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**Saving, Investment, and  
the Financial System**

PRINCIPLES OF  
**MACROECONOMICS**  
FOURTH CANADIAN EDITION

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PowerPoint® Slides  
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Canadian adaptation by Marc Prud'Homme

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**In this chapter, look for the answers to these questions:**

- What are the main types of financial institutions in the U.S. economy, and what is their function?
- What are the three kinds of saving?
- What's the difference between saving and investment?
- How does the financial system coordinate saving and investment?
- How do govt policies affect saving, investment, and the interest rate?

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**The Financial System**

- The financial system
  - consists of the group of institutions in the economy that help to match one person's saving with another person's investment.
  - moves the economy's scarce resources from savers to borrowers.

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## Financial Institutions in the Canadian Economy

- **Financial markets:** institutions through which savers can directly provide funds to borrowers. Examples:
  - The Bond Market.
  - The Stock Market.

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## Financial Markets: The Bond Market

- A **bond** is a certificate of indebtedness that specifies obligations of the borrower to the holder of the bond.
- Characteristics of a Bond
  - **Term:** The length of time until the bond matures.
  - **Credit Risk:** The probability that the borrower will fail to pay some of the interest or principal.

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## Financial Markets: The Stock Market

- **Stock** represents a claim to partial ownership in a firm and is therefore, a claim to the profits that the firm makes.
  - The sale of stock to raise money is called **equity financing**.
    - Compared to bonds, stocks offer both higher risk and potentially higher returns.
  - The most important stock exchange in Canada is the Toronto Stock Exchange (TSX)
  - The most important stock exchanges in the United States are the New York Stock Exchange, the American Stock Exchange, and NASDAQ.

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### Financial Markets: The Stock Market

- Most newspaper stock tables provide the following information:
  - Price (of a share)
  - Volume (number of shares sold)
  - Dividend (profits paid to stockholders)
  - Price-earnings ratio
- The Stock Index
  - Available to monitor the overall level of stock prices
  - Computed as an average of a group of stock prices
  - The best-known and closely watched stock index in Canada is TSX 300
  - The most famous stock index is the Dow Jones Industrial Average

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### Financial Institutions

- **Financial intermediaries:** institutions through which savers can indirectly provide funds to borrowers.  
Examples:
  - Banks
  - Mutual funds

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### Financial Intermediaries: Banks

- Take deposits from those who save and use the deposits to make loans to those who borrow.
- Pay depositors interest on their deposits and charge borrowers higher interest on their loans.
- Help create a *medium of exchange* by allowing people to write checks against their deposits.
  - A medium of exchange is an item that people can easily use to engage in transactions.
  - This facilitates the purchases of goods and services.

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### Financial Intermediaries: Mutual Funds

- A *mutual fund* is an institution that sells shares to the public and uses the proceeds to buy a portfolio, of various types of stocks, bonds, or both.
  - They allow people with small amounts of money to easily diversify.

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### SAVING AND INVESTMENT IN THE NATIONAL INCOME ACCOUNTS

- Recall that GDP is both total income in an economy and total expenditure on the economy's output of goods and services:

$$Y = C + I + G + NX$$

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### Some Important Identities

- Assume a *closed economy*, that is, one that does not engage in international trade:

$$Y = C + I + G$$

- Now, subtract C and G from both sides of the equation:

$$Y - C - G = I$$

- The left side of the equation is the total income in the economy after paying for consumption and government purchases and is called *national saving*, or just *saving* (S).

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### Some Important Identities

- Substituting  $S$  for  $Y - C - G$ , the equation can be written as:

$$S = I$$

- National saving, or saving, is equal to:

$$S = I$$

$$S = Y - C - G$$

$$S = (Y - T - C) + (T - G)$$

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### The Meaning of Saving and Investment

- National Saving

- National saving* is the total income in the economy that remains after paying for consumption and government purchases.

