

# An International Monetary System Built on Sound Policy Rules

John B. Taylor

Keynote Speech

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Analysis and International Finance

Rethymnon, Crete

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# References

Links at [JohnBTaylor.com](http://JohnBTaylor.com)

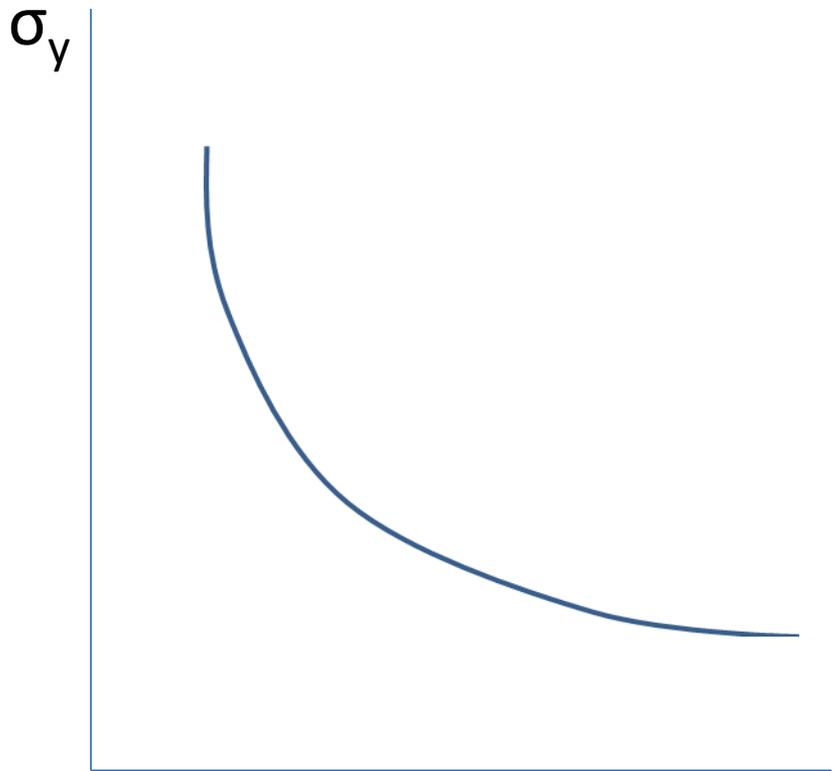
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# Many Calls for International Monetary Reform

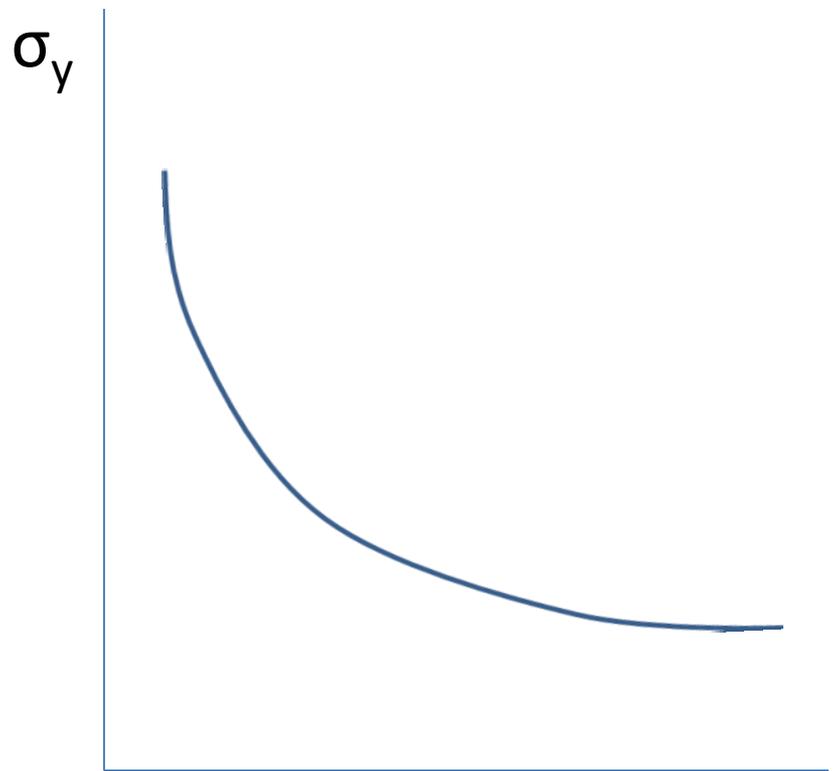
- Jaime Caruana: global instability shows need for reform
- Paul Volcker: “the absence of an official, rules-based, cooperatively managed monetary system has not been a great success.”
- Raghu Rajan: “what we need are monetary rules that prevent a central bank’s domestic mandate from trumping a country’s international responsibility.”
- Helena Rey and IMF: we need macro prudential policies or even capital controls (aka capital flow management) to slow down the flow of capital
- This proposal: A rules-based international monetary system built on policy rules in each country
  - Research (old and new) shows it will work well even with capital mobility and flexible exchange rates

# Research

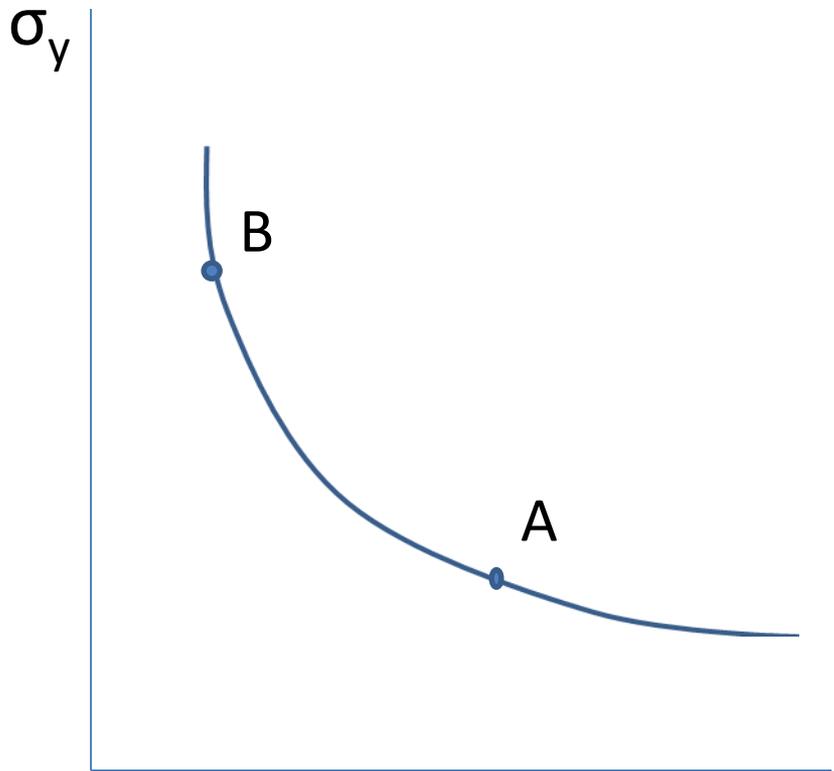
- Policy analysis is conducted in “*rules-space*”
- Economic research shows that
  - *rules-based monetary policies* lead to good macroeconomic performance
  - in the national economy
  - and in the global economy
    - Nash equilibrium is nearly optimal
- Empirical multi-country monetary models with
  - flexible exchange rates
  - highly integrated international capital markets
  - no-arbitrage conditions in the term-structure
  - forward-looking expectations
  - price and wage rigidities



