Economics 442
Spring 2016
University of Wisconsin-Madison

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Social Sciences 7418

Problem Set 2

Due ***in lecture*** on Monday, 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:

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

Assume investment depends on income and the interest rate, and the marginal tax rate is zero.

1.1 Further assume the budget is balanced to begin with. When government spending increases by ΔGO, the government must borrow $\Delta(M/P)$. What happens to the LM curve when government spending increases?
1.2 Can you tell what happens to equilibrium income and interest rates when the government spending increases? Show, using and IS-LM diagram.
1.3 What happens to investment?
1.4 Assume the Fed targets the interest rate at the level it was before the increase in government spending. What is the impact on equilibrium income and interest rates of the increase in government spending?

2. Consider the Aggregate Demand-Aggregate Supply framework. Suppose lump sum taxes are decreased when we are not in a liquidity trap (and do not end up in a liquidity trap), 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 lump sum tax decrease occurs.
2.2 Show what happens over time to output, the price level, and the interest rate.

3. Use the same AD-AS model, but assuming the economy *begins in a liquidity trap*.
3.1 Show what the IS-LM and AD-AS graphs look initially.
3.2 Show what happens over time, assuming no activist government policy or central bank policy.
3.3 Show what happens if the government implements entrepreneur and business friendly measures that increase the natural level of output (also known as potential GDP).