

Public Affairs 974-1
Monetary and Financial Policy in the
Wake of the Financial Crisis
(11/6/12)

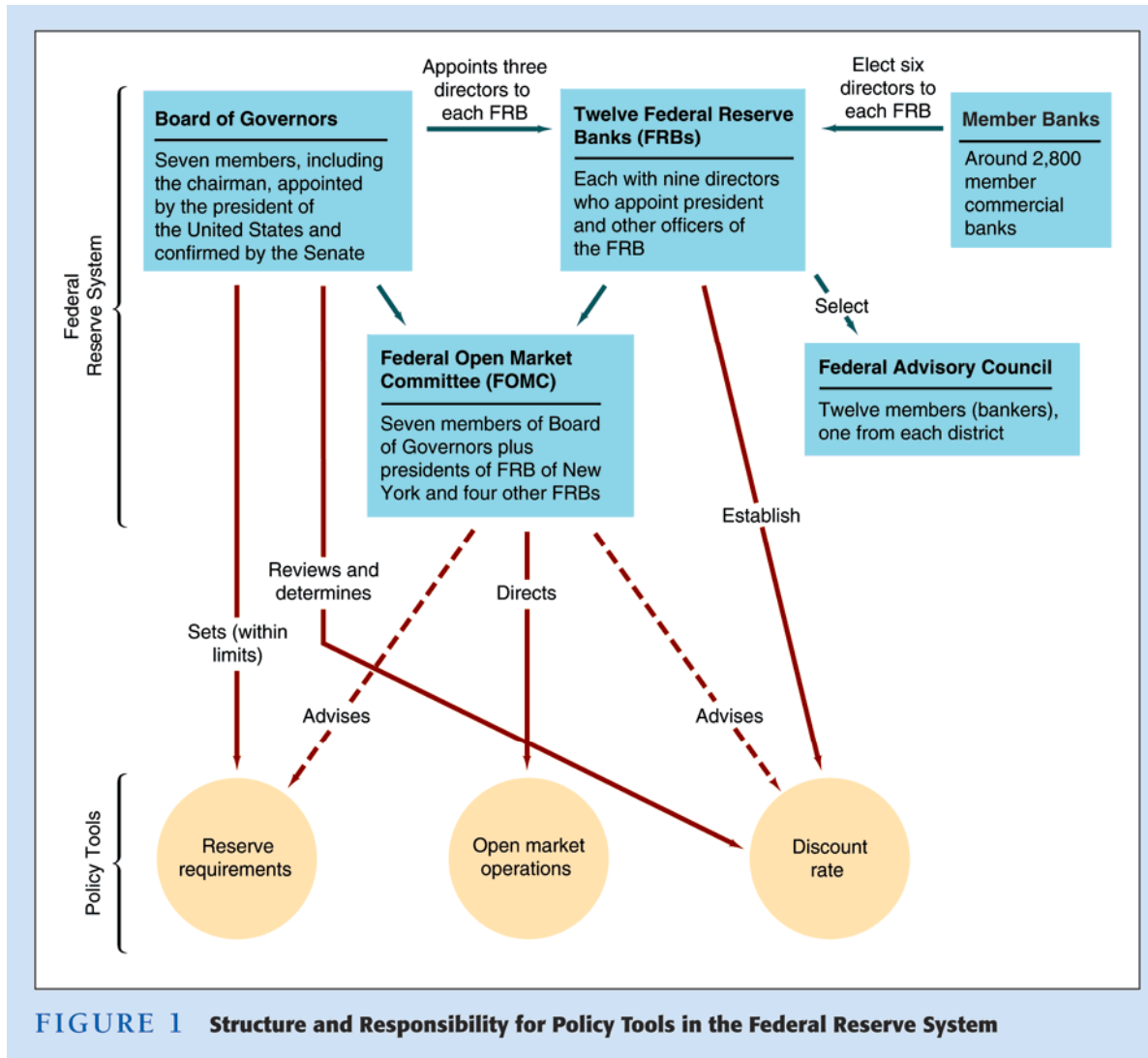
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UW Madison
Fall 2012

Central Banks in the Financial System

TABLE 14.1 FINANCIAL RELATIONSHIPS (BALANCE SHEETS) BETWEEN THE BANKS, THE FED, THE GOVERNMENT, AND THE PRIVATE SECTOR

| PRIVATE NONFINANCIAL | | BANKS | | FED | | GOVERNMENT | |
|-------------------------|-------------|------------------|-----------------|------------------|------------------|------------|--------------|
| ASSETS | LIABILITIES | ASSETS | LIABILITIES | ASSETS | LIABILITIES | ASSETS | LIABILITIES |
| Currency (CU) | | | | | Currency (CU) | | |
| Deposits (D) | | | Deposits (D) | | | | |
| Bonds (B) | | Bonds (B) | | Bonds (B) | | | Bonds (B) |
| | | Reserves (RE) | | Reserves (RE) | | | |
| | Loans | Loans | | | | | |

