

## Macroeconomics, Fall 2009, Final Exam, several versions

**Read these Instructions carefully! You must follow them exactly!**

**I) Answer on your Scantron card, using a #2 pencil.**

Warning: SOME QUESTIONS MUST BE ANSWERED SEVERAL TIMES! Such questions will begin with a phrase such as this:

**(Repeat answer on Scantron lines 37, 38 and 39)**

---Remember to do it!

**II) On your Scantron card you must print three things:**

1) Print your full name clearly;

2) Print the day and time of your section (for example TTh 7 AM);

3) Near your name, print your test number from the upper right corner of this test.

(This number tells me which version of the test you have. Without it your test cannot be graded properly and you get no credit for your answers.)

**III) You must turn in this printed exam along with your Scantron card, otherwise your score on this exam is "F".**

### Questions:

- \_\_\_\_\_ 1. Which of the following is true?
- a. Structural unemployment is caused by the fact that it takes a short time to search for a job.
  - b. Cyclical unemployment is caused by the fact that it takes a short time to search for a job.
  - c. Frictional unemployment is caused by a lack of skills or information about jobs.
  - d. Structural unemployment is caused by a lack of skills or information about jobs.
  - e. Cyclical unemployment is caused by a lack of skills or information about jobs.
- \_\_\_\_\_ 2. **(Repeat your answer on Scantron lines 26 and 27.)** What is a good historical example of when the Fed created a recession to reduce inflation expectations?
- a. in the early 1980s
  - b. in the early 1960s
  - c. during the Great Depression
  - d. in the late 1920s
  - e. during World War II
- \_\_\_\_\_ 3. **(Repeat your answer on Scantron lines 28 and 29.)** The two largest sources of revenue for the federal government are
- a. corporate income taxes and personal income taxes
  - b. sales taxes and corporate income taxes
  - c. Social Security taxes and sales taxes
  - d. property taxes and sales taxes
  - e. personal income taxes and Social Security taxes
- \_\_\_\_\_ 4. **(Repeat your answer on Scantron line 30.)** *Transfer payments* are
- a. payments for goods or services that individuals provide
  - b. funds given to people or organizations when no good or service is received in exchange
  - c. included in the government purchases category of GDP
  - d. examples of government investment
  - e. used to pay state employees

- \_\_\_\_\_ 5. This year, Shirts Inc. purchased \$1,000 worth of silk from the Silky Silkworm Company, \$100 worth of buttons from Barney's Buttons, and \$200 worth of thread from Tracy's Thread Company. Shirts Inc. sold the shirts they produced for \$2,000. As a result of these transactions, how much did Shirts Inc. contribute to GDP this year?
- \$700
  - \$1,300
  - \$2,000
  - \$2,700
  - \$3,300

- \_\_\_\_\_ 6. **(Repeat your answer on Scantron line 31.)** The equation,  $GDP = C + I + G + X - W$ , best describes the
- the output approach to measuring GDP
  - the factor payments approach to measuring GDP
  - the value added approach to measuring GDP
  - the expenditures approach to measuring GDP
  - the exchanges approach to measuring GDP

- \_\_\_\_\_ 7. **(Repeat your answer on Scantron lines 32 and 33.)** Using the table below, calculate GDP for a particular year.

Wages and salaries	\$2,000
Government purchases of goods and services	\$ 500
Exports	\$ 800
Rental income	\$ 300
Consumption spending	\$3,000
Transfer payments	\$ 300
Private investment spending	\$ 600
Profit	\$1,200
Imports	\$ 600
Interest income	\$ 800
Purchases of corporate stock	\$ 500

Based on the above information, GDP in this year was

- \$4,100
  - \$4,300
  - \$4,400
  - \$4,600
  - \$4,900
- \_\_\_\_\_ 8. Factors that cause the CPI to exaggerate the inflation rate do *not* include
- the tendency of consumers to substitute relatively cheaper goods for those that have become relatively more expensive
  - political pressure from unions and retirees on the Bureau of Labor Statistics to overstate the inflation rate
  - the introduction of new technologies that make it easier to obtain the same standard of living
  - improvements over time on the quality of products
  - the increase in purchases from discount stores
- \_\_\_\_\_ 9. How are the prices of various goods and services determined for the Consumer Price Index (CPI)?
- by an extensive yearly household survey
  - by an extensive monthly survey of stores, apartments, and owner-occupied homes
  - by an extensive yearly survey of stores, apartments, and owner-occupied homes

- d. by an extensive monthly household survey
- e. through the same survey used to determine the typical market basket

Keynesian Model:

$$Y = \left( \frac{1}{1 - c(1 - t) + zw} \right) (a + I_g + G - cT_p + X)$$

- \_\_\_ 10. **(Repeat your answer on Scantron line 34.)** You may refer to the equation above. In the Keynesian multiplier model, if exports rise by \$100 billion per year and government spending declines by \$80 billion per year the economy will
- a. expand
  - b. contract
  - c. not change
  - d. may expand or contract
- \_\_\_ 11. **(Repeat your answer on Scantron line 35.)** In Keynesian multiplier equation just above, if  $c = .9$ ,  $t = .1$  and  $w = .01$ , then if "autonomous spending" increases by \$20 billion, nominal GDP:
- a. will increase by \$50 billion
  - b. will increase by \$100 billion
  - c. will increase by \$200 billion
  - d. will not increase.
  - e. none of the other answers are correct.

