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

- What are the largest sources of tax revenue in the U.S.?
- What are the efficiency costs of taxes?
- How can we evaluate the equity of a tax system?

Introduction

- One of the Ten Principles from Chapter 1: A government can sometimes improve market outcomes.
- Providing public goods
- Regulating use of common resources
- Remedying the effects of externalities
- To perform its many functions, the govt raises revenue through taxation.
Introduction

- Lessons about taxes from earlier chapters:
  - A tax on a good reduces the market quantity of that good.
  - The burden of a tax is shared between buyers and sellers depending on the price elasticities of demand and supply.
  - A tax causes a deadweight loss.

A Look at Taxation in the U.S.

First, we consider:
- how tax revenue as a share of national income has changed over time
- how the U.S. compares to other countries with respect to taxation
- the most important revenue sources for federal, state & local govt
### Total Government Revenue (% of GDP)

<table>
<thead>
<tr>
<th>Country</th>
<th>% of GDP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sweden</td>
<td>50%</td>
</tr>
<tr>
<td>France</td>
<td>45%</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>37%</td>
</tr>
<tr>
<td>Germany</td>
<td>36%</td>
</tr>
<tr>
<td>Canada</td>
<td>36%</td>
</tr>
<tr>
<td>Russia</td>
<td>32%</td>
</tr>
<tr>
<td>Brazil</td>
<td>30%</td>
</tr>
<tr>
<td>United States</td>
<td>28%</td>
</tr>
<tr>
<td>Japan</td>
<td>27%</td>
</tr>
<tr>
<td>Mexico</td>
<td>20%</td>
</tr>
<tr>
<td>Chile</td>
<td>19%</td>
</tr>
<tr>
<td>China</td>
<td>15%</td>
</tr>
<tr>
<td>India</td>
<td>14%</td>
</tr>
</tbody>
</table>

### Receipts of the U.S. Federal Govt, 2007

<table>
<thead>
<tr>
<th>Tax</th>
<th>Amount (billions)</th>
<th>Amount per person</th>
<th>Percent of receipts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual income taxes</td>
<td>$1,164</td>
<td>$3,482</td>
<td>45.3%</td>
</tr>
<tr>
<td>Social insurance taxes</td>
<td>870</td>
<td>2,795</td>
<td>33.9%</td>
</tr>
<tr>
<td>Corporate income taxes</td>
<td>370</td>
<td>1,180</td>
<td>14.4%</td>
</tr>
<tr>
<td>Other</td>
<td>165</td>
<td>572</td>
<td>6.4%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$2,568</strong></td>
<td><strong>$8,030</strong></td>
<td><strong>100.0%</strong></td>
</tr>
</tbody>
</table>

### Receipts of State & Local Govts, 2007

<table>
<thead>
<tr>
<th>Tax</th>
<th>Amount (billions)</th>
<th>Amount per person</th>
<th>Percent of receipts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales taxes</td>
<td>$305.1</td>
<td>$1,010</td>
<td>24.1%</td>
</tr>
<tr>
<td>Property taxes</td>
<td>401.3</td>
<td>1,329</td>
<td>31.7%</td>
</tr>
<tr>
<td>Individual income taxes</td>
<td>291.7</td>
<td>966</td>
<td>23.0%</td>
</tr>
<tr>
<td>Corporate income taxes</td>
<td>58.0</td>
<td>192</td>
<td>4.6%</td>
</tr>
<tr>
<td>Other</td>
<td>211.7</td>
<td>701</td>
<td>16.7%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$1,268</strong></td>
<td><strong>$4,197</strong></td>
<td><strong>100.0%</strong></td>
</tr>
</tbody>
</table>
Taxes and Efficiency

- One tax system is more efficient than another if

- The costs to taxpayers include:
  - the tax payment itself

Deadweight Losses

- One of the Ten Principles:
  
  People respond to incentives.

- Recall from Chapter 8:
  
  Taxes distort incentives, cause people to allocate resources according to tax incentives rather than true costs and benefits.

- The result: a deadweight loss.
  
  The fall in taxpayers' well-being exceeds the revenue the govt collects.

Income vs. Consumption Tax

- The income tax reduces the incentive to save:
  - If income tax rate = 25%,
    - 8% interest rate =
  - The lost income compounds over time.

- Some economists advocate taxing consumption instead of income.

- Better for individuals' retirement income security and long-run economic growth.
**Income vs. Consumption Tax**

- Consumption tax-like provisions in the U.S. tax code include:
  - People can put a limited amount of saving into such accounts.
  - The funds are not taxed until withdrawn at retirement.
  - Europe’s Value-Added Tax (VAT) is like a consumption tax.

