

Problem Set 4

Due *in lecture* on Thursday, December 11th. Be sure to put your name on your problem set. Put “boxes” around your answers to the algebraic questions.

1. Consider a Taylor rule of the following form:

$$i_t^{FedFunds} = \pi_t + 0.5 \times (y_t - y_t^*) + 0.5 \times (\pi_t - \pi_t^*) + r_t^*$$

Where y is log GDP, y^* is log potential GDP, π is inflation, π^* is target inflation, and r^* is the equilibrium real interest rate.

1.1 Calculate the implied Fed funds rate for 2014Q3, assuming the equilibrium real rate is 2.0%, and target inflation rate is 2%. You will need to obtain information on the output gap and inflation rate. Show your work.

You can obtain information St. Louis Fed FRED system on potential GDP and actual GDP, to calculate the output gap. You can also obtain data for personal consumption expenditure deflator inflation from there as well (use four quarter inflation in your calculations).

1.2 Show what happens if the target inflation rate is raised to 4%.

2. Consider a small open economy with a fixed exchange rate, and imperfect capital mobility.

2.1 Suppose the US interest rate rises. Interpret the impact on the economy using an IS-LM-BP=0 graph; assume the central bank sterilizes.

2.2 Should the government devalue the currency or raise interest rates. Explain your answer using IS-LM-BP=0 graphs.

2.3 How does your answer change if the country (firms, the government) has a big outstanding debt borrowed in US dollars?