



# The Design of the Tax System

## Chapter 12

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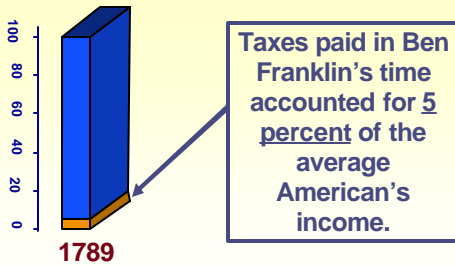
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***“In this world nothing is certain but death and taxes.”***

... Benjamin Franklin



Taxes paid in Ben Franklin's time accounted for 5 percent of the average American's income.

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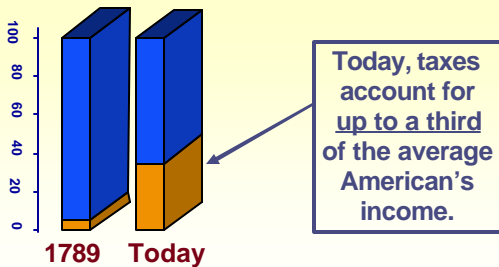
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***“In this world nothing is certain but death and taxes.”***

... Benjamin Franklin



Today, taxes account for up to a third of the average American's income.

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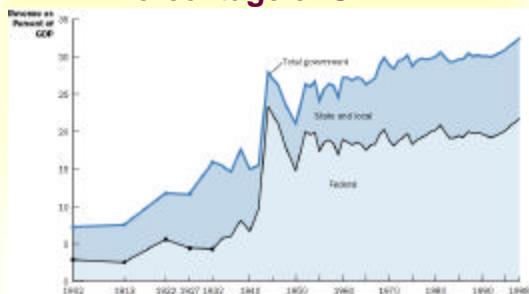
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## Government Revenue as a Percentage of GDP



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## Central Government Tax Revenue as a Percent of GDP

France	38.8
United Kingdom	33.7
Germany	29.4
Brazil	19.7
United States	19.3
Canada	18.5
Russia	17.4
Indonesia	14.7
Pakistan	15.3
Mexico	12.8
India	10.3

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## The Federal Government

The U.S. federal government collects about two-thirds of the taxes in our economy.

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## The Federal Government

The largest source of revenue for the federal government is the individual income tax.

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## Tax Liability

With respect to paying income taxes, an individual's **tax liability** (how much he/she owes) is based on total income.

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## Individual Income Taxes

◆ The **marginal tax rate** is the tax rate applied to each additional dollar of income.

◆ Higher-income families pay a larger percentage of their income in taxes.

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## Federal Income Tax Rates: 1999

On Taxable Income...	The Tax Rate Is . . .
Up to \$25,750	15.0 %
From \$25,750 to \$62,450	28.0
From \$62,450 to \$130,250	31.0
From \$130,250 to \$283,150	36.0
Over \$283,150	39.6

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## The Federal Government and Taxes

- ◆ **Payroll Taxes:** tax on the wages that a firm pays its workers.
- ◆ **Social Insurance Taxes:** revenue from these taxes is earmarked to pay for Social Security and Medicare.
- ◆ **Excise Taxes:** taxes on specific goods like gasoline, cigarettes, and alcoholic beverages.

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## Receipts of the Federal Government: 1999

Tax	Amount (billions)	Amount (per person)	Percent of Receipts
Individual income taxes	\$869	\$3,194	48%
Social insurance taxes	609	2,239	34
Corporate income taxes	182	669	10
Other	146	537	8
<b>Total</b>	<b>\$1,806</b>	<b>\$6,639</b>	<b>100%</b>

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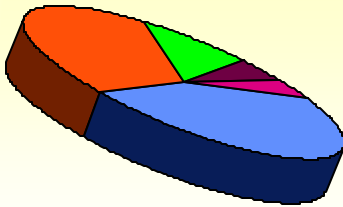
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## Receipts of the Federal Government...



