Handout on the Taylor Rule

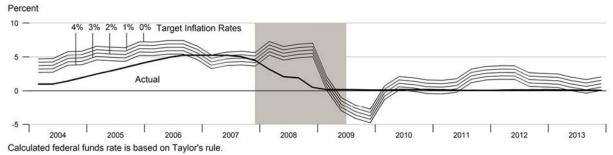
General expression

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

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

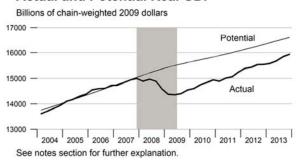
St. Louis Fed version

Federal Funds Rate and Inflation Targets

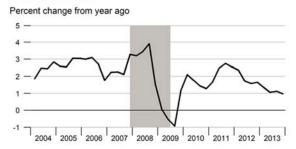


Components of Taylor's Rule

Actual and Potential Real GDP



PCE Inflation



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).

San Francisco Fed version

Figure 1
Federal funds, unemployment, and inflation rates

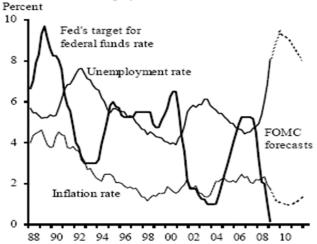
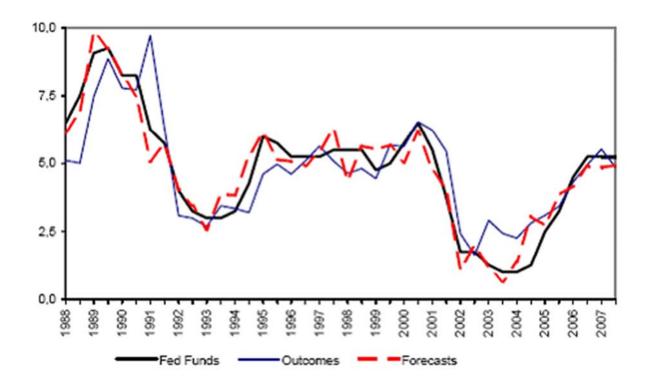


Figure 2 Federal funds rate Percent 10 Fed's target rate 6 4 2 Recommended target rate from a Taylor rule 0 Monetary policy -2 funds rate shortfall -4 -6 88 90 92 94 96 98 00 02 04 06 08 10

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

Forecast-based version



Source: Orphanides and Wieland (2007)