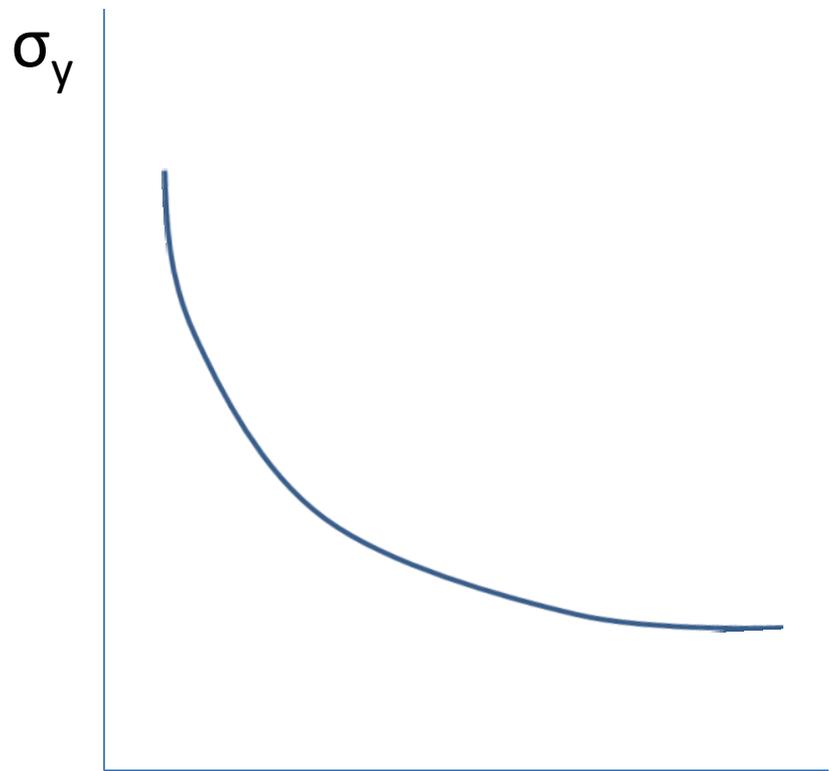
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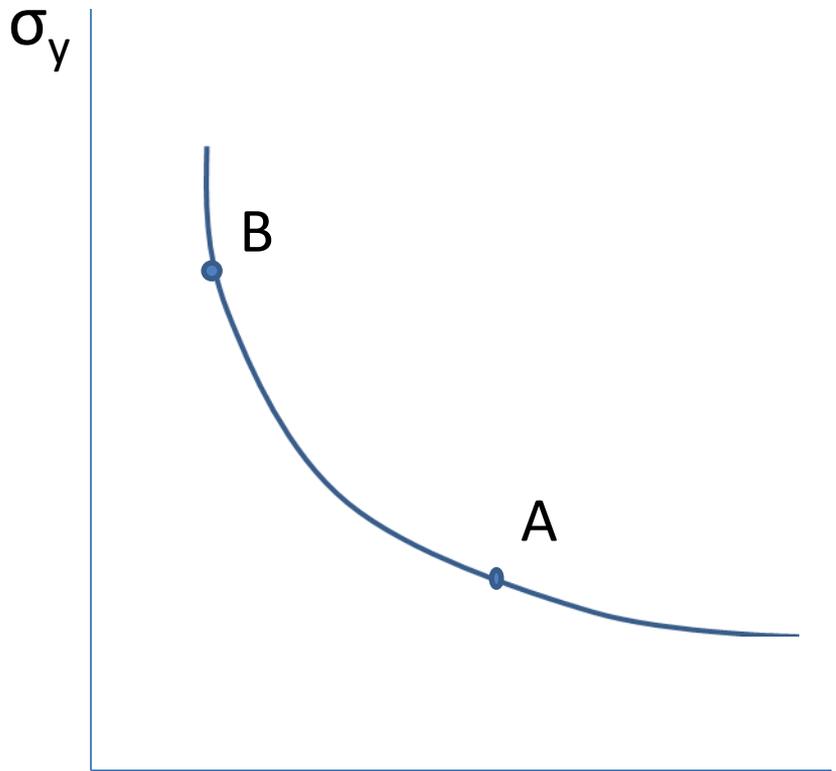
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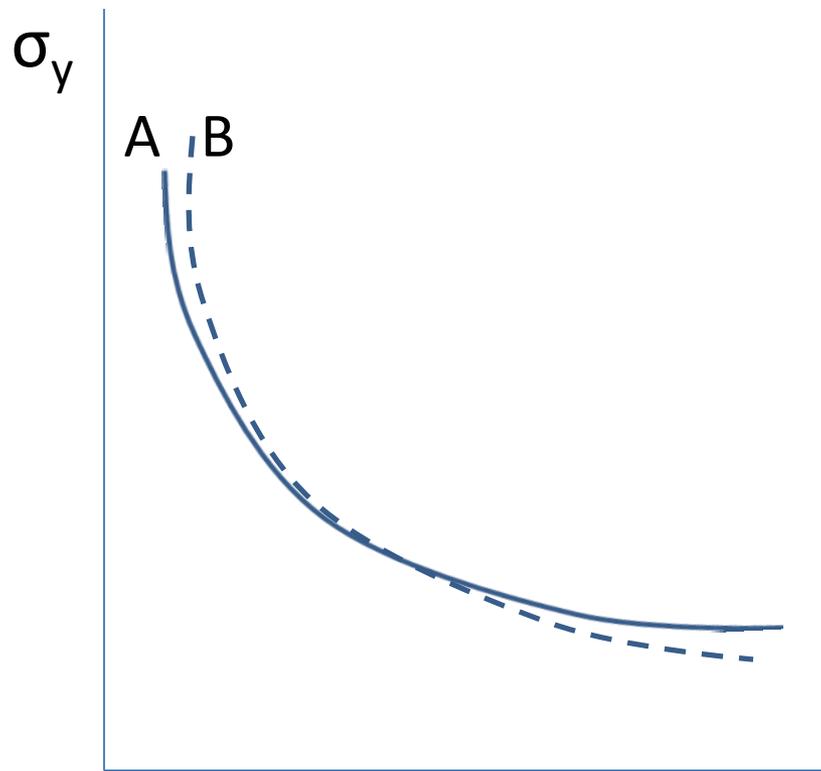
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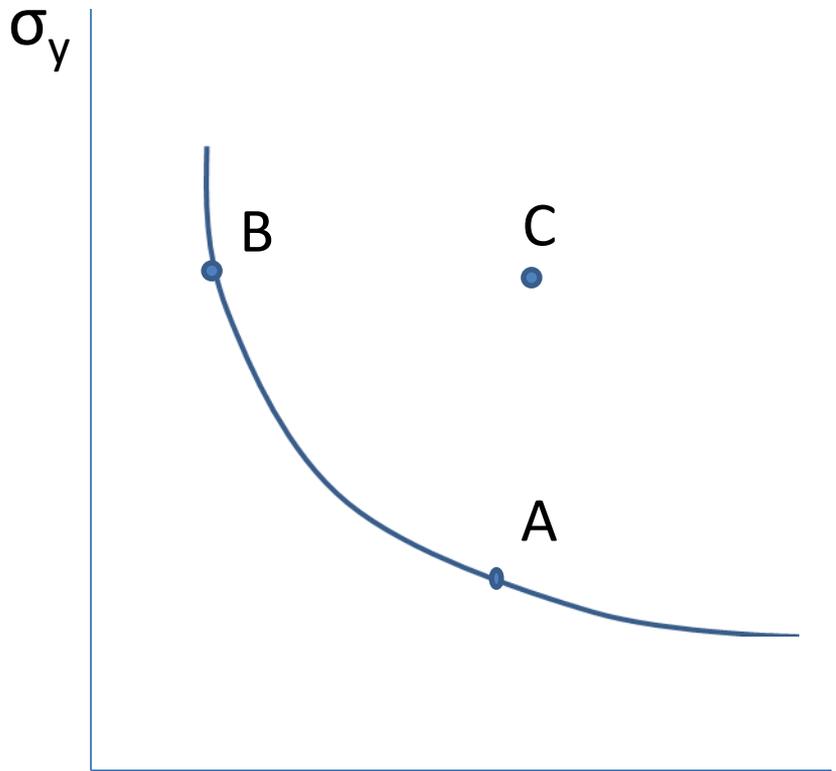
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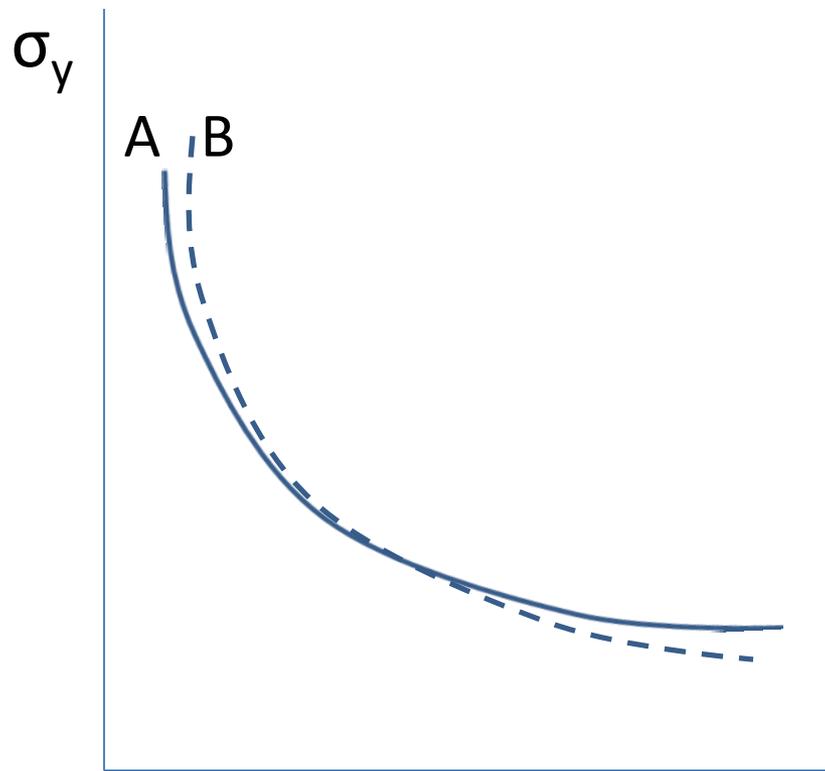
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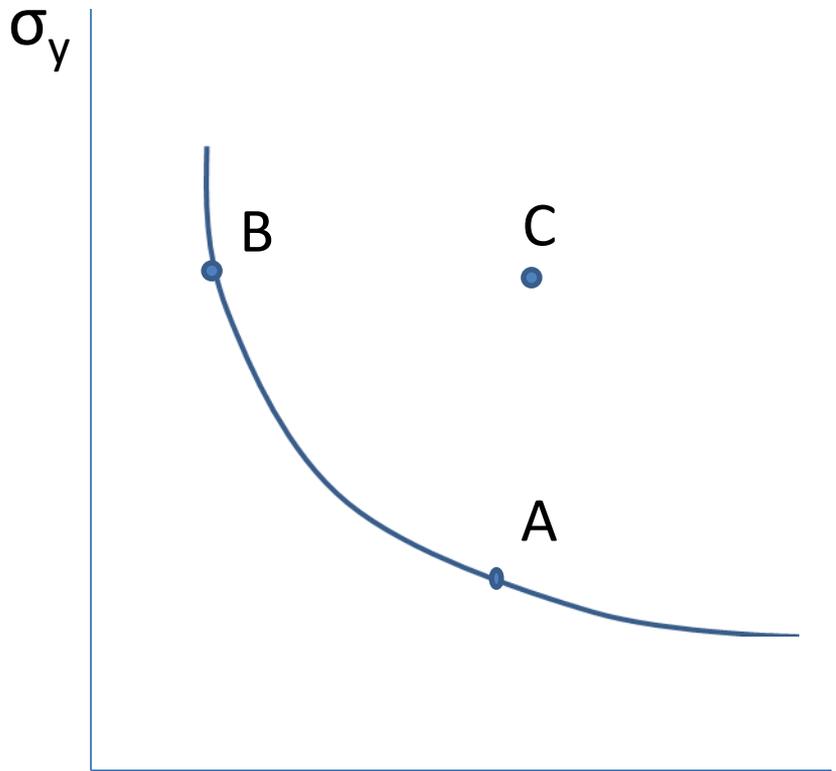
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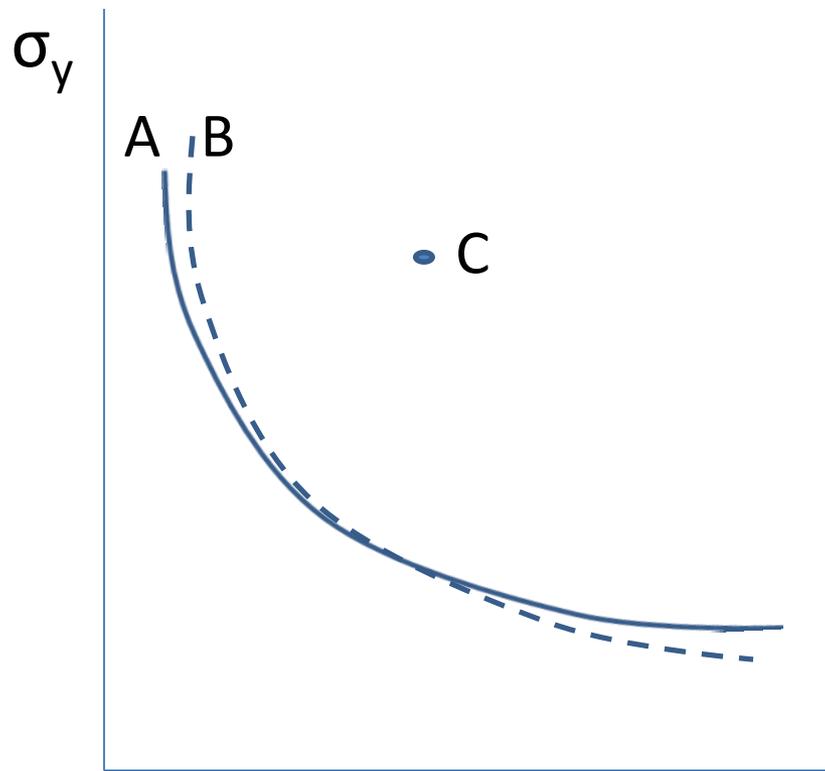
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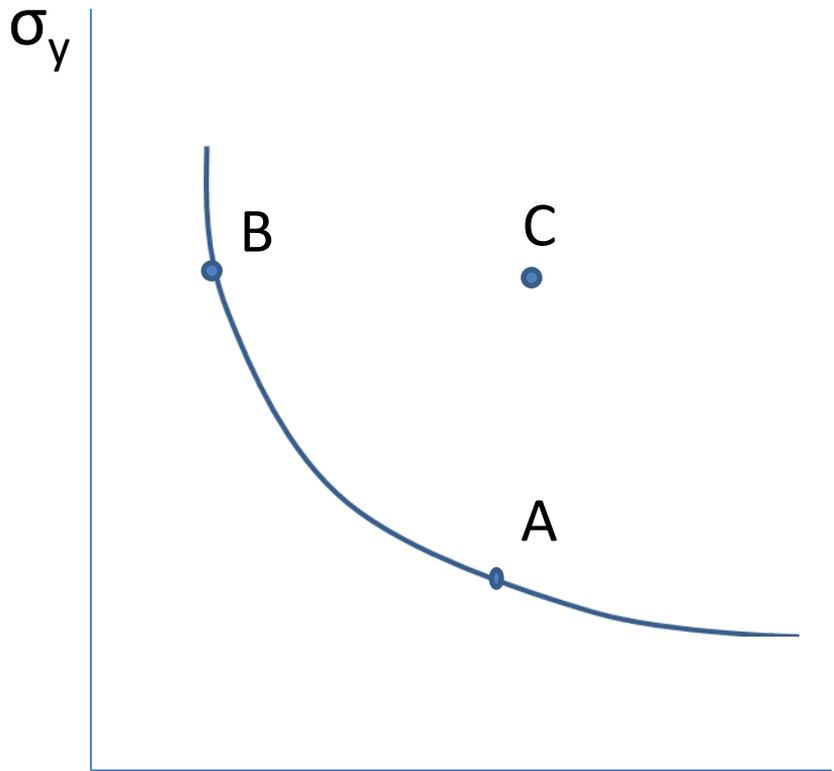
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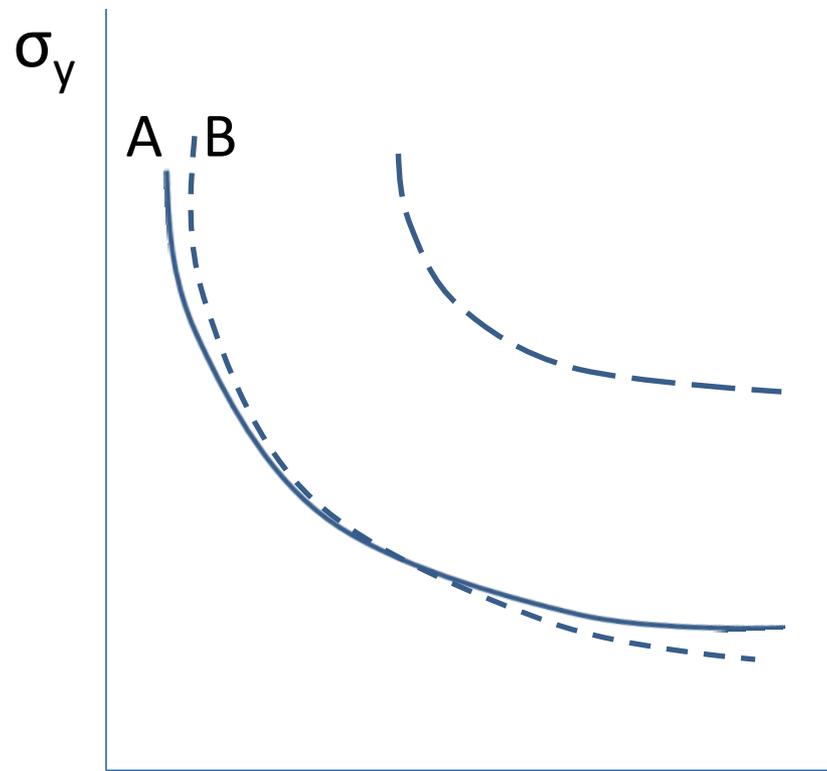
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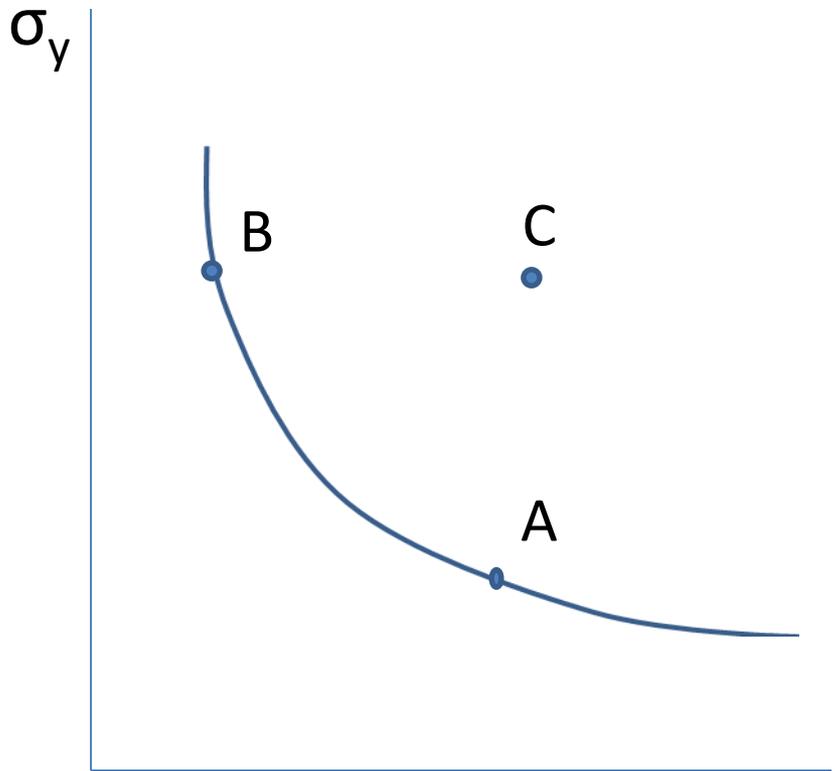
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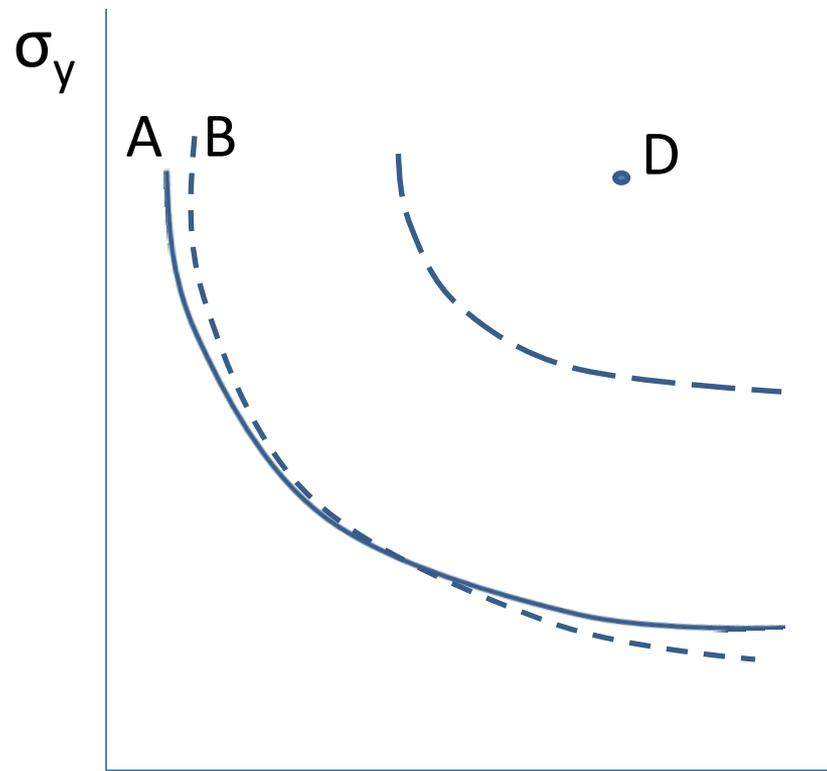
Country 1



