Saving, Investment, and the Financial System

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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.
- It moves the economy's scarce resources from savers to borrowers.

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FINANCIAL INSTITUTIONS IN AN ECONOMY

Financial institutions can be grouped into two different categories: financial markets and financial intermediaries.

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FINANCIAL INSTITUTIONS

- Financial Markets
  - Stock Market
  - Bond Market
- Financial Intermediaries
  - Banks
  - Mutual Funds

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FINANCIAL INSTITUTIONS

- *Financial markets* are the institutions through which savers can directly provide funds to borrowers.
- *Financial intermediaries* are financial institutions through which savers can indirectly provide funds to borrowers.

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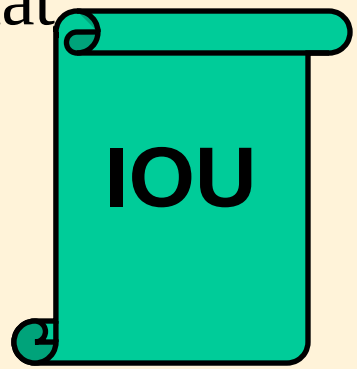
Financial Markets

- 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.
    - *Tax Treatment*: The way in which the tax laws treat the interest on the bond.



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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 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 in India
  - There are 19 recognized stock exchanges in India.
  - But equity trading is most active in BSE and NSE.
  - BSE is the oldest stock exchange in Asia and bigest in India with around 5000 companies are listed.
    - Price (of a share)
    - Volume (number of shares sold)
    - Dividend (profits paid to stockholders)
    - Price-earnings ratio

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The Stock Market in India…

- Equity markets in India have undergone a significant transformation in the last two decades.
- Establishment of SEBI with statutory power since 1992 to regulate the stock markets
- Setting National Securities Depository Ltd. (NSDL) in 1996 and Central Depository Services Ltd. (CSDL) to facilitate paperless trading.
- Permitting FIIs since 1992 to invest in stock and other securities markets.
- SENSEX and CNX Nifty
- Market Capitalization as a percentage of GDP has developed remarkably in recent years.

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Market Capitalization

- Market Cap = market price of share × No. of common share outstanding
- Suppose, you decided to purchase a Industry on New Yera, when its shares were trading at Rs.50 and the number of shares outstanding were 1 crore. You would have paid,
- Rs.50 x 1,00,00,000 = Rs. 50,00,00,000
- Large-Cap, Mid-Cap and Small-Cap companies:
- Let's take a look at how the BSE classifies companies according to their market capitalization.
- **The 80-15-5 method:**
- BSE's classifies companies according to their Market Capitalization by using the 80-15-5 method. Here's how this method works:

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Market Capitalization…

- Arrange all the companies in descending order of their Market Capitalization.
- The group of companies from the top, which together contribute 80% of the total Market Capitalization are Large-cap Companies,
- The next group of companies contributing 15% (80-95%) of Market capitalization are Mid-cap companies, and
- The remaining companies which contribute 5% of Market Capitalization are Small-cap companies.

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Difference between these categories

Parameter	Large-Cap	Mid-Cap	Small-Cap
Risk (probability of negative returns)	Low	High	Very High
Probability of exceptionally high returns	Low	High	High
Liquidity	Very Good	Good	Low
Availability of company information	Very Good	Good	Poor

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Why should we look the market-cap?

- **Mr. Conservative** has a very low risk appetite, so he wants to be safe and invests only in large-cap stocks.

- **Mr. Practical** understands that if he wants high returns he must take high risk. So, he invests a part of his funds in Mid-cap stocks which increases his chance of getting a high return on his total investment. At the same time, he keeps a large part of his investment exposed to low risk by investing in large-cap stocks.

- **Mr. Adventurous**, on the other hand, is willing to risk losing a large part of his investment, for the possibility of getting very high returns on his investments. So, he invests most of his funds in risky mid-cap and highly risky small-cap stocks; he keeps a very small part of his fund invested in large cap stocks.

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Financial Intermediaries

- *Financial intermediaries* are financial institutions through which savers can indirectly provide funds to borrowers.

