

Economics 402

Midterm #1 Practice Questions

The exam will cover material in Chapters 1-6 of the Mankiw textbook and anything additional covered in class.

The following are examples of the types of questions that will be asked on the midterm. There will be multiple choice and written questions on the exam. I may use some of these questions on the midterm, so I will not post answers to them. However, you should be able to determine answers to these questions based on the textbook and class notes.

1. Assume that a bakery hires more workers and pays them wages and that the workers produce more bread. GDP increases in *all* of the following cases *except* when the bread:
 - A) is sold to households.
 - B) is stored away for later sale.
 - C) grows stale and is thrown away.
 - D) is sold to other firms.

2. If the demand for real money balances is proportional to real income, velocity will:
 - A) increase as income increases.
 - B) increase as income decreases.
 - C) vary directly with the interest rate.
 - D) remain constant.

3. If the fraction of employed workers who lose their jobs each month (the rate of job separation) is 0.01 and the fraction of the unemployed who find a job each month is 0.09 (the rate of job findings), then the natural rate of unemployment is:
 - A) 1 percent.
 - B) 9 percent.
 - C) 10 percent.
 - D) about 11 percent.

4. There are a number of measures of aggregate economic activity, such as GDP, GNP, national income, personal income, and disposable personal income. Each of these measures can be a good indicator depending on the issue under consideration. For each of the following issues, give your reasons for selecting one of the measures just mentioned as the best indicator to use in studying the issue:
 - a. the proportion of income households save;
 - b. the relative share of earnings going to labor versus capital;
 - c. the total output of new final goods and services.

5. Assume that a competitive economy can be described by a constant returns to scale (Cobb-Douglas) production function and all factors of production are fully employed. Holding other factors constant, including the quantity of labor and technology, carefully explain how a one-time, 50-percent decrease in the quantity of capital (perhaps the result of war damage) will change each of the following:
- the level of output produced;
 - the real wage of labor;
 - the real rental price of capital;
 - capital's share of total income.
6. Consider a competitive economy in which factor prices adjust to keep the factors of production fully employed and the interest rate adjusts to keep the supply and demand for goods and services in equilibrium. The economy can be described by the following set of equations:
- $$L = \bar{L}, \quad K = \bar{K}, \quad G = \bar{G}, \quad T = \bar{T},$$
- $$Y = AK^a L^{(1-a)}$$
- $$Y = C + I + G$$
- $$C = C(Y - T)$$
- $$I = I(r)$$
- Suggest at least two policies that a government could use to increase the equilibrium quantity of investment in the economy, and carefully explain how these policies produce this result.
7. Assume that a series of inflation rates is 1 percent, 2 percent, and 4 percent, while nominal interest rates in the same three periods are 5 percent, 5 percent, and 6 percent, respectively.
- What are the *ex post* real interest rates in the same three periods?
 - If the *expected inflation* rate in each period is the *realized* inflation rate in the *previous* period, what are the *ex ante* real interest rates in periods two and three?
 - If someone makes a loan in period two, based on the *ex ante* inflation expectation in part b, will he or she be pleasantly or unpleasantly surprised?
8. Assume that in a small open economy where full employment always prevails, national saving is 300.
- If domestic investment is given by $I = 400 - 20r$, where r is the real interest rate in percent, what would the equilibrium interest rate be if the economy were closed?
 - If the economy is open and the world interest rate is 10 percent, what will investment be?
 - What will the current account surplus or deficit be? What will net capital outflow be?
9. Assume that the following equations characterize a large open economy:
- $Y = 5,000$
 - $Y = C + I + G + NX$
 - $C = 1/2(Y - T)$
 - $I = 2,000 - 100r$
 - $NX = 500 - 500\epsilon$
 - $CF = -100r$

- (7) $CF = NX$
- (8) $G = 1,500$
- (9) $T = 1,000.$

Where NX is net exports, CF is net capital outflow, and ϵ is the real exchange rate. Solve these equations for the equilibrium values of C , I , NX , CF , r , and ϵ . (*Hint:* Substitute equations (9) and (1) into (3), then substitute (1), (3), (4), (8), and (5) into (2). Then substitute (5) and (6) into (7). Now you have two equations in r and ϵ . Check your work by seeing that all of these equations balance given your answers.)

10.
 - a. Define the marginal product of labour?
 - b. Why does profit maximization imply that the real wage should equal the marginal product of labour? (What assumption about the shape of the production function are you making? What is an economic interpretation of the assumption about the shape of the production function in terms of the relationship between capital and labour?)
 - c. Is the marginal product of labour observable? In what circumstances can we make fairly direct inferences about the MPL?
 - d. What is the primary determinant of differences in wages across countries? Is this just a difference in average wages or does it explain differences in wages for a given occupation (e.g., janitors)?
 "Adding 1.5 billion people to the global labour force has boosted the return to capital and richly rewarded rich Westerners; but in Germany, Japan and the United States, real wages for the median worker have barely budged. None of this is an excuse for protectionism-unless you want to make everybody poorer. But there may be fiercer debates, even in America, about using the tax and benefits system to redistribute more of the winnings." -The Economist, September 2006
 - e. The Economist is using the Classical Model to analyze the impact of globalization on the return to capital and real wages. Explain how they are using the model. Specifically, show their analysis graphically and comment on each step of the analysis.

11. In the classical model, which variables are endogenous and which variables are exogenous?