

**Falling Behind the Curve:  
A Positive Analysis of Stop-Start Monetary Policies  
and the Great Inflation**

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**The views expressed are solely the responsibility of the authors, and should not be interpreted as reflecting the views of the Board of Governors of the Federal Reserve System or of anyone else associated with the Federal Reserve System.**

## Summary of Our Analysis

**For the period from the mid-1950s to the early 1980s, we characterize:**

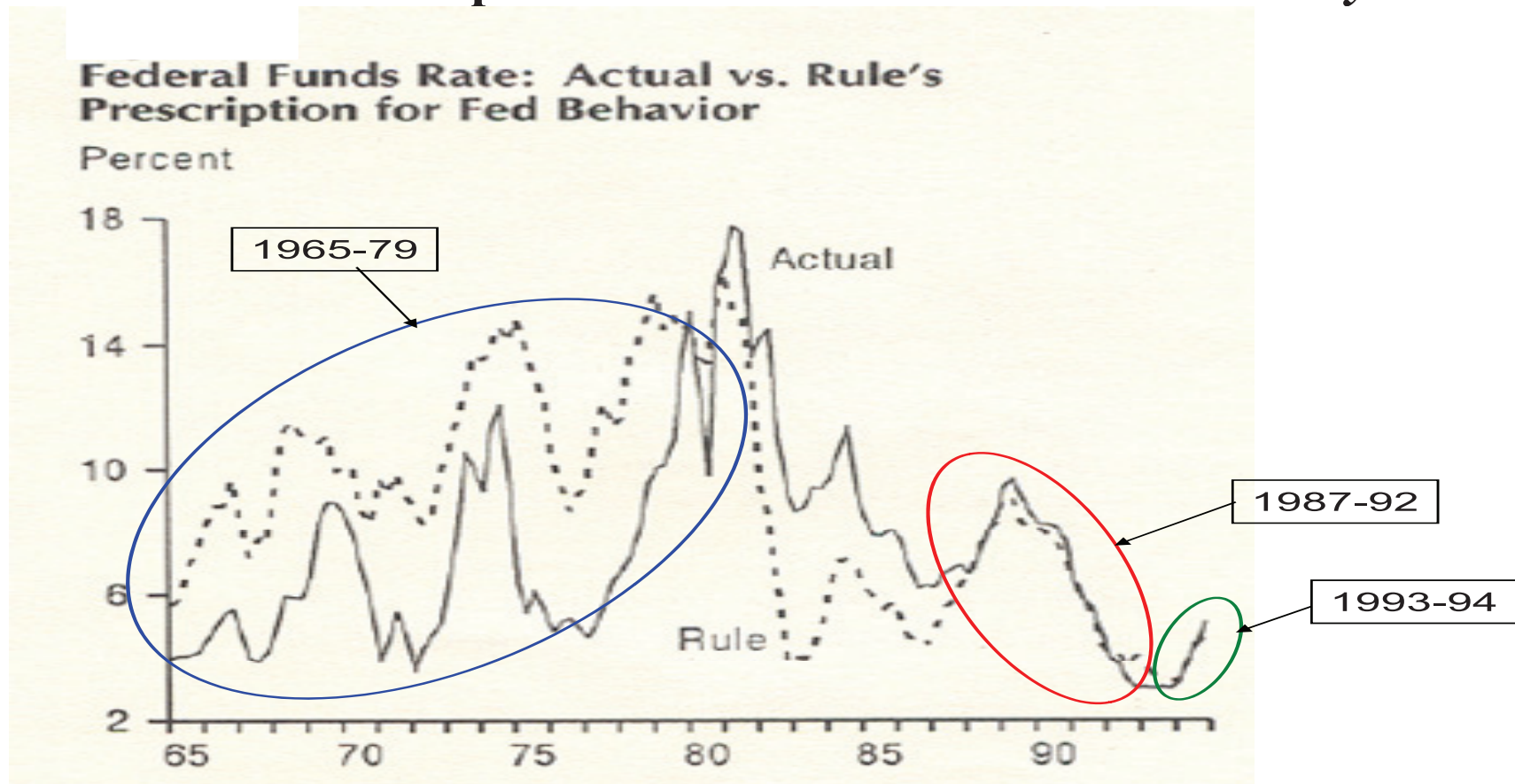
- **The Evolution of Inflation Expectations**  
(using survey measures, term structure data, and contemporary commentary such as editorial cartoons)
- **The Stance of Monetary Policy**  
(using a policy reaction function that allows for discrete shifts in the implicit inflation goal, thereby capturing stop-start policies)

**We have the following objectives:**

- **Develop positive analysis of monetary policy over this period.**
- **Assess alternative explanations for the Great Inflation.**
- **Consider the role of simple policy rules in avoiding a recurrence.**

# Representing Monetary Policy during the Great Inflation

It is well known that monetary policy during the Great Inflation is *not* well represented by the Taylor rule. Consider this chart by Judd and Trehan that was published in 1995 in the *FRBSF Weekly Letter* :



## Towards a Positive Analysis of Monetary Policy

What is the best way to represent monetary policy over this period?