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Financial Intermediaries

- Banks
  - take deposits from people who want to save and use the deposits to make loans to people who want to borrow.
  - pay depositors interest on their deposits and charge borrowers slightly higher interest on their loans.

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Financial Intermediaries

- Banks
  - Banks help create a *medium of exchange* by allowing people to write checks against their deposits.
    - A medium of exchanges 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.
    - Systematic Investment Plan (SIP)
    - Systematic Withdrawal Plan (SWP)
    - Systematic Transfer Plan (STP)

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Mutual Funds

- A **Systematic Investment Plan** (SIP) is a vehicle offered to investors to save regularly. It is just like a recurring deposit with the bank or post-office, where you put in a small amount every month, except the amount is invested in a mutual fund.

- STP refers to **Systematic Transfer Plan** where in an investor invests a lump sum amount in one scheme and regularly transfers (i.e. switches) a pre-defined amount into another scheme. Every month on a specified date an amount you choose is transferred from one mutual fund scheme to another of your choice.

- **A Systematic Withdrawal Plan (SWP)** is a facility that allows an investor to withdraw money from an existing mutual fund at predetermined intervals. The money withdrawn through a systematic withdrawal plan can be reinvested in another fund or retained by the investor in cash.

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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:

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

- Assume a closed economy – one that does not engage in international trade:

$$Y = C + I + G$$

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Some Important Identities

- 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).*
- Substituting *S* for *Y* - *C* - *G*, the equation can be written as:

$$S = I$$

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Some Important Identities

- 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.

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

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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.

$$Public\ saving = (T - G)$$

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The Meaning of Saving and Investment

- Surplus and Deficit
  - If $T > G$, the government runs a *budget surplus* because it receives more money than it spends.
  - The surplus of $T - G$ represents public saving.
  - If $G > T$, the government runs a *budget deficit* because it spends more money than it receives in tax revenue.

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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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THE MARKET FOR LOANABLE FUNDS

- Financial markets coordinate the economy's saving and investment in the market for loanable funds.
- The *market for loanable funds* is the market in which those who want to save supply funds and those who want to borrow to invest demand funds.
- Loanable funds refers to all income that people have chosen to save and lend out, rather than use for their own consumption.

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Supply and Demand for Loanable Funds

- 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.
- It represents the amount that borrowers pay for loans and the amount that lenders receive on their saving.
- The interest rate in the market for loanable funds is the real interest rate.

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Supply and Demand for Loanable Funds

