Introduction

Do you think that so-called “private accounts” could help save the Social Security system?
Is the Social Security system really in trouble?

Learning Objectives

• Distinguish between average tax rates and marginal tax rates
• Explain the structure of the U.S. income tax system
• Understand the key factors influencing the relationship between tax rates and the tax revenues governments collect
Learning Objectives (cont'd)

• Explain how the taxes governments levy on purchases of goods and services affect market prices and equilibrium quantities
• Understand how the Social Security system works and explain the nature of the problems it poses for today’s students

Chapter Outline

• Paying for the Public Sector
• Systems of Taxation
• The Most Important Federal Taxes
• Tax Rates and Tax Revenues
• Taxation from the Point of View of Producers and Consumers
• Financing Social Security

Did You Know That...

• In total, the passenger train company Amtrak receives $1 billion in subsidies?
• Federal, state, and local governments collect tax revenue from a variety of sources in order to subsidize many other goods and services?
Paying for the Public Sector

- Three sources of government funding
  1. Fees, or user charges
  2. Taxes
  3. Borrowing

Paying for the Public Sector (cont’d)

- Government Budget Constraint
  - The limit on government spending and transfer payments
  - Imposed by the fact that every dollar spent must be provided for by taxes

Systems of Taxation

- Tax Base
  - The value of goods, services, wealth, or incomes subject to taxation
- Tax Rate
  - The proportion of a tax base that must be paid to the government as taxes
Systems of Taxation (cont'd)

• Marginal Tax Rate
  • The change in the tax payment divided by the change in income

\[
\text{Marginal tax rate} = \frac{\text{Change in taxes due}}{\text{Change in taxable income}}
\]

Systems of Taxation (cont'd)

• Tax Bracket
  • A specified interval of income to which a specific and unique marginal tax rate is applied

• Average Tax Rate
  • The total tax payment divided by total income

Systems of Taxation (cont'd)

• Proportional Taxation
  • A tax system in which, regardless of an individual’s income, the tax bill comprises exactly the same proportion
Systems of Taxation (cont’d)

Proportional taxation
Marginal tax rate = Average tax rate

<table>
<thead>
<tr>
<th>Income</th>
<th>Rate</th>
<th>Tax liability</th>
</tr>
</thead>
<tbody>
<tr>
<td>$10,000</td>
<td>20%</td>
<td>$2,000</td>
</tr>
<tr>
<td>$100,000</td>
<td>20%</td>
<td>$20,000</td>
</tr>
</tbody>
</table>

Systems of Taxation (cont’d)

• Progressive Taxation
  • A tax system in which, as income increases, a higher percentage of the additional income is paid as taxes

Systems of Taxation (cont’d)

Progressive taxation: income tax
Marginal tax rate > Average tax rate

<table>
<thead>
<tr>
<th>Income</th>
<th>Rate</th>
<th>Tax liability</th>
</tr>
</thead>
<tbody>
<tr>
<td>$0–$10,000</td>
<td>5%</td>
<td>$500</td>
</tr>
<tr>
<td>$10,001–$20,000</td>
<td>10%</td>
<td>$1,000</td>
</tr>
<tr>
<td>$20,001–$30,000</td>
<td>30%</td>
<td>$3,000</td>
</tr>
<tr>
<td></td>
<td></td>
<td>$4,500</td>
</tr>
</tbody>
</table>
Systems of Taxation (cont'd)

- **Regressive Taxation**
  - A tax system in which as more dollars are earned, the percentage of tax paid on them falls

Systems of Taxation (cont'd)

Regressive taxation: Social Security

<table>
<thead>
<tr>
<th>Income</th>
<th>Rate</th>
<th>Tax liability</th>
</tr>
</thead>
<tbody>
<tr>
<td>$50,000</td>
<td>10%</td>
<td>$5,000</td>
</tr>
<tr>
<td>$100,000</td>
<td>5%</td>
<td>$5,000</td>
</tr>
</tbody>
</table>

Sources of Government Tax Receipts

- **Question**
  - What types of taxes do federal, state and local governments collect?

- **Answers**
  - Federal government: individual income taxes, corporate income taxes, Social Security taxes, import and excise taxes
  - State and local governments: sales taxes, property taxes, personal and corporate income taxes
The Most Important Federal Taxes

- The federal personal income tax
  - Accounts for about 43.6% of all federal revenue
  - All U.S. citizens, resident aliens, and most others required to pay (includes income earned abroad)
  - Rates paid rise as income increases

Table 6-1 Federal Marginal Income Tax Rates

<table>
<thead>
<tr>
<th>Single Persons</th>
<th>Married Couples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marginal Tax Bracket</td>
<td>Marginal Tax Rate</td>
</tr>
<tr>
<td>$0-$19,050</td>
<td>10%</td>
</tr>
<tr>
<td>$19,051-$33,450</td>
<td>15%</td>
</tr>
<tr>
<td>$33,451-$54,700</td>
<td>22%</td>
</tr>
<tr>
<td>$54,701-$74,200</td>
<td>28%</td>
</tr>
<tr>
<td>$74,201-$114,150</td>
<td>30%</td>
</tr>
<tr>
<td>$114,151 and up</td>
<td>30%</td>
</tr>
</tbody>
</table>

