

Midterm 2 - Economics 101 (Fall 2007)

You will have 75 minutes to complete this exam. There are 68 points.

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**Multiple Choice:** (20 points total, 2 points each) Choose the best answer. Mark on scantron.

MC#1) A rise in expected inflation can do all of the following except:

- a) Raise the nominal interest rate.
- b) Raise current inflation.
- c) Lower real money demand.
- d) Raise the ex ante real interest rate.

MC#2) In the AD-AS model a temporary adverse supply shock (such as a rise in the price of oil) will:

- a) Raise price and output.
- b) Lower price and output.
- c) Raise price and lower output.
- d) Lower price and raise output.

MC#3) Which of the following helps explain why the aggregate demand (AD) curve slopes down:

- a) when the price of a good rises, consumers demand less of that good and switch to other cheaper goods.
- b) A rise in price lowers real money supply.
- c) A rise in money supply raises money velocity.
- d) all of the above.

MC#4) According to our long-run theories, all of the following are costs of inflation, except:

- a) Reduction in real wages
- b) Shoe-leather costs.
- c) Tax distortions.
- d) Menu costs.

MC#5) How do you stop a hyperinflation?

- a) reduce money growth
- b) reduce government reliance on seigniorage
- c) reduce expectations for inflation
- d) all of the above.

MC#6) Which of the following could potentially explain the fall in the natural rate of unemployment in the U.S. over the last couple of decades:

- a) fall in unionization.
- b) rise in unemployment benefits.
- c) rise in the number of young workers.
- d) all of the above.

MC#7) A high minimum wage raises unemployment by?

- a) Making the real wage exceed the marginal product of labor.
- b) Worsening structural unemployment.
- c) Creating sectoral shifts
- d) All of the above.

MC#8) The IS curve implies:

- a) investment equals saving.
- b) a rise in the interest rate lowers investment.
- c) a rise in the interest rate lowers output.
- d) all of the above

MC#9) The short run differs from the long run in the AD-AS model because in the short run:

- a) Output is fixed at the full-employment level of output.
- b) The price level is sticky.
- c) The real interest rate is fixed
- d) The nominal interest rate is sticky.

MC#10) The government spending multiplier in the Keynesian Cross model is?

- a)  $<1$ .
  - b)  $=1$ .
  - c)  $>1$ .
  - d)  $=0$ .
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**Problem 1: Quantity Theory of money:** (17 points total)

Suppose velocity is constant, money supply is growing 4% per year, real GDP is growing 2% per year, and the real interest rate is 4%. Using the Quantity Theory of money, the Fisher relation, and the Classical Dichotomy, answer the following questions about the long run behavior of the economy. Mark multiple choice answers on your scantron.

Solve for the inflation rate, nominal interest rate, and the growth rate in nominal GDP.

- MC#11) inflation rate                    a) -2%    b) 2%    c) 4%    d) 6%    e) none of the above  
MC#12) nominal interest rate           a) -2%    b) 2%    c) 4%    d) 6%    e) none of the above  
MC#13) nominal GDP growth rate      a) -2%    b) 2%    c) 4%    d) 6%    e) none of the above

If the Federal Reserve increases the money growth rate by 2 percentage points per year, find the change in the inflation rate and nominal interest rate.

- MC#14) change in inflation rate        a) fall 2%    b) no change    c) rise 2%    d) none of the above  
MC#15) change in nom. interest rate    a) fall 2%    b) no change    c) rise 2%    d) none of the above

Suppose the growth rate of real GDP rises by 2% per year. How does this rise in real GDP growth rate change the inflation rate and the growth rate in nominal GDP?

- MC#16) change in inflation rate        a) fall 2%    b) no change    c) rise 2%    d) none of the above  
MC#17) nominal GDP growth rate      a) fall 2%    b) no change    c) rise 2%    d) none of the above

In a couple of sentences, explain the idea of the “Classical Dichotomy.”

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**Problem 2: Aggregate Demand and Supply Model:** (15 points)

Federal Reserve Chairman Bernanke two weeks ago stated in a speech that the meltdown in subprime mortgages, which lowers liquidity in financial markets, could lead to a recession. Regard this reduction in credit as a shock that lowers money velocity permanently (both in the short run and the long run).

- a) (11 points) Use the AD-AS graph from chapter 9 (where AD is based on the Quantity Theory) to show how this permanent reduction in velocity could lead to a recession. Be sure to label the axes, curves, and mark the equilibrium points (1 for initial equilibrium, 2 for short run equilibrium, and 3 for long-run equilibrium). State what will happen to both output and price level, both in the short run and long run, and explain in a few sentences.

- b) (4 points) If the Federal Reserve wishes to prevent an effect on output or price level in the short run or long run arising from this velocity shock, what should it do to monetary policy? Describe in words how you would represent this in the AD-AS graph above.

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**Problem 3: Keynesian Cross** (16 points total)

Suppose the government of Italy is considering raising taxes, but the government is nervous that it might generate a recession as a side effect. Use the Keynesian cross to analyze the short-run effects of this (so you must assume that investment is not a function of the interest rate). Assume that consumption is just a function of disposable income, with a constant marginal propensity of 0.8.

- a) (6 points) Compute how much output will fall if taxes rise 10 million (showing your work). Explain.

- b) (4 points) What is happening to consumption? (Be as specific as possible.)

- c) (6 points) Knowing Keynesian theory, you propose to the Italian government that they increase government purchases to prevent the recession. Given that taxes rise by 10 million, compute how much government purchases would have to rise to keep output constant.

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(11/12/07)