Country 2



Country 1



Country 2

# Corroboration

- Central banks moved toward more transparent rules-based policies in 1980s, 1990s
  - including through a focus on price stability
- Detected by Clarida, Gali, and Gertler, and later confirmed by others
- Dramatic improvement compared with 1970s when policy was highly discretionary and unfocused.
- Mervyn King called it the NICE period
- But also a near internationally cooperative equilibrium (NICE)
- So Twice-NICE or NICE-squared.
- Many emerging market countries joined
  - Including through Inflation targeting
  - Performance improved & contributed to global stability

# Then The Crisis

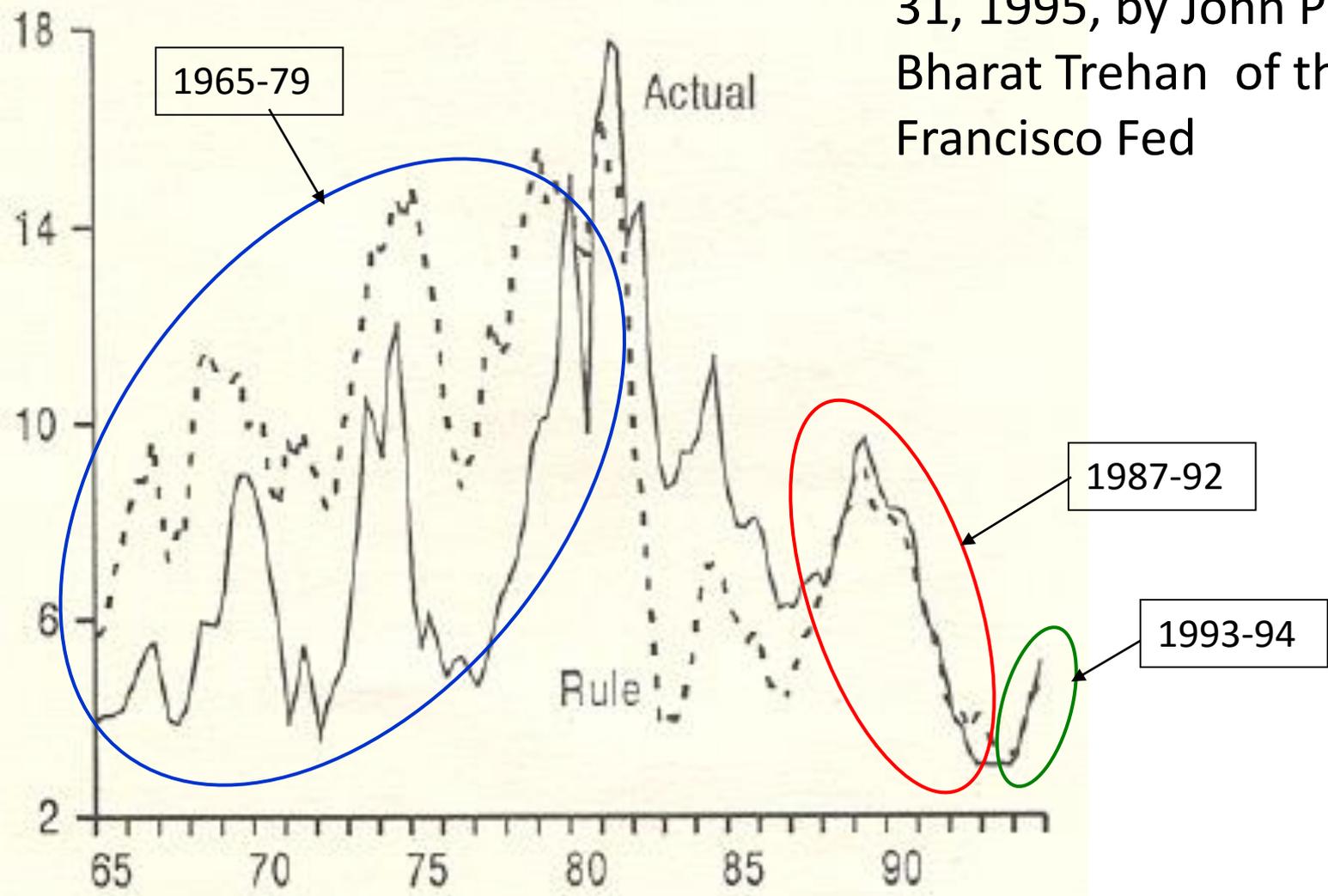
- The end of NICE in both senses of the word.
- Great Recession & Not-So-Great Recovery
- Concerns about international spillover effects
  - Emerging market countries impacted
  - Developed countries—Japan—express concerns about exchange rates.
  - Small open economies take unusual actions
- Increased volatility

# Policy Changes Before the Crisis

- Evidence of monetary policy swinging away from rule-like policies
- Detected by many (Taylor, Kahn-Fed, Ahrend-OECD)
  - A decade ago—*before* the financial crisis—too low too long
  - Causality versus correlation
- Econometric and historical evidence of effects
  - Econometrics: Nikolsko-Rzhevskyy, Papell, Prodan
  - History: Meltzer
- “Global Great Deviation” Hofmann & Bogdanova

Monetary policy gets more predictable, inflation targets, rules-based

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



# Chart from Fed, St. Louis *Review*, William Poole (Jan/Feb 2007) Showing Shift Back Toward Discretion

## Greenspan Years: Federal Funds Rate and Taylor Rule (CPI $p^* = 2.0$ , $r^* = 2.0$ ) $a = 1.5$ , $b = 0.5$

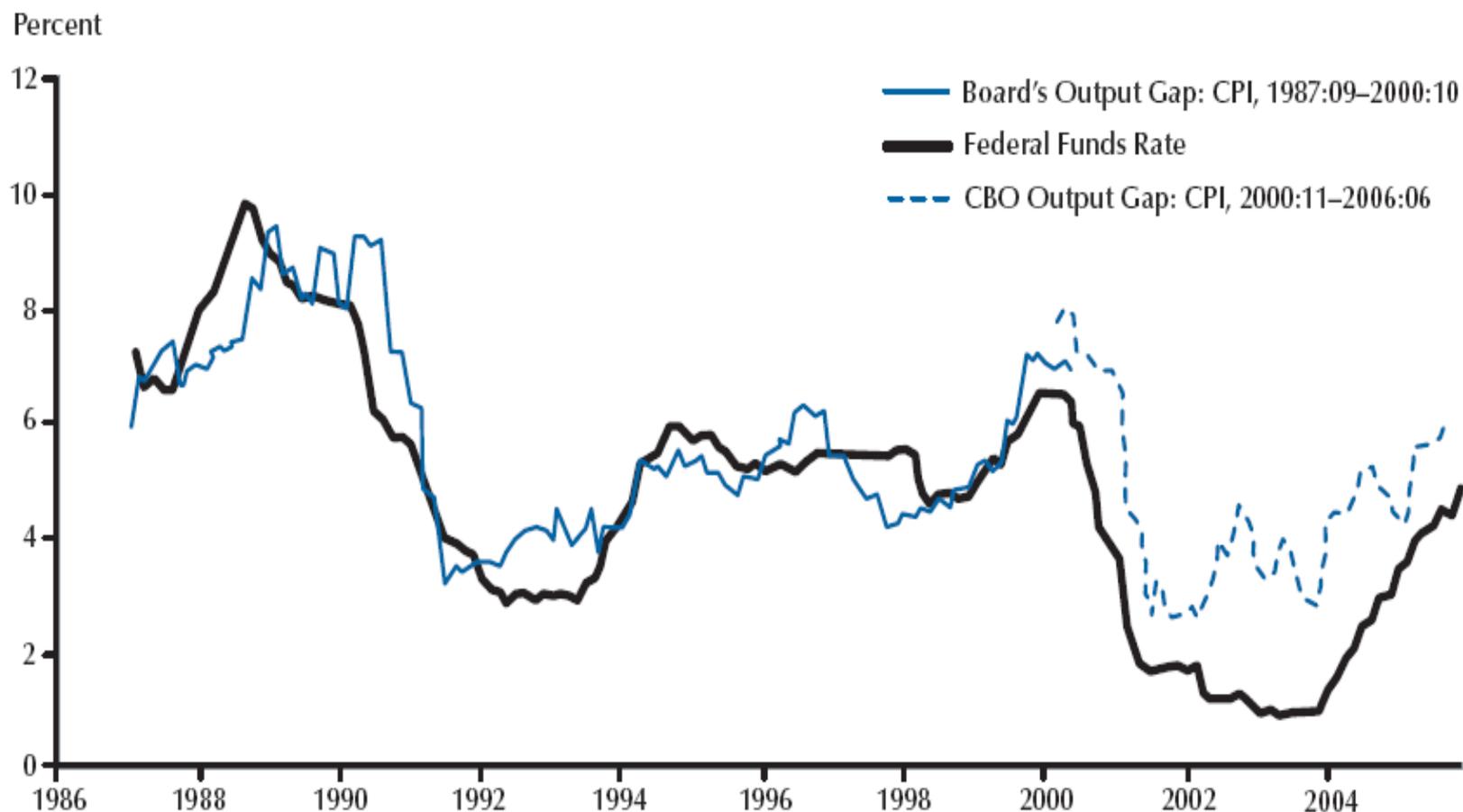
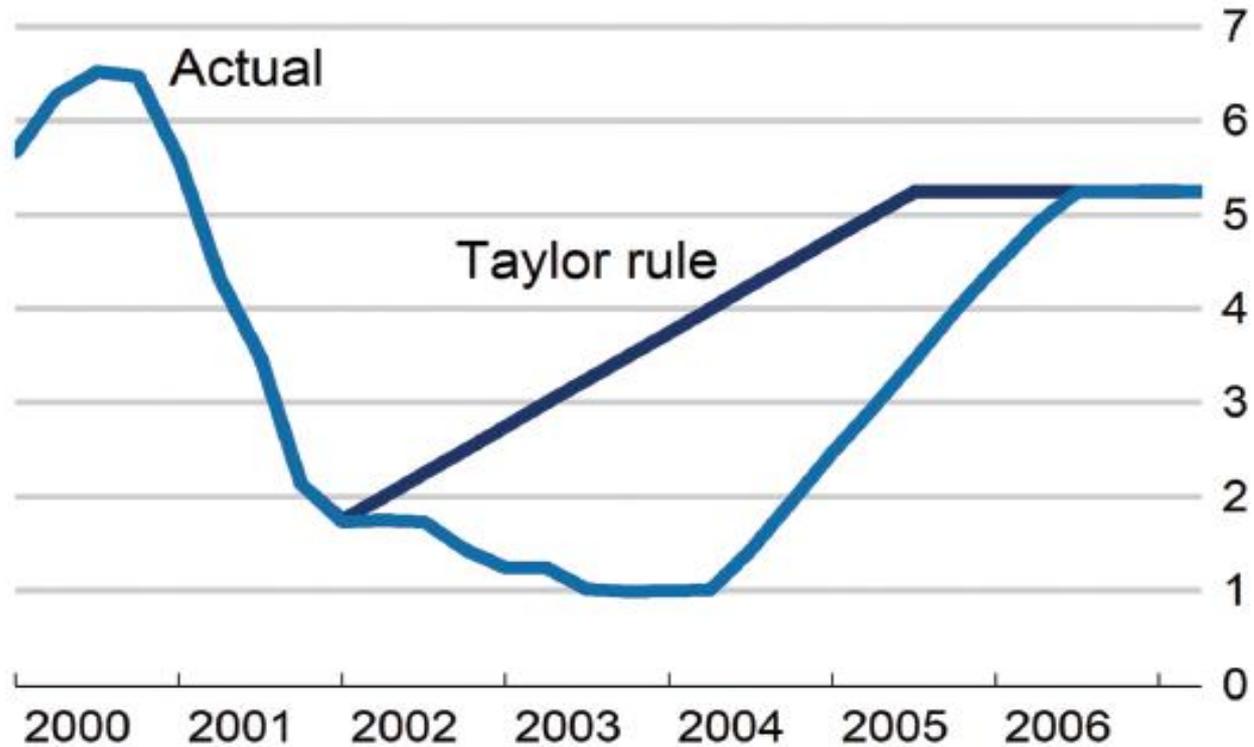
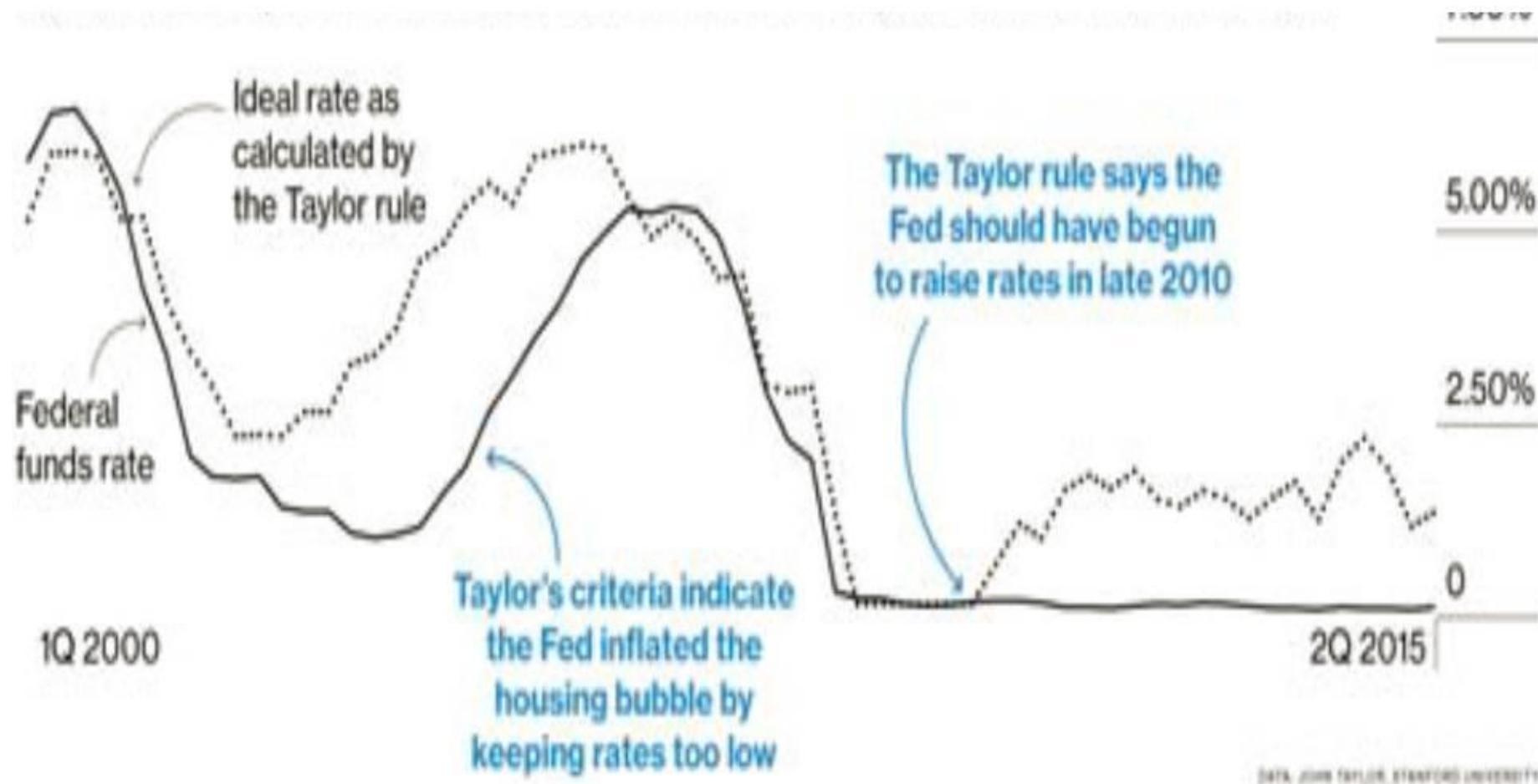


