

# MACROECONOMICS UNIT 4

## PRACTICE SHEET



**Part 1: Nominal and Real Interest Rates-** Complete the following. Show your work.

1. Assume the nominal interest rate is 7% and inflation is 3%. What is the real interest rate?  $4\% = 7\% - 3\%$
2. Assume the real interest rate is -2% and the inflation rate is 5%. What is the nominal interest rate?  $3\% = -2\% + 5\%$
3. Assume the real interest rate is 4% and the nominal interest rate is 7%. What is the expected rate of inflation?  $3\% = 4\% - 7\%$

**Part 2: Bank Balance Sheets-** Use the balance sheet to complete the following.

Assets		Liabilities	
Required reserves	\$2,000	Demand deposits	\$20,000
Excess reserves	\$0	Owner's equity	\$5,000
Customer loans	\$7,000		
Government securities (bonds)	?		

4. Calculate the total amount of government securities this bank owns. **\$16,000. Total assets and total liabilities must equal**
5. Calculate the required reserve ratio. **Reserve Ratio is .1 or 10%. The bank has \$2,000 of required reserves which is 10% of the \$20,000 of deposits.**
6. Suppose that an individual deposits \$10,000 of cash into her checking account. What is the immediate effect of the cash deposit on the M1 measure of the money supply? **No change. Cash and money in checking accounts are both part of M1 money supply.**
7. What is the dollar value of the bank's required reserves after the \$10,000 cash deposit? **\$3,000. This is the original \$2,000 plus the additional \$1000 that must be placed in required reserves.**
8. What is the dollar value of the bank's excess reserves immediately after the \$10,000 cash deposit? **\$9,000. The bank can loan out 90% of the \$10,000 deposit.**
9. Calculate the maximum increase in the money supply as a result of the \$10,000 deposit. Show your work. **\$90,000 increase = Initial loan (\$9,000) x money multiplier (10). Only the amount that is initially lent out gets multiplied.**
10. Assume instead that the government buys \$10,000 of securities. What is the immediate effect on the M1 measure of the money supply? **No change. The purchase initially increases the monetary base, not the money supply. The money supply increases only after the money is lent out.**
11. Calculate the maximum increase in the money supply when the government buys \$10,000 of securities. **\$100,000 increase = Initial loan (\$10,000) x money multiplier (10)**
12. Will the demand deposits initially increase, decrease, or stay the same when the government buys securities? **Same. Demand deposits don't change since people didn't deposit more money.**

**Part 3: More Practice-** Below is the balance sheet for Clifford Bank. Identify the following immediately after Cindy withdraws \$2,000 of cash from the bank.

Assets		Liabilities	
Required reserves	\$1,000	Demand deposits	\$10,000
Excess reserves	\$2,000	Owner's equity	\$3,000
Customer loans	?		
Government bonds	\$8,000		

13. The reserve ratio **Reserve Ratio is .1 or 10%**
14. Customer loans **\$2,000**
15. Demand deposits **\$8,000**
16. Required reserves **\$800**
17. Excess reserves **\$200**

**Part 4: Even More Practice-** Below is the balance sheet for D&D Bank. Identify the change in the following immediately after David deposits \$5,000 of cash into the bank.

Assets		Liabilities	
Required reserves	\$1,000	Demand deposits	\$20,000
Excess reserves	\$0	Owner's equity	\$0
Customer loans	\$19,000		
Government bonds	\$0		

18. The reserve ratio **Reserve Ratio is .05 or 5%**
19. Demand deposits **\$5,000 increase**
20. Customer loans **No change**
21. Required reserves **\$250 increase**
22. Excess reserves **\$4750 increase**

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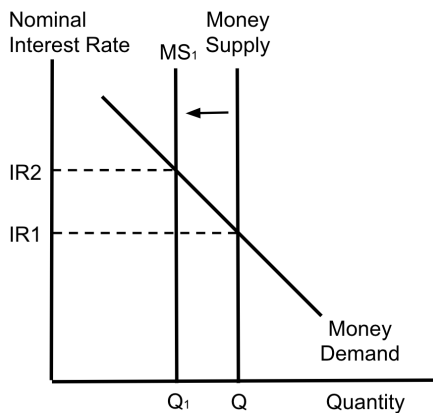
**Part 5: Policy Overview-** Identify if each of the following would increase (↑), decrease (↓), or not change (NC) to achieve each type of policy. Lastly, identify how each policy will affect AD or SRAS.

