
SILVER CERTIFICATE
THIS CERTIFIES THAT THERE IS ON DEPOSIT IN THE TREASURY OF
THE UNITED STATES OF AMERICA
SERIES OF 1934 A
I30567239 A
THIS CERTIFICATE IS LEGAL TENDER FOR ALL DEBTS, PUBLIC AND PRIVATE
FIVE
LINCOLN
SERIES OF 1934 A
WASHINGTON, D.C.
FIVE DOLLARS
IN SILVER PAYABLE TO THE BEARER ON DEMAND

THE UNITED STATES OF AMERICA
FIVE DOLLARS
FIVE
FIVE

FEDERAL RESERVE NOTE
THE UNITED STATES OF AMERICA
IG 00000000 T
SPECIMEN
THIS NOTE IS LEGAL TENDER FOR ALL DEBTS, PUBLIC AND PRIVATE
LINCOLN
FIVE DOLLARS

THE UNITED STATES OF AMERICA
IN GOD WE TRUST
SPECIMEN
FIVE DOLLARS

Money and interest rates

Lecture 8

Foundations of Economics

Outline

- The meaning and function of money
- The role of banks and central bank
- The supply and demand for money
- Equilibrium in the money market

Teaching the Terms

- Commodity money
- Fiat money
- Representative money
- Liquidity

Problems with barter

- Inefficient
- Time consuming
- Difficult to satisfy wants and needs consistently

