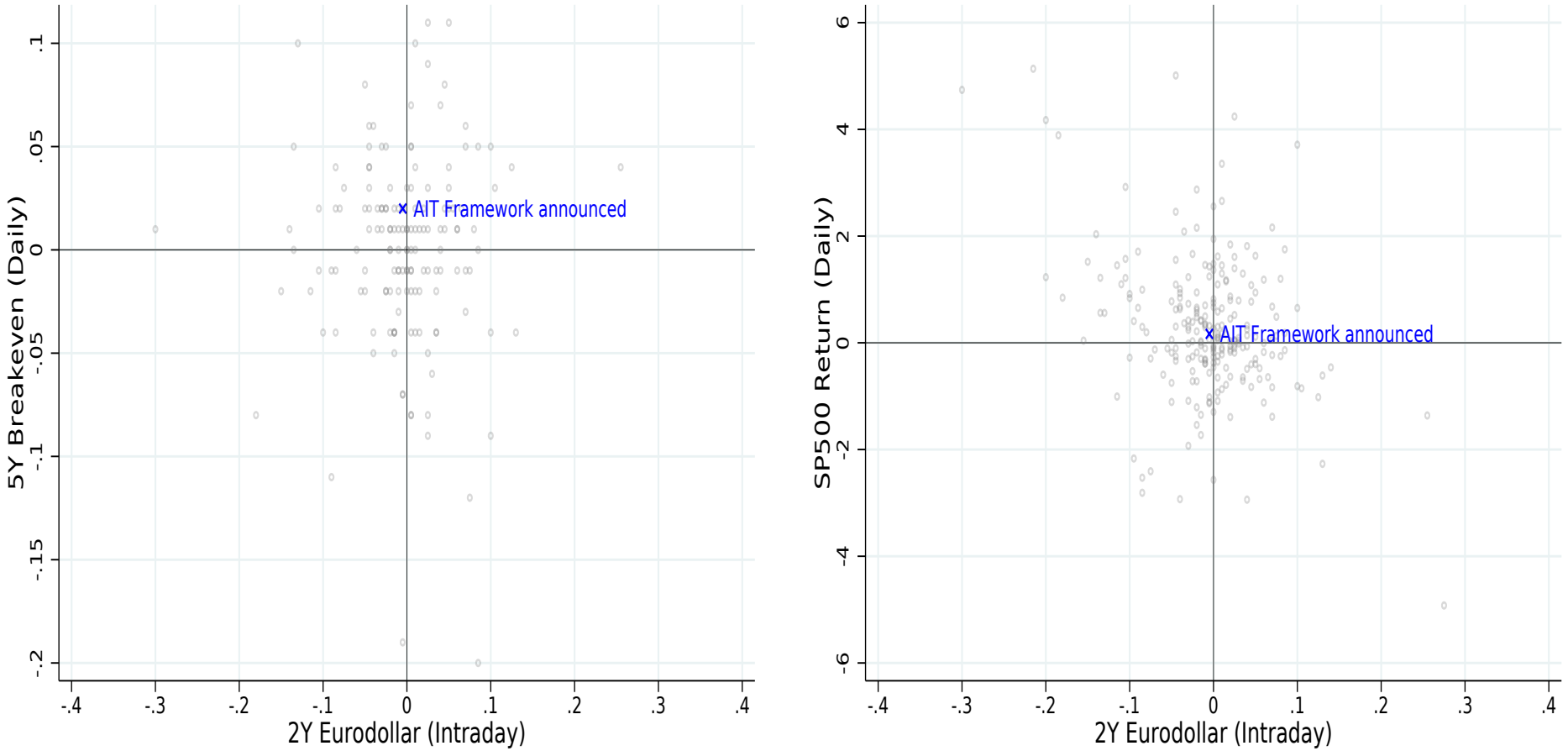
