

# Introduction to Government Revenue

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## Topics covered in this lecture

- Overview of federal, state, and local revenue over time
- Tax terminology
- Tax incidence
- Tax evaluation criteria
- Tax collection steps

## Additional information from the Congressional Budget Office (CBO)

- The Distribution of Household Income and Federal Taxes, 2013
- The Distribution of Household Income, 2019

# Introduction

## Purpose and consequences of government revenue

- Reallocation of scarce resources from the private sector to the public sector

## Determination of consequences by method chosen to collect (and distribute) revenue

- Redistribution of tax revenue back into economy
- Effect on various demographic

## Government revenue versus taxation

- Purchase of a stamp from the U.S. Postal Service
- Annual registration fee for a motor vehicle
- Income tax

## Common methods to finance government activity

- Taxation, charges and fees, privatization, debt financing

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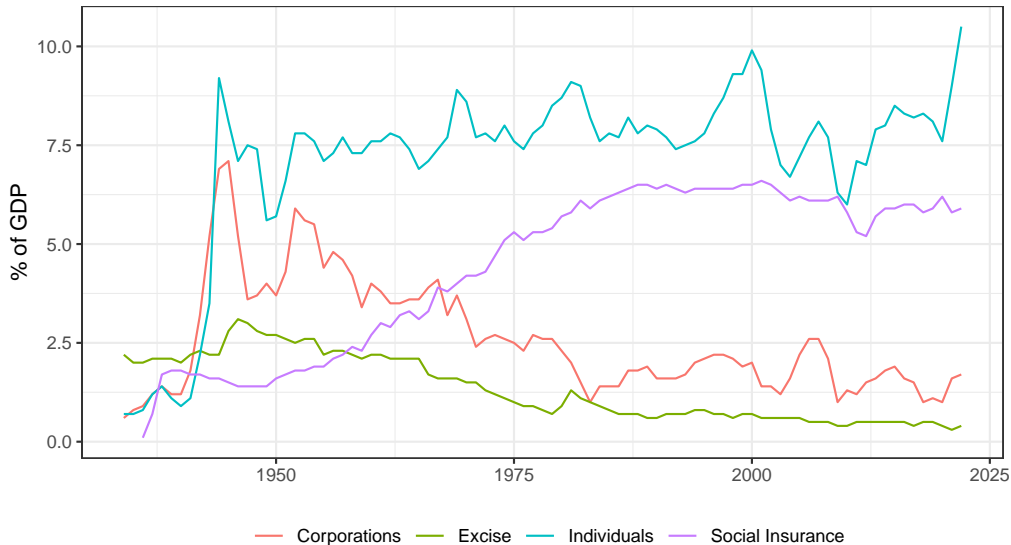
Tax Incidence

Tax Evaluation  
Criteria

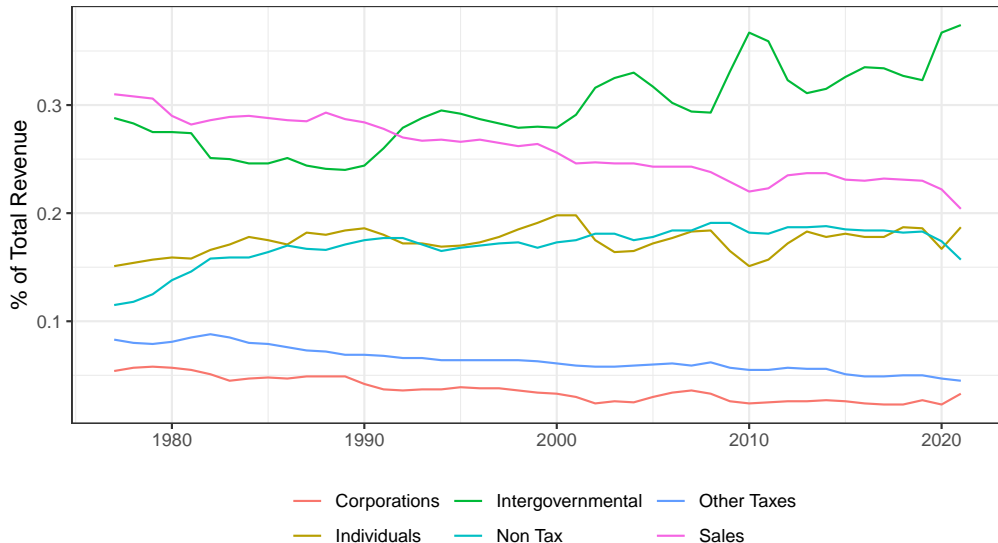
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# Federal, State, and Local Revenue

