GLOBAL EDITION

Economics

ELEVENTH EDITION

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24 FINANCE, SAVING, AND INVESTMENT

After studying this chapter, you will be able to:

- Describe the flow of funds in financial markets
- Explain how saving and investment decisions interact in financial markets
- Explain how governments influence financial markets
- Explain how international borrowing and lending influence financial markets

During 2008, financial markets around the globe went into a meltdown.

Billions of dollars were lost.

Even in mid-2012, U.S. stock prices had not yet returned to their pre-crisis peak values of July 2007.

Behind such drama, Wall Street plays a crucial unseen role funneling funds from savers and lenders to investors and borrowers.

How do financial markets work? What do they do?

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.

Financial Institutions and Financial Markets

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**.

Financial Institutions and Financial Markets

Capital and Investment

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

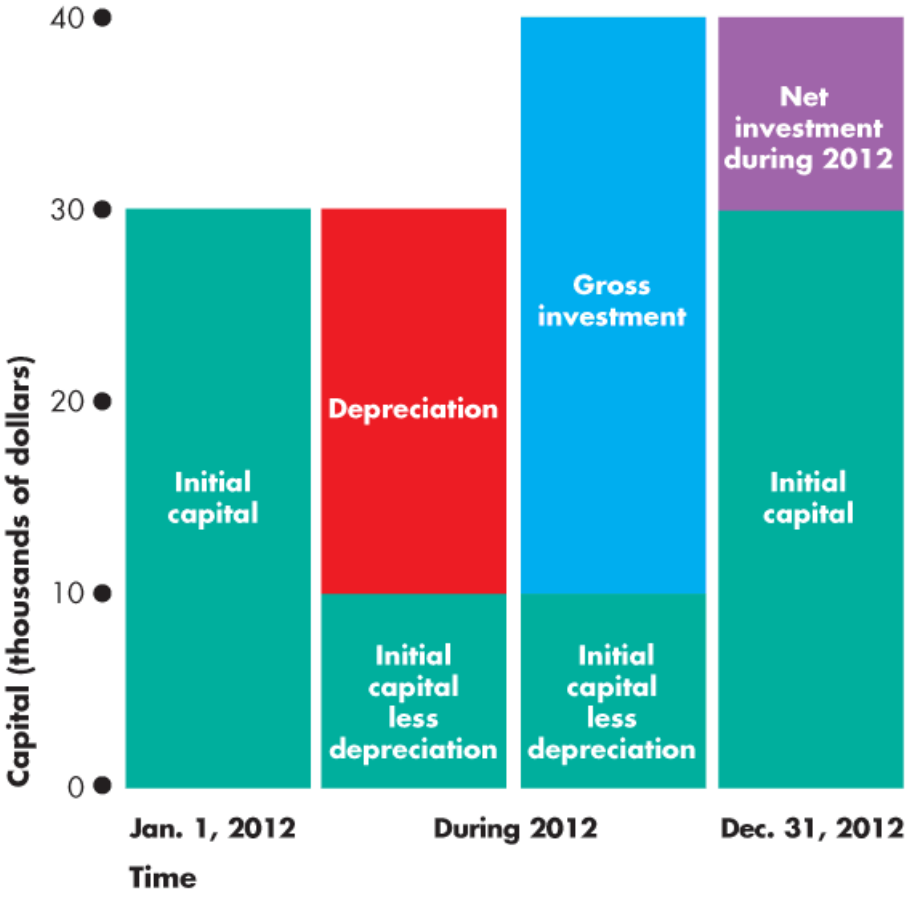
Depreciation is the decrease in the quantity of capital that results from wear and tear and obsolescence.

Net investment is the change in the quantity of capital.

Net investment = Gross investment – Depreciation.

Financial Institutions and Financial Markets

Figure 24.1 illustrates the relationships among the capital, gross investment, depreciation, and net investment.



Financial Institutions and Financial Markets

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 Institutions and Financial Markets

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 and Financial 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

Financial Institutions and Financial Markets

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 will go out of business.

Financial Institutions and Financial Markets

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.

If the asset price rises (say to $200), other things remaining the same, the interest rate falls (2.5 percent).

If the asset price falls (say to $20), other things remaining the same, the interest rate rises (to 25 percent).