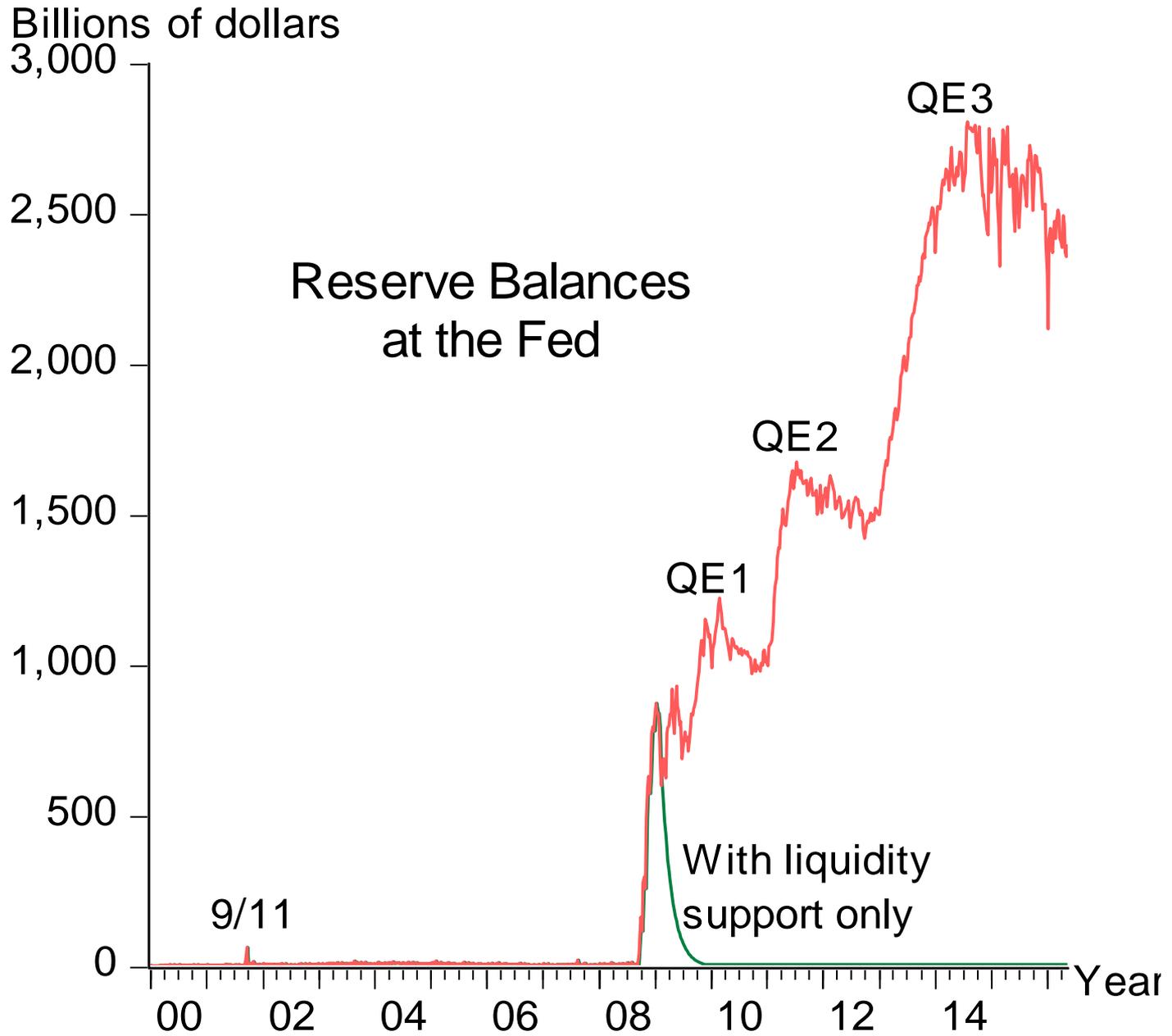
Chart from *The Economist*, October 18, 2007

### Loose fitting

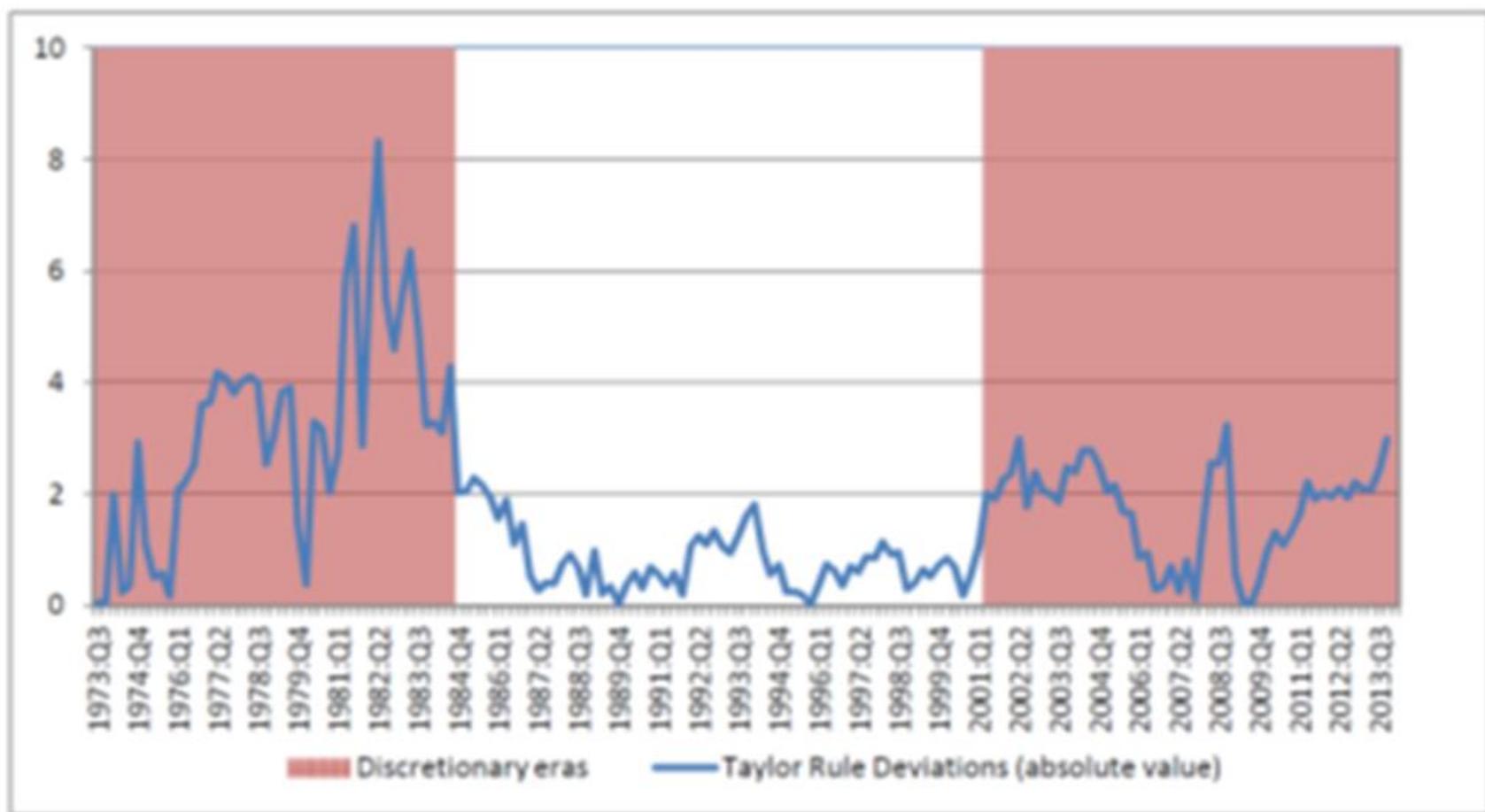
Federal funds rate, actual and counterfactual, (in percent)



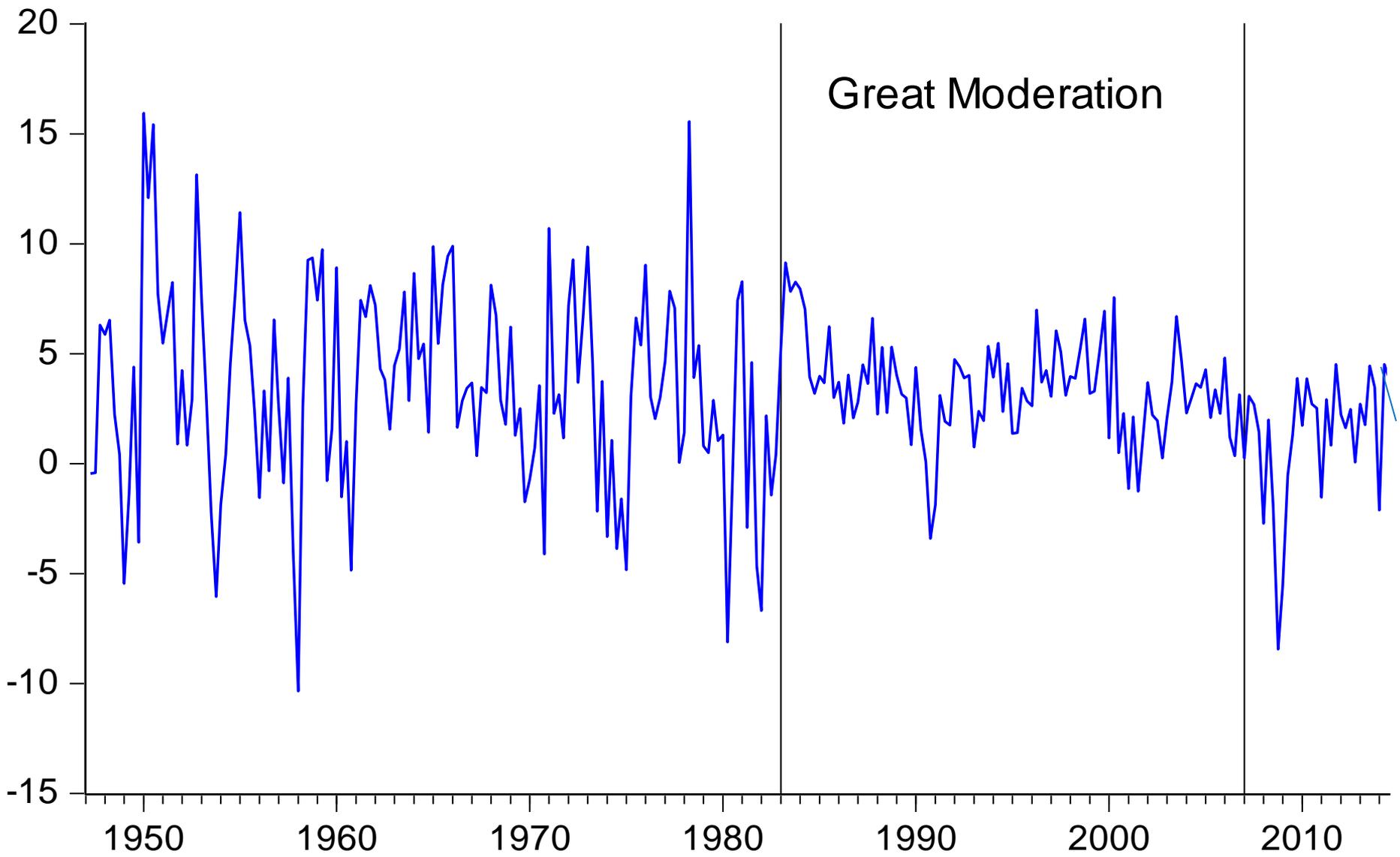




Historical analysis (Meltzer) and statistical tests (Nikolsko-Rzhevskyy, Papell, and Prodan) agree that when policy is rules-based performance is better