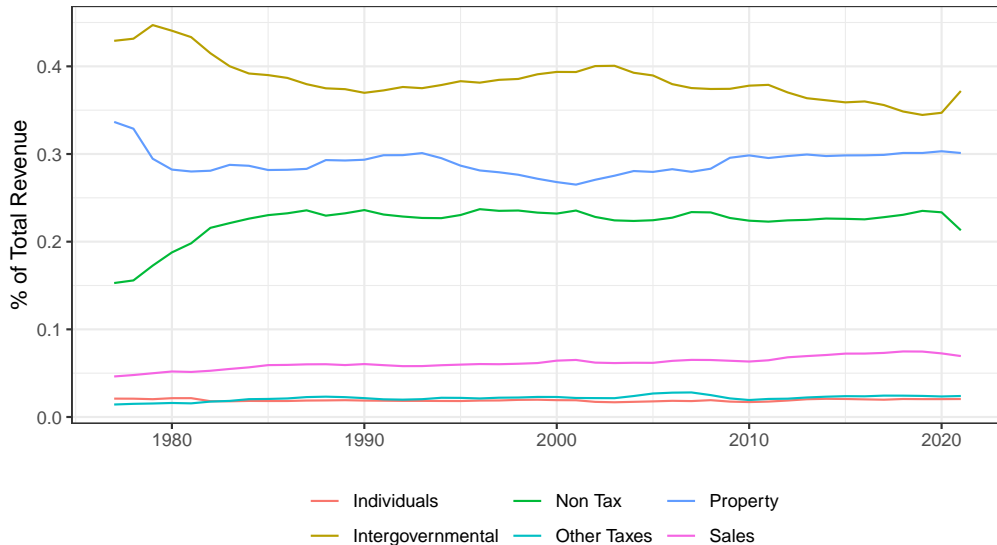
# Tax Revenue Distribution at the Federal Level



## Revenue at the State Level



## Revenue at the Local Level



## Tax Maxims by Adam Smith (1776)

**Equity:** The subject of every state ought to contribute towards the support of the government, as nearly as possible, in proportion to their respective abilities; that is, in proportion to the revenue which they respectively enjoy under the protection of the state.

**Certainty:** The tax which each individual is bound to pay ought to be certain and not arbitrary. The time of payment, the manner of payment, the quantity to be paid, ought all to be clear and plain to the contributor, and to every other person.

**Convenience:** Every tax ought to be levied at the time or in the manner, in which it is most likely to be convenient for the contributor to pay it.

**Economy:** Every tax ought to be so contrived as both to take out and to keep out of the pockets of the people as little as possible, over and above what it brings into the public treasury of the state.



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# Tax Terminology

## Taxes

- Compulsory payments associated with certain activities (e.g., earning income, owning property, purchasing goods)
- Reduction in individuals' ability to allocate resources
- Tax policy seeks to achieve that shift with the least possible economic or social harm
- Neither a price for (direct) services received nor a voluntary contribution

## Tax aspects

- ① Tax base and tax trigger
- ② Tax rate
- ③ Tax incidence

# Tax Base and Tax Trigger

## Tax base

- Item or economic activity on which tax is levied
- Examples: Income, wealth, consumption

## General versus selective tax

- General tax: Taxes entire base with no exclusions or deductions
- Selective tax: Taxes a portion of the base

## Tax trigger

- Activity triggering tax liability
- Determination by taxpayers' actions (e.g., income, consumption)
- Determination by government (e.g., property)

## Measurement of tax base and determination of tax liability

# Tax Rates

## Definition

- Rate at which the tax base is taxed

## Example of base, trigger, and rate for income taxes

- Tax base: Income adjusted for exclusions, deductions, exemptions, credits
- Tax trigger: Engaging in activity that generates income
- Tax rate: Graduated schedule

