

CRS Report for Congress

Income Inequality and the U.S. Tax System

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Summary

While the extent of income inequality is debated periodically, one rarely discussed aspect of inequality is its impact on the tax system. Given the nature of the U.S. federal tax system, changes in the distribution of income can have significant implications for who pays the taxes, how much they pay, and federal tax revenues.

One common measure to characterize inequality or the dispersion of income is the Gini coefficient, which varies from 0 to 1. A Gini coefficient of 0 indicates that income is evenly distributed among the population (that is, everyone has the same income) while a value of 1 indicates perfect income inequality (that is, one individual has all the income). Between 1980 and 2004, the Gini coefficient for household income increased from 0.403 to 0.466 — a 15.6% increase. The Gini coefficient for earnings increased by 22.4% from 0.331 in 1980 to 0.405 by 2004. Inequality has, therefore, increased over the past 25 years.

The two major sources of federal tax revenues are the individual income tax and the Social Security payroll tax, accounting for almost 80% of total federal tax revenue. These two taxes have different tax bases, tax rates, and adjustments to income. Furthermore, the individual income tax system consists of the regular income tax and the parallel alternative minimum tax (AMT), which have different tax bases and tax rates. Consequently, changes in income and earnings inequality could have very different effects on different parts of the federal tax system.

Many of the parameters of the regular income tax are indexed to inflation. Nevertheless, with income growing faster than prices and with rising income inequality, more income falls into higher tax brackets. Individual income tax revenues as a percentage of GDP, however, do not appear to be associated with rising inequality because the income tax has become less progressive through legislative changes as inequality has increased. The parameters of the AMT, however, are not indexed at all. Consequently, the amount of income and the number of taxpayers subject to the AMT will increase dramatically over time because of income growth and rising income inequality in the absence of legislative changes. The actual increase in AMT taxpayers has been limited because of a series of enacted temporary “patches.” Although the maximum taxable limit of the payroll tax is indexed for average earnings growth, rising earnings inequality has pushed more and more of covered earnings above the limit. Thus, the proportion of covered earnings that is taxable has fallen over the past 25 years.

This report will not be updated.

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Income Inequality and the U.S. Tax System

Public interest in issues of income inequality appears to wax and wane. Interest sometimes picks up at election time with a flurry of newspaper and magazine articles and opinion pieces. After the election, the issue often disappears from the public consciousness. While the extent of income inequality and income growth is debated periodically, one rarely discussed aspect of inequality is its impact on the tax system.

Arguments are offered for and against reducing income inequality. The classic argument against rising income inequality is the rich get richer and the poor get poorer. This can increase poverty, reduce well-being, and reduce social cohesion. Consequently, many argue that reducing income inequality may reduce various social ills. In contrast, there are those arguing that rising inequality is nothing to worry about and point out that average real income has been rising, so while the rich are getting richer, the poor are not necessarily getting poorer. In addition, many argue that some income inequality is necessary to encourage innovation and entrepreneurship — the possibility of large rewards and high income are incentives to bear the risks of innovation and entrepreneurship. Therefore, they assert the economic costs of reducing or eliminating income inequality may be high.

Some researchers are concerned about the consequences of rising income inequality. Research has demonstrated that large income and class disparities adversely affect health and economic well-being. Michael Marmot has studied health and social status disparities, concluding that health follows a social gradient — people higher in the social hierarchy tend to be in better health than people of lower status.¹ Richard Wilkinson provides evidence that high income inequality — large income disparities — and less social cohesion have a negative impact on the health of a country's citizens.² Robert Frank argues that even if all incomes are increasing and rising inequality is due solely to those at the top of the income distribution pulling away from the rest, the middle class can be hurt by the pressure to keep up with the upper class.³

Several factors have been identified as possibly contributing to increasing income inequality. Some researchers have suggested the decline in unionization and

¹ Michael Marmot, *The Status Syndrome: How Social Standing Affects Our Health and Longevity* (New York: Henry Holt and Co., 2004).

