SECTION 5: The Financial Sector

Need to Know

Savings–Investment Spending Identity (S = I)

Simple economy: no government, no trade (zero imports and exports).

Remember the very simple circular flow diagram: All money spent by consumers and firms ends up in another person's pocket as income (including profit).

Total Income = Consumption + Savings (C + S) = Total Spending = Consumption+ Investment (C + I)

$$C + S = C + I$$
$$\text{Or}$$
$$S = I$$

The government spends on goods and services (G) and pays transfers to some. The government collects tax revenue to pay for these things.

Tax revenue = government spending + transfer payments

Budget Balance = Tax Revenue – G – transfers

- ***If BB >0, the government has a budget surplus and is actually saving money.***
- ***If BB<0, the government has a budget deficit and is borrowing money (dissaving).***

We can now include public sector savings to the savings-investment identity.
S + BB: simply total national savings.
S + BB = I

- ***If BB>0 (a surplus)***
- ***If BB<0 (a deficit)***

Final level of complexity: Add the foreign sector:

An American can save her money in the US or in another nation.
A foreign citizen can save his money in his home country, or in the US.

So the US receives inflows of funds—foreign savings that finance investment spending in the US. The US also generates outflows of funds—domestic savings that finance investment spending in another country.

Let's define:
Capital inflow into the US =total inflow of foreign funds - total outflow of domestic funds to other countries.

Capital inflow (CI) can be positive or negative so it can increase or decrease the total funds available for investment in the US economy.

S + BB + CI = I

- ***If CI > 0 (more foreign funds coming into the US, than US funds going out).***
- ***If CI < 0 (fewer foreign funds coming into the US, than US funds going out)***

Financial markets are where households invest their current savings and their accumulated savings, or wealth, by purchasing *financial assets* (a paper claim that entitles the buyer to future income from the seller)

Three Tasks of a Financial System:

- **Reducing Transaction Costs**
- **Reducing Risk**
  - **Financial Risk**
  - **Diversification**
- **Providing Liquidity**
  - **Liquid**
  - **Illiquid**

Types of Financial Assets:

- **Loans**
- **Bonds**
- **Default**
- **Loan-backed Securities (Collateralized Debt Obligation - CDO)**
- **Stocks**

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Financial Intermediaries:
- Mutual Funds
- Pension Funds
- Life Insurance Companies
- Banks
- Bank deposit
- Fractional reserve banking

Role of Money:
- Medium of Exchange
- Store of Value
- Unit of Account

Types of Money:
- Commodity Money
- Commodity-backed Money
- Fiat Money

Measuring the Money Supply (money supply is really just adding to M1 and M2):

M1 = currency and coin in circulation + checking deposits + traveler's checks (most liquid)
- More than half of the M1 is currency

M2 = M1 + savings accounts + short-term CDs + money market accounts (slightly less liquid than M1)

Defining Present Value:
The Simple Interest Formula
$fv = (1 + r)^n * pv$
$pv = fv / (1 + r)^n$

fv = future value of $
pv = present value of $
r = real interest rate
n = # of years

BANKING
Bank Regulations:
- Deposit Insurance
- FDIC
- Capital Requirements
- Reserve Requirements
- The Discount Window

Banks must hold some deposits in reserve because there is always the small risk of a **bank run**.

The ratio of (reserves/deposits) is called the **Reserve Ratio** (The Federal Reserve sets) - required reserve ratio for checkable bank deposits is 10%.

Excess Reserves = Total Reserves – Required Reserves

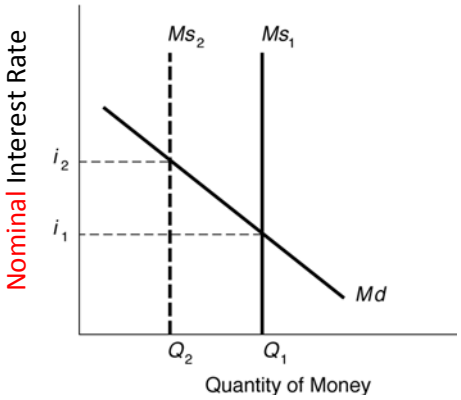
- rr = reserve ratio
- Loan Expansion = Excess Reserves / rr

MM = 1/rr (MM tells us how much money will be created if a bank has $1 of excess reserves)

Federal Reserve System consists of two parts: the Board of Governors and the 12 regional Federal Reserve Banks.