The Loanable Funds Market

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

Funds that Finance Investment

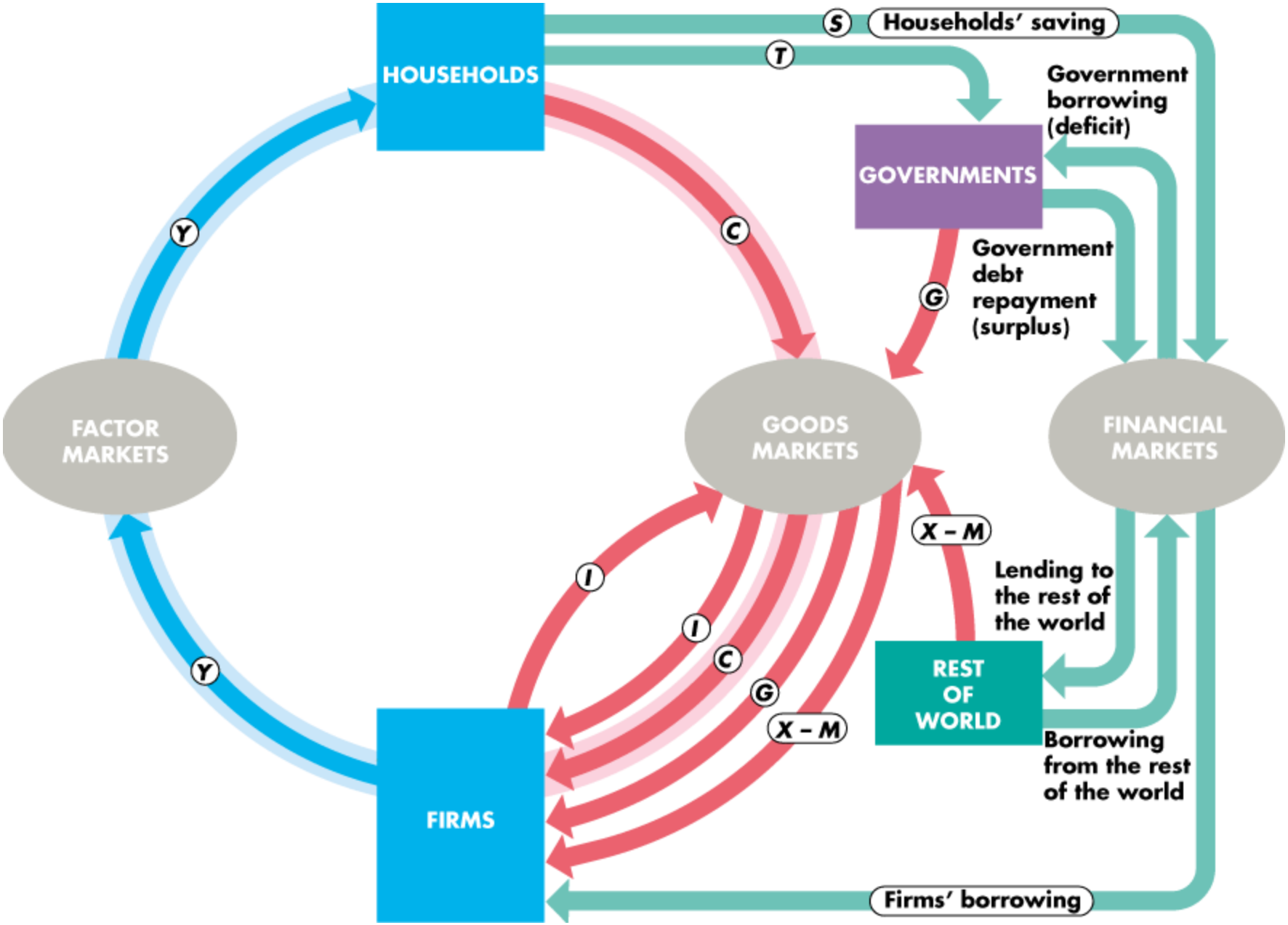
Funds come from three sources:

1. Household saving S

2. Government budget surplus ($T - G$)

3. Borrowing from the rest of the world ($M - X$)

Figure 24.2 on the next slide illustrates the flows of funds that finance investment.



The Loanable Funds Market

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 Loanable Funds Market

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.

For example, if the nominal interest rate is 5 percent a year and the inflation rate is 2 percent a year, the real interest rate is 3 percent a year.

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 Loanable Funds Market

The Demand for Loanable Funds Curve

The **demand for loanable funds** is the relationship between the quantity of loanable funds demanded and the real interest rate when all other influences on borrowing plans remain the same.

