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 $M_1$ and $M_2$.
  - $M_1$ 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 $M_2$

- **$M_1$**
  - Currency: 46%
  - Checking accounts: 34%
  - Traveler's checks (+1%)
  - Savings and money market accounts: 8%

- **$M_2$**
  - Retail money funds: 6%
  - Small-denomination time deposits: 7%

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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

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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:

\[
\frac{1}{r} = \frac{1}{0.1} = 10 \\
$100 \times 10 = 1,000 \\
New \ money \ created = $1000 - $100 = $900
\]
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

<table>
<thead>
<tr>
<th>Round</th>
<th>Bank Notes</th>
<th>Bank Keeps (r = 20%)</th>
<th>Bank Loans (80%)</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>$10,000</td>
<td>$2,000</td>
<td>$8,000</td>
</tr>
<tr>
<td>2</td>
<td>$8,000</td>
<td>$1,600</td>
<td>$6,400</td>
</tr>
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<tr>
<td>Infinite</td>
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<td>$10,000</td>
<td>$40,000</td>
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