

Comments on

**Monetary Policy
and Stock Market Boom-Bust Cycles**

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The views expressed are solely the responsibility of the discussant, and should not be interpreted as reflecting the views of the Board of Governors of the Federal Reserve System or of any other person associated with the Federal Reserve System.

Overview

⇒ Objective

What explains the dynamic effects of anticipated pickup in future productivity that turns out to have been overoptimistic?

⇒ Methodology

- *Highlight three U.S. stock market boom-bust episodes*
- *Formulate DSGE model that can generate a boom-bust cycle*
- *Perform sensitivity analysis with respect to alternative model specifications (including credit channel, structure of labor markets)*

Outline of Comments

⇒ **DSGE Model Specification and Optimal Monetary Policy**

- *Strategic Complementarities in Firms' Price-Setting Behavior*
- *Risk-Sensitive Household Preferences*

⇒ **Reconsidering the Three U.S. Boom-Bust Episodes**

⇒ **Central Bank Tools for Monitoring the Impact of News**

- *The Near-Term Macro Outlook*
- *Near-term Policy Expectations*
- *The Longer-Term Outlook*

Model Specification and Optimal Monetary Policy

Macroeconometric Equivalence

DSGE models with distinct microeconomic foundations may be difficult or impossible to distinguish solely from the first-order approximation of equilibrium conditions for the aggregate economy (e.g. Sargent 1976; Sims 1998).

Microeconomic Dissonance

Distinct micro specifications of preferences, technology, and information can have crucially different implications for optimal policy and welfare (cf. Levin, Lopez-Salido, and Yun 2006; Levin, Lopez-Salido, Nelson, and Yun 2007).

Phillips Curve Slope: Macroeconometric Equivalence

Alternative mechanisms may influence the sensitivity of a firm's price with respect to its marginal cost:

- *Factor Specificity (Woodford 2003; ACEL 2005)*
- *Non-Constant Elasticity of Demand (Kimball 1995)*

Both models generate the same New Keynesian Phillips curve:

$$\pi_t = \beta E_t \pi_{t+1} + \kappa_p \gamma mc_t$$

Factor Specificity

$$\gamma = \frac{1}{1 + \epsilon \alpha_f / (1 - \alpha_f)}$$

Quasi-Kinked Demand

$$\gamma = \frac{1}{1 - \mu \psi}$$

Phillips Curve Slope: Microeconomic Dissonance

Welfare

$$L_t = \lambda_\pi \pi_t^2 + \lambda_x x_t^2$$

Firm-Specific Factors

$$\lambda_\pi = \frac{\epsilon}{\kappa_p \gamma}$$

Quasi-Kinked Demand

$$\lambda_\pi = \frac{\epsilon}{\kappa_p}$$

Thus, with $1/\gamma \approx 10$, the costs of inflation variability differ by an order of magnitude under these two specifications.

Slope of IS Curve: Macroeconometric Equivalence

Many studies have analyzed Epstein-Zin preferences (Tallarini, 2000)

$$U_t = V_t + \frac{\beta}{\sigma} \log(E_t \exp[\sigma U_{t+1}])$$

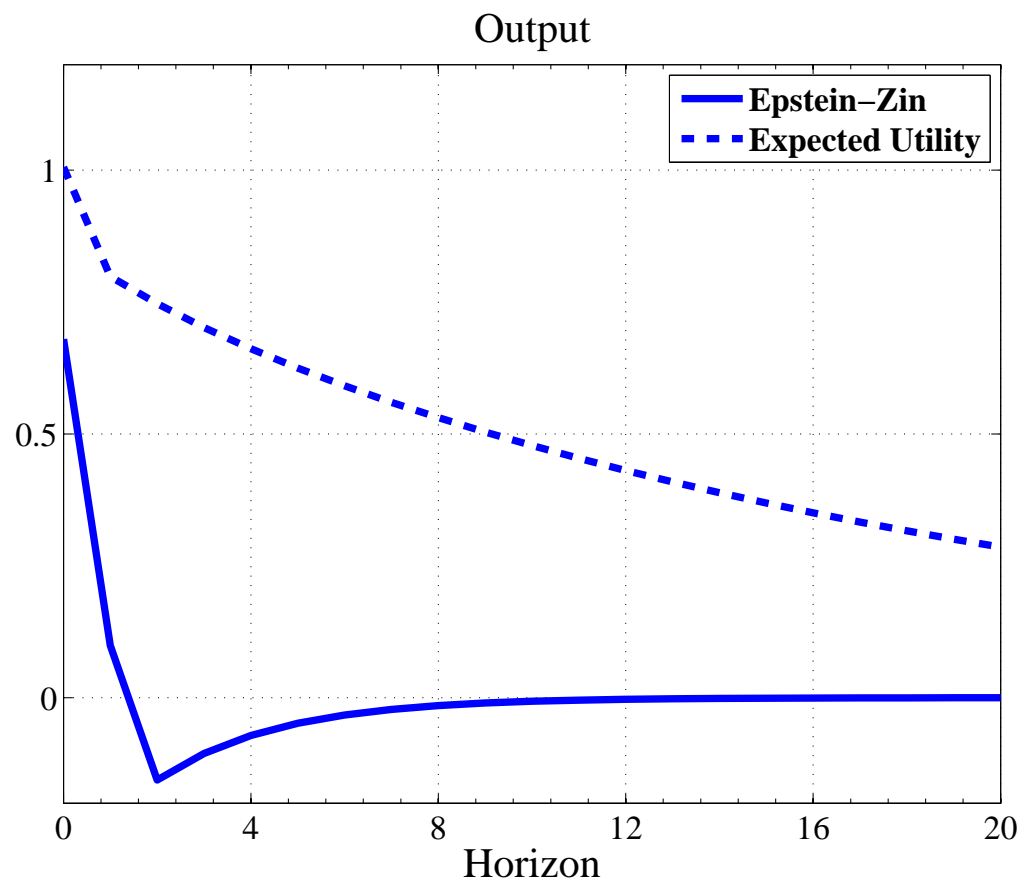
$$V_t = \log C_t + \varphi_0 \log(1 - N_t)$$