- 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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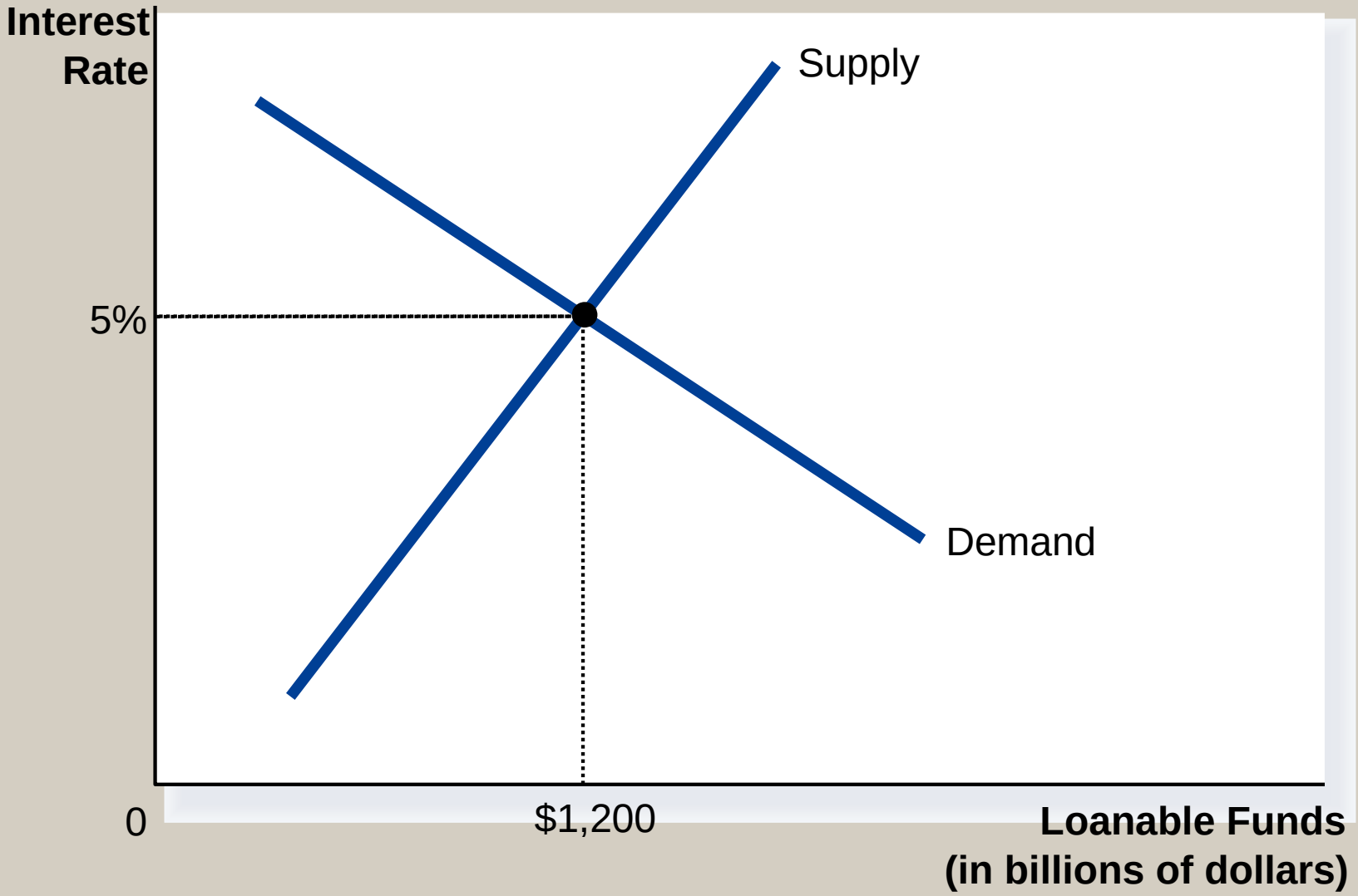
Figure 1 The Market for Loanable Funds



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Supply and Demand for Loanable Funds

- Government Policies That Affect Saving and Investment
  - Taxes and saving
  - Taxes and investment
  - Government budget deficits

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Policy 1: Saving Incentives

- Taxes on interest income substantially reduce the future payoff from current saving and, as a result, reduce the incentive to save.

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Policy 1: Saving Incentives

- A tax decrease increases the incentive for households to save at any given interest rate.
  - The supply of loanable funds curve shifts to the right.
  - The equilibrium interest rate decreases.
  - The quantity demanded for loanable funds increases.