Federal Reserve System: Organization



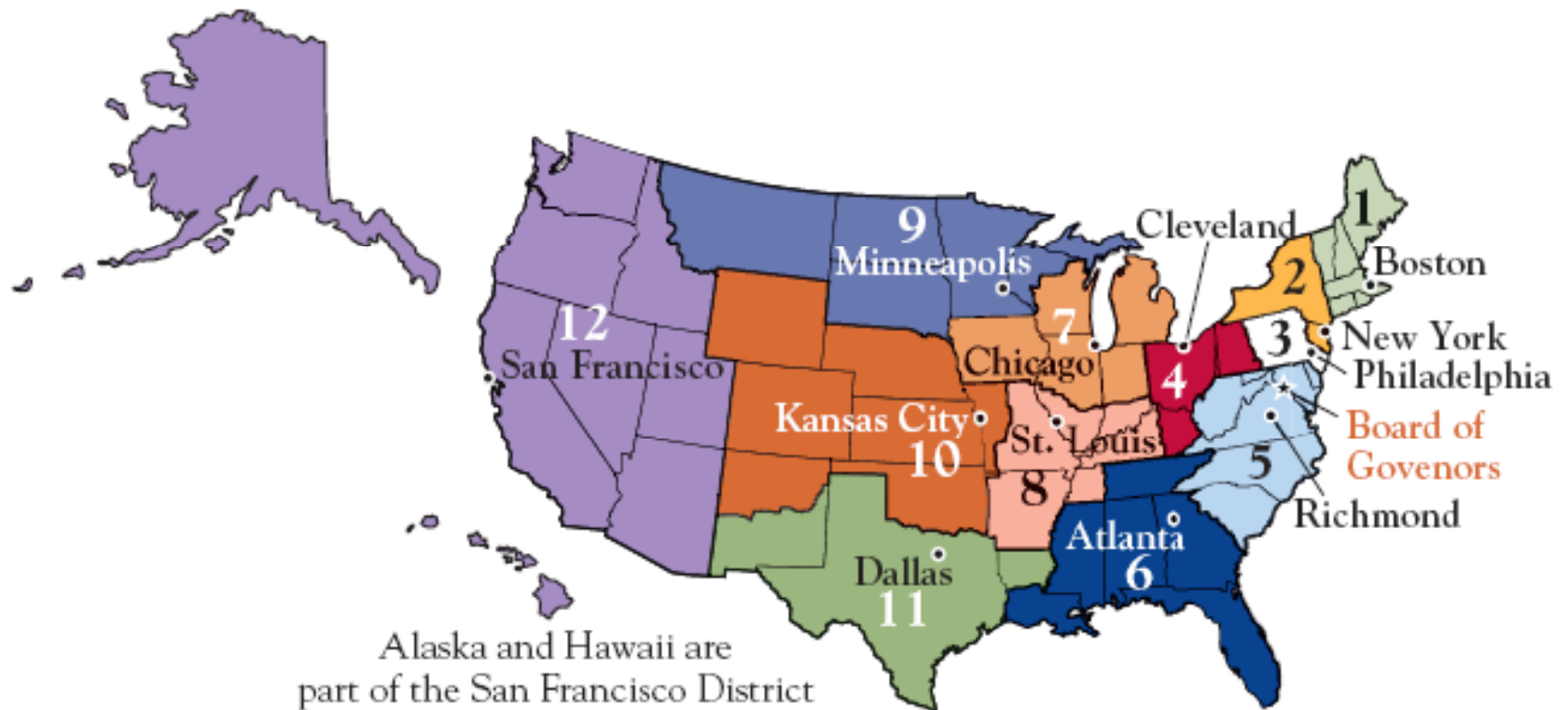
Source: Mishkin

Federal Reserve System: Regional Distribution

Figure 16.1

The Federal Reserve System

The 12 Federal Reserve Banks and their districts.