## Graduated schedule

- Marginal tax rates

## Distinction between marginal tax rate and effective tax rate

# Tax Rate Structure

## Average tax rate

- Tax collected divided by the dollar value of the tax base

## Marginal tax rate

- Change in tax collected divided by the change in the value of the tax base

## Effective tax rate

- Tax collected divided by the measure of ability to pay or wealth

Effective tax rate as an indicator to differentiate progressive, proportional, and regressive taxes

- Income tax example on next slide: Average and effective tax rate are identical

## Numerical Example

	A	B	C
Income	\$ 10,000	\$ 40,000	\$ 100,000
<i>Proportional tax</i>			
Tax amount	\$ 1,000	\$ 4,000	\$ 10,000
Effective tax	10.0%	10.0%	10.0%
<i>Progressive tax</i>			
Tax amount	\$ 1,000	\$ 5,000	\$ 20,000
Effective tax	10.0%	12.5%	20.0%
<i>Regressive tax</i>			
Tax amount	\$ 1,000	\$ 3,000	\$ 6,000
Effective tax	10.0%	7.5%	6.0%

## Marginal Tax Rate: Table

Single		Married		Tax Rate
Over	But not above	Over	But not above	
\$-	\$9,525	\$-	\$19,050	10%
\$9,526	\$38,700	\$19,051	\$77,400	12%
\$38,701	\$82,500	\$77,401	\$165,000	22%
\$82,501	\$157,500	\$165,001	\$315,000	24%
\$157,501	\$200,000	\$315,001	\$400,000	32%
\$200,001	\$500,000	\$400,001	\$600,000	35%
\$500,001		\$600,001		37%

## Marginal Tax Rate: Calculation

### Situation

- Married couple with household income of \$137,000

### Calculation of tax liability

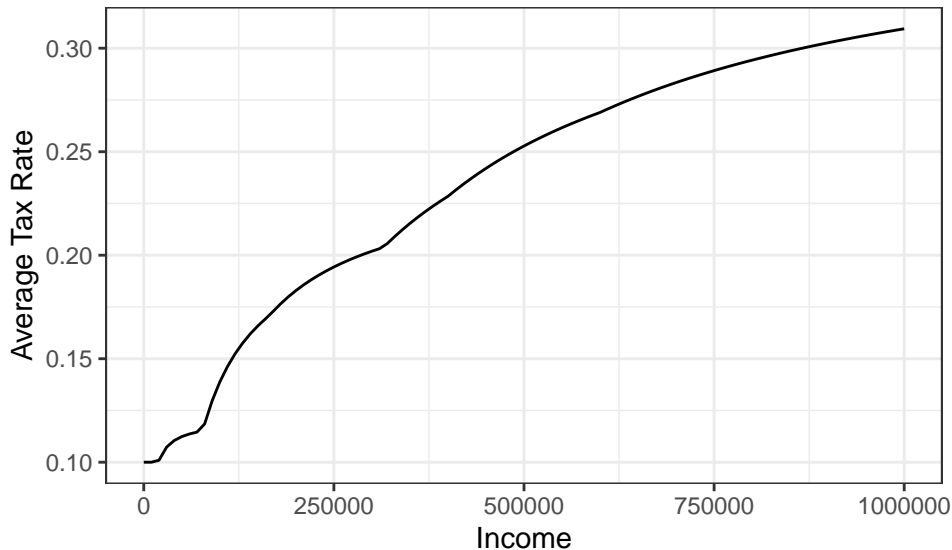
$$19050 \cdot 0.1 + (77400 - 19050) \cdot 0.12 + (137000 - 77400) \cdot 0.22 = 22019$$

### Results

- Tax liability: \$22,019
- Marginal tax rate: 22%
- Average tax rate: 16% (\$22,019 divided by income)