² Richard G. Wilkinson, *Unhealthy Societies: The Afflictions of Inequality* (New York: Routledge, 1996).

³ Robert Frank, *Falling Behind: How Rising Inequality Hurts the Middle-Class* (Berkeley, CA: University of California Press, 2007).

a falling real minimum wage as the primary causes.⁴ Others have argued that rising returns to education and skill-biased technological change are the important factors explaining rising inequality.⁵ Tax policy, especially the Tax Reform Act of 1986, has also been identified as a possible cause for rising income inequality.⁶ Most analysts agree that the likely explanation for rising income inequality is due to skill-biased technological changes combined with a change in institutions and norms of which a falling minimum wage and declining unionization are a part.⁷ Research suggests that tax policy, while possibly having short-term effects on inequality, does not have much impact on longer-term inequality trends.⁸

Given the nature of the U.S. federal tax system, changes in the distribution of income can have significant implications for who pays the taxes, how much they pay, and federal tax revenues. Furthermore, the tax system is one policy instrument used to change the distribution of economic well-being, which requires an understanding of how inequality affects the various components of the tax system and how the various components interact with each other. This report examines how income inequality interacts with the parameters of the U.S. tax system. The long-term trend in inequality and how this may be related to taxable income and tax revenues is

⁴ See David S. Lee, “Wage Inequality in the United States During the 1980s: Rising Dispersion or Falling Minimum Wage?” *Quarterly Journal of Economics*, vol. 114, no. 3 (Aug. 1999), pp. 977-1023; and John DiNardo, Nicole M. Fortin, and Thomas Lemieux, “Labor Market Institutions and the Distribution of Wages, 1973-1992: A Semiparametric Approach,” *Econometrica*, vol. 64, no. 5 (Sept. 1996), pp. 1001-1044.

⁵ See John Bound and George Johnson, “Changes in the Structure of Wages in the 1980s: An Evaluation of Alternative Explanations,” *American Economic Review*, vol. 82, no. 3 (Jan. 1992), pp. 371-392; David H. Autor, Lawrence F. Katz, and Melissa S. Kearney, “The Polarization of the U.S. Labor Market,” *American Economic Review*, papers and proceedings, vol. 96, no. 2 (May 2006), pp. 189-194; and Thomas Lemieux, “Postsecondary Education and Increasing Wage Inequality,” *American Economic Review*, papers and proceedings, vol. 96, no. 2 (May 2006), pp. 195-199.

⁶ See Daniel R. Feenberg and James M. Poterba, “Income Inequality and the Incomes of Very High-Income Taxpayers: Evidence from Tax Returns,” in James M. Poterba, ed., *Tax Policy and the Economy*, vol. 7 (Cambridge, MA: MIT Press, 1993); and Roger H. Gordon and Joel B. Slemrod, “Are ‘Real’ Responses to Taxes Simply Income Shifting Between Corporate and Personal Tax Bases?” in Joel B. Slemrod, ed., *Does Atlas Shrug? The Economic Consequences of Taxing the Rich* (New York and Cambridge, MA: Russell Sage Foundation and Harvard University Press), pp. 240-280.

⁷ See, for example, Frank Levy and Peter Temin, *Inequality and Institutions in 20th Century America*, National Bureau of Economic Research, Working Paper no. 13106, May 2007; and Autor, Katz, and Kearney.