This specification generates the same IS equation as in the prototypical NK model with expected utility:

$$y_t = E_t y_{t+1} - \rho [r_t - E_t \pi_{t+1}], \quad \text{where } \rho = 1$$

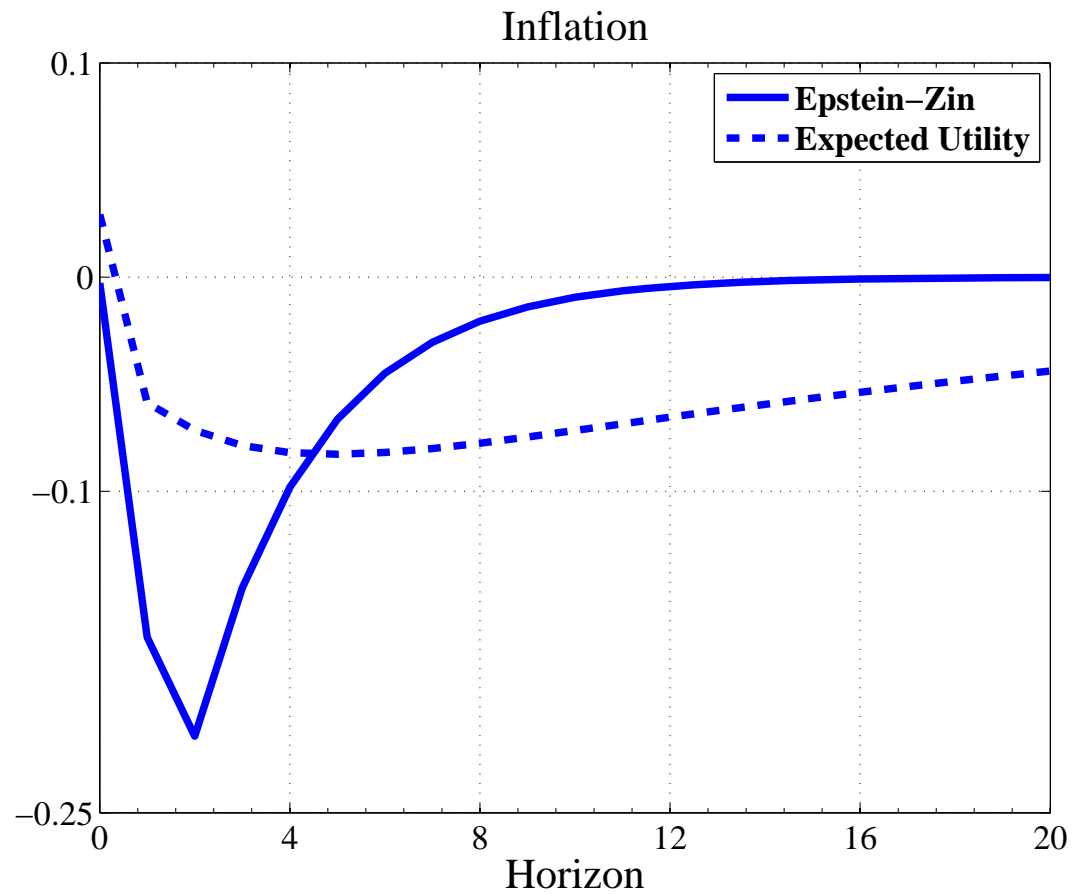
Slope of IS Curve: Microeconomic Dissonance

Optimal Policy Responses to Technology Shocks



Slope of IS Curve: Microeconomic Dissonance

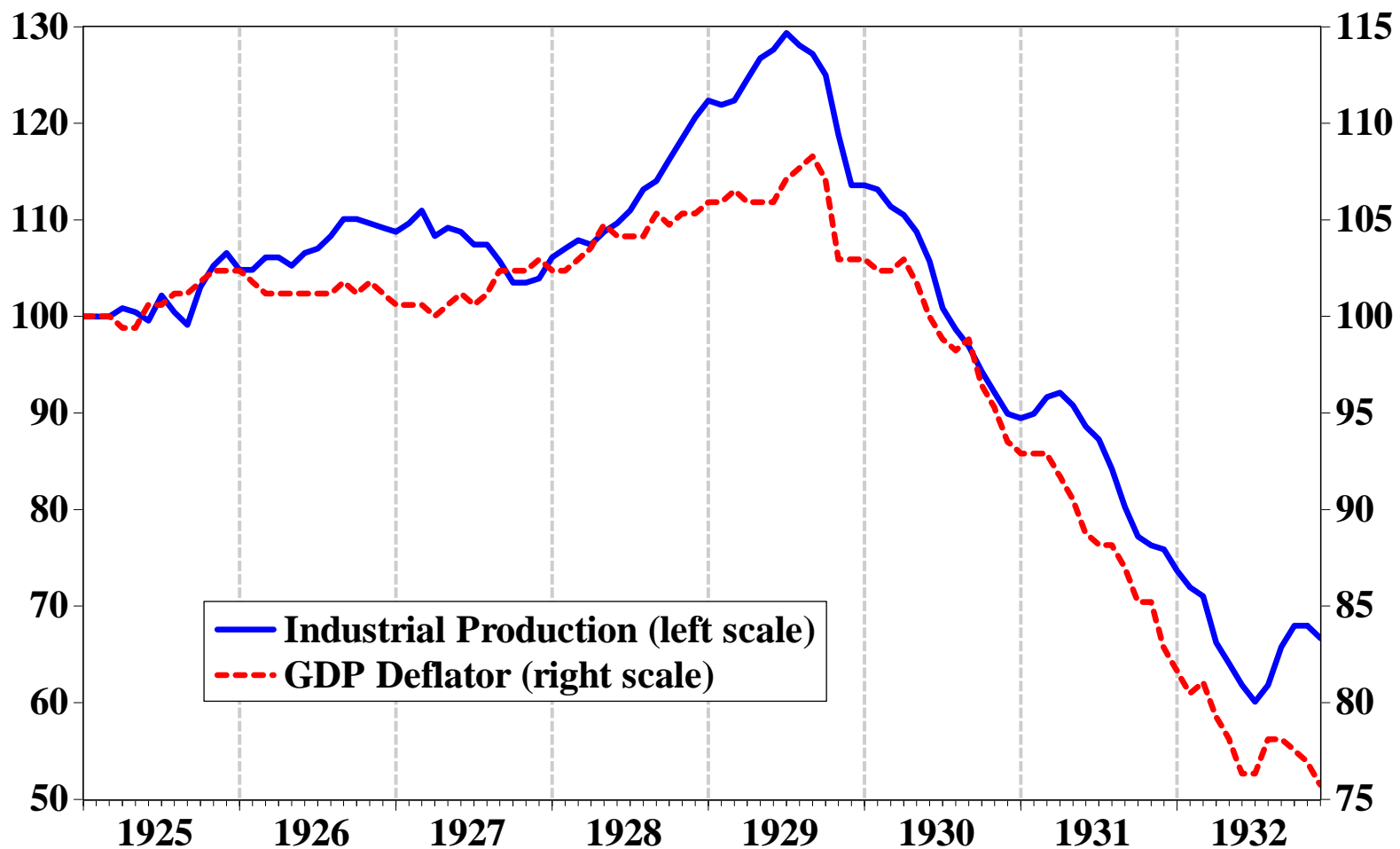
Optimal Policy Responses to Technology Shocks