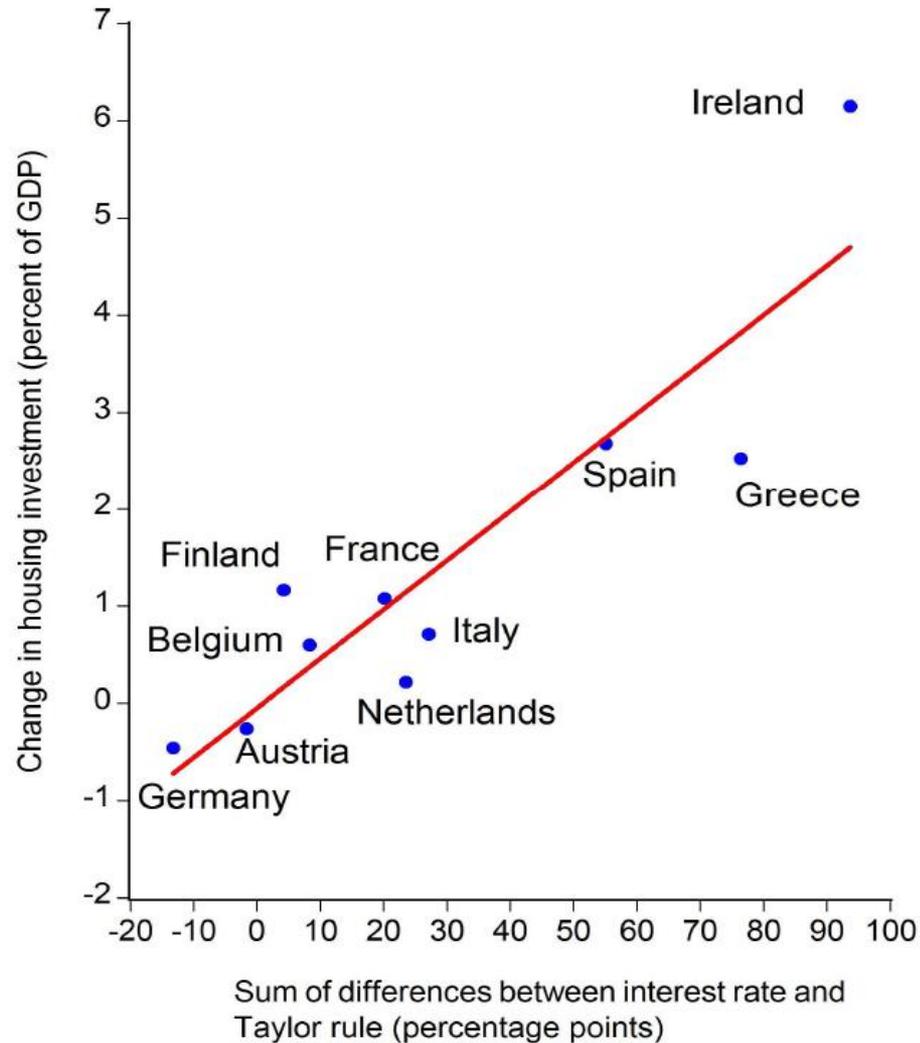
Percent



Great Moderation

Growth rate of real GDP

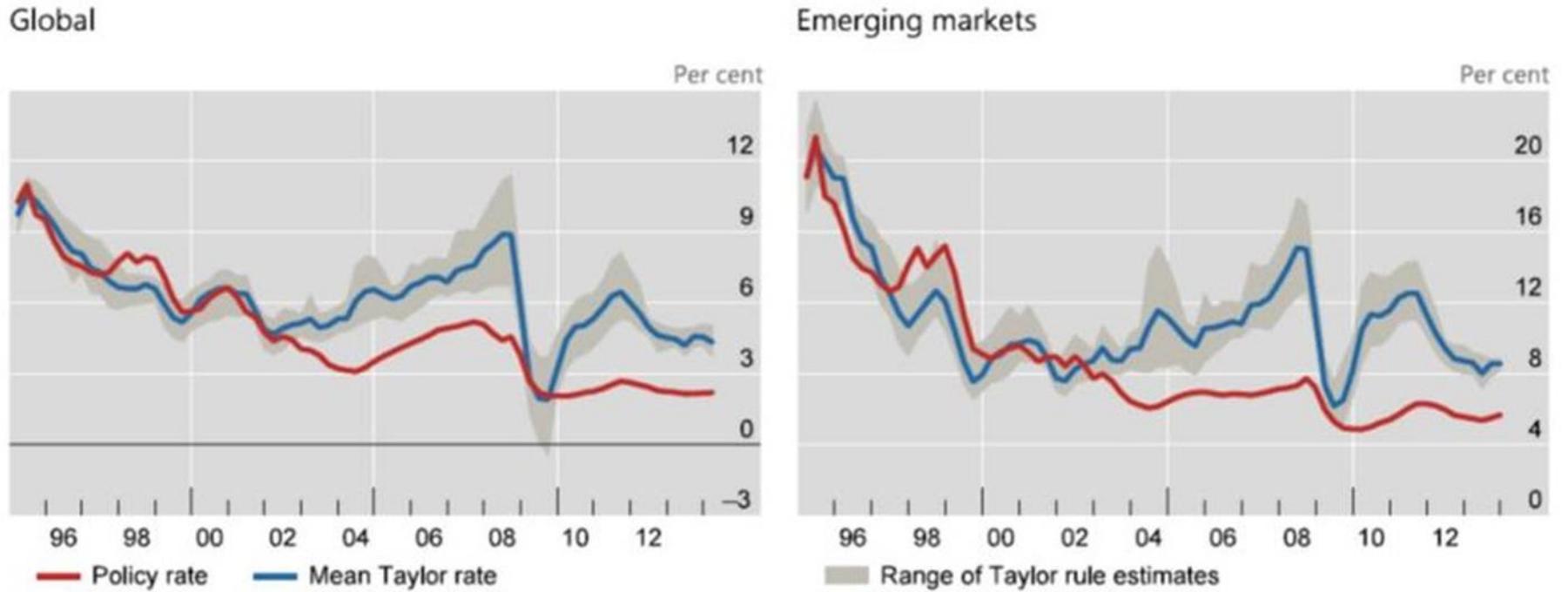
## Housing Investment versus Deviations from Policy Rule in Europe During 2001-6



Source: OECD

# Policy rates compared to Taylor rules<sup>1</sup>

Graph 2



Source: BIS, Shin

Variance  
of  
output

(post-2006)

C



Period	S.D.			Variance		
	Output	Inf.	Sum	Output	Inf.	Sum
1965.1 - 1983.4	3.6	2.4	6.0	13.0	5.8	18.8
1984.1 - 2006.4	1.5	0.8	2.3	2.3	0.6	2.9
2007.1 - 2012.3	5.4	0.8	6.2	29.2	0.6	29.8

A (1970s)

B

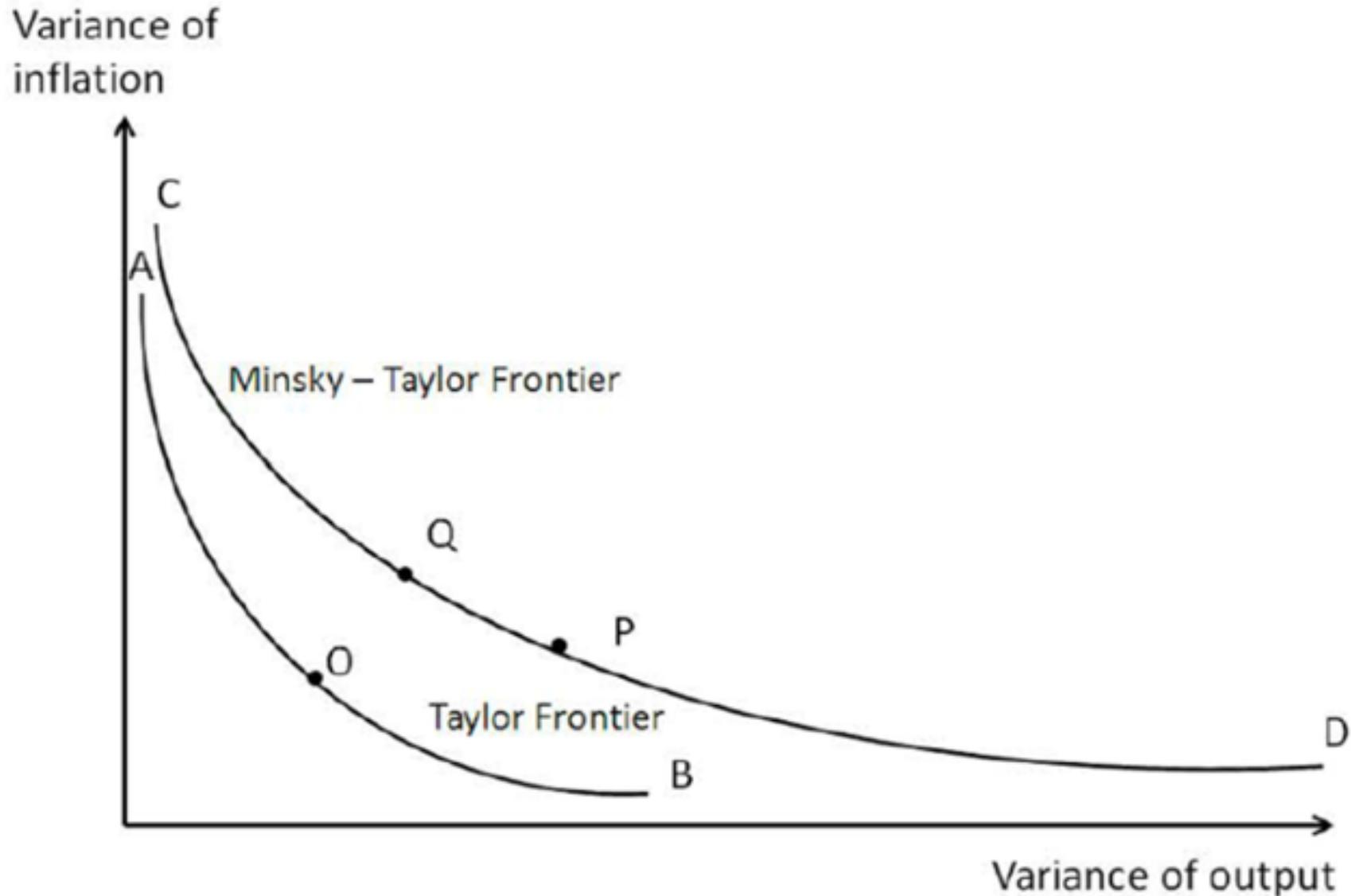
(post-1984)

TC<sub>2</sub>

TC<sub>1</sub>

Variance  
of  
inflation

# Alternative View: Curve Shifted for Other Reasons



Source: Mervyn King's Stamp Lecture (2012)

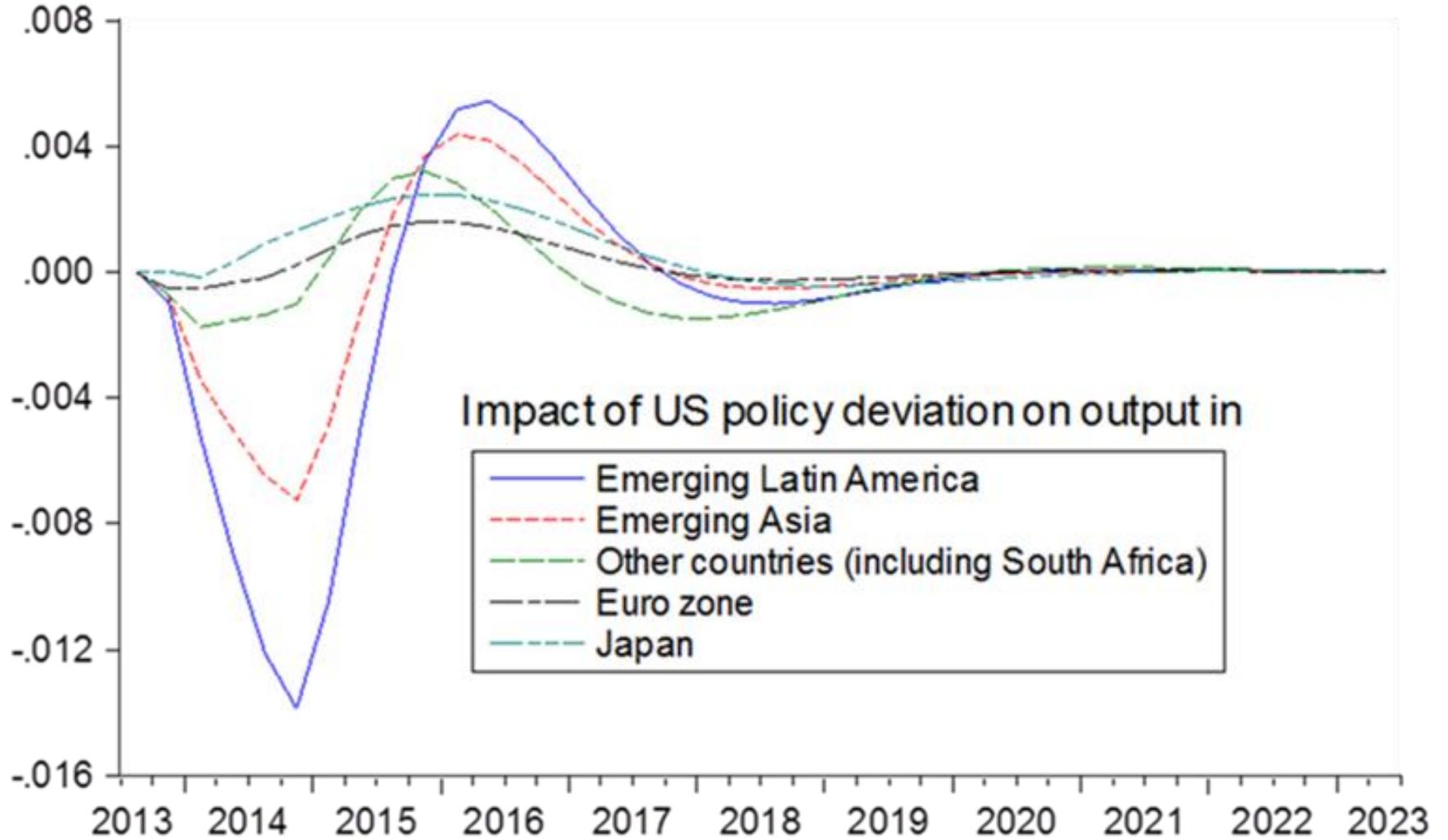
# The Global Effects of Rules-Based Monetary Policy

- Move to a more rules-based policy in 1980s led to better national/international performance in the 1980s, 1990s and until recently (NICE<sup>2</sup>)
- The spread and amplification of policy deviations from rules-based policy in recent years are drivers of current instabilities (not so NICE)
- Rules-based national policies could create another nearly international cooperative equilibrium. (another NICE)

# Empirical Evidence on Global Effects

- **econometric models of spillover effects of policy deviations**
- regressions showing policy contagion and the multiplier effects of such contagion
- the spread of unconventional monetary policy as weapons in currency wars
- the impact of policy deviations on other policies that detract from economic performance
- direct evidence that global economic instability has increased.