Source: US Department of the Treasury.
The Most Important Federal Taxes (cont'd)

- Arguments for the progressive tax
  - Redistribution of income
  - Ability to pay
  - Benefits received

- Counterargument
  - No strong evidence of redistribution

The Most Important Federal Taxes (cont'd)

- Capital Gain
  - The positive difference between the purchase price and the sale price of an asset
    - You buy a share of stock for $5 and sell for $15: you have a capital gain of $10.

- Capital Loss
  - The negative difference between the purchase price and the sale price of an asset

The Most Important Federal Taxes (cont'd)

- The corporate income tax
  - Accounts for 12% of federal tax revenue and 2% of all state and local taxes collected
  - Corporations are generally taxed on the difference between total revenues and expenses.
The Most Important Federal Taxes (cont’d)

• Double taxation
  ▪ Corporation pays taxes on its profits
  ▪ Corporation declares a dividend on after-tax profits
  ▪ Dividend income is taxed

The Most Important Federal Taxes (cont’d)

• Retained Earnings
  ▪ Earnings that a corporation saves, or retains, for investment in other productive activities
  ▪ Earnings that are not distributed to stockholders

• Tax Incidence
  ▪ The distribution of tax burdens among various groups in society

Table 6-2 Federal Corporate Income Tax Schedule

<table>
<thead>
<tr>
<th>Corporate Taxable Income</th>
<th>Corporate Tax Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>$0–$50,000</td>
<td>15%</td>
</tr>
<tr>
<td>$50,001–$75,000</td>
<td>25%</td>
</tr>
<tr>
<td>$75,001–$100,000</td>
<td>34%</td>
</tr>
<tr>
<td>$100,001–$335,000</td>
<td>39%</td>
</tr>
<tr>
<td>$335,001–$10,000,000</td>
<td>34%</td>
</tr>
<tr>
<td>$10,000,001–$15,000,000</td>
<td>35%</td>
</tr>
<tr>
<td>$15,000,001–$18,333,333</td>
<td>36%</td>
</tr>
<tr>
<td>$18,333,334 and up</td>
<td>35%</td>
</tr>
</tbody>
</table>

Source: Internal Revenue Service.
The Most Important Federal Taxes (cont'd)

• Who really pays the corporate income tax?
  • Tax incidence is distributed among
    ➢ Consumers
    ➢ Stockholders
    ➢ Employees

The Most Important Federal Taxes (cont'd)

• Social Security taxes
  • Social Security rates today are imposed on earnings up to roughly $98,000.
  • Contributions are 6.2% for employers and 6.2% for employees.

The Most Important Federal Taxes (cont'd)

• Unemployment taxes
  • Paid by employer
  • 0.8% of first $7,000 of wages for employees earning more than $1,500
  • States may levy an additional tax up to 3% based on record of the employer
Tax Rates and Tax Revenues

- State and local governments
  - Taxes imposed on goods and services yield more revenues than income taxes
  - A fundamental issue is how to set tax rates to extract the largest possible payments

Tax Rates and Tax Revenues (cont'd)

- Sales Taxes
  - Taxes assessed on the prices paid on a large set of goods and services
- Ad Valorem Taxation
  - Assessing taxes by charging a tax rate equal to a fraction of the market price of each unit purchased

Tax Rates and Tax Revenues (cont'd)

- Static Tax Analysis
  - Based on the assumption that changes in the tax rate leave the tax base unaffected
- Dynamic Tax Analysis
  - Recognizes that higher tax rates may shrink the tax base
Tax Rates and Tax Revenues (cont’d)

• If the disincentive effects of higher tax rates are small, static analysis may give a fairly accurate estimate of the change in tax revenues resulting from a tax rate change.

• As tax rates escalate, members of the public have a greater incentive to remove their activities from the tax base; a dynamic analysis would be necessary to determine the overall effect on government revenues.

Figure 6-2 States with the Highest and Lowest Sales Tax Rates

E-Commerce Example: Even During a Revenue Boom, States Seek to Tax Internet Sales

• State governments seek to expand their sales tax bases by taxing items shipped from other states ordered online.

• State governments have been less than successful collecting, even though tax forms have a line item for such reporting.

• Why wouldn’t states just audit all taxpayers?
Tax Rates and Tax Revenues (cont'd)

- Maximizing tax revenues
  - Dynamic tax analysis predicts ever-higher tax rates bring about declines in the tax base.
  - At sufficiently high rates the government’s tax revenues begin to fall off.