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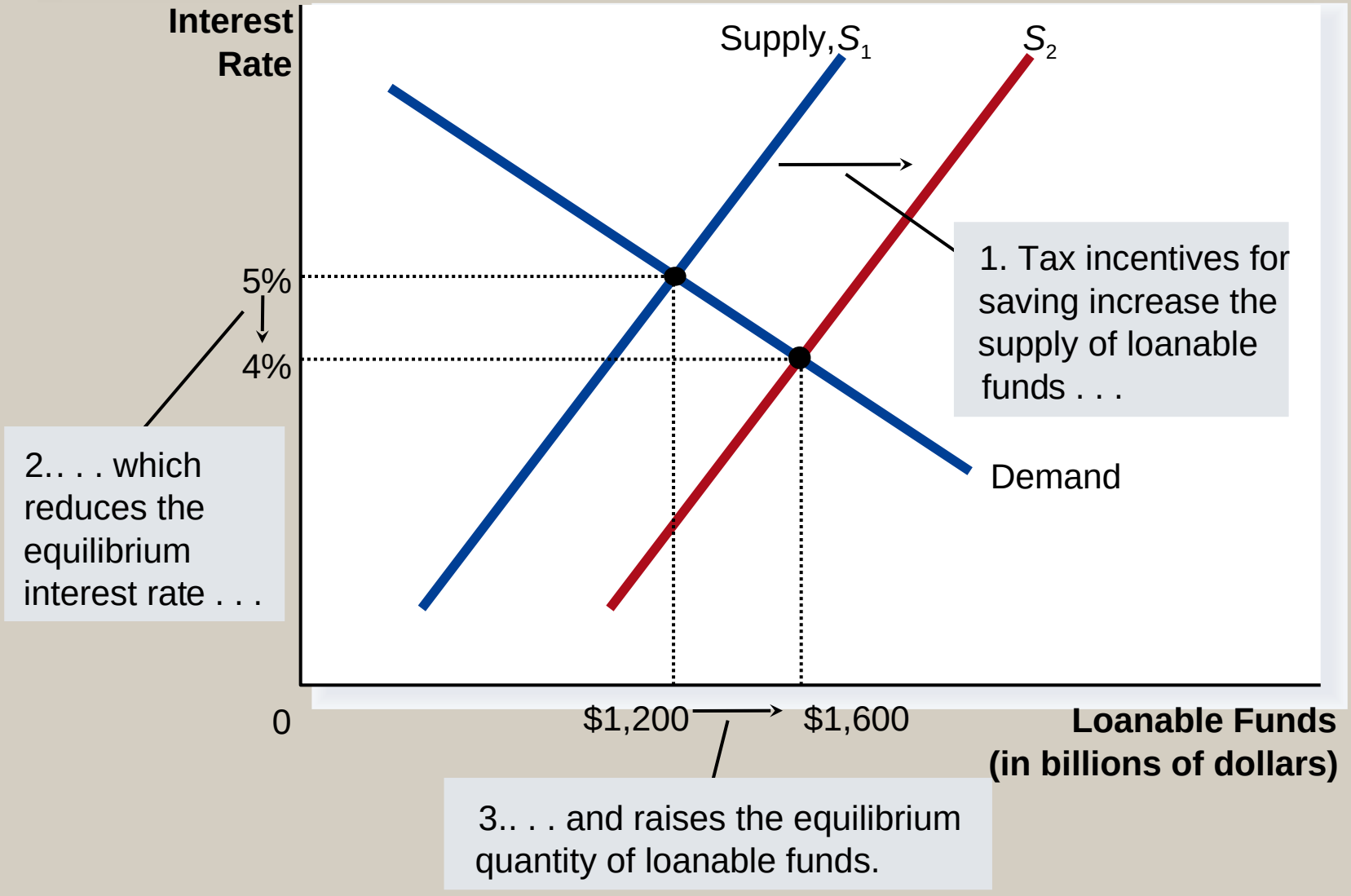
Figure 2 An Increase in the Supply of Loanable Funds



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Policy 2: Investment Incentives

- An investment tax credit increases the incentive to borrow.
  - Increases the demand for loanable funds.
  - Shifts the demand curve to the right.
  - Results in a higher interest rate and a greater quantity saved.

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Policy 2: Investment Incentives

- If a change in tax laws encourages greater investment, the result will be *higher* interest rates and *greater* saving.

