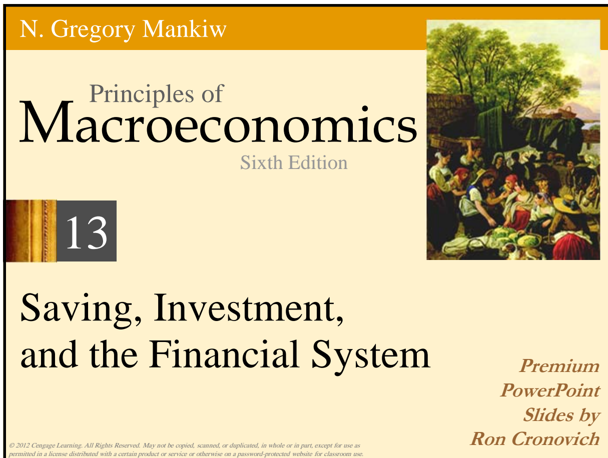

In this chapter,
look for the answers to these questions:

- 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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Financial Institutions

- The **financial system**: the group of institutions that helps match the saving of one person with the investment of another.
- **Financial markets**: institutions through which savers can directly provide funds to borrowers. Examples:
  - The Bond Market. A **bond** is a certificate of indebtedness.
  - The Stock Market. A **stock** is a claim to partial ownership in a firm.

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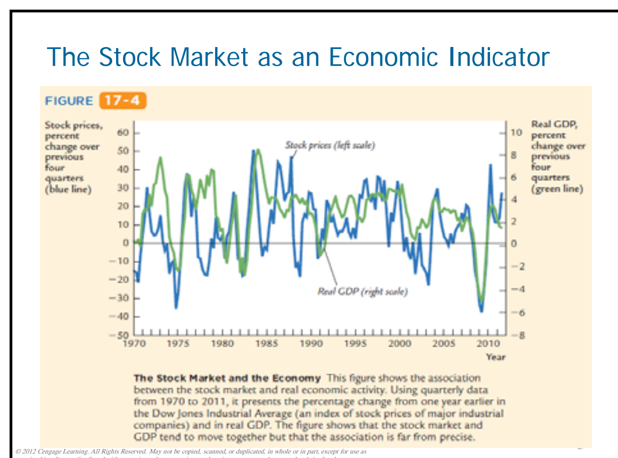

The Stock Market and the Economy This figure shows the association between the stock market and real economic activity. Using quarterly data from 1970 to 2011, it presents the percentage change from one year earlier in the Dow Jones Industrial Average (an index of stock prices of major industrial companies) and in real GDP. The figure shows that the stock market and GDP tend to move together but that the association is far from precise.

Financial Institutions

- **Financial intermediaries**: institutions through which savers can indirectly provide funds to borrowers. Examples:
  - Banks
  - **Mutual funds** – institutions that sell shares to the public and use the proceeds to buy portfolios of stocks and bonds

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4

National Income Accounts

- Rules of national income accounting
  - Important identities
- Identity
  - An equation that must be true because of the way the variables in the equation are defined
  - Clarify how different variables are related to one another

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Accounting Identities

- Gross domestic product (GDP)
  - Total income
  - Total expenditure
- $Y = C + I + G + NX$
  - Y= gross domestic product GDP
  - C = consumption
  - G = government purchases
  - NX = net exports

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Accounting Identities

- Closed economy
  - Doesn’t interact with other economies
  - $NX = 0$
  - (of course, NX also equals 0 when exports equal imports. But that’s not what we mean here)
- Open economy
  - Interact with other economies
  - $NX \neq 0$

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Accounting Identities

- Assumption: close economy: NX = 0
  - Y = C + I + G
- National saving (saving), S
  - Total income in the economy that remains after paying for consumption and government purchases
  - Y – C – G = I
  - S = Y – C - G
  - S = I

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Accounting Identities

- T = taxes minus transfer payments
  - S = Y – C – G
  - S = (Y – T – C) + (T – G)
- Private saving, Y – T – C
  - Income that households have left after paying for taxes and consumption
- Public saving, T – G
  - Tax revenue that the government has left after paying for its spending

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The Meaning of Saving and Investment

- **Private saving** is the income remaining after households pay their taxes and pay for consumption.
- Examples of what households do with saving:
  - Buy corporate bonds or equities
  - Purchase a certificate of deposit at the bank
  - Buy shares of a mutual fund

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The Meaning of Saving and Investment

- **Investment** is the purchase of new capital.
- Examples of investment:
  - General Motors spends $250 million to build a new factory in Flint, Michigan.
  - You buy $5000 worth of computer equipment for your business.
  - Your parents spend $300,000 to have a new house built.

