Comments on
"What Has—and Has Not—Been Learned about Monetary Policy in a Low Inflation Environment? A Review of the 2000s" by Richard Clarida

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Focus on what we have learned about…

- the monetary framework
- the use of policy rules
- the use of non-conventional monetary policy

The Monetary Framework

- A glimpse at the Volker Wieland model database
- Alleged fault lines
  - Short term interest rate only affects consumption and investment <u>directly</u>?
    - Textbook versus practical versions
  - Assumed away financial frictions?
    - "Measurement problems forced econometric modelers away from the <u>quantities</u> of credit and foreign exchange toward the <u>prices</u> of these items" Taylor (1995); including much of "shadow banking"
    - Financial accelerator was there before 1999; consider DeGraeve
  - The efficient markets paradigm?
  - Did not deal with zero lower bound?
    - 1% was the lower bound in early work; RW simulations in 1999
- The fault line was a deviation from the framework
  - This is what has been learned.

Models in the Wieland Model Database

1. Small Calibrated Models

1.1 Rotemberg, Woodford (1997)
1.2 Levin, Wieland, Williams (2003)
1.3 Clarida, Gali, Gertler (1999)
1.4 Clarida, Gali, Gertler 2-Country (2002)
1.5 McCallum, Nelson (1999)
1.6 Ireland (2004)
1.7 Bernanke, Gertler, Gilchrist (1999)
1.8 Gali, Monacelli (2005)

2. Estimated US Models

2.1 Fuhrer, Moore (1995)

2.2 Orphanides, Wieland (1998)

2.3 FRB-US model linearized as in Levin, Wieland, Williams (2003)

2.4 FRB-US model 08 linearized by Brayton and Laubach (2008)

2.5 FRB-US model 08 mixed expectations, linearized by Laubach (2008)

2.6 Smets, Wouters (2007)

2.7 CEE/ACEL Altig, Christiano, Eichenbaum, Linde (2004)

2.8 New Fed US Model by Edge, Kiley, Laforte (2007)

2.9 Rudebusch, Svensson (1999)

2.10 Orphanides (2003b)

2.11 IMF projection model by Carabenciov et al. (2008)

2.12 De Graeve (2008)

2.13 Christensen, Dib (2008)

2.14 Iacoviello (2005)

3. Estimated Euro Area Models

3.1 Coenen, Wieland (2005) (ta: Taylor-staggered contracts)

3.2 Coenen, Wieland (2005) (fm: Fuhrer-Moore staggered contracts)

3.3 ECB Area Wide model linearized as in Dieppe et al. (2005)

3.4 Smets, Wouters (2003)

3.5. Euro Area Model of Sveriges Riksbank (Adolfson et al. 2007)

3.6. Euro Area Model of the DG-ECFIN EU (Ratto et al. 2009)

3.7. ECB New-Area Wide Model of Coenen, McAdam, Straub (2008)

# 4. Estimated Small Open-Economy Models

4.1. RAMSES Model of Sveriges Riskbank, Adolfson et al.(2008b)

4.2 Model of the Chilean economy by Medina, Soto (2007)

5. Estimated/Calibrated Multi-Country Models

5.1 Taylor (1993a) model of G7 economies

5.2 Coenen,Wieland (2002, 2003) G3 economies

5.3 IMF model of euro area by Laxton, Pesenti (2003)

5.4 FRB-SIGMA model by Erceg, Gust, Guerrieri (2008)

Model Comparisons: SW, CEE, Taylor

1a. Nominal Interest Rate under SW Rule

1c. Real Output under SW Rule

TAYLOR-Model
CEE-Model (--- SW Ass.)
SW-Model

1e. Inflation under SW Rule

TAYLOR-Model
CEE-Model (--- SW Ass.)
SW-Model
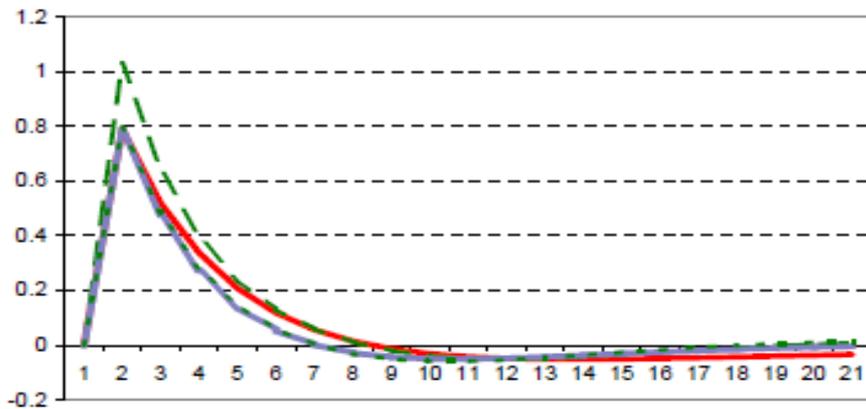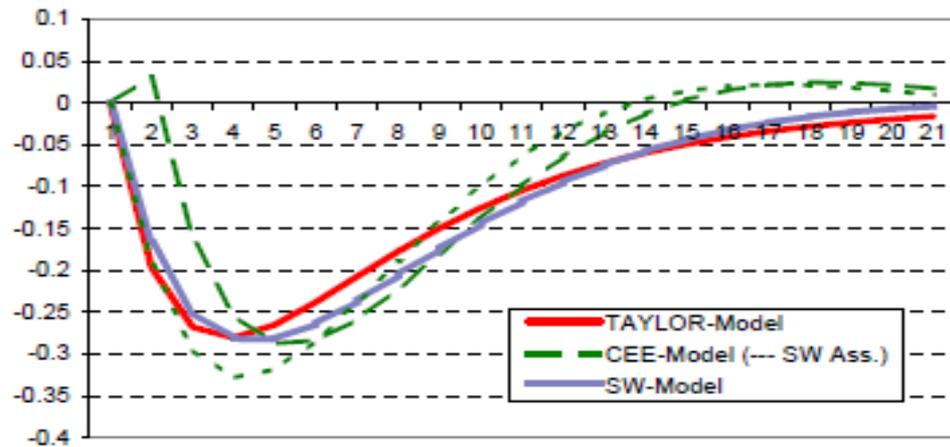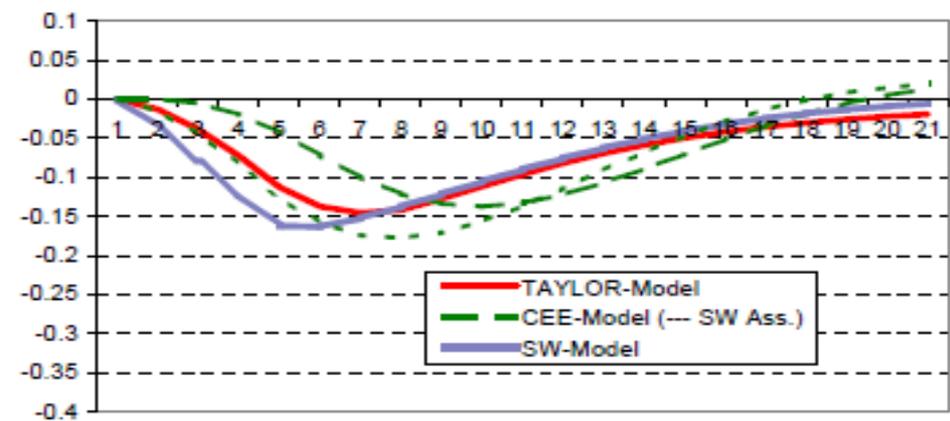
Model Comparison with Financial Accelerator