## Equation for the Money Supply

$$M_s = (C_T + T_f + L_f) \frac{\left(1 + \frac{1}{r_{cd}}\right)}{\left(1 + \frac{x_d}{r_{cd}} + \frac{x_t}{r_{ct}}\right)}$$

- \_\_\_ 12. **(Repeat your answer on Scantron line 36.)** To **reduce** the money supply, evaluate the following statements and then select the best answer from among A through E. You may use the equation shown just above to jog your memory.
- 1) The FED may lower the reserve requirement on CDs (certificates of deposit).
  - 2) The FED may increase the reserve requirement on checking accounts (demand deposits).
  - 3) The FED may sell government bonds.
  - 4) The FED may lend reserves to commercial banks through the discount window.
  - 5) The FED may lower the federal funds rate.
- a. Only statement 2 is correct.

- b. Only statement 1 is correct.
- c. Only statement 3 is correct.
- d. Only statements 2 and 3 are correct.
- e. Only statements 1, 4 and 5 are correct.

13. **(Repeat your answer on Scantron line 37.)** Assume an economy has a natural rate of unemployment of about 5%, which means that unemployment cannot be lower than 5% without creating inflation. Assume the economy is in macroeconomic equilibrium with 12% unemployment. If the Federal Reserve increases the money supply by 10% then roughly the following will happen:
- a. the economy will grow to full employment and prices will rise by 10%.
  - b. employment will remain stagnant and prices will rise by 10%
  - c. employment will rise by 10% and prices will not rise.
  - d. employment will rise by 10% and prices will fall by 2%.
  - e. employment will rise by 7% and prices will rise by 3%.

## Equation for the Money Supply

$$M_s = (C_T + T_f + L_f) \frac{\left(1 + \frac{1}{r_{cd}}\right)}{\left(1 + \frac{x_d}{r_{cd}} + \frac{x_t}{r_{ct}}\right)}$$

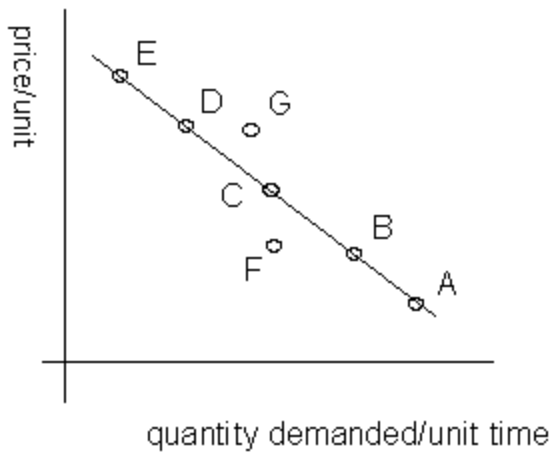
14. **(Repeat your answer on Scantron lines 38.)** Suppose that two major U.S. banks unexpectedly fail. No citizen loses any of their checking accounts, but many citizens lose access to their checking accounts for several weeks, so both the public and banks want to hold more currency than before. Also assume the Fed stupidly does nothing--does not buy or sell Government securities, does not lend at the discount window, does not change reserve requirements. Evaluate each of the following statements and select the best answer. (Refer to the money supply equation given just above if this helps you.)
- 1)  $x_d$  and  $x_t$  in the equation will increase because many bankers will expect more customers to convert checking accounts into cash.
  - 2) the public's desired ratios of currency to demand deposits, and currency to time deposits, will increase.
  - 3) putting all these facts together, based on lecture, the money supply will probably decrease sharply.
- a. all three statements are correct.
  - b. all three statements are false.
  - c. only statements 1 and 2 are correct.
  - d. only statements 2 and 3 are correct.
  - e. only statement 2 is correct.

