Masters Macroeconomics Fall 2015
Homework Assignment #6 Due: 18 November

1. Suppose that a change in government regulations allows banks to start paying competitive interest rates on demand deposits (checking accounts) where they previously could not. (Remember that demand deposits are part of the money supply.)

a. How will this change affect the demand for money and why?
b. What happens to the velocity of money and why?
c. If the central bank keeps the money supply constant, what will happen to output and prices in the short run and the long run? (Show these results on *AS*/*AD* graphs.)
d. What would be the best monetary policy in this case and why?

2. Suppose that instead of taxes being fixed at $\bar{T}$ that they vary positively with income: $T = \alpha Y$, with $0 < \alpha < 1$.

a. Given the tax systems of modern economies, why is a positive relationship between taxes and income an appropriate assumption?
b. Intuitively, how will this modification to the model affect (1) the slope of the planned expenditure curve in the Keynesian cross model and (2) the government-purchases multiplier?
c. Intuitively, how will this modification affect the slope of the *IS* curve? Why?

3. Suppose that the demand for consumption and investment goods in a closed economy is

$$C = 4000 - 40r + 0.20Y$$
$$I = 2400 - 40r,$$

where the real interest rate *r* is measured in percentage points (2% = 2, not 0.02). Government spending is 2000.

a. Consumption spending is related to the interest rate in this model. Why would it make sense for the interest rate to have a negative effect on desired consumption spending?
b. What value of the real interest rate leads to desired expenditures ($C + I + G$) of 10000?
c. What value of *r* leads to desired expenditures of 10200?
d. Graph the *IS* curve.
e. Repeat parts b and c for $G = 2400$.
f. What effect does the increase in *G* have on the *IS* curve? (Be as specific as possible.)

4. Use the *IS-LM* model to predict the effects of each of the following shocks on income, the interest rate, consumption and investment in the short run if prices are assumed to be fixed. In each case, explain what the central bank should do to keep income at its initial level.

a. After the invention of a new high-speed computer chip, many firms decide to upgrade their computer systems.
b. A wave of credit card fraud increases the frequency with which people make transactions in cash.
c. A bestseller titled *Retire Rich* convinces the public to increase the percentage of their income devoted to saving.