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Accounting Identities

- Budget surplus: T – G > 0
  - Excess of tax revenue over government spending
- Budget deficit: T – G < 0
  - Shortfall of tax revenue from government spending

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Saving and Investing

- Saving = Investment
  - For the economy as a whole
  - One person's savings can finance another person's investment

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The Market for Loanable Funds

- A supply–demand model of the financial system
- 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

Assume: only one financial market

- All savers deposit their saving in this market.
- All borrowers take out loans from this market.
- There is one interest rate, which is both the return to saving and the cost of borrowing.

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The Market for Loanable Funds

The supply of loanable funds comes from saving:

- Households with extra income can loan it out and earn interest.
- Public saving, if positive, adds to national saving and the supply of loanable funds.
  If negative, it reduces national saving and the supply of loanable funds.

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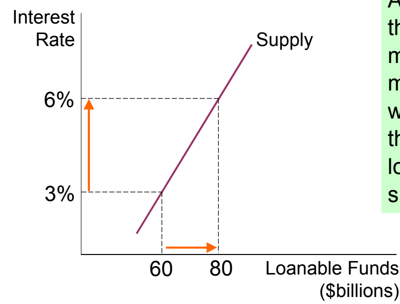
The Slope of the Supply Curve



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 houses.

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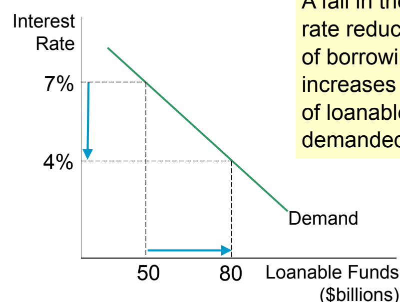
The Slope of the Demand Curve



A fall in the interest rate reduces the cost of borrowing, which increases the quantity of loanable funds demanded.

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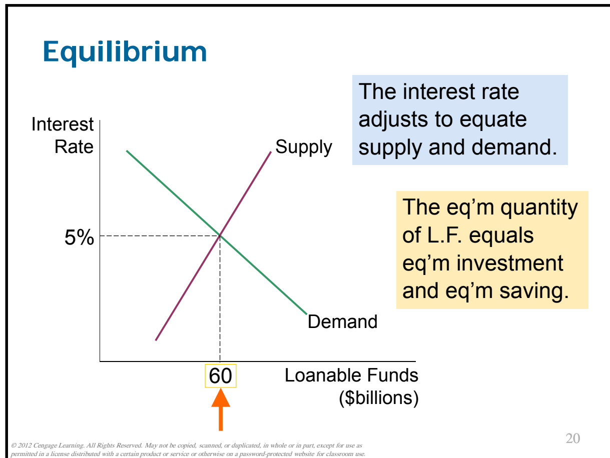

