Most of government expenditures are financed by taxes.

Types of taxes:

Taxes on earnings - payroll tax, individual income tax, corporate income tax

Payroll taxes are on earnings from work. They are used to fund Social Security, unemployment insurance, Medicare.

Individual income tax applies to broader set of income sources than payroll tax, includes interest earnings from household savings. It often applies to family income, not just individual’s income. Includes capital gains taxation - on earnings from capital assets (stocks, houses). Some stocks pay dividends - these are taxed under capital income tax. From the house, earnings include rent, implicit rent, and capital gains. Accrued capital gain is the increase in market value of the asset. Capital gains on most houses only taxed if it’s a second or third, etc house (The tax code favors home ownership in many ways).

Many countries, including the United States, tax earnings of a corporation separately from individual income through corporate income tax. The purpose of this is to tax owners of capital who could escape the individual income tax. Under some conditions described later (e.g. capital expenditures immediately deductible) the corporate income tax is a tax on profits. If a firm has one or few owners, they can choose to declare the firm’s income as their individual income (and pay individual income tax on it) or to have the firm pay corporate taxes as a separate entity.

Wealth taxes

In contrast to income taxes that are paid on income as it is earned, wealth taxes are on the value of assets held (land, real estate, stocks). They include property taxes, based on the value of land and of buildings built on the land and estate taxes, based on bequests left behind at death.

Consumption Taxes

Consumption taxes are the most common tax around the world. Paid on individual or household consumption of goods or services. Often paid per unit sold by buyers to sellers. They can be applied to either a broad category of goods or to one good alone; when applied to one good, a tax is called an excise tax.

Payroll, income and wealth taxes are called direct taxes; consumption taxes are called indirect taxes.

See figure 18-1 and figure 18-2

Consumption taxes provide a greater portion of national gov revenue in all OECD countries than in the US.

The US federal government gets most tax revenue from the individual income
tax (43%), 39% from payroll tax. 14% comes from corporate taxes and small shares come from consumption, wealth and other taxes. The two main sources of revenue for state and local government in US are consumption taxes and local property taxes. As a whole when all levels of gov are combined, the most revenue comes from income taxation, then payroll taxes, consumption taxes, then corporate income and property taxes.

Compare this with Norway and Denmark. These two countries have very different tax systems from each other and the US. The diagram shows total tax revenue averaged across government types. Denmark relies heavily on individual income (53%) and consumption (31%) taxes. Norway is approximately evenly divided between payroll, consumption, corporate income and individual income taxes. The OECD average has a higher consumption tax proportion and lower individual income tax proportion than the US.

The structure of the individual income tax in the US. The largest source of revenue in the US is the federal individual income tax. How is an individual’s tax computed?

First, gross yearly income is found by adding up income from all sources: wages and salaries, capital income (interest, dividends, rental income), and other business income (profits if sole owner).

When gross income is determined, deductions are made. The deductions are:
- contributions to retirement savings through IRAs or self-employed pension plans
- alimony (payment from one ex-spouse to the other, usually for child care, after a divorce)
- health insurance premiums paid by the self-employed
- half the payroll taxes paid by the self-employed

Suppose Jack’s gross income is $60,000 and he contributes $2000 a year to his IRA and has no other deductions. His adjusted gross income (AGI) is then 58,000.

Next, Jack subtracts exemptions from AGI. These are fixed amounts of money that can be deducted for a taxpayer, their spouse and dependents living in the house. In 2006, exemption amount was 3300 per person. Jack has a wife and three children, so he deducts $5 \times 3300 = 16,500$ in exemptions from his AGI.

Next, Jack can choose between two forms of deduction:
1. Standard deduction is a fixed amount of deduction. In 2006 it was 5150 for a single person and 10,300 for a married couple.
2. Itemized deductions - deducts the sum of the following:
   - Medical and dental expenses greater than 7.5% of AGI
   - Other taxes paid (state or local income tax, or sales tax if the state has no
income tax, real estate tax, personal property tax
- interest paid on funds borrowed to make investments or for home mortgages
- gifts to charity
- casualty (flood, fire) and theft losses
- unreimbursed employee expenses: union dues, expenses from job travel

Jack chooses the way that minimizes the taxable income. Most homeowners choose to itemize due to high enough mortgage interest and property tax payments.

