



Regular Adjustment : Theory and Evidence

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Motivation and main contributions

- Some adjustments, in particular nominal prices, look suspiciously suboptimal...
 - Timing:
 - Magnitude of changes.
- Main contributions of paper
 - Provides formal framework to think about these issues;
 - Derives testable implications to uncover sources of heterogeneity across consumer price setters.



Example: the Federal Open Market Committee (FOMC)

- The Committee typically schedules eight meetings per year in Washington (DC) to set federal funds rate target.

Scheduled	115	95.0%
Unscheduled	6	5.0%
Total	121	100.0%

- Evidence of *time-regular* adjustment.



Example : FOMC (cont'd)

- “Unscheduled” meetings are associated with special events

Unscheduled FOMC Meetings since 1993

Date	Context
September 17, 2001	Response to terrorist attack
September 13, 2001	Response to terrorist attack
April 18, 2001	Economic slowdown, stock market volatility (esp. Nasdaq)
January 3, 2001	Economic slowdown, stock market volatility (esp. Nasdaq)
October 15, 1998	LTCM bankruptcy, fall in market confidence
April 18, 1994	Signs of economy overheating, favorable conditions to raise rate



Example : FOMC (cont'd)

- Changes to FOMC's federal funds target are made in multiples of 25 basis points.

FOMC's Target Rate Changes since 1993

Basis points	Count	Fraction
25	26	65.0%
50	13	32.5%
75	1	2.5%
Total	40	100.0%

- Evidence of *state-regular* adjustment.



Example : FOMC (cont'd)

- Is this behavior optimal?
 - Much evidence that macroeconomic announcements impact markets in real time (Kuttner 2001, Fleming and Remolona 1997, Andersen et al. 2003). So why wait?
 - FOMC could meet every month (like ECB, Japan, U.K.,...)
 - ...or after important data releases (CPI, employment, retail sales...)
 - ...or when it pleases (China).
 - FOMC could consider different interest rate increments (Taiwan, 1/8 p.p.; China, 27 basis pts.)?
 - Even if benefits of fine-tuning fed funds rate target were second order, they are still large in absolute terms given size of U.S. economy.



How does this example fit the authors' framework?

- Easily accommodated by a slight modification of the authors' model
 - Benefit function
 - Define central bank objective as function of state of economy and policy rate
 - Cost of change, depends on
 - Timing of meetings
 - Staff and markets must redo their forecast;
 - Governors must convene together.
 - Size of changes
 - Unusual increments could create market confusion;
 - Decision cost higher if members debate size.
 - Horizon at which menu cost is low is exogenous.
 - Not the case for FOMC, which decides dates of meetings.
 - Winter meetings often more spaced than fall;
 - The model could easily accommodate that



Further thoughts

- May be hard to distinguish between optimal and suboptimal price changes:
 - Rule-of-thumb strategies:
 - Indexation (Yun 1996): fraction $(1-\theta)$ of prices are optimized every period, other are indexed to past or steady-state inflation.
 - Market leader: post advertised by main competitor
 - Sticky information: do not observe idiosyncratic shocks of competitors,
 - The fact that many nominal prices are sticky is a clear indication that frictions associated with cost of changing price are presents.
- Main results is general
 - Many interpretations to more curved benefit function
 - Search



How big does a price shock need to be to force the firm to change strategy?

- Can we use that to uncover info about the distribution of price changes?



Main result of paper

- Derive a testable implication to discriminate between menu cost heterogeneity and shock heterogeneity.
- How does that translate for prices?
- Would this work with other type of shocks?
Technology, demand,....