Reconsidering the Three Boom-Bust Episodes

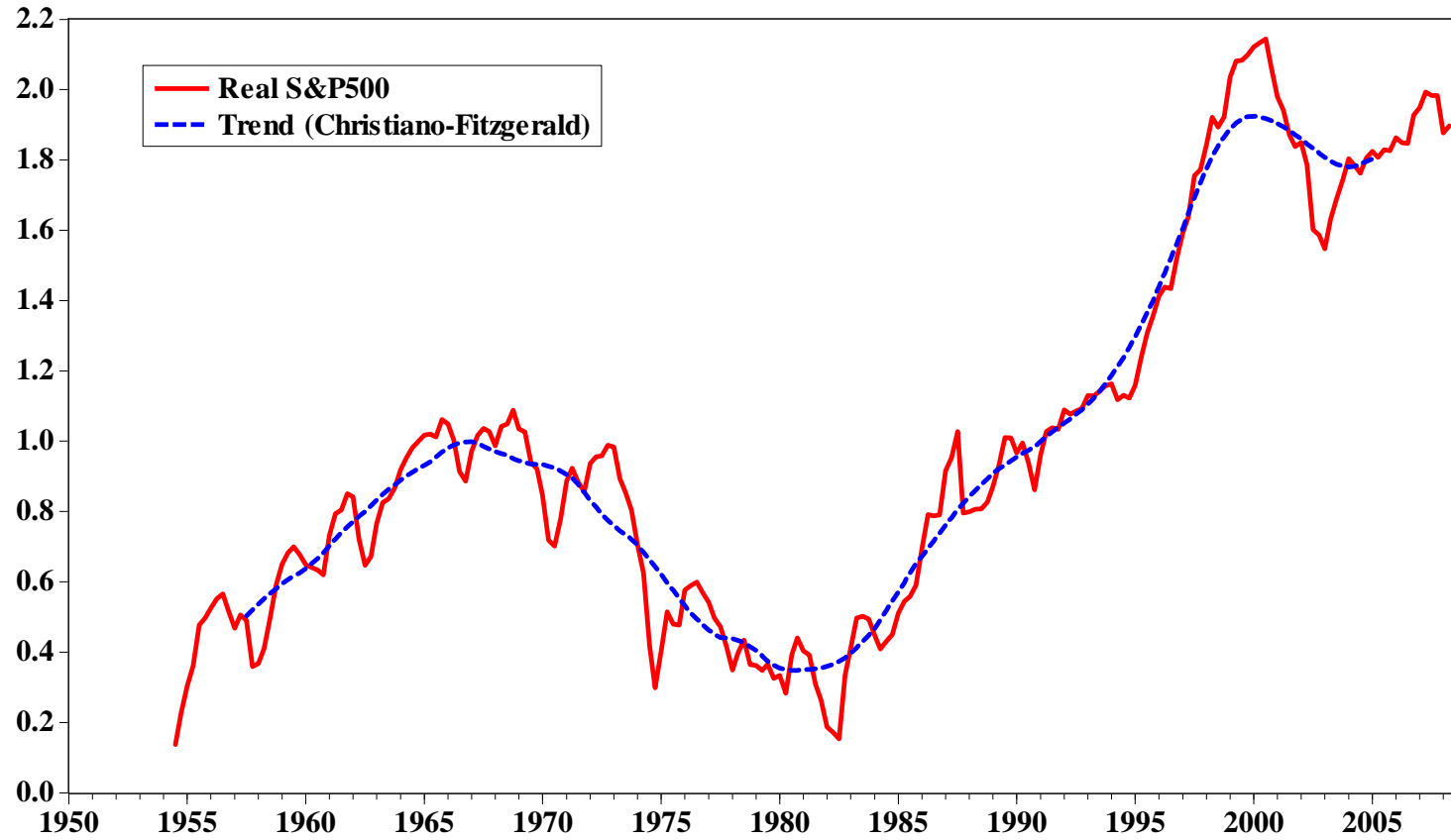
- ⇒ Was the boom induced by an anticipated pickup in future productivity growth?**
- ⇒ Was the bust induced by a subsequent downward revision in anticipated future productivity growth?**
- ⇒ Did monetary policy contribute to the boom-bust cycle by focusing too much on the stability of price inflation?**