1a. Nominal Interest Rate under SW Rule

1c. Real Output under SW Rule

TAYLOR-Model
CEE-Model (--- SW Ass.)
SW-Model
DeGraeve Model

1e. Inflation under SW Rule

TAYLOR-Model
CEE-Model (--- SW Ass.)
SW-Model
De Graeve Model
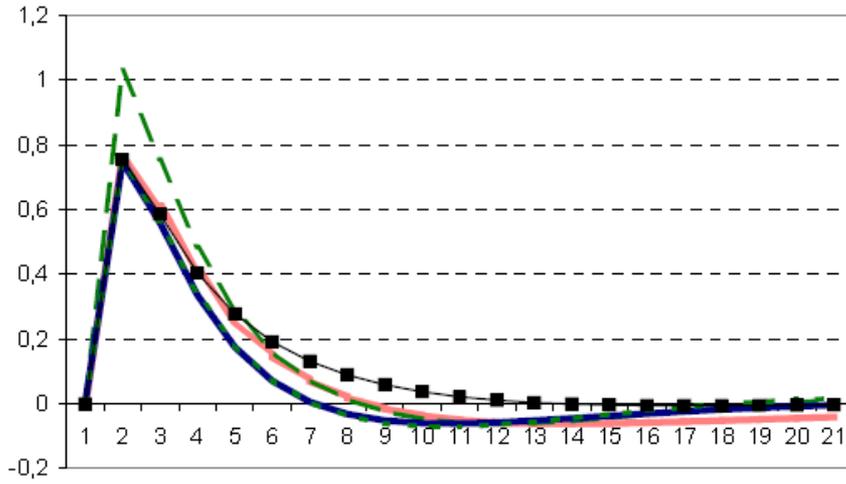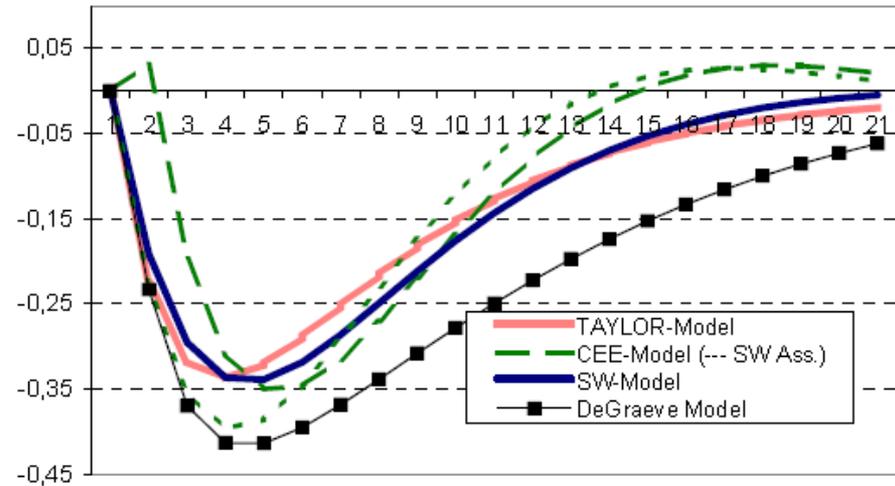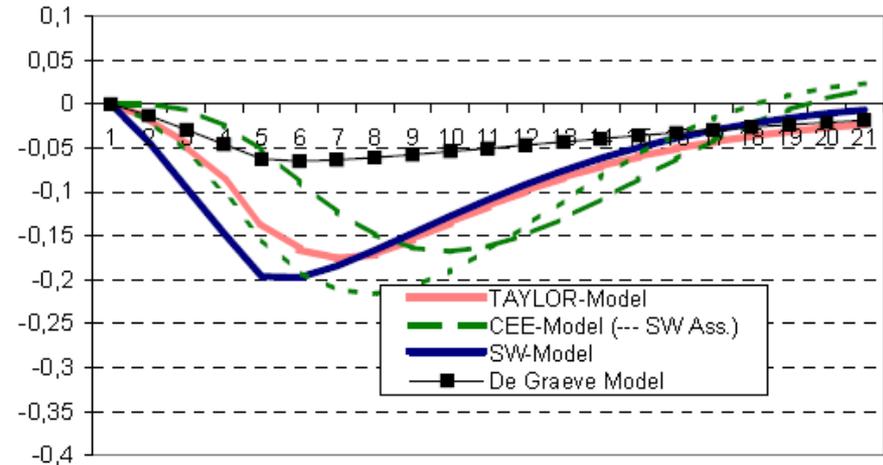
The Use of Policy Rules

- More evidence from experience
- Debate over "too low for too long"

Figure 2
**Federal Funds Rate: Actual vs. Rule's Prescription for Fed Behavior**
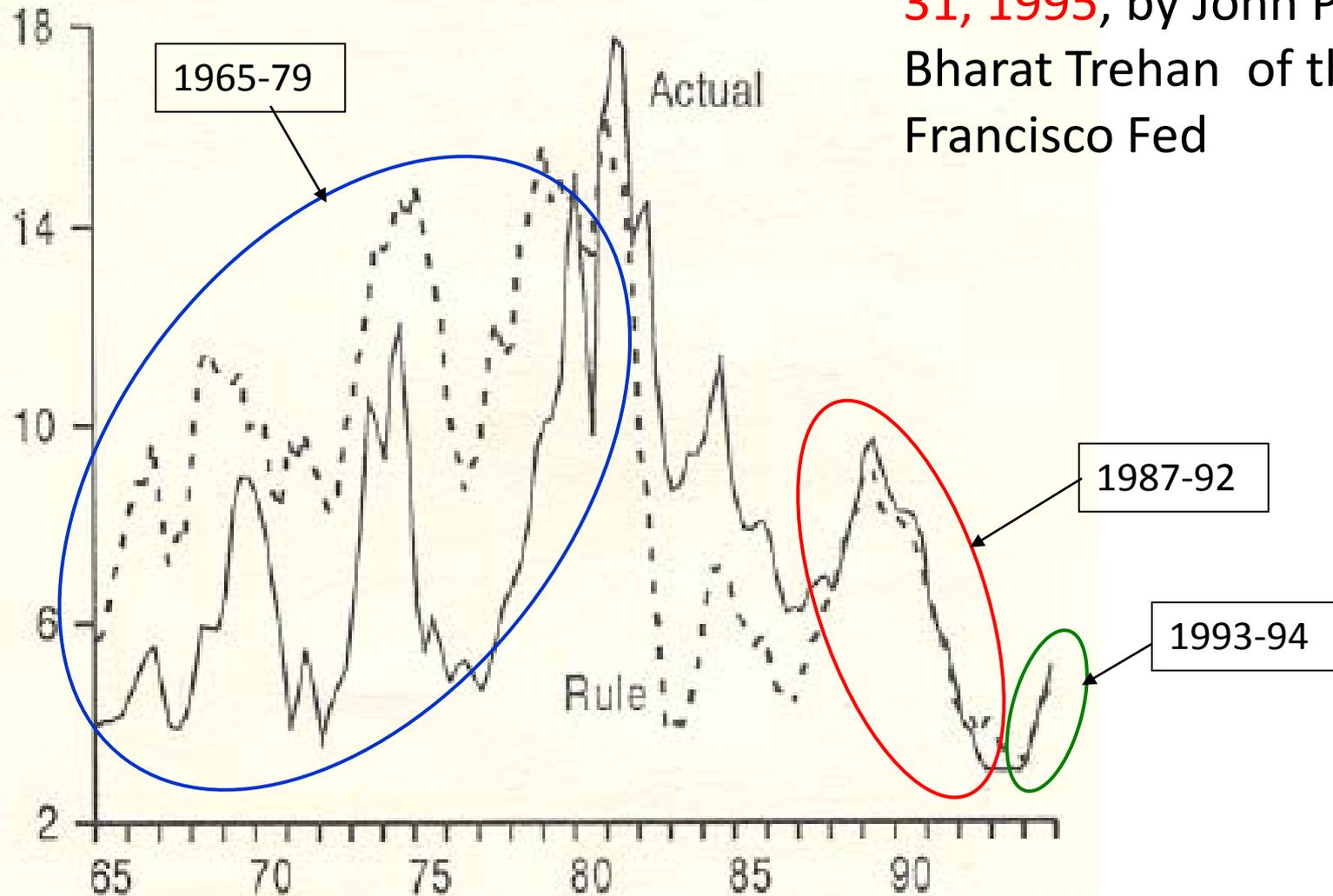
From "Has the Fed Gotten Tougher on Inflation?" The FRBSF Weekly Letter, March 31, 1995, by John P Judd and Bharat Trehan of the San Francisco Fed