Comparing Organizational Structure

Table 16.2 Key Aspects of the European Central Bank

| | |
|---|---|
| European Central Bank (ECB) | The central authority in Frankfurt, Germany, that oversees monetary policy in the common currency area. (Established July 1, 1998.) |
| National Central Banks (NCBs) | The central banks of the countries that belong to the European Union. |
| European System of Central Banks (ESCB) | The ECB plus the NCBs of all the countries in the European Union, including those that do not participate in the monetary union. |
| Eurosystem | The ECB plus the NCBs of participating countries; together, they carry out the tasks of central banking in the euro area. |
| ECB Executive Board | The six-member body in Frankfurt that oversees the operation of the ECB and the Eurosystem. |
| Governing Council | The (currently) 22-member committee that makes monetary policy in the common currency area. |
| Euro | The currency used in the countries of the European Monetary Union. |
| Euro area | The countries that use the euro as their currency. |

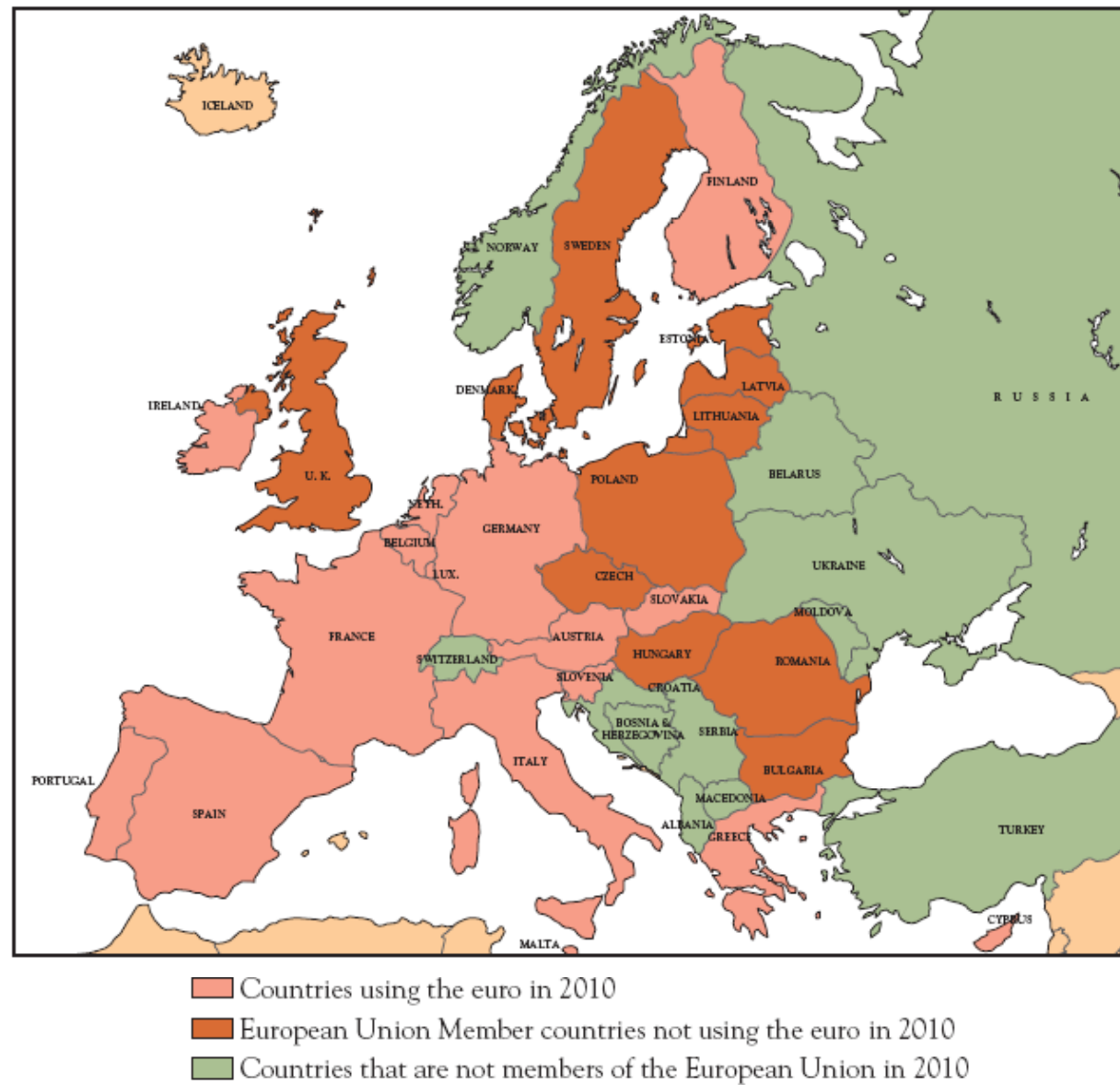
Federal Reserve Banks =>

Board of Governors ==>

FOMC =====>

Figure 16.3

The European System of Central Banks



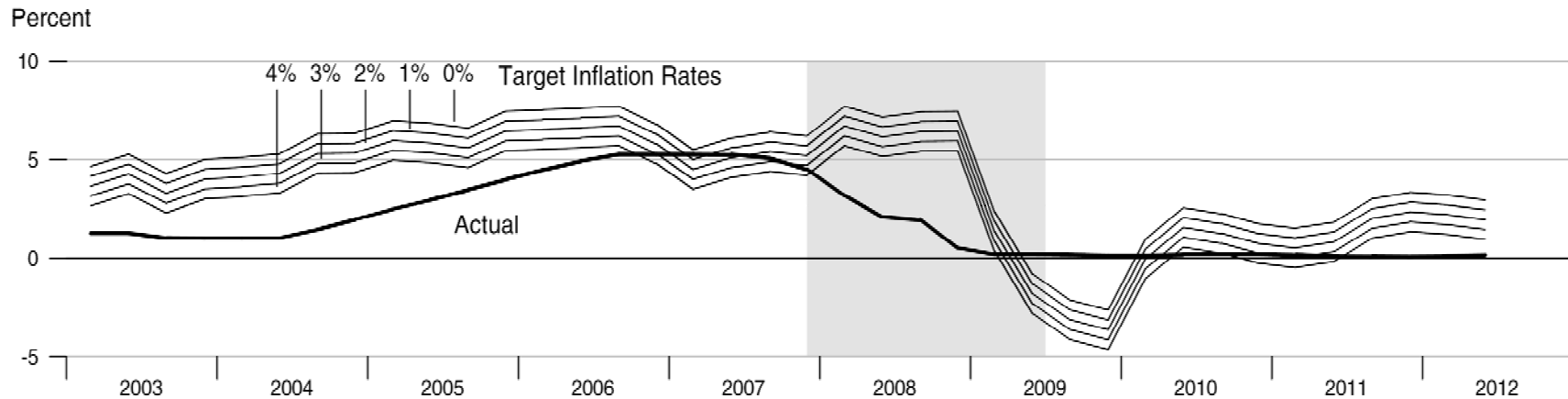
Taylor Rules

$$i_t^{FedFunds} = \pi_t + \beta(y_t - y_t^*) + \delta(\pi_t - \pi_t^*) + r_t^*$$

$$i_t^{FedFunds} = (1 + \delta)\pi_t + \beta(y_t - y_t^*) + r_t^* - \delta\pi_t^*$$

- Positive statement? Is this how central banks behave?
- Or normative statement? Is this how central banks *should* behave?

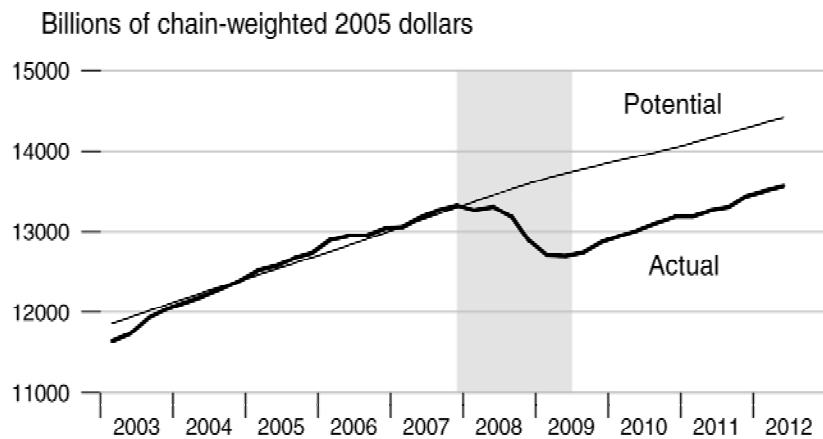
Federal Funds Rate and Inflation Targets



Calculated federal funds rate is based on Taylor's rule.