The U.S. Boom-Bust Episode of 1928-1933

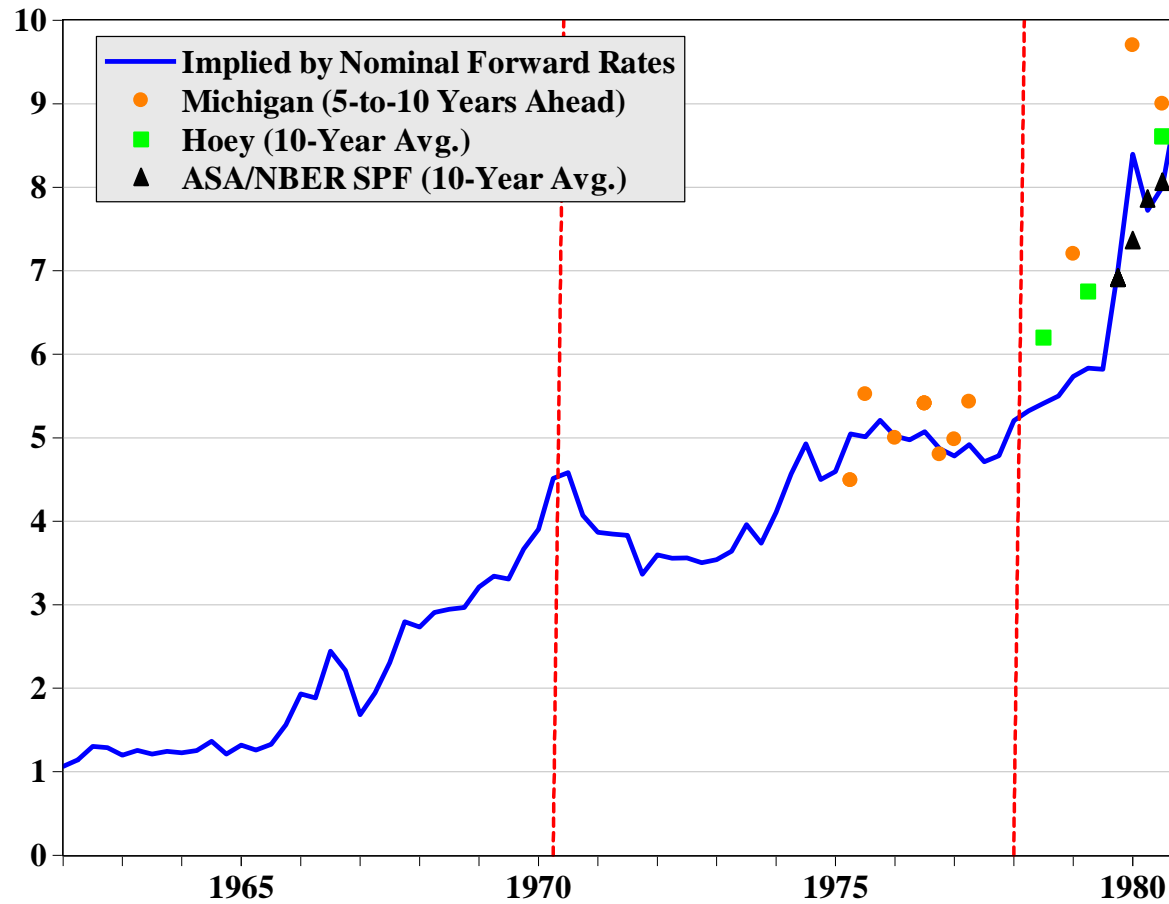


The Evolution of the S&P500 Stock Index, 1953-2007

Logarithm

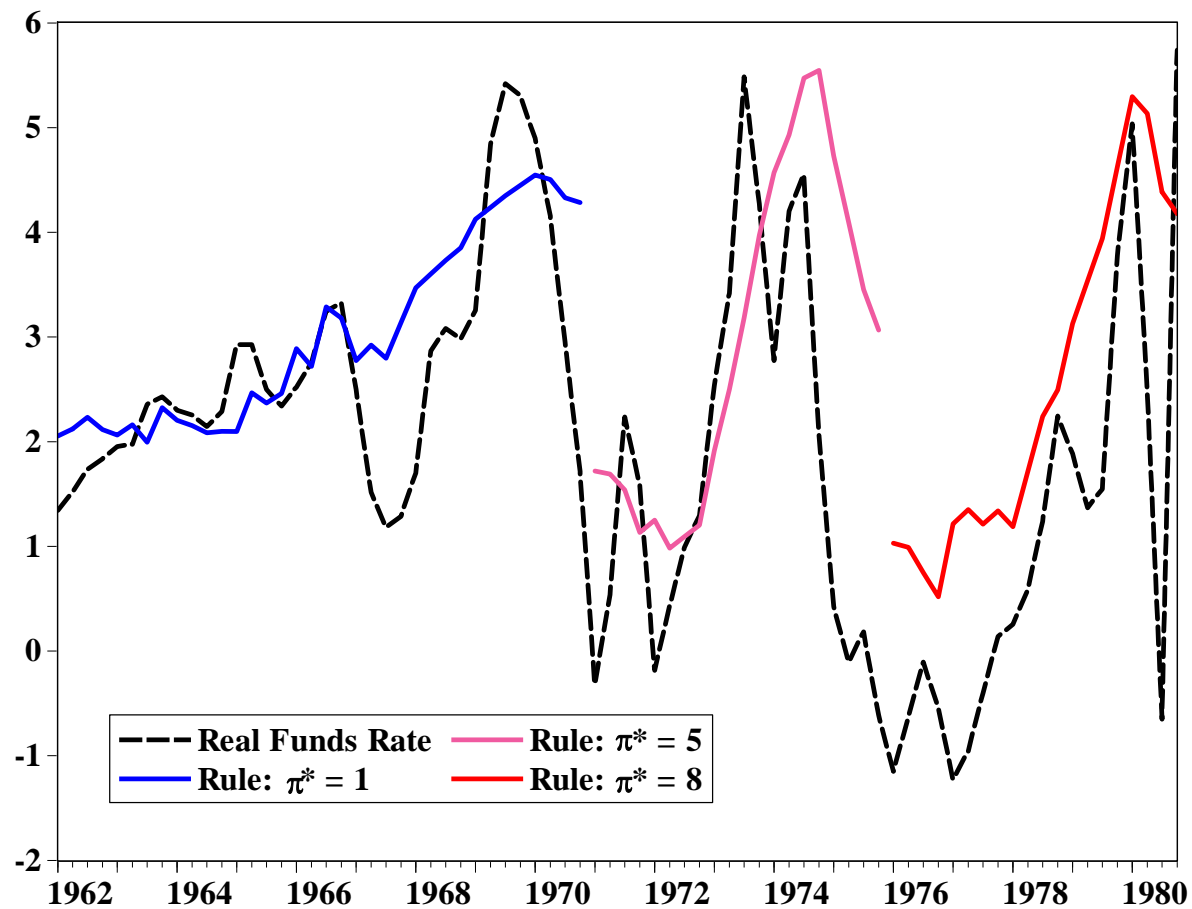


The Evolution of U.S. Long-Run Inflation Expectations



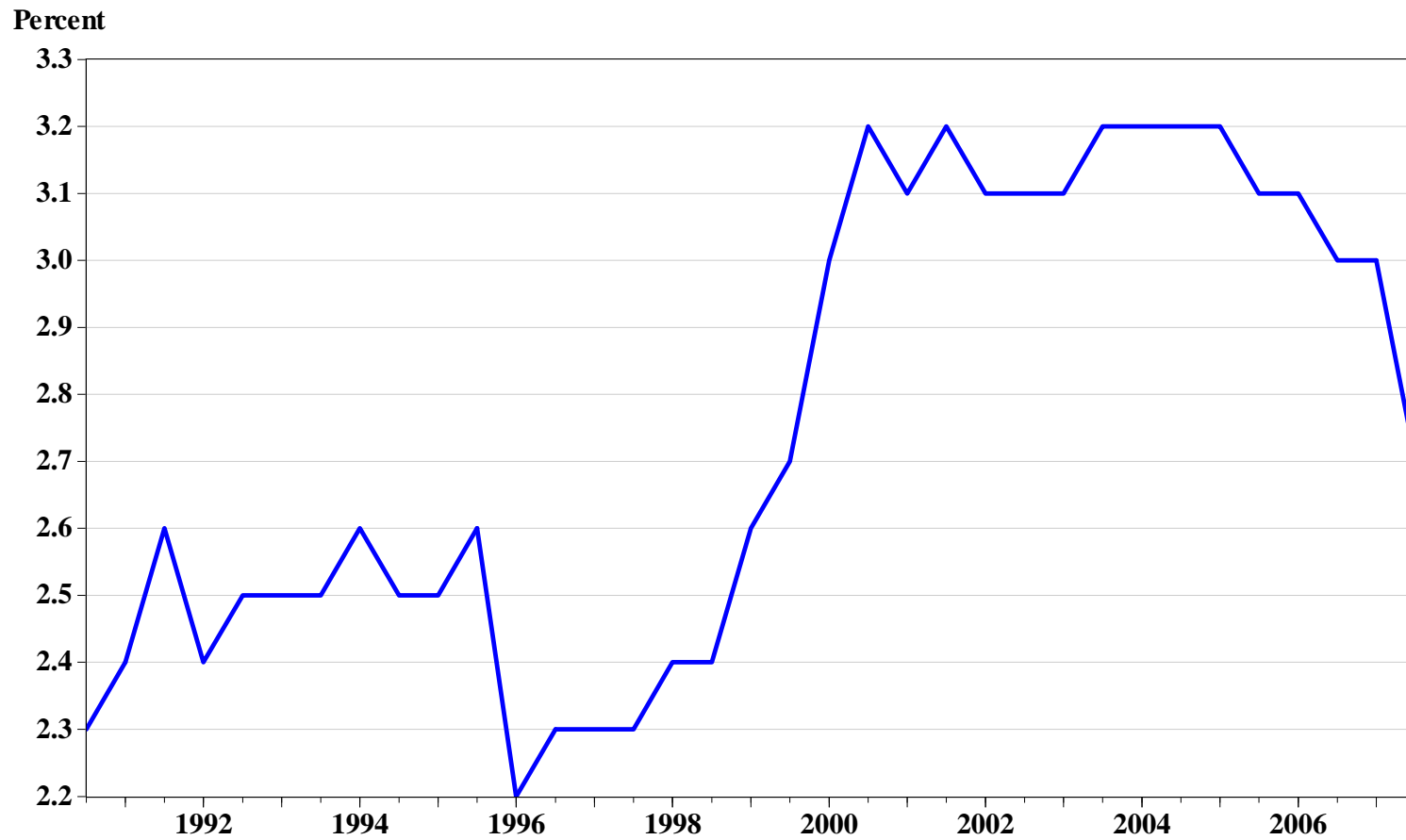