Functions of Money

- Unit of account
- Store of value
- Medium of exchange

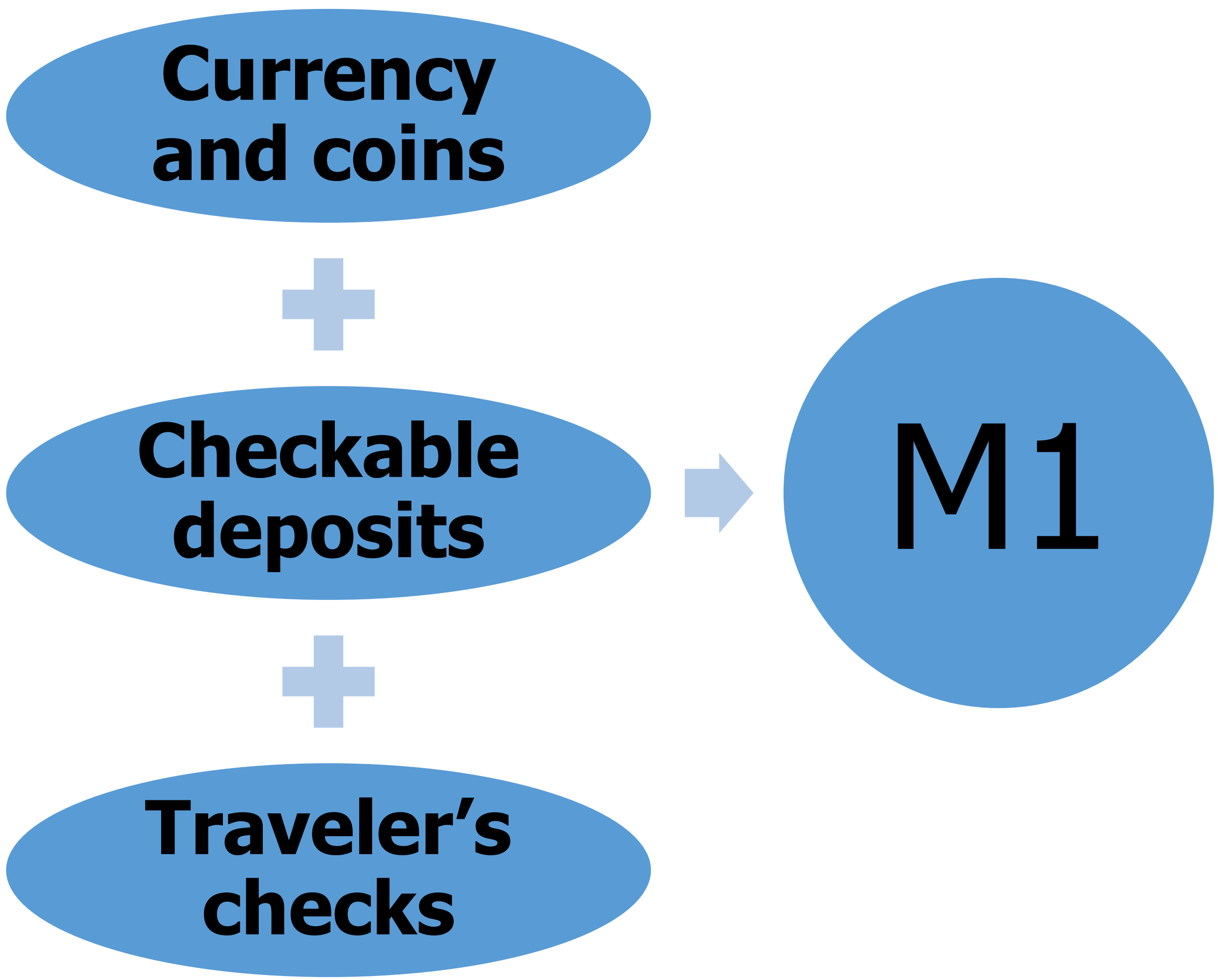
Sources of Money's Value

- ***Commodity Money*** – medium of exchange has intrinsic value
- ***Representative money*** – medium of exchange represents a claim on an item of value
- ***Fiat Money*** – medium of exchange has value by government decree