- Individual Income Tax, 48%
- Social Insurance Tax, 34%
- Corporate Tax, 10%
- Excise Tax, 4%
- Other, 4%

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## Federal Government Spending

- ◆ Government spending includes transfer payments and the purchase of public goods and services.
  - ◆ **Transfer payments** are government payments not made in exchange for a good or a service.
  - ◆ Transfer payments are the largest of the government's expenditures.

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## Federal Government Spending

### Expense Category:

- ◆ Social Security
- ◆ National Defense
- ◆ Net Interest
- ◆ Income Security
- ◆ Medicare
- ◆ Health
- ◆ Other



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## Federal Government Spending: 1999

Category	Amount (billions)	Amount per Person	Percent of Spending
Social security	\$ 393	\$1,445	23%
National defense	277	1,018	16
Net interest	243	893	14
Income security	227	837	13
Medicare	205	754	12
Health	143	526	8
Other	239	879	14
<b>Total</b>	<b>\$1,727</b>	<b>\$6,350</b>	<b>100%</b>

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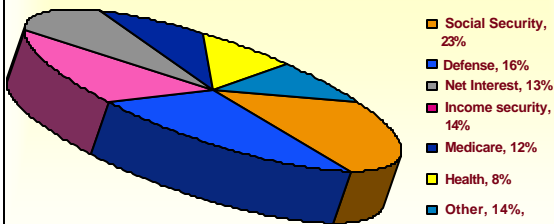
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## Federal Government Spending: 1999...



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## Financial Conditions of the Federal Budget

◆ **A budget deficit** occurs when there is an excess of government spending over government receipts.

◆ Government finances the deficit by borrowing from the public.

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## Financial Conditions of the Federal Budget

- ◆ A **budget surplus** occurs when government receipts are greater than government spending.
- ◆ A budget surplus may be used to reduce the government's outstanding debts.

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## State and Local Governments

State and local governments collect about 40 percent of taxes paid.

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## State and Local Government Receipts

- ◆ Sales Taxes
- ◆ Property Taxes
- ◆ Individual Income Taxes
- ◆ Corporate Income Taxes
- ◆ Other



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## State and Local Government Spending

- ◆ Education
- ◆ Public Welfare
- ◆ Highways
- ◆ Other



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## Receipts of State and Local Governments: 1996

Tax	Amount (billions)	Amount per person	Percent of Receipts
Sales taxes	\$249	\$940	20%
Property taxes	209	789	17
Individual income taxes	147	554	12
Corporate income taxes	32	121	3
From federal government	235	887	19
Other	351	1,324	29
<b>Total</b>	<b>\$1,223</b>	<b>\$4,615</b>	<b>100%</b>

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## Spending of State and Local Governments: 1996

Category	Amount (billions)	Amount per Person	Percent of Spending
Education	\$ 399	\$1,506	33%
Public welfare	197	743	17
Highways	79	298	7
Other	518	1,955	43
<b>Total</b>	<b>\$1,193</b>	<b>\$4,502</b>	<b>100%</b>

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**Policymakers have two objectives in designing a tax system...**



⇒ **Efficiency**

✦ **Equity**

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### **Taxes and Efficiency**

- ◆ One tax system is more **efficient** than another if it raises the same amount of revenue at a smaller cost to taxpayers.
- ◆ An **efficient** tax system is one that imposes the smallest deadweight losses and administrative burdens possible.

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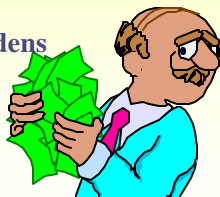
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### **The Cost of Taxes to Taxpayers**

- ◆ The tax payment itself
- ◆ Deadweight losses
- ◆ Administrative burdens



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## Deadweight Losses of Taxation

◆ Because taxes distort incentives, they entail deadweight losses.

◆ The deadweight loss of a tax is the reduction of the economic well-being of taxpayers in excess of the amount of revenue raised by the government.

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## Administrative Burdens

Complying with tax laws creates additional deadweight losses.

