The Monetary System

David A. Díaz

UNC Chapel Hill

The Monetary System

- The existence of money makes trade easier, especially in complex economies. A barter system has trouble allocating scarce resources because trade requires the double coincidence of wants.
- **Money:** The set of assets in an economy that people regularly use to buy goods and services from other people.

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- **Medium of exchange:** An item buyers give to sellers when they want to purchase goods and services.
- **Unit of account:** The yardstick used to post prices and record debts. Money measures and records economic value.
- **Store of value:** An item people can use to transfer purchasing power from the present to the future.

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- Because money is the economy's medium of exchange, it is the most liquid asset.
- **Liquidity:** The ease with which an asset can be converted into the economy's medium of exchange.

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- The liquidity of an asset must be balanced against the asset's usefulness as a store of value. As we saw already, when prices rise, the value of money falls.
- **Commodity money:** Money that takes the form of a commodity with intrinsic value (e.g., gold, cigarettes)
- **Fiat money:** Money without intrinsic value that is used as such because of government decree. Acceptance of fiat money also depends on expectations and social conventions.

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- **Currency:** The paper bills and coins in the hands of the public.
- **Demand deposits:** Balances in bank accounts that depositors can access on demand.
- Measures of the money stock:
  1. M1 money supply: Includes currency, demand deposits, and traveler's checks
  2. M2 money supply: Includes M1, plus savings accounts, small-denomination times deposits, and money market deposit accounts.
  3. M3 money supply: Includes M2, plus large-denomination time deposits.

The Federal Reserve

- **Central bank:** An institution designed to oversee the banking system and regulate the quantity of money in the economy.
- **The Federal Reserve:** The central bank of the United States.
- Main roles of the Fed:
  1. Regulation: Monitors banks' financial situation and facilitates transactions. Acts as lender of last resort.
  2. Monetary policy: Setting of the money supply (the quantity of money available in the economy).

Banks and the Money Supply

- **Reserves:** Deposits that banks have received but not loaned out.
- If a system is such that *all* deposits are held as reserves, then it is a 100% reserve banking system.
- T-Account Representation:

Assets	Liabilities
$1,000 (reserves)	$1,000 (deposits)

- Because each deposit in the bank reduces currency and increases demand deposits by the same amount, the money supply is unchanged when individuals deposit money.

Banks and the Money Supply

- Instead of leaving all deposits idle, the bank can lend a portion of it out in order to make a profit by charging interest.
- **Fractional-Reserve banking:** A system in which banks hold only a fraction of deposits as reserves.
- **Reserve ratio:** The fraction of deposits banks hold as reserves.
- T-Account Representation with a 15% reserve ratio:

Assets	Liabilities
\$150 (reserves)	\$1,000 (deposits)
\$850 (loans)	

- Note what happens to the money supply: Depositors still have demand deposits of \$1,000, but now borrowers hold \$850 in currency.
- When banks hold only a fraction of deposits in reserve, the banking system creates money.

Banks and the Money Supply

- Each time money is deposited and a bank loan is made, more money is created.
- **Money multiplier:** The amount of money that the banking system generates with each dollar of reserves. $MM = 1/RR$. As the RR increases, the MM decreases, and so the amount of MS creation decreases.

Example

If the reserve ratio is 25% and the central bank increases the quantity of reserves in the banking system by $120, what is the maximum amount the money supply could increase?

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$120 \times (1/.25) = 120 \times 4 = 480.$

Banks and the Money Supply

- The Fed has various means to influence the money supply, either directly or indirectly.

Banks and the Money Supply

1. Open-market operations: The purchase or sale of US government bonds by the Fed.
    - Open-market purchases (buying bonds) increase the MS,
    - Open-market sales (selling bonds) decrease the MS.
    - This is the tool most often used

Banks and the Money Supply

2. Lending to banks: Banks borrow from the Fed's "discount window."
    - Discount rate is the interest rate the Fed charges.
    - A lower discount rate encourages loans, which will increase reserves and thus the MS.

Banks and the Money Supply

3. Reserve requirements: Regulations on the minimum amount of reserves that banks must hold against deposits.
    - Increasing the RRR will decrease the number of loans, which will decrease the MS. This form is rarely used.

Banks and the Money Supply

4. Paying interest on reserves: By paying a higher interest rates on reserves, the Fed encourages banks to keep more in reserves and thus decreases MS.
5. The federal funds rate: The interest rate at which banks make overnight loans to each other.
   - The Fed sets a target rate for this and influences it through open-market operations.
   - Buying bonds will increase reserves, which will decrease demand for overnight loans and thus decrease the federal funds rate.

Banks and the Money Supply

- The Fed does not completely control the money supply. Issues:
    1. The Fed does not control the amount of money that households actually deposit in banks.
    2. The Fed does not control the amount of money that banks actually choose to lend. The reserve requirement is a minimum amount that banks have to hold in deposits. Any deposits they hold over this amount are excess reserves.

Readings and Assignments

- Today: Mankiw Ch. 29
- Next time: Mankiw Ch. 30
- Problem Set 6, section 1