- (A) Reaction function with **coefficients that differ from Taylor rule**
- (B) Reaction function with **discrete shifts in the intercept**

We argue that (B) provides key insights by representing monetary policy during the Great Inflation as a sequence of “**stop-start**” episodes with the following characteristics:

- (1) Policy remained **passive** while inflation began to pick up (“**falling behind the curve**”).
- (2) Policy **shifted to a contractionary stance** once the inflation rate exceeded a particular threshold.
- (3) The resulting economic contraction led to **policy reversal**; that is, the stance of policy was not sustained long enough to bring inflation back to previous levels.

# Sources of Evidence on Inflation Expectations

## Survey-Based Measures

<u>Source</u>	<u>Survey Group</u>	<u>Horizon</u>	<u>Published Since</u>
Livingston	business economists	1 year ahead	1946
U. Michigan	Households	Next 5-10 years	1975
Hoey	portfolio managers	Next 10 years	1978
Blue Chip	professional forecasters	Next 10 years	1979

## Term Structure Models

### Far-Forward Rate of Expected Inflation

*-- assumes constant values of equilibrium short-term real interest rate and forward term premium (calibrated using avg. values for 1955-64 )*

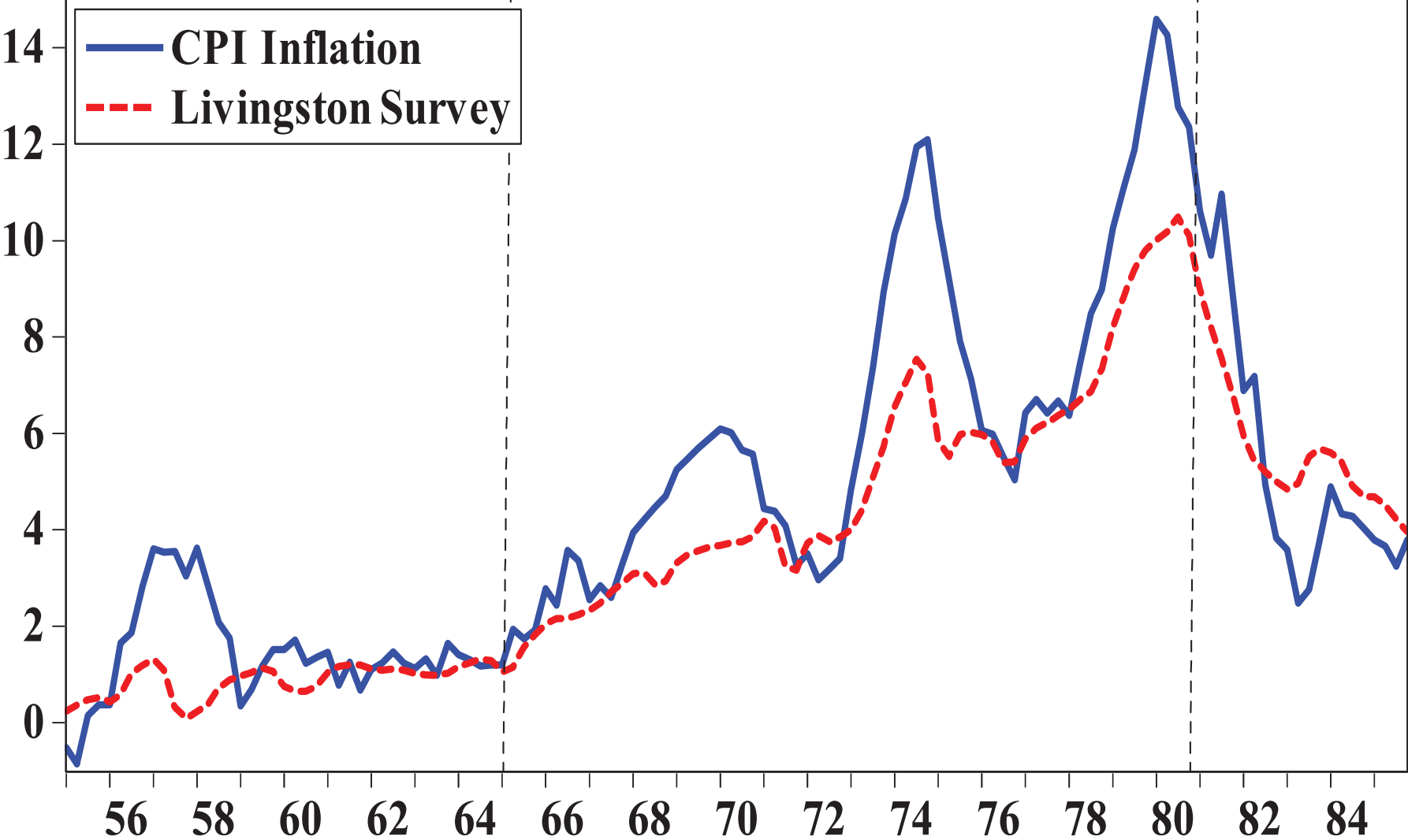
### Expected Inflation over Next Five Years