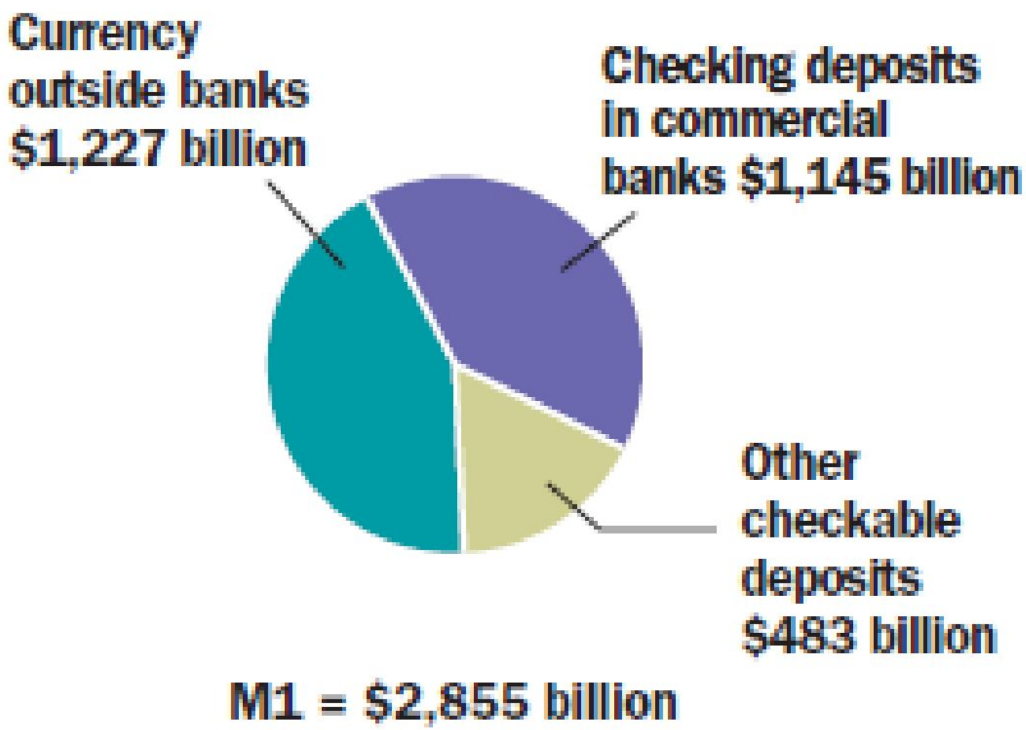
Characteristics of Money

- Portable
- Durable
- Divisible
- Uniform
- Limited
- Acceptable

