



**BIG PICTURE IDEAS**

- #1. The financial sector focuses on financial \_\_\_\_\_, like money and bonds, and the role of institutions that bring together borrowers and lenders, like \_\_\_\_\_.
- #2. A bank balance sheet reports the \_\_\_\_\_ and \_\_\_\_\_ of an individual bank.
- #3. Central banks use \_\_\_\_\_ policy to adjust the money supply and \_\_\_\_\_ rates to achieve full employment and price stability.
- #4. There are three traditional tools of monetary policy: the \_\_\_\_\_ requirement, \_\_\_\_\_ rate, and open \_\_\_\_\_ operations.
- #5. The effectiveness of traditional monetary policy depends on the amount of \_\_\_\_\_ in the banking system.

**■ Topic 4.1- Financial Assets**

- 1. Identify the vocab term given each definition:
  - \_\_\_\_\_ The ease in which an asset can be converted into a medium of exchange.
  - \_\_\_\_\_ Interest-bearing assets often issued by businesses or the government.
  - \_\_\_\_\_ Funds deposited in a bank account that can be withdrawn without any penalty.
  - \_\_\_\_\_ The amount charged by a lender to a borrower for the use of money.
- 2. Why are interest rates and bond prices inversely related?

**■ Topic 4.2- Nominal v. Real Interest Rates**

- 3. Equation for the real interest rate.
- 4. Fill in the chart:
 

Nominal Interest Rate	Real Interest rate	Actual Inflation
7%	4%	
4%	-1%	
6%		-2%
	-3%	5%
- 3. When actual inflation is greater than expected inflation, the real interest rate will \_\_\_\_\_.

**■ Topic 4.3- Definition, Measurement, and Functions of Money**

- 5. There are three functions of money: medium of \_\_\_\_\_, store of \_\_\_\_\_, unit of account.
- 6. Why are assets like cash and checkable deposits considered money but bonds and real estate are not?
- 7. What is the M1 money supply and M2 money supply?

**■ Topic 4.4- Banking and the Expansion of the Money Supply**

- 8. \_\_\_\_\_ reserve banking is the idea that banks hold a fraction of customers' deposits and lend the remaining funds out.
- 9. Explain the difference between required reserves and excess reserves.
- 10. What is the equation for the money multiplier?
- 11. Will the money multiplier increase or decrease if banks hold more excess reserves than expected?



# MACROECONOMICS UNIT 4

## Financial Sector



### ■ Topic 4.4- Banking and the Expansion of the Money Supply (continued)

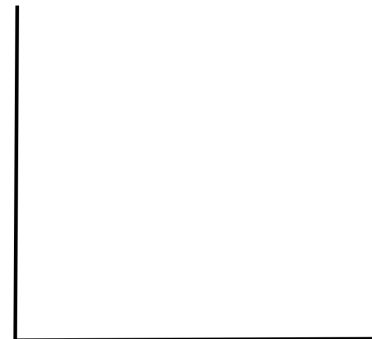
12.  are something of value that are owned and  are something that are owed that must be paid back.  
Use the bank balance sheet for Bank X to complete the following. Show your work.

Assets		Liabilities	
Total reserves	\$5,000	Demand Deposits	\$20,000
Loans	\$15,000	Owner's Equity	\$10,000
Treasury bonds	\$10,000		

13. If the required reserve ratio is 10%, what are the current required reserves and excess reserves for Bank X?
14. What is the maximum possible increase in the money supply if Bank X loans out all their excess reserves?
15. Assume a customer deposits \$5,000 into Bank X. Would the money supply initially increase, decrease, or stay the same? Explain.
16. After the \$5,000 deposit, calculate the new total demand deposits and excess reserves.
17. What is the maximum possible increase in the money supply from only the \$5000 deposit?

