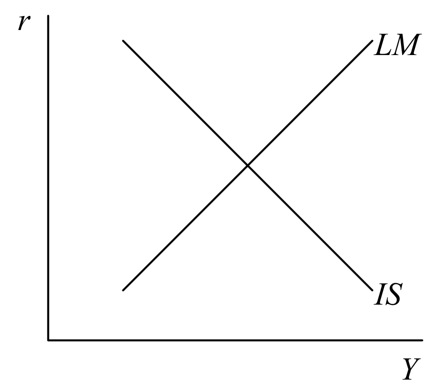
Midterm Exam No. 2
April 1, 2004

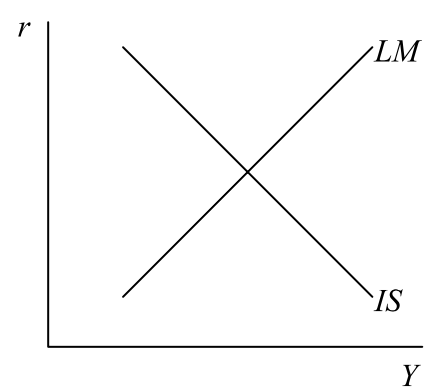
Answer all questions, on these sheets in the spaces provided (use the blank space on page 8 if you need more). In questions where it is appropriate, **show your work**, if you want a chance of partial credit for an incorrect answer. Point values for the questions are shown; there are a total of 62 points possible.

1. (15 points) For each of the following, draw into the diagram provided how the curve or curves should shift in the IS-LM model of a closed economy with fixed prices, and explain in a sentence or two the reason(s) for the shift(s).

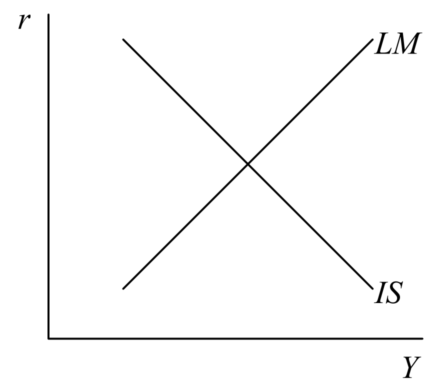
   a. An increase in government purchases financed by borrowing.



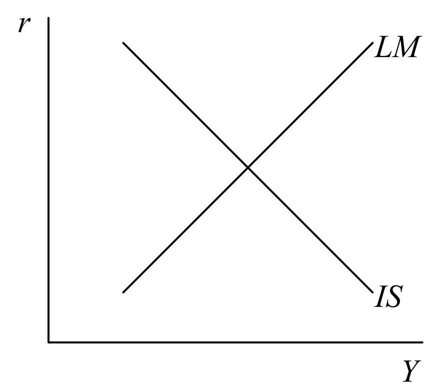
   b. An increase in government purchases financed by printing money.



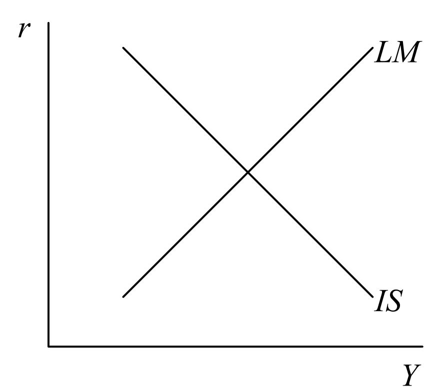
c. An increase in government purchases financed by increasing taxes by the same amount.



d. An increase in the reserve requirement of commercial banks.



e. Consumers, becoming fearful that the government will not provide for them in their retirement, decide to save more out of their disposable incomes.



2. (12 points) Suppose that investment, in addition to depending on the interest rate as we normally assume, also depends positively on a government policy, *D*, that is designed to encourage investment. (I call it *D* since I'm thinking of it as a "depreciation allowance," but you need not worry about that, nor about any implications it might have for the government budget, which you should assume is unaffected.) Thus $I=I(r,D)$, where $I_D>0$. Using whatever analytical tools you prefer (graphs and/or equations), use the IS-LM model of a closed economy with fixed prices to analyze the effect of an **increase in *D*** on the following variables (being sure to justify your answers):
   a. Real GDP
   b. The interest rate
   c. The level of investment
   d. The level of consumption
   e. The level of national savings
   f. The demand for money

3. (15 points) Suppose that the central bank increases the money supply by 10%. Derive and compare the effects of this policy on
   i. real GDP,
   ii. real domestic investment, and
   iii. the nominal exchange rate

   in the following contexts:
   a. A closed economy in the short run (for which you can ignore the exchange rate).
   b. A small open economy with a floating exchange rate in the short run.
   c. A small open economy with a floating exchange rate in the long run (by which I mean the models of Mankiw's chapters 4 "Money and Inflation" and 5 "The Open Economy").

   Note: The instruction "and compare" means that for each of the variables (i), (ii), and (iii) you should indicate how its change differs across these three contexts.

4. (6 points) Explain any **two** of the mechanisms that lead to a positive relationship between the aggregate price level and aggregate real output in the short run.

5. (6 points) An economy starts in a long-run equilibrium with all real and nominal variables remaining constant over time. The central bank then begins to increase the money supply at a constant rate of 5% each year. Describe in words how you would expect the rates of inflation and unemployment to respond – first in the short run and then over time – to this change in policy, under each of the following two assumptions about how expectations are formed?

    a. Adaptive expectations (expecting in the future what has just been observed in the past.

    b. Rational expectations (here assuming that the change in monetary policy is announced and credible.)

6. (8 points) The lists below show, on the left, things that may or may not have been reported in the assigned Wall Street Journal articles during the last few weeks. On the right is a list of reasons, some of which were reported as at least partially explaining some of the happenings on the left. Identify (by circling the "T") those items on the left that are true. Then, for those only, write in the blank next to it the letter labeling the (single) associated reason on the right. (You will not use all of the reasons.)

What Happened?

T 1. OPEC considered increasing output of oil. ___

T 2. John Kerry said that, if elected, he would print more money. ___

T 3. The Fed raised its target for the federal funds rate. ___

T 4. U.S. tax collections are below expectations. ___

T 5. U.S. exports fell from December to January. ___

T 6. The U.S. imported more barrels of oil in January than before. ___

T 7. The "Core CPI" rose by less than the CPI. ___

T 8. More workers aged 55 and over are leaving the labor force. ___

Why?

a. Company-paid health plans are not subject to taxation.

b. The purpose was to prevent deflation.

c. The natural rate of unemployment increased.

d. They were discouraged by the slow growth of employment.

e. The U.S. budget deficit is at a record level.

f. A case of mad cow disease had been found in the U.S.

g. The winter was unusually cold.

h. They had been hurt by depreciation of the dollar.

i. The purpose was to stimulate the economy.

j. Prices of essential inputs fell.

k. Prices of food and energy rose by more than other goods.

This extra page is to use in case you run out of room on one of the questions. Label clearly which question(s) you are writing about here.