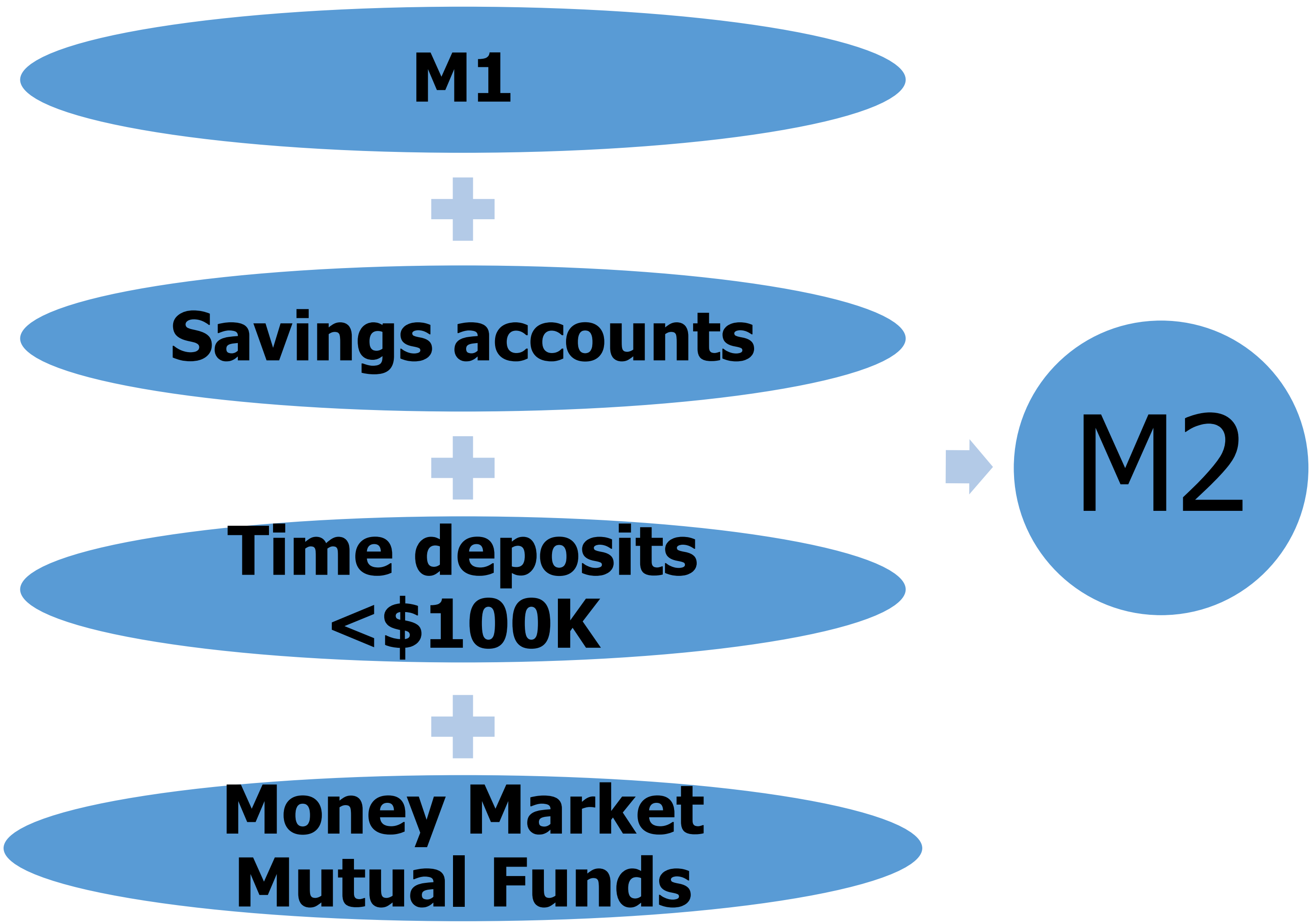
Monetary Aggregates



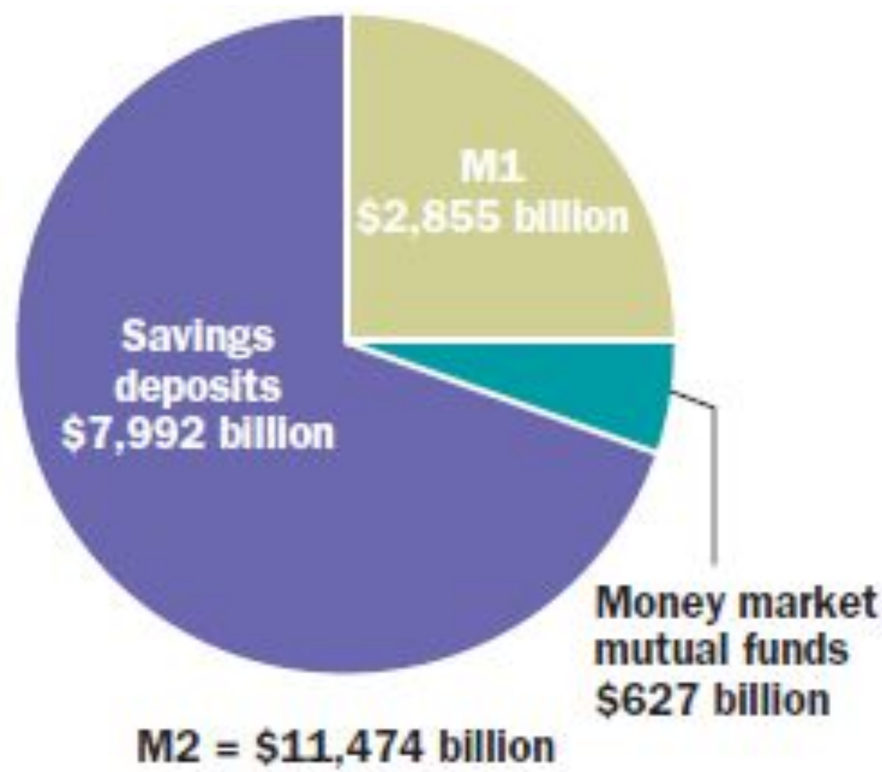
Two Definitions of the Money Supply, December 2017



