

Economics Honors

Money Multiplier

Part A

Assume that the required reserve ratio is 10% of checkable deposits and banks lend out the other 90% of deposits, and

All money lent out by the bank is redeposited in another bank...

- Under these assumptions, if a new checkable deposit is made to Bank 1,
 - How much will bank 1 keep as required reserves? \$_____
 - How much will Bank 1 lend out? \$_____
 - How much will be redeposited in Bank 2? \$_____
 - How much will Bank 2 keep as required reserves? \$_____
 - How much will Bank 2 lend out? \$_____
 - How much will be redeposited in Bank 3? \$_____
- Use your answers to question 1 to complete the table below. Fill in the blanks, rounding numbers to two places. After completing the table; answer the following questions by filling in the blanks or circling the correct answer...

Table 1: Checkable Deposits, Reserves & Loans in Banks

Bank #	New Checkable Deposits	10% Reserves	Loans
1	\$1,000	\$100.00	\$900.00
2	900.00	_____	810.00
3	_____	81.00	_____
4	_____	_____	656.10
5	_____	_____	_____
6	_____	59.05	_____
7	531.44	_____	478.30
All other banks combined	4,782.98	_____	_____
Total for all Banks	\$10,000	\$_____	\$9,000.00

- In this example:
 - The original deposit of \$1,000 increased total bank reserves by \$_____. Eventually, this led to a total of \$10,000 expansion of bank deposits; \$_____ of which was because of the original deposit, while \$_____ was because of bank lending activities.
 - Therefore, if the fractional reserve had been 15 percent instead of 10 percent, the amount of deposit expansion would have been (more/less) than in this example.

- C) Therefore, if the fractional reserve had been 5 percent instead of 10 percent, the amount of deposit expansion would have been (more/less) than in this example.
- D) If banks had not loaned out all of their excess reserves, the amount of the deposit expansion would have been (more/less) than in this example.
- E) If all loans had not been redeposited in the banking system, the amount of deposit expansion would have been (more/less) than in this example.

Part B

- 4. Assume that \$1,000 is deposited in the bank, and that each bank loans out all of its excess reserves. For each of the following required reserve ratios, calculate the amount that the bank must hold in required reserves, the amount that will be excess reserves, the deposit expansion multiplier and the maximum amount that the money supply would increase...

Required Reserve Ratio						
	1%	5%	10%	12.5%	15%	25%
Required Reserves						
Excess Reserves						
Deposit expansion Multiplier						
Maximum Increase in Money Supply						

- 5. If the required reserve ratio were 0%, then the money supply expansion would be infinite. Why don't we want infinite growth of the money supply? (remember $MV=PQ$)