The Functions of the Federal Reserve:
- Provide Financial Services
- Supervise and Regulate Banking Institutions
- Maintain the Stability of the Financial System
- Conduct Monetary Policy (OMO's

The Fed has three main policy tools:
- **Federal Funds Rate**, the interest rate at which funds are borrowed and lent in the federal funds market, plays a key role in modern monetary policy.
- **Discount Rate** is the rate of interest the Fed charges on loans to banks that do not meet their reserve requirements (set 1 percentage point above the federal funds rate – that is why the Fed is "Bank of Last Resort"
- **Open - Market Operations** the Federal Reserve buys or sells U.S. Treasury bills, normally through a transaction with *commercial banks*
  - **Sale of T-bills – contract MS**
  - **Buy T-bills – expand MS**



We assume that the money supply MS is determined by the Fed and is fixed at any given point in time. It is also independent of the interest rate so it is depicted as a vertical line.

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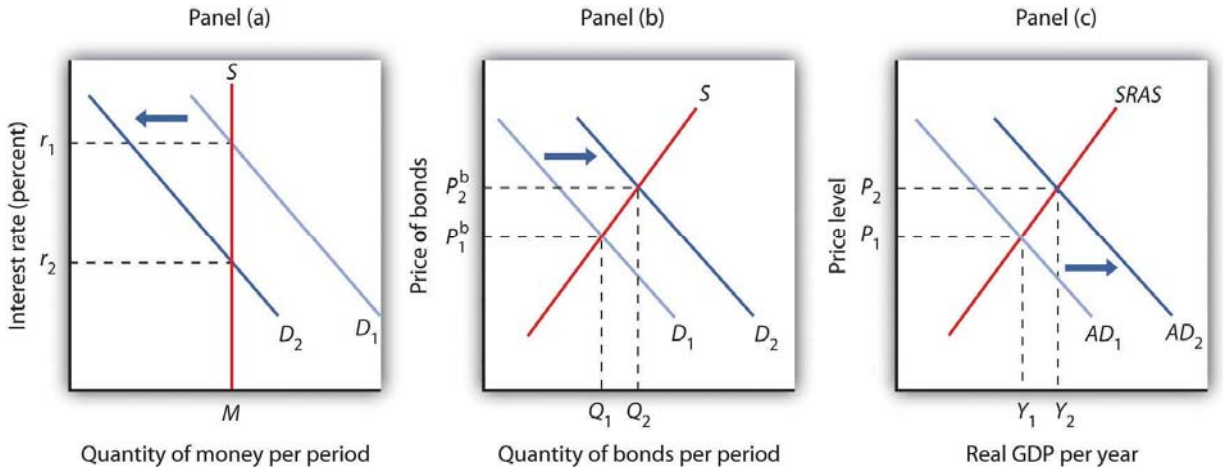
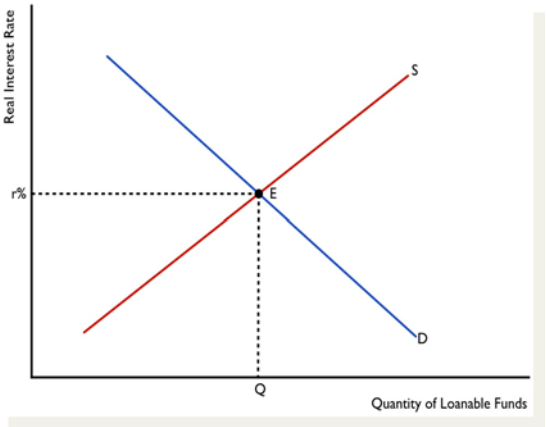
Shifts of the Money Demand Curve:

- **Δ Price Level**
- **Δ Real GDP**
- **Δ Technology**
- **Δ Institutions**



Opportunity Cost of holding money (liquid assets) changes when the overall level of interest rates changes.



LOANABLE FUNDS MARKET

Firms borrow to pay for capital investment projects.
If the project has an expected rate of return that exceeds the real interest rate, the investment will be profitable, and the funds will be demanded.

Savers can lend their money to borrowers, but in doing so must forgo consumption.
In order to compensate for the forgone consumption, savers must receive interest income and as the real interest rate rises, the opportunity to earn more income rises, so more dollars will be saved.