Percentage change from baseline



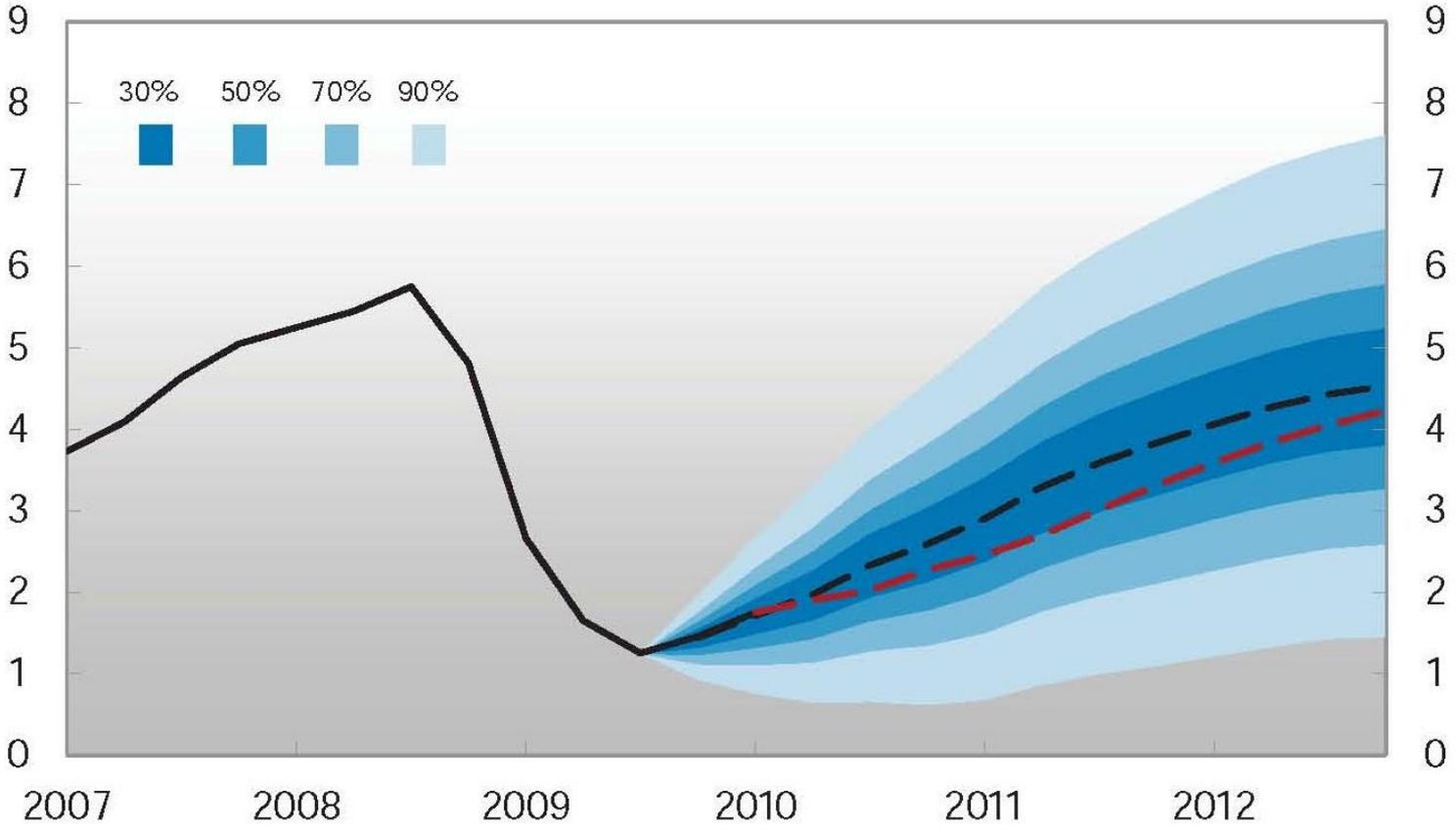
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# Empirical Evidence

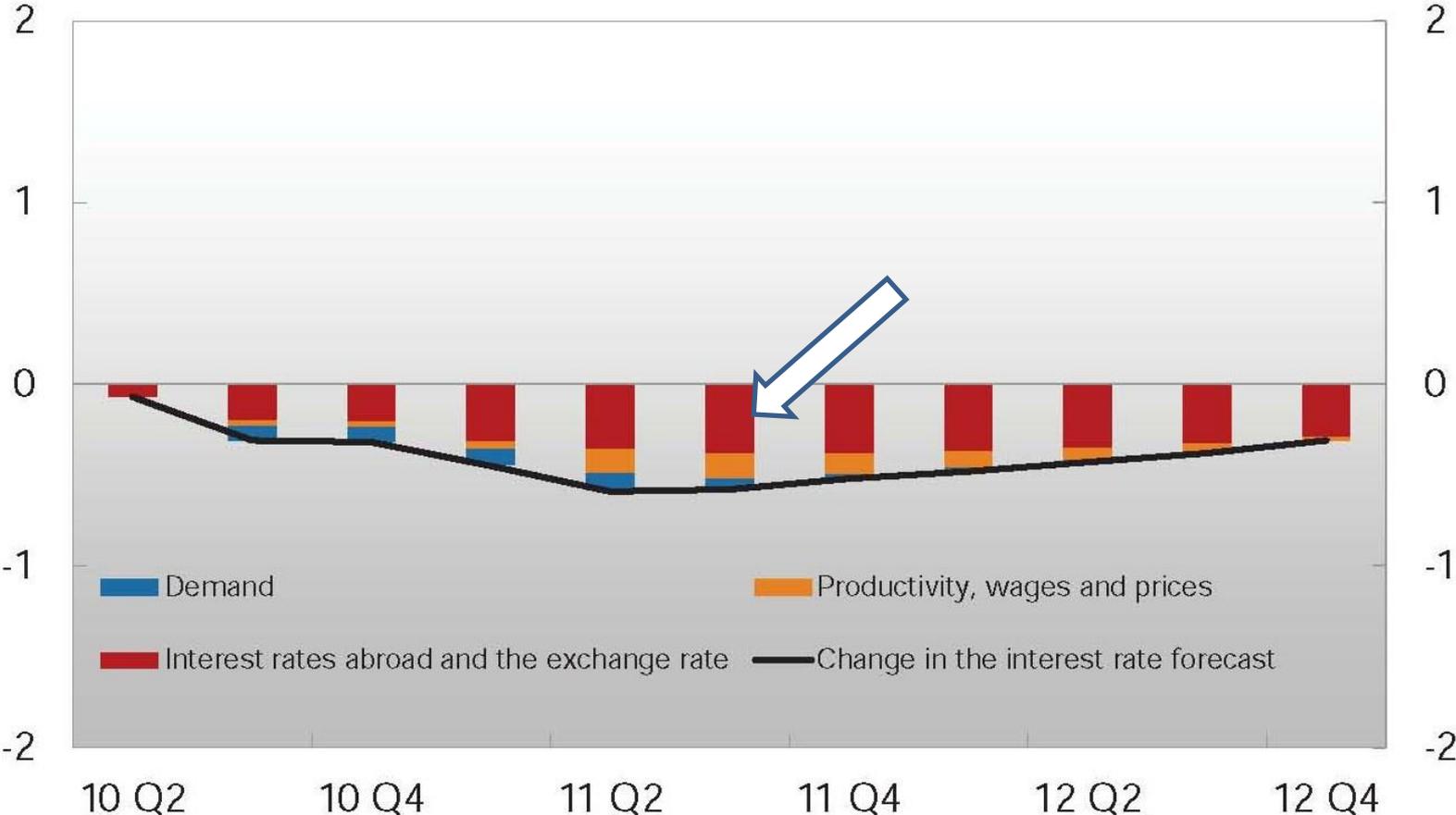
- Central bank reaction functions with foreign policy deviations
  - Large and significant reaction coefficients
    - Colin Gray (2012)
    - Sebastian Edwards (2015)
    - Agustin Carstens (2015)
- Examining actual central bank decisions...

# A cut in the Norges bank policy rate (black line to red line)...



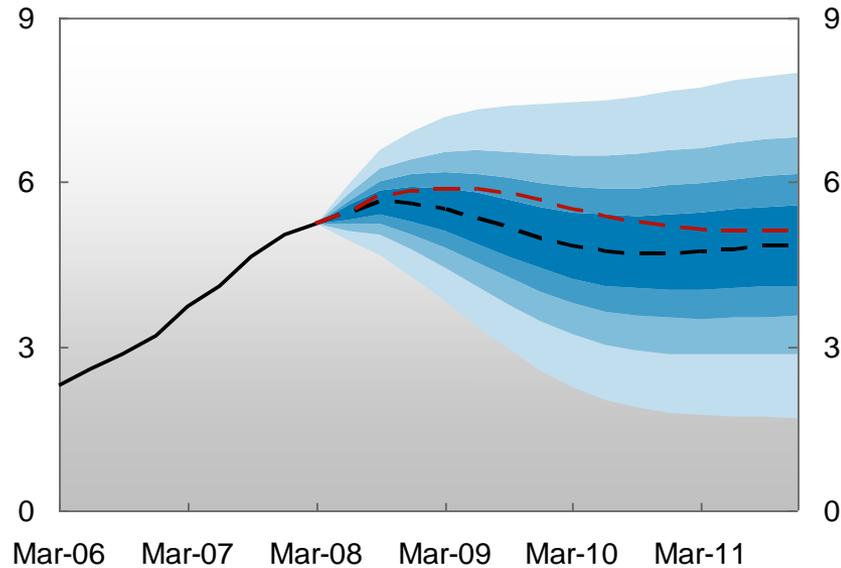
Source: Norges Bank

....because of interest rates were cut abroad.