Greenspan Years: Federal Funds Rate and Taylor Rule
## (CPI $p^* = 2.0$, $r^* = 2.0$) $a = 1.5$, $b = 0.5$
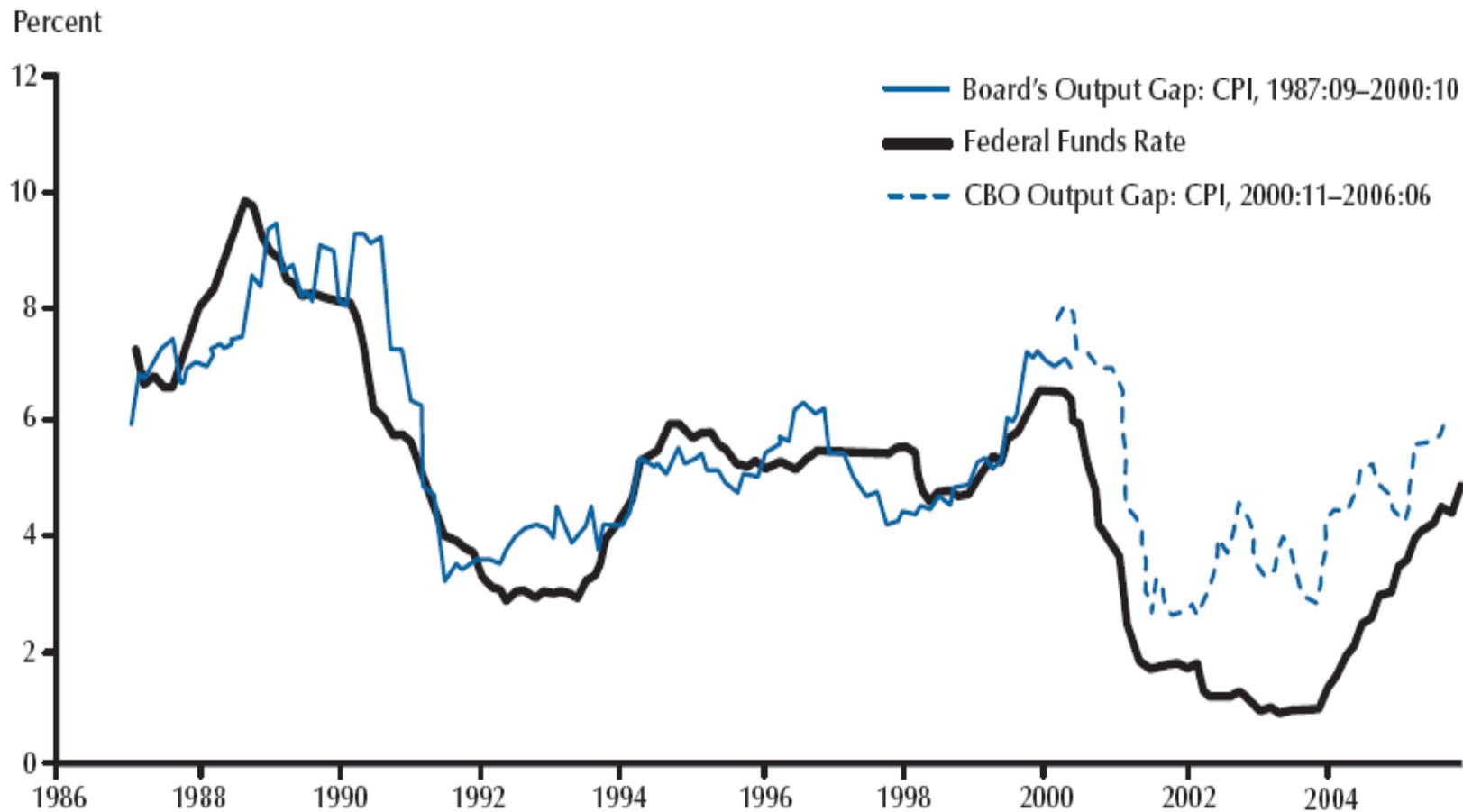
From William Poole, "Understanding the Fed"
**St. Louis *Review*, Jan/Feb 2007**

