1. Consider the Mundell-Fleming model. Assume a transitory component in the residual of the money supply stochastic process, as follows.

\[ m_t^s = g_m + m_{t-1}^s - \phi m_{t-1} + \varepsilon_{mt}, \quad \phi \geq 0 \]

Assume a price determination as follows.

\[ p_t = (1-\theta)E_{t-1}(p_t^e) + \theta p_t^e \]

Solve the model for inflation and exchange rate.

2. Assume that the money supply is affected by aggregate demand (that is, the government deficit), as follows.

\[ m_t^s = g_m + m_{t-1}^r + \rho d_{t-1} + \varepsilon_{mt}, \quad \rho \leq 0 \]

Solve for the endogenous variables, and compute the value of \( \rho \) which minimizes the inflation variance.