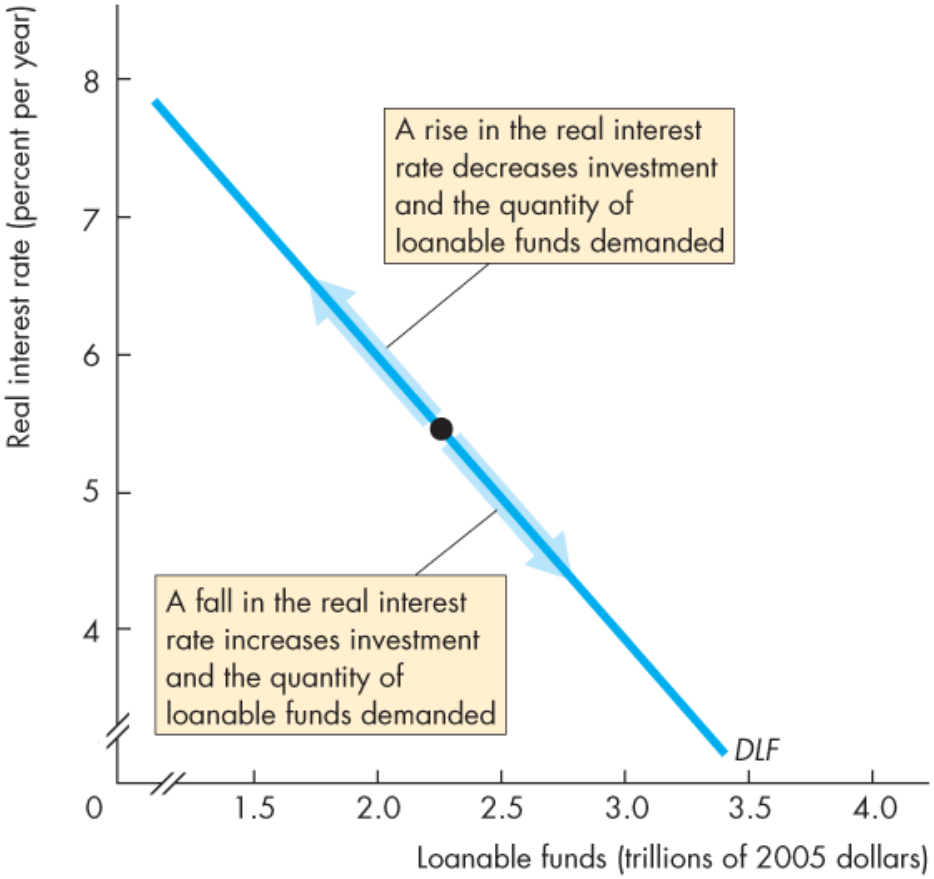
Business investment is the main item that makes up the demand for loanable funds.

The Loanable Funds Market

Figure 24.3 shows 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.



The Loanable Funds Market

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 *quantity of loanable funds supplied* 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.

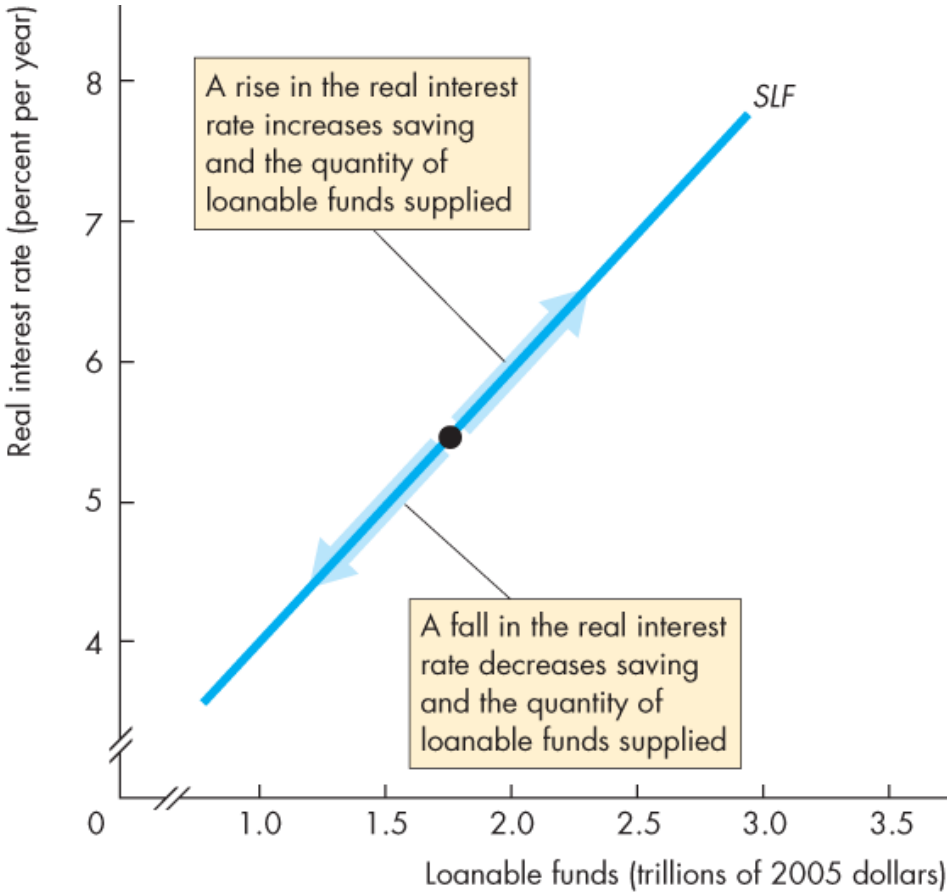
Saving is the main item that makes up the supply of loanable funds.

The Loanable Funds Market

Figure 24.4 shows 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.

