

ECON 1010 Principles of Macroeconomics

Solutions to Midterm Exam #3

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Your Name _____

Section 1: Multiple Choice and T/F (60 pts). Circle the correct answer; each is worth two points.

1. Assuming a non-zero interest rate, the dollar amount of a future payment is _____ its present value.
 - a. always exactly the same as
 - b. usually exactly the same as
 - c. less than
 - d. more than

2. An amount that would equal a particular future value if deposited today at the prevailing interest rate is the:
 - a. present value.
 - b. inflation rate.
 - c. discount premium.
 - d. market index.

3. A liability is:
 - a. having wronged someone and being held responsible in court.
 - b. a requirement to pay in the future.
 - c. inability to perform an agreed task.
 - d. a claim that entitles the owner to future income from the seller.

4. Which portfolio is the most diversified in terms of risk?
 - a. \$100,000 worth of stock in ten companies in the same industry
 - b. \$100,000 worth of stock in ten companies in two industries
 - c. \$100,000 worth of stock in ten companies in five industries
 - d. \$100,000 worth of stock in one company that sells ten products

5. An illiquid asset:
 - a. cannot be sold.
 - b. provides the owner no return or income.
 - c. is a tangible asset.
 - d. cannot quickly be converted into cash with little loss of value.

6. Shares of stock represent:
 - a. shares of ownership in the issuing company.
 - b. a tax liability for the issuing company.
 - c. a tax deduction for the investor.
 - d. a debt of the issuing company to the investors who purchase the stock.

7. The aggregate supply curve shows the relationship between the:
 - a. price of oil and the quantity of aggregate output supplied.
 - b. aggregate price level and the quantity of aggregate output supplied.
 - c. price of money and the quantity of aggregate output supplied.
 - d. level of employment and the quantity of aggregate output supplied.

8. Which will shift the short-run aggregate supply curve to the right?
- economy-wide decrease in commodity prices
 - increase in nominal wages
 - decrease in productivity
 - decrease in government purchases of goods and services
-
9. A decrease in energy prices will:
- increase short-run aggregate supply.
 - decrease the quantity of aggregate output supplied in the short run.
 - decrease aggregate demand.
 - increase the quantity of aggregate output demanded.
-
10. An increase in the minimum wage would likely
- cause the economy to move up the short-run aggregate supply curve from left to right.
 - cause the economy to move down the short-run aggregate supply curve from right to left.
 - shift the short-run aggregate supply curve to the right.
 - shift the short-run aggregate supply curve to the left.
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11. The long-run aggregate supply curve is vertical because in the long run:
- technological progress outpaces raises in nominal wages.
 - all factors of production increase.
 - the price of labor is flexible, while the price of physical capital is fixed.
 - all prices are flexible.
-
12. In the short run, a positive demand shock:
- reduces aggregate output and increases the aggregate price level.
 - increases aggregate output and reduces the aggregate price level.
 - reduces aggregate output and the aggregate price level.
 - increases aggregate output and the aggregate price level.
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13. Stagflation may result from a(n):
- increase in the supply of money.
 - decrease in the supply of money.
 - increase in the price of imported oil.
 - decrease in the price of imported oil.
-
14. If membership falls in labor unions and unions become less popular, then production costs:
- will increase; SRAS will shift to the left, decreasing equilibrium GDP and increasing the aggregate price level.
 - will fall; there will be a downward movement along SRAS, equilibrium GDP will increase and aggregate price level will fall.
 - will not change; AD will shift to the right, increasing equilibrium GDP and aggregate price level.
 - will fall; SRAS will shift to the right, increasing equilibrium GDP and lowering the aggregate price level.

15. Which does economists view as investment spending?

- a. stocks
- b. bonds
- c. spending on physical capital
- d. mutual fund investing

16. Private savings is equal to:

- a. income after taxes minus consumption.
- b. taxes minus government spending on goods and services.
- c. the total amount of savings accounts plus stocks plus bonds owned by households.
- d. income plus investment.

17. A budget surplus exists when which occurs?

- a. Taxes are greater than government spending.
- b. Taxes are less than government spending.
- c. Taxes are less than government spending plus investment.
- d. Investment is less than government spending less taxes.

18. A budget deficit arises when

- a. consumption spending exceeds investment spending.
- b. there is government-generated savings.
- c. savings are equal to consumption.
- d. tax revenues fall short of government expenditures.

19. The price in the loanable funds market is the:

- a. rate of return of a project.
- b. price level.
- c. interest rate.
- d. consumer price index.