From Great Moderation to Great Recession
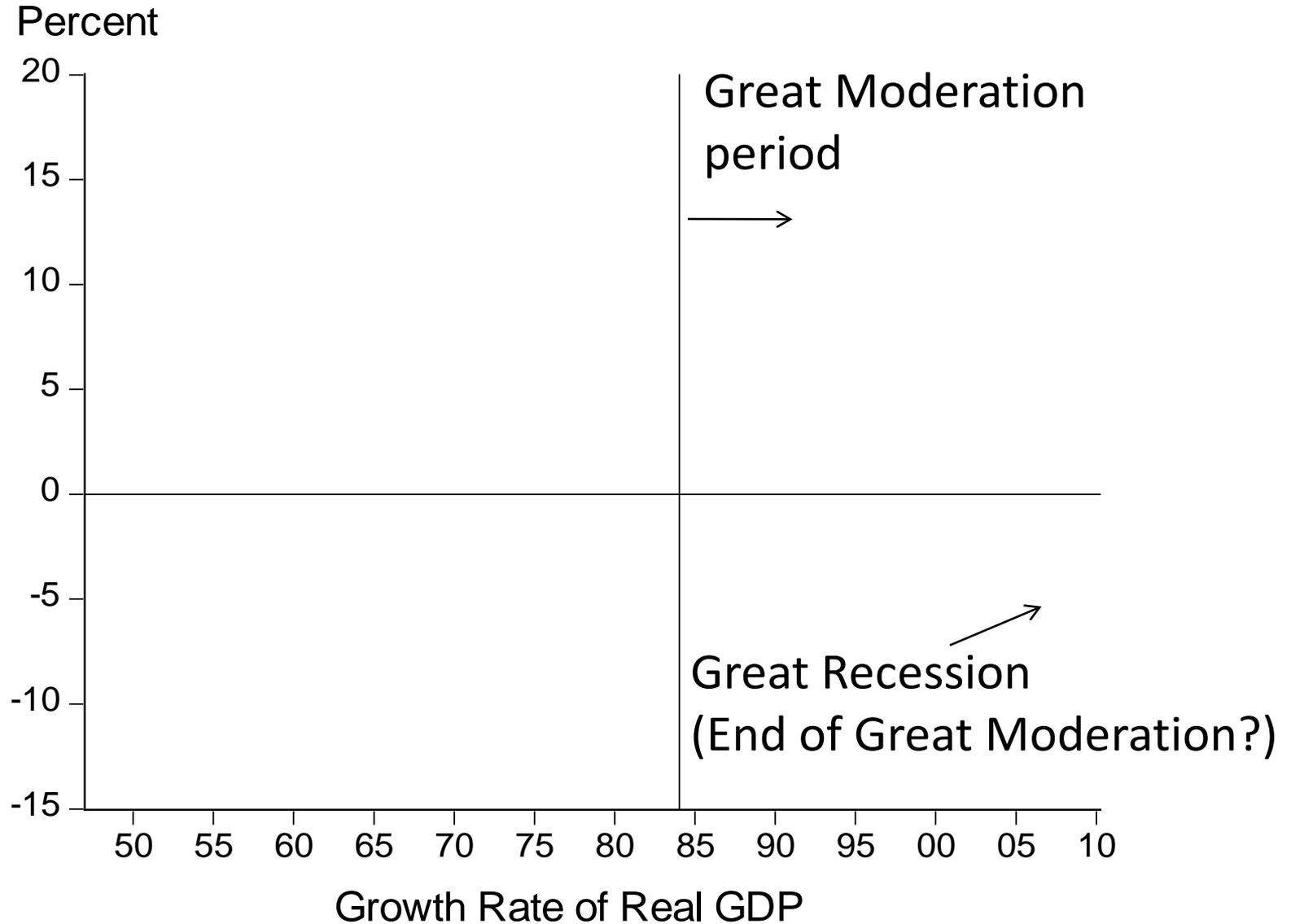
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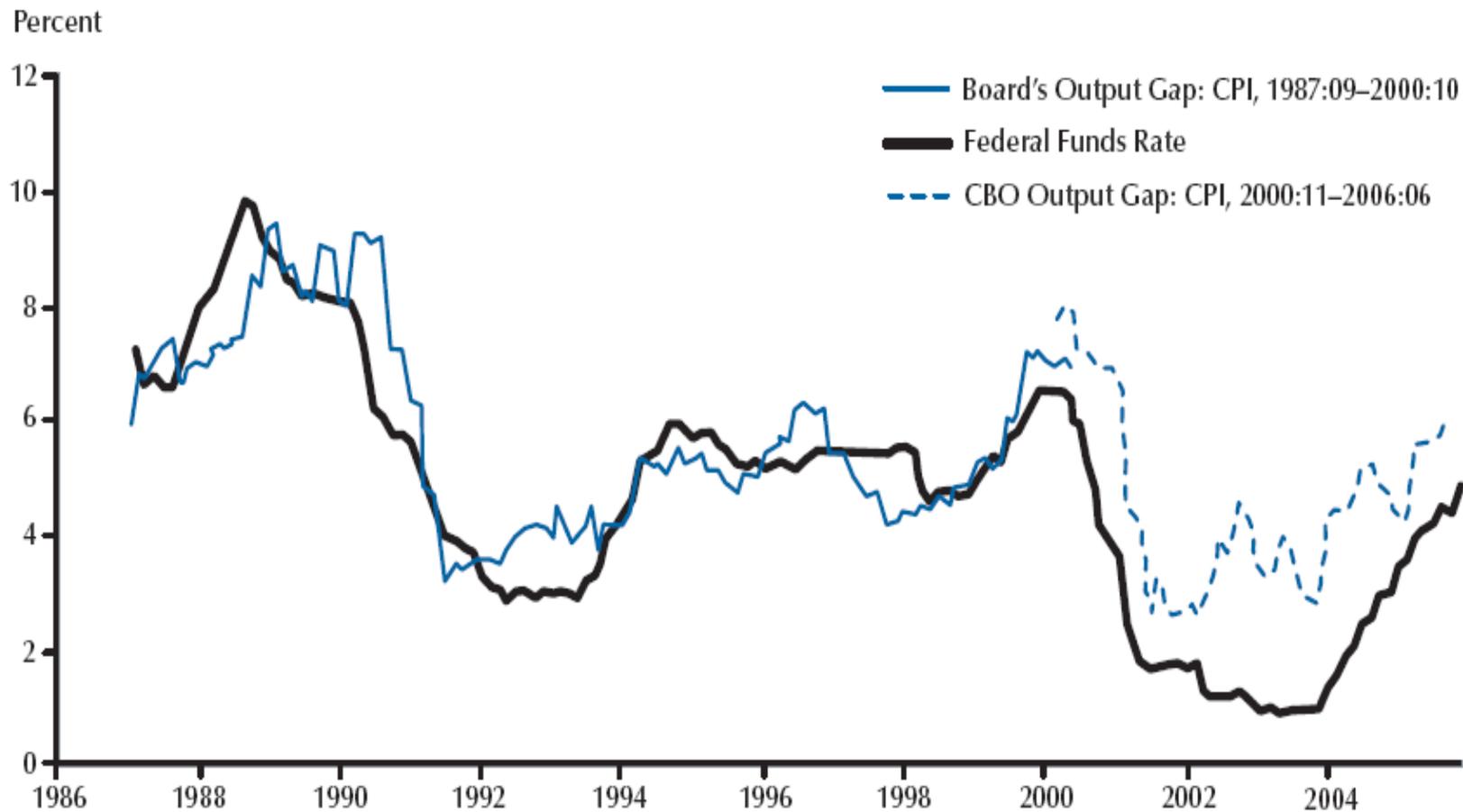
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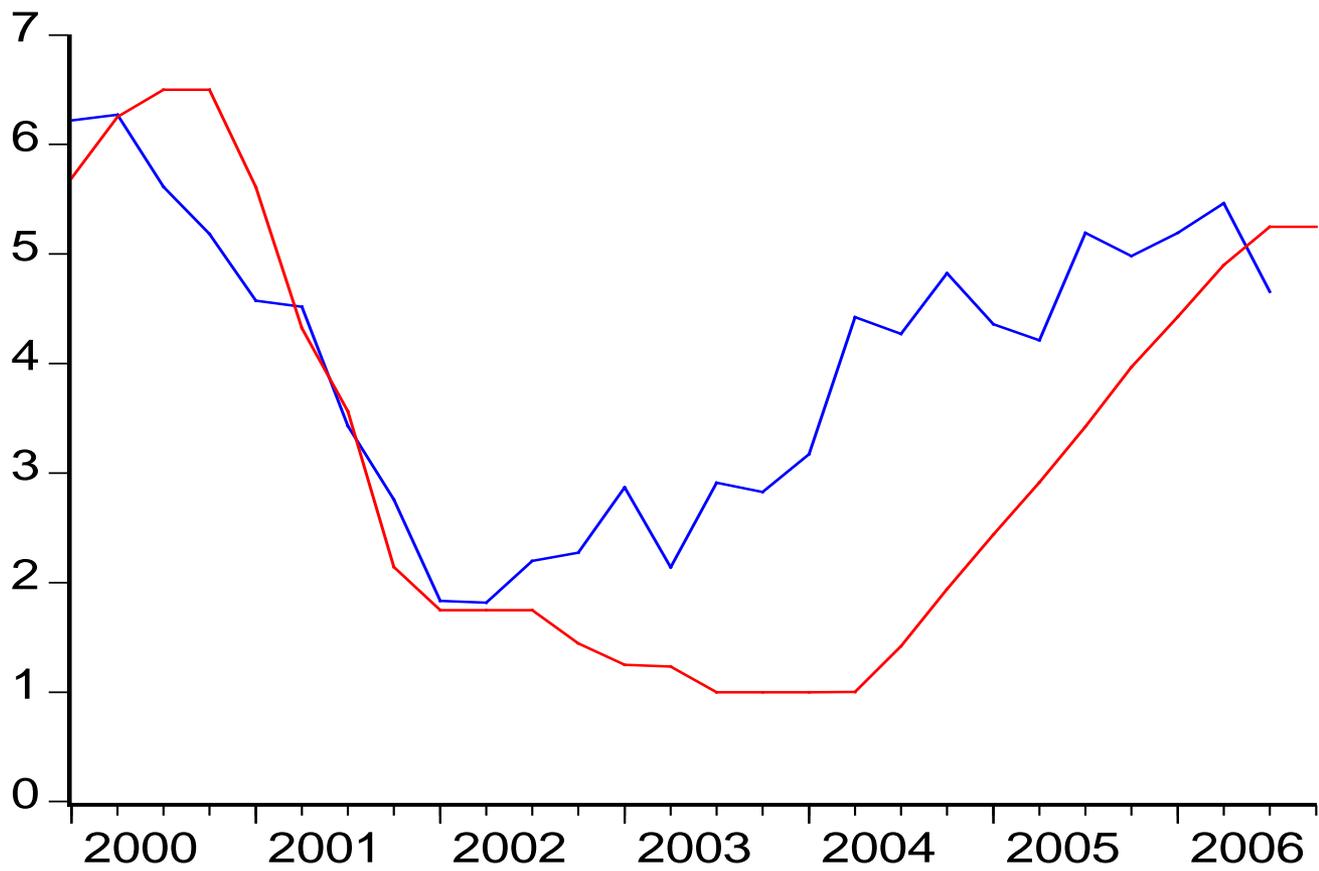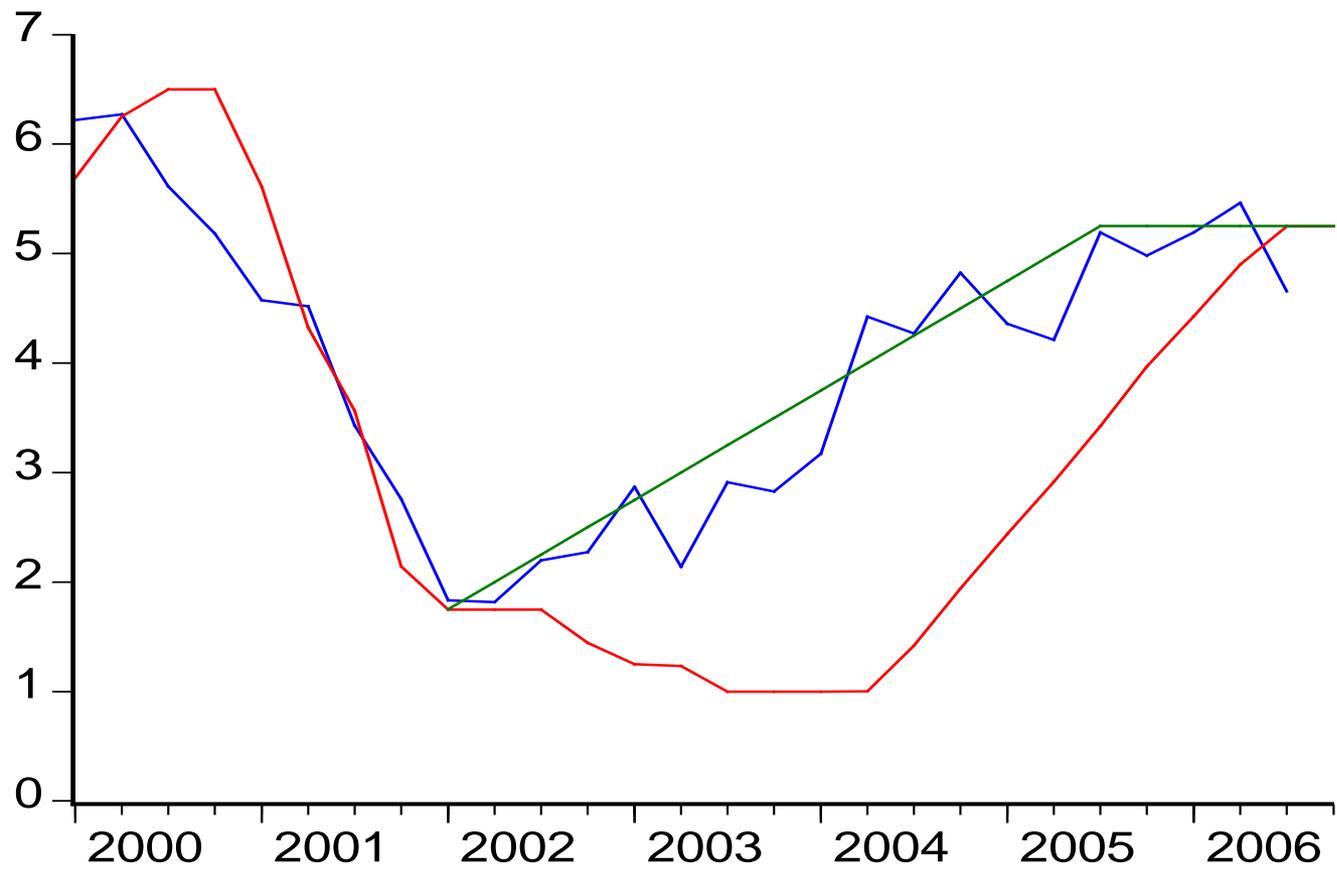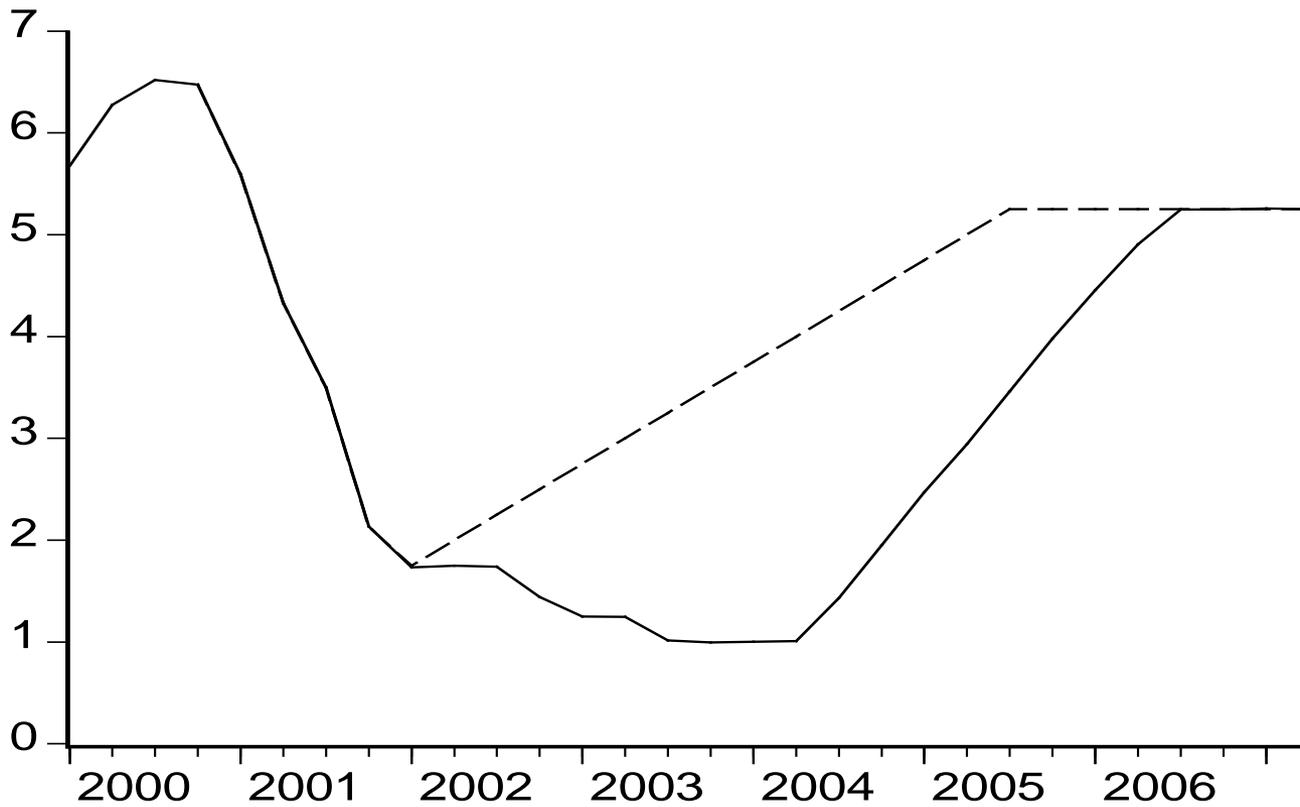
Counterfactual Federal Funds Rate
Actual Federal Funds Rate