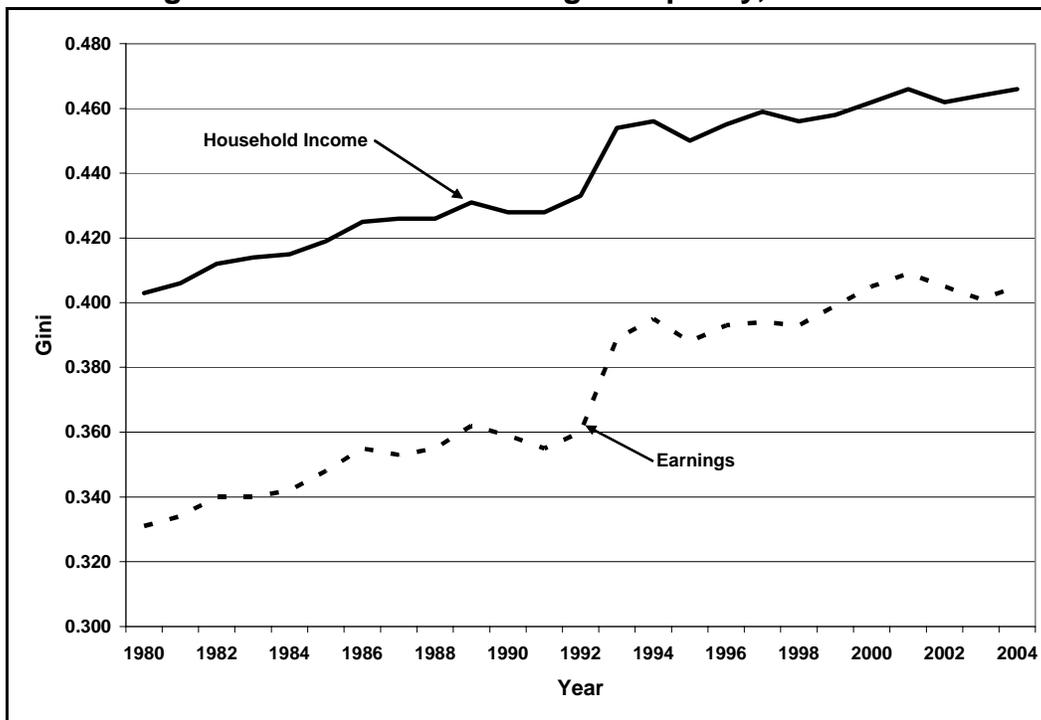
⁸ See Joel Slemrod and Jon M. Bakija, “Growing Inequality and Decreased Tax Progressivity,” in Kevin A. Hassett and R. Glenn Hubbard, *Inequality and Tax Policy* (Washington, DC: AEI Press, 2001), pp. 192-226; Levy and Temin; Thomas Piketty and Emmanuel Saez, “Income Inequality in the United States, 1913-1998,” *Quarterly Journal of Economics*, vol. 118, no. 1 (Feb. 2003), pp. 1-39; and Edward M. Gramlich, Richard Kasten, and Frank Sammartino, “Growing Inequality in the 1980s: The Role of Federal Taxes and Cash Transfers,” in Sheldon Danziger and Peter Gottschalk, eds., *Uneven Tides: Rising Inequality in America* (New York: Russell Sage Foundation, 1993), pp. 225-249.

examined. In addition, the implications of rising inequality for tax policy are investigated through illustrative tables.

Trends in Inequality

One common measure to characterize inequality or the dispersion of income is the Gini coefficient, which varies from 0 to 1. A Gini coefficient of 0 indicates that income is evenly distributed among the population (that is, everyone has the same income) while a value of 1 indicates perfect income inequality (that is, one individual has all the income). The 25-year trends of the Gini coefficient for household income and individual earnings are displayed in **Figure 1**.

Figure 1. Income and Earnings Inequality, 1980-2004



Source: Census Bureau.

Between 1980 and 2004, the Gini coefficient for household income increased from 0.403 to 0.466 — a 15.6% increase (see the top solid line in **Figure 1**). For the most part, the Gini coefficient increased in each year. The earnings of full-time year-round workers also increased between 1980 and 2004. Although earnings inequality is lower than household income inequality (the dashed line in **Figure 1** is below the solid line), the Gini coefficient for earnings increased by 22.4% from 0.331 in 1980 to 0.405 by 2004. Earlier research shows that the Gini coefficient was fairly steady in the 1970s, and sharply increased beginning in 1980.⁹

⁹ See Lynn A. Karoly, “Trends in Income Inequality: The Impact of, and Implications for, (continued...) ”

Summary measures of inequality, such as the Gini coefficient, while useful in capturing overall changes in inequality, are less useful in locating where in the income distribution the changes are occurring. Consequently, more detailed information is required. Changes in the distribution of household income and earnings are examined separately.