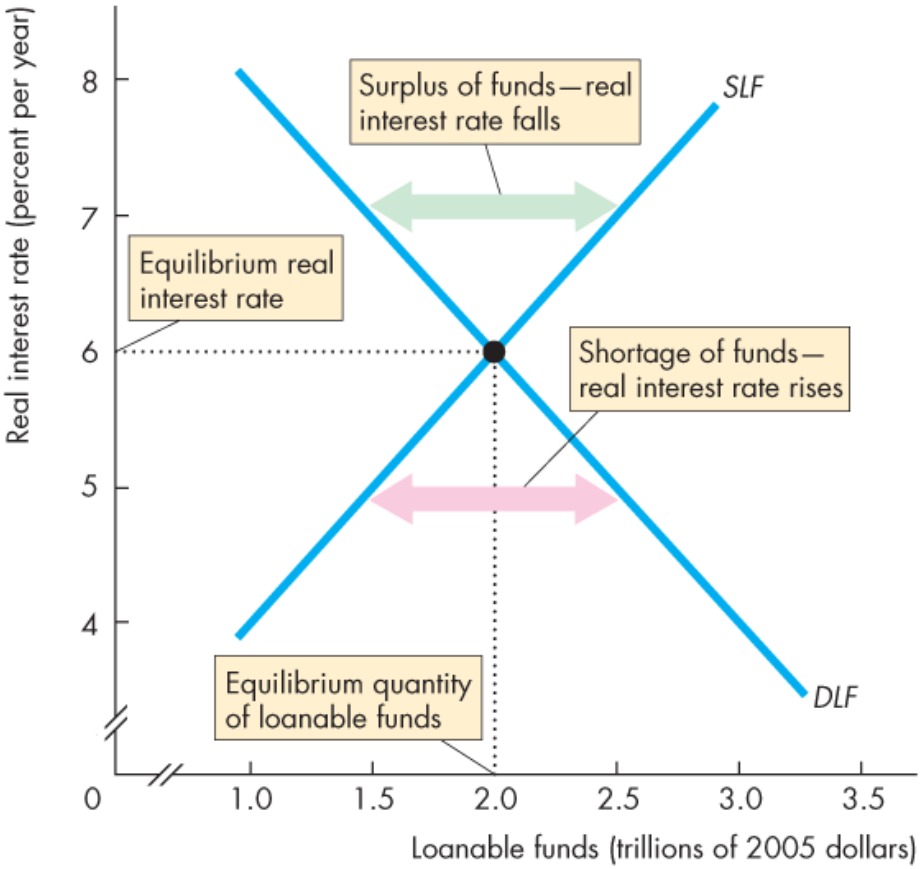
The Loanable Funds Market

Figure 24.5 illustrates 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.

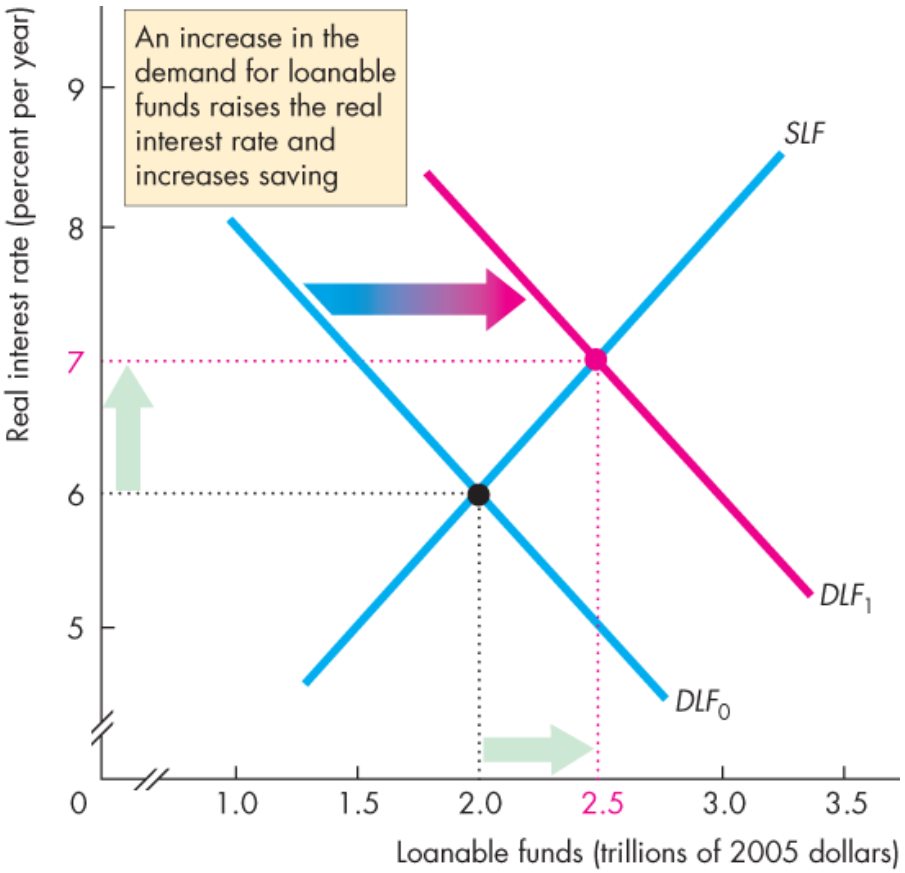
The Loanable Funds Market

Figure 24.6(a) illustrates 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.



