

The Monetary System

Lecture 5
17.3.2015

Outline

- The role of money in economy
 - What is money
 - Banking system
 - How can government control the quantity of money in circulation
- Inflation
 - Long-run effects of changes in the quantity of money

THE MEANING OF MONEY

- *Money* is the set of assets in an economy that people regularly use to buy goods and services from other people.

The Functions of Money

- Money has three functions in the economy:
 - Medium of exchange
 - Unit of account
 - Store of value

The Functions of Money

- Medium of Exchange
 - A *medium of exchange* is an item that buyers give to sellers when they want to purchase goods and services.
 - A medium of exchange is anything that is readily acceptable as payment.

The Functions of Money

- Unit of Account
 - A *unit of account* is the yardstick people use to post prices and record debts.
- Store of Value
 - A *store of value* is an item that people can use to transfer purchasing power from the present to the future.

The Functions of Money

- Liquidity
 - *Liquidity* is the ease with which an asset can be converted into the economy's medium of exchange.

The Kinds of Money

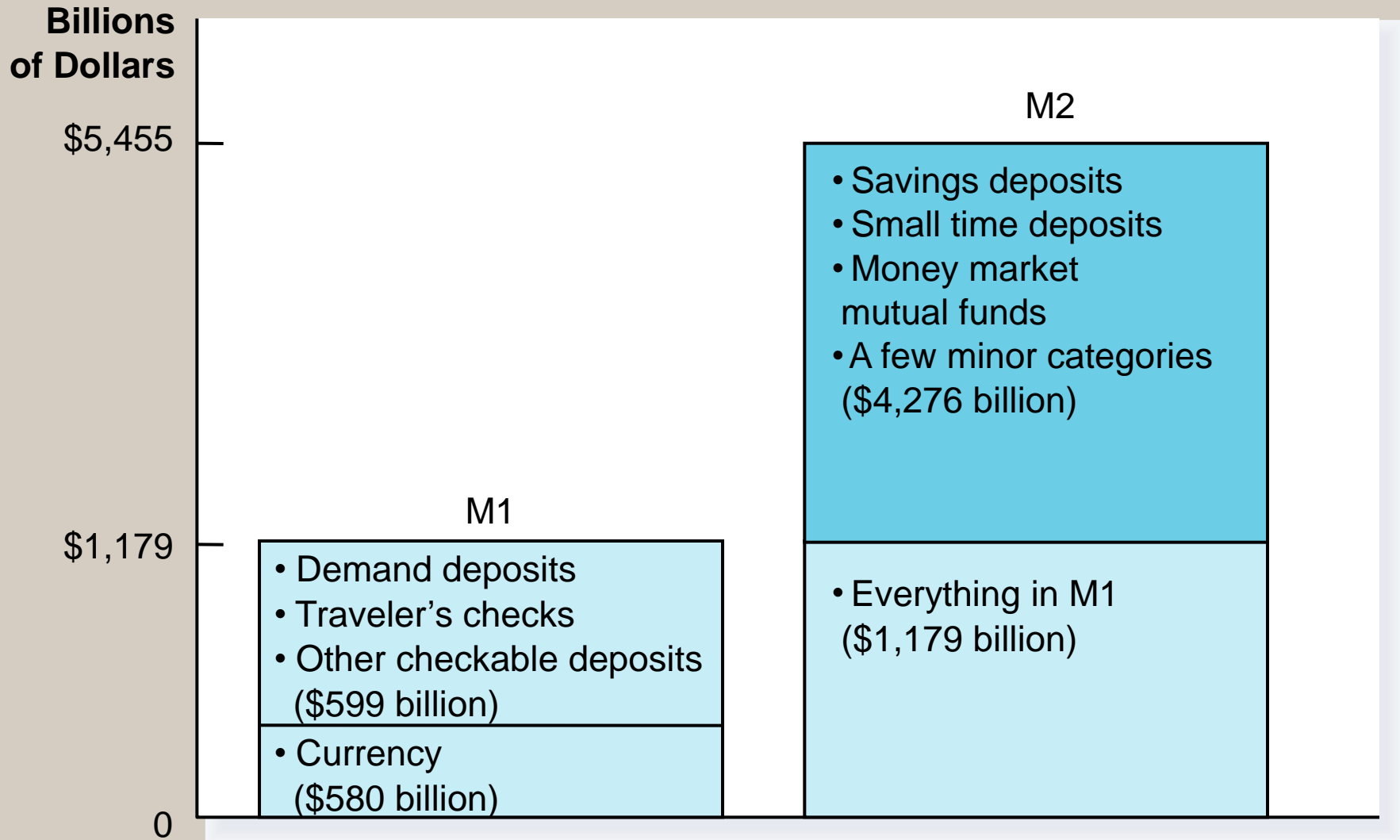
- *Commodity money* takes the form of a commodity with intrinsic value.
 - Examples: Gold, silver, cigarettes.
- *Fiat money* is used as money because of government decree.
 - It does not have intrinsic value.
 - Examples: Coins, currency, check deposits.



Money in the U.S. Economy

- *Currency* is the paper bills and coins in the hands of the public.
- *Demand deposits* are balances in bank accounts that depositors can access on demand by writing a check.

Figure 1 Money in the U.S. Economy (2009)



BANKING SYSTEM

- Commercial banks - accept deposits and issue loans
 - 100% reserve banking
 - Fractional-reserve banking – can issue loans – create money
- Central bank
 - It is designed to oversee the banking system.
 - It regulates the quantity of money in the economy.
 - The *Federal Reserve (Fed)* serves as the nation's central bank.

Central Banks

- Three Primary Functions of the central banks
 - Regulates banks to ensure they follow federal laws intended to promote safe and sound banking practices (sets minimal reserves).
 - Acts as a banker's bank, making loans to banks and as a lender of last resort.
 - Conducts *monetary policy* by controlling the money supply.

