



Macroeconomics Unit 4 Study Guide

Financial Sector

Topic 4.1- Financial Assets ▶		Topic 4.2- Nominal v. Real Interest Rates ▶																					
<p>1. What is the financial sector? The part of the economy made up of institutions (like banks) that bring together lenders and borrowers</p> <p>2. Define liquidity. The ease in which an asset can be converted into a medium of exchange. Cash is liquid buy a home is not very liquid.</p> <p>3. What is a bond? A bond is an interest-bearing asset often issued by businesses or the government. Bonds are also called “securities”.</p> <p>4. Why are interest rates and bond prices inversely related? People prefer higher interest rates because they give a greater rate of return. If rates for new bonds go up, people would prefer them to previously issued bonds. This causes the price of previously issued bonds to decrease.</p>		<p>1. Equation for the nominal interest rate. Real interest rate + expected inflation</p> <p>2. Equation for the real interest rate. Nominal interest rate - expected inflation</p> <p><i>Fill in the chart:</i></p> <table border="1"> <thead> <tr> <th>Nominal interest rate</th> <th>Real interest rate</th> <th>Actual inflation</th> </tr> </thead> <tbody> <tr> <td>7%</td> <td>4%</td> <td>3%</td> </tr> <tr> <td>4%</td> <td>-1%</td> <td>5%</td> </tr> <tr> <td>6%</td> <td>8%</td> <td>-2%</td> </tr> <tr> <td>2%</td> <td>-3%</td> <td>5%</td> </tr> </tbody> </table> <p>3. Will the real interest rate increase, decrease, or stay the same when actual inflation is greater than expected inflation? Decrease</p>		Nominal interest rate	Real interest rate	Actual inflation	7%	4%	3%	4%	-1%	5%	6%	8%	-2%	2%	-3%	5%					
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Topic 4.3- Definition, Measurement, and Functions of Money ▶																							
<p>1. What are the three functions of money? Medium of exchange Unit of account Store of value</p>		<p>2. Why are assets like cash and checkable deposits considered money but bonds and real estate are not? Money only included assets that can be used as a medium of exchange. You can't buy things with bonds.</p> <p>3. What is the M1 money supply and M2 money supply? M1 money supply includes cash, currency, checkable deposits, and savings deposits. M2 money supply includes M1 and “near monies” like time deposits (certificates of deposits)</p>																					
Topic 4.4- Banking and the Expansion of the Money Supply ▶																							
<p>1. What is the difference between assets and liabilities? Assets are something owned and liabilities are something owed that must be paid back.</p> <p>2. Define demand deposits. Deposits by customers that can be withdrawn at any time (ex: checking accounts)</p> <p>3. Define required reserves. The amount of deposits that banks must legally hold. The amount they cannot loan out.</p> <p>4. Define fractional reserve banking. Process where banks hold a portion of deposits in reserve and loan the rest of the money out</p> <p>5. What is the equation for the money multiplier? 1/Reserve requirement</p>		<p><i>Use the bank balance sheet to answer the questions:</i></p> <table border="1"> <thead> <tr> <th colspan="2">Assets</th> <th colspan="2">Liabilities</th> </tr> </thead> <tbody> <tr> <td>Total Reserves</td> <td>\$5,000</td> <td>Demand Deposits</td> <td>\$20,000</td> </tr> <tr> <td>Loans</td> <td>\$15,000</td> <td>Owner's Equity</td> <td>\$10,000</td> </tr> <tr> <td>Treasury Bonds</td> <td>\$10,000</td> <td></td> <td></td> </tr> <tr> <td>Total</td> <td>\$30,000</td> <td>Total</td> <td>\$30,000</td> </tr> </tbody> </table> <p>6. If the reserve requirement is 10%, how much is this bank's required reserves and excess reserves? Required reserves = \$2,000 Excess reserves = \$3,000</p> <p>7. What is the maximum possible increase in the money supply if the bank loans out all their excess reserves? \$30,000 (\$3,000 x 10)</p> <p>8. Assume a customer deposits \$5,000 in this bank, would the money supply initially increase, decrease, or stay the same? Explain. Stay the same. The \$5000 is already part of the money supply</p> <p>9. After the \$5,000 deposit, calculate the new demand deposits and excess reserves? Demand deposits=\$25,000 Excess reserves = \$7,500</p> <p>10. What is the maximum possible increase in the money supply from the \$5000 deposit? \$45,000 (initial loan x multiplier)</p>		Assets		Liabilities		Total Reserves	\$5,000	Demand Deposits	\$20,000	Loans	\$15,000	Owner's Equity	\$10,000	Treasury Bonds	\$10,000			Total	\$30,000	Total	\$30,000
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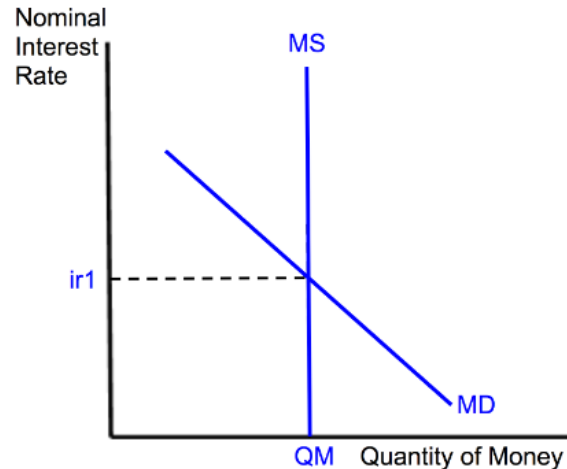
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Topic 4.5- The Money Market ▶

