Measuring Money

FINANCIAL SECTOR 2

Measuring Money and Money Creation

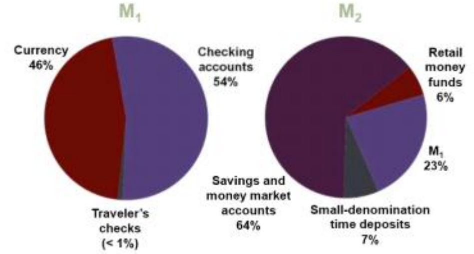
The U.S. Central Bank: The Fed

- The **Federal Reserve Bank (the Fed)** is the U.S. central bank
    - Federal Reserve notes are liabilities of the Fed that serve as cash in the U.S.
- A **bank** is a financial institution whose primary function is accepting deposits for, and lending money to, individuals and firms
- Individuals' deposits in savings and checking accounts serve the same purpose as does currency and are also considered money

Alternative Measures of Money

- Economists have developed different measures of money
- Two are $\mathbf{M_1}$ and $\mathbf{M_2}$
    - M_1 is a measure of the money supply; it consists of currency in the hands of the public plus checking accounts and traveler's checks
    - M_2 is a measure of the money supply; it consists of M_1 plus other relatively liquid assets

Components of M_1 and M_2



Distinguishing Between Money and Credit

- Credit cards are not money
- Credit card balances are assets of a bank in the form of a prearranged loan and liabilities of the credit card user
- Generally credit card holders carry less cash
- A debit card is part of the monetary system because it serves the same function as a check
- The availability of short-term credit dried up in October 2008, and threatened to seize up the U.S. economy

Banks and the Creation of Money

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 bearer deposits the currency in a checking account at the bank
  - The form of money has changed from currency to a bank deposit

Banks and the Creation of Money

The second step in the creation of money

- The bank lends a fraction of the deposit
- The amount of money has expanded:
  - Initial deposit + new loan
- The amount of money is multiplied

The Process of Money Creation

- **Reserves** are currency and deposits a bank keeps on hand or at the Fed or central bank, to manage the normal cash inflows and outflows
- The **reserve ratio** is the ratio of reserves to deposits a bank keeps as a reserve against cash withdrawals
- Banks can keep more reserves: excess reserve ratio
- Reserve ratio = required reserve ratio + excess reserve ratio

Determining How Many Demand Deposits Will Be Created

- To find the total amount of deposits that will be created, multiply the original deposit by **1/r**, where **r** is the reserve ratio
- If the original deposit is **$100** and the reserve ratio is **10 percent (0.1)**, the amount of money ultimately created is:

1/r = 1/0.1 = 10
$100 x 10 = 1,000

New money created = $1000 – $100 = $900

Calculating the Money Multiplier

- We will call the ratio **1/*r*** the money multiplier
  - The **money multiplier** is the measure of the amount of money ultimately created per dollar deposited in the banking system, when people hold no currency
- It tells us how much money will ultimately be created by the banking system from an initial inflow of money
- The higher the reserve ratio, the smaller the money multiplier, and the less money will be created

An Example of the Creation of Money

Round	Bank Gets	Bank Keeps (r = 20%)	Bank Loans (80%)
1	$10,000	$2,000	$8,000
2	$8,000	$1,600	$6,400
3	$6,400	$1,280	$5,120
4	$5,120	$1,024	$4,069
...	...	...	...
Infinite	**$50,000**	**= $10,000**	**+ $40,000**