(a) An increase in demand

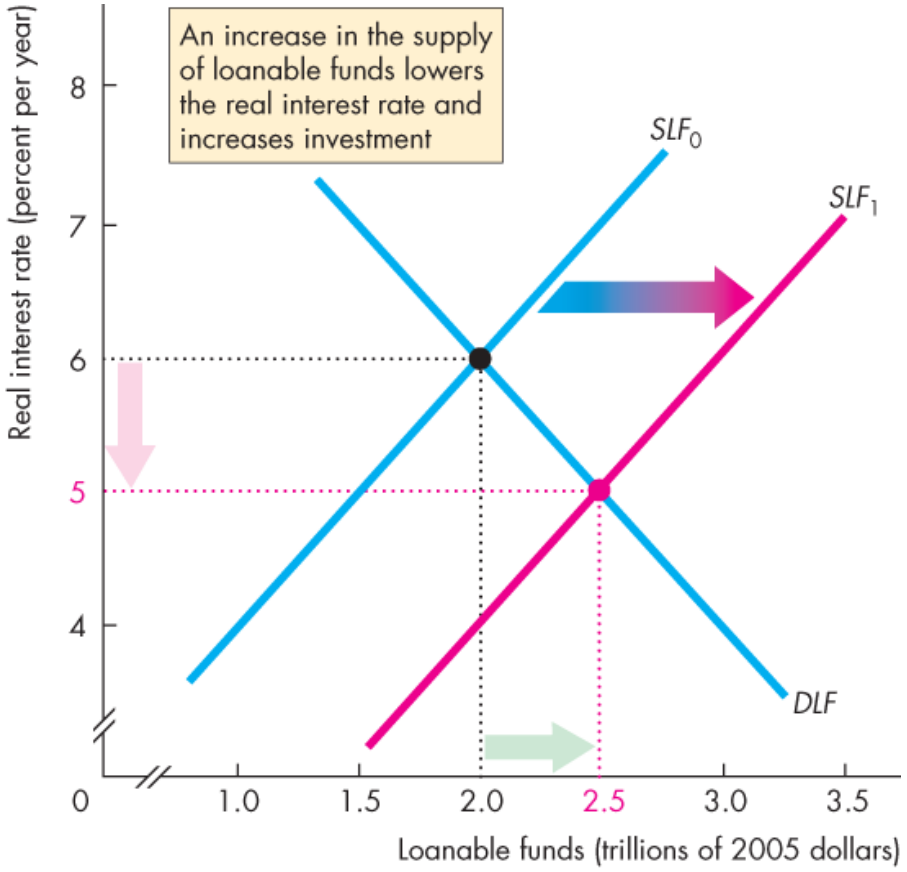
The Loanable Funds Market

Figure 24.6(b) illustrates 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.



(b) An increase in supply

Government in the Loanable Funds Market

Government enters the loanable funds 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 Loanable Funds Market

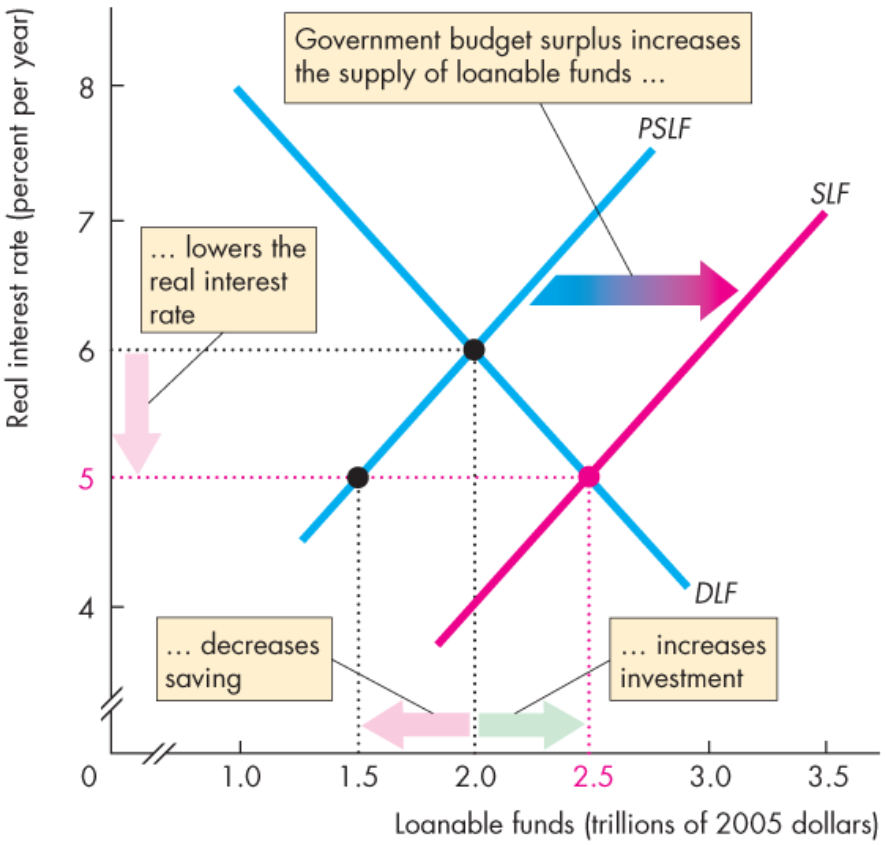
Figure 24.7 illustrates the effect of a government budget surplus.