1. What is the transaction demand for money? **People demand money to make everyday purchases. This is not affected by the interest rate**
2. What is the asset demand for money? **When people demand money as a liquid asset because they prefer it to other non-liquid assets like bonds**
3. Why is the demand for money downward-sloping? **When interest rates are high people prefer less money since they can earn a higher rate of return by owning bonds instead.**
4. Why is the supply for money vertical? **The money supply is set by the central bank and is unrelated to the nominal interest rate.**

5. Draw the demand and supply of money and label the equilibrium nominal interest rate ir_1 .



6. What are the shifters of money demand (MD)?
Changes in price level- Inflation requires consumers to hold more cash for financial transactions.
Changes income- Growth in the economy leads to an increase in the demand for money
Changes in taxation - Government policies such as changing the capital gains tax

7. What are the shifters of money supply (MS)?
Reserve ratio - the percent of deposits that banks must hold in reserve
Discount rate (DR)- the interest rate that the FED charges commercial banks
Open market operations (OMO)- when the FED buys or sells government bonds (securities)

Topic 4.6- Monetary Policy ▶

1. What is monetary policy? **Monetary policy is when a central bank manipulates the money supply to adjust interest rates and influence the overall economy**
2. An increase in the reserve requirement causes the money supply to ↓ and interest rates to ↑.
3. If the central bank sells bonds, the money supply will ↓, interest rates ↑, and investment ↓.
4. If the reserve requirement decreases, the money supply will ↑ and interest rates ↓.
5. If the central bank decreases the discount rate, the money supply will ↑ and interest rates ↓.
6. If the central bank buys bonds the money supply will ↑, interest rates ↓, and investment ↑.

7. Fill in the blanks below:

Monetary Policy	Initial Change	Res. Req	Maximum Change in M_s
Fed Buys Bonds	\$10 billion	.2	↑\$50 billion
Fed Sells Bonds	\$30 billion	.5	↓\$60 billion
↓ Res. Req.	\$10 billion	.1	↑\$100 billion
↑ Res. Req.	\$6 billion	.2	↓\$30 billion
↑ Dis. Rate	\$20 billion	.25	↓\$80 billion
↓ Dis. Rate	\$4 billion	.1	↑\$40 billion

8. What is the difference between the discount rate and the federal funds rate? **The discount rate is the interest rate the Fed charges banks. The federal funds rate is the interest rate that banks charge each other for overnight loans. The Fed has direct control of the DR but not the FFR.**

9. What is the difference between the money supply and the monetary base? **The money supply includes money in circulation and demand deposits. The monetary base includes money in circulation and bank reserves**

10. Does open market operations initially change the money supply, the monetary base, or both? **Only the monetary base. Buying/selling bonds initially change excess reserves which are part of the monetary base**

