QUIZ 1. Macroeconomics 14.02
October 12, 1995

Part I: Multiple Choice. 30 points (30 minutes)

1. Which of the following statements is false?

(a) In 1994, Japan had a large trade surplus.

(b) The unemployment rate in the European Community is higher than in the U.S.

(c) Real GDP in the US in 1994 was about 12 times real GDP in 1960.

(d) The US budget deficit, as a proportion of GDP, was higher at the beginning of the 1980s than what it is today.

2. In the simplest closed economy model, the demand schedule in the (income, demand/production) space is flatter than the 45-degree line because:

(a) the change in inventories is zero.

(b) autonomous spending is positive.

(c) there are no dynamics.

(d) the marginal propensity to consume is between 0 and 1.

3. Starting from the identity Y=C+I+G+X-M, where X and M denote exports and imports, respectively, find an expression for saving in terms of investment, the budget deficit, and the trade deficit. Using this expression, identify which of the following statements is false:

(a) If I=G=T=0, the saving equals the trade surplus.

(b) If the government has a budget deficit and imports are greater than exports, saving should be higher than investment.

(c) The economy can possess both a trade and budget surplus.

(d) If S=I and X=M, the government's budget is balanced.

4. The difference between the static and dynamic output determination models is that:

(a) the marginal propensity to consume is lower in the static model.

(b) the adjustment process toward the new equilibrium when a exogenous variable changes is slower in the dynamic model.

(c) the equilibrium level of income is higher in the dynamic model.

(d) investment needs to be endogenous in the static model.

5. Which of the following variables is not a stock?

(a) financial wealth

(b) outstanding government debt

(c) money

(d) income

6. Which of the following statements is true?

(a) If the Fed buys bonds in the open market, its assets and liabilities will increase in the same proportion.

(b) For given levels of financial wealth, money and bond supplies, if the money market is in equilibrium then we need to have a excess supply of bonds.

(c) A higher interest rate will increase money demand.

(d) The velocity of money is lower today than at the beginning of the 1960s.

7. Assume there are two bonds in the market, bond A and bond B, each with one-year to maturity. Bond A has a face value of \$400 and its price today is \$320. Bond B has a face value of \$100. What should be the price of bond B today so that the interest rate is equalized across both bonds?

(a) \$60

(b) \$75

(c) \$20

(d) \$80

(e) none of the above

8. If investment is a function of sales but it does not respond to changes in the interest rate, then:

(a) the IS curve is vertical (i.e., slope is infinity)

(b) the LM curve is flat (i.e., slope is zero)

(c) the IS and LM are both negatively sloped

(d) the IS and LM are positively sloped

9. In the standard IS-LM model, what type of policy will unambiguously increase both, consumption and investment?

(a) expansionary fiscal policy

(b) contractionary monetary policy

(c) contractionary fiscal policy

(d) expansionary monetary policy

(e) none of the above

10. If the Central Bank and the government have both the same objective: to reduce the interest rate and keep constant the level of output, what would you expect to see:

(a) fiscal contraction and monetary expansion

(b) fiscal expansion and monetary contraction

(c) fiscal and monetary contraction

(d) fiscal and monetary expansion

(e) a or b

Part II: Medium-Sized Question. 20 points (20 minutes)

A bond you buy today for \$88 will give you \$99 in 1 year:

1. What is the interest rate on this bond?

2. Suddenly, Congress mandates that checking deposits, previously earning no interest, will now receive 3% annual interest. What do you expect will happen to money demand in response to this legislation? Keeping wealth constant, what will happen to the price of bonds? Why?

3. Show graphically, in the ISLM context, the impact of such a policy.

Part III: The Bledsoe trap vs. the liquidity trap. 40 points (40 minutes)

[Hint: This question is conceptually harder, but involves no algebra. Do not be intimidated by its length; it is wordy, so that it can take you step by step. If you are patient, you should do just fine. Parts A and B can be done in any order.]

A. The Bledsoe trap [20 points/minutes]. In his second game back from shoulder injury, New England Patriots' [all-Pro, super-star, future Hall-of-Fame] quarterback Drew Bledsoe throws for seven touchdown passes and 500 yards with no interceptions, and becomes an instant household name. With Alan Greenspan's term about to expire, Bill Clinton [hint: think White House] decides to appoint Bledsoe as the next Federal Reserve chairman. However, Bledsoe's appointment to the Fed is met with extreme suspicion by managers and households across the US, who consequently ignore the interest rate when deciding how much to invest. In other words, **investment does not depend on the interest rate**. With this modification in mind, answer the following questions using the standard IS-LM model we developed in class.

A1. The goods market (IS): Write down the equilibrium equation for the goods market, and draw the IS curve. Can you now determine the level of output in the economy? [Hint: i.e., can you ignore the financial market?] Why?

A2. The financial market (LM): Taking the supply of money as fixed, and the price level as fixed, write down the equilibrium equation for the financial market, and draw the LM curve.

A3. IS-LM: Draw the IS and LM curves in the same graph.

A4. Fiscal policy: Suppose that government increases governement spending. Using the graph from A3, explain what happens to output, and what happens to the interest rate.

A5. Monetary policy: Suppose that the Fed increases the money supply. Using the graph from A3, explain what happens to output, and what happens to the interest rate.

A6. Summary: Using your answer to A4 and A5, explain why fiscal policy can affect output in this model, but monetary policy cannot. [Do not answer this question by describing what curve shifts when. Rather use your economic intutition of the link between the financial market and the goods market.]

B. The liquidity trap [20 points/minutes] (this notion comes from Keynes himself). Ignoring the changes of Part A, consider the following modification to the standard IS-LM model we developed in class: Suppose that money and bonds are perfect substitutes for transactions so that you can pay with bonds for everything that you can pay with money. Bonds, however, still pay an interest rate of i, while money bears no interest.

B1. The demand for money: If the interest rate on bonds is greater than zero, what is money demand? If the interest rate that bonds pay is zero, explain why there is no reason for people to care whether they hold money or bonds. Therefore, at interest rate equal to zero, the demand for money can be any amount of money. Using this information (and ignoring the possibility of a negative interest rate), draw the demand for real money balances with the interest rate on the vertical axis and the amount of real money balances on the horizontal axis. What is the slope of the money demand curve?

B2. Financial Market Equilibrium (LM): Taking the level of the money supply as given, draw the demand for real money balances (from B1) and the supply of real money balances in the same graph. Does the financial market equilibrium fully determine the equilibrium interest rate, and if so what is the equilibrium interest rate? Draw the LM curve. What is the slope of the LM curve?

B3. IS-LM: Has the modification of part B affected the IS curve? Draw the IS and LM curves in the same graph.

B4. Fiscal Policy: Suppose that the government decides to decrease government spending. What happens to the level of output and the interest rate?

B5. Monetary Policy: Suppose that the Federal Reserve decides to reduce the money supply. Determine what happens to the level of output and the interest rate. [Hint: If you have answered this correctly, you should be able to see how monetary policy is 'trapped.']

B6. Extra Credit [5 points]: Draw a new graph of the IS and LM curves. In the same graph, draw a curve LM' which corresponds to the financial markets equilibrium of the standard model (i.e. without any modification) such that it intersects the IS and LM curves at their intersection. Repeat the fiscal policy experiment of part B4. Does output respond more or less in the standard model (with LM') or in this model (with LM)? Why is that so?