Levin and Taylor (2008), "Stop-Start Monetary Policies and the Great Inflation"

Evolution of the Implicit Inflation Objective, 1961-1980



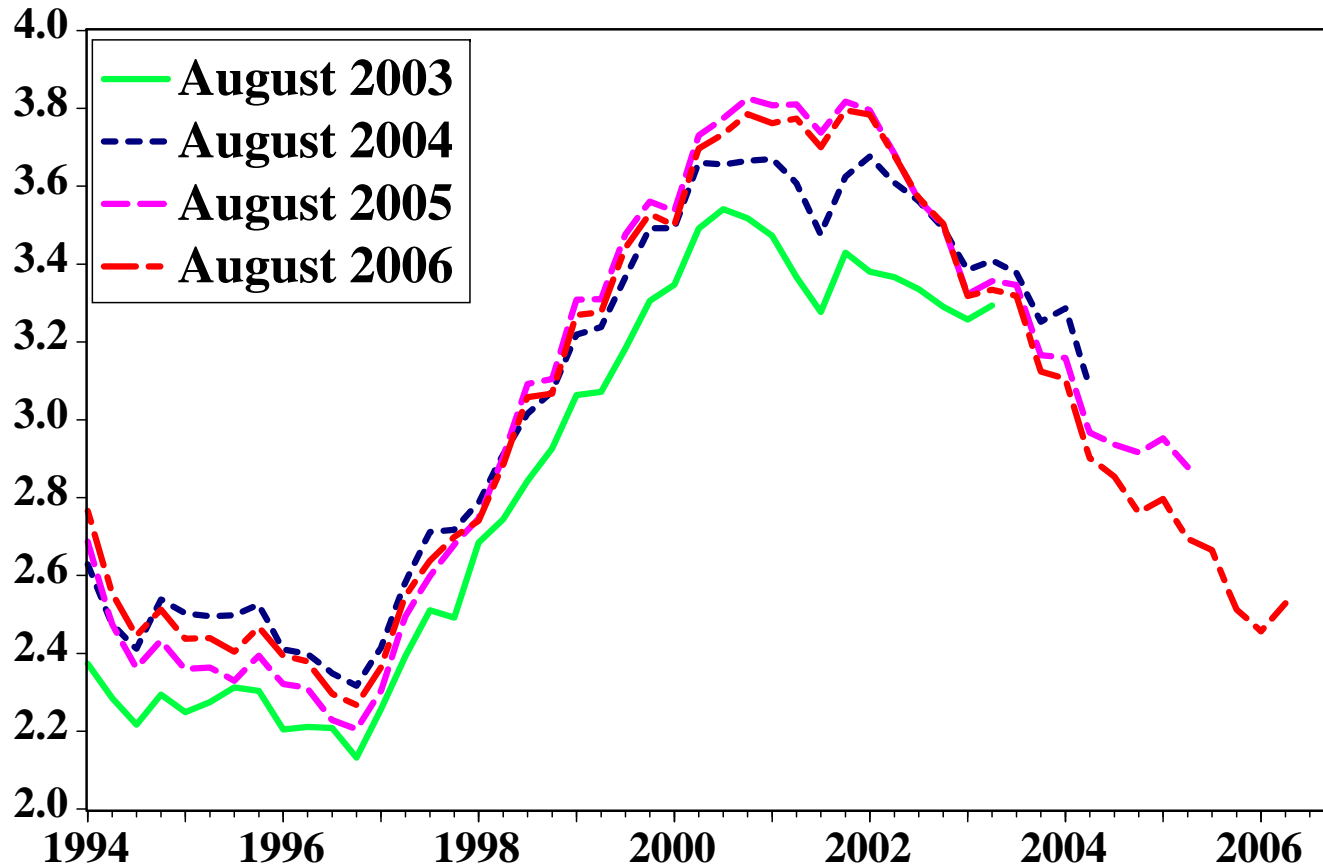
Levin and Taylor (2008), "Stop-Start Monetary Policies and the Great Inflation"