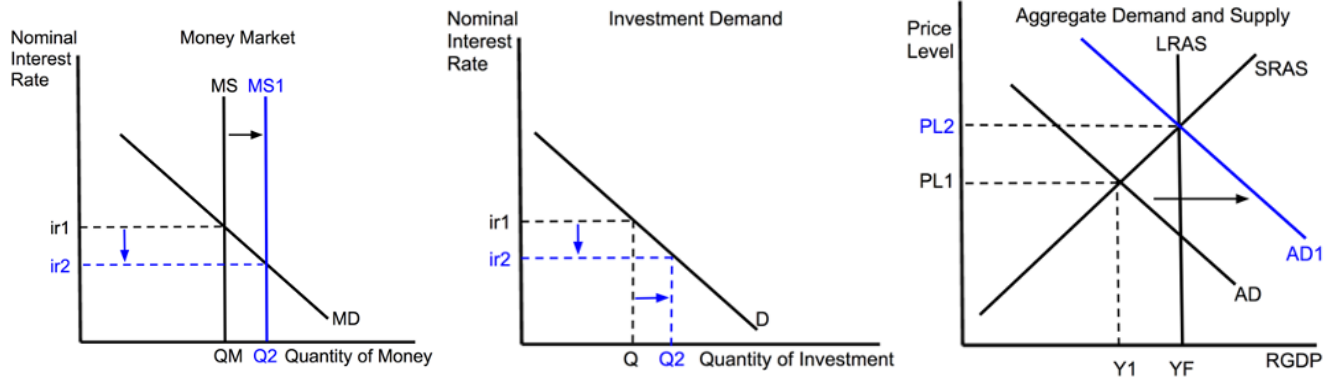


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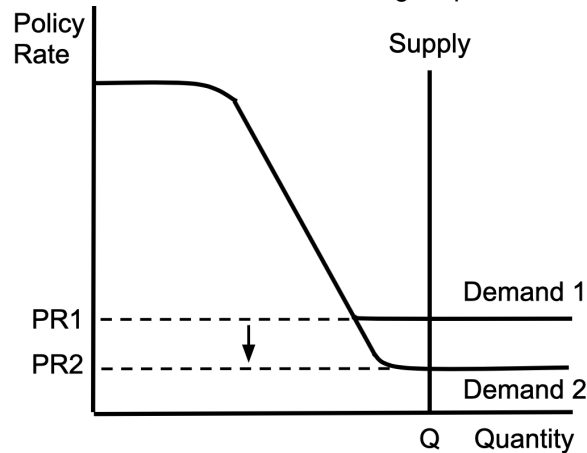
Topic 4.6- Monetary Policy (continued) ▶

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



12. Add arrows to explain the process: $SM \uparrow \rightarrow ir \downarrow \rightarrow I \uparrow$ and $C \uparrow \rightarrow AD \uparrow \rightarrow$ Full Employment

13. Draw the reserve market showing ample reserves



14. What is Interest on reserves (IOR)? **The interest rate that the Federal Reserve pays commercial banks to hold reserves.**

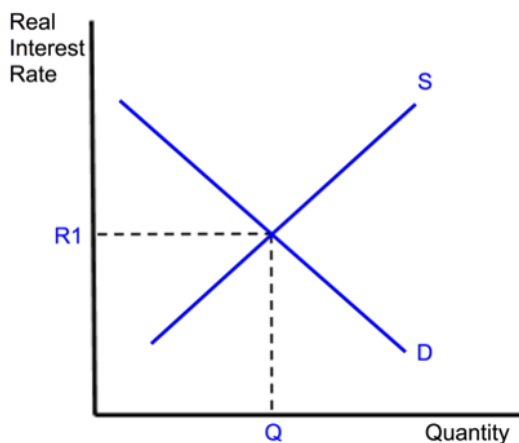
15. Explain why open market operations are ineffective when there are ample reserves. **When commercial banks hold large amounts of reserves, a change in the money supply from open market operations has little or no effect on the equilibrium interest rate.**

16. Show what happens on the graph when the central bank decreases the interest on reserves.

17. How will the change on the graph affect aggregate demand? **AD will increase since interest rates fall**

Topic 4.7- The Loanable Funds Market ▶

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



2. What shifts the demand for loanable funds? **Anything that changes the amount of borrowing and investment (e.g. changes in perceived business opportunities and government borrowing)**

3. What shifts the supply for loanable funds? **Anything that changes lending or savings (eg. changes in private or public savings, changes in the profitability of loans, changes in lending by foreigners)**

4. Why does the loanable funds market involve real interest rates rather than nominal interest rates? **Lenders and borrowers account for inflation when they make decisions. Lenders ignore nominal rates of return and focus on real rates of return adjusted for inflation)**

5. If the government increases borrowing, will the real interest rate increase or decrease? **Increase**

6. A decrease in business investment would **↓** real interest rates and **↓** the quantity of loans

7. An increase in private savings would **↓** real interest rates and **↑** the amount of physical capital