

# Historical Effective Federal Tax Rates: 1979 to 2003

December 2005

The following tables update the series of historical effective tax rates estimated by the Congressional Budget Office (CBO) by providing values for an additional calendar year: 2003.<sup>1</sup> The tables show effective tax rates 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 pretax 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.

## Tax Law Changes in 2003

Several aspects of tax law changed in 2003 as provisions of the Economic Growth and Tax Relief Reconciliation Act of 2001 (EGTRRA) and the Jobs and Growth Tax Relief Reconciliation Act of 2003 (JGTRRA) took effect.<sup>2</sup> The changes included:

- Statutory individual income tax rates for the top four brackets declined to 25, 28, 33, and 35 percent (from 27, 30, 35, and 38.6 percent, respectively, in 2002).
- The child tax credit rose to \$1,000 per child (from \$600).
- The tax rate on capital gains fell to a maximum of 15 percent (from 20 percent).
- Most dividends were subject to a maximum tax rate of 15 percent (rather than to the statutory individual income tax rates).
- For married couples filing jointly, the standard deduction and the 15 percent bracket grew to be twice as large as those for taxpayers filing singly (from 1.67 times as large).
- The exemption amount under the alternative minimum tax increased.
- Businesses were allowed to take larger depreciation allowances for purchases of some property.

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1. Effective tax rates equal the amount of tax liability divided by income. See Congressional Budget Office, *Effective Federal Tax Rates, 1979-1997* (October 2001), and *Effective Federal Tax Rates, 1997 to 2000* (August 2003), as well as Web-only updates that extended the period of analysis to 2001 and 2002.

2. For a more detailed description of legislative changes to tax law, see Congressional Budget Office, *Effective Federal Tax Rates Under Current Law, 2001 to 2014* (August 2004).

## Effective Tax Rates in 2003

Compared with its rate in 2002, the overall effective tax rate fell by almost 1 percentage point in 2003: to 19.8 percent from 20.7 percent (see Summary Table 1 on page 4). A 1.2 percentage-point drop in the effective individual income tax rate was the largest contributor to that change, along with a 0.2 percentage-point decline in the effective social insurance tax rate. Those changes were partially offset by a 0.4 percentage-point rise in the effective corporate tax rate.

The individual income tax rate fell largely because of changes to tax law. EGTRRA and JGTRRA lowered tax rates and increased deductions, exemptions, and credits, which pushed down tax liabilities.<sup>3</sup> The effective social insurance tax rate declined because the base of payroll taxes—wages—rose less quickly than other income did. The effective corporate tax rate increased because of a surge in corporate tax liabilities (from \$126 billion in 2002 to \$165 billion in 2003). That surge occurred despite businesses' larger depreciation allowances.

## Who Pays Taxes?

CBO's analysis of effective tax rates assumes that households bear the burden of the taxes that they pay directly (such as individual income taxes and employees' share of payroll taxes). Excise taxes are assumed to fall on households according to their consumption of taxed goods (such as tobacco and alcohol) or, in the case of excise taxes that affect intermediate goods, in proportion to their overall consumption. Taxes on businesses are also attributed to households. CBO assumes—as do most economists—that employers' share of payroll taxes is passed on to employees in the form of lower wages than would otherwise be paid. Therefore, the amount of those taxes is included in employees' income and the taxes counted as part of employees' tax burden. Far less consensus exists about how to attribute corporate income taxes. CBO assumes that corporate income taxes are borne by owners of capital in proportion to their income from interest, dividends, rents, and capital gains. (The shares of various tax liabilities borne by different income groups in 2002 and 2003 are shown in Summary Table 2 on page 5.)

## Measuring Income

This analysis focuses on households' adjusted pretax comprehensive income. That measure includes all cash income (both taxable and tax-exempt), taxes paid by businesses (which are imputed to individuals, as noted above), employees' contributions to 401(k) retirement plans, and the value of income received in-kind from various sources (such as employer-paid health insurance premiums, Medicare and Medicaid benefits, and food stamps). The calculations use the Census Bureau's fungible value measure to determine the cash equivalent of in-kind government transfer payments.

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3. By increasing depreciation deductions, JGTRRA reduced the sole proprietorship, S corporation, and partnership income reported on individual income tax returns and the amount of tax owed on that income. Because CBO's definition of income includes business income as reported on tax returns, JGTRRA also lowered measured income.

CBO adjusted the resulting measure of comprehensive income for differences in the size of households in order to assign households to income quintiles. It used adjusted income only to rank households in the income distribution; the values for average income in Summary Table 1 and Tables 1C, 2C, 3C, and 4C of the appendix are based on income unadjusted for household size.

## **Income Quintiles**

The tables report values both for the entire population and for quintiles of the income distribution. The tables also include information about households in the top 10 percent, top 5 percent, and top 1 percent of the annual income distribution. The analysis does not show a comparable breakdown for the lowest quintile because in that income category, the distribution of effective tax rates and income is similar among households at different levels.

Quintiles contain equal numbers of people, but because households vary in size, quintiles generally contain unequal numbers of households.

## **Types of Households**

Separate tables in the appendix show effective tax rates and income for three different types of households: those with members under age 18 (households with children), those headed by a person age 65 or older and with no member under age 18 (elderly childless households), and all others (nonelderly childless households).