*-- no-arbitrage factor model of Ang, Bekaert, and Wei (2008 JoF)*

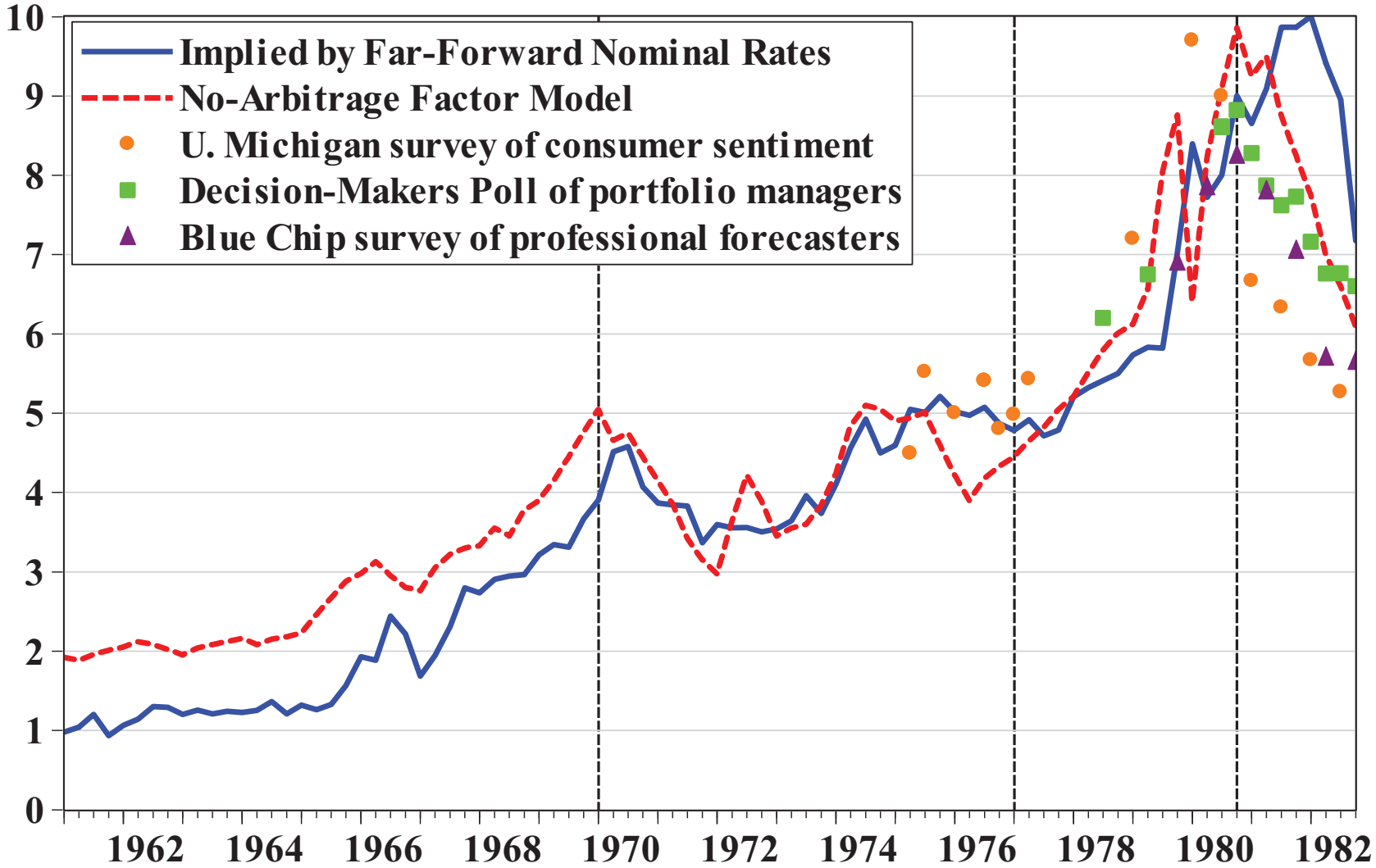
## Stylized Facts Regarding The Evolution of Inflation Expectations

- ⇒ The Great Inflation **started in the mid-1960s, *not* the early 1970s.**
- ⇒ Long-run inflation expectations **remained at a plateau of about 4 to 5 percent during the first half of the 1970s.**
- ⇒ Long-run inflation expectations **shifted upwards rapidly during the mid- to late 1970s.**
- ⇒ The Great Inflation **ended in late 1980, *not* the autumn of 1979.**