Household Income

One direct method used to locate where in the distribution changes are occurring is to focus on income changes at various percentiles.¹⁰ **Figure 2** displays the 25-year trends in real (inflation-adjusted) household income at the 10th percentile, median, and 90th percentile.¹¹ Real household income at the 10th percentile grew modestly by about 12% between 1980 and 2004 (increasing from \$10,097 to \$11,271) while median household income grew by 15% (increasing from \$39,739 to \$45,817). Real household income at the 90th percentile, however, increased by 36% over this period, reaching \$124,908 by 2004. Household income at the 90th percentile was equal to 9.1 times household income at the 10th percentile in 1980; by 2004, it had reached 11.2 times household income at the 10th percentile. The increase in household income inequality between 1980 and 2004 thus arguably appears to be due to those at the top of the income distribution pulling away from the households lower down in the income distribution.

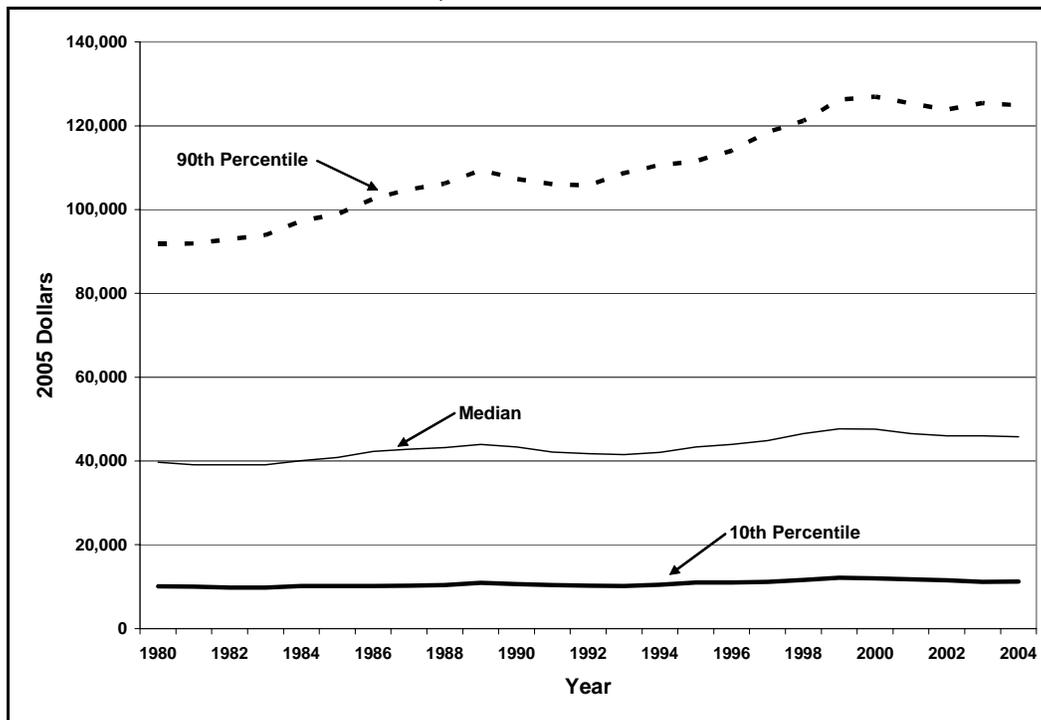
⁹ (...continued)

Tax Policy,” in Joel Slemrod, ed., *Tax Progressivity and Income Inequality* (Cambridge, U.K.: Cambridge University Press, 1994), pp. 95-129.