The Recent Evolution of Long-Run Growth Projections



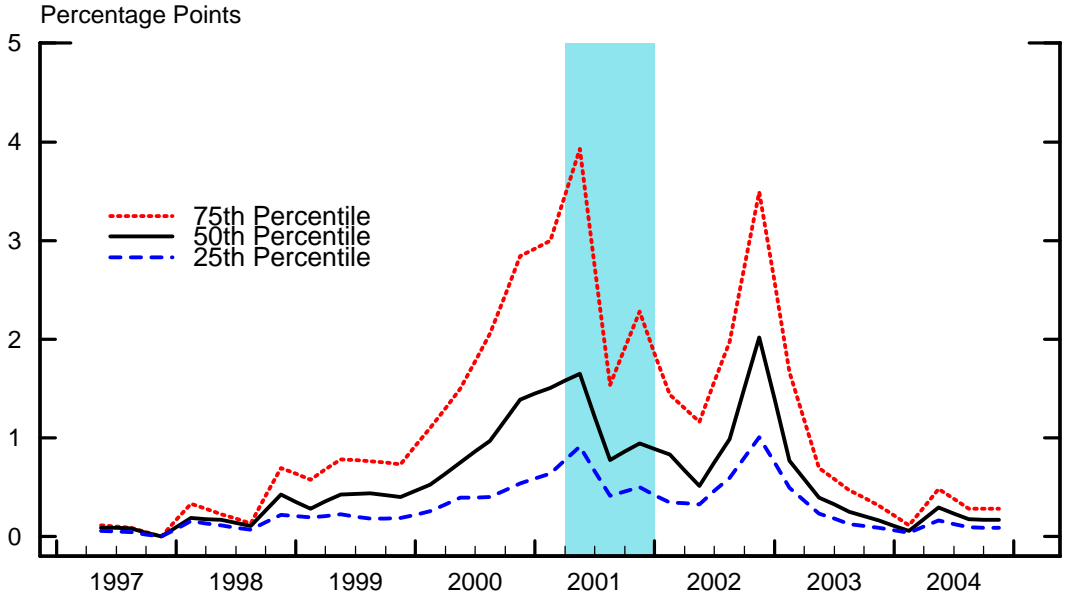
Consensus Economics surveys of projected U.S. GDP growth 6-to-10-years ahead

FRB/US Model-Based Assessments of Potential Growth



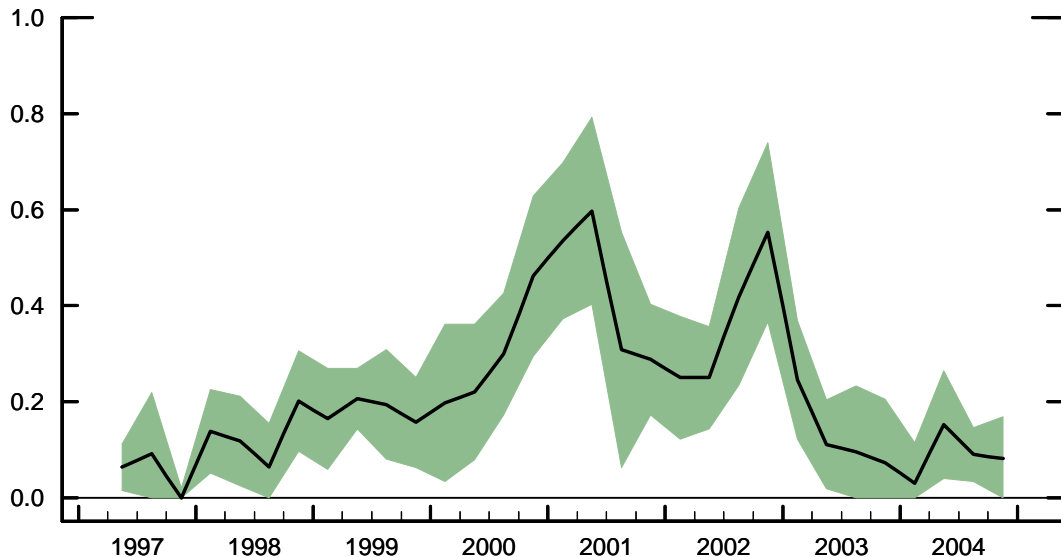
R. Tetlow (2006) "Real-Time Model Uncertainty in the United States"

The Evolution of the External Finance Premium



Source: Levin, Natalucci, and Zakrajsek (2006), "The Magnitude and Cyclical Behavior of Financial Market Frictions"

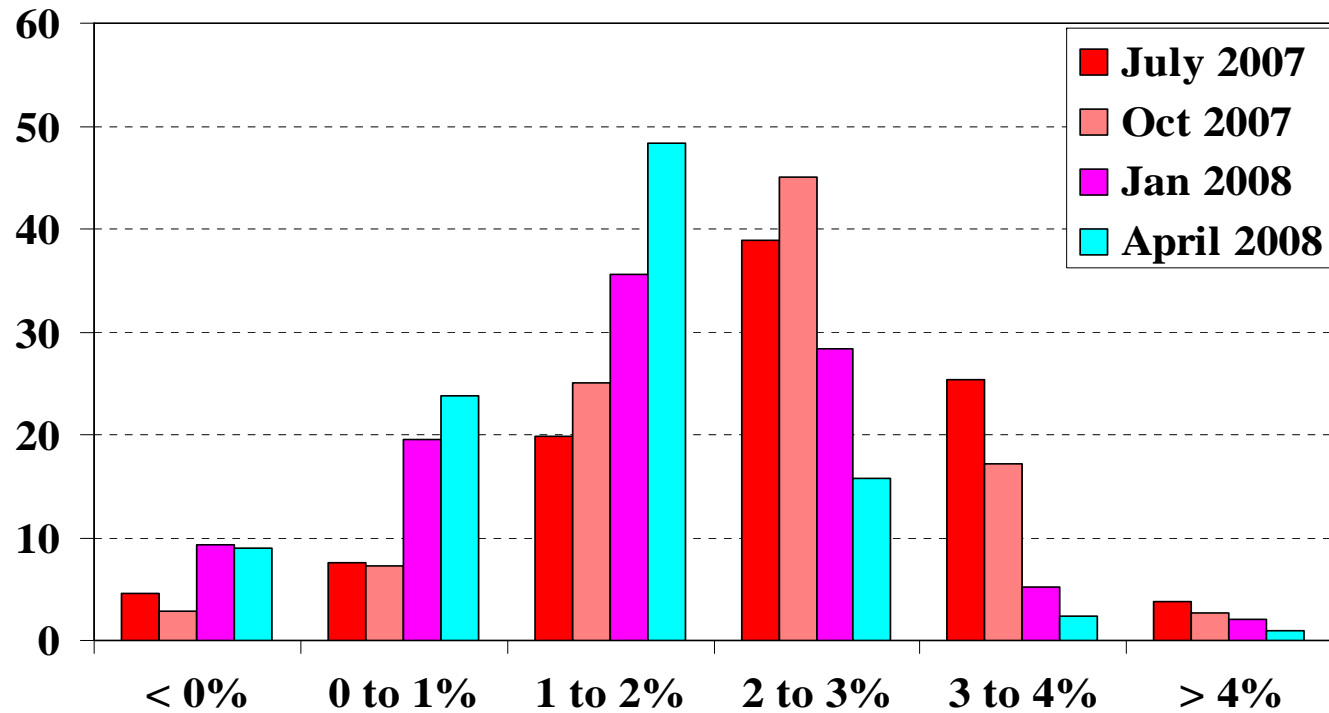
Figure 5: Bankruptcy Cost Parameter Estimates



