QUIZ 7: Macro – Winter 2011

Solutions

Question 1

True or False? (No explanation, 1 point each – 6 total)

a. In a long-run equilibrium, the labor market must clear.

**TRUE.** By definition, in a long-run equilibrium all markets clear: goods market, money market, and labor market. In a short-run equilibrium instead only goods and money markets need to clear, the labor market may be in disequilibrium.

b. If we believe that prices take time to adjust, then money is neutral in the short run.

**FALSE.** If prices are sticky in the short run, then output reacts to changes in the money supply in the short run, that is, money is not neutral. After an increase in money supply the interest rate has to decrease to keep the money market in equilibrium. This, in turns, generates higher investment and consumption and then higher output as long as all prices do not adjust immediately.

c. If the economy is in a liquidity trap, everything else equal, the Fed won’t be able to reduce the nominal interest rate with standard open market purchases.

**TRUE.** If the economy is in a liquidity trap, the nominal interest rate is at zero. If the Fed inject money in the economy by buying government bonds with standard open market operations, the nominal interest rate won’t change because of “money hoarding”. People will be happy to hold as much money as there is in the economy given that now money is a perfect substitute for bonds.

d. Imagine the economy starts at potential Y*. In response to a negative shock to demand, e.g. consumer confidence loss, output drops more in
the short run if all prices are sticky (SRAS version 1) rather than if only nominal wages are sticky (SRAS version 2).

TRUE. If we believe that all prices, both goods prices and wages, are sticky, there are more rigidities in the economy and output will drop more in response to a negative demand shock. If firms can change prices, they will reduce price a bit in reaction to a drop in demand and this will dampen the drop in demand a bit.

e. Imagine the economy starts at potential Y*. A permanent increase in government spending (G) that does not affect the potential level of output (Y*), will increase the interest rate in the long run, crowding out private spending.

TRUE. If G increase, the IS curve shifts to the right and in the long run prices will increase so that the LM curve will shift to the left to bring the economy back to potential (Y*). This will make the real interest rate higher in the long run reducing private spending (I and C) to exactly offset the increase in G.

f. Imagine the economy starts at potential Y*. A permanent increase in government spending (G) increases the deficit, but people understand that they will have higher taxes in the future, so their expected PVLR declines. In the long run Y* may be higher.

TRUE. If G increase, and people believe that they will pay higher taxes soon and expect a lower PVLR, they will supply more work because of an income effect. This will increase N* and hence the new potential Y* will be higher.
Question 2

Discuss whether the following statement is true, false, or uncertain. No credit will be given if you say true and the answer is true. Your explanation determines your entire grade. Your answer should not be more than 2 sentences (a perfect answer could be one sentence). -- 4 points

In the fall of 2007, Bernanke started cutting the interest rate in order to stimulate demand and prevent a deep recession. However, this standard monetary policy was not very successful and demand was still low. One possible reason why investment did not react much is that the IS was steeper than usual because of the financial turmoil.

TRUE. Typically, an expansionary monetary policy increases demand, by cutting interest rates. As interest rates are lower 1) consumption increases because there is less return to save, 2) investment is higher because the user cost of capital is lower. However, in 2007 the United States was hit by a deep financial crisis that reduced dramatically the willingness of banks to make loans to businesses, independently on the interest rate on Treasury bonds. Typically when such interest rate is lower, banks are also willing to lend at a lower interest rate. During the crisis, the interest rate at which banks were willing to lend (if they were willing to lend at all!) was very high and not particularly sensitive to the interest rate affected by the Fed. This can be represented by a steeper IS curve that makes the same monetary policy less effective in increasing demand and hence output in the short run.

Question 3

Suppose that the economy is at the potential level of output $Y^*$ and the central bank conducts a one-time permanent decrease in the nominal money supply from $M_0$ to $M_1 < M_0$. Answer the following questions. If no curve shifts, answer NO to the direction question. (no explanation needed, 2 point each letter – 16 points total)

Assume that wages are sticky, that is, we are in Version 2 of the short run and the SRAS is upward sloping.
THINK ABOUT THE SHORT RUN FOR QUESTIONS (a)-(c)

a) What happens to the AD-SRAS?

1. Which curve is going to move? **AD**
2. In which direction? **To the left**

The AD shifts to the left because for the same level of prices, if M decreases, r has to increase to convince people to demand less money and ensure that the money market clears. In turns, the increase in r reduces investment and consumption and hence the demand of goods for given prices, shifting the AD to the left.

b) What happens to the IS-LM?

1. Which curve is going to move? **LM**
2. In which direction? **to the left**

The LM shifts to the left because, for the same level of output, if M decreases, to have equilibrium in the money market, the interest rate needs to be higher. Notice that because of the increase in the interest rate, the demand of goods decrease, because both I and C decrease, but this does not make the IS to shift! Instead this decrease in demand is represented as a movement ALONG the IS curve because it is due to an increase in the real interest rate (which is on the vertical axis).

c) What happens in the labor market?

1. Which curve is going to move? **None.**
2. In which direction? **No.**

The demand and supply of labor do not shift because of the decrease in M. What happens is that as the demand for goods decreases (because I and C decrease due to the increase of r), firms decrease prices and, given that in the short run by definition nominal wages are fixed, this increases real wages. This generates
a movement ALONG the labor demand curve only, not a shift! Remember that, by definition of short run, the labor market is in disequilibrium, and, in particular, we assume that firms are always optimizing but workers are not, that is, we are always on the labor demand, but not on the labor supply in the short run.

THINK ABOUT THE LONG RUN FOR QUESTIONS (d)-(f). LIST ONLY THE MOVEMENTS THAT HAPPEN IN THE LONG RUN AND NOT IN THE SHORT RUN.


d) What happens to the AD-SRAS?

1. Which curve is going to move? **SRAS**

2. In which direction? **To the right**

In the short run the labor market is not in equilibrium because workers work less than they would like for the market real wage. In the long run the nominal wages need to decrease, and hence the short run aggregate supply curve will shift to the right because the cost for the firms are going to be lower and hence they are willing to supply more goods for the same price level! Hence, the long run equilibrium will be characterized by the original level of potential output, but by lower prices!

e) What happens to the IS-LM?

1. Which curve is going to move? **LM**

2. In which direction? **To the right**

As nominal wages decrease in the long run, so that prices decrease further, the supply of real money balances increases. Prices keep decreasing until the real money supply is back to the original level and this shifts the LM to the right until Y=Y*. 

f) What happens in the labor market?

1. Which curve is going to move? None

2. In which direction? No

In the long run, still there is no shift in the demand or supply for labor! What happens is that by definition the labor market must go back to equilibrium. Given that in the short run real wages are higher than in equilibrium and workers are working less than they would like, there is pressure in the labor market to decrease nominal wages so that in the long run the real wage goes back to its equilibrium level. Once again, there is going to be a movement along the labor demand. (Notice that given that the SRAS shifts to the right, prices decrease further and hence nominal wages have to decrease more than prices between short and long run)

Question 4:

In the WSJ article “Even the Fed’s Greenspan is Fallible When Trying to Predict a Recession,” the journalist reports that Greenspan was reluctant to cut the fed fund rate in the ‘90s. Mention one of the reasons behind his reluctance. Your answer should be no more than 1 short sentence. -- 4 points

Any of the following answer gives you full credit:

1. Greenspan was concerned to generate higher inflation (which was already high because of oil prices)
2. He believed that the economy was not in a recession yet
3. He wanted to wait until the Congress approved a deficit-reduction agreement