MACROECONOMICS 105 Midterm Exam

Columbia College

You have 55 minutes. Place answers on exam in the space provided. SHOW YOUR WORK to be eligible for partial credit.

A. Multiple Choice (40 pts)

1. B To compare the economy’s aggregate output in two different time periods, economists compare:
   A. The inflation rates for the two periods.
   B. The real national income for the two periods.
   C. The potential national incomes for the two periods.
   D. The unemployment rates for the two periods.
   E. The nominal national income for the two periods.

2. D For our economy, GDP is $450, Y* = $500, the unemployment rate is 4% and the inflation rate is 5%. This economy has:
   A. An inflationary gap of 5%.
   B. A deflationary gap of 4%.
   C. An inflationary gap of 10%.
   D. A deflationary gap of 10%.
   E. An inflationary gap of 9%.

3. B Suppose Canada’s exchange rate with the euro rises from C$1.2 to C$1.4. This means the Canadian dollar has depreciated and it will take more Canadian dollars to buy one euro.
   A. Depreciated, fewer.
   B. Depreciated, more.
   C. Appreciated, fewer.
   D. Appreciated, more.
   E. None of the above.

4. E If the government hires a worker, we record it as G. If a grocery store hires a worker, we record it as:
   A. C (because consumers will buy food from the grocery store).
   B. I (because the grocery store is a business)
   C. G (because workers must pay income tax on their salaries)
   D. X partially (because much of the food in Canadian grocery stores are imported).
   E. None of the above (because work done is the grocery store is an intermediate good).

5. A Which of the following is true in the simple macro model?
   A. APC increases as income rises.
   B. APS decreases as income rises.
   C. MPC is negative below a certain level of income.
   D. MPS is negative below a certain level of income.
   E. APC gets closer and closer to MPC as income rises.

6. A Once we add G, T, X and M into our macro model, the AE can become steeper or flatter. When it becomes steeper:
   A. For the same An as before, equilibrium Y will be larger.
   B. To obtain the same equilibrium Y as before, An will have to become larger.
   C. The multiplier will become smaller.
   D. The equilibrium level of savings will become smaller.
   E. Every increase in P will have a smaller impact on equilibrium Y.

7. B Consider the relationship between the AE curve and the AD curve. A rise in the amount of desired consumption, investment, government purchases or exports at any given level of national income:
   A. Causes a movement along the AD curve.
   B. Shifts the AD curve to the right.
   C. Shifts the AD curve to the left.
   D. Causes a shift of the AE curve but no movement of the AD curve.
   E. Causes a movement along the AE curve.
8. If the economy's AS curve is very steep and there is a negative AD shock, what is the short run effect?
   A. No change in either price level or output.
   B. An increase in the price level and a decrease in real national income.
   C. A decrease in the price level with almost no change in real national income.
   D. An increase in both the price level and real national income.
   E. A decrease in the price level and an increase in real national income.

9. A recessionary output gap implies that:
   A. There is a pressure for wages to rise (which is why the economy is not doing well.)
   B. The demand for inputs will be relatively low.
   C. The intersection of the AD and AS occurs at real GDP above potential output.
   D. The economy's resources are being used at a rate above and faster than their normal capacity.
   E. There is an excess demand for most factors of production.

10. If people began to think they were going to live longer, we should expect to see:
    A. Lower interest rates and reduced investment in capital.
    B. Higher interest rates and reduced investment in capital.
    C. Lower interest rates and increased investment in capital.
    D. Higher interest rates and reduced investment in capital.
    E. Higher interest rates, but we can't tell what will happen to investment.

B. Calculations (50 pts) SHOW YOUR WORK CLEARLY FOR PARTIAL CREDIT

1. (4 pts) Identify and label each of the following transactions when measuring Canada's GDP as C, I, G, X, M or N for none of the above. Some may require more than one answer.

2. A. \( \checkmark \) You put $1000 in your bank account because you are saving for a nice vacation.

B. \( \ checking \) You buy a brand new car that was made by a Canadian factory last year. (The car has been sitting on a car lot for nearly a year, waiting for someone to buy this new car.)

2. (8 pts) Assuming 2012 is the base year.....

3. Simple macro model (12 pts) \( C=200+0.5Y_d, I=150, G=90, T=0.2Y, X-M=60-0.2Y \)

4. A. \( \Delta \bar{Y} = 500 + 0.2Y \) What is the AE equation?

B. \( 625 \) What is equilibrium \( Y \)?

C. Draw a rough diagram with your AE curve and equilibrium \( Y \) clearly shown.

D. \( \Delta Y = 1.25(40) = 50 \) What is the \( \Delta Y \) if \( \Delta G = 40 \)?
3. A. \( Y_{AD} = 625 - 2.5P \)
   What is the equation for \( Y_{AD} \)?

2. B. \( P = 80, Y = 425 \)
   What is equilibrium \( Y \) & \( P \)?

2. C. Inflationary Gap.
   Is there an inflationary gap or a recessionary gap?

4. D. \( P = 586, Y_{AD} = 625 - 2.5P, Y_{AS} = 281 + 1.5P \)
   If the government does not react to this gap, and the economy adjusts by itself, what is the new \( P \), new \( Y_{AD} \) and new \( Y_{AS} \)? (Assume the slopes of \( Y_{AD} \) and \( Y_{AS} \) don't change)

5. E. \( P = 70, Y_{AD} = 585 - 2.5P, Y_{AS} = 305 + 1.5P \)
   Suppose the government does not want the economy to adjust by itself, but wants to use fiscal policy (\( AG \)) to adjust to \( Y^* \). What is the new \( P \), new \( Y_{AD} \) and new \( Y_{AS} \) (no slope change)?

6. F. \( G' = 90 - 32 = 58 \)
   What is the new \( G \) (don't forget the old \( G = 90 \)) that will bring this change?

C. Short Essay (10 pts) Use a diagram to illustrate your answer and then write a short paragraph or two explaining how your diagram answers this question.

One of the issues that was debated in the election finished yesterday, was whether the Canadian government should balance its budget or whether it should allow the government deficit to grow. (The party that wanted to allow the government deficit to increase won the election). Can you use a diagram used this semester to illustrate what this debate was about and then explain (in words) what this debate was about?

The Liberals (Justin Trudeau) argued that we are below \( Y^* \) (we have too many unemployed workers and much unused capacity). He wants to expand \( Y \) by using \( AG \). This may cause the deficit to rise but he thinks this is less of a problem because as \( Y \) grows, tax revenue will rise to pay for some of this \( AG \) in the future. (\( AT \) by \( T \) & \( Y \))

The other party (PC) feels that the only way to pay for \( AG \) is to increase the tax rate (\( t \)).

If \( Y \) close to \( Y^* \)

\[ \text{then } AG \text{ won't make economy grow.} \]