Monetary Aggregates



Two Definitions of the Money Supply, December 2017



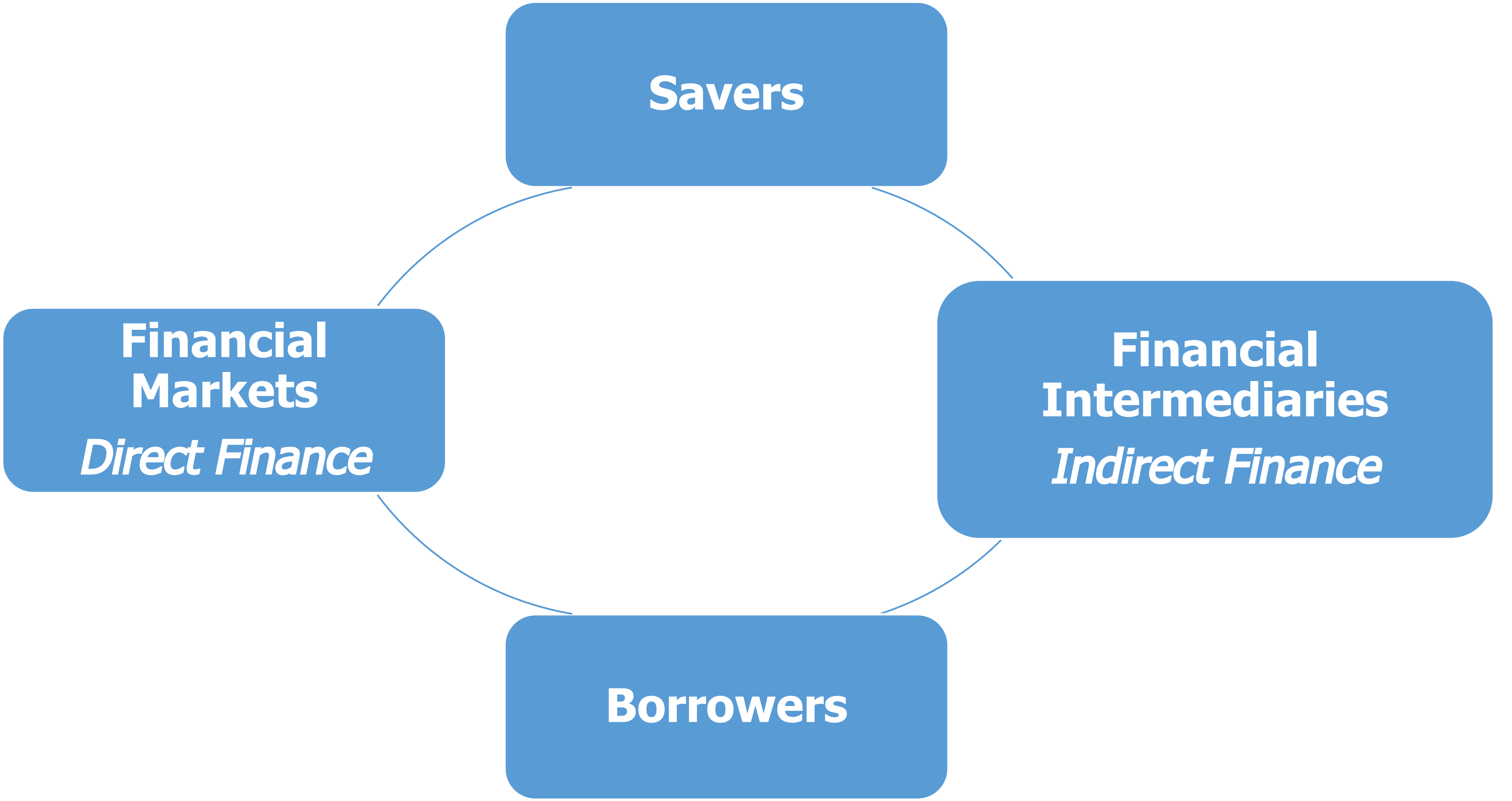
Liquidity

- Ability to convert an asset to a medium of exchange without loss of value

- Factors that affect liquidity include
  - Time constraints
  - Withdrawal restrictions
  - Minimum deposits
  - Market conditions

- When liquidity decreases, savers demand compensation (interest)

Financial Markets



Types of Financial Intermediaries

- Banks, savings and loans, credit unions
- Mutual funds
- Life insurance companies
- Pension funds

The Banking System

- How banking evolved
  - From using gold as commodity money
  - To goldsmiths who issued paper receipts backed by gold
  - Then clever goldsmiths started lending out “gold”

- Fractional reserve banking system
  - Bankers keep as reserves only a fraction of deposits

Features of fractional reserve banking

- Bank profitability
  - Banks are in business to earn profits
    - Interest on loans – interest on deposits
- Bank discretion over money supply
    - Loans create new money
    - Banks decisions on how much to hold in reserves influences the supply of money
- Exposure to bank runs
  - Keep prudent reserves and lend out money carefully

