

Chapter 5: The Money Market and Monetary Policy

5.1 MONEY CREATION AND MONEY MULTIPLIER ²

Variables needs to know

- ❑ Checking Account or Demand Deposit
- ❑ Reserves

: The deposits that a bank has at the central bank plus its cash on hand

5.1 MONEY CREATION AND MONEY MULTIPLIER ³

Variables needs to know

- Required reserve ratio or Legal reserve ratio (rr)

: the percentage of deposits that a bank must keep as reserve

- Required Reserves or Legal Reserves (RR)

: amount of deposits that a bank must keep as reserve

$$RR = \text{Deposits} \times rr$$

5.1 MONEY CREATION AND MONEY MULTIPLIER ⁴

Variables needs to know

- Excess Reserves (ER)

$$ER = TR - RR$$

5.1 MONEY CREATION AND MONEY MULTIPLIER ⁵

Explaining money creation using balance sheet

Commercial bank balance sheet

Assets		Liabilities	
Reserves	XX	Demand Deposit	XX
Loan (Lending)	XX	Borrowing	XX
Investment	XX	Capital	XX
Total	XXX	Total	XXX

Commercial bank can create money by providing loans to firms, household, or government

Assumption (for simple calculation)

- ❑ Bank does not keep anything else rather than Required Reserve (RR)
- ❑ Households always deposit money in commercial bank
- ❑ Banks lend all Excess Reserve (ER) they have
- ❑ Fixed required reserve ratio (rr)

PROCESS OF MONEY CREATION

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STEP 1: Let one customer deposits money in Bank A 1000

Bahts, let required reserve ration = 10%, $rr = 0.1$

Bank A balance sheet

Assets	Liabilities

$$RR = \text{Deposits} \times rr =$$

$$ER = TR - RR =$$

PROCESS OF MONEY CREATION

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STEP 2: Bank A lends all Excess Reserve (ER) = 900 Bahts

and put that amount of money in the borrower account

Bank A balance sheet

Assets	Liabilities

At this step Bank A can create money (net worth) = _____

STEP 3: Borrowing customer withdraw money from Bank A

Bank A balance sheet

Assets	Liabilities

PROCESS OF MONEY CREATION

STEP 4: Borrowing customer use 900 Bahts that withdraw from Bank A to buy G&S suppose that other people who receive this money will deposit these 900 Bahts in Bank B

Bank B keep reserve = _____

Bank B providing loans = _____

Bank B balance sheet

Assets	Liabilities

At this step Bank B can create money (net worth) = _____

STEP 5: Similar case occurs at Bank C

Bank C balance sheet

Assets	Liabilities

At this step Bank C can create money (net worth) = _____

PROCESS OF MONEY CREATION

Process of money creation will go on like this.

Money created from the first bank (Bank A) will be a deposit for the following bank. Then, after deduct for Required Reserve (RR), the later bank can lend all Excess Reserve (ER).....the steps keep going on !!!

FIND TOTAL MONEY CREATED

Lets P = Primary deposits

D = Total loans created in the whole process (not include primary deposit)

rr = Required reserve ratio

ER = Excess Reserve of the first bank

$$= P - (P \cdot rr) = 1000 - (1000 \cdot 0.1) = 1000 - 100 = 900$$

$$= P (1 - rr) = 1000 (1 - 0.1) = 1000 \cdot 0.9 = 900$$

$$D = P(1-rr) + P(1-rr)^2 + P(1-rr)^3 + \dots$$

$$= P(1-rr) [1 + (1-rr) + (1-rr)^2 + (1-rr)^3 + \dots]$$

$$= P(1 - rr) \times \frac{1}{1 - (1 - rr)} = ER \times \frac{1}{rr}$$

Money Multiplier

$$\text{Total deposit increase} = P + D$$

FIND TOTAL MONEY CREATED

Total deposit increase = $P + D$

$$= P + \frac{ER}{rr}$$

$$= P + \frac{P(1 - rr)}{rr}$$

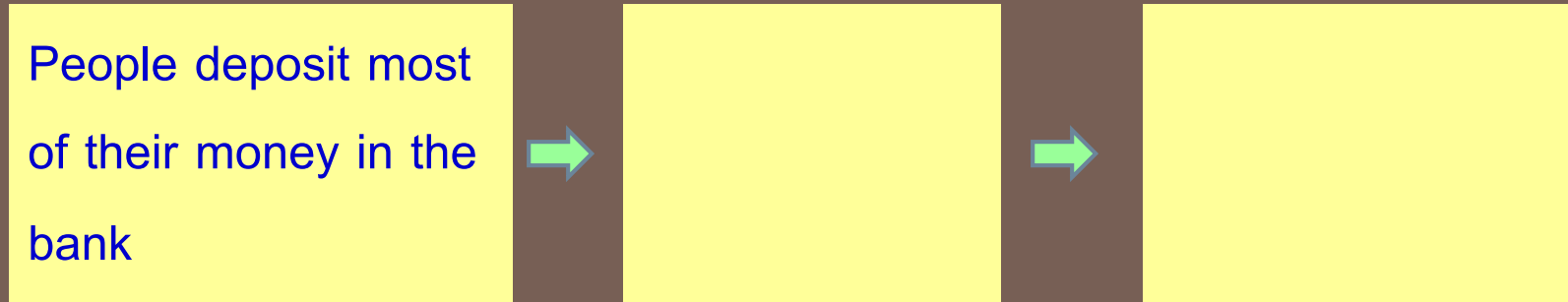
$$= P + \frac{P - (P \times rr)}{rr}$$

$$= \frac{(P \times rr) + P - (P \times rr)}{rr}$$

$$= \frac{P}{rr}$$

DEPENDS ON

- Behavior of people whether they tend to deposit money in the bank



- Required reserve ratio (rr)



DEPENDS ON

- Reserve the bank actually keep

Normally bank keeps reserve **more than** required reserve (**RR**) for emergency use or for their liquidity management

If bank keeps
more reserve

