Homework Set Ten

1. (5 %) Derive the Y and M curves if consumption and investment demand are not functions of the interest rate.
2. (5 %) Derive the Y and M curves if real wealth is not affected by changes in the price level.
3. (5 %) Suppose the demand for money was of the form $\boldsymbol{M_D = \xi Y}$. What would the Y and M curves then look like?
4. (5 %) Suppose the demand function for money depended on output not consumption and was of the form

$$M_D = \xi \frac{1 + r_N}{r_n} Y$$

. What would the Y and M curves then look like?

5. (40 %) Each of the following ten questions asks you to consider a country NEUTRAL, with Y and M curves describing the price level and interest rate in year 1. Different things happen in each case, and your task is to figure out what happens to the Y and M curves. (Answers like shifts up and to the left, or something like that are appropriate). Given what happens to the Y and M curves, what happens to the Price level? The interest rate? (Answers like increases, decreases, or uncertain are appropriate).

a) People become more confident about the future

b) The government spends $100 million on a monument, paying for it with a tax on all individuals, independent of how much they work.

c) Credit cards are abolished.

d) (5%) A sudden illness incapacities a quarter of the labor force for a year; you may assume the illness is not life threatening and that their medical care is costless during this year.

e) People anticipate that new technology will become available, in the coming year. (That is, not in year 1).

f) A new medical breakthrough increases life expectancy, though not the years that people expect to work.

g) (5%) A new law prohibits banks from being open on Saturdays, lowering the M_2 multiplier

h) Santa Claus decides to double the money supply, but only Republicans get money in their Christmas stockings.

i) There is a $100 expenditure on war, paid for by a $100 increase in the money supply.

j) A new technology is developed, which will increase GDP by 3% in future years, but which requires that 10% of the labor force take the year off for education.

6. (20%) Consider two countries initially alike, which decide to erect at great expense a monument to their Olympic athletes. The cost of the monument will be 5% of last year's GDP. Both countries make the decision to do so at the beginning of year 1. However there are differences between these two countries:
   - IMPATIENT erects the monument in year one. It pays for the monument with one-time increase in the money supply sufficient to pay for the cost of the project. That is, additional bills are printed up and used to pay the bills from the contractors.
   - PATIENT decides to build the monument in year 2, even though it makes the decision to build the monument in year 1. It decides that it will pay for the project in year 2 by levying a special one-time tax on wage earners. That tax will be levied in year 2. You may assume it has no impact on the labor supply curve in year 1.
   - In a third country, NEUTRAL, nothing happens. Describe the effect of this policy on the Y and M curves for year one. Specifically

In which country is the Y curve further to the right? Neutral/Impatient/Patient
In which country is the M curve further to the right? Neutral/Impatient/Patient
In which country is the Y curve further to the left? Neutral/Impatient/Patient
In which country is the M curve further to the left? Neutral/Impatient/Patient

Explain your answers.

7. (20%) Consider an economy NEUTRAL. Two competing tax plans have been advanced for managing the economy

   - The first, the SNOW plan calls for eliminating taxes on capital income. Once the SNOW plan is enacted, the government will be running a balanced budget.

   - The second plan, REID, calls for keeping taxes on capital income and raising the overall tax rate. The extra funds will be used to provide universal health coverage to residents. (You may assume that government funded health care will be just as efficient as current health care plans. No person will get better or worse health care.)

- What will be the effect of these two plans on GDP, the price level, interest rates in the first year?