A government budget surplus increases the supply of funds.

The real interest rate falls.

Private saving decreases.

Investment increases.



Government in the Loanable Funds Market

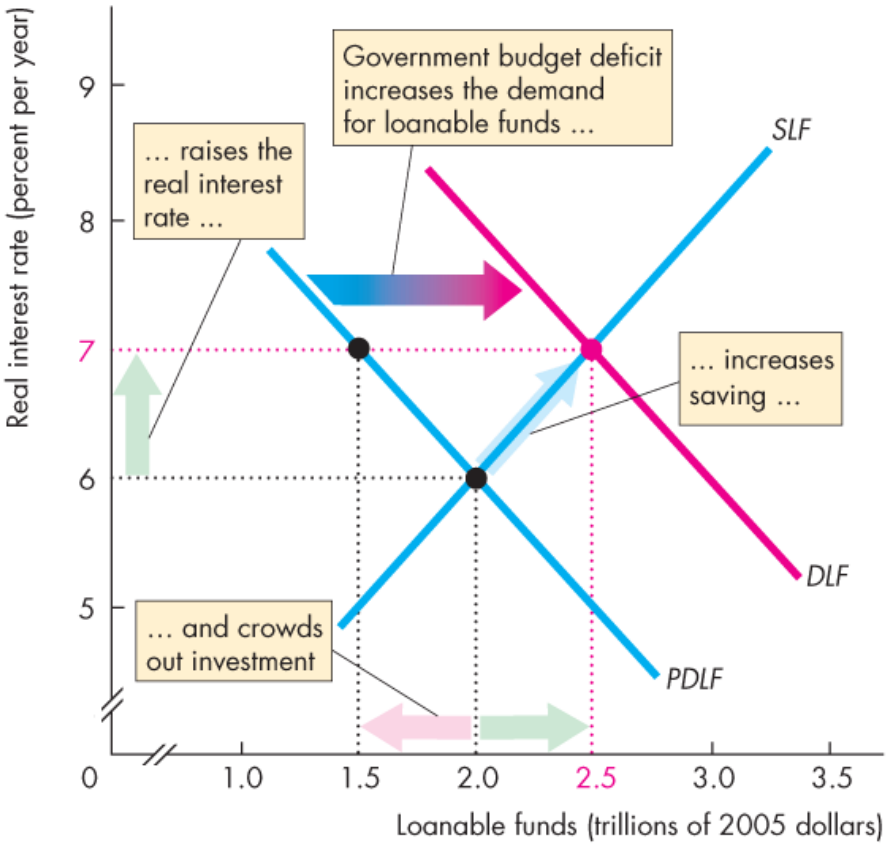
Figure 24.8 illustrates the effect of a government budget deficit.

A government budget deficit increases the demand for funds.

The real interest rate rises.

Private saving increases.

Investment decreases—is crowded out.



Government in the Loanable Funds Market

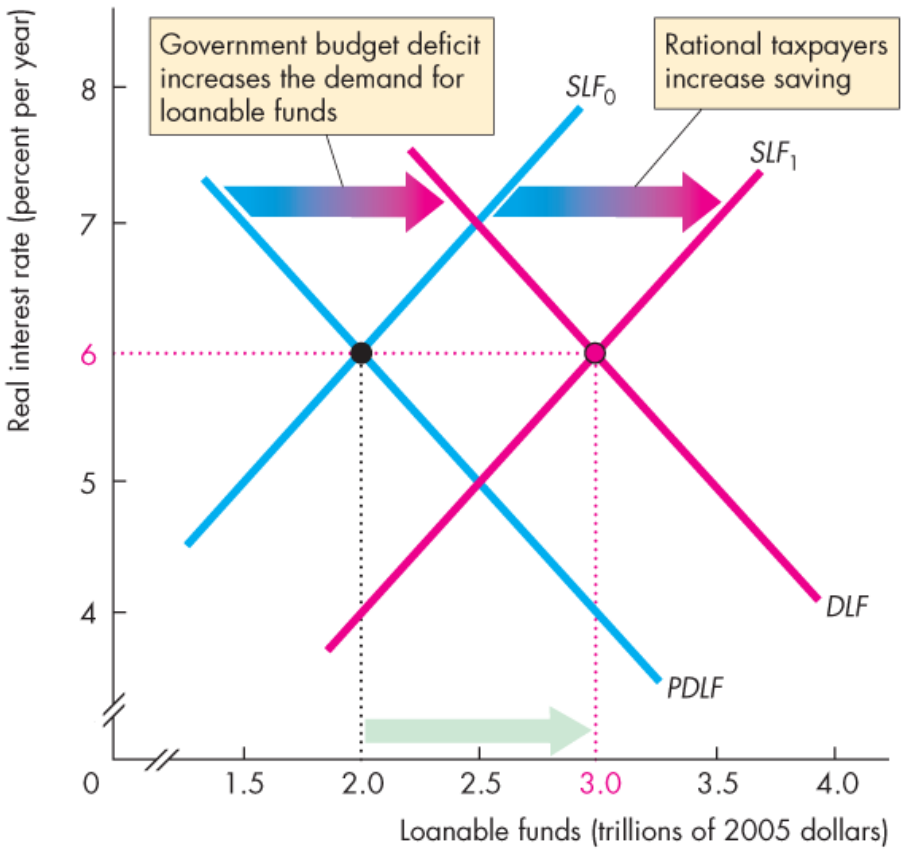
Figure 24.9 illustrates the Ricardo-Barro effect.