- \_\_\_\_\_ 15. **(Repeat your answer on Scantron lines 39 and 40.)** Remember that under the assumptions of the circular flow model, an increase in government spending or a reduction in taxes did not stimulate the economy because the rise in interest rates would reduce economic activity as much as the fiscal policy increased it. But now let us consider the possible impact of interest rates on the balance between the supply of money and the demand for money. 1) Remember that a rise in interest rates will reduce the demand for money, but what will it do to the supply of money? Based on the Money Supply Equation derived in class, if the Fed does nothing the money supply will be effected only if the rise in interest rates changes any of the ratios in the money supply equation, namely  $x_d$  and  $x_t$  and/or the desired ratio of currency to demand deposits and/or currency to time deposits. Suppose we can assume these ratios are very little effected by the change in interest rates, therefore the supply of money is not changed. Therefore, even in the circular flow model, and increase in government spending or a tax cut
- still will have no impact on economic activity.
  - will create an excess supply of money, which will stimulate the economy.
  - will create an excess demand for money, which will stimulate the economy.
  - will create an excess supply of money, which will increase unemployment and make the recession even worse.
  - will create an excess demand for money, which will increase unemployment and make the recession even worse.
- \_\_\_\_\_ 16. **(Repeat your answer on Scantron line 41.)** In the money supply equation just above, if the "money multiplier" is .30, then if the Fed buys \$5 billion of Treasury bonds and at the same time puts \$5 billion of new currency into circulation, then the money supply will:
- increase by \$3 billion.
  - increase by \$5 billion.
  - increase by \$6 billion.
  - increase by \$10 billion.
  - neither increase nor decrease.
- \_\_\_\_\_ 17. **(Repeat your answer on Scantron line 42.)** Evaluate the following statements, then choose the best answer. Starting in a "full employment equilibrium" and using the circular flow model, if the Fed **sells** T-bills, then
- the money supply will increase.
  - interest rates will increase.
  - the economy will go into a recession and/or prices will fall.
- Only statements 1 and 2 are correct.
  - Only statement 3 is correct.
  - Only statement 1 is correct.
  - Only statements 2 and 3 are correct.
  - Only statement 2 is correct.

$$Y = \left( \frac{1}{1 - c(1 - t) + w} \right) (a + I_g + G - cT_f + X)$$

- \_\_\_\_\_ 18. **(Repeat your answer on Scantron line 43.)** (You may refer to the equation above.) In the Keynesian multiplier model, if the marginal propensity to consume falls, the economy will
- expand
  - contract
  - not change
  - may either expand or contract

- \_\_\_\_\_ 19. **(Repeat your answer on Scantron line 44.)** If real interest rates are 4%, and people used to expect prices to rise at 2% per year, but now expected inflation recently has risen to 7% per year,
- nominal interest rates will increase by exactly 5 percentage points, but real interest rates will not be affected very much in the long run.
  - interest rates will decline, since purchasing power now is eroding much faster than before.
  - nominal interest rates will increase by exactly 3 percentage points (7% minus 4%).
  - nominal interest rates will be affected far less than real interest rates, which will increase.
  - no other answer is correct.
- \_\_\_\_\_ 20. **(Repeat your answer on Scantron line 45.)** Consider the following statements about inflation, expected inflation and interest rates.
- If actual inflation turns out lower than was expected at the time the loan was made, the lender benefits and the borrower loses.
  - if the expected inflation rate for the coming year rises from 3 percent to 6 percent, but the Fed prevents nominal interest rates from rising, then the real interest rate must have risen.
  - if the real interest rate is 7% for a 4 year auto loan, and expected inflation for the next four years is 7% per year, then auto loans will have an interest rate of 17%.
  - the real interest rate plus the nominal interest rate equals the expected rate of inflation.
  - none of the other answers is correct.
- \_\_\_\_\_ 21. **(Repeat your answer on Scantron line 46.)** Consider these statements, then chose the best answer.
- 1) If the base year market basket becomes out of date, and the prices of the new goods are rising more slowly than the prices of those in the base year basket, calculated inflation will be higher than the actual rise in the cost of living.
  - 2) Since many goods are becoming more reliable at the same time their prices are rising, calculated inflation tends to be higher than actual inflation.
  - 3) Since people tend to buy fewer units of the goods whose prices rise relatively fast, this “substitution effect” means that actual cost of living is rising slower than the calculated inflation rate.
- Statements 1, 2 and 3 are all correct.
  - None of statements 1, 2 or 3 are correct.
  - Only statements 2 and 3 are correct.
  - Only statements 1 and 2 are correct.
  - Only statements 1 and 3 are correct.
- \_\_\_\_\_ 22. **(Repeat your answer on Scantron line 47.)** If the Fed buys Treasury bills (which increases reserves available to the banking system),
- no answer is any good except this one.
  - either c. or d. is likely to be true, but we don't have enough information to choose between them.
  - the impact on the real economy is likely to be very small, since the classical assumptions are probably fairly realistic.
  - interest rates will tend to decline, the supply of money will tend to rise on balance, and the resulting excess supply of money will cause inventories to drop, therefore increasing either economic activity and/or prices.
  - the money supply will actually decline along with the supply of money, leading to a reduction either in economic activity or prices.