Figure 6-3  Maximizing the Government’s Sales Tax Revenues

Taxation from the Point of View of Producers and Consumers

- **Excise Tax**
  - A tax levied on purchases of a particular good or service

- **Unit Tax**
  - A constant tax assessed on each unit of a good that consumers purchase
Taxation from the Point of View of Producers and Consumers (cont'd)

- Excise taxes on gasoline become added costs of production.
- This shifts the supply curve up by the amount of the unit tax.
- Consequently, the equilibrium price of gasoline rises and the equilibrium quantity declines.

Who Pays the Tax?

- In our example, consumers pay three-fourths of the excise tax and producers absorb the remainder.
Financing Social Security

• Today’s seniors are beneficiaries of rapidly increasing levels of federal spending.
• Probably half of all federal spending will go to the elderly by 2025.
  • Medicare and Social Security

Financing Social Security (cont’d)

• Social Security was founded in 1935, as the United States was recovering from the Great Depression.
  • Means of guaranteeing a minimum level of pension benefits
  • Early recipients had high rates of return on their Social Security contributions

Financing Social Security (cont’d)

• Social Security Contributions
  • Mandatory taxes paid out of workers’ wages and salaries
• Rate of Return
  • Proportional annual benefit that results from making an investment
• Inflation-Adjusted Return
  • Measured in terms of real goods and services, after effects of inflation taken out
Financing Social Security (cont'd)

- Social Security faces
  - Slow growth in membership
  - Less workers per retiree
  - Negative rates of return
  - Benefits exceeding taxes

What Will it Take to Salvage Social Security?

- There are five options to consider
  1. Raise taxes
  2. Reduce retirement benefit payouts
  3. Reduce disability payments
  4. Reform immigration policies
  5. Find a way to increase the rate of return
What Will it Take to Salvage Social Security? (cont'd)

• Raise taxes
  • Either increase the tax rate or expand the tax base

Example: Business Incorporation Could Dodge a Broadened Payroll Tax

• The Social Security payroll tax is currently applied only to the first $98,000 of income.
  • What if this limit were removed?
  • For example, someone making $1,000,000 would pay taxes on the entire amount.
  • However, if they wanted to avoid a higher tax bill, they could form an "S corporation" and pay themselves less.

What Will it Take to Salvage Social Security? (cont'd)

• Reduce benefit payouts
  • Increase the eligibility age
  • Cut benefits to nonworking spouses
  • Introduce means testing
What Will it Take to Salvage Social Security? (cont'd)

- Reduce disability benefits
  - Tighten requirements, or separate the disability benefit from the Social Security system
- Reform immigration policies
  - Changes in laws could offer hope of dealing with tax burdens and workforce shrinkage

What Will it Take to Salvage Social Security? (cont'd)

- Increase Social Security’s rate of return
  - Inflation-adjusted return available on stocks 7–9% since the 1930s
    - Uncertainty of returns
    - Political pressure

Figure 6-6  Projected Social Security Rates of Return for Future Retirees
Issues and Applications: Can Social Security Learn from the Private Sector?

• Social Security is similar to a pay-as-you-go pension, which is not fully funded when employees retire.
• Policymakers suggest that reforming the system will require it to function more like a terminally funded pension.

Issues and Applications: Can Social Security Learn from the Private Sector? (cont'd)

• Terminally funded pensions receive interest and capital gains from stock and bond investments.
• Private Social Security accounts, like terminally funded plans, would also allow for investing in securities.

Summary Discussion of Learning Objectives

• Average tax rates versus marginal tax rates
  • Average tax rate is the ratio of total tax payments to total income
  • Marginal tax rate is the change in tax payments, induced by a change in total taxable income: applies to the last dollar earned
Summary Discussion of Learning Objectives (cont'd)

• The U.S. income tax system taxes personal and business income.
  • A tax system is progressive when marginal tax rate increases as income rises.
  • Contrasts with regressive system, in which higher-income earners pay lower marginal tax rates
  • Under proportional taxation, the marginal and average rate are equal.

Summary Discussion of Learning Objectives (cont'd)

• The relationship between tax rates and tax revenues
  • Static tax analysis assumes that the tax base does not respond significantly to an increase in the tax rate
  • Dynamic tax analysis reveals how an increase in the tax rate causes the tax base to decline

Summary Discussion of Learning Objectives (cont'd)

• How taxes on purchases of goods and services affect market prices and quantities
  • A tax collected from the seller of a good will shift the supply curve up.
  • To the extent that the price rises, consumers pay a portion of the tax and sellers pay the remainder.
Summary Discussion of Learning Objectives (cont'd)

• How Social Security works and why it poses problems for today's students
  • Social Security benefits are paid from current taxes.
  • The current schedule of benefits for retirees will be an overwhelming tax burden for future generations.

Summary Discussion of Learning Objectives (cont'd)

• What will it take to salvage Social Security?
  1. Raise taxes
  2. Reduce retirement benefit payouts
  3. Reduce disability payments
  4. Reform immigration policies
  5. Find a way to increase the rate of return

End of Chapter 6

Funding the Public Sector