Chart from *The Economist,* October 18, 2007


Loose fitting

Federal funds rate, actual and counterfactual, (in percent)
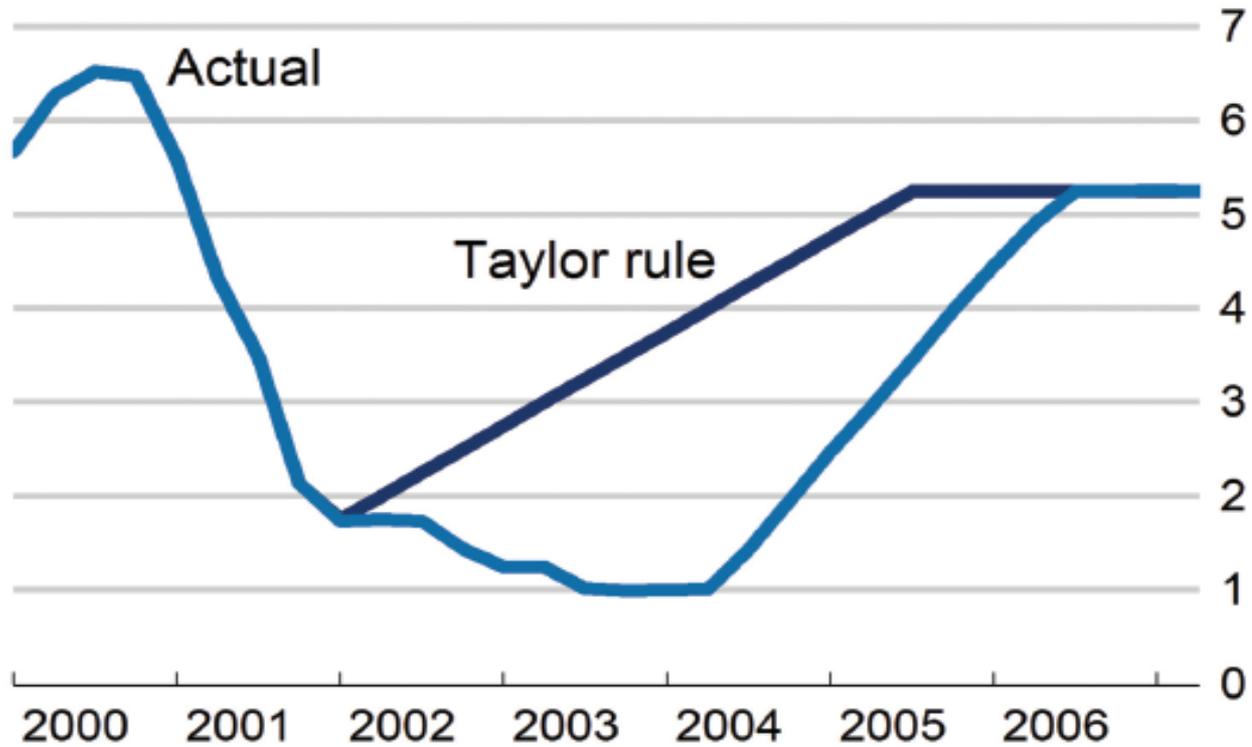
Other Empirical Work

- <u>Ahrend et al.</u> "'below Taylor' episodes have generally been associated with the build-up of financial imbalances in housing markets"

- <u>Kahn</u> "When the Taylor rule deviations are excluded from the forecasting equation, the bubble in housing prices looks more like a bump."