The Banking System

- Principles of bank management: Profit vs. Safety

- How do banks maintain a reputation for prudence?
    - Maintain a sufficiently level of reserves to minimize vulnerability to runs
    - Be cautious in making loans and investments since large losses undermine confidence

The Banking System

- Banking - inherently risky business
  - Safe only by cautious and prudent management
  - But caution not the way to high profits
  - High profits come from
    - Low reserves and more loans
    - Loans to borrowers with questionable credit standing at higher interest rate

The Origins of the Money Supply

- Bankers books

- Asset
  - An item of value owned

- Liability
  - Item of value owed; debts

- Balance sheet - accounting statement
  - Left side: values of all assets
  - Right side: values of all liabilities and net worth

Table 1

Assets		Liabilities and Net Worth	
Assets		**Liabilities**	
Reserves	$1,000,000	Checking deposits	$5,000,000
Loans outstanding	4,500,000		
Total	**$5,500,000**	**Net Worth**	
Addendum: Bank Reserves		Stockholders' equity	500,000
Actual reserves	$1,000,000		
Required reserves	1,000,000	Total	**$5,500,000**
Excess reserves	**$ 0**		

Net Worth = Assets - Liabilities

Bank Assets

- Cash and operational balances in the central bank
- Short-term loans
  - Market loans
  - Bills of exchange
  - Reverse repos
- Long-term loans
- Investments

Bank Liabilities = Deposits

- Sight deposits
- Time deposits
- Certificates of deposit (CDs)
- Sale and repurchase agreements (‘repos’)

Banks and Money Creation

- In general
  - If the required reserve ratio = *m*
  - Money multiplier = 1/*m*
  - Banking system can convert each $1 of reserves into *$1/m* in new money
- Money multiplier
  - Ratio of newly created bank deposits to new reserves
- Change in money supply

  = (1/m) x Change in reserves

Monetary Policy and interest rates

- Government (through independent agency) regulates money supply to maintain stability

- During a recession

  - Banks prone to reduce money supply
    - Increase excess reserves
    - Decrease lending to less creditworthy applicants

  - Without government intervention contraction in money supply would aggravate recession

The Central Bank

Functions:

- Issue notes
- Bank to the government
- Bank to banks
- Bank to overseas central banks
- Provides liquidity to banks
- Operates the government’s monetary and exchange rate policy

