Economics 227: Intermediate Macroeconomics
Practice Midterm Exam
Spring 2011

1. Consider an economy where the production function $Y = K^{\alpha}L^{1-\alpha}$, with $\alpha = \frac{3}{4}$. Suppose this year there are 625 units of capital and 4096 workers. What is the real wage?

   (a) 0.061
   (b) 0.4
   (c) 0.469
   (d) 1.2
   (e) None of the above

2. Consider the same economy as above: $Y = K^{\alpha}L^{1-\alpha}$, with $\alpha = \frac{3}{4}$, $K = 625$, and $L = 4096$. What share of income is paid to labor?

   (a) 10%
   (b) 25%
   (c) 50%
   (d) 75%
   (e) 100%

3. Suppose every year, 6% of people move from the country to the city, and 2% of people move from the city to the country. In the steady state, what fraction of people live in the country?

   (a) 25%
   (b) 33%
   (c) 66%
   (d) 75%
   (e) 100%

4. Which of the following is *not* a suggested reason why the CPI might overstate the true increase in the cost of living?

   (a) Changes in the quality of goods
   (b) Substitution bias
   (c) The presence of imported goods in the CPI
   (d) The difficulty of accounting for new goods.
   (e) Changes in buying patters.

For the next two questions, imagine an economy where only two goods are produced: Food and Drink. Production and price data in years 1 and 2 are given in the chart below:

Item	Quantity, Yr. 1	Price, Year 1	Quantity, Year 2	Price, Year 2
Food	20	\$10	25	\$11
Drink	10	\$5	15	\$20

5. If year 1 is the base year, what is the rate of inflation measured by the CPI?

   (a) 52%
   (b) 55%
   (c) 61%
   (d) 64%
   (e) 68 %

6. What is chain-weighted real GDP in Year 2?

   (a) 315
   (b) 320
   (c) 325
   (d) 330
   (e) 335

Use this information for the next two questions:

$$\overline{Y} = F\left(\overline{K}, \overline{L}\right) = 1200, \quad G = 400, \quad I(r) = 280 - 50r, \quad c_0 = 50, \quad c_1 = 0.6$$

7. Suppose the government in this closed economy runs a balanced budget. What is the equilibrium interest rate?

   (a) 10%
   (b) 15%
   (c) 20%
   (d) 25%
   (e) 30%

8. Suppose the election of a new government increases business confidence, thus shifting up the investment demand curve to $I(r) = 300 - 50r$. What is the change in the level of consumption, ΔC?

   (a) -15 units
   (b) -10 units
   (c) 0 units
   (d) 10 units
   (e) 15 units

9. Which of the following would likely reduce the economy's total level of frictional unemployment?

   (a) An increase in the minimum wage
   (b) A increase in the generosity of unemployment insurance.
   (c) A decrease in the proportion of the labor force that is unionized.
   (d) A rise in the rate of job finding.
   (e) None of the above.

10. Svalbard is a small open economy with perfect capital mobility. The investment function is $I(r) = 100000 - 100r$, and net exports are given by the function $NX(\varepsilon) = 2500 - 10\varepsilon$. The marginal propensity to consume out of disposable income is 0.9. Assume both government purchases and taxes rise by 100 units. What is the change in the real exchange rate?

   (a) It falls by 1 unit
   (b) It falls by 0.1 units
   (c) It doesn't change
   (d) It rises by 0.1 units
   (e) It rises by 1 unit

11. Suppose in 2000, £1 cost LL. 3000, and in 2010 £1 costs LL. 2000. Over the same period, inflation totaled 20% in the U.K., and 33% in Lebanon. How much more expensive has it become for British residents to travel in Lebanon?

   (a) 13%
   (b) 35%
   (c) 50%
   (d) 61%
   (e) 66%

12. The Faroe Islands are a small open economy with a trade deficit. If the Faroese government increases government spending, what happens to the exchange rate and the size of the trade deficit?

   (a) The trade deficit and exchange rate both fall
   (b) The trade deficit falls and the exchange rate increases
   (c) The trade deficit increases and the exchange rate falls
   (d) The trade deficit and exchange rate both increase
   (e) We don't have enough information to answer this question.

13. Transvale is a well-described by the Solow Growth Model and is in a steady state. The savings rate is 0.3, and the depreciation rate is $\delta = 0.05$. What is the capital-output ratio K/Y?

    (a) 0.5
    (b) 2
    (c) 3.5
    (d) 5
    (e) None of the above

14. Most spells of unemployment are _____ but most unemployment is _____.

15. At a given world interest rate r^*, in a small open economy with initially balanced trade, in the long run model a tax cut will necessarily result in:

    (a) A trade surplus
    (b) An increase in national savings
    (c) A negative net capital outflow
    (d) An increase in the supply of domestic currency.
    (e) All of the above.

Short-Answer Questions

1. Consider the reunification of Germany 20 years ago:

   (a) Many people think the reunification created substantial investment opportunities in the former East Germany. If this is true, what would the effects be on the German net captial outflow, the German trade balance, and the German foreign exchange rate?

   (b) At the same time, Germany had to increase its government spending dramatically to pay for the costs of reunification. How does this development affect your answer above?

2. Consider the following economy with a petroleum refiner, an equipment factory, a government, and many consumers. The petroleum refiner produces 10 million liters of refined petroleum products, which sell for $5 per liter. The factory produces 40 pieces of equipment, which sell for $500,000. Of the 10 million liters of refined petroleum, 6 million are sold to consumers, 2 million are sold to the factory to power their equipment, and 2 million are unsold at the end of the year. Of the 40 units of equipment, the refiner buys 10 to expand capacity, the government buys 20 to upgrade their surveillance technology, consumers buy 5, and the equpment manufacturer retains the rest. The government also spends $5 million in wages for the surveillance professionals who conduct surveillance. This is financed by $1 million in taxes from the refiner, $2 million from the factory, and $1 million from consumers. The factory and the refiner pay $6 million and $40 million in wages respectively, and the refiner pays $5 million to consumers in interest on a loan. Calculate GDP by production, expenditures, and income.