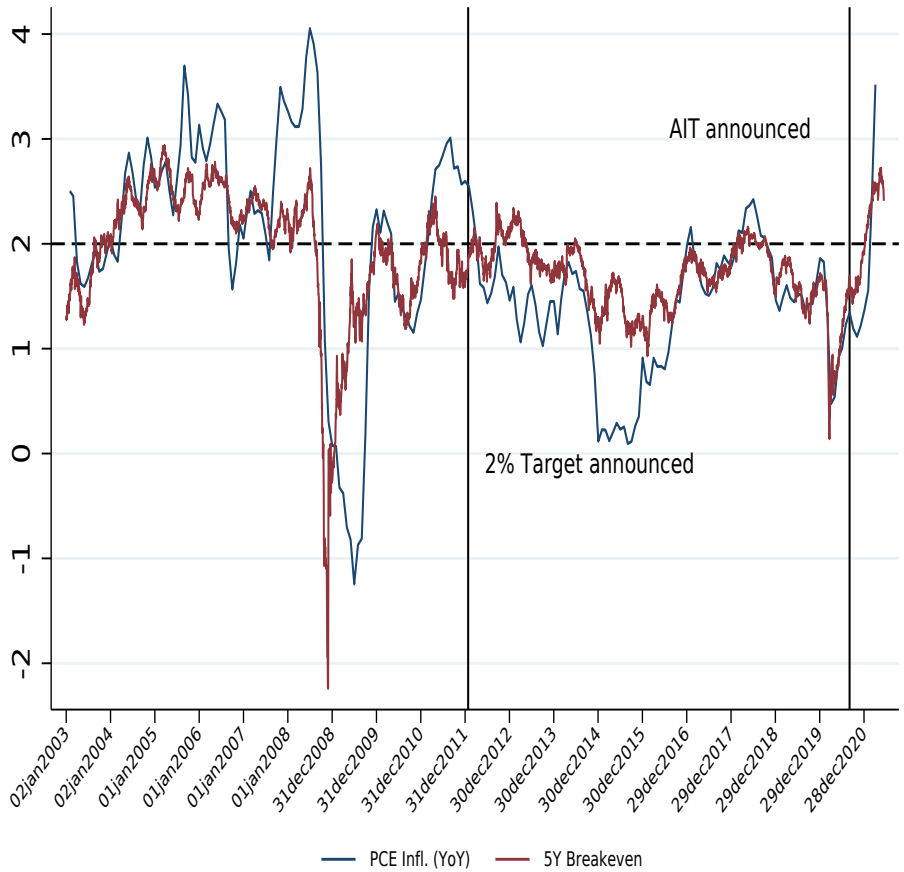