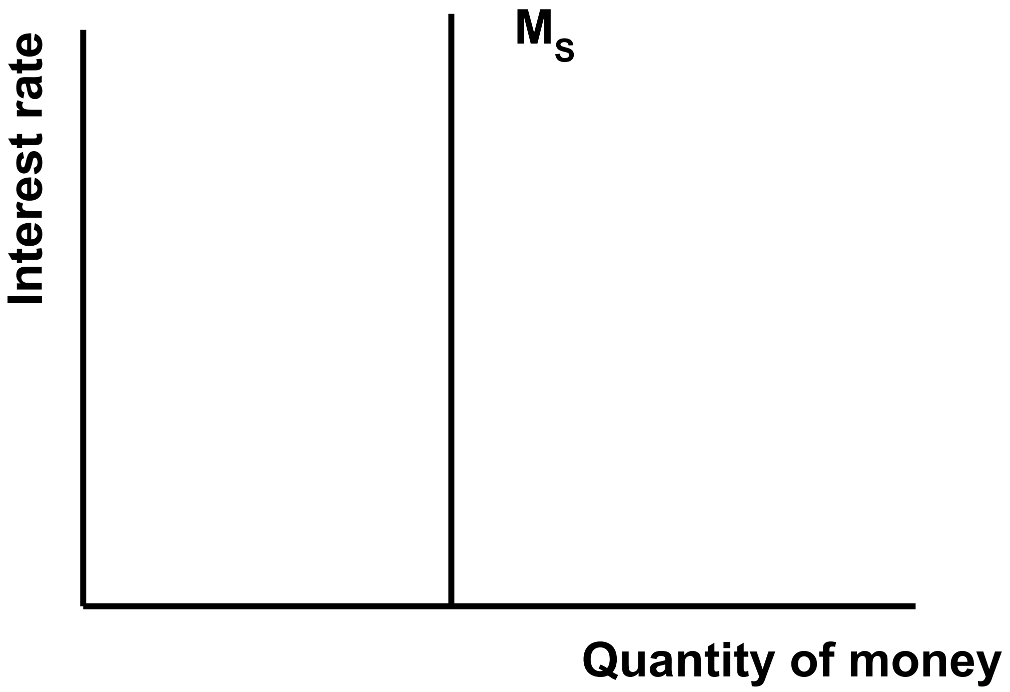
The Need for Monetary Policy

- During an economic boom
  - Banks expand money supply
  - Undesirable momentum to economy
  - Without intervention from central bank rapid money growth could lead to inflation

Money supply

The supply of money is to be determined by the Central Bank (exogenous).

Therefore money supply is independent of interest rate.



Money Demand

- Quantity of money demanded is the amount of wealth that the individuals choose to hold as money, rather than as other assets.

- How much money an individual will decide to hold is determined by:

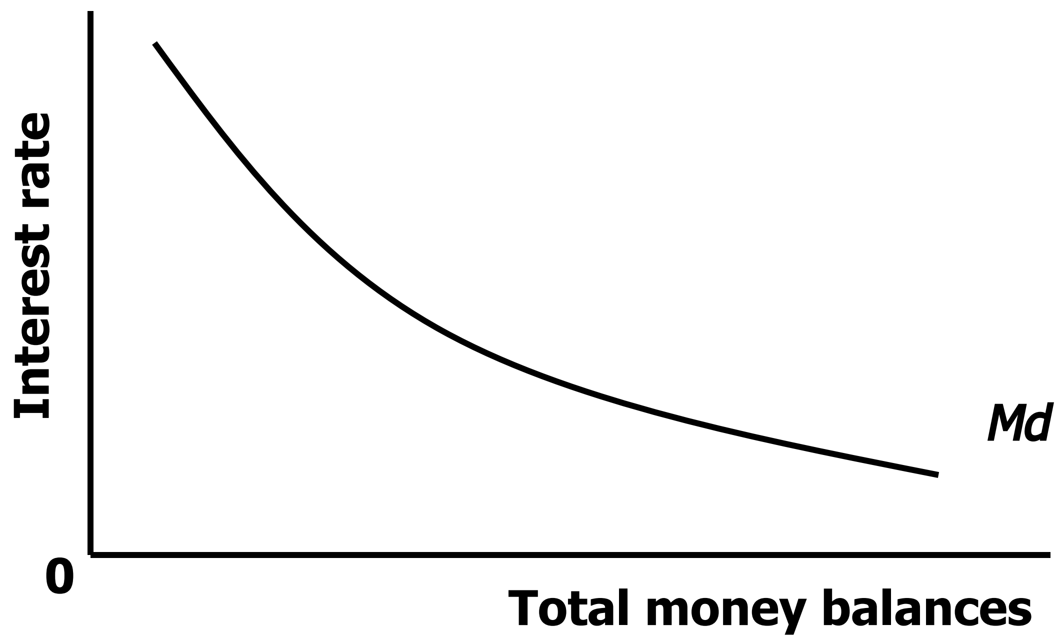
  - The price level
  - Real income
  - The interest rate

