

CONGRESSIONAL BUDGET OFFICE

Historical Effective Federal Tax Rates: 1979 to 2006

April 2009

The following tables update the Congressional Budget Office's (CBO's) estimates of historical effective tax rates—that is, households' tax liability divided by their income—for various income categories.¹ These new tables incorporate estimates for an additional calendar year, 2006, for the four largest sources of federal revenues—individual income taxes, social insurance (payroll) taxes, corporate income taxes, and excise taxes—as well as the total effective rate for the four taxes combined. The tables also present average before-tax and after-tax household income; counts of households; and shares of taxes, income, and households for each fifth (quintile) of the income distribution and for the top percentiles of households.

In 2006, the overall effective federal tax rate was 20.7 percent (see Table 1). Individual income taxes, the largest component, were 9.1 percent of household income. Payroll taxes were the next largest source, with an effective tax rate of 7.5 percent. Corporate income taxes and excise taxes were smaller, with effective tax rates of 3.4 percent and 0.7 percent.

The overall federal tax system is progressive—that is, effective tax rates generally rise with income. Households in the bottom fifth of the income distribution paid 4.3 percent of their income in federal taxes, while the middle quintile paid 14.2 percent, and the highest quintile paid 25.8 percent. Average rates continued to rise within the top quintile, with the top percentile facing an effective rate of 31.2 percent.

Higher-income groups pay a disproportionate share of federal taxes because they earn a disproportionate share of pretax income and because effective tax rates rise with income. In 2006, the highest quintile earned 55.7 percent of pretax income and paid 69.3 percent of federal taxes, while the top 1 percent of households earned 18.8 percent of income and paid 28.3 percent of taxes. In all other quintiles, the share of federal taxes was less than the income share. The bottom

¹For earlier publications on this topic, data for earlier years, and detailed discussions, see CBO's special collection "Data on the Distribution of Federal Taxes and Household Income," available at www.cbo.gov/publications/collections/taxdistribution.cfm.

quintile earned 3.9 percent of income and paid 0.8 percent of taxes, while the middle quintile earned 13.2 percent of income and paid 9.1 percent of taxes.

Much of the progressivity of the federal tax system derives from the individual income tax. In 2006, the bottom quintile's effective rate for the individual income tax was -6.6 percent, which is to say that refundable earned income and child tax credits exceeded the income tax owed by that group. On average, households in the second quintile also received more in credits than they paid in individual income taxes. The average effective income tax rate was 3.0 percent for the middle quintile and 6.0 percent for the fourth quintile. For the highest quintile, the rate was 14.0 percent. The top percentile, on average, paid 19.0 percent of their income in individual income taxes.

Effective rates for payroll taxes rise gradually across most of the income distribution, then fall at the top. The lowest quintile faced an effective payroll tax rate of 8.5 percent. That rate was 9.2 percent for the second quintile, 9.4 percent for the middle quintile, and 9.6 percent for the fourth quintile. The increase occurs because nontaxable transfer payments make up a larger share of income at the bottom of the distribution. The payroll tax rate was 5.8 percent for the highest quintile. That rate is lower in part because much of the wages in that quintile are above the maximum income subject to Social Security taxes and in part because capital income is a larger share of income at the top. Social insurance taxes account for the largest share of taxes paid by households in all but the top quintile.

The impact of the corporate income tax also rises with income, as CBO assumes in this analysis that the tax is borne by capital income, and capital income is a larger share of income at the top of the distribution. The incidence of the corporate income tax is uncertain and various models suggest that at least some of the tax is borne by labor income, in which case the tax would not be as progressive as shown in CBO's analysis.² The impact of excise taxes, relative to income, is highest for lower-income households, which tend to spend more of their income on goods subject to those taxes, such as alcohol, tobacco, and gasoline.

Compared with their levels in 2005, effective tax rates in 2006 changed only slightly (see Table 2). There were no significant changes in the tax law between those years, and changes in the income distribution were not enough to cause large movements in effective rates. The overall effective rate was 0.1 percentage point higher in 2006 than in 2005. And the effective tax rate for each of the four taxes was within 0.1 percentage point of its 2005 level. Similarly, no income quintile saw its effective tax rate change by more than 0.1 percentage point, though in

²For a discussion of methodology, see the methodology section of CBO's special collection "[Data on the Distribution of Federal Taxes and Household Income](#)."

some cases the rate for specific taxes differed by 0.2 points. On average, the top 1 percent of households saw their effective tax rate decline by 0.4 percentage point (from 31.6 percent to 31.2 percent), primarily because of a drop in the average rate for their individual income taxes.