## Marginal versus Effective Rate



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# Tax Incidence

Definition: Person paying the tax

- Examples: Property tax on rental properties or payroll tax on employer

Legal or statutory incidence

- The party legally responsible for remitting the tax

Economic incidence

- Party bearing economic burden of the tax

Determinants for economic incidence

- Relative elasticity of supply and demand

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# Tax Evaluation Criteria

# Overview of Tax Evaluation Criteria

## Tax evaluation criteria

- ① Economic efficiency
- ② Equity
- ③ Adequacy
- ④ Feasibility
  - Administrative feasibility
  - Political feasibility
- ⑤ Transparency

# Economic Efficiency

Market equilibrium as the efficient point maximizing consumer and producer surplus (i.e., social welfare)

- Production of goods most desired by consumers
- Production of goods at least cost
- Distribution of goods to consumers based on willing-to-pay

Exceptions

- Instances of market failure

Potential change in market equilibrium due to taxes resulting in lower efficiency

# Equity

## Assessing tax fairness with equity standards

- Multiple goals and objectives by taxing
- Equity objectives may be explicitly considered in setting a tax rate structure
- Equity considerations may represent trade-offs or unintended consequences from a tax

## Equity standards

- Ability-to-pay principle
  - Horizontal equity
  - Vertical equity
- Benefits principle

# Ability-to-Pay Principle

Tax payments based on people's ability-to-pay potentially measured in terms of

- Income
- Wealth

Notions with regard to ability-to-pay principle

- Horizontal equity: People with the same ability to pay, pay the same effective tax rate.
- Vertical equity: People with different abilities to pay, pay different effective tax rates.



# Vertical Equity

## Evolution of the effective tax rate

- Progressive: Increases as income increases
- Regressive: Decreases as income increases
- Proportional: Constant across all income levels

## Numerical example with the income of three individuals

- Taxpayer A: \$10,000
- Taxpayer B: \$40,000
- Taxpayer C: \$100,000

## Numerical Example for Vertical Equity

	A	B	C
Income	\$ 10,000	\$ 40,000	\$ 100,000
<i>Proportional tax</i>			
Tax amount	\$ 1,000	\$ 4,000	\$ 10,000
Effective tax	10.0%	10.0%	10.0%
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# Benefits Principle

Cost of good or service provided by government paid by taxpayers benefiting from said good or service

- Payment of direct proportion to the benefits received

Arguments in favor of benefit principle

- Intuitive notion of fairness, i.e., those benefiting pay
- Encourages people to conserve public services

Arguments against benefit principle

- Few revenue sources satisfy a strict benefits test, i.e., it is not feasible to assign/attribute benefits from public goods to individuals
- In some cases, a person less able to pay for a service might be no less deserving of benefits

# Adequacy

## Definition

- How much revenue can be generated at reasonable tax rates.

Desirable to find taxes with a broad base such as income or sales

- Significant revenue from low tax rates

Cyclical considerations of tax revenue (e.g., percentage of price vs. per-unit tax on gasoline)

# Administrative Feasibility

## Ease of tax collection

- Administrative costs: Government effort to collect tax
- Compliance costs: Taxpayer effort comply with tax

## Political Feasibility

### Types of citizens' reaction with regard to tolerance of new taxes

- Tax intolerance: Rejection of any further levels of taxation
- Sticker shock: Lack of support due to initial tax increase
- Reasonableness: Application of standard reasonableness in assessing value received for tax

### Visibility

- Decrease in tax popularity tax visibility

### Exportation

- Increase in tax popularity with perception of tax payment (at least partially) by outsiders of tax jurisdiction

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# Tax Collection Steps

# Taxpayer Registration and Taxable Activity

## Compilation and maintenance of taxpayers information

- Social security numbers
- Taxpayer identification number
- Parcel numbers (e.g., homes)

## Declaration or assessment (tabulation of taxable activity)

- Personal income tax
- Miscellaneous income
- Interest income
- Dividend and distributions

## Sales tax



# Revenue, Taxpayer Accounting, and Accountability

## Revenue and taxpayer accounting

- Payments must be deposited, recorded, and distributed
- Posting of return information to taxpayers

## Delinquency control, compliance, and collections

- Active compliance of taxpayers: Considerable requirements and responsibilities
- Taxpayers must understand their responsibilities and have an easy source for answers

## Audit

- Ensure compliance with tax law