- Private Saving

- Private saving* is the amount of income that households have left after paying their taxes and paying for their consumption.

$$\text{Private saving} = (Y - T - C)$$

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### The Meaning of Saving and Investment

- Public Saving

- Public saving* is the amount of tax revenue that the government has left after paying for its spending.

$$\text{Public saving} = (T - G)$$

- National Saving (again)

$$\begin{aligned} S &= (Y - T - C) + (T - G) \\ &= Y - C - G \end{aligned}$$

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## The Meaning of Saving and Investment

For the economy as a whole, saving must be equal to investment.

$$S = I$$

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## Budget Deficits and Surpluses

### Budget surplus

- = an excess of tax revenue over govt spending
- =  $T - G$
- = public saving

### Budget deficit

- = a shortfall of tax revenue from govt spending
- =  $G - T$
- = - (public saving)

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## The Market for Loanable Funds

- Financial markets coordinate the economy's saving and investment in the *market for loanable funds*.
  - the market in which those who want to save supply funds and those who want to borrow to invest demand funds.
- Helps us understand
  - how the financial system coordinates saving & investment
  - how govt policies and other factors affect saving, investment, the interest rate

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### The Market for Loanable Funds

- Loanable funds refers to all income that people have chosen to save and lend out, rather than use for their own consumption.
  - The supply of loanable funds comes from people who have extra income they want to save and lend out.
  - The demand for loanable funds comes from households and firms that wish to borrow to make investments

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### Supply and Demand for Loanable Funds

- The interest rate
  - is the price of the loan.
  - represents the amount that borrowers pay for loans and the amount that lenders receive on their saving.
- Financial markets work much like other markets in the economy.
  - The equilibrium of the supply and demand for loanable funds determines the *real interest rate*.

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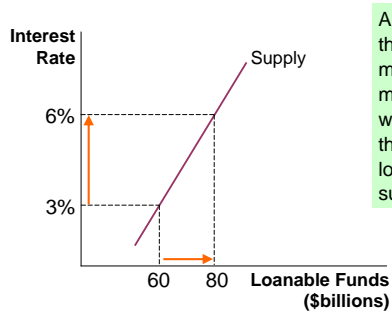
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### The Slope of the Supply Curve



An increase in the interest rate makes saving more attractive, which increases the quantity of loanable funds supplied.

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## The Market for Loanable Funds

The demand for loanable funds comes from investment:

- Firms borrow the funds they need to pay for new equipment, factories, etc.
- Households borrow the funds they need to purchase new houses.

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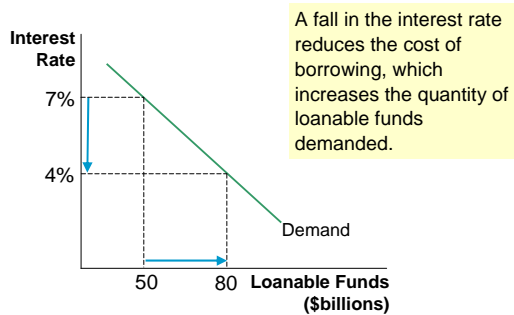
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## The Slope of the Demand Curve



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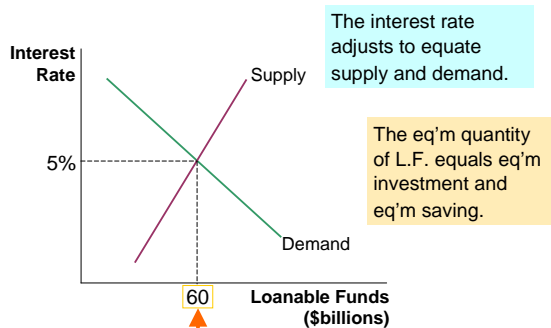
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## Equilibrium



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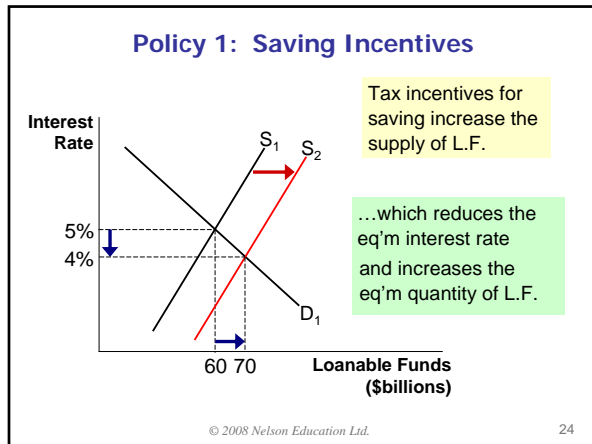
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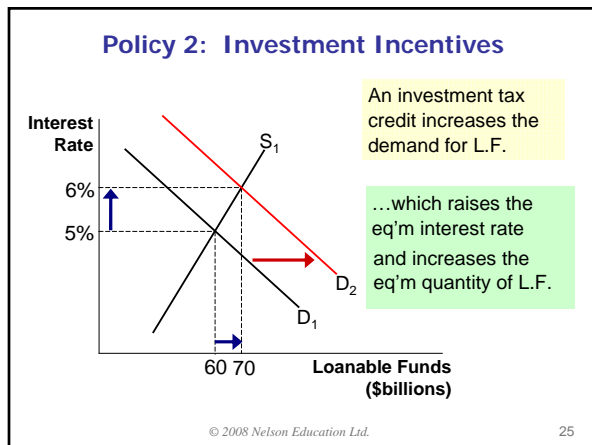
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### ACTIVE LEARNING 2:

