

# Economic SYNOPSES

short essays and reports on the economic issues of the day



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## Tax Rates and Revenue Since the 1970s

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Economists teach that key household and business decisions are made at the margin. One area where this decisionmaking process appears vitally important is the interaction between taxpayer preferences and the tax code. In particular, the marginal tax rate, which is the percent of each additional dollar earned that is paid in taxes, has been found to significantly influence how much people work and save and how much businesses expand their workforce and their capital stock. Since these decisions have significant consequences for an economy's long-term performance, many economists would prefer to keep marginal tax rates as low as possible.<sup>1</sup>

This preference is reinforced by the fact that the U.S. tax code is extremely complicated, with multiple marginal tax rates, as well as a host of income deductions and tax credits (so-called tax loopholes that are intended to produce specific economic or social outcomes). Tax deductions, which are also known as tax expenditures, are sizable. Using projections from the Office of Management and Budget, Poterba (2011) estimates that individual income tax expenditures will total \$4.75 trillion for fiscal years 2012-16.<sup>2</sup> Marginal tax rates, tax expenditures, and the phase-ins and phase-outs of certain deductions, provisions, and credits at certain adjusted gross income levels vary; hence, marginal and average tax rates can differ substantially.

The 2011 tax code has six marginal tax rates, ranging from 10 percent to 35 percent, that take effect at various taxable income levels that differ based on one's filing status.<sup>3</sup> In 1972, the tax code had as many as 33 marginal tax rates, ranging from 14 percent to 70 percent. Since 1972, marginal tax rates have been adjusted a number of times.

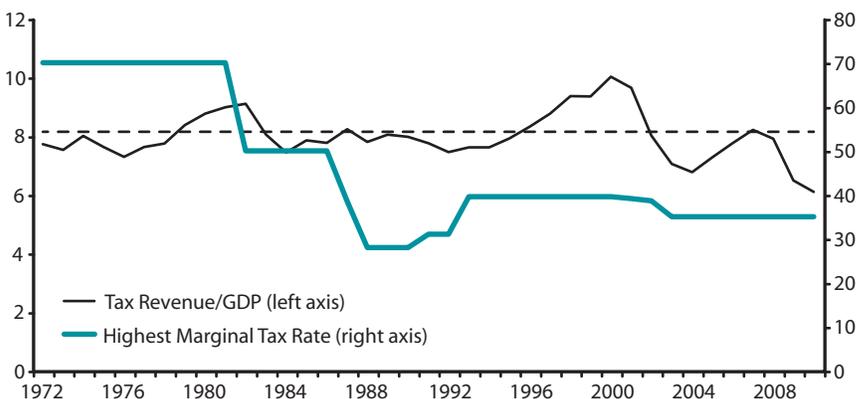
The first chart shows data for each year from 1972 through 2010: (i) the highest marginal individual income tax rates and (ii) annual individual income tax revenue as a percent of gross domestic product (GDP). The dashed line denotes the 8.1 percent average of tax revenue as a percent of GDP from 1972 through 2000, the year before the tax changes under the Economic Growth and Tax Relief Reconciliation Act of 2001 (EGTRRA) took effect<sup>4</sup>; revenue remained relatively constant despite significant reduc-

tions in marginal tax rates and other adjustments to the tax code. By 2000, revenue reached a sample-period high of 10.1 percent. After 2000, however, individual income tax revenue as a percent of GDP declined, averaging 7.5 percent from 2001 through 2010.

**Before 2000, the tax burden shifted from the lowest 80% of earners to the highest 20%; since 2000, the burden has shrunk for all groups, but more so for the highest earners.**

The second chart shows the effective (average) tax rate for six categories of taxpayers based on their level of household income.<sup>5</sup> The top line is the average tax rate for the highest 5 percent of household incomes. The next five lines denote the average tax rates based on quintiles of household income, descending from the highest to the lowest. The dashed lines denote the mean of the effective tax rate for each income group for the period 1979 through 2000 (i.e., before the passage of EGTRRA).

**Highest Marginal Individual Income Tax Rate and Tax Revenue as a Percent of GDP (1972-2010)**



NOTE: The dashed line denotes average revenue as percent of GDP from 1972 through 2000, the year EGTRRA became law.

This chart has several interesting features. First, the average tax rates paid by the four lowest quintiles have trended down since the early 1980s. In contrast, the average tax rates paid by those in the highest 5 and 20 percent brackets of household income initially declined but subsequently trended up through 2000. The rate for the highest 5 percent of income earners increased from 16.9 percent to 21.6 percent over the period 1983-2000; and the rate for the highest quintile increased from 14.2 percent to 17.5 percent. In contrast, the effective tax rates for the next four quintiles declined by 1, 1.7, 2.3, and 5 percentage points, respectively. Indeed, households with the lowest 20 percent of household income have had a negative average tax rate since 1987, with some households paying no federal taxes and others receiving refunds that exceed their tax withholdings.