Figure 1: HF reaction to FOMC statements & AIT news

Does it take time to learn a new strategy?



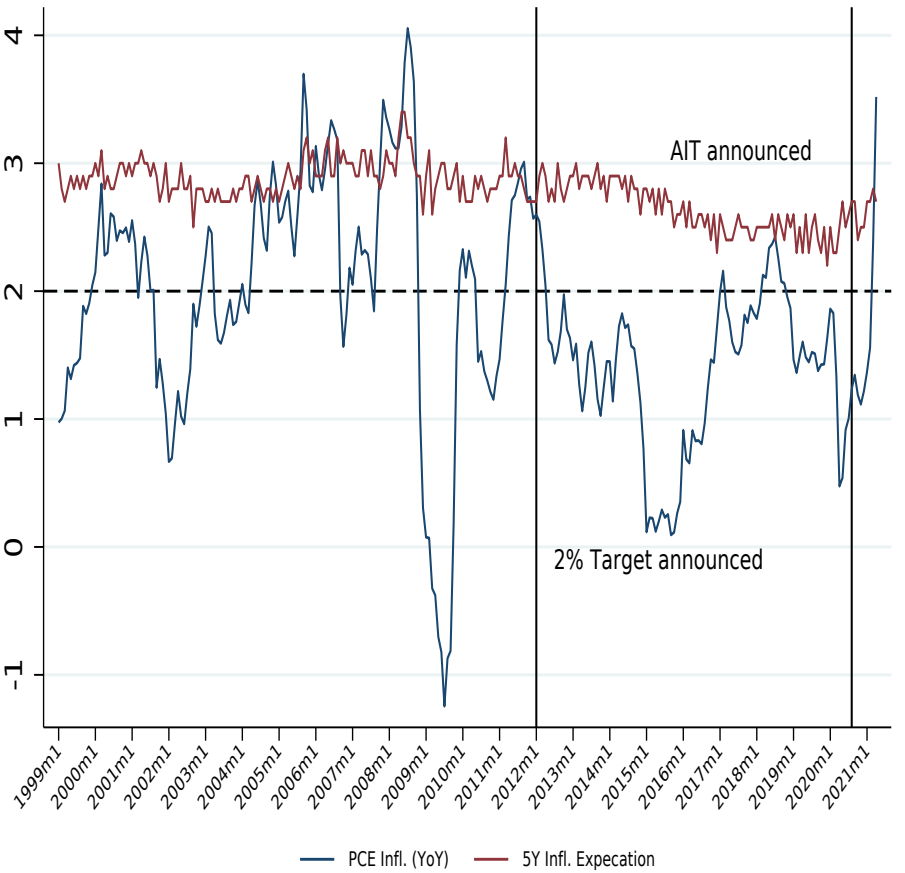


Figure 2: LT infl. expectations from markets (breakeven) & HHs (Michigan)

Other limits to the transmission of AIT

The output gap is not always inflationary

Assume CB finds ways to overturn CGKS results:

- MP commitment: $\pi < 0 \Rightarrow \pi^e > 0$
- Transmission: News $\Rightarrow \pi < 0 \Rightarrow \pi^e > 0 \Rightarrow y > 0 \Rightarrow \pi > 0$

How about the other relations?

- EE: $y = y^e - \sigma(i - \pi^e)$?
- PC: $\pi = \beta\pi^e + \kappa y$?

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How about the other relations?

- EE: $y = y^e - \sigma(i - \pi^e)$?
- PC: $\pi = \beta\pi^e + \kappa y$?

PC: large literature on its 'flattening': $\kappa \simeq 0$

- Transmission: News $\Rightarrow \pi < 0 \Rightarrow \pi^e > 0 \Rightarrow y > 0 \not\Rightarrow \pi > 0$

Other limits to the transmission of AIT

Higher expected inflation is not always expansionary

Assume CB finds ways to overturn CGKS results:

- MP commitment: $\pi < 0 \Rightarrow \pi^e > 0$
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How about the other relations?

- EE: $y = y^e - \sigma(i - \pi^e)$?
- PC: $\pi = \beta\pi^e + \kappa y$?

EE: evidence of weak effect of π^e on y: $\Delta\pi^e > 0 \Rightarrow \Delta y \simeq 0$

- e.g. Bachman-Berg-Sims (2015)
- Transmission: News $\Rightarrow \pi < 0 \Rightarrow \pi^e > 0 \not\Rightarrow y > 0 \Rightarrow \pi > 0$

Why $\Delta\pi^e > 0$ not always expansionary?

Coibion-Gorodnichenko-Weber (2019): HHs lower y^e when they increase π^e so the impact on expenditure is weak

- std EE: $y = y^e - \sigma(i - \pi^e)$
- $\text{cov}(y^e, \pi^e) < 0$ determined by past π, y experience

D'Acunto-Hoang-Paloviita-Weber (2019): HHs with cognitive constraints do not adjust expenditure when they change π^e

- discounted EE: $y = y^e - \sigma(i - M\pi^e)$
- $M < 1$ fixed by avg cognitive constraint of population

Andrade-Gautier-Mengus (2020): HHs do not adjust expenditure with marginal change in π^e but with qualitative change in π^e regime

- discounted EE: $y = y^e - \sigma(i - M_t\pi^e)$
- $M_t < 1$ vary with past π (determine regimes HHs have in mind)

Important implications for how to make AIT more effective

How much should the Fed make up?