¹⁰ A percentile is a value indicating the percent of the distribution that is equal to or below it. Income at the 10th percentile, for example, is the income level such that 10% of U.S. households have income at or below this level.

¹¹ Household income includes all cash income received from public and private sources except realized capital gains. Realized capital gains are not annual income flow and are very volatile with large variations from year to year. Capital gains are not considered in this analysis.

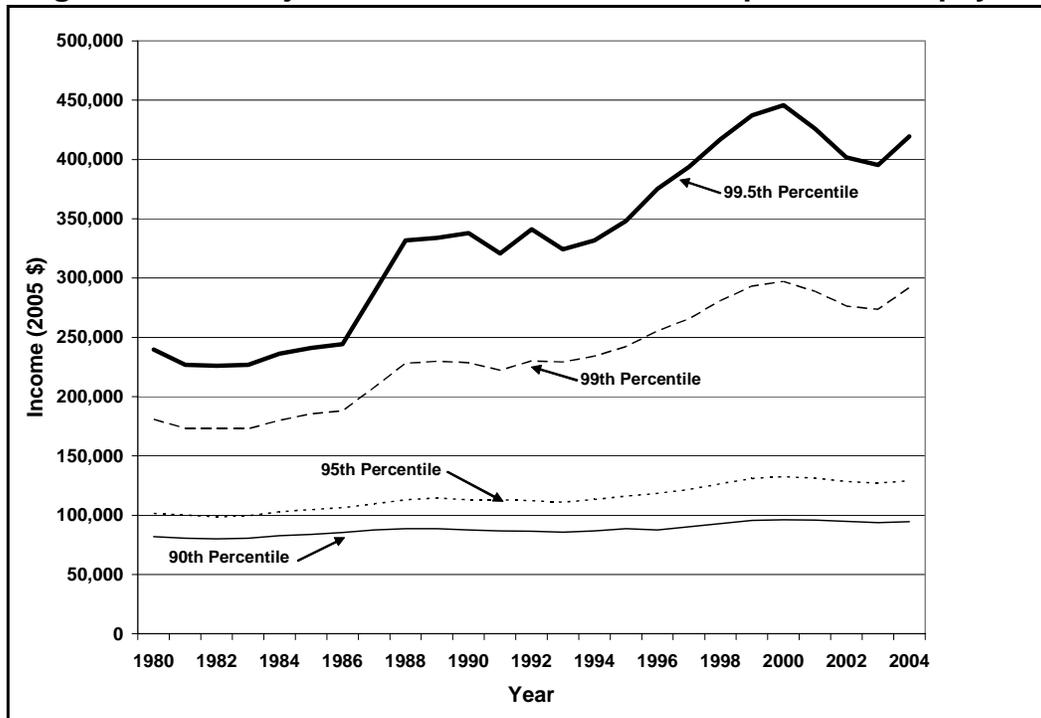
Figure 2. Real Household Income at the 90th Percentile, Median, and 10th Percentile



Source: Census Bureau.

The next figure, **Figure 3**, provides a closer examination of the top 10% of the income distribution. The figure reports adjusted gross income (AGI), excluding capital gains, for various percentiles in the top 10% of taxpayers in the income distribution.¹² AGI at the 90th percentile increased by 15% over the 25-year period while AGI at the 99.5th percentile increased by 75% over this period. The evidence from **Figure 2** and **Figure 3** shows that the steady increase in income inequality since 1980 was due primarily to large income gains at the top of the distribution. The poor, however, were not getting poorer; their real income appears to have been roughly steady between 1980 and 2004.

¹² Adjusted gross income includes income potentially subject to tax. It includes wages, salaries, tips, dividends, business income, and income from some government programs (unemployment insurance and some Social Security benefits). Benefits from other government programs, such as Temporary Assistance to Needy Families and Supplemental Security Income, are not included in AGI. The unit of observation for tax data is the taxpayer rather than the household; there may be more than one taxpayer in a household.

