Economics 442
Spring 2017
University of Wisconsin-Madison

Menzie D. Chinn
Social Sciences 7418

Problem Set 2

Due ***in lecture*** on Wednesday, February 22. Be sure to put your name on your problem set. Put “boxes” around your answers to the algebraic questions.

1. Consider an economy where the money demand function takes the following form:

$$\frac{M^d}{P} = \mu_0 + Y + j\left(\frac{MB}{P} + \frac{B}{P}\right) - hi$$

1.1 Assume the budget is balanced to begin with. When lump sum taxes decrease by Δt_0, where $T = t_0$, the government must borrow $\Delta(B/P)$. What happens to the LM curve when lump sum taxes decreases?

1.2 Can you tell what happens to equilibrium income and interest rates when lump sum taxes decreases? Show, using and IS-LM diagram.

1.3 Assume the Fed targets the interest rate at the level it was before the decrease in lump sum taxes. What is the impact on equilibrium income and interest rates?

2. Consider the Aggregate Demand-Aggregate Supply framework. Suppose government spending is increased when we are not in a liquidity trap, output is far below the natural rate of output, and the Fed does ***NOT*** target the interest rate. You can assume for simplicity expected inflation is always zero.

2.1 Show what happens in an IS-LM and AD-AS graph in the period the government spending increase occurs.

2.2 Show what happens over time to output, the price level, and the interest rate.

3. Consider the Aggregate Demand-Aggregate Supply framework. Suppose government spending is increased when we are not in a liquidity trap, ***output is at the natural rate of output***, and the Fed does ***NOT*** target the interest rate. You can assume for simplicity expected inflation is always zero.

3.1 Show what happens in an IS-LM and AD-AS graph in the period the government spending increase occurs. Assume the Fed adjusts the money so that when the output exceeds the natural rate, the interest rate rises slightly.

3.2 Show what happens over time to output, the price level, and the interest rate.

4. Secular stagnation. Will deregulation which encourages entrepreneurs to set up new firms – and hence increasing the economy’s productive capacity – pull the economy out of a slump if the economy is in a liquidity trap. Use an AD-AS graph to illustrate your answer.

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11.2.2017