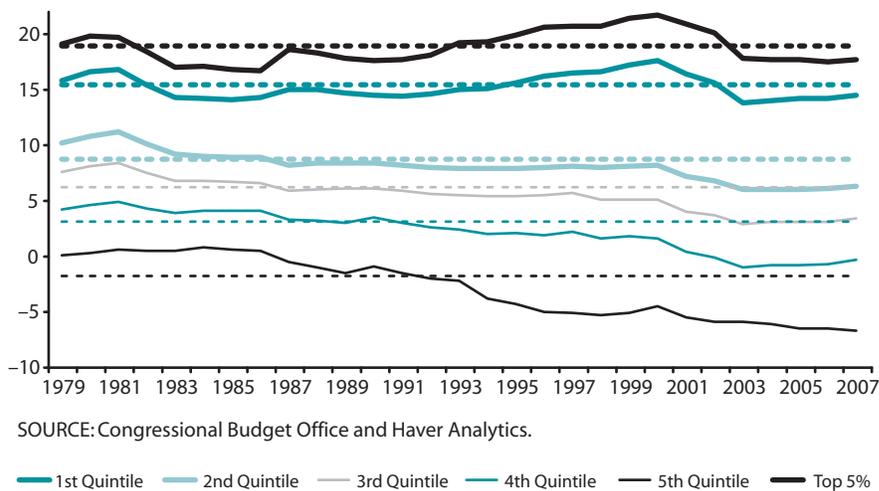
It appears that the numerous changes in the tax code between 1980 and 2011 overall have tended to increase average tax rates for the top 20 percent of income earners, while reducing the rates for all others. As shown in the first chart, this marked redistribution of the tax burden had no discernible effect on tax revenue as a percent of GDP.

The effect of changes in the tax code associated with EGTRRA appears to be different. Average tax rates for all income brackets declined from their 2000 levels. EGTRRA appears to have returned the average tax rate for those in the top 5 percent and 20 percent of income earners to their early to mid-1980s levels, and there was also a marked decline in the average tax rate paid by the remaining quintiles: The rate for the highest 5 percent of income earners declined by 3 percentage points from 2000 to 2007, and the reduction for the five quintiles was 3.1, 1.9, 1.7, 2, and 2 percentage points, respectively. Nevertheless, the average tax rates for the bottom four quintiles in 2007 were 2.7, 3.4, 4.4, and 7.2 percentage points below their 1983 levels, while the average tax rates for the top 5 and 20 percent of the income households increased by 0.7 and 0.2 percentage points, respectively.

The fact that the effective tax rate declined for all income levels is partially responsible for the decline in tax revenue as a percent of GDP (shown in the first chart). The decline in tax revenue after 2000 also reflected the effects of the 2001 recession and the collapse of the tech stock bubble in 2000 that led to a significant decline in capital gains tax receipts. However, once the recession ended and the recovery began, tax revenue as a percent of GDP returned to its long-run average (by 2007) before falling sharply during the deep recession of 2007-09.

These data suggest that changes in the tax code prior to 2000 effectively redistributed the tax burden from the lowest 80 percent

**Average Individual Income Tax Rates Paid by Households Based on Income (1979-2007)**



of income earners to the highest 20 percent. Changes in the tax code since 2000 have reduced the average tax burden for all income groups, but more so for the higher-income households. Hence, the net effect of all the adjustments to the tax code since the early 1980s has been to significantly reduce the effective tax rate for households in the bottom 80 percent of the income distribution, while leaving the average tax rate for those in the highest quintile of household income essentially unchanged. ■

Feldstein, Martin. "Effects of Taxes on Economic Behavior." *National Tax Journal*, March 2008, 61(1), pp. 131-39.

Poterba, James M. "Introduction: Economic Tax Analysis of Tax Expenditures." *National Tax Journal*, June 2011, 64(2 Part 2), pp. 451-58.

<sup>1</sup> See Feldstein (2008) for an overview of how taxes affect economic behavior.

<sup>2</sup> Noteworthy individual income tax expenditures are the mortgage interest deduction for owner-occupied homes and the exclusion of employer-provided health insurance.

<sup>3</sup> Data on marginal tax rates used in this essay were obtained from the Tax Foundation; [www.taxfoundation.org/publications/show/151.html](http://www.taxfoundation.org/publications/show/151.html).

<sup>4</sup> EGTRRA created a new 10 percent tax bracket and reduced marginal tax rates on the other brackets. See the 2002 *Economic Report of the President*, pp. 44-45: [www.gpoaccess.gov/usbudget/fy03/pdf/2002\\_erp.pdf](http://www.gpoaccess.gov/usbudget/fy03/pdf/2002_erp.pdf).

<sup>5</sup> The effective federal tax rate is one measure of the overall tax burden on households: The numerator is an estimate of income, payroll, corporate (capital income), and excise taxes paid by households. The denominator is an estimate of pretax income derived from wages and salaries, retirement benefits, interest, dividends, and all other forms of income received by the household. These are calculated by the Congressional Budget Office.