Figure 3. Real Adjusted Gross Income of the Top 10% of Taxpayers

Source: Thomas Piketty and Emmanuel Saez.

Earnings

Earnings inequality in real terms increased dramatically between 1980 and 2004.¹³ As with income inequality, the increase in earnings inequality was mainly due to those at the top of the earnings distribution pulling away from those lower down in the distribution (see **Figure 4** for the trend for men and **Figure 5** for the trend for women). While earnings inequality increased for both men and women, there are differences in how inequality increased between the sexes. On the one hand, for men, those at the top of the distribution pulled away from a largely static median and 10th percentile. The 90th percentile increased by 30% over the 25-year period, while the median grew by 1% and the 10th percentile fell by 4%. For women, on the other hand, the 90th percentile pulled away from an increasing median and 10th percentile. The 90th percentile increased by 58%, while the median increased by 27% and the 10th percentile grew by 7% between 1980 and 2004.

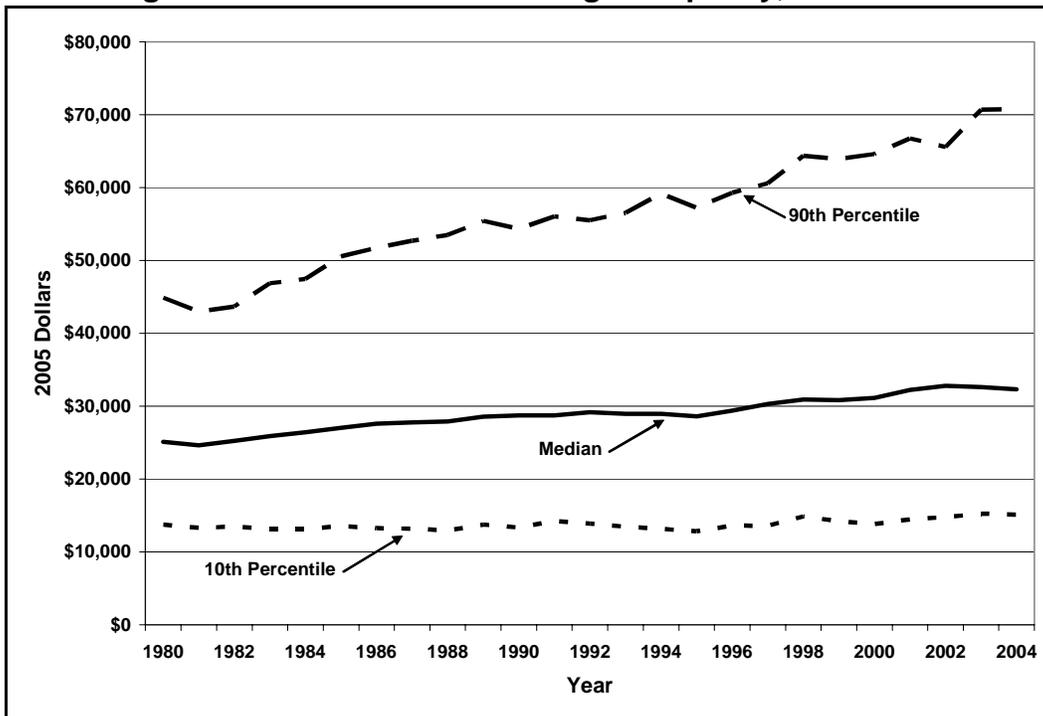
¹³ The unit of observation for earnings is the individual worker; individuals with no earnings are excluded.

Figure 4. Men's Real Earnings Inequality, 1980-2004



Source: Census Bureau.

Figure 5. Women's Real Earnings Inequality, 1980-2004



Source: Census Bureau.

