Banking

Banks and the Creation of Money

- Banks can be analyzed from the perspective of asset management and liability management.

Banks and the Creation of Money

- ***Asset management*** is how a bank handles its loans and other assets.
- ***Liability management*** how a bank attracts deposits and how it pays for them.

How Banks Create Money*

- Banks create money because a bank's liabilities are defined as money.
- When a bank incurs liabilities it creates money.

How Banks Create Money

- A bank creates money when it places the proceeds of a loan it makes to you in your checking account.

The First Step in the Creation of Money

- The Fed creates money by simply printing currency.
- Currency is a financial asset to the bearer and a liability to the Fed.

The Second Step in the Creation of Money

- The bearer deposits the currency in a checking account at the bank.
- The bank holds your money and keeps track of it until you write a check.

Banking and Goldsmiths

- In the past, gold was used as payment for goods and services.
- But gold is heavy and the likelihood of being robbed was great.

From Gold to Gold Receipts

- It was safer to leave gold with a goldsmith who gave you a receipt.
- The receipt could be exchanged for gold whenever you needed gold.

From Gold to Gold Receipts

- People soon began using the receipts as money since they knew the receipts were backed 100 percent by gold.
- At this point, there were two forms of money – gold and gold receipts.

The Third Step in the Creation of Money

- Little gold was redeemed, so the goldsmith began making loans by issuing more receipts than he had in gold.
- He charged interest on the newly created gold receipts.

The Third Step in the Creation of Money

- When the goldsmith began making loans by issuing more receipts than he had in gold, he created money.

The Third Step in the Creation of Money

- The gold receipts were backed partly by gold and partly by people's trust that the goldsmith would pay off in gold on demand.

The Third Step in the Creation of Money

- The goldsmith soon realized that he could make more money in interest than he could earn in goldsmithing.
- The goldsmith had become a banker.

Banking Is Profitable

- Goldsmiths became wealthy.
- Others jumped in offering to hold gold for free – some offered to pay for the privilege of holding the public's gold.

Banking Is Profitable

- Banks today are willing to hold the public's money at no charge – they can lend it out in the process, making profits.

The Money Multiplier

- Banks lend a portion of their deposits keeping the balance as reserves.
- ***Reserves*** are cash and deposits a bank keeps on hand or at the Fed, enough to manage the normal cash inflows and outflows.

The Money Multiplier

- The ***reserve ratio*** is the ratio of reserves to deposits a bank keeps as a reserve against cash withdrawals.
- The reserve ratio consists of required and excess ratios.

The Money Multiplier

- The ***required reserve ratio*** is the percentage of their deposits banks are required to hold by the Fed.
- If banks choose to hold an additional amount, this is called the ***excess reserve ratio***.

The Money Multiplier

- Banks "hold" currency for people and in return allow them to write checks for the amount they have on deposit at the bank.

Determining How Many Demand Deposits Will Be Created

- To find the total amount of deposits that will eventually be created, multiply the original deposited amount by 1/*r*, where *r* is the reserve ratio.

Determining How Many Demand Deposits Will Be Created

- If the original deposit is $100 and the reserve ratio is 10 percent, then:

$$\frac{1}{r} = \frac{1}{10} = 10$$

10 X $100 = $1,000

Determining How Many Demand Deposits Will Be Created

- This means that $900 of new money was created ($1,000 - $100).

Calculating the Money Multiplier

- The ***simple money multiplier*** is the measure of the amount of money ultimately created per dollar deposited in the banking system.
- It equals 1/*r* when people hold no currency.

Calculating the Money Multiplier

- The higher the reserve ratio, the smaller the money multiplier, and the less money will be created.

An Example of the Creation of Money

- The first 7 rounds of the money creation process is illustrated on the following table.
- Assume a deposit of $10,000 and a reserve ratio of 20 percent.

An Example of the Creation of Money

Bank Gets	Bank Keeps (reserve ratio: 20%)		Bank Loans (80%) = Person Borrows
$10,000	$ 2,000		$ 8,000
8,000	1,600		6,400
6,400	1,280		5,120
5,120	1,024		4,096
4,096	819		3,277
3,277	656		2,621
2,621	524		2,097
2,097	419		1,678
1,678	336		1,342
1,342	268		1,074
$44,631 (total deposits)	$ 8,926	+	$35,705
Total money existing (after 10 rounds) = $44,631			
Eventual total money creation (after infinite rounds)			
$50,000 (total deposits)	$10,000	+	$40,000

An Example of the Creation of Money

- The money multiplier decreases if banks keep excess reserves for safety reasons.

Calculating the Approximate Real-World Money Multiplier

- The approximate real-world money multiplier in the economy is:

$$\frac{1}{r+c}$$

r = the percentage of deposits banks hold in reserve

c = the ratio of money people hold in cash to the money they hold as deposits

Calculating the Approximate Real-World Money Multiplier

- If banks keep 10 percent in reserve and the ratio of individuals' cash holdings to their deposits is 25 percent, the real-world money multiplier is:

$$\frac{1}{0.1+0.25} = \frac{1}{0.35} = 2.9$$

Faith as the Backing of Our Money Supply

- Promises to pay underlie any financial system.
- All that backs the modern money supply are promises by borrowers to repay their loans and government guarantees that banks' liabilities to depositors will be met.

Banks and Bad Loans

- The ***spread*** is the difference between a bank's costs of funds and the interest it receives on lending out those funds.

Financial Panics

- Banks borrow short-term and lend long-term.
- If depositors lose faith in banks and call on the bank to redeem checking accounts, banks have only their reserves, a small percentage of deposits, to give depositors.
- The result is that the bank fails, even though it might be financially sound in the long run.

Government Policy to Prevent Panic

- To prevent panics, the U.S. government guarantees the obligations of various financial institutions through programs such as the Federal Deposit Insurance Corporation (FDIC).
- Financial institutions pay a small premium for each dollar of deposits to the FDIC.
- The FDIC uses the money to bail out banks experiencing a run on deposits.

The Benefits and Problems of Guarantees

- A lack of deposit guarantees acts as an effective restraint on bank lending practices.
- When deposits are guaranteed, some banks may make risky loans knowing that the government has guaranteed deposits.
- Guaranteeing deposits can be expensive for taxpayers.

The Savings and Loan Bailout

- During the late 1980s, the recently deregulated S&Ls made bad loans that led to their failure and the government's repaying their depositors.
- The cost of funds increased during the 1980s and the S&Ls charged high interest rates and made many risky loans that failed.

Summary

- The financial sector is the market where financial assets are created and exchanged.
- The financial sector channels flows out of the circular flow and back into the circular flow.
- Every financial asset has a corresponding financial liability.
- Money is a highly liquid financial asset that serves as a unit of account, a medium of exchange, and a store of wealth.

Summary

- The measures of money are:
  - M1 – currency in the hands of the public, checking account balances, and traveler's checks
  - M2 – M1 plus savings deposits, small-denomination time deposits, and money market mutual fund shares
  - L – almost all short-term assets
- Banks create money by loaning out deposits.

Summary

- The simple money multiplier is 1/r.
- The money multiplier tells you the amount of money ultimately created per dollar in the banking system.
- The approximate real-world multiplier is 1/(r+c).
- Financial panics are based on fear and can be prevented by government guaranteeing deposits.