

Prep Questions for Exam #3
ECON 4673
Dr. Keen

1. Briefly discuss two ways the Federal Reserve is independent from the President and Congress. Despite the Fed's high degree of independence, how can the President and Congress influence the Fed?
2. Compare and contrast the Federal Reserve and the European Central Bank? How are the National Central Banks different from the Federal Reserve Banks? Which central bank is more independent and why?
3. Suppose the Federal Reserve purchases \$35 million in bonds. If the currency-to-deposit ratio is 0.20 and the reserves-to-deposit ratio is 0.15, then how much does the money supply change?
4. State the assets and liabilities of the Fed. Use a T-account to show how the Fed's balance sheet changes when it purchases \$2.5 million in bonds. Use a T-account to show how the Fed's balance sheet changes when it provides a \$1 million loan of reserves to First National Bank?
5. Name the four ways the money supply can increase? For each way, does the Fed, banks, or the public make the decision?
6. Use the information below to answer the following questions:

Currency	\$1,750
Reserves-to-checking deposit ratio	0.25
Money supply	\$8,750

- a. Calculate checkable deposits.
 - b. Compute total reserves.
 - c. Determine the monetary base.
 - d. Calculate the money multiplier.
7. Name and briefly describe the three conventional tools of monetary policy. Which one is the primary tool of monetary policy? How does the interest rate on reserves enable the Fed to raise the federal funds rate without selling a large amount of assets?
 8. Briefly explain the three general types of unconventional monetary policy that were discussed in class.
 9. What is the time-inconsistency problem? Describe the specific time-inconsistency problem that central banks face.

10. For each part below, initially assume the federal funds rate trades at 1.5%, the interest rate paid on reserves is set to 1.0%, and the discount rate equals 2.0%. Show how each of the following monetary policy changes impacts the market for reserves. In your answer, include a graph for reserves that shows the market before and after each change. Be sure to properly show and label any kinks in the demand and supply curves for reserves.
 - a. The Fed increases nonborrowed reserves until the federal funds rate trades at 1.25%.
 - b. The Fed lowers the discount rate to 1.75%.
 - c. The Fed raises the interest rate on reserves to 1.25%.
11. What are differences between a hierarchical mandate and a dual mandate. Which type of mandate do the Federal Reserve and European Central Bank have?
12. What are the two policy instruments of a central bank? How does targeting each instrument affect the market for reserves.
13. Define and briefly explain the Taylor Rule.
14. Suppose nominal GDP is \$16 trillion, the money supply is \$6 trillion, and the inflation rate is 10%. Calculate the velocity of money.
15. According to the classical quantity theory of money, if money velocity is constant, the output growth rate is 2.5%, and the money supply growth rate is 6%, then how much is the inflation rate?
16. Briefly explain how the classical quantity theory of money and the Keynesian theory of money demand differ in their assumptions regarding the impact of the nominal interest rate on the velocity of money. Are the short-run and long-run empirical evidence consistent with the classical quantity theory of money or the Keynesian theory of money demand?
17. State the two ways a government can finance a budget deficit. What is meant when it is said the government is “monetizing the debt.” What is the most noticeable economic effect when the government “monetizes the debt.”
18. Name and briefly discuss the six factors that impact the demand for money.
19. What are the six factors that shift the IS and AD curves to the right.
20. What are the two factors that shift the MP curve down and the AD curve to the right?
21. Use an IS curve graph to show the short-run impact of an increase in the real interest rate in the goods market. Include a brief explanation in your answer and be sure to properly label your graph.
22. Assume monetary policy utilizes the following rule: $R = \bar{r} + \pi + \theta \times (\pi - \pi^*)$. Use the Fischer equation to derive the monetary policy curve equation and then graph that curve. What is the Taylor Principle and how does it relate the inflation rate to the real interest rate?

23. Use an AD curve graph to show the short-run impact of an increase in the inflation rate on output. (Focus on the demand side of the market.) Include a brief explanation in your answer and be sure to properly label your graph.

24. Suppose the following equations describe the economy:

$$\begin{aligned}Y &= C + I + G + NX, \\C &= 210 + 0.8 \times (Y - 700), \\I &= 725 - 4,000 \times r, \\G &= 650, \\NX &= 95 - 6,000 \times r, \\R &= 0.025 + \pi + 0.5 \times (\pi - 0.02), \\R &= r + \pi, \\\pi &= 0.02 + 0.4 \times (Y - 4,000) / 4,000,\end{aligned}$$

where Y is output, C is consumption, I is investment, G is government spending, NX is net exports, r is the real interest rate, R is the nominal interest rate, and π is the inflation rate.

- Derive the equation for the IS curve.
- Derive the equation for the monetary policy curve.
- Derive the equation for the aggregate demand curve.
- Calculate equilibrium output, inflation rate, real interest rate, and nominal interest rate.
- Calculate equilibrium level of consumption, investment, and net exports.

25. Graph the short-run and long-run aggregate supply curves. Briefly explain why each curve has the shape it does.

26. Use an AD/AS curve graph to explain how each of the following impacts output and inflation in the short run and the long run.

- An increase in autonomous consumption.
- An increase in financial frictions.
- An increase in the autonomous real interest rate.
- An increase in the central bank's inflation target.
- An increase in the expected inflation rate.
- An increase in potential output.