Trends in the Tax Base and Tax Revenues

The two major sources of federal tax revenues are the individual income tax and the Social Security payroll tax, accounting for almost 80% of total federal tax revenue. These two taxes have different tax bases, tax rates, and adjustments to income. Furthermore, the individual income tax system consists of the regular income tax and the parallel alternative minimum tax (AMT), which have different tax bases and tax rates. Consequently, changes in income and earnings inequality could have very different effects on different parts of the federal tax system.

The Regular Individual Income Tax

The tax base for the individual income tax consists of wages and salaries, tips, interest and dividend income, business income, realized capital gains, pension income, and other income.¹⁴ The tax base is reduced by selected adjustments such as “above the line” deductions to produce adjusted gross income (AGI). AGI is reduced by exemptions (personal and dependent) and deductions (itemized or standard) to produce taxable income on which tax is assessed.

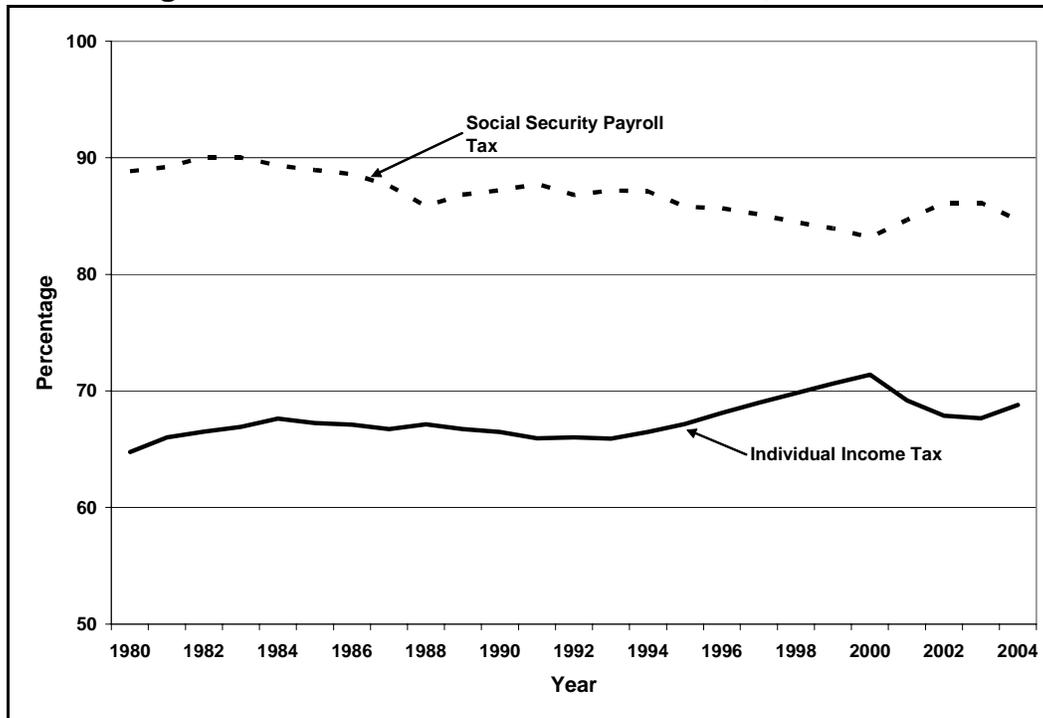
The U.S. federal regular income tax has a progressive rate structure with marginal tax rates increasing with income.¹⁵ Gross tax liability can be reduced by various tax credits, such as the child tax credit and the earned income tax credit. Since 1984, personal exemptions, the standard deduction, and the tax brackets have been indexed to inflation, although they have also been periodically changed by legislation.

The ratio of taxable income to AGI has fluctuated somewhat since 1980 between a low of 65% and a high of 71% (see the solid line in **Figure 6**). Some of the fluctuations are due to the business cycle, to changes in tax law, and the increasing deferral of income through defined contribution pension plans (e.g., 401(k)s). Additionally, some the changes in this ratio could be due to changes in income inequality. The correlation between this ratio and the income Gini coefficient is 0.666, suggesting that as income inequality rises so does the proportion of AGI that is taxable.¹⁶ Income tends to grow faster than prices over time; combining this income growth with rising income inequality suggests that over time more income will be above the personal exemption and standard deduction and, therefore, taxable. Consequently, although exemptions and the standard deduction are indexed to inflation, taxable income will grow with respect to AGI, holding other parameters of the tax system fixed.