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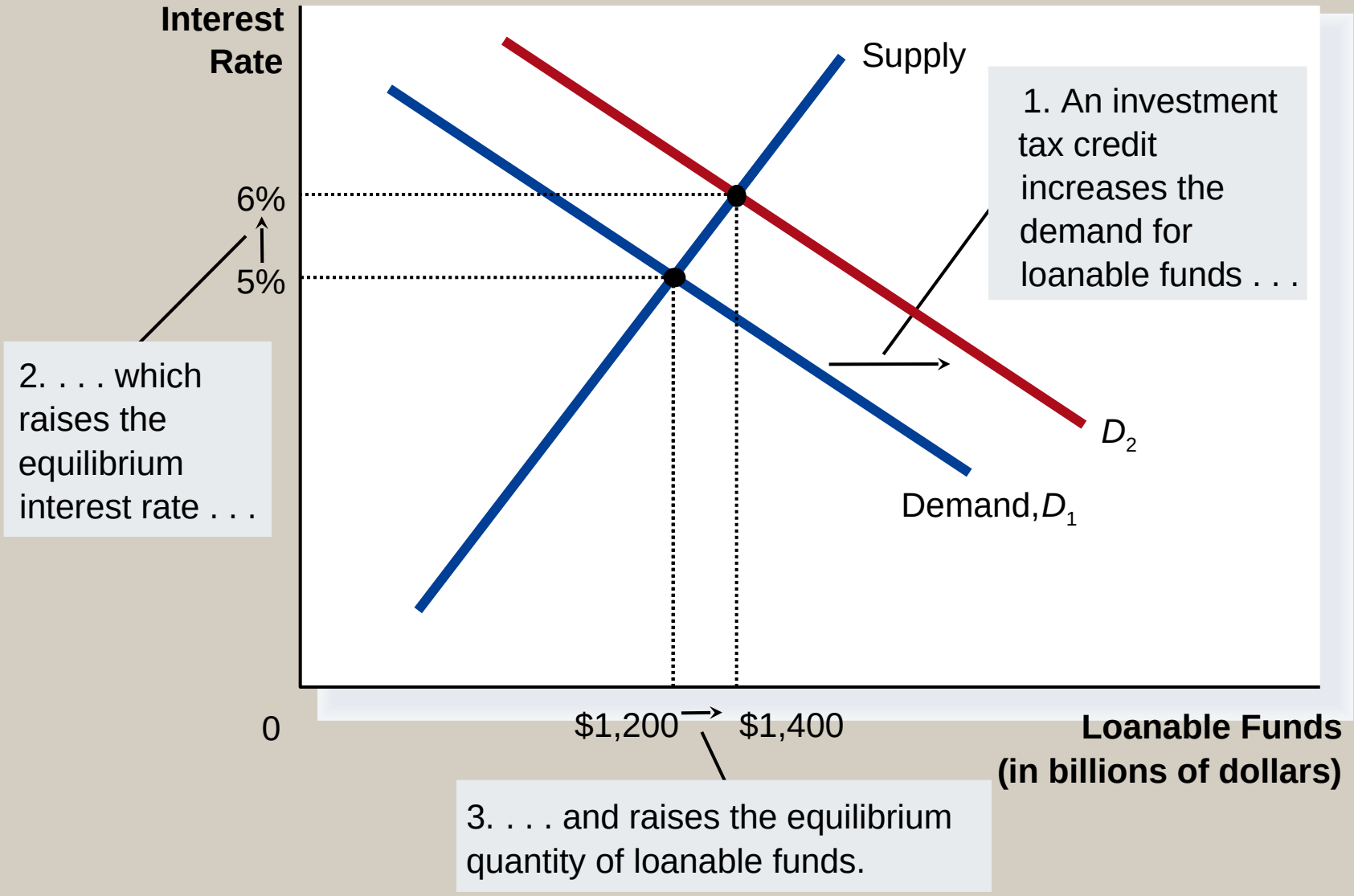
Figure 3 An Increase in the Demand for Loanable Funds



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Policy 3: Government Budget Deficits and Surpluses

- When the government spends more than it receives in tax revenues, the short fall is called the *budget deficit*.

- The accumulation of past budget deficits is called the government *debt*.

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Policy 3: Government Budget Deficits and Surpluses

- 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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Policy 3: Government Budget Deficits and Surpluses

- A budget deficit decreases the supply of loanable funds.
  - Shifts the supply curve to the left.
  - Increases the equilibrium interest rate.
  - Reduces the equilibrium quantity of loanable funds.