# Actual Inflation and Short-Run Inflation Expectations



# The Evolution of Long-Run Inflation Expectations, 1961-82





# Evolving Perspectives on the Great Inflation

November 1966



*“Could stand some escalation.”*

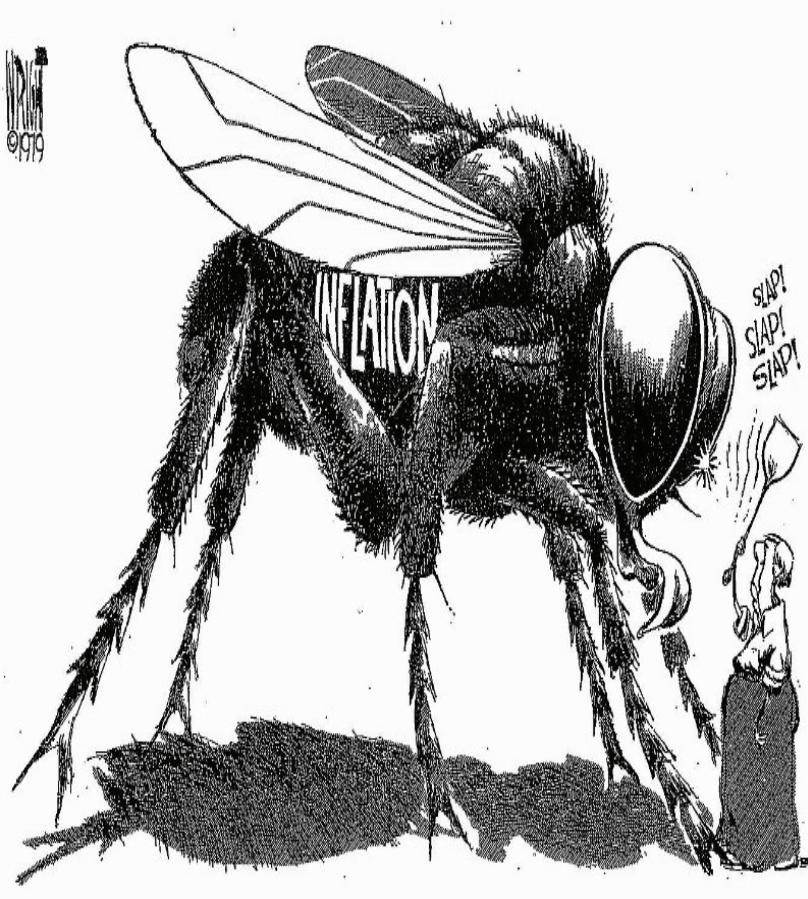
December 1969



*“Signals—hut,...,hut?”*

# Perspectives on the Final Years of the Great Inflation

March 1979



*“The fly vs. the flyswatter.”*

March 1980



*“New! Long-Range Anti-Inflation Ammo”*

## Gauging the Stance of Monetary Policy

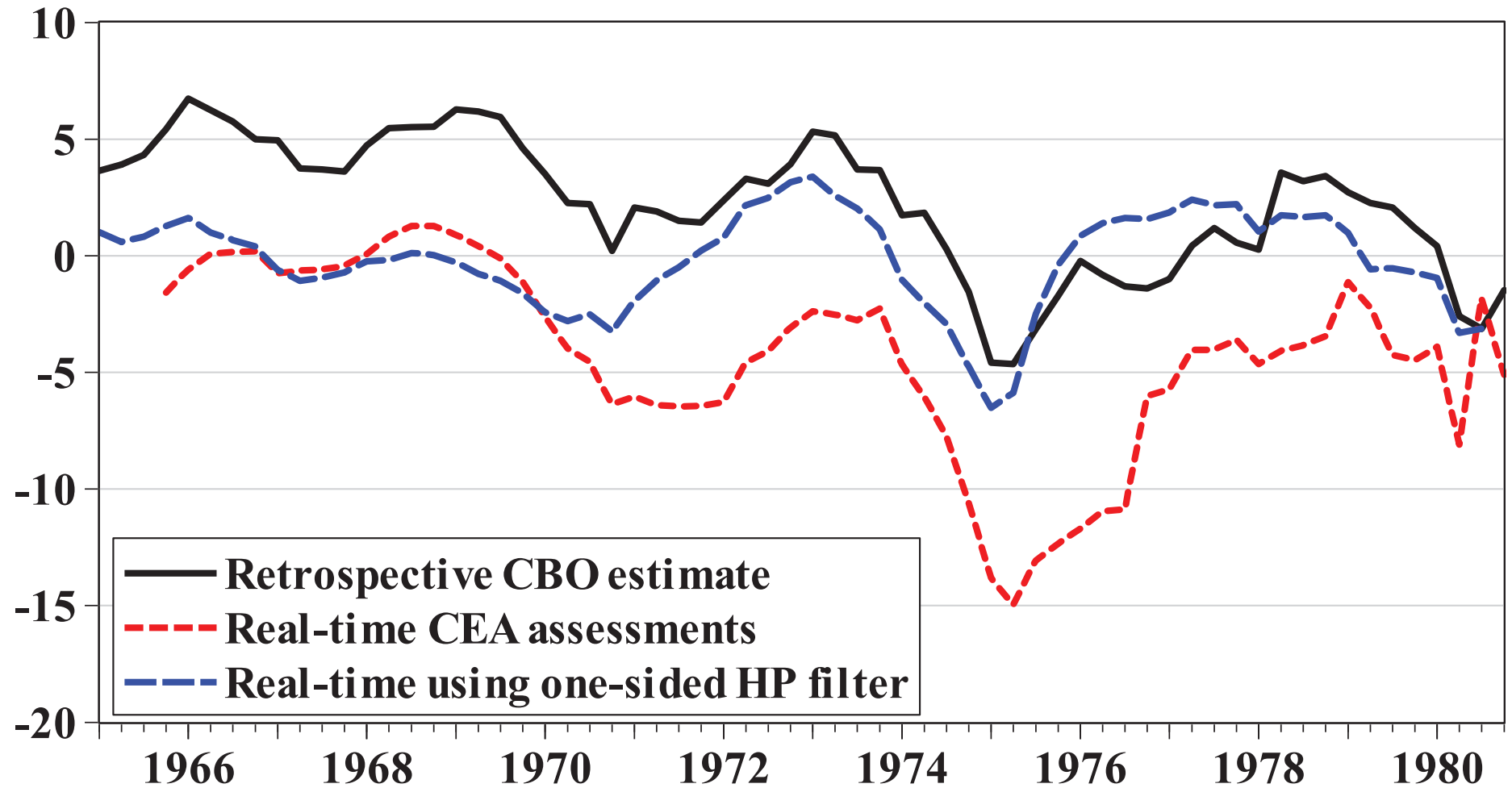
$$r_t = \bar{r} + \gamma_\pi (\pi_t - \pi_t^*) + \gamma_y (y_t - y_t^*)$$