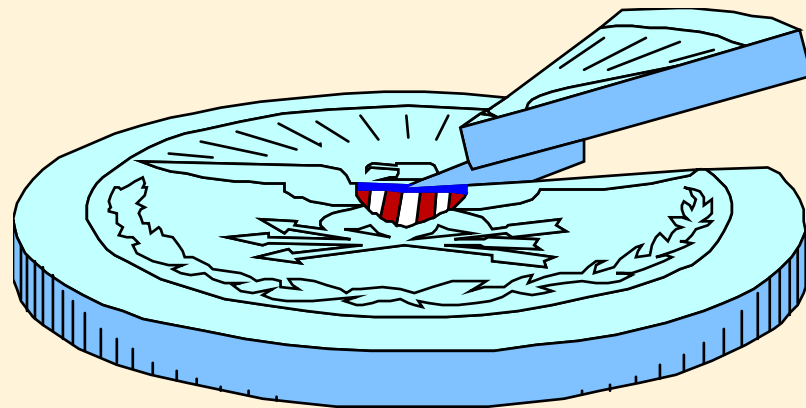
Monetary policy is the setting of the money supply by policymakers in the central bank (Open market operations).

Money supply

- Open-Market Operations
 - The *money supply* is the quantity of money available in the economy.
 - The primary way in which the Fed changes the money supply is through open-market operations.
 - The Fed purchases and sells U.S. government bonds.
 - To increase the money supply, the Fed *buys* government bonds from the public.
 - To decrease the money supply, the Fed *sells* government bonds to the public.

BANKS AND THE MONEY SUPPLY

- Banks can influence the quantity of demand deposits in the economy and the money supply.



BANKS AND THE MONEY SUPPLY

- *Reserves* are deposits that banks have received but have not loaned out.
- In a *fractional-reserve banking* system, banks hold a fraction of the money deposited as reserves and lend out the rest.
- Reserve Ratio
 - The *reserve ratio* is the fraction of deposits that banks hold as reserves.

Money Creation with Fractional-Reserve Banking

- The money supply is affected by the amount deposited in banks and the amount that banks loan.
 - Deposits into a bank are recorded as both assets and liabilities.
 - The fraction of total deposits that a bank has to keep as reserves is called the reserve ratio.
 - Loans become an asset to the bank.

Money Creation with Fractional-Reserve Banking

- This T-Account shows a bank that...

- accepts deposits,
- keeps a portion as reserves,
- and lends out the rest.
- It assumes a reserve ratio of 10%.

First National Bank

Assets	Liabilities
Reserves \$10.00	Deposits \$100.00
Loans \$90.00	
<hr/>	<hr/>
Total Assets \$100.00	Total Liabilities \$100.00

The Money Multiplier

First National Bank		Second National Bank	
Assets	Liabilities	Assets	Liabilities
Reserves \$10.00	Deposits \$100.00	Reserves \$9.00	Deposits \$90.00
Loans \$90.00		Loans \$81.00	
<hr/>	<hr/>	<hr/>	<hr/>
Total Assets \$100.00	Total Liabilities \$100.00	Total Assets \$90.00	Total Liabilities \$90.00

Money Supply = \$190.00!

The Money Multiplier

- How much money is eventually created in this economy?
- The *money multiplier* is the amount of money the banking system generates with each dollar of reserves.

The Money Multiplier

- The money multiplier is the reciprocal of the reserve ratio:

$$M = 1/R$$

- With a reserve requirement, $R = 20\%$ or $1/5$,
- The multiplier is 5.

The Fed's Tools of Monetary Control

- The Fed has three tools in its monetary toolbox:
 - Open-market operations
 - Changing the reserve requirement
 - Changing the discount rate

The Fed's Tools of Monetary Control

- Open-Market Operations
 - The Fed conducts *open-market operations* when it buys government bonds from or sells government bonds to the public:
 - When the Fed buys government bonds, the money supply increases.
 - The money supply decreases when the Fed sells government bonds.

The Fed's Tools of Monetary Control

- Changing the Discount Rate
 - The *discount rate* is the interest rate the Fed charges banks for loans.
 - Increasing the discount rate decreases the money supply.
 - Decreasing the discount rate increases the money supply.

The Fed's Tools of Monetary Control

- Reserve Requirements
 - The Fed also influences the money supply with *reserve requirements*.
 - Reserve requirements are regulations on the minimum amount of reserves that banks must hold against deposits.

The Fed's Tools of Monetary Control

- Changing the Reserve Requirement
 - The *reserve requirement* is the amount (%) of a bank's total reserves that may not be loaned out.
 - Increasing the reserve requirement decreases the money supply.
 - Decreasing the reserve requirement increases the money supply.

Problems in Controlling the Money Supply

- The Fed's control of the money supply is not precise.
- The Fed must wrestle with two problems that arise due to fractional-reserve banking.
 - The Fed does not control the amount of money that households choose to hold as deposits in banks.
 - The Fed does not control the amount of money that bankers choose to lend.

Summary

- The term money refers to assets that people regularly use to buy goods and services.
- Money serves three functions in an economy: as a medium of exchange, a unit of account, and a store of value.
- Commodity money is money that has intrinsic value.
- Fiat money is money without intrinsic value.

Summary

- The Federal Reserve, the central bank of the United States, regulates the U.S. monetary system.
- It controls the money supply through open-market operations or by changing reserve requirements or the discount rate.

Summary

- When banks loan out their deposits, they increase the quantity of money in the economy.
- Because the Fed cannot control the amount bankers choose to lend or the amount households choose to deposit in banks, the Fed's control of the money supply is imperfect.