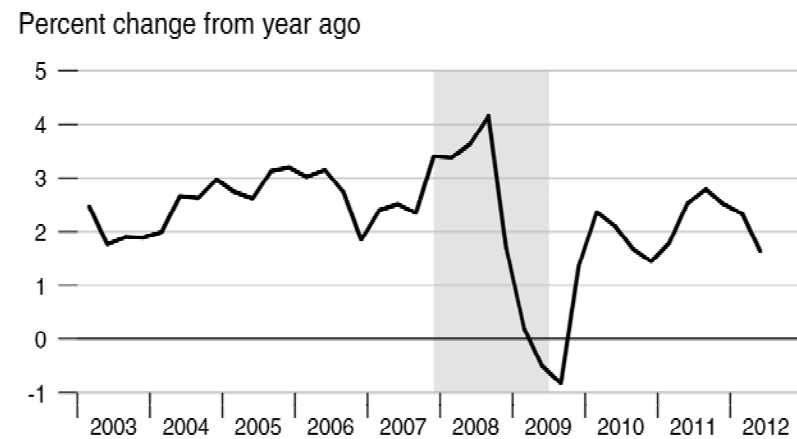
Components of Taylor's Rule

Actual and Potential Real GDP



See notes section for further explanation.

PCE Inflation



Source: St. Louis Fed, *Monetary Trends*. October 2012

FRB St. Louis Interpretation of the Taylor Rule

Page 10: Federal Funds Rate and Inflation Targets shows the observed federal funds rate, quarterly, and the level of the funds rate implied by applying Taylor's (1993) equation

$$f_t^* = 2.5 + \pi_{t-1} + (\pi_{t-1} - \pi^*)/2 + 100 \times (y_{t-1} - y_{t-1}^P)/2$$

to five alternative target inflation rates, $\pi^* = 0, 1, 2, 3, 4$ percent, where f_t^* is the implied federal funds rate, π_{t-1} is the previous period's inflation rate (PCE) measured on a year-over-year basis, y_{t-1} is the log of the previous period's level of real gross domestic product (GDP), and y_{t-1}^P is the log of an estimate of the previous period's level of potential output. **Potential Real GDP** is estimated by the Congressional Budget Office (CBO).

FRB SF Interpretation of the Taylor Rule

Figure 1
Federal funds, unemployment, and inflation rates
Percent

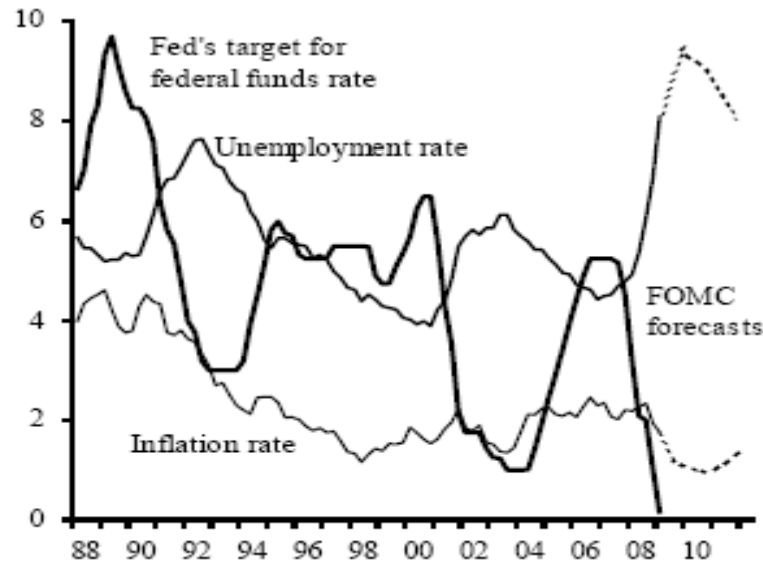
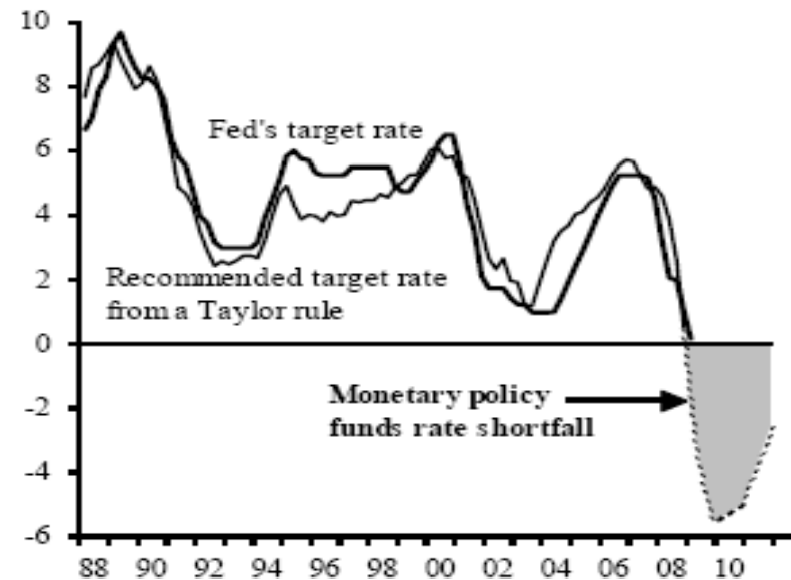


