Finance, Saving, and Investment
Learning Objectives

- The flows of funds through financial markets and the financial institutions
- Borrowing and lending decisions in financial markets
- Effects of government borrowing and lending in financial markets
- Effects of international borrowing and lending in financial markets
Financial Institutions and Financial Markets

To study the economics of financial institutions and markets we distinguish between

- Finance and money
- Physical capital and financial capital

Finance and Money

The study of finance looks at how households and firms obtain and use financial resources and how they cope with the risks that arise in this activity.

The study of money looks at how households and firms use it, how much of it they hold, how banks create and manage it, and how its quantity influences the economy.
Physical Capital and Financial Capital

*Physical capital* is the tools, instruments, machines, buildings, and other items that have been produced in the past and that are used today to produce goods and services.

The funds that firms use to buy physical capital are called *financial capital*. 
Capital and Investment

**Gross investment** is the total amount spent on purchases of new capital and on replacing depreciated capital.

**Depreciation** is the decrease in the quantity of capital that results from wear and tear and obsolescence.

**Net investment** is the change in the quantity of capital.

\[ \text{Net investment} = \text{Gross investment} - \text{Depreciation}. \]
The relationships among the capital, gross investment, depreciation, and net investment.
Wealth and Saving

Wealth is the value of all the things that people own.

Saving is the amount of income that is not paid in taxes or spent on consumption goods and services.

Saving increases wealth.

Wealth also increases when the market value of assets rises—called *capital gains*—and decreases when the market value of assets falls—called *capital losses*.
Financial Capital Markets

Saving is the source of funds used to finance investment.

These funds are supplied and demanded in three types of financial markets:

- Loan markets
- Bond markets
- Stock markets
Financial Institutions

A financial institution is a firm that operates on both sides of the markets for financial capital. It is a borrower in one market and a lender in another.

Key financial institutions are

- Commercial banks
- Government-sponsored mortgage lenders
- Pension funds
- Insurance companies
Insolvency and Illiquidity

A financial institution’s **net worth** is the total market value of what it has lent minus the market value of what it has borrowed.

If net worth is positive, the institution is **solvent** and can remain in business.

But if net worth is negative, the institution is **insolvent** and go out of business.
Interest Rates and Asset Prices

The interest rate on a financial asset is the interest received expressed as a percentage of the price of the asset.

For example, if the price of the asset is $50 and the interest is $5, then the interest rate is 10 percent.
The Loanable Funds Market

The **market for loanable funds** is the aggregate of all the individual financial markets.

**Funds that Finance Investment**

Funds come from three sources:

1. Household saving $S$
2. Government budget surplus $(T - G)$
3. Borrowing from the rest of the world $(M - X)$

Figure 23.2 on the next slide illustrates the flows of funds that finance investment.
The Real Interest Rate

The **nominal interest rate** is the number of dollars that a borrower pays and a lender receives in interest in a year expressed as a percentage of the number of dollars borrowed and lent.

For example, if the annual interest paid on a $500 loan is $25, the nominal interest rate is 5 percent per year.
The real interest rate is the nominal interest rate adjusted to remove the effects of inflation on the buying power of money.

The real interest rate is approximately equal to the nominal interest rate minus the inflation rate.

Real interest rate = Nominal interest rate + Inflation rate

The real interest rate is the opportunity coast of borrowing.
The Loanable Funds Market

The market for loanable funds determines the real interest rate, the quantity of funds loaned, saving, and investment.

We’ll start by ignoring the government and the rest of the world.

The Demand for Loanable Funds

The quantity of loanable funds demanded depends on

1. The real interest rate
2. Expected profit
The Market for Loanable Funds

The demand for loanable funds curve.

A rise in the real interest rate decreases the quantity of loanable funds demanded.

A fall in the real interest rate increases the quantity of loanable funds demanded.
Changes in the Demand for Loanable Funds

When the expected profit changes, the demand for loanable funds changes.