NOTES: The solid line denotes the time-specific estimate of the bankruptcy cost parameter μ_t . The shaded region represents the 95 percent confidence interval, computed using White's (1980) heteroscedasticity-consistent asymptotic covariance matrix.

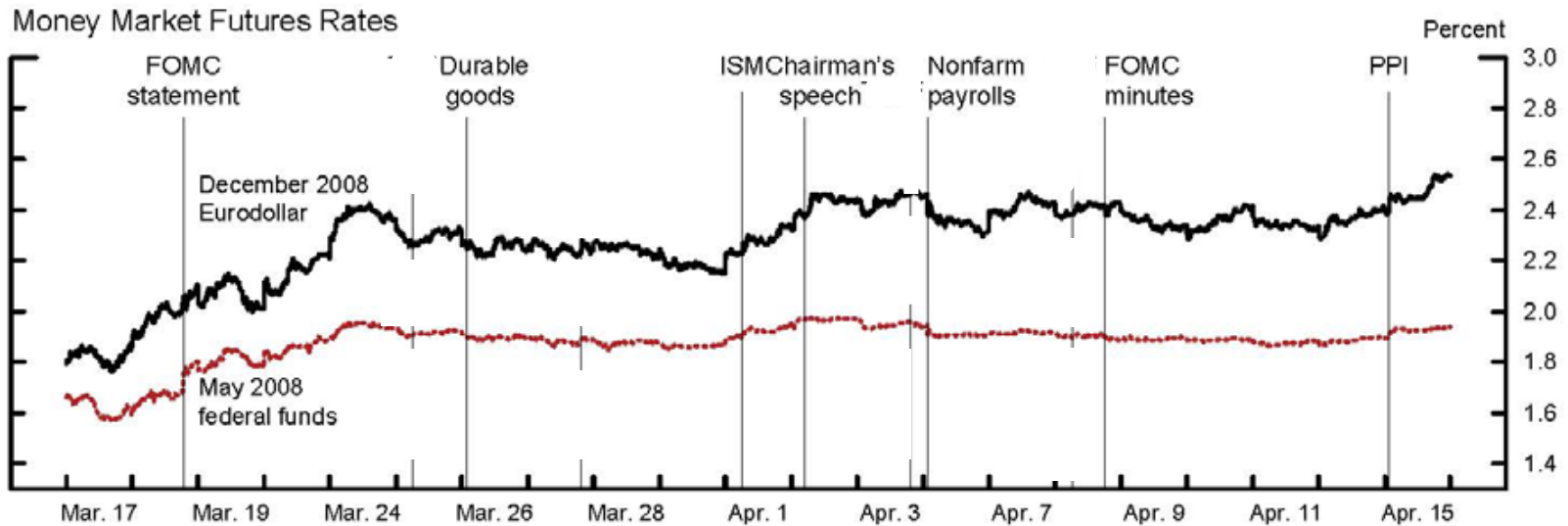
The Recent Evolution of Expectations for U.S. GDP Growth in 2008

Probability



Source: Philadelphia Fed Survey of Professional Forecasters

The Impact of News on Near-Term Policy Expectations



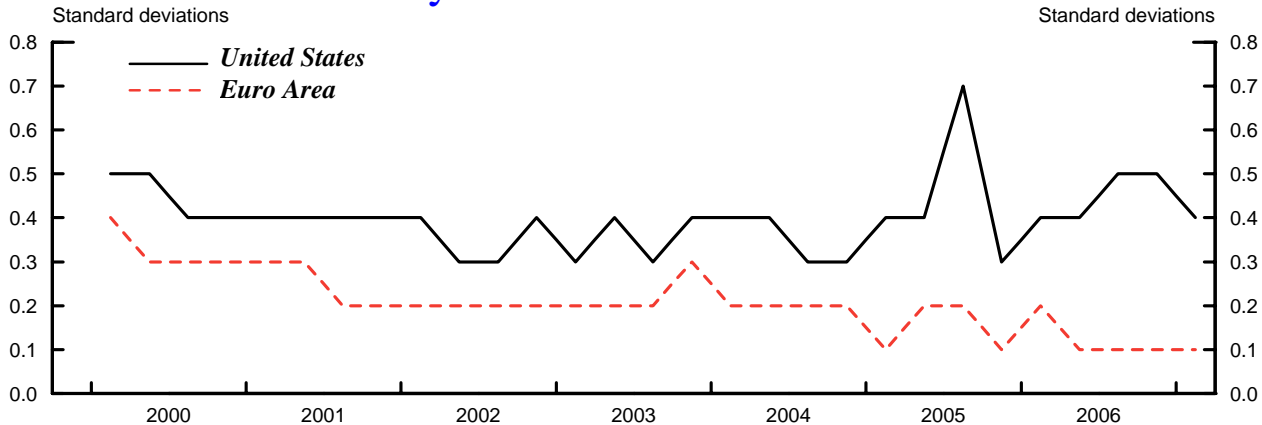
Note. 5-minute intervals. 8:00 a.m. to 4:00 p.m. No adjustments for term premiums.