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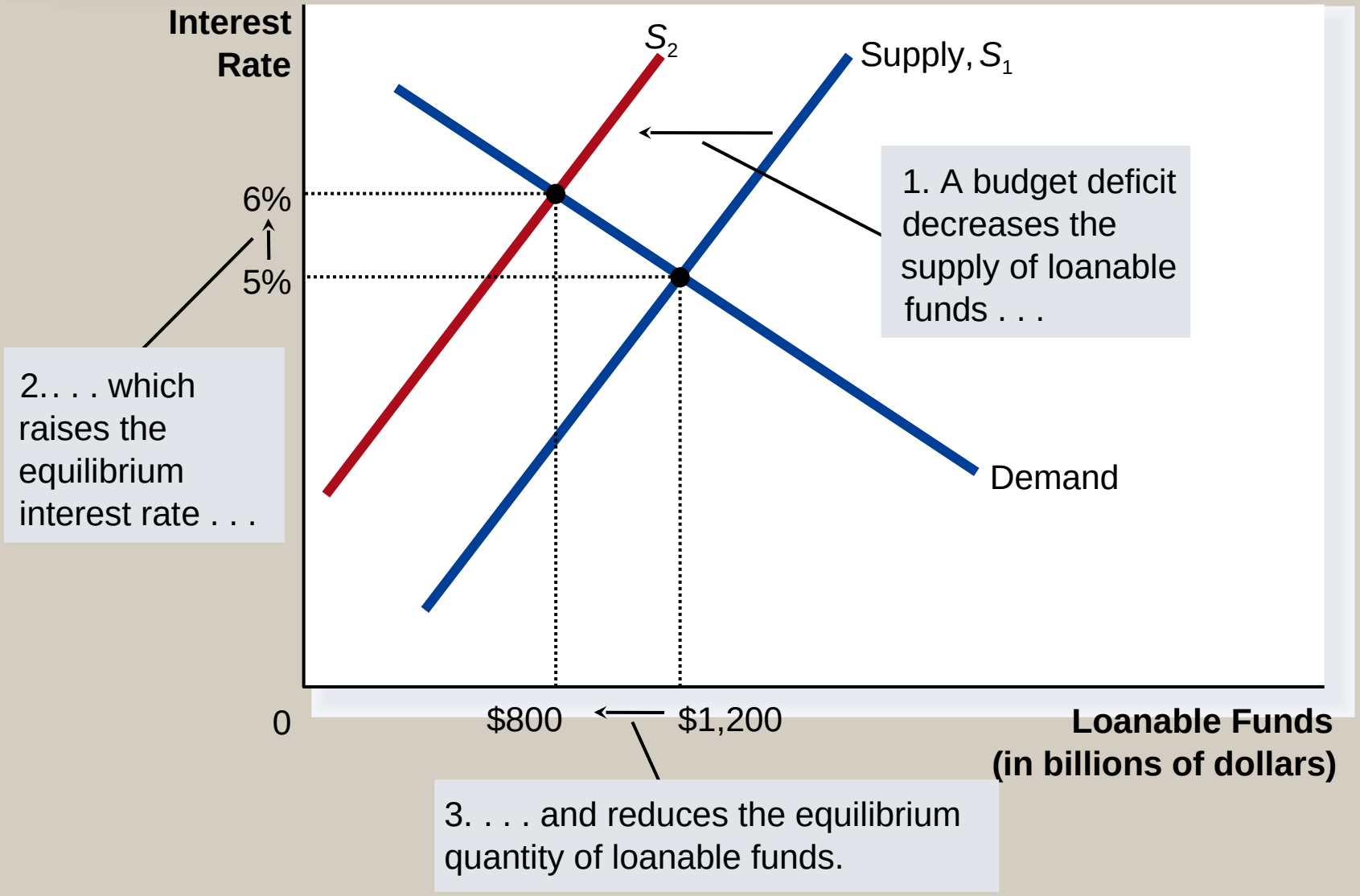
Figure 4: The Effect of a Government Budget Deficit



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Policy 3: Government Budget Deficits and Surpluses

- When government reduces national saving by running a deficit, the interest rate *rises* and investment *falls*.
- A budget surplus *increases* the supply of loanable funds, *reduces* the interest rate, and *stimulates* investment.

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