Handout on the Taylor Rule

General expression

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

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

St. Louis Fed version

**Federal Funds Rate and Inflation Targets**

![Graph showing the Federal Funds Rate and Inflation Targets from 2004 to 2013. The graph compares the actual and target inflation rates.]

**Components of Taylor’s Rule**

![Graphs showing Actual and Potential Real GDP and PCE Inflation from 2004 to 2013. The graphs compare actual vs. potential GDP and inflation rates.]

*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, \(\pi_{t-1}\) 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

\[ i^{FedFunds}_t = \pi_t - 2(u_t - u^*_t) + 0.3(\pi_t - \pi_t^*) + r_t^* \]

Forecast-based version

Source: Orphanides and Wieland (2007)