**Summary Table 1.****Effective Federal Tax Rates, 2002 and 2003**

Income Category	Millions of Households	Average Income (2003 dollars)		Effective Tax Rate (Percent)				
		Pretax	After-Tax	All	Individual	Social	Corporate	Excise
				Federal Taxes	Income Taxes	Insurance Taxes	Income Taxes	
<b>2002</b>								
Lowest Quintile	22.8	15,000	14,300	4.7	-5.9	8.1	0.3	2.3
Second Quintile	21.4	34,500	30,700	10.9	-0.2	9.3	0.3	1.4
Middle Quintile	22.2	52,100	44,500	14.5	3.5	9.3	0.6	1.1
Fourth Quintile	21.7	77,000	62,600	18.7	6.8	10.4	0.5	0.9
Highest Quintile	22.7	180,300	133,300	26.0	15.5	7.3	2.6	0.5
All Quintiles	111.4	71,300	56,500	20.7	9.7	8.6	1.6	0.9
Top 10%	11.6	251,400	181,200	27.9	17.9	6.2	3.4	0.5
Top 5%	5.8	360,800	254,200	29.5	20.0	4.8	4.3	0.4
Top 1%	1.1	965,200	648,200	32.8	23.7	2.5	6.4	0.3
<b>2003</b>								
Lowest Quintile	23.0	14,800	14,100	4.8	-5.9	8.1	0.3	2.3
Second Quintile	21.6	34,100	30,800	9.8	-1.1	9.1	0.4	1.4
Middle Quintile	22.4	51,900	44,800	13.6	2.7	9.2	0.6	1.1
Fourth Quintile	21.8	77,300	63,600	17.7	5.9	10.3	0.6	0.9
Highest Quintile	22.8	184,500	138,500	25.0	13.9	7.2	3.4	0.5
All Quintiles	112.1	71,900	57,700	19.8	8.5	8.4	2.0	0.8
Top 10%	11.5	260,000	190,400	26.8	16.0	6.0	4.4	0.4
Top 5%	5.8	377,300	270,200	28.4	17.8	4.7	5.5	0.4
Top 1%	1.1	1,022,400	701,500	31.4	20.6	2.3	8.2	0.3

Source: Congressional Budget Office.

Notes: 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, of the income distribution contain equal numbers of people.

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). Households with negative income are excluded from the lowest income category but are included in the totals.

**Summary Table 2.**

**Shares of Federal Tax Liabilities, 2002 and 2003**

(Percent)

Income Category	Percentage of Households	Share of Income		Share of Tax Liabilities				
				All	Individual	Social	Corporate	Excise
				Federal Taxes	Income Taxes	Insurance Taxes	Income Taxes	
Pretax	After-Tax							
<b>2002</b>								
Lowest Quintile	20.5	4.3	5.2	1.0	-2.6	4.1	0.7	11.4
Second Quintile	19.2	9.3	10.4	4.9	-0.2	10.1	1.9	15.2
Middle Quintile	19.9	14.6	15.7	10.2	5.3	15.7	5.2	18.7
Fourth Quintile	19.5	21.0	21.6	18.9	14.8	25.6	7.1	22.1
Highest Quintile	20.4	51.6	48.2	64.8	82.8	44.3	83.4	32.2
All Quintiles	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Top 10%	10.4	36.6	33.3	49.2	67.5	26.5	76.0	19.3
Top 5%	5.2	26.4	23.5	37.6	54.5	15.0	69.5	11.7
Top 1%	1.0	13.5	11.5	21.4	33.0	3.9	53.4	4.1
<b>2003</b>								
Lowest Quintile	20.6	4.2	5.0	1.0	-2.9	4.1	0.6	11.6
Second Quintile	19.3	9.1	10.3	4.5	-1.1	9.9	1.6	15.1
Middle Quintile	19.9	14.4	15.5	9.9	4.6	15.7	4.3	18.6
Fourth Quintile	19.4	20.9	21.4	18.6	14.6	25.4	6.1	21.9
Highest Quintile	20.3	52.2	48.8	65.7	84.9	44.7	85.8	32.3
All Quintiles	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Top 10%	10.3	37.2	33.9	50.2	69.6	26.5	79.4	19.4
Top 5%	5.2	27.0	24.2	38.7	56.6	15.0	73.2	11.9
Top 1%	1.0	14.3	12.2	22.6	34.6	3.9	57.5	4.4

Source: Congressional Budget Office.

Notes: 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, of the income distribution contain equal numbers of people.

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). Households with negative income are excluded from the lowest income category but are included in the totals.

# Appendix: Detailed Tables for 1979 to 2003

The following tables are available in a [spreadsheet](#).

## **All Households**

Table 1A. Effective Federal Tax Rates

Table 1B. Shares of Federal Tax Liabilities

Table 1C. Number of Households, Average Pretax and After-Tax Income, Shares of Pretax and After-Tax Income, and Income Category Minimums

## **Households with Children**

Table 2A. Effective Federal Tax Rates

Table 2B. Shares of Federal Tax Liabilities

Table 2C. Number of Households, Average Pretax and After-Tax Income, Shares of Pretax and After-Tax Income, and Income Category Minimums

## **Elderly Childless Households**

Table 3A. Effective Federal Tax Rates

Table 3B. Shares of Federal Tax Liabilities

Table 3C. Number of Households, Average Pretax and After-Tax Income, Shares of Pretax and After-Tax Income, and Income Category Minimums

## **Nonelderly Childless Households**

Table 4A. Effective Federal Tax Rates

Table 4B. Shares of Federal Tax Liabilities

Table 4C. Number of Households, Average Pretax and After-Tax Income, Shares of Pretax and After-Tax Income, and Income Category Minimums