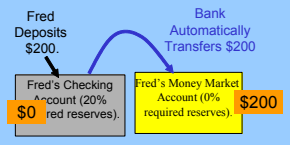
Making Money



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  - The Federal Reserve System
  - The Bank of England
  - The Bank of Japan
  - The European Central Bank

Money Can be Created

- The government can create money
- Commercial Banks can Create Money

How Money is Created

- Suppose the Federal Reserve System purchases a $200 bond from Fred.
  - If I bought a bond, I would have to pay for it with money I already had.
  - Not the Fed. It can print money.

How Money is Created (2)

- Lets suppose the Fed hands Fred $200, in the form of 10 $20 bills, fresh off the presses.
- M_b, M_1, and M_2 have all gone up by $200

How Money is Created (3)

- Lets suppose the Fed hands Fred $200, in the form of 10 $20 bills, fresh off the presses.
- M_b, M_1, and M_2 have all gone up by $200
- Suppose Fred decides to keep $100 in cash and put $100 in his account at (say) Key Bank.
  - M_b, M_1, and M_2 have *still* gone up by $200
  - $100 in Fred's Pocket
  - $100 in Fred's Account at Key Bank

How Key Bank Creates Money

- Key Bank will probably lend some of that money out. It might keep one $20 bill as a reserve and lend four to Sam.
- M_1, and M_2 have gone up by $280
  - $100 in Fred's Pocket
  - $100 in Fred's Checking Account
  - $80 in Sam's Pocket

How Key Bank Creates Money

Key Bank has increased the money supply.

- Key Bank will prob… money out. It might keep one $20 bill as a reserve and lend four to Sam.
- M_1, and M_2 have all gone up by $280
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How Key Bank Creates Money

Key Bank has …ed the money …supply.

Key cannot increase M_b, which still remains at $200

$100 in Fred's Pocket

$20 in Key's Vault

$80 in Sam's Pocket

- K… …e $20 bill as a re… …n.
- M… by $280
  - …
  - …ount
  - …

How Huntington Bank Creates Money

- Sam decides to deposit the entire $80 in his account at Huntington Bank. Huntington keeps one $20 as a reserve, and lends the other three out to Janet.
- $M_1$and M_2 are now up by $340
  - $100 in Fred's Pocket
  - $100 in Fred's Checking Account
  - $80 in Sam's Checking Account
  - $60 in Janet's Pocket

How Key Bank Creates More Money

- Suppose Janet takes her $60 back to Key for deposit in her account. Key can lend most of this out to Betty and create even more money.
- If Betty takes her money to another bank the process goes on.

When does it end?

- How much money will be created depends on the money multiplier. Those depend on
  - The fraction of money people want to keep in currency
  - How big a reserve banks maintain.

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- How [illegible] depends on th [illegible] pend on
  - Th [illegible] keep in cu
  - Ho

In 2003,

M_1 Multiplier ≅ 2

M_2 Multiplier ≅ 8

These multipliers mean the $200 bond purchase will lead to a $400 increase in M_1 and a $1,600 increase in M_2.

Bank Reserve Requirements

- A liquidity reserve against depositor reserves.
- To meet the *minimum required reserve ratio*, set by the Federal Reserve System. (Sometimes referred to as *required reserves*.)

Evading Reserve Requirements

Fred's Checking Account (20% required reserves).

Fred's Money Market Account (0% required reserves).

Evading Reserve Requirements

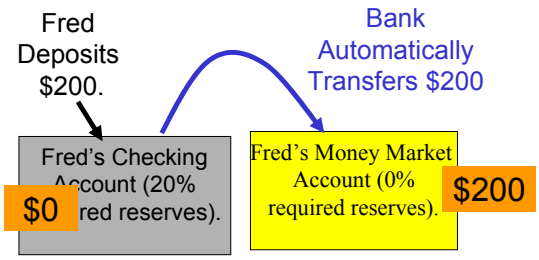
Fred Deposits $200.

Bank Automatically Transfers $200

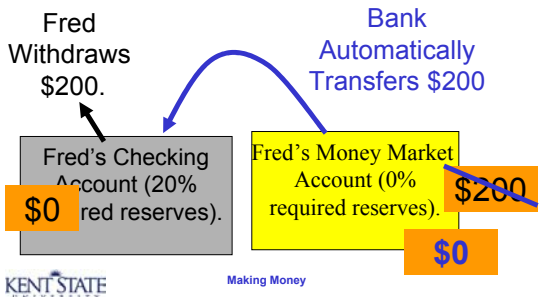
Fred's Checking Account (20% required reserves).

Fred's Money Market Account (0% required reserves).

Evading Reserve Requirements



Evading Reserve Requirements



Liquidity Reserves

- Banks still maintain reserves. They never know for sure how much depositors will want to withdraw.
- The point is they are set by a business judgment, not by government fiat.

What Causes Money Multipliers to Change

- Individuals decide to keep a greater/smaller fraction of their money in cash and a smaller/greater fraction in bank deposits.
- Banks decide to hold a higher/lower percentage of their deposits as reserves.

What Causes Money Multipliers to Change

- The public becomes concerned that they will not be able to withdraw their deposits on demand from their banks
- Banks become more concerned that they are not keeping enough reserves to meet their depositor's demands

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In 1929-33 these effects were a major cause of the Great Depression.

A Postscript

- We talk about Fred selling a $200 bond to the Federal Reserve System

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- Don't Try It

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- Government actually buys and sells through a small group of bond dealers in NYC.

End