Figure 2
Federal funds rate
Percent



$$i_t^{FedFunds} = \pi_t - 2(u_t - u_t^*) + 0.3(\pi_t - \pi_t^*) + r_t^*$$

“Your Name Here” Interpretation of the Taylor Rule

Baseline Taylor Rule Estimates of the Fed Funds Rate (1987-2012)

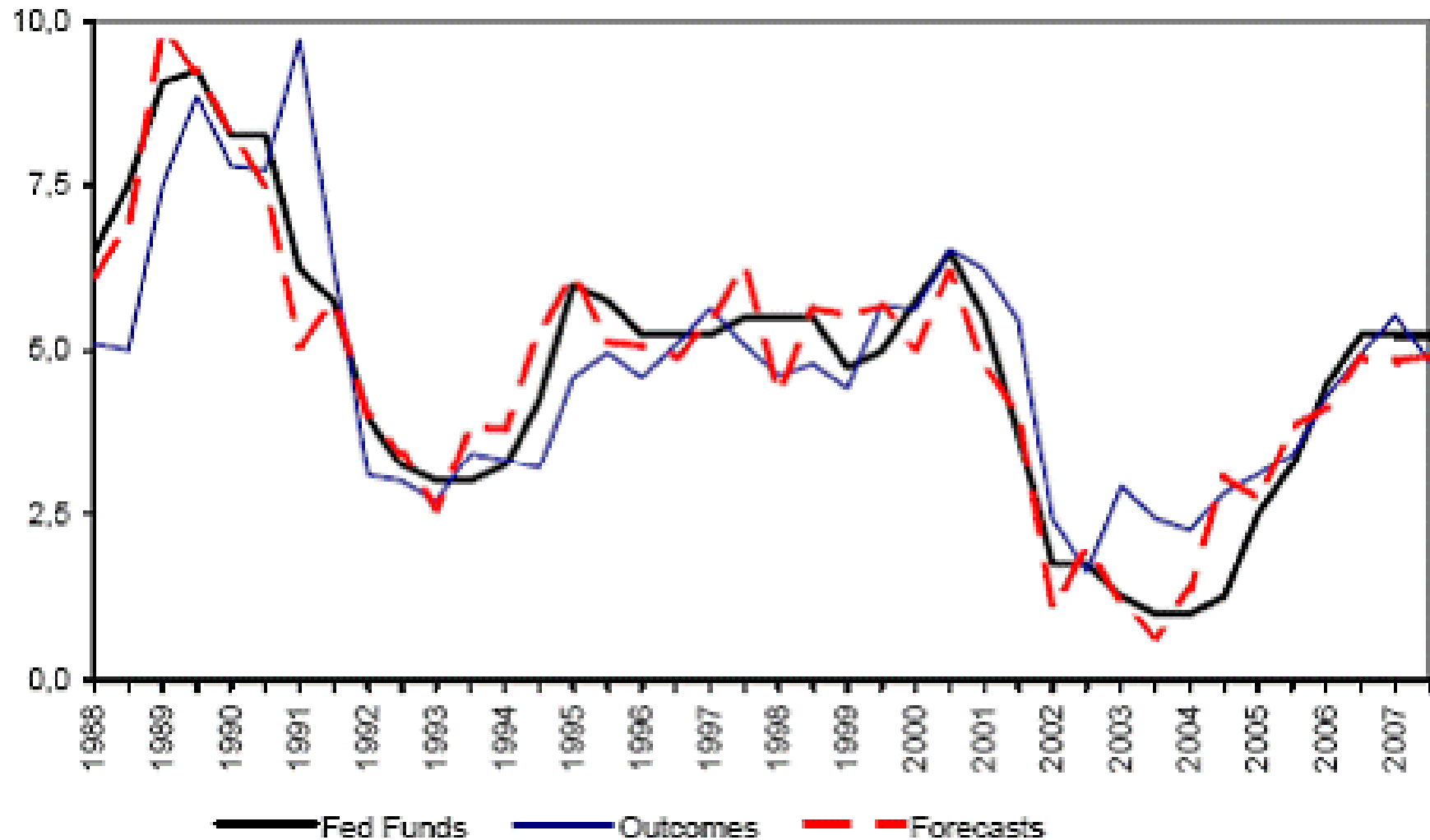


Source: Bloomberg; {TAYL <go>}

Issues (within the framework)

- Which activity variable (output, unemployment)?
- Which inflation measure (CPI, PCE deflator, or respective core measures; 12 month, 3 month, etc.)
- What is the “natural” rate of real interest rate?
- Should it be forecasted output and inflation that matters?
- How to deal with data revisions?