**Administrative Burden**

- e.g., hiring accountants to exploit “loopholes” to reduce one’s tax burden
- Could be reduced if the tax code were simplified but would require removing loopholes, politically difficult

**Marginal vs. Average Tax Rates**

- Average tax rate
- Marginal tax rate
### Lump-Sum Taxes

- **A lump-sum tax**
- **Example:** lump-sum tax =

<table>
<thead>
<tr>
<th>Income</th>
<th>Average tax rate</th>
<th>Marginal tax rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>$20,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$40,000</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Lump-Sum Taxes

- **Causes no deadweight loss**
  - Does not distort incentives.

- **No need to hire accountants, keep track of receipts, etc.**

Yet, perceived as unfair:
- In dollar terms, the poor pay as much as the rich.
- Relative to income, the poor pay much more than the rich.

### Taxes and Equity

- **Another goal of tax policy:**

  - Agreeing on what is “fair” is much harder than agreeing on what is “efficient.”
  - Yet, there are several principles people apply to evaluate the equity of a tax system.
The Benefits Principle

- Benefits principle:
  - Tries to make public goods
  - Example: Gasoline taxes
    - Amount of tax paid is related to how much a person uses public roads

The Ability-To-Pay Principle

- Ability-to-pay principle:
  - Suggests that
    - Recognizes that the magnitude of the sacrifice depends not just on the tax payment, but on the person’s income and other circumstances
    - A $10,000 tax bill is a bigger sacrifice for a poor person than a rich person

Vertical Equity

- Vertical equity:
Three Tax Systems

- **Proportional tax:**

- **Regressive tax:** High-income taxpayers

- **Progressive tax:** High-income taxpayers

Examples of the Three Tax Systems

<table>
<thead>
<tr>
<th>income</th>
<th>Regressive</th>
<th>Proportional</th>
<th>Progressive</th>
</tr>
</thead>
<tbody>
<tr>
<td>$50,000</td>
<td>$15,000</td>
<td>$12,500</td>
<td>$10,000</td>
</tr>
<tr>
<td>100,000</td>
<td>25,000</td>
<td>25,000</td>
<td>25,000</td>
</tr>
<tr>
<td>200,000</td>
<td>40,000</td>
<td>50,000</td>
<td>60,000</td>
</tr>
</tbody>
</table>


The U.S. has a progressive income tax.

<table>
<thead>
<tr>
<th>On taxable income...</th>
<th>The tax rate is...</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 – $7,825</td>
<td>10%</td>
</tr>
<tr>
<td>7,825 – 31,850</td>
<td>15%</td>
</tr>
<tr>
<td>31,850 – 77,100</td>
<td>25%</td>
</tr>
<tr>
<td>77,100 – 160,850</td>
<td>28%</td>
</tr>
<tr>
<td>160,850 – 349,700</td>
<td>33%</td>
</tr>
<tr>
<td>Over $349,700</td>
<td>35%</td>
</tr>
</tbody>
</table>
Horizontal Equity

Problem:

A C T I V E L E A R N I N G 1
Taxes and Marriage, part 1

The income tax rate is 25%. The first $20,000 of income is excluded from taxation. Tax law treats a married couple as a single taxpayer.

Sam and Diane each earn $50,000.

i. If Sam and Diane are living together unmarried, what is their combined tax bill?

ii. If Sam and Diane are married, what is their tax bill?

A C T I V E L E A R N I N G 1
Answers
The income tax rate is 25%. For singles, the first $20,000 of income is excluded from taxation. For married couples, the exclusion is $40,000. Harry earns $0. Sally earns $100,000.

i. If Harry and Sally are living together unmarried, what is their combined tax bill?

ii. If Harry and Sally are married, what is their tax bill?

Marriage Taxes and Subsidies

- In current U.S. tax code,
  - couples with similar incomes
  - couples with very different incomes

- Many have advocated reforming the tax system to be neutral with respect to marital status...
Marriage Taxes and Subsidies

The ideal tax system would have these properties:

However, designing a tax system

Tax Incidence and Tax Equity

- Recall: The person who bears the burden is not always the person who gets the tax bill.
- Example: A tax on fur coats
  - But furs are
  - The tax shifts demand away from furs,

Lesson: When evaluating tax equity, must take tax incidence into account.

Who Pays the Corporate Income Tax?

- When the govt levies a tax on a corporation,
  - The burden of the tax ultimately falls on
  - Suppose govt levies a tax on automakers.
    - Owners receive less profit, may respond over time
    - The supply of cars falls,
    - Demand for
**Flat Taxes**

**Flat tax:**

- Typically, income above a certain threshold is
- The higher the threshold,
- Radically reduces administrative burden
- Not popular with

- Used in some central/eastern European countries

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**CONCLUSION: The Trade-Off Between Efficiency and Equity**

- The goals of efficiency and equity often conflict:  
  - *E.g.*, 

- Political leaders differ in their views on this tradeoff.
- Economics
  - Can help us better understand the tradeoff
  - Can help us avoid policies that sacrifice efficiency without any increase in equity