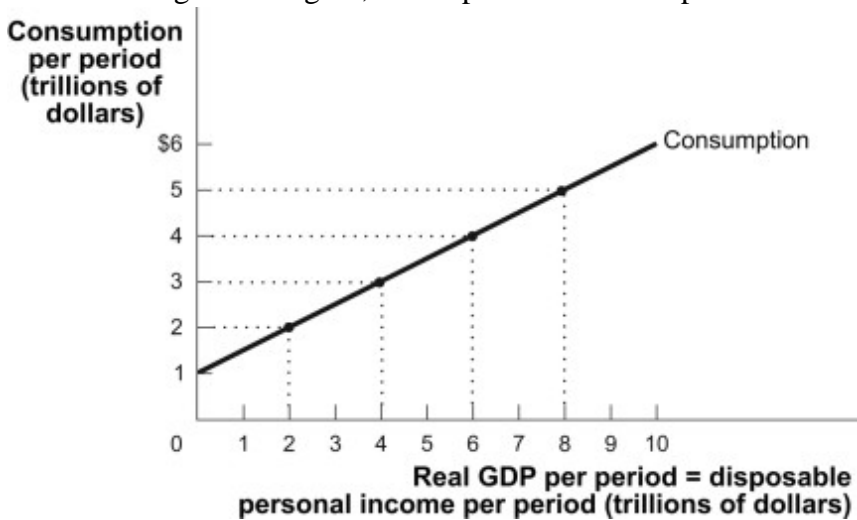
20. The present value of a sum of money to be received in the future is:

- a. determined by the relevant interest rate.
- b. more than the sum to be received today.
- c. determined by the slope of the demand for loanable funds.
- d. determined by the slope of the supply of loanable funds.

21. A shortage of loanable funds will result if the:

- a. demand for loanable funds increases.
- b. supply of loanable funds decreases.
- c. nominal interest rate is held above the equilibrium level.
- d. nominal interest rate is held below the equilibrium level.

22. According to the Figure, the slope of the consumption function is called the:



- a. marginal propensity to save.
- b. average propensity to consume.
- c. marginal propensity to consume.
- d. marginal consumption increment.

23. The most important factor affecting a household's consumer spending is:

- a. its expected future disposable income.
- b. its current disposable income.
- c. its wealth.
- d. the current interest rate.

24. If disposable income increases, then:

- a. the consumption function will shift upward.
- b. there will be a rightward movement along the consumption function.
- c. there will be a leftward movement along the consumption function.
- d. the consumption function will shift downward.

25. Which will shift the aggregate consumption function upward?

- a. Disposable income rises.
- b. Consumer expectations turn more pessimistic about the future.
- c. The stock market is strong and wealth is rising.
- d. Disposable income falls.

26. Income-expenditure equilibrium occurs when:

- a. GDP is equal to planned aggregate spending.
- b. GDP is equal to actual aggregate spending.
- c. GDP is equal to unplanned aggregate expenditure.
- d. consumption and investment are equal.

27. An increase in the price of imported oil leads to a:

- a. positive supply shock.
- b. negative supply shock.
- c. positive demand shock
- d. negative demand shock.

28. In the short run, wages and some prices are considered to be:

- a. sticky.
 - b. unpredictable.
 - c. extremely flexible.
 - d. irrelevant.
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29. If the economy is currently in a recessionary gap, real GDP will be _____ potential output.

- a. below
 - b. the same as
 - c. above
 - d. in equilibrium with
-

30. An inflationary gap is automatically closed by _____ wages that shift the

- a. falling; SRAS curve rightward
- b. falling; SRAS curve leftward
- c. rising; SRAS curve rightward
- d. rising; SRAS curve leftward

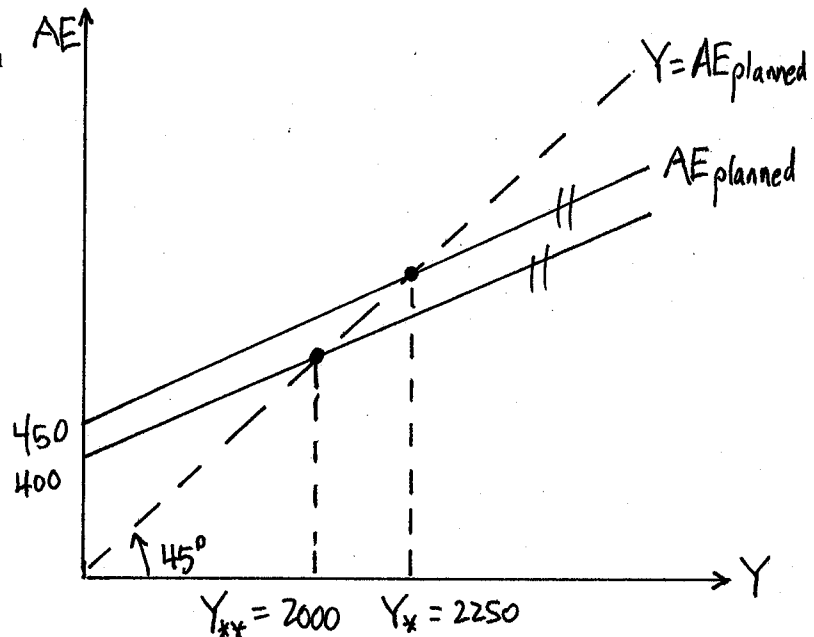
Section 2: Short Answer Questions (40 pts).