A budget deficit increases the demand for funds.

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

Increased private saving finances the deficit.

Crowding-out is avoided.



The Global Loanable Funds Market

The loanable funds market is global, not national.

Lenders want to earn the highest possible real interest rate and they will seek it by looking around the world.

Borrowers want to pay the lowest possible real interest rate and they will seek it by looking around the world.

Financial capital is mobile: It moves to the best advantage of lenders and borrowers.

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.

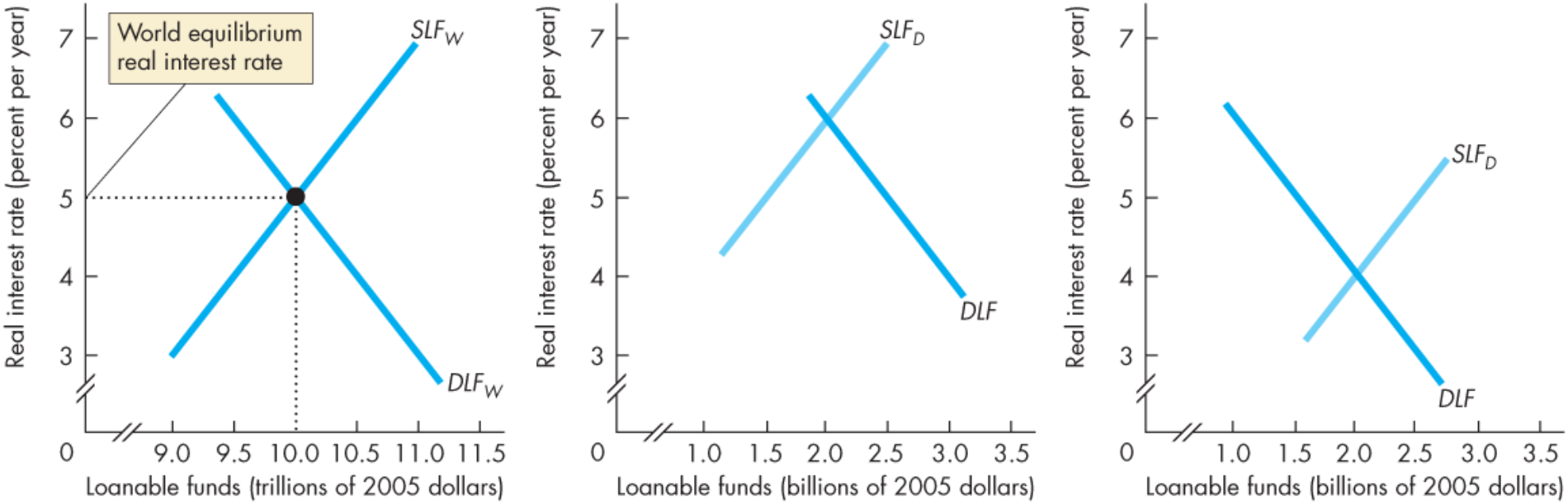
If a country's net exports are *negative*, the rest of the world supplies funds to that country and the quantity of loanable funds in that country is greater than national saving.

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 24.10(a) illustrates the global market.

The world equilibrium real interest rate is 5 percent a year.

