

Econ 3560 / 5040

INTERMEDIATE MACROECONOMIC THEORY / MACROECONOMIC ANALYSIS

FINAL EXAM

Name

(Last)

(First)

Signature

Instructions

- The exam consists of 20 multiple-choice questions (Part 1) and 6 graphical and short-answer questions (Part 2).
- You may use a calculator.
- If you get caught cheating, you will receive a failing grade and be reported to a proper authority.

(Part 1) Multiple-Choice Questions (30 points)

1. According to the real business cycle theory, fluctuations in output and employment are the result of:
 - A) monetary policy.
 - B) sticky wages and prices.
 - C) shocks to the economy's ability to produce goods and services.
 - D) market imperfections.

2. A key element of real business cycle theory is that:
 - A) as the wage gets higher, workers choose more leisure.
 - B) labor supply does not depend on the wage.
 - C) as the wage gets higher, workers choose less leisure.
 - D) there is no wage so low that workers will not choose to work.

3. According to the quantity equation, if velocity is not assumed to be constant and the money supply is held constant, then an increase in the interest rate _____ velocity and _____ income.
 - A) increases; increases
 - B) increases; decreases
 - C) decreases; decreases
 - D) decreases; increases

4. According to the theory of liquidity preference, tightening the money supply will _____ nominal interest rates in the short run, and according to the Fisher effect, tightening the money supply will _____ nominal interest rates in the long run.
 - A) increase; increase
 - B) increase; decrease
 - C) decrease; decrease
 - D) decrease; increase

5. If the government wants to raise investment but keep output constant, it should:
 - A) adopt a loose monetary policy but keep fiscal policy unchanged.
 - B) adopt a loose monetary policy and a loose fiscal policy.
 - C) adopt a loose monetary policy and a tight fiscal policy.
 - D) keep monetary policy unchanged but adopt a tight fiscal policy.

6. If investment does not depend on the interest rate, then the _____ curve is _____.
- A) IS; vertical
 - B) IS; horizontal
 - C) LM; vertical
 - D) LM; horizontal
7. If taxes are raised, but the Fed prevents income from falling by raising the money supply, then, in the short run:
- A) both consumption and investment remain unchanged.
 - B) consumption rises but investment falls.
 - C) investment rises but consumption falls.
 - D) both consumption and investment fall.
8. If money demand does not depend on the interest rate, then the LM curve is _____ and _____ policy has no effect on output.
- A) horizontal; fiscal
 - B) vertical; fiscal
 - C) horizontal; monetary
 - D) vertical; monetary
9. If the short-run IS-LM equilibrium occurs at a level of income below the natural rate of output, then in the long run the price level will _____, shifting the _____ curve to the right and returning output to the natural rate.
- A) increase; IS
 - B) decrease; IS
 - C) increase; LM
 - D) decrease; LM
10. A trade deficit can be financed in all of the following methods except by:
- A) borrowing from foreigners.
 - B) selling domestic assets to foreigners.
 - C) selling foreign assets owned by domestic residents to foreigners.
 - D) borrowing from domestic lenders.
11. The currencies of countries with high inflation rates relative to the United States have tended to _____, and the currencies of countries with low inflation rates relative to the United States have tended to _____.
- A) appreciate; appreciate
 - B) appreciate; depreciate
 - C) depreciate; depreciate
 - D) depreciate; appreciate

12. According to the Mundell-Fleming model, under fixed exchange rates expansionary fiscal policy causes income to _____, and under flexible exchange rates expansionary fiscal policy causes income to _____.
- A) increase; increase
 - B) increase; remain unchanged
 - C) remain unchanged; remain unchanged
 - D) remain unchanged; increase
13. One argument favoring a fixed-exchange-rate system is that it:
- A) allows monetary policy to be used for stabilizing output and prices.
 - B) reduces exchange-rate uncertainty, thereby promoting more international trade.
 - C) leads to excessive growth of the money supply.
 - D) requires no actions on the part of the central bank to implement.
14. According to the sticky-price model, other things being equal, the greater the proportion of firms that follow the sticky-price rule, the _____ the _____ in output in response to an unexpected price increase.
- A) greater; increase
 - B) smaller; increase
 - C) greater; decrease
 - D) smaller; decrease
15. If the short-run aggregate supply curve is steep, the Phillips curve will be:
- A) flat.
 - B) steep.
 - C) backward-bending.
 - D) unrelated to the slope of the short-run aggregate supply curve.
16. If price changes are staggered and the money supply is increased, firms will want to make _____ price changes in order to avoid large changes in _____.
- A) small; menu costs
 - B) substantial; menu costs
 - C) small; relative prices
 - D) substantial; relative prices