- <u>Bekaert et al.</u> "lax monetary policy increases risk appetite (decreases risk aversion) in the future, with the effect lasting for about two years and starting to be significant after five months."

- <u>Bean et al.</u> 46 % (UK) and 26% (US) of the housing boom; largest impact in their VAR ; loose in 2002-2005

From George Kahn (2010)

1987:Q1 - 2008:Q3

$y = -0.04x + 0.02$

$R^2 = 0.32$

t-stat = -4.96

Price-to-Rent Ratio

Taylor Rule 1 Deviations
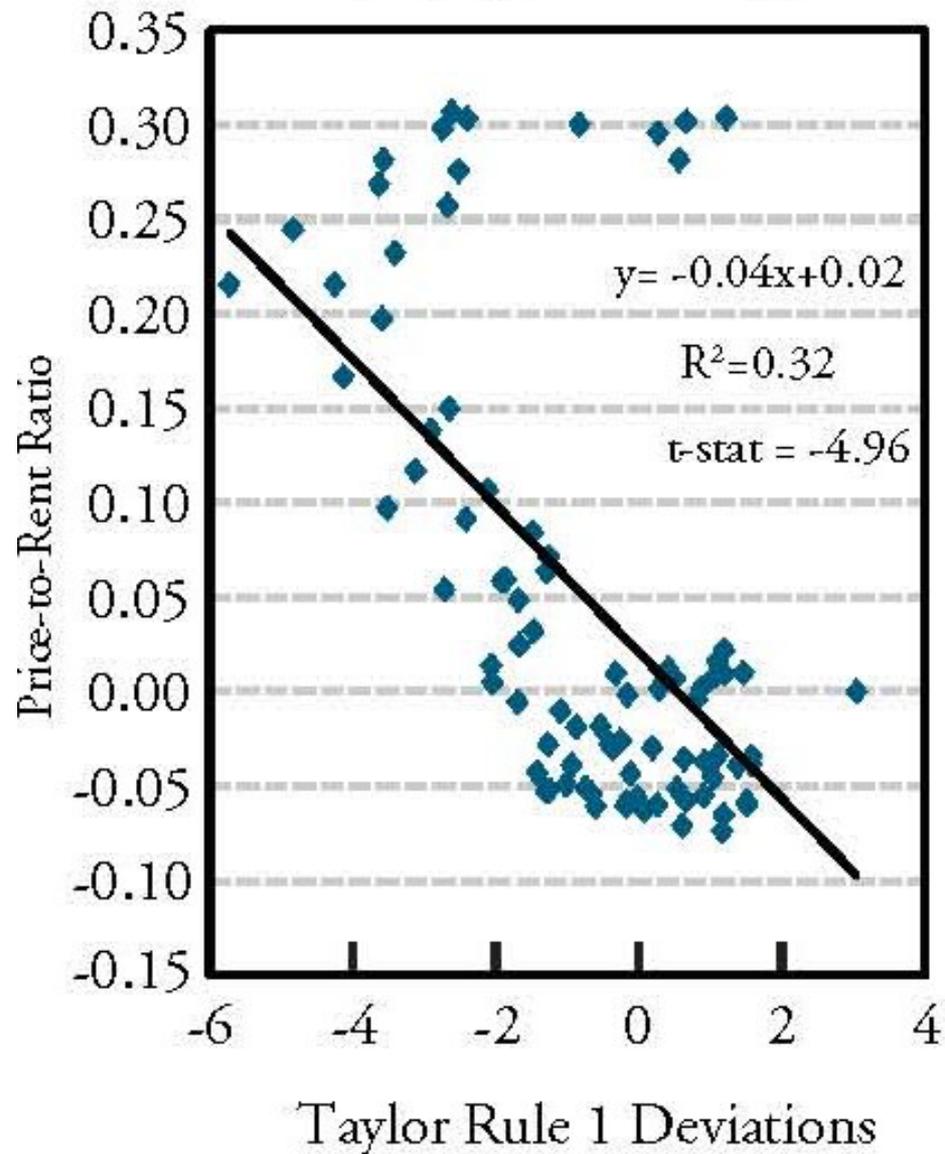
# From George Kahn (2010)

Price-to-Rent Ratio
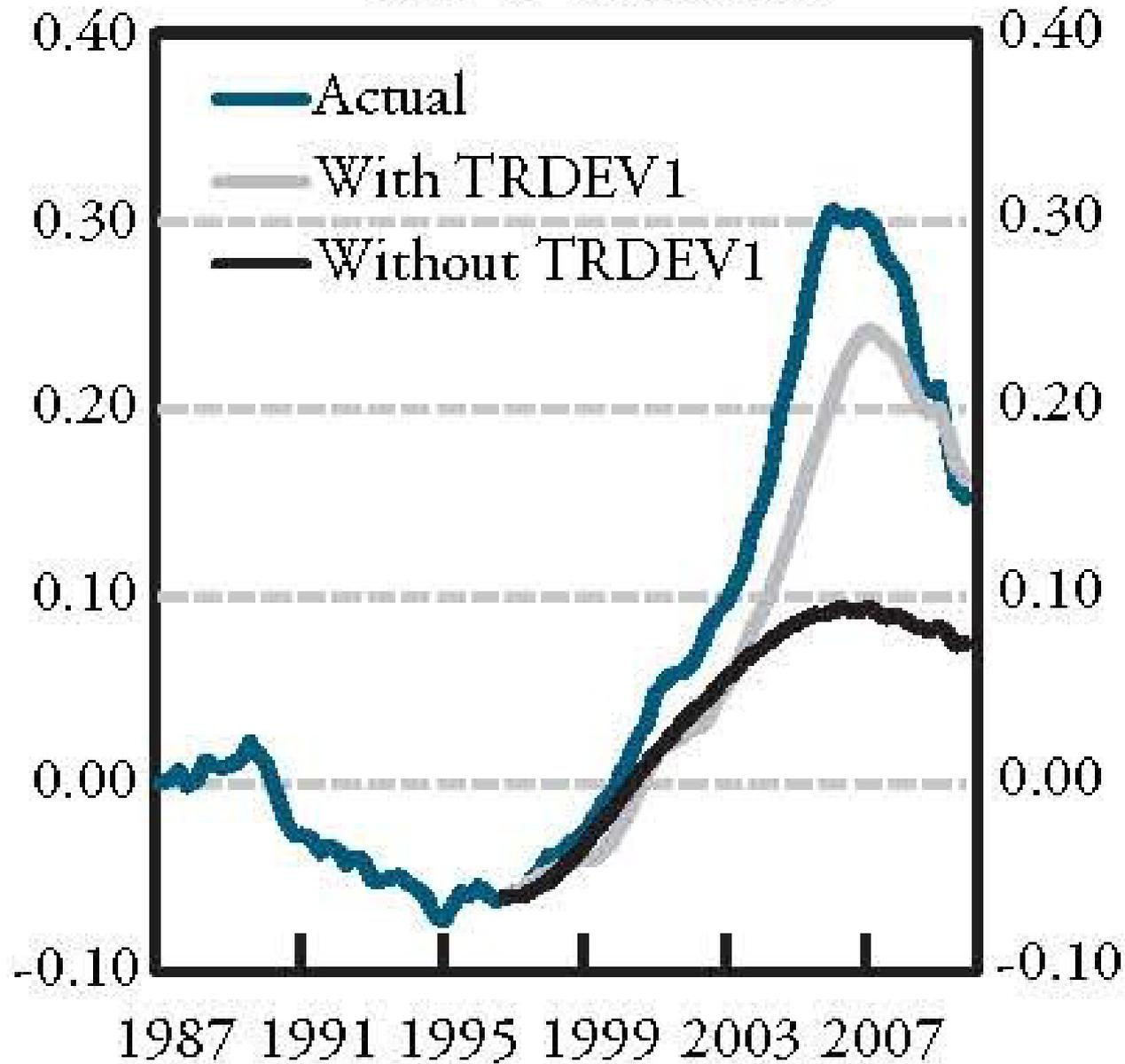
More on the Use of Policy Rules