Suppose Jack has paid 6000 interest on his mortgage that year, paid 2500 state and local taxes and given 500 to charity, so his itemized deductions would add up to 9000. This is less than the standard deduction for married couples, so he chooses the latter. In 2003, 65% of US taxpayers chose the standardized deduction, 35% chose itemized.

After all the exemptions and deduction have been subtracted from Jack’s gross income, it is called taxable income. Jack’s taxable income is $58000 - 16500 - 10300 = 31200.

On this income, he has to find out how much he owes the government. In the US and in the world, most tax systems have the tax rate on the next dollar of income rise as income rises. In 2006, for a married couple filing joint taxes, the tax rate schedule was:

10c on each dollar of taxable income below 15,100
15c on each dollar of taxable income from 15,100 to 61,300 (the next 46,200 of taxable income)

and so on, increasing as the income increases.

Jack owes 10% of his first 15,100 taxable income and 15% of his remaining 16,100 of taxable income, which makes 3925.

After taxes owed have been calculated, people can further reduce tax payments through tax credits. These are flat amount subtracted from taxes owed. There is a tax credit for having children of 1000 per child, for paying for care of children and elderly dependents, for being poor and either elderly or disabled, for for paying for educational expenses of family members, for hiring as employees members of groups with high unemployment rates (ex-felons, welfare recipients, veterans), and for earning income if family income is low (EITC). Jack has a child credit of 3000. He owes 925 in taxes.

Withholding - gov subtracts taxes from income as it is earned (each month). The amount withheld is an estimate of taxes the worker will pay, but it is usually not exact. The gov withheld 2000 from Jack’s earnings during the year, so it owes him a refund of 1075.

Fairness of tax systems
In 1990 a tax reform proposal by PM Margaret Thatcher set off riots; the property taxes were proposed to be replaced with a flat tax levied equally on everyone. This would take a larger share of poor people’s income than of rich people’s. The proposal was abandoned.

To discuss fairness, need some terms: Marginal tax rate is the percentage of next dollar of taxable income paid in taxes. If your taxable income is 30,000 (anywhere between 15,100 and 61,300), your marginal tax rate is 15%. If your taxable income is above 336,550 your marginal tax rate is 35%.

Average tax rate for income tax is ratio of tax payment to total gross income (average tax rate for other taxes is the ratio of tax payment to tax base).

Josh has gross income of 150,000 and taxable income of 130,000. His total tax bill is $(15,100 \times 0.1) + (46,200 \times 0.15) + (62,400 \times 0.25) + (6,300 \times 0.28) = 25804$, where $6300 = 130,000 - 15100 - 46200 - 62400$.

His average tax rate is $\frac{25804}{150,000} = 17.2\%$.

Two concepts used in the measurement of tax fairness are vertical equity and horizontal equity. Vertical equity is the principle that groups with more resources (wealth, income or profits) should pay more in taxes.

Horizontal equity is the idea that similar individuals who make different economic or lifestyle choices should be treated similarly by the tax system. Horizontal inequity is generally perceived as unfair and this perception could lead to more tax evasion.

Example of horizontal inequity: A state has a sales tax system where the seller flips a coin whenever you make a purchase. If it’s heads you pay no sales tax; if it’s tails you pay a sales tax of 10%. Compared to a tax system where everyone pays 5% sales tax, it raises the same amount of expected revenue, but has horizontal inequity.

A different approach to fairness states that people should be taxed in proportion to the benefits they receive from the public sector. This is rarely used.

Measuring vertical equity

Horizontal equity is difficult to define and measure, but there are measures of vertical equity. A vertically equitable system should be progressive, meaning that average tax rates rise with income (e.g. people pay 10% of income at income of 10,000 but 30% of income at 100,000). If the average tax rate is constant over income, the tax system is proportional. If the average tax rate falls with income, it is regressive (the payroll tax for SS is regressive).