#### Exercise

Use the loanable funds model to analyze the effects of a government budget deficit:

- Draw the diagram showing the initial equilibrium.
- Determine which curve shifts when the government runs a budget deficit.
- Draw the new curve on your diagram.
- What happens to the equilibrium values of the interest rate and investment?

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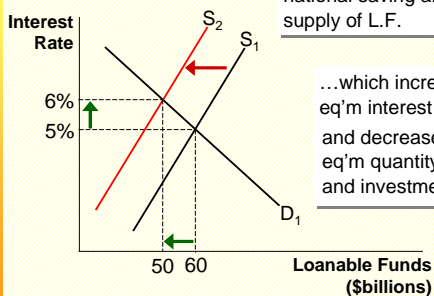
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## ACTIVE LEARNING 2: Answers



A budget deficit reduces national saving and the supply of L.F.

...which increases the eq'm interest rate and decreases the eq'm quantity of L.F. and investment.

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## Budget Deficits, Crowding Out, and Long-Run Growth

- Government borrowing to finance its budget deficit reduces the supply of loanable funds available to finance investment by households and firms.
- This fall in investment is referred to as *crowding out*.
  - The deficit borrowing crowds out private borrowers who are trying to finance investments.

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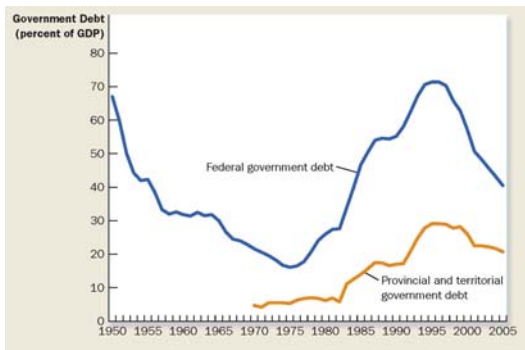
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## Federal and Provincial/Territorial Debt in Canada



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## CONCLUSION

- Like many other markets, financial markets are governed by the forces of supply and demand.
- One of the Ten Principles from Chapter 1: *Markets are usually a good way to organize economic activity.* 

Financial markets help allocate the economy's scarce resources to their most efficient uses.
- Financial markets also link the present to the future: They enable savers to convert current income into future purchasing power, and borrowers to acquire capital to produce goods and services in the future.

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## CHAPTER SUMMARY

- The U.S. financial system is made up of many types of financial institutions, like the stock and bond markets, banks, and mutual funds.
- National saving equals private saving plus public saving.
- In a closed economy, national saving equals investment. The financial system makes this happen.

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## CHAPTER SUMMARY

- The supply of loanable funds comes from saving. The demand for funds comes from investment. The interest rate adjusts to balance supply and demand in the loanable funds market.
- A government budget deficit is negative public saving, so it reduces national saving, the supply of funds available to finance investment.
- When a budget deficit crowds out investment, it reduces the growth of productivity and GDP.

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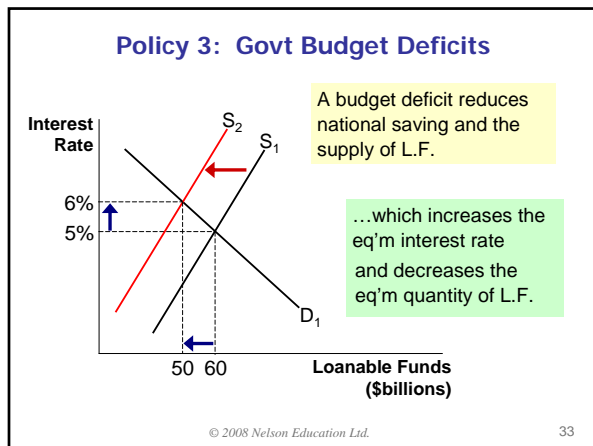
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**End: Chapter 8**

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