- Policy description (estimation) versus policy recommendation

- Actual values versus forecasts

- Example: $1.5\pi + .5y + 1 = .75$ rather than -7.00
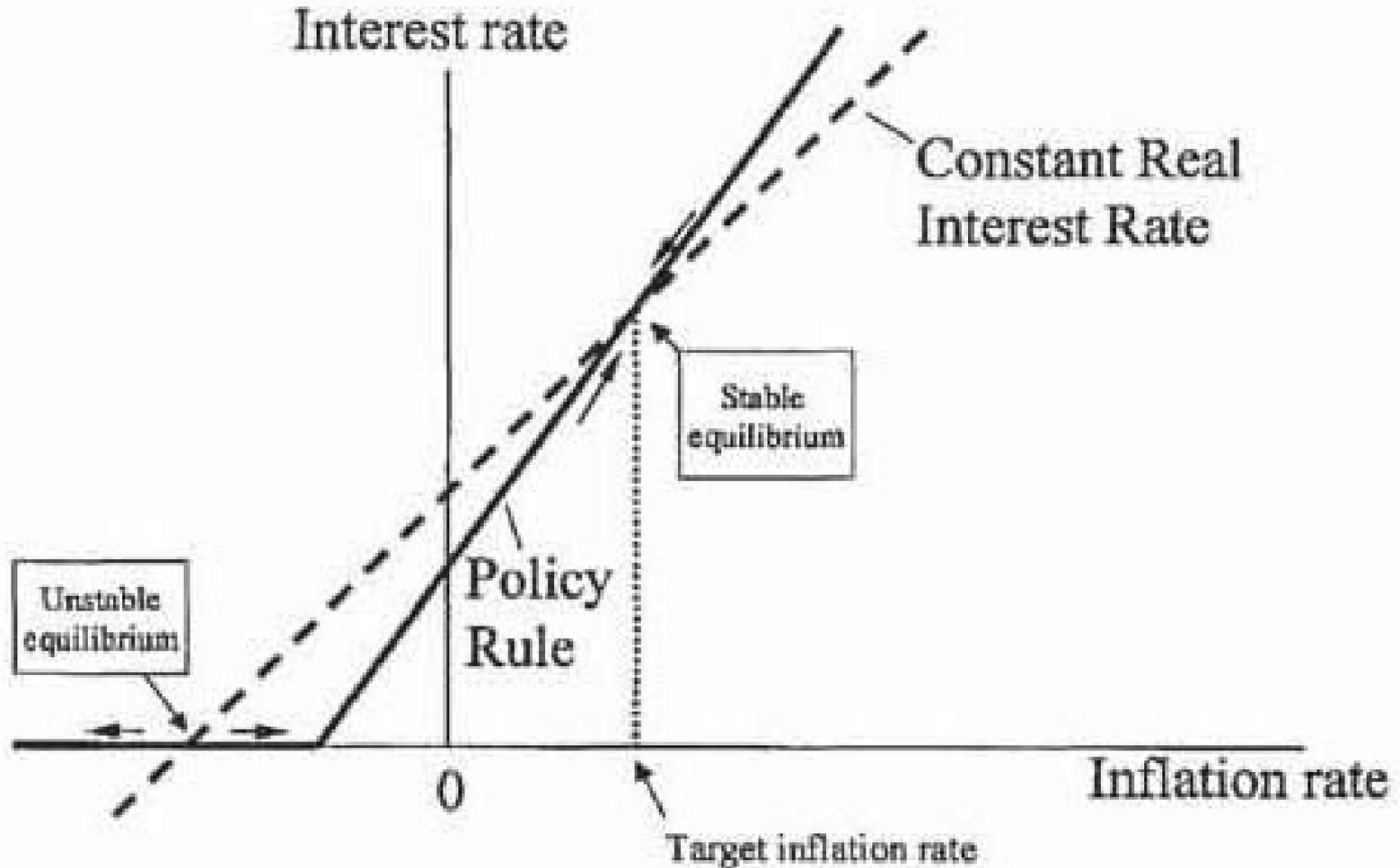
Use of non-conventional monetary policies

- Not only LSAP
  - also liquidity measures, support for certain sectors or creditors, swaps,...
- Distinguish three phases of the crisis
  - Pre-panic, panic, post-panic
- Announcement effects can be misleading.