Other things remaining the same, the greater the expected profit from new capital, the greater is the amount of investment and the greater the demand for loanable funds.
The Loanable Funds Market

The Supply of Loanable Funds

The supply of loanable funds depends on

1. The real interest rate
2. Disposable income
3. Expected future income
4. Wealth
5. Default risk
The Loanable Funds Market

The Supply of Loanable Funds Curve

The **supply of loanable funds** is the relationship between the quantity of loanable funds supplied and the real interest rate when all other influences on lending plans remain the same.

Saving is the main item that makes up the supply of loanable funds.
The supply of loanable funds curve.

A rise in the real interest rate increases the quantity of loanable funds supplied.

A fall in the real interest rate decreases the quantity of loanable funds supplied.
The Loanable Funds Market

Changes in the Supply of Loanable Funds

A change in disposable income, expected future income, wealth, or default risk changes the supply of loanable funds.

An increase in disposable income, a decrease in expected future income, a decrease in wealth, or a fall in default risk increases saving and increases the supply of loanable funds.
The Loanable Funds Market

Equilibrium in the Loanable Funds Market

The loanable funds market is in equilibrium at the real interest rate at which the quantity of loanable funds demanded equals the quantity of loanable funds supplied.
The Loanable Funds Market

Equilibrium in the loanable funds market.

At 7 percent a year, there is a surplus of funds and the real interest rate falls.

At 5 percent a year, there is a shortage of funds and the real interest rate rises.

Equilibrium occurs at a real interest rate of 6 percent a year.
The Loanable Funds Market

Changes in Demand and Supply

Financial markets are highly volatile in the short run but remarkably stable in the long run.

Volatility comes from fluctuations in either the demand for loanable funds or the supply of loanable funds.

These fluctuations bring fluctuations in the real interest rate and in the equilibrium quantity of funds lent and borrowed.

They also bring fluctuations in asset prices.
The Loanable Funds Market

An increase in the demand for loanable funds.

An increase in expected profits increases the demand for funds today.

The real interest rate rises.

Saving and quantity of funds supplied increases.
The Loanable Funds Market

An increase in the supply of loanable funds.

If one of the influences on saving plans changes and saving increases, the supply of funds increases.

The real interest rate falls.

Investment increases.
Government in the Loanable Funds Market

Government enters the financial loanable market when it has a budget surplus or deficit.

- A government budget surplus increases the supply of funds.
- A government budget deficit increases the demand for funds.
Government in the Market for Loanable Funds

Figure 23.7 illustrates the effect of a government budget surplus.

A government budget surplus increases the supply of funds.

The real interest rate falls.

Investment increases.

Saving decreases.
Government in the Market for Loanable Funds

Figure 23.8 illustrates the effect of a government budget deficit.

A government budget deficit increases the demand for funds.

The real interest rate rises.

Saving increases.

Investment decreases.
Government in the Market for Loanable Funds

Figure 23.9 illustrates the Ricardo-Barro effect.

A budget deficit increases the demand for funds.

Rational taxpayers increase saving, which increases the supply of funds.

Crowding-out is avoided.

Increased saving finances the deficit.
The Global Loanable Funds Market

International Capital Mobility

Because lenders are free to seek the highest real interest rate and borrowers are free to seek the lowest real interest rate, the loanable funds market is a single, integrated, global market.

Funds flow into the country in which the real interest rate is highest and out of the country in which the real interest rate is lowest.
The Global Loanable Funds Market

International Borrowing and Lending

A country’s loanable funds market connects with the global market through net exports.

If a country’s net exports are *negative*, the rest of the world supplies funds to that country and the quantity of loanable funds in that country is greater than national saving.

If a country’s net exports are *positive*, the country is a net supplier of funds to the rest of the world and the quantity of loanable funds in that country is less than national saving.
The Global Loanable Funds Market

Figure 23.10(a) illustrates the global market.

The world equilibrium real interest rate is 5 percent a year.
The Global Loanable Funds Market

In part (b), at the world real interest rate, borrowers want more funds than the quantity supplied by domestic lenders. The shortage of funds is made up by international borrowing.
The Global Loanable Funds Market

In part (c), at the world real interest rate, the quantity supplied by domestic lenders exceeds what domestic borrowers want. The excess quantity supplied goes to foreign borrowers.