### Key Measurement Issues

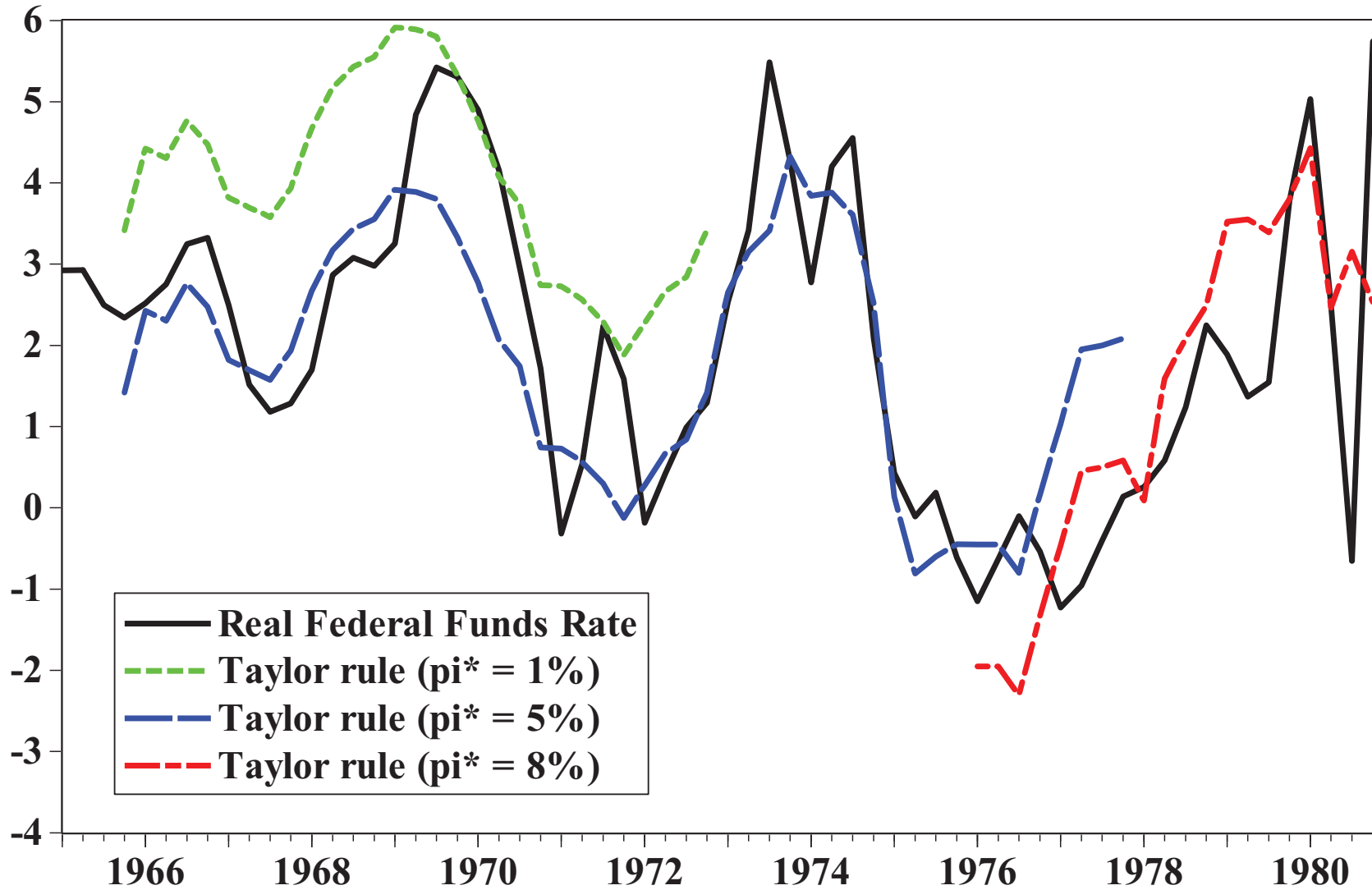
- ⇒ The *ex ante* short-term real interest
- ⇒ Real-time assessment of the output gap
- ⇒ Allowing for time variation in the implicit inflation goal