Three Phases of the Crisis: Pre-Panic, Panic, Post-Panic

Percent

13 October 2008

Panic

Pre-panic   Post-panic

9 August 2007

Libor − OIS Spread
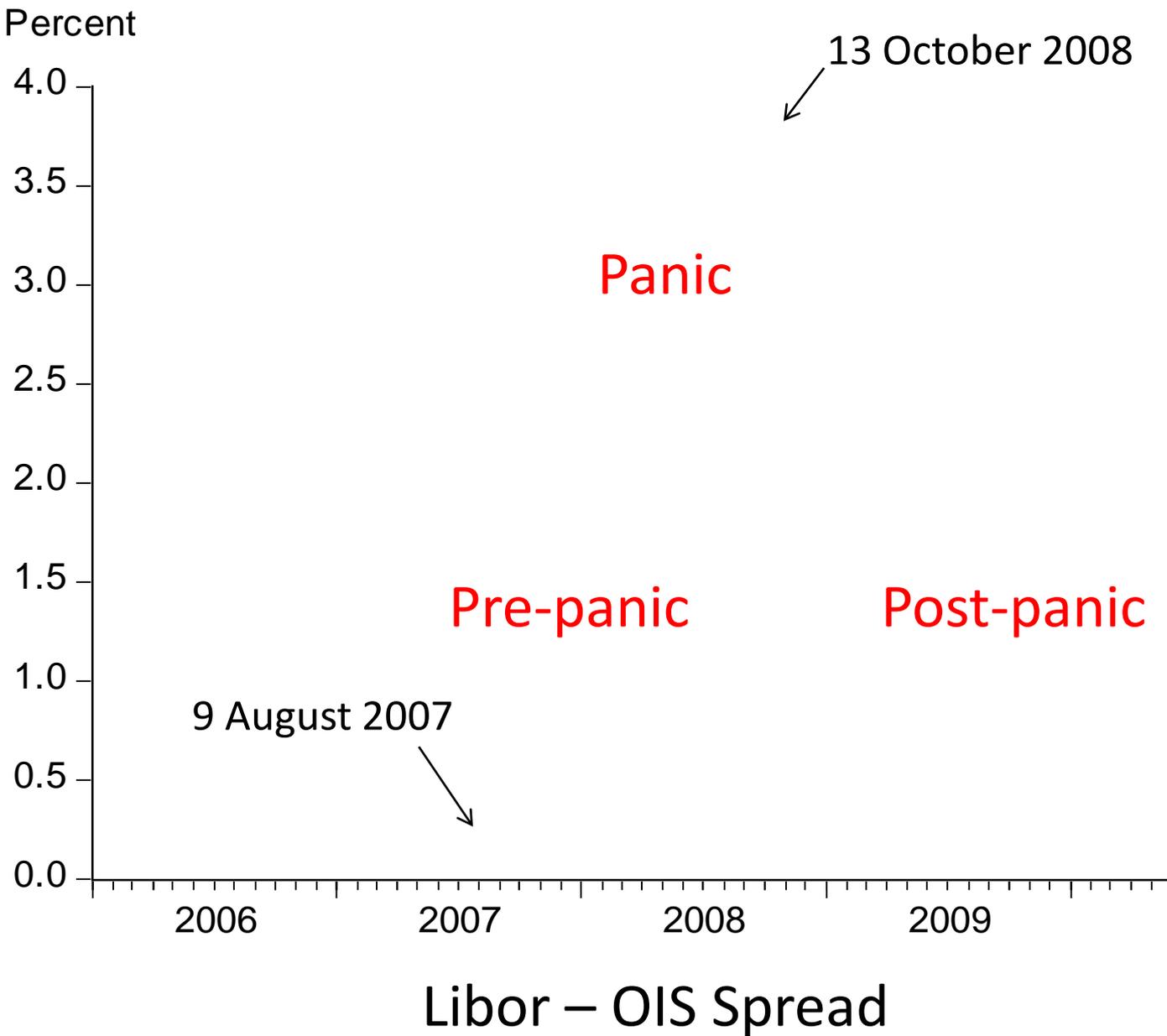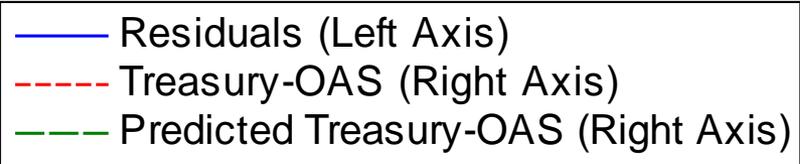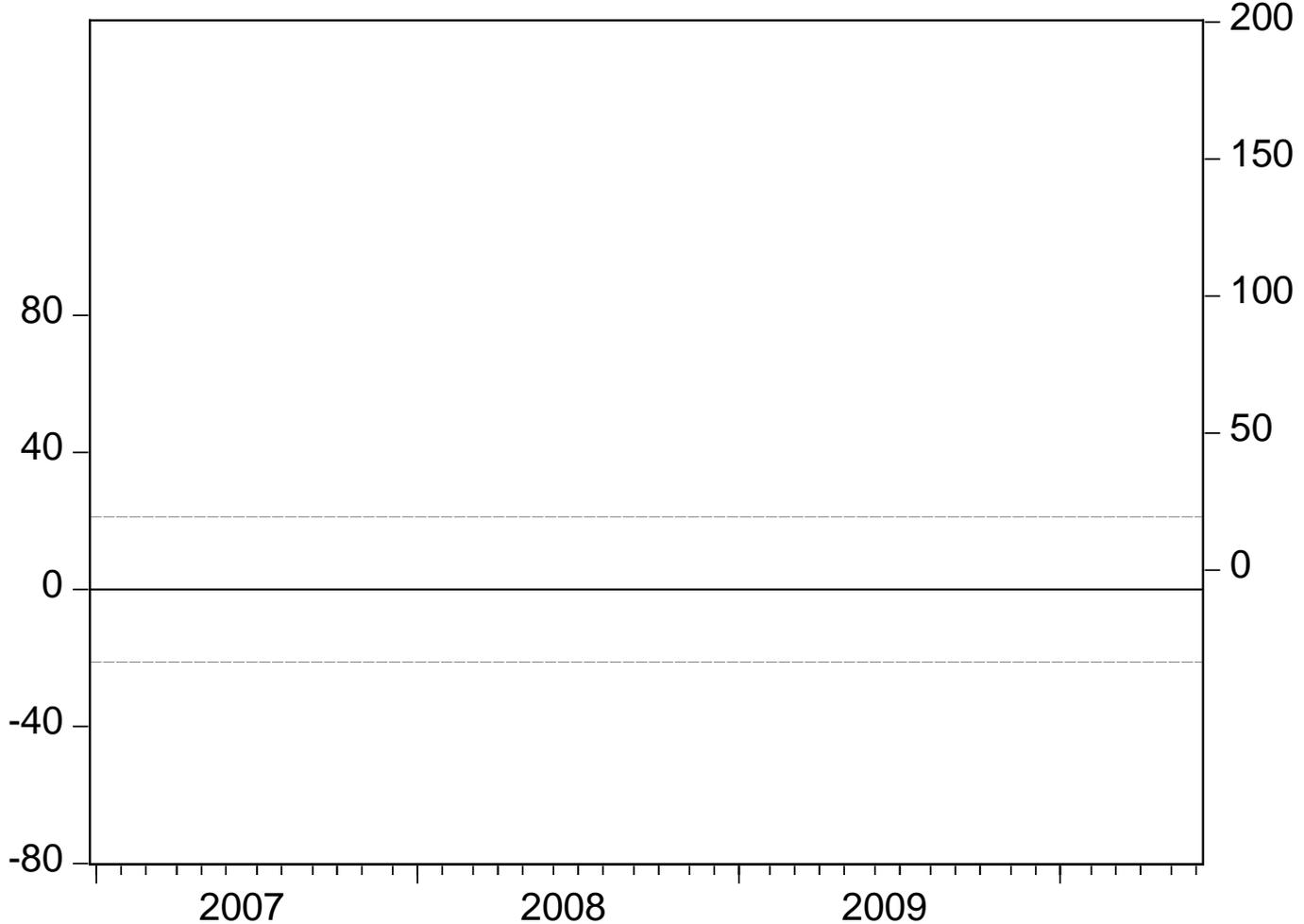
Swap OAS
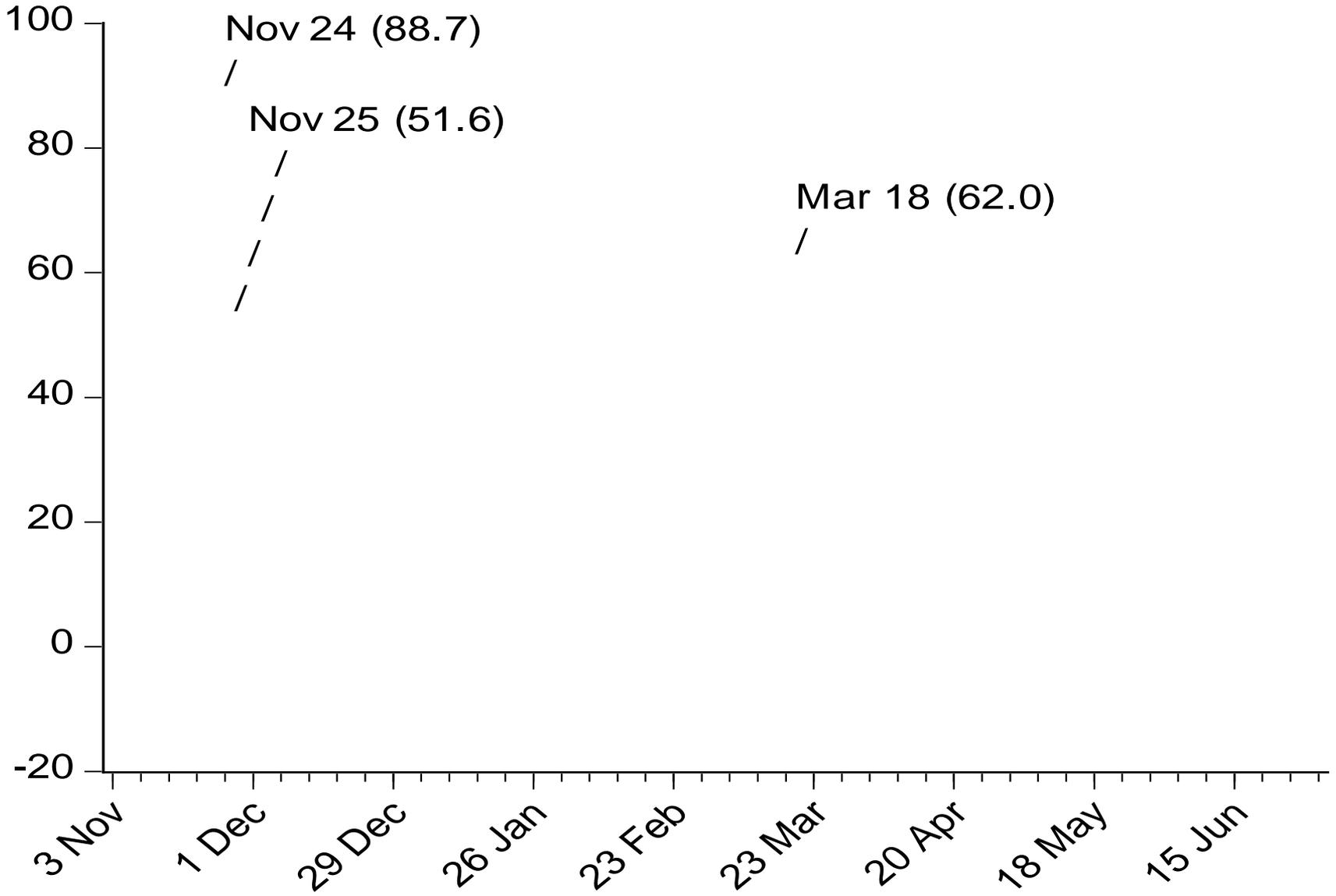
Oct 6, 2010 : USDJPY=X 82.9119

Yen per dollar