17. John Maynard Keynes believed that:
- A) consumers would save more if the interest rate was high.
 - B) consumers would consume more if the interest rate was high.
 - C) if consumers consume less, the interest rate will be high.
 - D) the interest rate is relatively unimportant to the consumption decision.
18. Milton Friedman argued that, over long periods of time, the average propensity to consume is constant because, over these long periods of time:
- A) the variation in income is dominated by the transitory component
 - B) the variation in income is dominated by the permanent component.
 - C) it is the behavior of the average consumer that dominates.
 - D) income averages out to a constant.
19. Suppose that the government is considering two tax cuts, one temporary and one permanent. Each cut will give each taxpayer the same amount in the first year. The permanent-income hypothesis predicts that:
- A) each tax cut will lead to the same amount of consumption in the first year.
 - B) the temporary tax cut will lead to more extra consumption in the first year.
 - C) the permanent tax cut will lead to more extra consumption in the first year.
 - D) the temporary tax cut will lead to no extra consumption at all in the first year.
20. In the United States, the money supply is determined:
- A) only by the Fed.
 - B) only by the behavior of individuals who hold money and of banks in which money is held.
 - C) jointly by the Fed and by the behavior of individuals who hold money and of banks in which money is held.
 - D) according to a constant-growth-rate rule.

(Part 2) Graphical/Numerical/Short-Answer Questions

1. Classical model in the Long Run (10 points)

During early 1980s, President Reagan proposed to increase defense spending and decrease taxes. Use the Classical Model to answer the following questions

(A) (5 points) Use the **closed** economy model and illustrate graphically how the model predicts national saving(S), investment(I), real interest rate(r), net export(NX), and real exchange rate(ϵ) in the long run

(B) (5 points) Use the small **open** economy model and illustrate graphically how the model predicts national saving(S), investment(I), real interest rate(r), net export(NX), and real exchange rate(ϵ) in the long run

2. A Small Open Economy (12 points)

- (A) (6 points) Suppose that governments around the world begin to engage in expansionary fiscal policy (run large budget deficits) in order to stimulate economic activity in their countries. Use the **short-run** model of a small open economy (the Mundell-Fleming model) to illustrate graphically the impact of this expansionary fiscal policy by foreigners on the nominal exchange rate and level of output in the U.S. with a **floating-exchange-rate system**
- (B) (6 points) To increase tax revenue, the U.S. government in 1932 imposed a two-cent tax on checks written on deposits in bank accounts. (In today's dollars, this tax was about 25 cents per checks). Use the **short-run** model of a small open economy (the Mundell-Fleming model) under a **floating-exchange-rate system** to illustrate graphically the impact of this tax on the economy. Was the check tax a good policy to implement in the middle of the Great Depression? Explain [Hint: How do you think the check tax affected the currency-deposit ratio?]

3. IS-LM Model (15 points)

Assume the following model of the closed economy, with the price level fixed at 1.0:

$$C = 0.5(Y - T) \quad T = 1,000$$

$$I = 1,500 - 250r \quad G = 1,500$$

$$M^d/P = 0.5Y - 500r$$

$$M^s = 1,000$$

(A) Write a numerical formula for the IS curve, showing Y as a function of r alone. (Hint: Substitute out C , I , G , and T .)
(2 points)

(B) Write a numerical formula for the LM curve, showing Y as a function of r alone. (Hint: Substitute out M/P .)
(2 points)

(C) What are the short-run equilibrium values of Y , r , and national saving? **(3 points)**

(D) You are the chief economic adviser in this hypothetical economy. Do you believe that fiscal policy is more potent than monetary policy? Briefly discuss. (Hint: Use the slope of IS and LM curve in (A) and (B)) **(3 points)**

(E) What are the short-run equilibrium values of Y and r when $P = 4.0$? **(2 points)**

(F) Write the numerical aggregate demand (AD) curve for this economy, expressing Y as a function of P **(3 points)**

4. Aggregate Demand (12 points)

Suppose that the central bank strictly followed a rule of keeping the real interest rate at 3% per year. That rate happens to be the real interest rate consistent with the economy's initial equilibrium. Answer the following questions using the IS-LM model

- (A) **(6 points)** Assume that the economy is hit by a negative money demand shock only. Under the central bank's rule, how will the money supply respond to a money demand shock? Will the rule make aggregate demand more stable or less stable than it would be if the money supply were constant?
- (B) **(6 points)** Assume that the economy is hit by a positive IS shock only. Under the central bank's rule, how will the money supply behave? Will the interest-rate rule make aggregate demand more stable or less stable than it would be if the money supply were constant?

5. AD-AS Model and Phillips Curve (11 points)

Assume that an economy is initially operating at the natural rate of output.

(A) (6 points) Use the model of aggregate demand and aggregate supply (***using the upward-sloping short-run aggregate supply curve***) to illustrate graphically the long-run effects on price and output of an ***unexpected expansionary*** monetary policy change

(B) (5 points) Use the Phillips curve to illustrate *graphically* how the inflation rate and unemployment rate change in the short run to an ***anticipated expansionary monetary policy***

6. Consumption (10 points)

- (A) **(3 points)** What were Keynes's three conjectures about the consumption function?
- (B) **(3 points)** What is the consumption puzzle?
- (C) **(4 points)** How does the Life-Cycle Hypothesis resolve the puzzle?