Take end of 2013 as the reference point

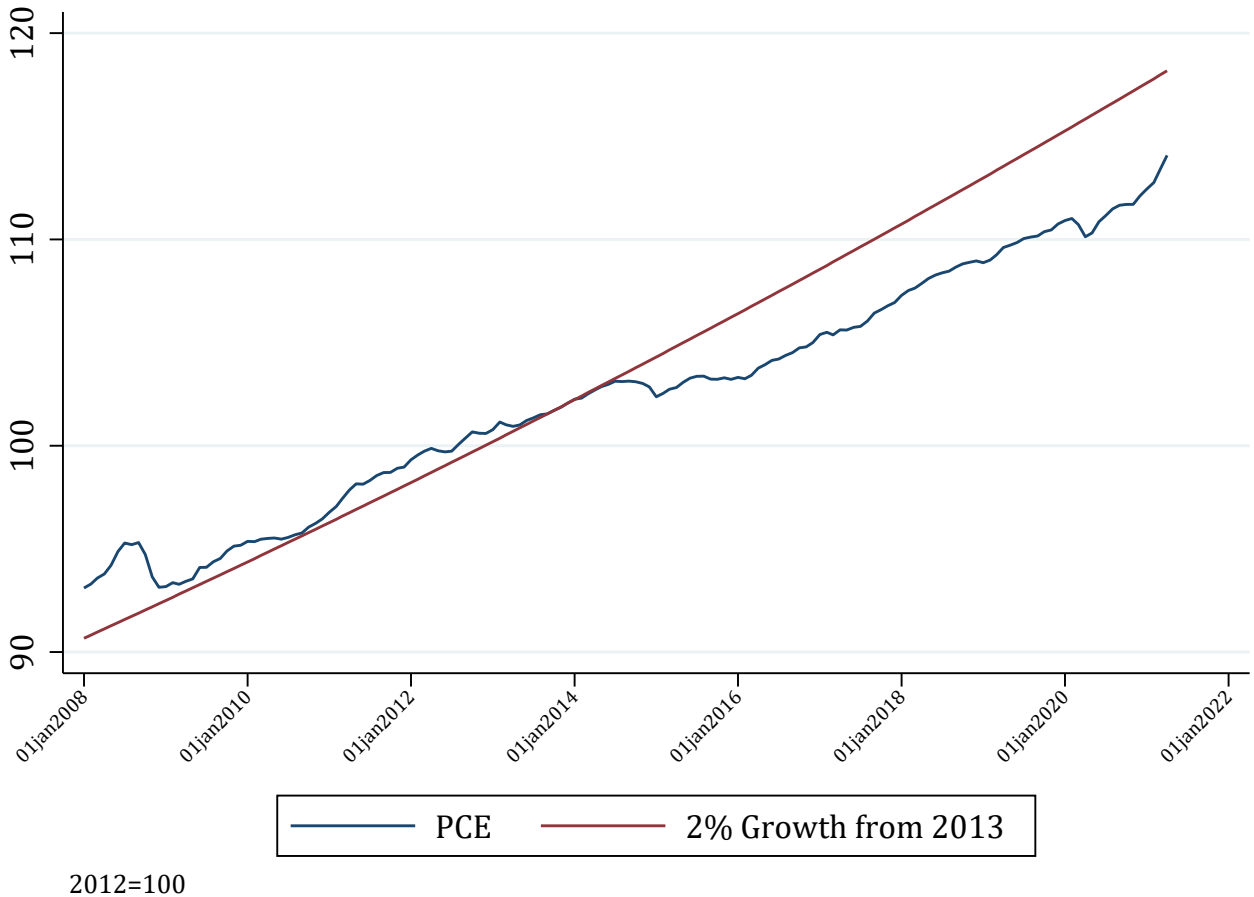

Figure 3: Gap from 2% inflation trend

Catching-up requires 7 years at 2.5% / 3.5 years at 3% / 1.75 year at 4%

Can this lead to deanchoring?