23. **(Repeat your answer on Scantron line 48.)** Refer to the graph above. Evaluate statements 1 through 4 and then select the answer from A) through E):
- 1) Moving from point E to point F is accompanied by an increase in demand.
  - 2) Moving from point E to point F is accompanied by a decrease in demand.
  - 3) Moving from point E to point C is accompanied by no change in demand.
  - 4) Moving from point E to point C is accompanied by an increase in demand.
- a. Only statements 1 and 4 are true.
  - b. Only statement 1 is true.
  - c. Only statement 4 is true.
  - d. Only statements 2 and 3 are true.
  - e. None of these statements are true because all of these moves actually are changes in quantity demanded, not changes in demand..
24. **(Repeat your answer on Scantron line 49.)** Think about an “experiment” in which the economy begins in a macroeconomic equilibrium, except that the money supply is growing for many years at the rate of 5% per year more than is needed, so prices have been rising at the rate of 5% per year. The economy is at full employment. The “real” interest rate,  $r$ , is about 4%. Now the experiment begins. Telling nobody, the Fed begins buying government securities more slowly than before, permanently reducing the rate of excessive money growth from 5% per year down to 2% per year. Evaluate the following statements, and then choose the best answer.
- 1) Even if it was not discussed in lecture, there is no reason to believe a recession will be caused by this experiment, since the money supply is still growing, just at a slower rate.
  - 2) Just before the experiment begins, nominal interest rates will be about 9%.
  - 3) After the experiment begins, there will probably be a long period of time during which lenders become better off while borrowers are becoming worse off.
- a. Only statements 1 and 2 are correct.
  - b. Only statements 2 and 3 are correct.
  - c. Only statements 3 and 1 are correct.
  - d. Only one of the statements are correct.
  - e. None of the statements are correct.

Recall:

$$FR = IR * (FN/IN)*(II/II)$$

- \_\_\_\_\_ 25. **(Repeat your answer on Scantron line 50.)** Between 1960 and 1983 the price index rises from 80 to 120. Over the same period your nominal wage rises from \$10/hour to \$12/ hour. Assume your real wage was \$20 in 1960. Then in 1983 your real wage becomes:
- a. \$16
  - b. \$11.11
  - c. \$36
  - d. \$20
  - e. \$24



**Macroeconomics, Fall 2009, Final Exam, several versions**  
**Answer Section**

**MULTIPLE CHOICE**

1. ANS: D                   PTS: 1                   NAT: financial theories, analysis, reporting, and markets  
LOC: Monetary and fiscal policy
2. ANS: A                   PTS: 1                   NAT: financial theories, analysis, reporting, and markets  
LOC: Monetary and fiscal policy
3. ANS: E                   PTS: 1                   NAT: financial theories, analysis, reporting, and markets  
LOC: Monetary and fiscal policy
4. ANS: B                   PTS: 1                   NAT: financial theories, analysis, reporting, and markets  
LOC: Unemployment and inflation
5. ANS: A                   PTS: 1                   NAT: financial theories, analysis, reporting, and markets  
LOC: Unemployment and inflation
6. ANS: D                   PTS: 1                   NAT: financial theories, analysis, reporting, and markets  
LOC: Unemployment and inflation
7. ANS: B                   PTS: 1                   NAT: financial theories, analysis, reporting, and markets  
LOC: Unemployment and inflation
8. ANS: B                   PTS: 1                   NAT: financial theories, analysis, reporting, and markets  
LOC: Unemployment and inflation
9. ANS: B                   PTS: 1                   NAT: financial theories, analysis, reporting, and markets  
LOC: Unemployment and inflation
10. ANS: A  
Refer To: Keynesian Multiplier Equation

Reference: The Money Supply Equation, with Time Dep

PTS: 1

11. ANS: B  
Refer To: Keynesian Multiplier Equation

Reference: The Money Supply Equation, with Time Dep

PTS: 1

12. ANS: D  
Refer To: The Money Supply Equation, with Time Dep

PTS: 1

13. ANS: E                   PTS: 1
14. ANS: A                   PTS: 1

- |     |        |        |
|-----|--------|--------|
| 15. | ANS: C | PTS: 1 |
| 16. | ANS: A | PTS: 1 |
| 17. | ANS: D | PTS: 1 |
| 18. | ANS: B | PTS: 1 |
| 19. | ANS: A | PTS: 1 |
| 20. | ANS: A | PTS: 1 |
| 21. | ANS: A | PTS: 1 |
| 22. | ANS: D | PTS: 1 |
| 23. | ANS: D | PTS: 1 |
| 24. | ANS: B | PTS: 1 |
| 25. | ANS: A | PTS: 1 |