- ◆ Taxpayers lose additional time and money documenting, computing, and avoiding taxes over and above the actual taxes they pay.
- ◆ The administrative burden of any tax system is part of the inefficiency it creates.

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## Marginal Tax Rates versus Average Tax Rates

- ◆ The **average tax rate** is total taxes paid divided by total income.
- ◆ The **marginal tax rate** is the extra taxes paid on an additional dollar of income.

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## Lump-Sum Taxes

**A lump-sum tax is a tax that is the same amount for every person, regardless of earnings or any actions that the person might take.**

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## Taxes and Equity

- ◆ How should the burden of taxes be divided among the population?
- ◆ How do we evaluate whether a tax system is fair?

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## Principles of Taxation



- ◆ Benefits principle
- ◆ Ability-to-pay principle

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## Benefits Principle

- ◆ The **benefits principle** is the idea that people should pay taxes based on the benefits they receive from government services.
- ◆ An example is a gasoline tax:
  - ◆ Tax revenues from a gasoline tax are used to finance our highway system.
  - ◆ People who drive the most also pay the most toward maintaining roads.

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## Ability-to-Pay Principle

- ◆ The **ability-to-pay principle** is the idea that taxes should be levied on a person according to how well that person can shoulder the burden.
- ◆ The ability-to-pay principle leads to two corollary notions of equity.
  - ◆ Vertical equity
  - ◆ Horizontal equity

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## Vertical Equity

- ◆ **Vertical equity** is the idea that taxpayers with a greater ability to pay taxes should pay larger amounts.
  - ◆ For example, people with higher incomes should pay more than people with lower incomes.

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## Vertical Equity and Alternative Tax Systems

- ◆ A **proportional tax** is one for which high-income and low-income taxpayers pay the same fraction of income.
- ◆ A **regressive tax** is one for which high-income taxpayers pay a smaller fraction of their income than do low-income taxpayers.
- ◆ A **progressive tax** is one for which high-income taxpayers pay a larger fraction of their income than do low-income taxpayers.

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## Three Tax Systems

Income	Proportional Tax		Regressive Tax		Progressive Tax	
	Amount of Tax	Percent of Income	Amount of Tax	Percent of Income	Amount of Tax	Percent of Income
\$50,000	\$12,500	25%	\$15,000	30%	\$10,000	20%
100,000	25,000	25%	25,000	25%	25,000	25%
200,000	50,000	25%	40,000	20%	60,000	30%

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## The Burden of Federal Taxes

Quintile	Average Income	Taxes as a Percent of Income	Percent of All Income	Percent of All Taxes
Lowest	\$ 9,880	8.0%	4%	1%
Second	26,100	15.6	11	7
Middle	44,300	20.3	16	13
Fourth	68,200	23.1	20	19
Highest	174,000	29.1	49	59

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## Horizontal Equity

◆ **Horizontal equity** is the idea that taxpayers with similar abilities to pay taxes should pay the same amounts.

◆ For example, two families with the same number of dependents and the same income living in different parts of the country should pay the same federal taxes.

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## The “Marriage Tax”

- ◆ Marriage affects the tax liability of a couple in that tax law treats a married couple as a single taxpayer.
- ◆ When a couple gets married, they stop paying taxes as individuals and start paying taxes as a family.
- ◆ If each has a similar income, their total tax liability rises when they get married.

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## Tax Incidence and Tax Equity

- ◆ The difficulty in formulating tax policy is balancing the often conflicting goals of efficiency and equity.
- ◆ The study of who bears the burden of taxes is central to evaluating tax equity.
- ◆ This study is called **tax incidence**.

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## Flypaper Theory of Tax Incidence

According to the **flypaper theory**, the burden of a tax, like a fly on flypaper, sticks wherever it first lands.

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## The Flat Tax

- ◆ First proposed by economist Robert Hall in the 1980s.
- ◆ Proposed as an alternative to the current tax system.
- ◆ A single, low tax rate would apply to all income in the economy.