# The Evolution of the U.S. Output Gap

Percent



## Three Episodes of Stop-Start Monetary Policy



## Regression Evidence

$$i_t = c_o + \rho i_{t-1} + (1 - \rho)(\alpha \pi_t - \delta_1 D70_t + \delta_2 D76_t + \beta \tilde{Y}_t)$$

*Fixed Intercept      Allowing for Shifts in Intercept*

	<i>Fixed Intercept</i>	<i>Allowing for Shifts in Intercept</i>
$\alpha$	1.1 (0.3)	1.4 (0.2)
$\beta$	1.8 (1.3)	1.2 (0.4)
$\rho$	0.8 (0.1)	0.6 (0.1)
$\delta_1$	---	1.9 (0.5)
$\delta_2$	---	2.1 (0.5)

## Reconsidering Some Prominent Explanations for the Great Inflation

The foregoing evidence is *not* consistent with several prominent explanations, at least not as primary causes of the Great Inflation:

**Faulty Economic Theories:** Misunderstandings about the slope of the long-run Phillips curve may well have contributed to pressures on monetary policy during the 1960s but cannot explain the sequence of stop-start policy episodes in 1969-70, 1975-77, and 1979-80.

**Aggregate Supply Shocks:** The OPEC oil price shocks of 1973 and 1979 cannot explain the upward shifts in long-run inflation expectations during 1965-70 or 1976-79.

**Natural Rate Misperceptions:** Real-time misperceptions of output gaps were largest from 1970-76 (based on either real-time measure), a period when long-run inflation expectations were reasonable stable.

## Reconsidering Some Prominent Explanations (contd.)

**Misperceptions of the Sacrifice Ratio.** Such misperceptions might help explain why policymakers were reluctant to engage in disinflation but cannot explain why long-run inflation expectations surged upwards during the mid- to late 1970s.

**Time Inconsistency:** This hypothesis—which links variations in the inflation goal to movements in the NAIRU—cannot account for the rise in long-run expected inflation during the late 1960s, when no upward shift in the NAIRU had yet been recognized.

**Political Pressures:** Our view is that periodic political pressures on monetary policy—combined with a lack of clear guidelines that might have been helpful in resisting those pressures—is the most plausible explanation for the sequence of stop-start policy episodes and the upward drift of inflation expectations during the Great Inflation.



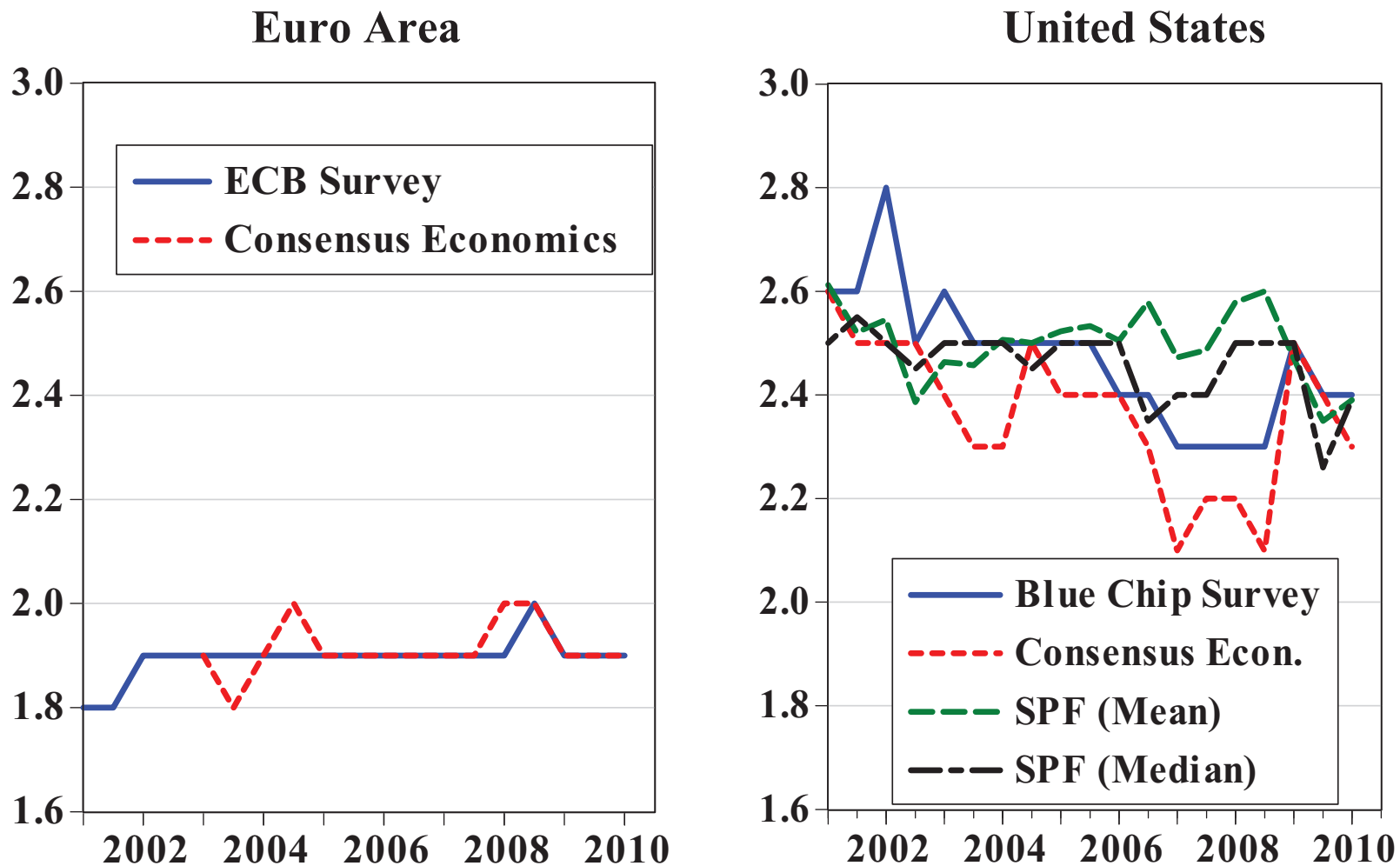
## Would a Simple Monetary Policy Rule Help Avoid a Recurrence of the Great Inflation?