Demand for money

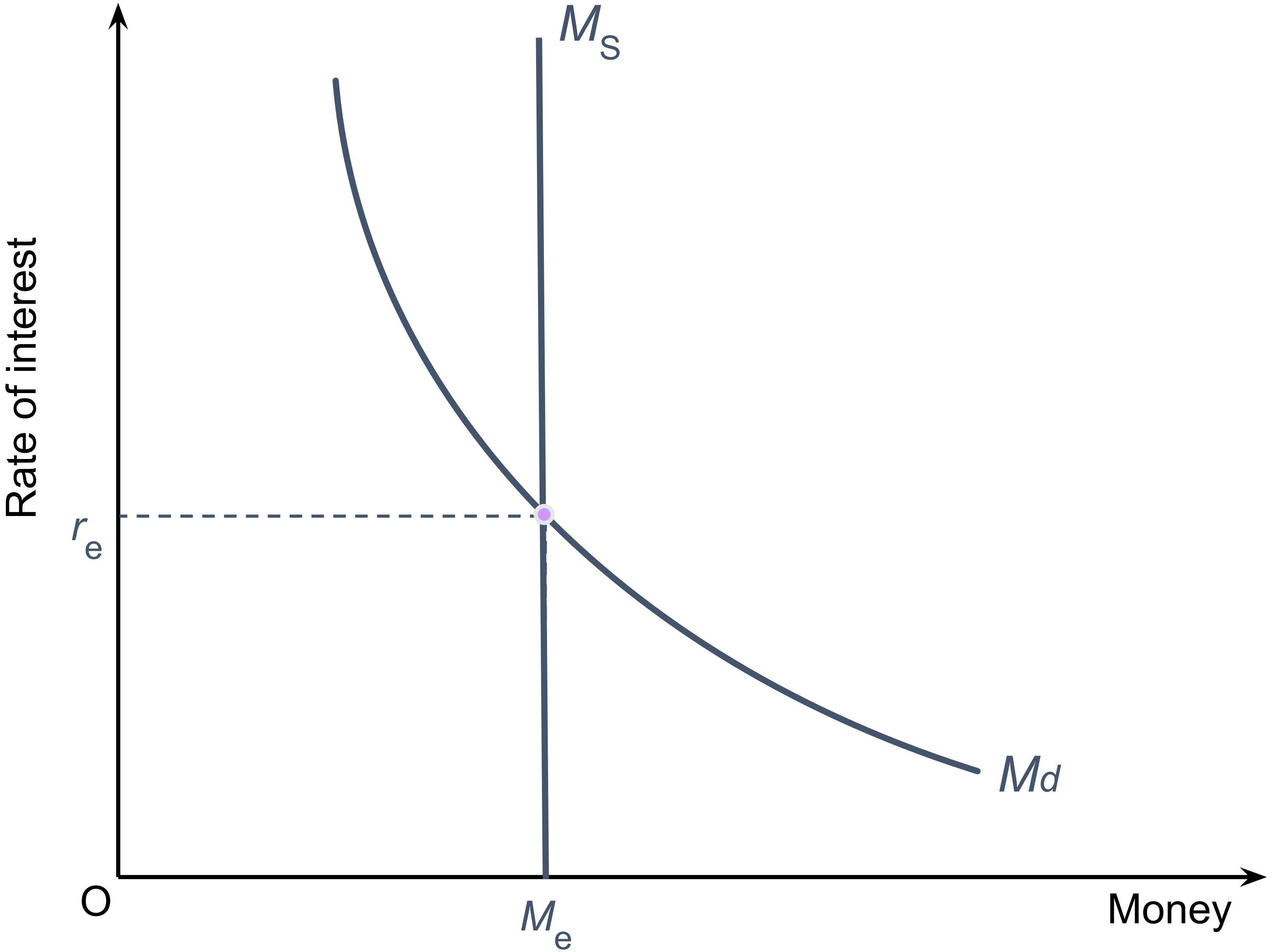
The motives for holding money: liquidity preference

Transactions and precautionary demand for money

Speculative demand for money



Equilibrium in the money market



Reading

- Sloman J. (2007), *Essentials of Economics*, 4^{nd} edition, Prentice Hall, Chapter 8
- Begg D. (2013), Foundations of Economics, 5^{th} edition, McGrawHill, Chapter 12
- Anderton A. (2000), Economics As Level, Causeway Press. Unit 37.