Income tax cuts signed into law by Congress in 2003 expanded tax breaks for married couples, increased tax paid to families with children, increased tax breaks for corporations.

Democratic critics pointed out that 44% of tax reduction from this bill went to top 1% of taxpayers. Bush administration replied that since top 1% of taxpayers
pay 38% of income taxes, the reduction in their tax bill was proportional to their income tax payments.

The 2001 and 2003 tax cuts rose the lowest fifth after-tax incomes by 0.5%, the top fifth by 3.4% and the top 0.1% by 7.5%. In this sense, the tax change was very regressive.

Rationales for exemptions, deductions and credits

Haig-Simons comprehensive income definition (used by public finance economists) defines taxable resources as an individual’s ability to pay taxes, equal to total consumption during a year plus any increases in wealth stock.

Having tax-deductible employer-provided insurance deviates from Haig-Simons definition because the employer-provided insurance contributes to the employee’s ability to consume, compared to paying employee in cash.

Haig-Simons definition has both vertical and horizontal equity. With this definition, those with more resources would pay more tax. Also, those with similar underlying resources would pay similar amounts of tax. Under Haig-Simons definition, whether you choose to take compensation in the form of wages or in the form of health insurance shouldn’t change the amount of taxes you pay.

Externality/public goods rationales for deviating from Haig-Simons

Reducing taxes on some activities will give external benefits to society.

Charitable giving

The purpose of charity is to increase the provision of public goods. An example of a public good is lack of homelessness. By providing shelters for the homeless, the amount of this public good can be increased. A way to increase this provision is to make charitable giving tax-deductible. You can deduct expenses for charity from your taxable income. This makes charitable giving cheap relative to other forms of consumption. It is a way of subsidizing giving to charity.

However a tax code that includes deductions for charitable giving deviates from the Haig-Simons definition of income: A person’s ability to pay taxes, according to Haig-Simons would include what they spent on charitable donations, as they presumably get some benefit from doing so.

The government could alternatively provide the public good (e.g. a homeless shelter) itself rather than letting private contributions finance provision of the good. This would eliminate the problem of deviation from Haig-Simons. However, when the government finances a public good, it tends to crowd out private donation to that good, causing private donations to decrease. A tax subsidy to private donations should cause private contributions to increase, both through the substitution effect (giving becomes cheaper relative to other forms of consumption) and through the income effect (due to a tax deduction, a person has more money to spend on charitable donations).

But there can be a problem with providing a tax subsidy, in the sense that the
money not collected in taxes may not be cost-effectively spent: Much of that 
tax deduction may go to people who would have contributed to charity anyway. This is an inframarginal effect of the tax deduction. The marginal effect of the 
tax deduction is the effect on people who contribute more to charity due to 
due to the tax deduction. A tax policy is cost-effective from the government’s point of 
view if the marginal effect is large relative to the inframarginal effect.

So how should the government determine whether to provide a good itself or 
allow it to be provided through charitable contributions? Given a dollar of 
revenue that can be spent either on a tax break or on the public good, the 
government should spend the dollar on the tax break if the increase in charity 
due to that dollar of tax break exceeds one minus the reduction in charity 
due to that dollar of government spending. If the inequality is in the opposite 
direction, the government should spend the dollar on the public good. Evidence 
from many studies shows that the elasticity of charitable giving with respect 
to a tax subsidy is about -1, that is, for each 1% reduction in the relative 
price of charitable giving, the amount of giving rises by 1%. Studies also find 
that government crowding out of private giving ranges from 10% to 70%. This 
means that a dollar of government spending on a public good raises the overall 
spending on that public good by 30 to 90 cents.

Another deviation in our tax code from the Haig-Simons definition comes from 
the tax subsidy for owning a home instead of renting. People can deduct mort-
gage interest from their taxable income, but not rental payments. This tax 
deduction is justified by the idea that homeowners generate positive externali-
ties, because owners may invest more in the upkeep of their house than renters.