

PROBLEMS FOR CHAPTER 14

Name: _____

LO1 ~~1~~ What is the money multiplier when the reserve requirement is:

- (a) 0.10
- (b) 0.12



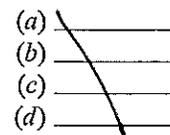
LO2 ~~2~~ In Table 14.1, what would the following values be if the required reserve ratio fell to 0.10?

- (a) Total deposits
- (b) Total reserves
- (c) Required reserves
- (d) Excess reserves
- (e) Money multiplier
- (f) Unused lending capacity

LO2 ~~3~~ Assume that the following data describe the condition of the banking system:

Total reserves	\$200 billion
Transactions deposits	\$700 billion
Cash held by public	\$100 billion
Reserve requirement	0.20

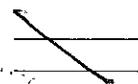
- (a) How large is the money supply (M1)?
- (b) How large are *required* reserves?
- (c) How large are *excess* reserves?
- (d) By how much could the banks increase their lending activity?



LO2 ~~4~~ In Problem 3, suppose the Fed wanted to stop further lending activity. To do this, what reserve requirement should the Fed impose?

LO2 ~~5~~ According to the News on page 294, and World View on page 303, what was the money multiplier in

- (a) The United States?
- (b) China?



LO2 ~~6~~ Assume the banking system contains

Total reserves	\$ 80 billion
Transactions deposits	\$800 billion
Cash held by public	\$100 billion
Reserve requirement	0.10

- (a) Are the banks fully utilizing their lending capacity?
- (b) What would happen to the money supply *initially* if the public deposited another \$50 billion of cash in transactions accounts?
- (c) What would the lending capacity of the banking system be after such a portfolio switch?
- (d) How large would the money supply be if the banks fully utilized their lending capacity?
- (e) What three steps could the Fed take to offset that potential growth in M1?

LO3 ~~7~~ Assume that a \$1,000 bond issued in 2009 pays \$100 in interest each year. What is the current yield on the bond if it can be purchased for

- (a) \$1,200?
- (b) \$1,000?
- (c) \$800?



LO3 ~~8~~ Suppose a \$1,000 bond pays \$40 per year in interest.

- (a) What is the contractual interest rate on the bond?
- (b) If market interest rates rise to 8 percent, what price will the bond sell for?

Only Q 3 and 6

PROBLEMS FOR CHAPTER 14 (cont'd)

Name: _____

LO3 9. What was the Fed's target for the fed funds rate in December 2008 (News, p. 300) _____

LO3 10. If the GM bond described on pages 297-298 was resold for \$1200, what would its yield be? _____

LO3 11. Suppose a banking system with the following balance sheet has no excess reserves. Assume that banks will make loans in the full amount of any excess reserves that they acquire and will immediately be able to eliminate loans from their portfolio to cover inadequate reserves.

Assets (in billions)		Liabilities (in billions)	
Total reserves	\$ 30	Transactions accounts	\$300
Securities	90		
Loans	180		
Total	\$300	Total	\$300

(a) What is the reserve requirement? _____

(b) Suppose the reserve requirement is changed to 5 percent. Reconstruct the balance sheet of the total banking system after all banks have fully utilized their lending capacity.

Assets (in billions)		Liabilities (in billions)	
Total reserves	_____	Transactions accounts	_____
Securities	_____		
Loans	_____		
Total	=====	Total	=====

(c) By how much has the money supply changed as a result of the lower reserve requirement (step b)? _____

(d) Suppose the Fed now buys \$10 billion of securities directly from the banks. What will the banks' books look like after this purchase?