1. (20 pts) Income Expenditure Model and The Multiplier

a) (10 pts) Consider an economy where planned investment is 250, autonomous consumption is 200, and the MPC is 0.8. The economy is closed and there is no government. Find the equilibrium level of real GDP (Y) and show the equilibrium using the graphical version of the income-expenditure (Keynesian Cross) model.

SOLUTION:

- The equilibrium level of real GDP (Y) is given by the equation: $Y = AE_{planned} = C + I_{planned}$. After substitutions, the equilibrium condition is: $Y = (200 + 0.8Y) + 250$ or $Y_* = 2250$.
- The spending multiplier is $\frac{1}{1-MPC} = \frac{1}{1-0.8} = 5$.
- The Keynesian-Cross diagram at the right shows the equilibrium where the 45-degree line intersects the $AE_{planned}$ line. The $AE_{planned}$ line has an intercept of 450 and a slope equal to $MPC = 0.8$.



b) (10 pts) Consumers perceive an oncoming global recession and in response begin to save more now. This causes autonomous consumption to decrease to 150. Use the spending multiplier to find the new equilibrium and demonstrate the change in equilibrium graphically.

SOLUTION:

After the perceived global recession and autonomous consumption decrease, the $AE_{planned}$ line shifts down 50 in a parallel fashion. The new equilibrium level of real GDP (Y) is given by

$$Y_{**} = Y_* + \Delta C \times \text{multiplier} = 2250 + (-50 \times 5) = 2250 - 250 = 2000.$$

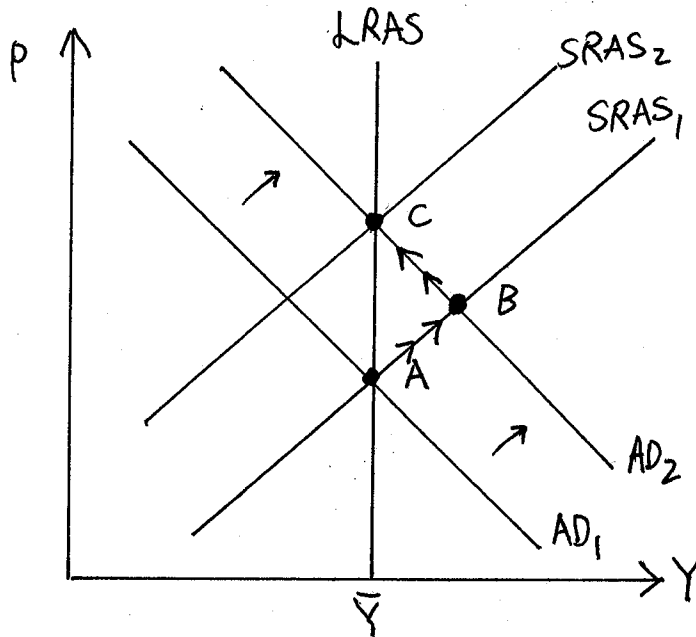
See the diagram in part (a).

2. (20 pts) AD-SRAS-LRAS Model and Macroeconomic Shocks

a) (10 pts) After the election of President Trump, the U.S. stock market posted consistent and impressive gains. The climbing stock market is likely to make consumers feel wealthier and affect household spending. Assume the economy starts in a long-run equilibrium; then use an AD-SRAS-LRAS model to show graphically the short-run and long-run transition of the economy. Label the initial equilibrium point A, the short-run equilibrium point B, and the long-run equilibrium point C. Explain the transition from points A to B to C in a short paragraph assuming that there is no government intervention.

SOLUTION:

The stock market increase will shift the AD to the right. The economy transitions in the short run from point A to point B, such that GDP and the price level both increase. The macro-economy is booming. The boom causes upward pressure on wages and salaries, raising the production costs of firms. This eventually shifts the SRAS up and to the left until the economy ends up at point C, returning to its potential output. See the graph at the right.



b) (10 pts) Now assume that while the economy is at short-run equilibrium point B, the Federal Reserve begins to aggressively raise interest rates to slow planned investment. Use the AD-SRAS-LRAS model above to discuss how the Federal Reserve policy will impact the transition path, real GDP, inflation, and the unemployment rate.

SOLUTION:

When the Federal Reserve (Fed) begins to raise interest rates and businesses cut back on planned investment, the AD curve shifts back towards its original position. If the Fed is sufficiently aggressive in how fast and high they raise interest rates, the AD curve will shift back to its original position and the economy will experience a very short boom with little inflation. If the interest rate hike is either slow or minimal, then the boom will continue with higher real GDP and inflation. Unemployment should also fall according to Okun's Law. The boom will continue until the Fed raises interest rates enough or until wage/salary pressure is sufficiently high that the SRAS shifts up and the economy returns to a long-run equilibrium at point C.