

Interest Rates / Loans

1. Which of the following statements about inflation are true?
 - a. inflation benefits lenders
 - b. inflation benefits borrowers
 - c. only unexpected inflation benefits lenders
 - d. only unexpected inflation benefits borrowers
 - e. none of the above are true

2. Suppose initially, the nominal interest rate is 10% and expected inflation is 3%. However, actual inflation turns out to be only 1%. (You may assume that there is no default premium) Given all of this information, what is the ex-post real interest rate?
 - a. 7%
 - b. 9%
 - c. 10%
 - d. 11%
 - e. 13%

Questions 3 – 5 refer to the following. Today's date is August 2nd, 2000. After jaywalking across 5th avenue, a NY policeman shoots you 33 times, but miraculously you survive. Thus, you are entitled to a settlement. Mayor Rudolph Giuliani offers you these four options:

- A - \$100 on August 2nd, 2001 and every August 2nd thereafter, forever
- B - \$480 on August 2nd, 2001
- C - \$160 on August 2nd, 2000 (today)
- D – Ownership of the New York Mets (please ignore option D)

3. If the interest rate is 200%, you will
 - a. Choose A
 - b. Choose B
 - c. Choose C
 - d. Be indifferent between A and B
 - e. Be indifferent between B and C

4. If the interest rate is 100%, you will
 - a. Choose A
 - b. Choose B
 - c. Choose C
 - d. Be indifferent between A and C
 - e. Be indifferent between B and C

5. If the interest rate is 20%, you will
 - a. Choose A
 - b. Choose B
 - c. Choose C
 - d. Be indifferent between A and B
 - e. Be indifferent between A and C

6. How much money will you have after 19 years if you put \$3500 in the bank, at an interest rate of 4%?
 - a. $\$3500 / 1.04^{19}$
 - b. $\$3500 * 1.04^{19}$
 - c. $\$3500 * 1.04 * 19$
 - d. $(\$3500 / 19) - 1$
 - e. none of the above

Classical Model – Long Run Model – Production Function/Labor model

7. Which of the following will be caused by an increase in the supply of labor?
 - a. lower real wages and higher real GDP
 - b. higher real wages and higher real GDP
 - c. lower real wages and lower real GDP
 - d. higher real wages and lower real GDP
 - e. none of the above

8. The amount of investment, I , in our model, can be properly thought of as
 - a. money spent to purchase existing financial instruments such as stocks and bonds
 - b. money that firms are borrowing in order to purchase more capital
 - c. foregone current consumption in return for higher future consumption
 - d. only (b) and (c)
 - e. all of the above

9. Suppose that 1 million people immigrate to the US from Singapore. At least some of the immigrants find jobs, and no US residents are displaced from their jobs. This causes the equilibrium real wage and amount of labor, respectively, to
 - a. fall, rise
 - b. fall, fall
 - c. rise, rise
 - d. rise, fall
 - e. change in an uncertain direction, fall

10. What will the effect of the above change have on the amount of real GDP produced in the US?
 - a. real GDP will rise, since we are moving to the right along our aggregate production function
 - b. real GDP will not change
 - c. real GDP will fall, since we are moving to the left along our aggregate production function
 - d. real GDP will rise, because workers from Singapore are more productive than US workers
 - e. real GDP will fall, since workers from Singapore are less productive than US workers

11. The substitution effect (in regard to the supply curve of labor) suggests
 - a. as wages increase, people will supply higher quantities of labor
 - b. as wages decrease, people will supply higher quantities of labor
 - c. as wages (and hence income) increase, people will supply higher quantities of labor
 - d. as wages (and hence income) decrease, people will supply higher quantities of labor
 - e. none of the above

Excellent review questions that you should ponder the answers to

1. Draw a short run production function. What does the principle of diminishing marginal returns imply about the shape of the production function? What do we hold fixed when we draw this production function?

3. Consider the following scenarios.

Scenario #1: $r = 3\%$, $\pi^e = 5\%$, $R = 8\%$. Now, there is an increase in expected inflation such that $\pi^e = 7\%$. Explain what happens as a result. Would the amount of investment change? Are lenders worse off, better off, or neither? Borrowers?

Scenario #2: $\pi^e = 5\%$, $R = 8\%$. Now, it turns out actual inflation is 7% ($\pi = 7\%$). Explain what happens as a result. Are lenders worse off, better off, or neither? Borrowers?

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5. You own a short-lived asset and a long-lived asset. Given a decrease in the nominal interest rate, what will happen to the value of the assets? Which asset's value will change the most (in percentage terms)?
6. Draw a picture of the Solow Growth model.
 What is the expression for net investment? Can you describe it in words?
 What happens to GDP as we increase the savings rate, s ? (show it on the graph)
 Assuming there is no technological change and no population growth (the assumptions of the model), what will happen to the growth rate of real GDP?
 What are the factors in the production function? What are we holding fixed?
7. As a result of WWII, in the US, there were a lot of people killed, but no destruction of capital. In France, there were a lot of people killed, and a lot of capital destroyed. Draw two pictures to compare the effect of WWII on real GDP in each of these economies (one for each country). Use the classical model (production functions and supply and demand curves for labor).
8. Draw the market for loans. See the picture next page. Let's suppose there are two sources of savings, private savings and government savings. Let's suppose the government decides to run a budget deficit in order to fight a war against Iraq. That is, G (government spending) will exceed T (taxes).

If this is the case, and the government does need to borrow money...

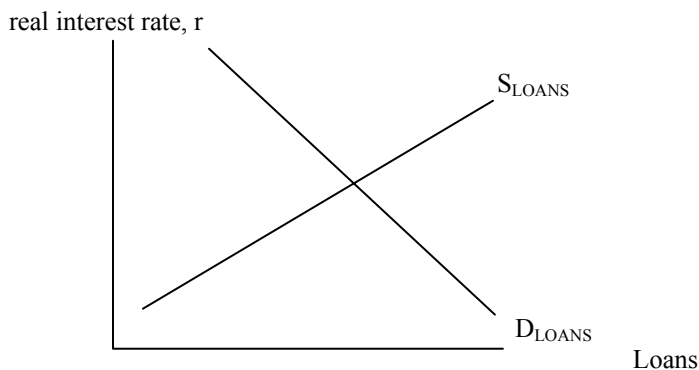
What will happen to the real interest rate?

What happens to quantity of loans being used for investment?

What will happen to the size of the capital stock in the future (relative to the situation in which the government does not need to borrow money)?

What will happen to real GDP in the future (relative to the situation in which the government does not need to borrow money)?

Why might the stock market react positively (go up) on news that a war with Iraq would be delayed (or possibly not ever happen?) This one is a tad more rhetorical.



9. What factors of production are involved in the Malthusian model? What is being held fixed? Describe in a word the level of real wages per person is when the economy gets to the steady state.

Answers to multiple choice:

- | | |
|------|-----------|
| 1-5 | D B E B A |
| 6-10 | B A D A A |
| 11 | A |

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Hints for short answer:

5. Crack open the interest rate spreadsheet if you have trouble.
9. Third question - Three letter word for an underwater boat + three letter abbreviation for your female sibling + 5 letter (plural) word for where boy scouts sleep = ___ - ___ - _____
I have stooped to a new low.

One more thing

Check out questions 1 – 3 on the first set of sample questions. Go watch Animal House.