Credibility Dynamics and Disinflation Plans

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Announcements

Main question: How are *announcements* of future policy able to affect beliefs?

- Models
  - Commitment
  - Discretion
  - Hybrids
- This paper: rational-expectations theory of government *credibility*
  - Insights from reputation

- Application: Inflation Targeting, disinflation plans
  - Model: stubborn types committed to inflation targets
  - Planner *(very likely to not be stubborn)* announces targets
  - Anticipates reputation dynamics once plan in place, weighs against plan itself

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Gradualism

Main result: Planner picks a gradual disinflation

- Does not depend on inertia or 'real' effects, only incentives
- Story
  - CB values your belief that it follows the plan $\Longrightarrow$ has incentive to "keep the fiction alive"
  - Incentive does not require reputation to be high
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Gradualism (cont'd)

- CB could always deviate, use shocks for cover
  - (Technical but) Critical departure from literature, implies $p \in (0, 1)$ continuously
    - . . . rather than $p = 0$ after any deviation
  - Makes some plans *more credible* than others
- Initial reputation = actual proportion of stubborn types (rational expectations)
  - Results hold in limit as $p \to 0$

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Model

Framework

- A government dislikes inflation and output away from a target $y^\star > 0$

$$L_t = \mathbb{E}_t \left[\sum_{s=0}^{\infty} \beta^s \left((y^\star - y_{t+s})^2 + \gamma \pi_{t+s}^2 \right) \right]$$

- A Phillips curve relates output to current and expected future inflation

$$\pi_t = \kappa y_t + \beta \mathbb{E}_t \left[\pi_{t+1} \right]$$

- The government controls inflation only imperfectly (through g_t)

$$\pi_t = g_t + \epsilon_t$$

with $\epsilon_t \overset{iid}{\sim} F_\epsilon$

Behavioral/Stubborn types

- What is the set $\mathcal{C}$?
  - ... and associated possible ϕ_c functions
- Consider $\{a_t\}_t$ paths characterized by
  - Starting point a_0
  - Decay rate ω
  - Asymptote χ

$$a_t = \chi + (a_0 - \chi)e^{-\omega t}$$

$$\phi(a) = \chi + e^{-\omega}(a - \chi)$$

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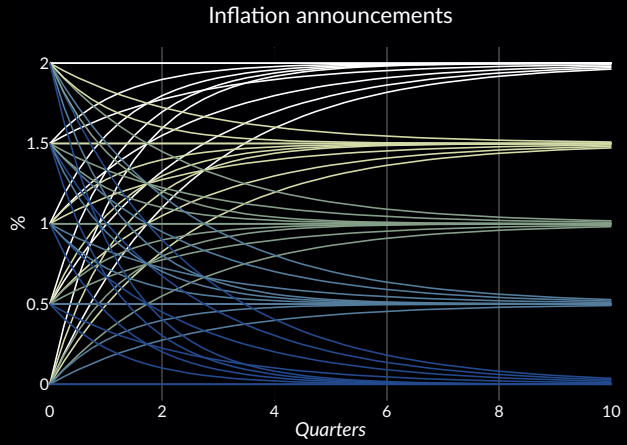
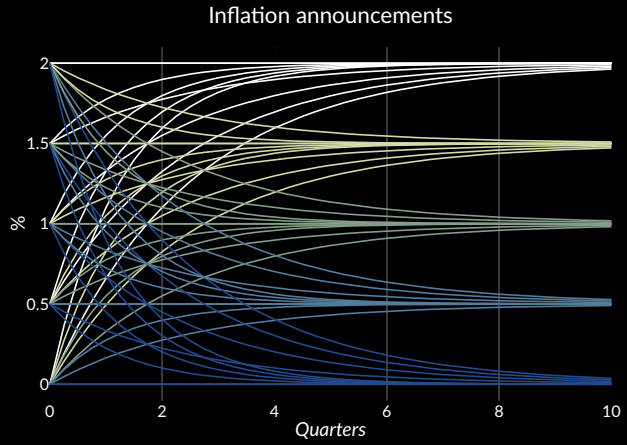


Gameplay

- At $t = 0$, inflation targets are announced
  - Type $c \in \mathcal{C}$ says c
  - Rational type strategizes announces r possibly $\in \mathcal{C}$
- At time $t \geq 0$, the government sets inflation
  - Behavioral type $c \in \mathcal{C}$ implements $g_t = a_t^c$
  - Rational type acts strategically chooses $g_t \lessgtr a_t^c$



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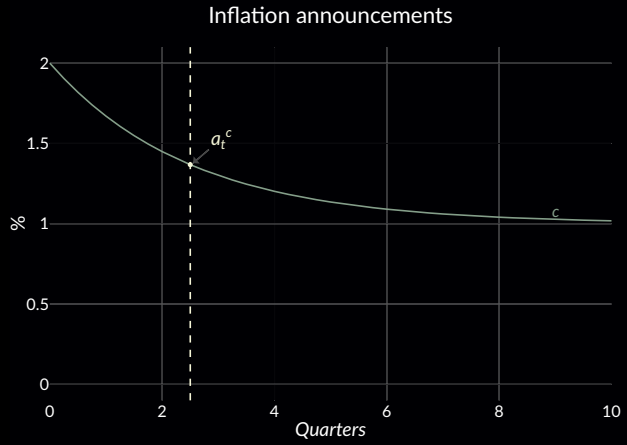

Equilibrium

Equilibrium distribution of announcements

Model solution yields a distribution of announcements

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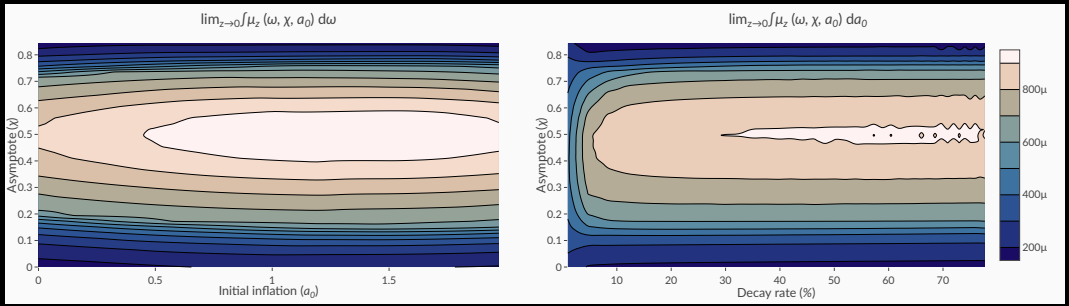

- Gradualism: $\mathbb{P}(a_0 > \chi) = 71.3\%$. $\mathbb{P}(a_0 > 5\chi) = 18\%$. $\mathbb{P}(\text{decay} \leq 10\%) = 6.17\%$.
- Imperfect credibility: $\mathbb{P}(\chi = 0) = 0.73\%$.

Extensions: Where are we going with this?

- Model of reputation + imperfect control creates incentives for a gradual disinflation

Questions:

1. Real sources of inertia – how do they interact with gradualist incentives?
2. Quantitative version(s):
   - Consumption and nominal rates
   - Investment and costs of monetary contraction
3. Flexible announcements: liftoff
4. Empirical validation of (1) + (2)

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