Shifts in Demand for Loanable Funds:

- **Δ Perceived Business Opportunities**
- **Δ Government Borrowing – can result in Crowding-Out**

Shifts in Supply of Loanable Funds:

- **Δ Private Savings Behavior**
- **Δ Capital Inflows**
  - **foreign money will flow into that nation's financial markets (shift right)**
  - **domestic money flowing into foreign financial markets (shift left)**

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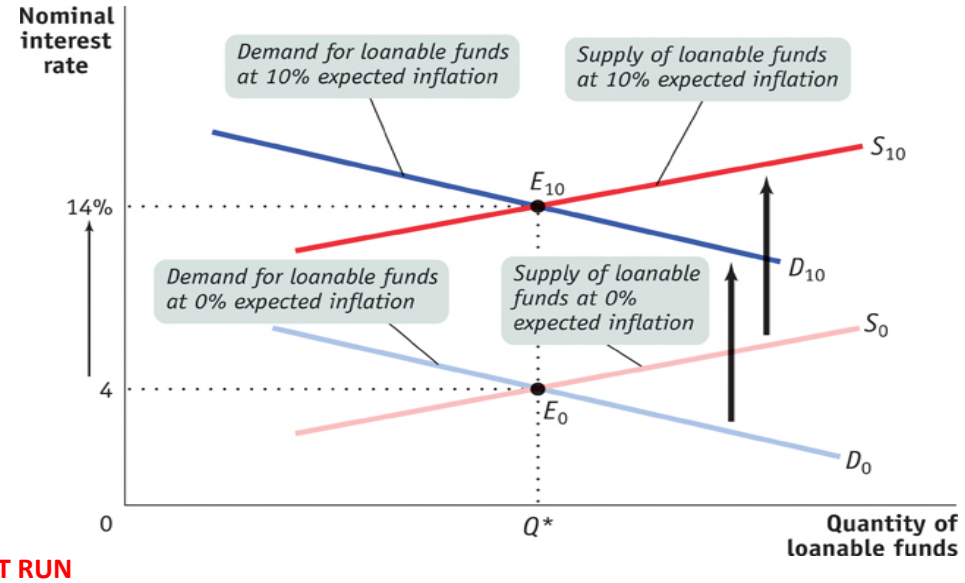
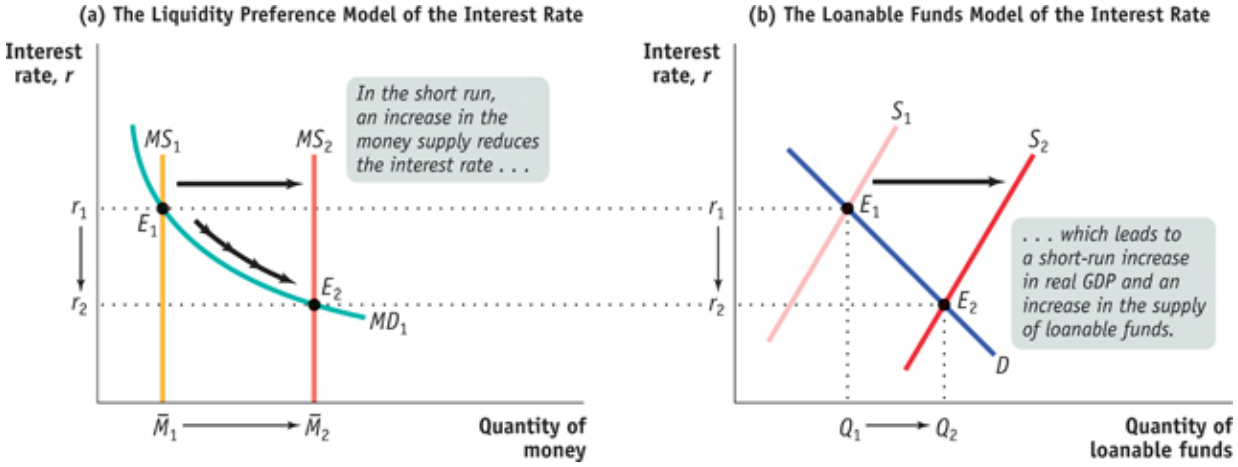
Interest Rates & Inflation

- **Real Interest = Nominal Interest - Inflation**
- **r% = i% - π%**
- **The Fisher Effect**
- **Nominal Interest = Real Interest + Expected Inflation**
- **i% = r% + exp. π%**



IN THE SHORT RUN



IN THE LONG RUN