$$r_t = \bar{r} + \gamma_\pi (\pi_t - \pi^*) + \gamma_y (y_t - y_t^*)$$

- ⇒ The explicit inflation objective ( $\pi^*$ ) provides a firm anchor for long-run inflation expectations
- ⇒ The prescriptions of the rule provide a useful benchmark for policy strategy and communication
- ⇒ On occasion, policymakers might find compelling reasons to modify, adjust, or depart from the simple rule, but even in those instances, transparency and credibility might well call for clear communication about that policy strategy.

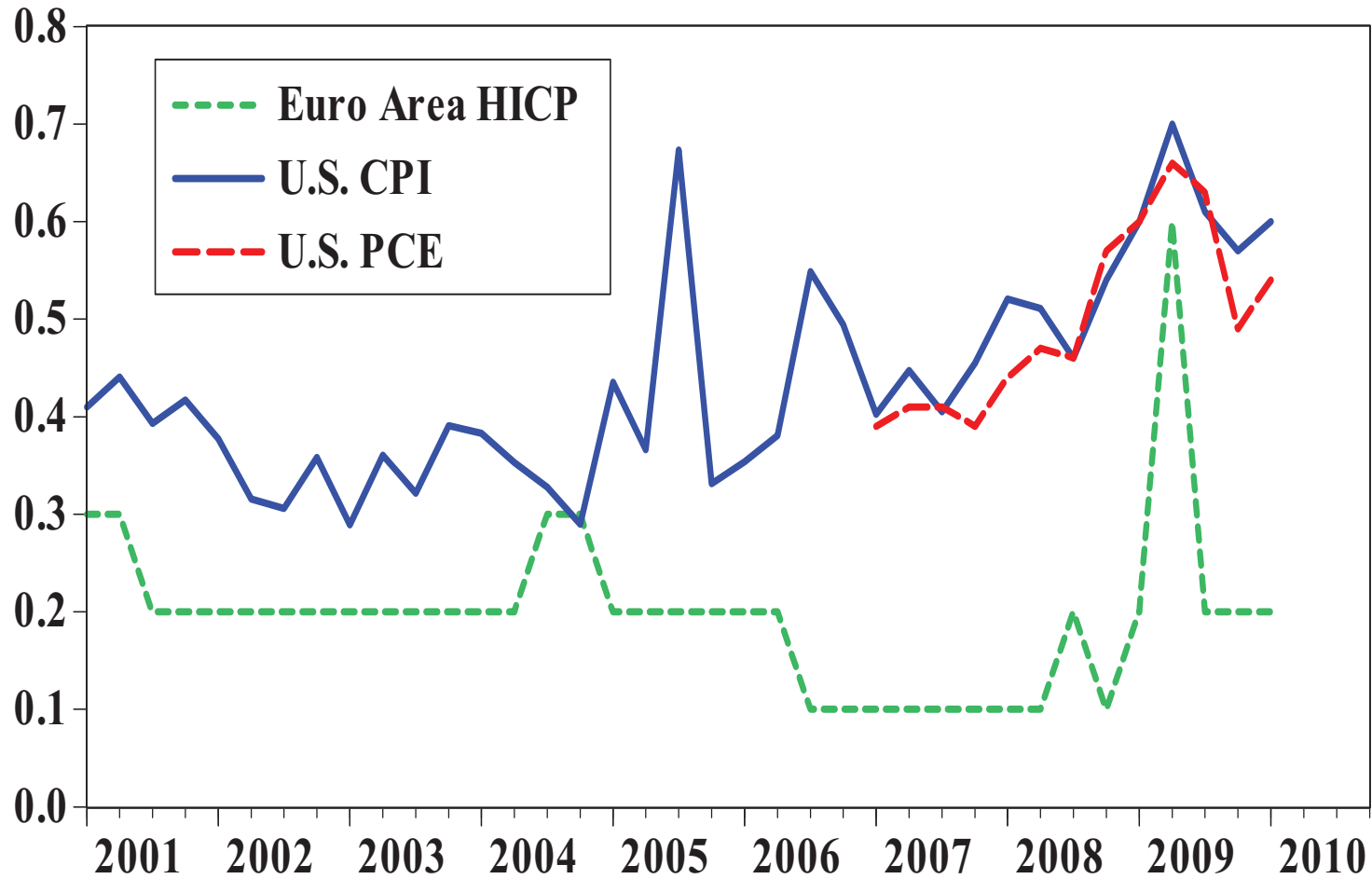
## Figure 2

### Survey-Based Measures of Long-Run Inflation Expectations



Source: Beechey, Johannsen, and Levin (2010), "Are Long-Run Inflation Expectations Anchored More Firmly in the Euro Area than the United States?"