Using Forecasted Values of y , π



Source: Orphanides and Wieland (2007)

The Impact of Data Revisions

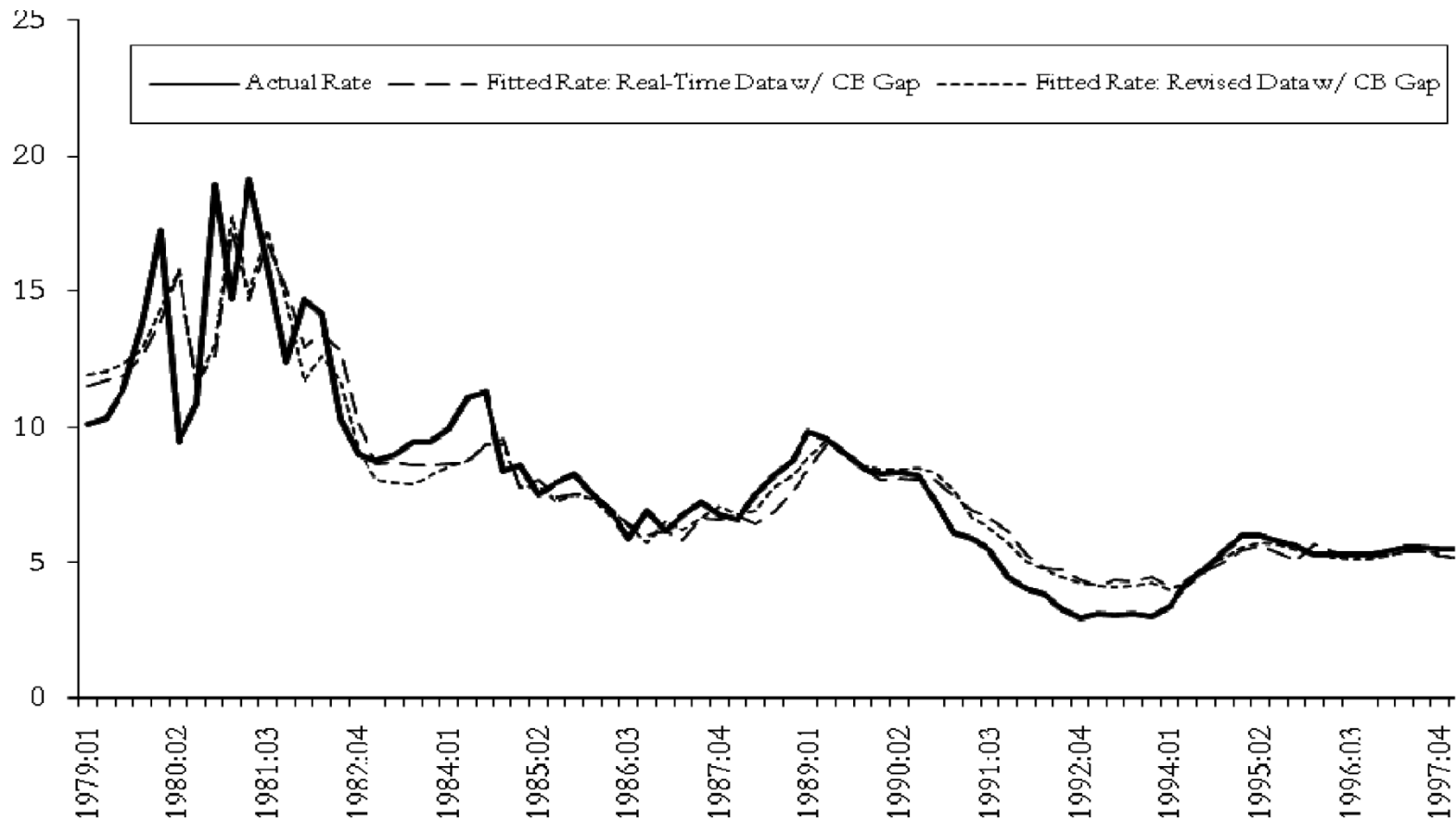
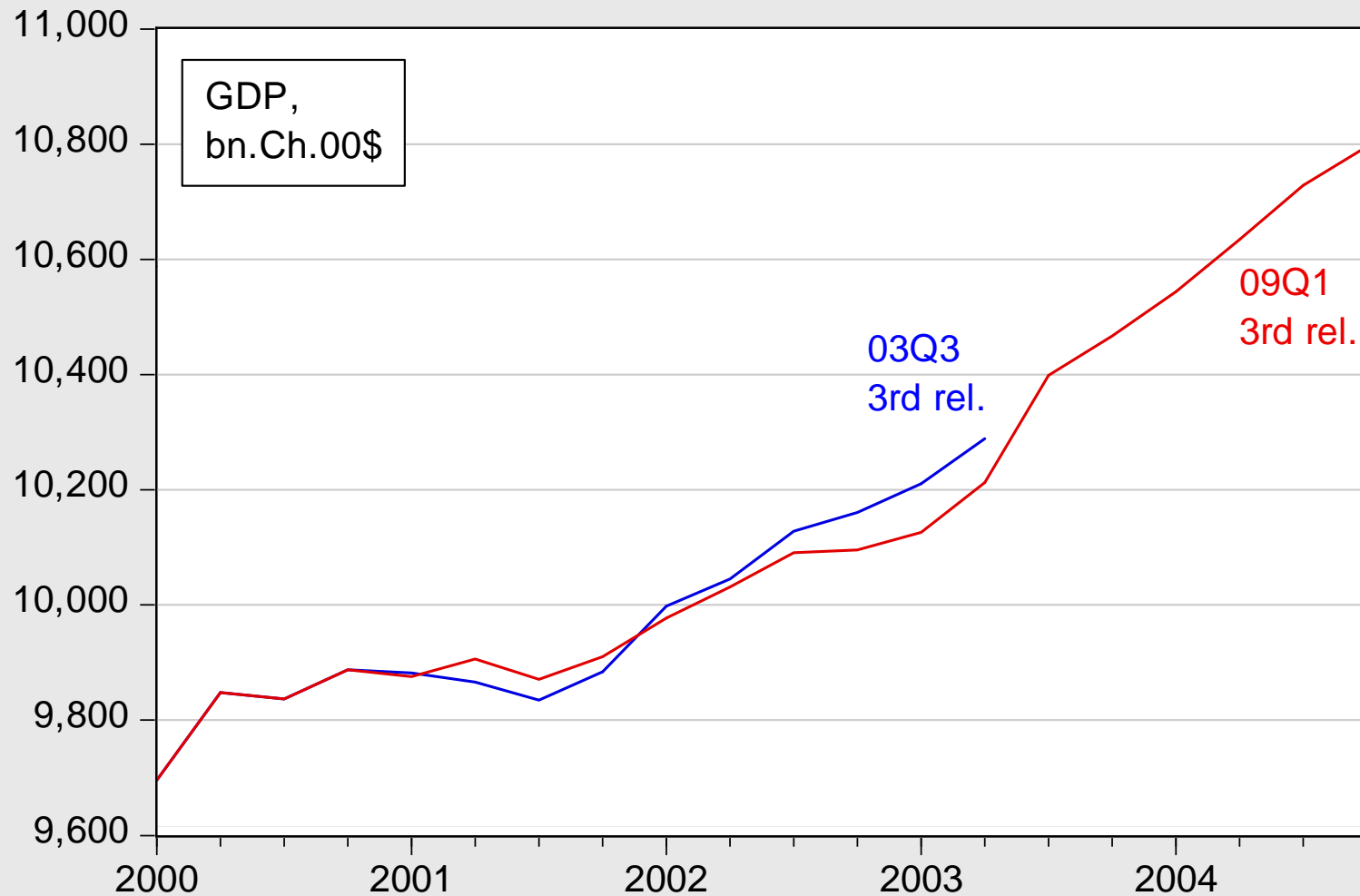


Figure 3. Actual and Fitted Values of U.S. Federal Funds Rate

Source: Molodtsova, et al. (*JME* 2008).

<http://www.uh.edu/class/economics/news-research/working-papers/docs/2007-03.pdf>

Revisions in 2001-03



Taylor Rules and Inflation Targeting

$$i_t^{FedFunds} = \pi_t + \beta(y_t - y_t^*) + \delta(\pi_t - \pi_t^*) + r_t^*$$

$$i_t^{FedFunds} = (1 + \delta)\pi_t + \beta(y_t - y_t^*) + r_t^* - \delta\pi_t^*$$

- Question of interpretation: Why does the output gap enter? Is it determinant of future inflation (via Phillips Curve)? If so, Taylor rule is (possibly) inflation targeting.
- More explicit: Set $\beta=0$, $\delta=1$.