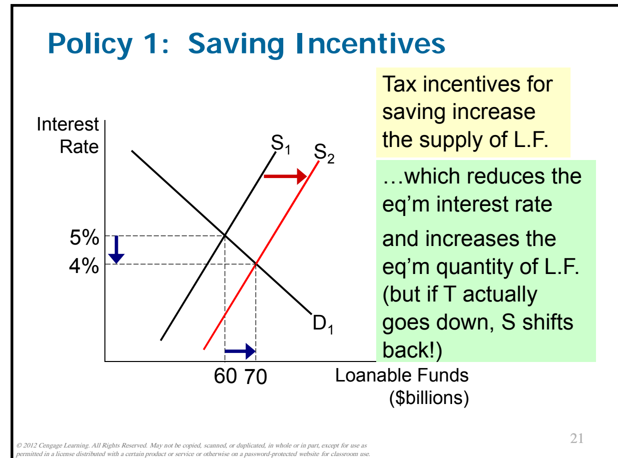

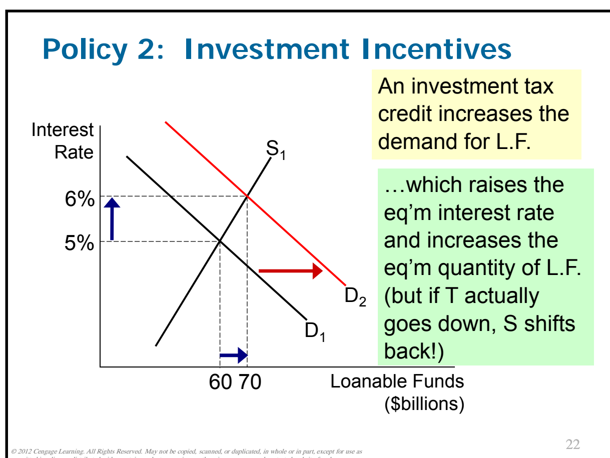

ACTIVE LEARNING **2**

Budget deficits

- 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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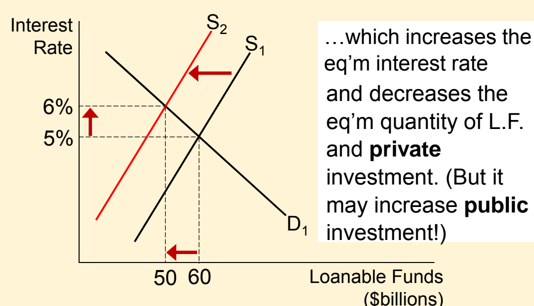
ACTIVE LEARNING 2
Answers

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



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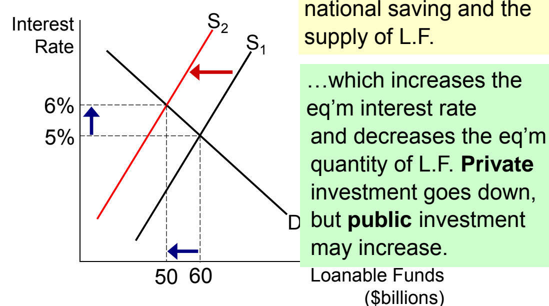
Policy 3: Govt Budget Deficits



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Budget Deficits, Crowding Out, and Long-Run Growth

- Our analysis: Increase in budget deficit may cause a decline in **private** investment. The govt borrows to finance its deficit, leaving less funds available for **private** investment.
- This is called **crowding out**.
- Recall from the preceding chapter: Investment is important for long-run economic growth. If government borrowing isn't spent wisely, budget deficits may reduce the economy's growth rate and future standard of living.

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The U.S. Government Debt

- The government finances deficits by borrowing (selling government bonds).
- Persistent deficits lead to a rising govt debt.
- The ratio of govt debt to GDP is a useful measure of the government's indebtedness relative to its ability to raise tax revenue.
- Historically, the debt-GDP ratio usually rises during wartime and falls during peacetime—until the early 1980s.

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The history of U.S. government debt

- Debt of U.S. federal government
  - As a percentage of U.S. GDP
  - Fluctuated
    - 0% of GDP in 1836
    - 107% of GDP in 1945
- Declining debt-GDP ratio
  - Government indebtedness is shrinking relative to its ability to raise tax revenue
  - Government could be living within its means
  - Government could also be reducing **public** investment

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The history of U.S. government debt

- Rising debt-GDP
  - Government indebtedness is increasing relative to its ability to raise tax revenue
    - Fiscal policy cannot be sustained forever at current levels
- War – primary cause of fluctuations in government debt:
  - Debt financing of war – appropriate policy
    - Tax rates – smooth over time
    - Shifts part of the cost to future generations

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The history of U.S. government debt

- President Ronald Reagan, 1981
  - Large increase in government debt – not explained by war
  - Committed to smaller government and lower taxes
  - Cutting government spending - more difficult politically than cutting taxes
  - Period of large budget deficits
  - Government debt: 26% of GDP in 1980 to 50% of GDP in 1993

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The history of U.S. government debt

- President Bill Clinton, 1993
  - Major goal - deficit reduction
  - And Republicans took control of Congress, 1995
    - Deficit reduction
  - Substantially reduced the size of the government budget deficit
  - Eventually: surplus
  - By the late 1990s: debt-GDP ratio - declining

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The history of U.S. government debt

- President George W. Bush
  - Debt-GDP ratio - started rising again
  - Budget deficit
    - Several major tax cuts
    - 2001 recession - decreased tax revenue and increased government spending
    - Spending on homeland security
      - Following the September 11, 2001 attacks
      - Subsequent wars in Iraq and Afghanistan
      - Increases in government spending

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The history of U.S. government debt

- 2008, financial crisis and deep recession
  - Dramatic increase in the debt-GDP ratio
  - Increased budget deficit
  - Several policy measures passed by the Bush and Obama administrations
    - Aimed at combating the recession
    - Reduced tax revenue
    - Increased government spending

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The history of U.S. government debt

- 2009 and 2010
  - Federal government's budget deficit = 10% of GDP
  - Borrowing to finance budget deficit
  - Substantial increase in the debt-GDP ratio
- Policy challenges for future generations
  - Putting the federal budget back on a sustainable path
    - Stable or declining debt-GDP ratio

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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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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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SUMMARY

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

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