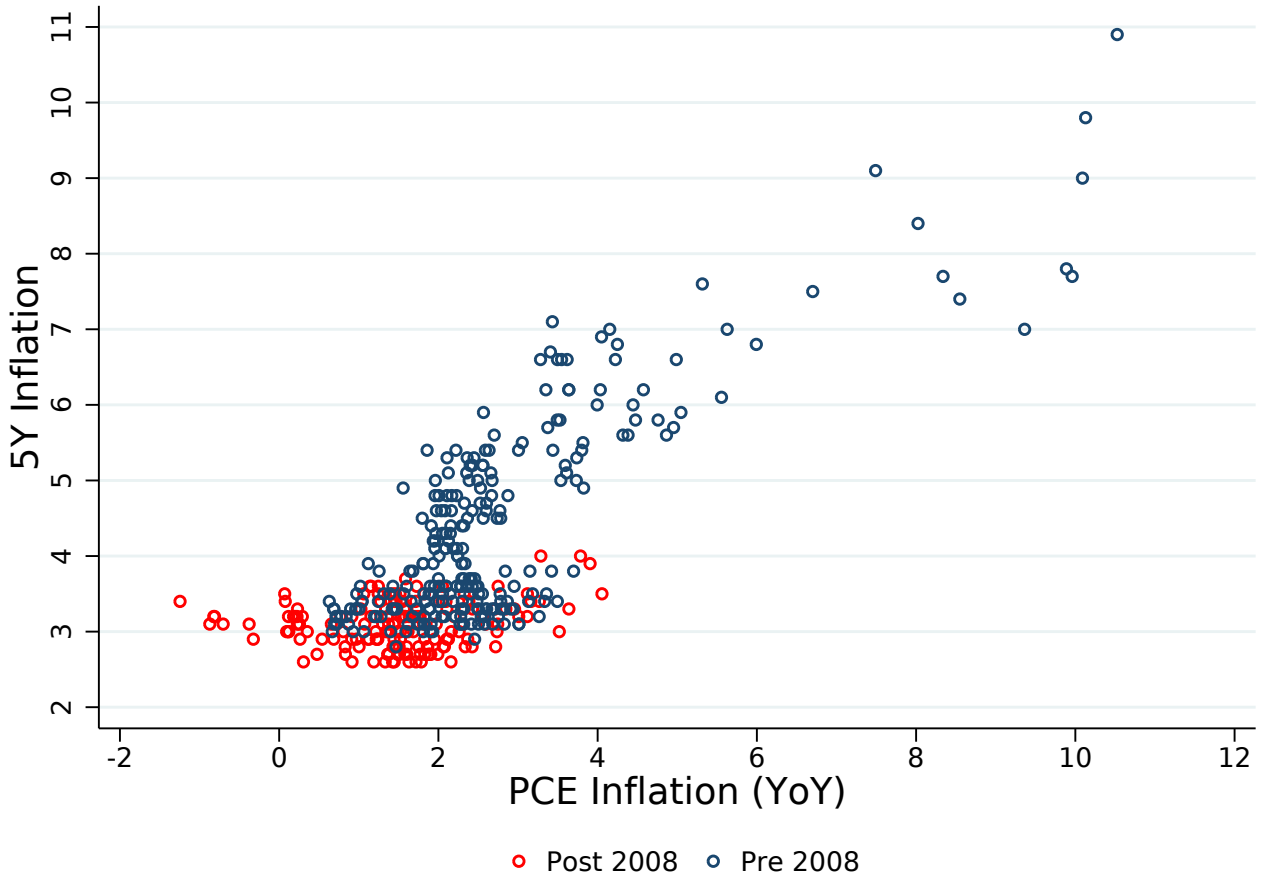

Figure 4: LT household inflation expectations and inflation realizations

Conclusion

Low inflation environment:

- Underreaction of π^e to news, flat PC, discounted EE
- π can remain low for long even with low IR for long
- CB can target max employment without trading-off much π

However, other trade-offs induced by risks of low IR for long

- risk of sudden change in π^e regime (hence in π)
- risks to financial stability