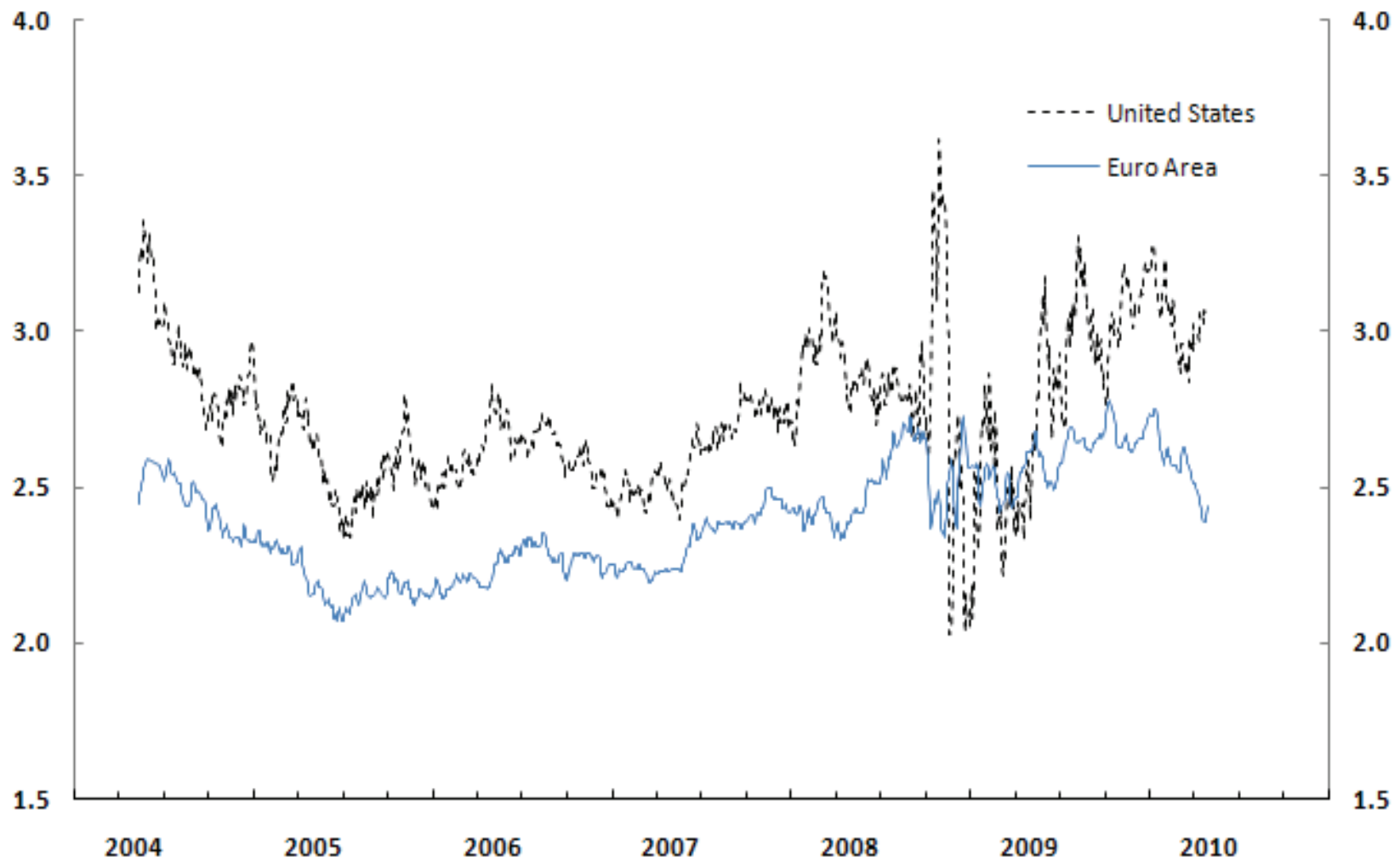
**Figure 3**  
**Cross-Sectional Dispersion of Long-Run Inflation Expectations**  
*(standard deviation)*



Source: Beechey, Johannsen, and Levin (2010), "Are Long-Run Inflation Expectations Anchored More Firmly in the Euro Area than the United States?"

# Figure 4

## Far-Forward Inflation Compensation



Source: Beechey, Johannsen, and Levin (2010), "Are Long-Run Inflation Expectations Anchored More Firmly in the Euro Area than the United States?"