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## Proposed Benefits of the Flat Tax

- ◆ The flat tax would eliminate many of the deductions allowed under the current income tax thereby broadening the tax base and reducing marginal tax rates for most people.
- ◆ Because the flat tax is simple, the administrative burden of taxation would be greatly reduced.

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## Proposed Benefits of the Flat Tax

- ◆ Because all taxpayers would be faced with the same marginal tax rate, the tax could be collected at the source of income.
- ◆ The flat tax would replace both the personal and corporate income taxes and would eliminate the current double taxation of corporate profits.
- ◆ The flat tax could increase the incentive to save.

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## Summary

- ◆ The U.S. government raises revenue using various taxes.
- ◆ Income taxes and payroll taxes raise the most revenue for the federal government.
- ◆ Sales taxes and property taxes raise the most revenue for the state and local governments.

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## Summary

- ◆ Equity and efficiency are the two most important goals of the tax system.
- ◆ The efficiency of a tax system refers to the costs it imposes on the taxpayers.
- ◆ The equity of a tax system concerns whether the tax burden is distributed fairly among the population.

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## Summary

- ◆ According to the benefits principle, it is fair for people to pay taxes based on the benefits they receive from the government.
- ◆ According to the ability-to-pay principle, it is fair for people to pay taxes on their capability to handle the financial burden.

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## Summary

- ◆ The distribution of tax burdens is not the same as the distribution of tax bills.
- ◆ Much of the debate over tax policy arises because people give different weights to the two goals of efficiency and equity.

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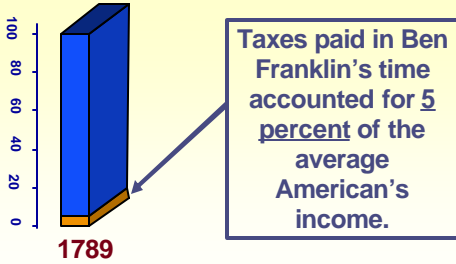
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***"In this world nothing is certain but death and taxes."***

... Benjamin Franklin



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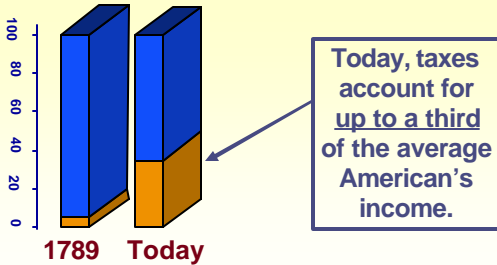
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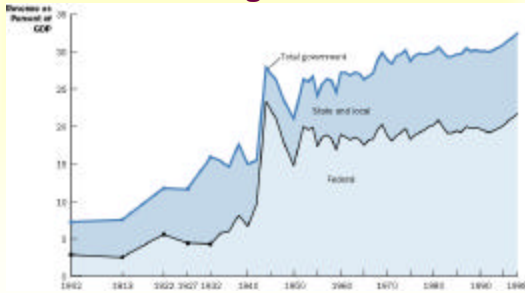
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### Government Revenue as a Percentage of GDP



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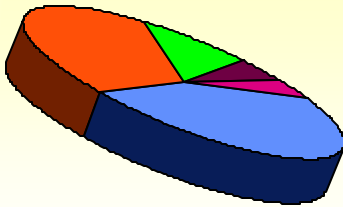
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### Receipts of the Federal Government...



- Individual Income Tax, 48%
- Social Insurance Tax, 34%
- Corporate Tax, 10%
- Excise Tax, 4%
- Other, 4%

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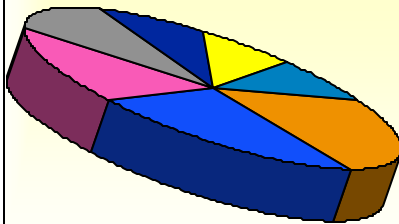
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### Federal Government Spending: 1999...



- Social Security, 23%
- Defense, 16%
- Net Interest, 13%
- Income security, 14%
- Medicare, 12%
- Health, 8%
- Other, 14%

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