Assets (in billions)		Liabilities (in billions)	
Total reserves	_____	Transactions accounts	_____
Securities	_____		
Loans	_____		
Total	=====	Total	=====

(e) How much excess reserves do the banks have now? _____

(f) By how much can the money supply now increase? _____

Q 11 only

PROBLEMS FOR CHAPTER 13

Name: _____

~~LO1~~ ~~LO2~~ If you cash a \$100 traveler's check at a bank, by how much do(es)

- (a) M1 change? _____
- (b) M2 change? _____
- (c) bank reserves change? _____
- (d) M1 change? _____
- (e) M2 change? _____
- (f) bank reserves change? _____

If you deposit the traveler's check in your bank account, by how much do(es)

- (d) M1 change? _____
- (e) M2 change? _____
- (f) bank reserves change? _____

LO2 2. Suppose a bank's balance sheet looks as follows:

Assets		Liabilities	
Reserves	\$450	Deposits	\$5,000

and banks are required to hold reserves equal to 10 percent of deposits.

- (a) How much excess reserves does the bank hold? (a) _____
- (b) How much more can this bank lend? (b) _____

~~LO2~~ 3. Suppose a bank's balance sheet looks like this:

Assets		Liabilities	
Reserves		Deposits	\$500
Excess	\$ 75		
Required	25		
Loans	400		
Total	\$500	Total	\$500

What is the required reserve ratio? _____

~~LO3~~ 4. What is the value of the money multiplier when the required reserve ratio is

- (a) 5 percent? _____
- (b) 4 percent? _____

~~LO2~~ 5. In December 1994, a man in Ohio decided to deposit all of the 8 million pennies he'd been saving for nearly 65 years. (His deposit weighed over 48,000 pounds!) With a reserve requirement of 5 percent, what will be the cumulative change for the banking system in

- (a) Transactions deposits? _____
- (b) Total reserves? _____
- (c) Lending capacity? _____

LO2 6. (a) When the reserve requirement changes, which of the following will change for an individual bank (answer "change" or "no change").

- Transactions deposits _____
- Total reserves _____
- Required reserves _____
- Excess reserves _____
- Lending capacity _____

(b) When the reserve requirement changes, which of the following will change in the total banking system?

- Transactions deposits _____
- Total reserves _____
- Required reserves _____
- Excess reserves _____
- Lending capacity _____

LO2 7. In Table 13.2, how much unused lending capacity does Eternal Savings have at step 4? _____

Q 2, 6 and 8

PROBLEMS FOR CHAPTER 13 (cont'd)

Name: _____

- 102 8. Suppose that a lottery winner deposits \$20 million in cash into her transactions account at the
 103 Bank of America (B of A). Assume a reserve requirement of 25 percent and no excess reserves in the banking system prior to this deposit.
- (a) Use step 1 in the T-accounts below to show how her deposit affects the balance sheet at B of A.
 - (b) Has the money supply been changed by her deposit? _____
 - (c) Use step 2 below to show the changes at B of A after the bank fully uses its new lending capacity. _____
 - (d) Has the money supply been changed in step 2? _____
 - (e) In step 3 the new borrower(s) writes a check for the amount of the loan in step 2. That check is deposited at another bank, and B of A pays the other bank when the check clears. What does the B of A balance sheet look like now? _____
 - (f) After the entire banking system uses the lending capacity of the initial (\$20 million) deposit, by how much will the following have changed? _____

Total reserves _____
 Total deposits _____
 Total loans _____
 Cash held by public _____
 The money supply _____

**Step 1: Winnings Deposited
Bank of America**

Assets (in millions)		Liabilities (in millions)	
Reserves:		Deposits	_____
Required	_____		
Excess	_____		
Subtotal	_____		
Loans	_____		
Total assets	_____	Total liabilities	_____

**Step 2: Loans Made
Bank of America**

Assets (in millions)		Liabilities (in millions)	
Reserves:		Deposits	_____
Required	_____		
Excess	_____		
Subtotal	_____		
Loans	_____		
Total assets	_____	Total liabilities	_____

**Step 3: Check Clears
Bank of America**

Assets (in millions)		Liabilities (in millions)	
Reserves:		Deposits	_____
Required	_____		
Excess	_____		
Subtotal	_____		
Loans	_____		
Total assets	_____	Total liabilities	_____