	Gov Spend. ↑ or ↓ or NC	Taxes ↑ or ↓ or NC	Reserve Req. ↑ or ↓ or NC	Discount Rate ↑ or ↓ or NC	Central Bank Buys or Sells Bonds	AD ↑ or ↓ or NC	SRAS ↑ or ↓ or NC
23. Contractionary Fiscal Policy	↓	↑	NC	NC	NC	↓	NC
24. Expansionary Monetary Policy	NC	NC	↓	↓	Buy bonds	↑	NC
25. Self-Adjustment (positive output gap)	NC	NC	NC	NC	NC	NC	↓
26. Contractionary Monetary Policy	NC	NC	↑	↑	Sell bonds	↓	NC
27. Self-Adjustment (negative output gap)	NC	NC	NC	NC	NC	NC	↑
28. Expansionary Fiscal Policy	↑	↓	NC	NC	NC	↑	NC

**Part 6: Monetary Policy-** Complete the following.

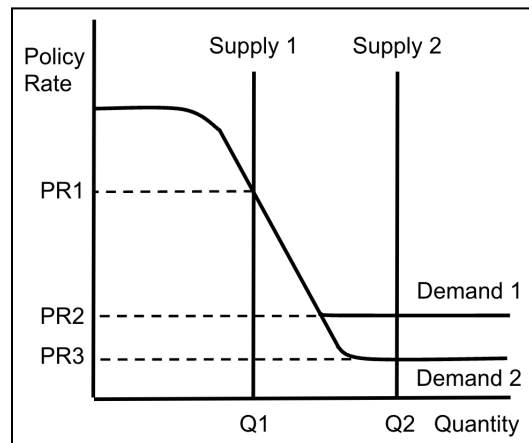
29. Identify two ways monetary policy is different from fiscal policy. **Monetary policy is done by the central bank. Monetary policy focuses on changing the money supply and influencing interest rates.**
30. Explain how an increase in the money supply affects aggregate demand in the short run. **An increase in the money supply will decrease the nominal interest rate which leads to more borrowing, increasing investment and consumer spending. The increase in investment and consumption increases aggregate demand in the short run.**

**Part 7: The Money Market-** Draw the money market graph and label the equilibrium nominal interest rate IR1.



31. Draw the effect of contractionary monetary policy. Label the new equilibrium nominal interest rate IR2.
32. What will happen to investment as a result of this change? **Investment will decrease since interest rates increase.**

**Part 8: The Reserve Market-** Use the reserve market graph to complete the following.



33. Would open market operations be more effective when reserves are at Q<sub>1</sub> or when reserves are at Q<sub>2</sub>? **Q<sub>1</sub>. At Q<sub>1</sub> the banking system has limited reserves and OMO will change the policy rate**
34. Identify a specific policy that would cause Demand 1 to shift to Demand 2. **A decrease in the interest rate the central bank pays commercial banks for reserves.**

**Part 9: Loanable Funds-** Identify how each will affect the demand or supply of loanable funds and the real interest rate.

	Demand or Supply ↑ or ↓	Real Interest Rate ↑ or ↓
35. To decrease unemployment, the government deficit spends	Demand ↑	Real interest rate ↑
36. Political unrest causes foreigners to take money out of the economy	Supply ↓	Real interest rate ↑
37. Businesses expect lower sales and worse economic conditions	Demand ↓	Real interest rate ↓
38. In anticipation of longer life expectancy, people begin to save more	Supply ↑	Real interest rate ↓