The Impact of News on the Longer-Term Outlook

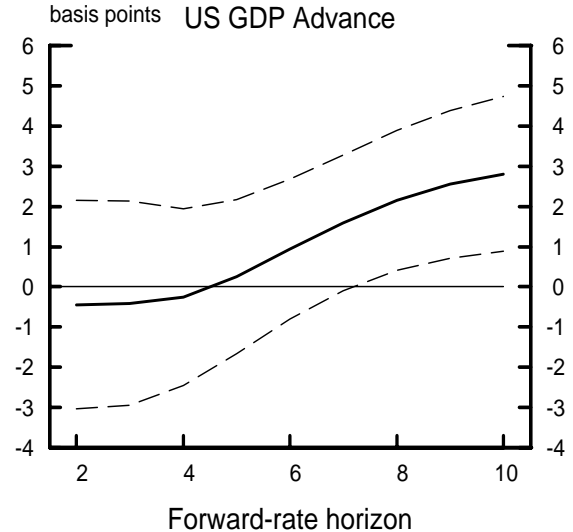
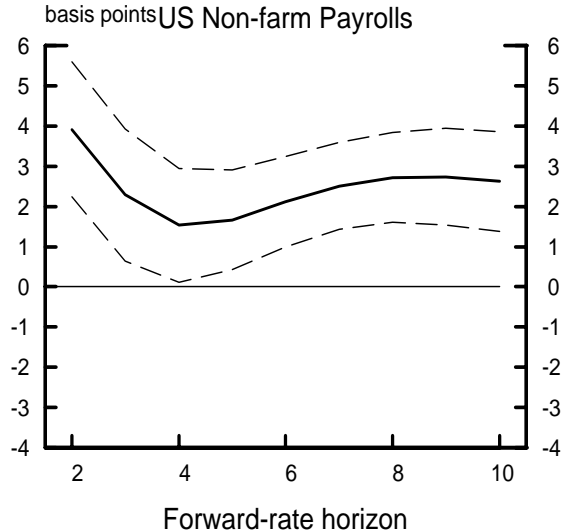
	One-Year Treasury Rate	Ten-Year-Ahead Forward Rates	
		<i>Real Rate</i>	<i>Breakeven Inflation</i>
<i>Capacity Utilization</i>	2.8	1.7	0.9
<i>Consumer Confidence</i>	2.9	0.5	0.9
<i>Retail Sales</i>	2.7	1.5	1.5
<i>Nonfarm Payrolls</i>	7.0	3.5	0.8
<i>ISM Manuf. Survey</i>	2.7	3.5	2.6
<i>Core CPI</i>	1.5	-0.6	2.3
<i>Real GDP</i>	2.5	0.5	2.1
<i>Initial Jobless Claims</i>	-3.8	-1.3	-2.1
<i>New Home Sales</i>	1.4	-1.0	3.5

*Regression t-statistics from Table 2 of Gurkaynak, Levin, and Swanson (2007),
“Does Inflation Targeting Anchor Long-Run Inflation Expectations?”*

Dispersion in Long-Run Inflation Expectations in Surveys of Professional Forecasters

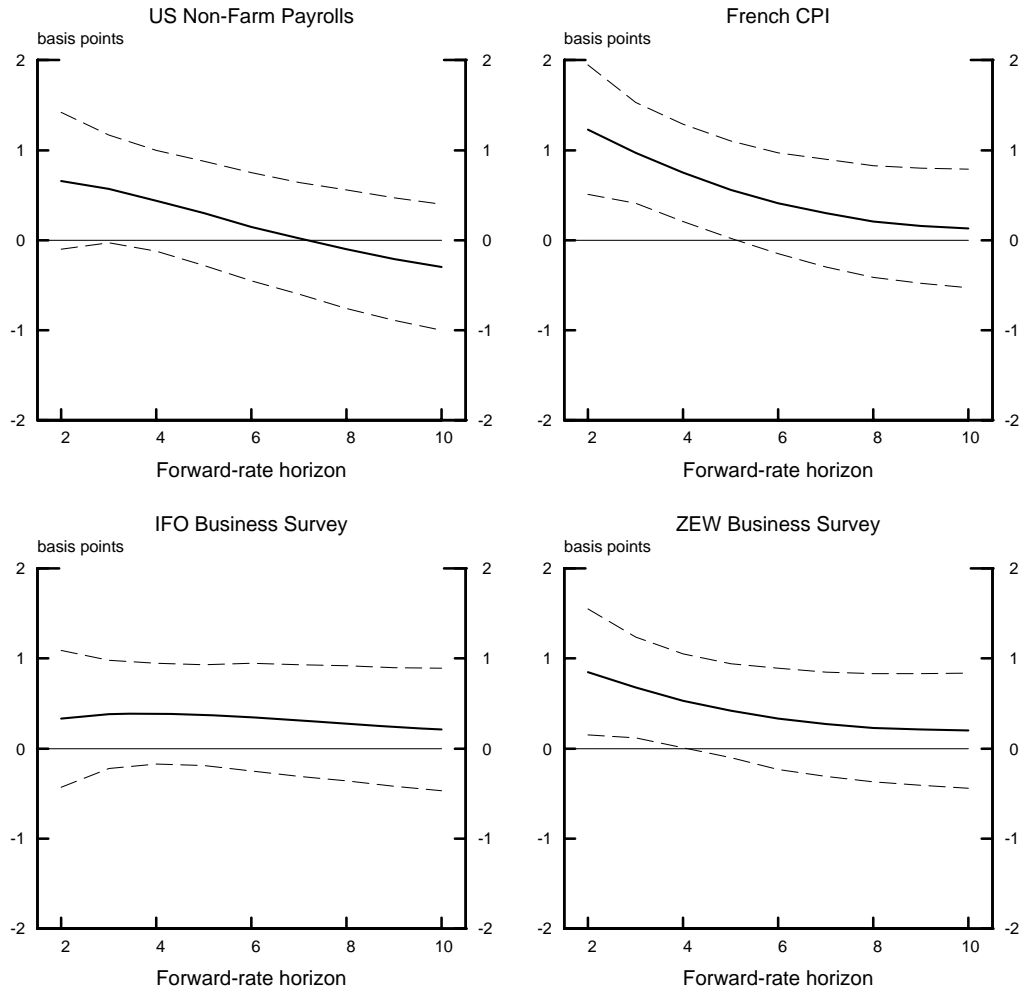


Impact of Economic News on U.S. Forward Inflation Compensation



Source: Beechey, Johanssen, and Levin (2007), "Are Long-Run Inflation Expectations More Firmly Anchored in the Euro Area than in the United States?"

Impact of Economic News on Euro Area Forward Inflation Compensation



Source: Beechey, Johanssen, and Levin (2007), "Are Long-Run Inflation Expectations More Firmly Anchored in the Euro Area than in the United States?"