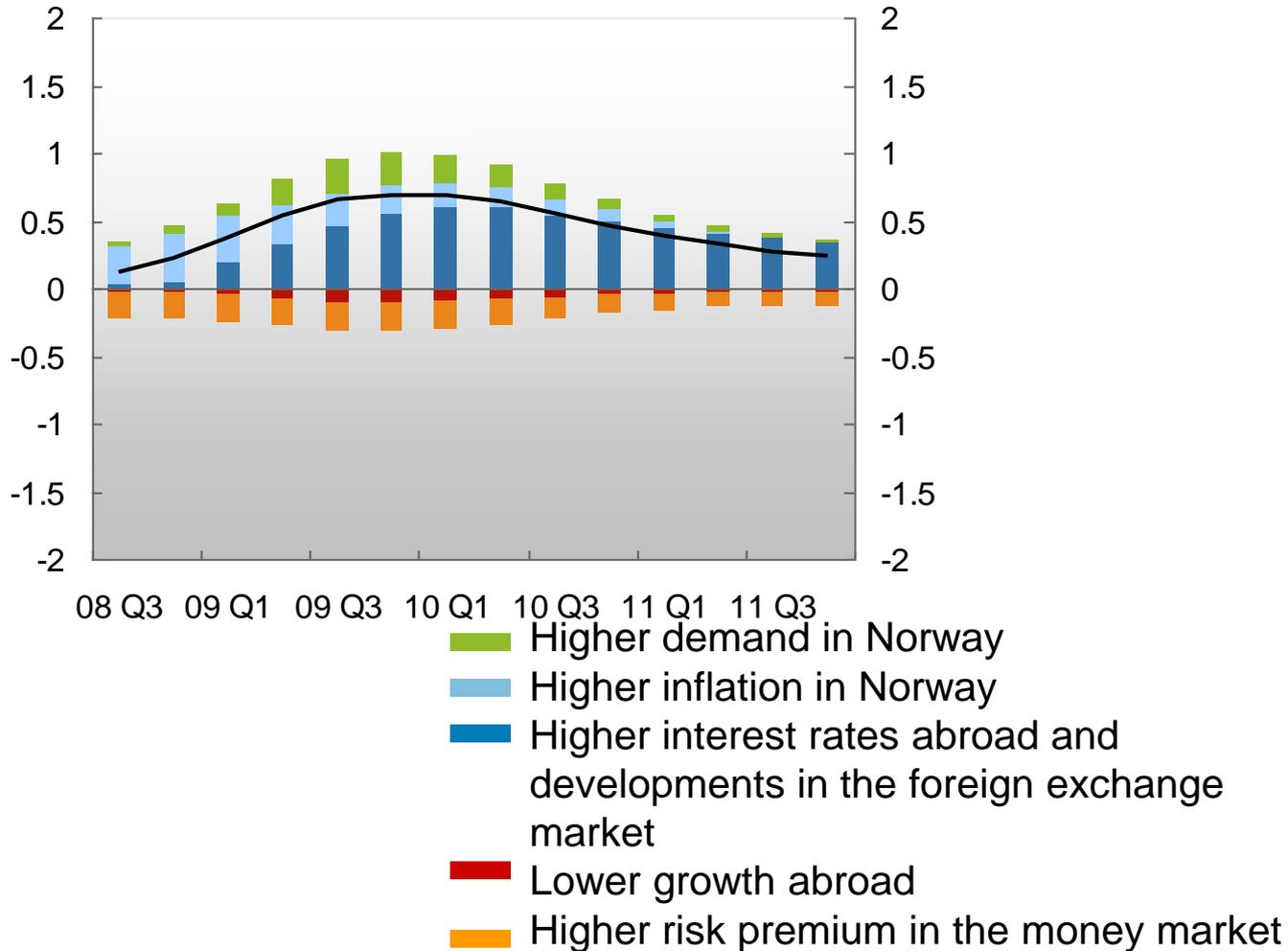
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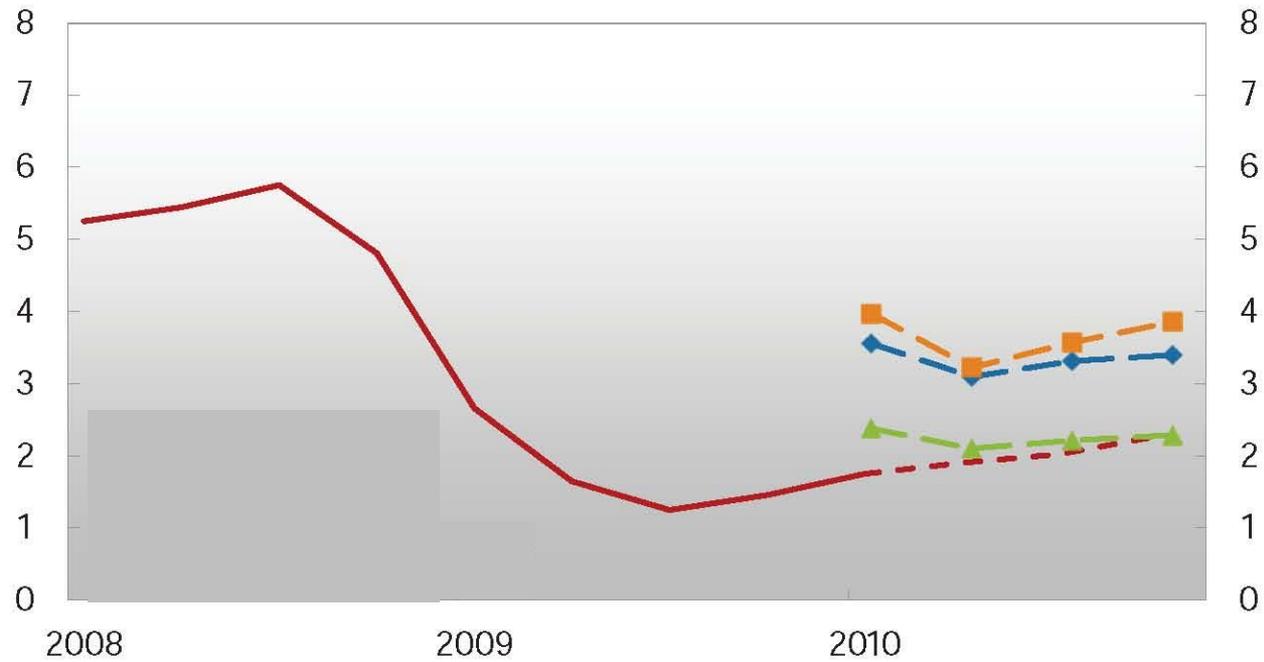
# A rise on the Norges Bank policy rate (from black to red...)



Source: Norges Bank

...because interest rates were increased abroad.





Taylor Rule      - - - - -

Key Policy Rate      - - - - -

Rule with external interest rates      - - - - -

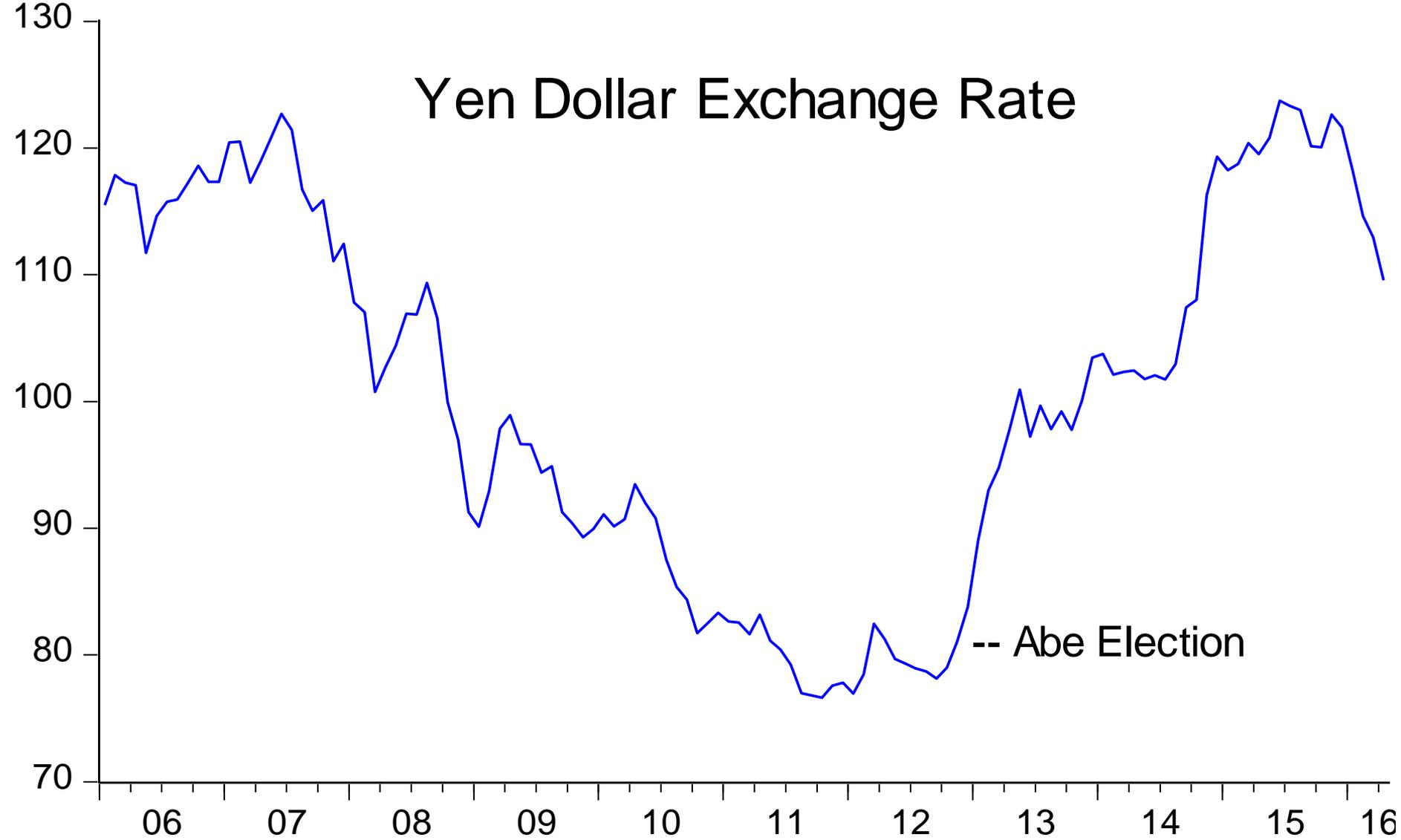
Growth rule      - - - - -

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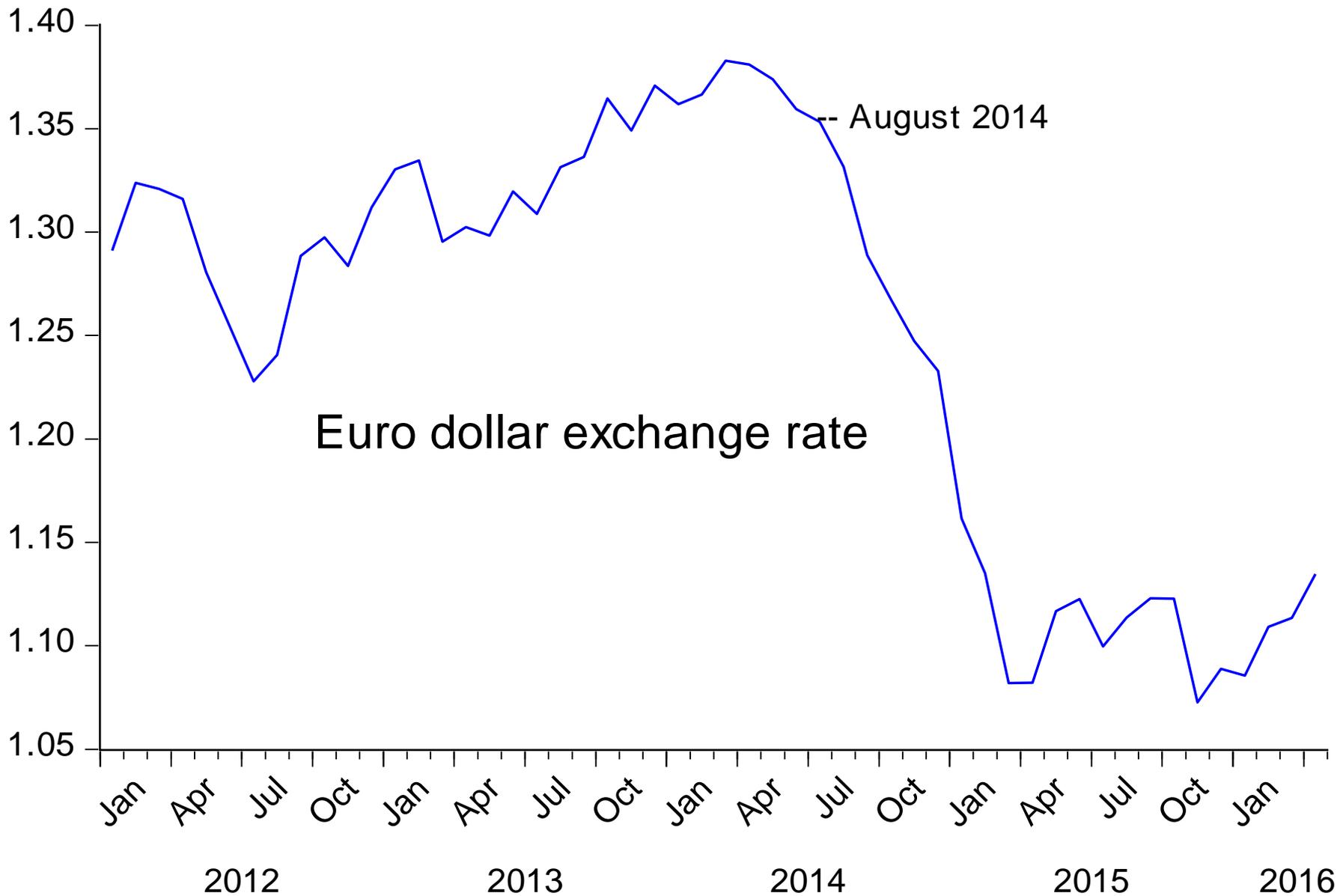
yen per dollar