### ■ Topic 4.5- The Money Market

18. The money market graph shows the supply and demand for money and how it sets the equilibrium  interest rate.
19. What is the difference between transaction demand for money and asset demand for money?
20. Explain why the supply for money is vertical.
21. Draw the demand and supply of money and label the equilibrium nominal interest rate  $ir_1$ .



### ■ Topic 4.6- Monetary Policy

22. What is the difference between monetary policy and fiscal policy?
23. What is the difference between the discount rate and the federal funds rate?

24. Identify if each of the following will increase or decrease (↑ or ↓).

Central Bank Action	Money Supply	Interest Rates	Investment
Increase the reserve requirement			
Central bank buys bonds			
Decrease the reserve requirement			
Increase the discount rate			
Central bank sells bonds			
Decrease the discount rate			



# MACROECONOMICS UNIT 4

## Financial Sector

### ■ Topic 4.6- Monetary Policy (continued)

25. What is the difference between the money supply and the monetary base?

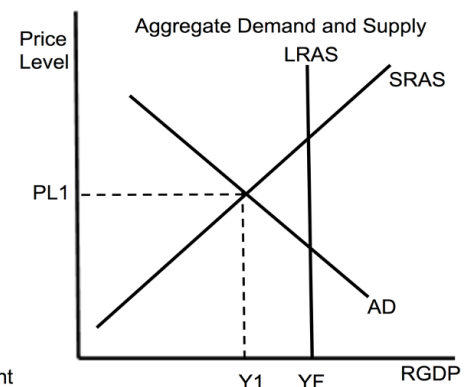
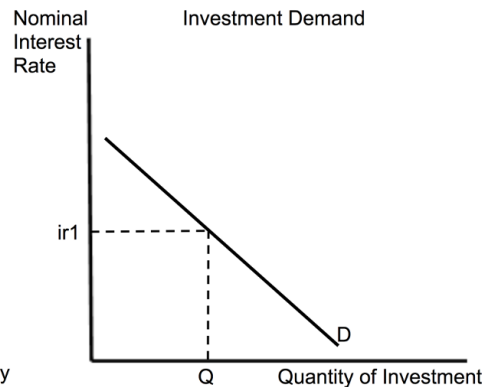
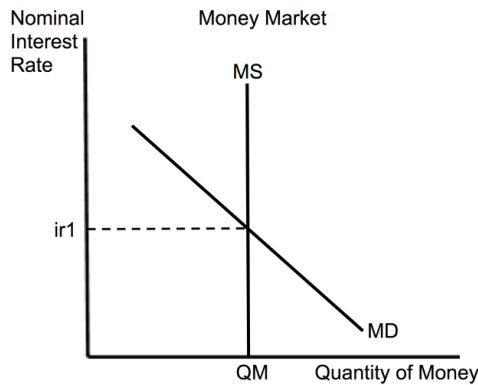
26. Do open market operations initially change the money supply, the monetary base, or both? Explain.