Table 1.
Distribution of Federal Taxes and Household Income, 2006

	Lowest Quintile	Second Quintile	Middle Quintile	Fourth Quintile	Highest Quintile	All Quintiles	Top 10%	Top 5%	Top 1%
Effective Tax Rate (Percent)									
All Federal Taxes	4.3	10.2	14.2	17.6	25.8	20.7	27.5	29.0	31.2
Individual Income Taxes	-6.6	-0.8	3.0	6.0	14.1	9.1	16.0	17.5	19.0
Social Insurance Taxes	8.5	9.2	9.4	9.6	5.8	7.5	4.6	3.4	1.6
Corporate Income Taxes	0.5	0.6	0.8	1.2	5.4	3.4	6.6	7.9	10.4
Excise Taxes	1.9	1.2	0.9	0.8	0.4	0.7	0.4	0.3	0.2
Share of Tax Liabilities									
All Federal Taxes	0.8	4.1	9.1	16.5	69.3	100.0	55.4	44.7	28.3
Individual Income Taxes	-2.8	-0.8	4.4	12.9	86.3	100.0	72.8	60.9	39.1
Social Insurance Taxes	4.4	10.3	16.6	25.0	43.5	100.0	25.7	14.5	4.0
Corporate Income Taxes	0.6	1.4	3.2	6.6	87.2	100.0	80.5	73.5	57.1
Excise Taxes	10.9	14.5	17.8	21.8	34.7	100.0	21.7	13.9	5.6
Income									
Average Pretax Income	17,200	39,400	60,700	89,500	248,400	90,700	366,400	564,200	1,743,700
Average After-Tax Income	16,500	35,400	52,100	73,800	184,400	71,900	265,500	400,400	1,200,300
Share of Pretax Income	3.9	8.4	13.2	19.5	55.7	100	41.6	31.9	18.8
Share of After-Tax Income	4.7	9.5	14.3	20.3	52.1	100	38.1	28.5	16.3
Minimum Adjusted Income ^a	0	18,900	32,100	47,400	71,200	n.a.	98,100	134,400	332,300
Memorandum:									
Number of Households (Millions)	23.8	22.4	22.9	23.0	23.6	116.1	12.0	5.9	1.1

Source: Congressional Budget Office.

Notes: n.a. = not applicable.

Effective tax rates are calculated by dividing taxes by comprehensive household income.

Comprehensive household income equals pretax cash income plus income from other sources. Pretax cash income is the sum of wages, salaries, self-employment income, rents, taxable and nontaxable interest, dividends, realized capital gains, cash transfer payments, and retirement benefits plus taxes paid by businesses (corporate income taxes and the employer's share of Social Security, Medicare, and federal unemployment insurance payroll taxes) and employee contributions to 401(k) retirement plans. Other sources of income include all in-kind benefits (Medicare, Medicaid, employer-paid health insurance premiums, food stamps, school lunches and breakfasts, housing assistance, and energy assistance).

Income categories are defined by ranking all people by their comprehensive household income adjusted for household size—that is, divided by the square root of the household's size. (A household consists of the people who share a housing unit, regardless of their relationships.) Quintiles, or fifths, contain equal numbers of people. Households with negative income (business or investment losses larger than other income) are excluded from the lowest income category but are included in totals.

Individual income taxes are attributed directly to households paying those taxes. Social insurance, or payroll, taxes are attributed to households paying those taxes directly or paying them indirectly through their employers. Corporate income taxes are attributed to households according to their share of capital income. Federal excise taxes are attributed to them according to their consumption of the taxed good or service.

a. The minimum adjusted income is the lower income boundary for each quintile. Because incomes is adjusted by dividing it by the square root of household size, an adjusted income range implies different unadjusted income for different-size households. To compute the unadjusted income range for a household of a particular size, the adjusted income must be multiplied by the square root of the household size: 1.414 for a two-person household, 1.732 for a three-person household, 2.0 for a four-person household, and 2.236 for a five-person household. For example, in 2006, the highest quintile had adjusted income above \$71,200. A two-person household would need income above \$100,700 to fall in that quintile, and a four-person household would need income in excess of \$142,400.