# Yen Dollar Exchange Rate



-- Abe Election

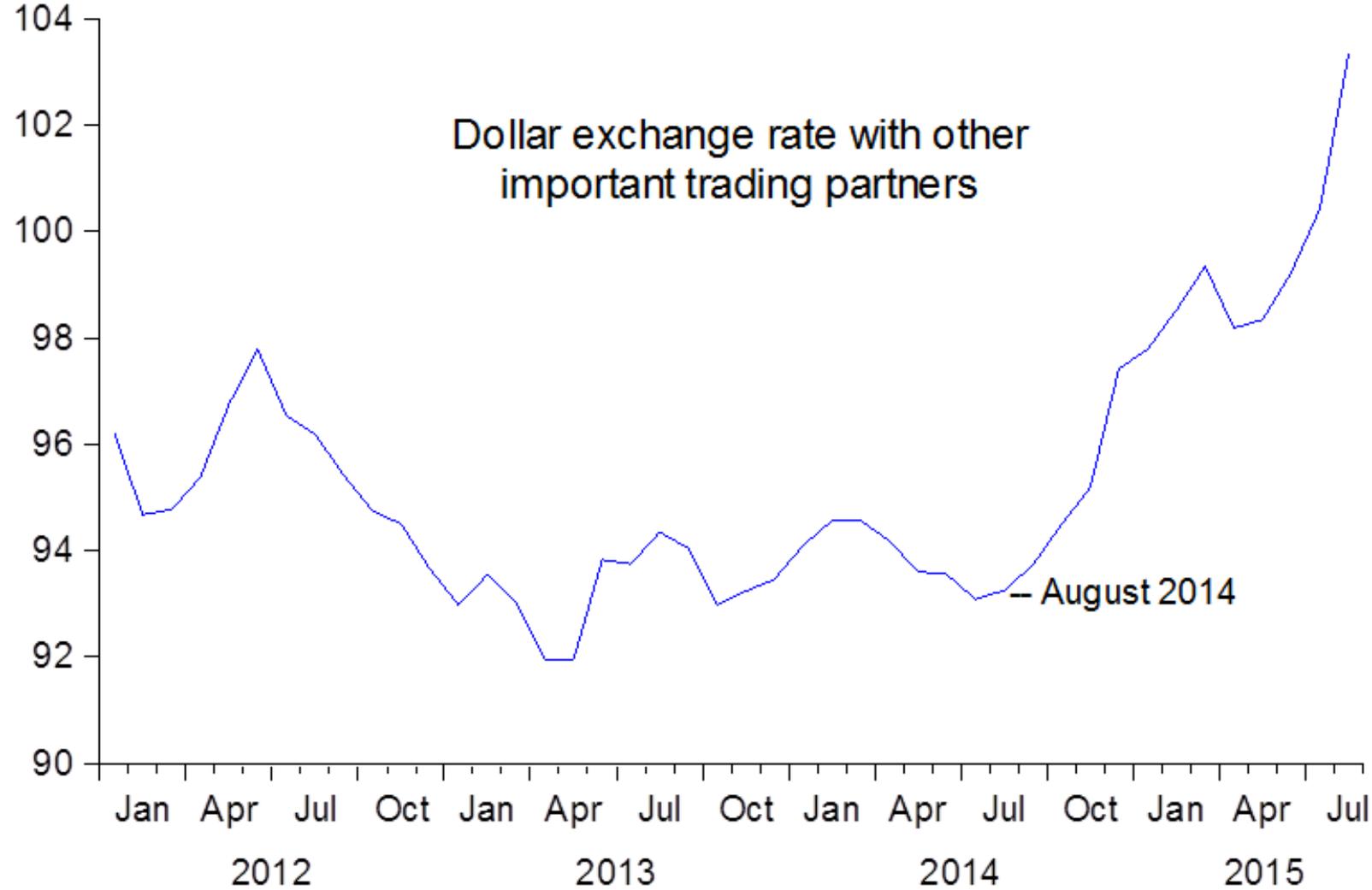
dollars per euro



Euro dollar exchange rate

-- August 2014

# Dollar Index



# Empirical Evidence on Global Effects

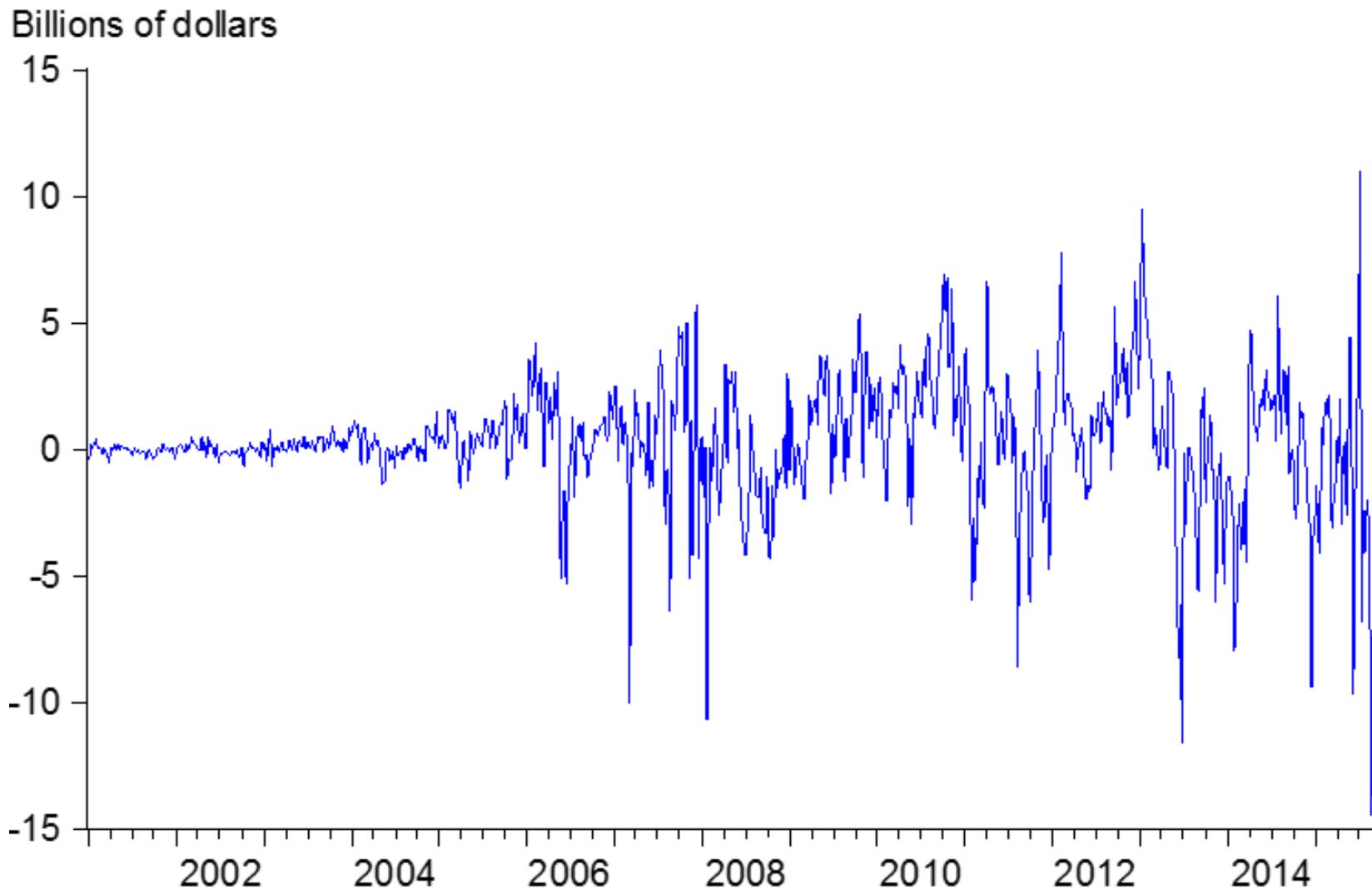
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# Other Policy Impacts That May Detract From Economic Performance

- **Capital Controls:** aimed at containing volatile shifts in the demand for local currency and mitigating risks
  - However, capital controls create distortions, lead to instability.
  - IMF now suggests it, calling it “capital flow management”
- **Currency Intervention:** countries try to prevent unwanted changes in exchange rates--an alternative or supplement to deviations of interest rates from normal policy.
- **Macro-Prudential Policies:** another consequence of policy deviations from abroad.
  - To be sure, a regulatory regime aimed at containing risk taking is entirely appropriate, but that entails getting the levels right, not manipulating them as a substitute for overall monetary policy.

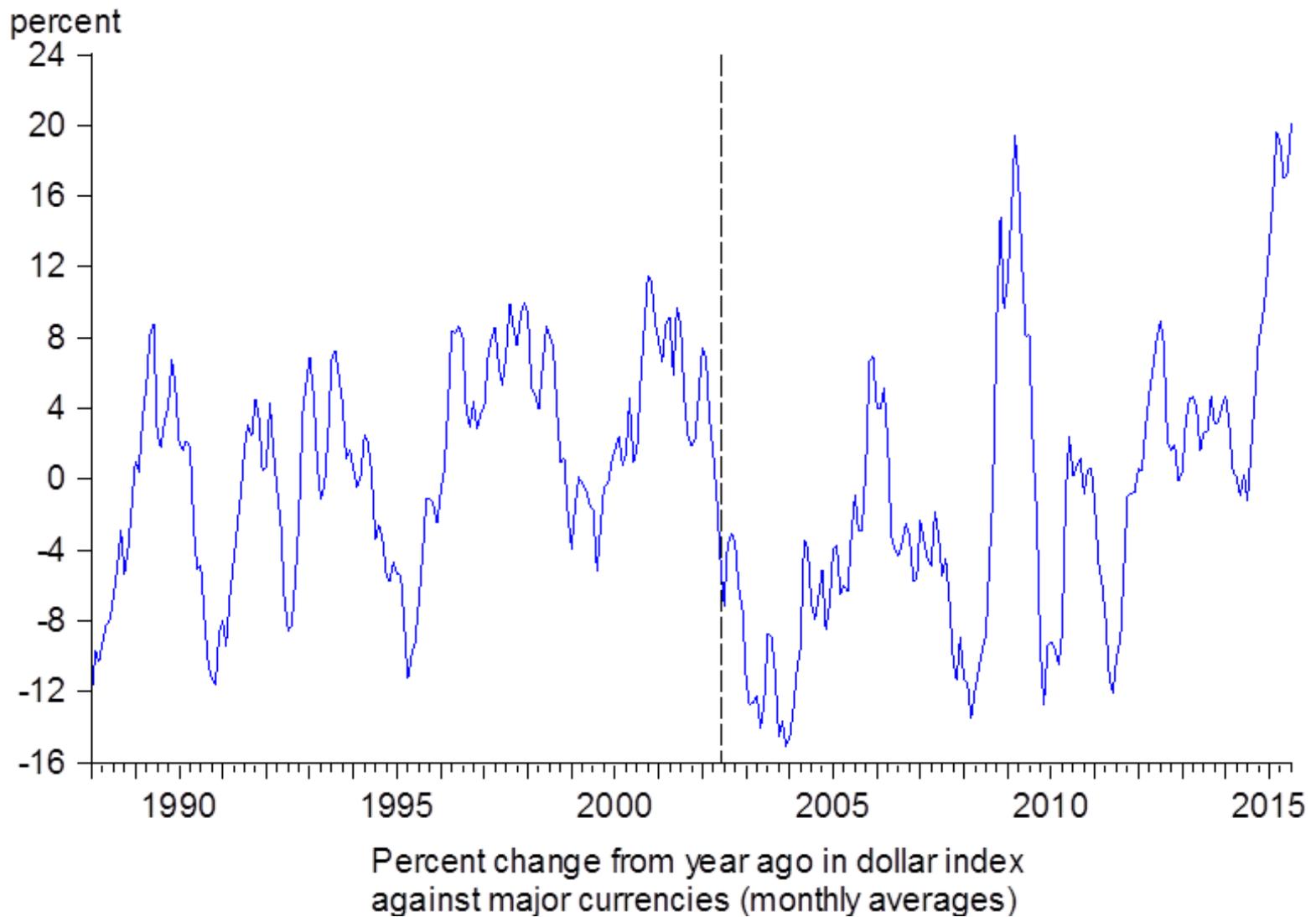
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Emerging market capital flows, weekly, Jan 2001–Sept 2015

Source: Emerging Portfolio Fund Research, Bank of Mexico



Standard deviation in post Plaza-Louvre period is 5.7 % and increases to 8.2 % in recent years.

# Calls for a New Approach

With “memories of a more orderly, rule-based world” Paul Volcker (June, 2014) asks: “What is the approach (or presumably combination of approaches) that can better reconcile reasonably free and open markets with independent national policies, maintaining in the process the stability in markets and economies that is in the common interest?”

# Proposal

- Each country reports and commits to its monetary strategy and thus helps build the foundation of the international monetary system
  - Analogies with other agreements: 1945, 1973, 1985
  - Avoid encroaching on other countries monetary rules
  - Emerging market countries are all in.
  - The IMF or BIS could help monitor.
- Barriers to implementing may be low.
  - Major central banks have goals and discuss policy rules
  - Wide-spread view that international reform is needed

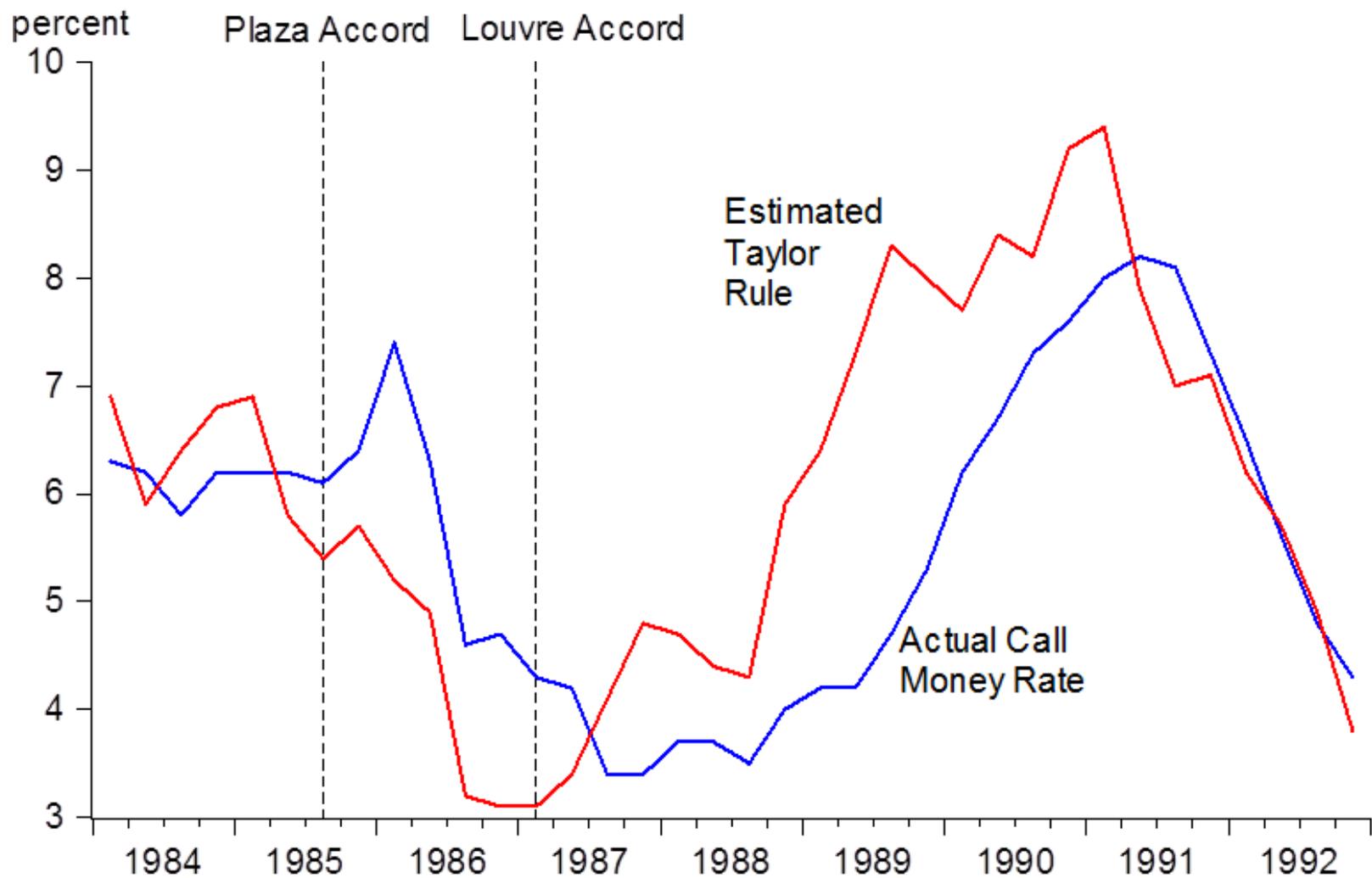


Figure 1. Interest Rate Policy in Japan, 1984-92

(For details on the estimation of Taylor rule, see Leigh (2010))

Source of Graph: IMF (2011), Box 1.4, Figure 1.4.1

# No threat to national/international central bank independence

- Job of each central bank is to formulate and describe its strategy.
- Parties to the agreement would not have a say in strategies of other banks
- Strategies could be changed if the world changed or in an emergency

# Key Feature

- Each country would
  - choose its own independent monetary strategy,
  - avoid interfering with the principles of free and open markets, and
  - contribute to the common good of global stability and growth.