27. Of the three traditional tools of monetary policy, the one most often used by central banks is  .

28. Use the money multiplier to complete the chart:

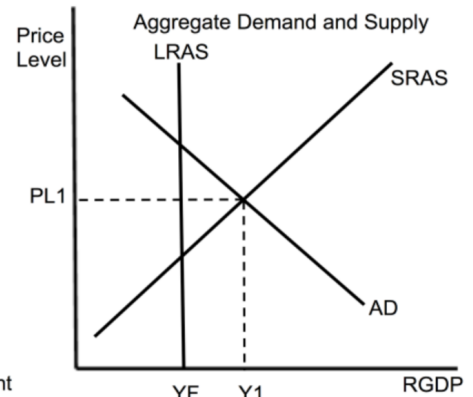
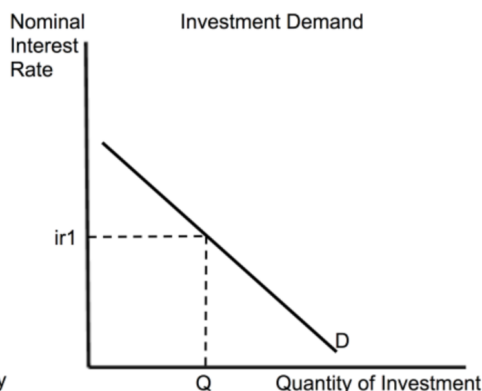
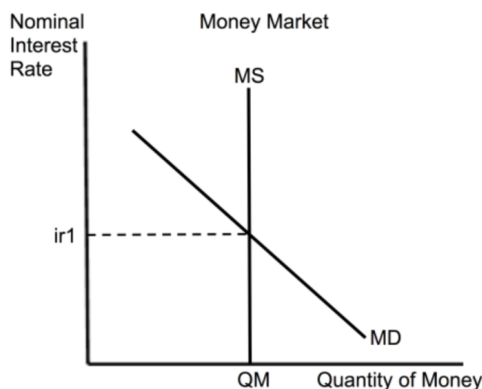
Monetary Policy	Initial Change	Reserve Req.	Maximum Change
Fed Buys Bonds	\$10 billion		↑\$50 billion
Fed Sells Bonds	\$30 billion	.5	
↓ Res. Req.		.1	↑\$100 billion
↑ Res. Req.	\$6 billion	.2	
↑ Dis. Rate	\$20 billion		↓\$80 billion
↓ Dis. Rate	\$4 billion	.1	

29. Show what happens on each graph below when the central bank uses monetary policy to close the output gap.



30. Use arrows (↑ or ↓) to describe the process above: Money Supply   → ir   → I and C   → AD   → Full Employment

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True or False

33. An increase in the money supply will cause aggregate demand to decrease in the short-run.

34. The federal funds rate is the interest rate that commercial banks charge each other.

35. Monetary policy can be implemented faster than discretionary fiscal policy.

36. When commercial banks buy bonds from the central bank the money supply increases.



■ **Topic 4.6- Monetary Policy (continued)**

37. The most effective method of monetary policy depends on if the banking system has \_\_\_\_\_ reserves or \_\_\_\_\_ reserves.

38. Explain why open market operations are less effective when there are ample reserves.

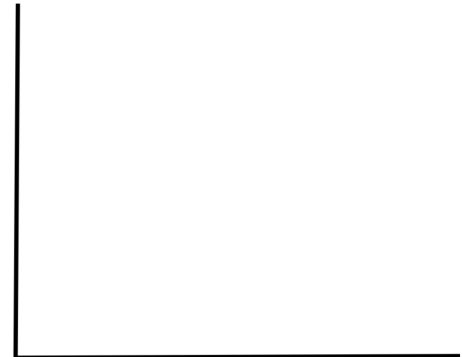
39. Draw the reserve market currently showing ample reserves. Label the equilibrium policy rate  $PR_1$  and the equilibrium quantity  $Q_1$ .

40. What is Interest on Reserves (IOR)?

41. Show what happens on the graph to the left when the central bank decreases the interest on reserves.

42. How will the change on the graph affect aggregate demand in the short run? Explain.

Reserved Market



■ **Topic 4.7- The Loanable Funds Market**

43. The loanable funds market brings together \_\_\_\_\_ and \_\_\_\_\_, which are also called savers.

44. Identify the shifters of the demand for loanable funds.

45. Identify the shifters of the supply for loanable funds.

46. Explain why the loanable funds market involves real interest rates rather than nominal interest rates.

47. Draw the loanable funds market and label the equilibrium real interest rate  $R_1$ .



48. Will an increase in government borrowing cause the real interest rate to increase or decrease? Explain.

49. What will a decrease in business investment do to the real interest rate and the quantity of loans? Explain.

50. What will an increase in private savings do to the real interest rate and the quantity of physical capital? Explain.

True or False:

51. Of all the economics teachers on YouTube that are 6'5" and live in San Diego, Jacob Clifford is the best.

52. Macroeconomics is super interesting and I'm excited to learn the concepts in the last two units.