MONEY CREATION AND MONEY MULTIPLIER

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

MONEY CREATION AND MONEY MULTIPLIER

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

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

MONEY CREATION AND MONEY MULTIPLIER

Variables needs to know

- Actual Reserve (AR)

  : Amount of deposits that a bank actually keep as reserve

  : AR has to be more than or equal to RR

- Excess Reserves (ER)

$$ER = AR - RR$$

MONEY CREATION AND MONEY MULTIPLIER

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

MONEY CREATION AND MONEY MULTIPLIER

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

<u>Assumption (for simple calculation)</u>

- Bank does not keep anything else rather than Required Reserve (RR): That is AR = 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

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	
Reserves	1,000	Demand Deposit	1,000
Total	1,000	Total	1,000

RR = Deposits × rr = 1,000 × 0.1 = 100

ER = AR – RR = 1,000 – 100 = 900

PROCESS OF MONEY CREATION

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	
Reserves	1,000	Demand Deposit	1,000
Loans	900	Net worth	900
Total	1,900	Total	1,900

At this step Bank A can create money (net worth) = 900 Bahts

STEP 3: Borrowing customer withdraw money from Bank A

Bank A balance sheet

Assets		Liabilities	
Reserves	100	Demand Deposit	1,000
Loans	900		
Total	1,000	Total	1,000

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 = $900 \times 0.1 = 90$

Bank B providing loans = ER = AR – RR = 900 – 90 = 810

Bank B balance sheet

Assets		Liabilities	
Reserves	90	Demand Deposit	900
Loans	810		
Total	900	Total	900

At this step Bank B can create money (net worth) = 810 Bahts

PROCESS OF MONEY CREATION

STEP 5: Similar case occurs at Bank C

Bank C balance sheet

Assets		Liabilities	
Reserves = 810 × 0.1 =	81	Demand Deposit	810
Loans = 810 - 81 =	729		
Total	810	Total	810

At this step Bank C can create money (net worth) = 729 Bahts

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 = Deposits or money bank created

rr = Required reserve ratio

ER = Excess Reserve = P (1 – rr) Note: just for this case

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

$$= P(1-rr)\ [1 + (1-rr) + (1-rr)^2 + (1-rr)^2 + \ldots\ldots.$$

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

Money Multiplier

Total deposit increase = P + D

COMMERCIAL BANK CAN CREATE MORE OR LESS MONEY DEPENDS ON

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

People deposit most of their money in the bank → →

- Required reserve ratio (rr)

rr ↑ → →

COMMERCIAL BANK CAN CREATE MORE OR LESS MONEY DEPENDS ON

- Reserve the bank actually keep

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

If bank keeps more reserve