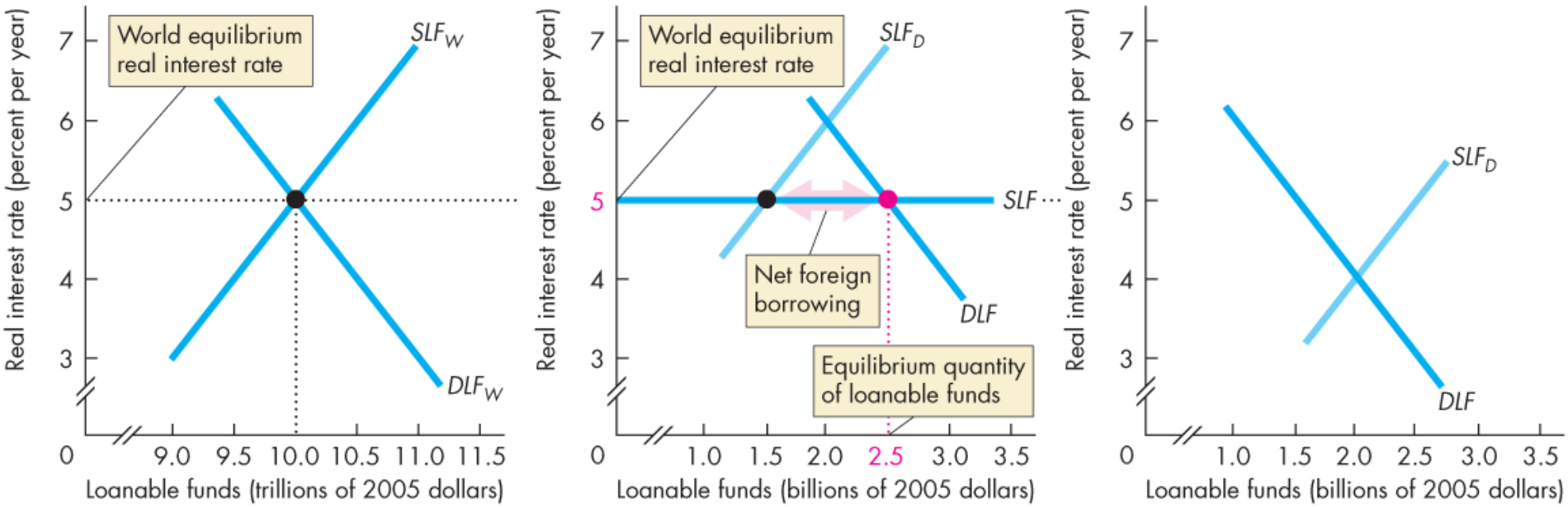


(a) The global market **(b) An international borrower** **(c) An international lender**

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.

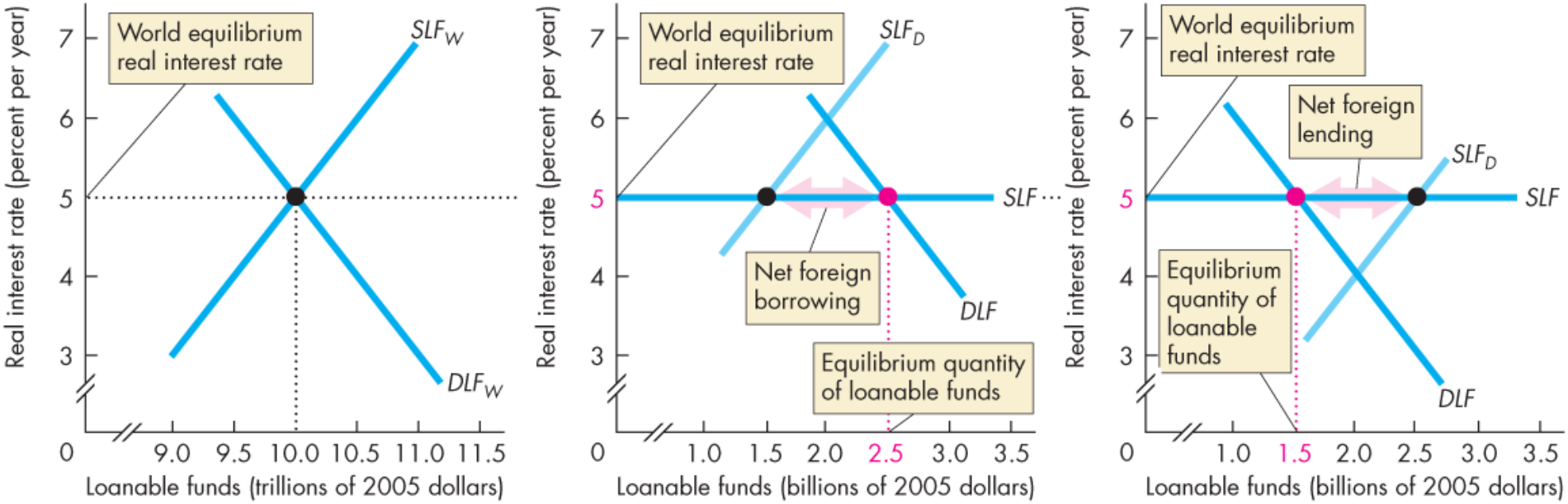
The shortage of funds is made up by international borrowing.



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.



(a) The global market **(b) An international borrower** **(c) An international lender**