CHAPTER 12

The Design of the Tax System

PRINCIPLES OF
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Premium PowerPoint Slides
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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

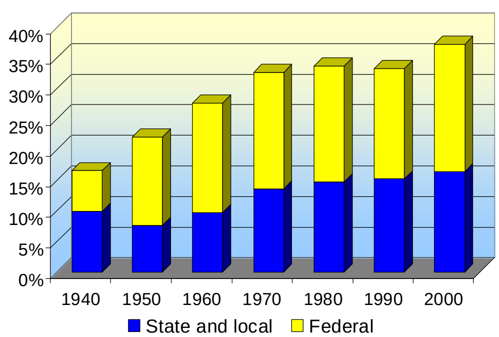
- Lessons about taxes from earlier chapters:
  - A tax on a good reduces the market quantity of that good.
  - The burden of a tax is shared between buyers and sellers depending on the price elasticities of demand and supply.
  - A tax causes a deadweight loss.

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

U.S. Tax Revenue (% of GDP)



Total Government Revenue (% of GDP)

Sweden	50%
France	45
United Kingdom	37
Germany	36
Canada	36
Russia	32
Brazil	30
United States	28
Japan	27
Mexico	20
Chile	19
China	15
India	14

Receipts of the U.S. Federal Govt, 2007

Tax	Amount (billions)	Amount per person	Percent of receipts
Individual income taxes	$ 1164	$3,482	45.3%
Social insurance taxes	870	2,795	33.9
Corporate income taxes	370	1,180	14.4
Other	165	572	6.4
Total	**$2,568**	**$8,030**	**100.0%**

Receipts of State & Local Govts, 2007

Tax	Amount (billions)	Amount per person	Percent of receipts
Sales taxes	$305.1	$1,010	24.1%
Property taxes	401.3	1,329	31.7
Individual income taxes	291.7	966	23.0
Corporate income taxes	58.0	192	4.6
Other	211.7	701	16.7
Total	**$1,268**	**$4,197**	**100.0%**

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

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  - *e.g.*, hiring accountants to exploit "loopholes" to reduce one's tax burden
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- 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 =

Income	Average tax rate	Marginal tax rate
$20,000		
$40,000		

Lump-Sum Taxes

- *Causes no deadweight loss*
  Does not distort incentives.
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  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 DESIGN OF THE TAX SYSTEM 18

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

THE DESIGN OF THE TAX SYSTEM 19

Vertical Equity

- **Vertical equity**:

THE DESIGN OF THE TAX SYSTEM 20

Three Tax Systems

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

Examples of the Three Tax Systems

	Regressive		Proportional		Progressive	
income	tax	% of income	tax	% of income	tax	% of income
$50,000	$15,000		$12,500		$10,000	
100,000	25,000		25,000		25,000	
200,000	40,000		50,000		60,000	

U.S. Federal Income Tax Rates: 2007

The U.S. has a progressive income tax.

On taxable income…	the tax rate is…
0 – $7,825	10%
7,825 – 31,850	15%
31,850 – 77,100	25%
77,100 – 160,850	28%
160,850 – 349,700	33%
Over $349,700	35%

Horizontal Equity

- **Horizontal equity**:

- Problem:

THE DESIGN OF THE TAX SYSTEM

24

ACTIVE LEARNING 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?

25

ACTIVE LEARNING 1

Answers

26

ACTIVE LEARNING *2*

Taxes and Marriage, part 2

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?

27

ACTIVE LEARNING *2*

Answers

28

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

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