Table 2.
Distribution of Federal Taxes and Household Income, 2005

	Lowest Quintile	Second Quintile	Middle Quintile	Fourth Quintile	Highest Quintile	All Quintiles	Top 10%	Top 5%	Top 1%
Effective Tax Rate (Percent)									
All Federal Taxes	4.3	10.1	14.2	17.5	25.8	20.6	27.6	29.2	31.6
Individual Income Taxes	-6.6	-0.9	3.0	5.9	14.1	9.0	15.9	17.6	19.3
Social Insurance Taxes	8.3	9.2	9.4	9.7	6.0	7.6	4.8	3.5	1.7
Corporate Income Taxes	0.5	0.5	0.8	1.1	5.2	3.3	6.5	7.8	10.4
Excise Taxes	2.1	1.3	1.0	0.8	0.5	0.8	0.4	0.3	0.2
Share of Tax Liabilities									
All Federal Taxes	0.8	4.2	9.2	16.8	68.8	100.0	54.8	44.0	27.7
Individual Income Taxes	-2.9	-0.9	4.4	13.1	86.3	100.0	72.7	60.7	38.8
Social Insurance Taxes	4.3	10.3	16.5	25.1	43.7	100.0	25.9	14.5	3.9
Corporate Income Taxes	0.6	1.4	3.3	6.4	87.2	100.0	80.8	73.9	57.7
Excise Taxes	11.2	14.6	17.9	21.9	34.2	100.0	21.3	13.6	5.5
Income (2006 Dollars)									
Average Pretax Income	16,600	39,000	60,400	88,200	239,900	88,100	352,000	540,200	1,614,600
Average After-Tax Income	15,900	35,000	51,800	72,800	178,100	69,900	254,800	382,400	1,104,600
Share of Pretax Income	4.0	8.5	13.4	19.7	55.1	100.0	40.9	31.1	18.1
Share of After-Tax Income	4.8	9.6	14.5	20.5	51.5	100	37.3	27.7	15.6
Minimum Adjusted Income ^a	0	18,600	31,700	46,800	69,800	n.a.	95,900	131,500	318,800
Memorandum:									
Number of Households (Millions)	23.9	22.0	22.4	22.6	23.1	114.5	11.7	5.8	1.1

Source: Congressional Budget Office.

Notes: n.a. = not applicable.

Effective tax rates are calculated by dividing taxes by comprehensive household income.

Comprehensive household income equals pretax cash income plus income from other sources. Pretax cash income is the sum of wages, salaries, self-employment income, rents, taxable and nontaxable interest, dividends, realized capital gains, cash transfer payments, and retirement benefits plus taxes paid by businesses (corporate income taxes and the employer's share of Social Security, Medicare, and federal unemployment insurance payroll taxes) and employee contributions to 401(k) retirement plans. Other sources of income include all in-kind benefits (Medicare, Medicaid, employer-paid health insurance premiums, food stamps, school lunches and breakfasts, housing assistance, and energy assistance).

Income categories are defined by ranking all people by their comprehensive household income adjusted for household size—that is, divided by the square root of the household's size. (A household consists of the people who share a housing unit, regardless of their relationships.) Quintiles, or fifths, contain equal numbers of people. Households with negative income (business or investment losses larger than other income) are excluded from the lowest income category but are included in totals.

Individual income taxes are attributed directly to households paying those taxes. Social insurance, or payroll, taxes are attributed to households paying those taxes directly or paying them indirectly through their employers. Corporate income taxes are attributed to households according to their share of capital income. Federal excise taxes are attributed to them according to their consumption of the taxed good or service.

a. The minimum adjusted income is the lower income boundary for each quintile. Because income is adjusted by dividing it by the square root of household size, an adjusted income range implies different unadjusted income for different-size households. To compute the unadjusted income range for a household of a particular size, the adjusted income must be multiplied by the square root of the household size: 1.414 for a two-person household, 1.732 for a three-person household, 2.0 for a four-person household, and 2.236 for a five-person household. For example, in 2005, the highest quintile had adjusted income above \$69,800. A two-person household would need income above \$98,700 to fall in that quintile, and a four-person household would need income in excess of \$139,600.