¹⁴ Not all interest and pension income is taxable. For more information on the individual income tax, see CRS Report RL32808, *Overview of the Federal Tax System*, by David L. Brumbaugh, Gregg A. Esenwein, and Jane G. Gravelle.

¹⁵ See **Appendix A** for the key parameters of the regular income tax since 1980.

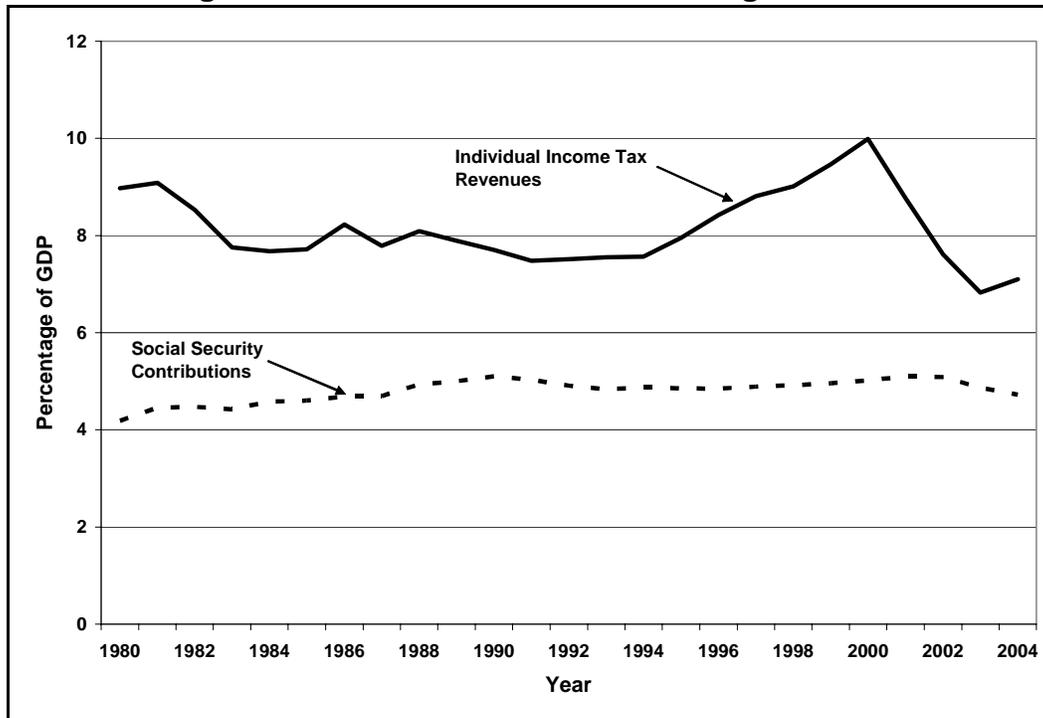
¹⁶ This correlation is statistically significant. The correlation between this ratio and the 90th-10th percentile ratio is 0.505. The estimated correlations do not control for other factors that may affect the taxable income-AGI ratio, and do not indicate causality.

Figure 6. Ratio of Taxable to Total Income, 1980-2004

Source: Internal Revenue Service and Social Security Administration.

Revenues from the individual income tax have also fluctuated over the past 25 years. The solid line in **Figure 7** displays the 25-year trend of individual income tax revenues as a percentage of gross domestic product (GDP). Most of the variation in revenues is due to the business cycle and tax law changes. Individual income tax revenues as a percentage of GDP fell in the early 1980s, the early 1990s, and 2001 because of recessions. Revenues increased in the 1990s due to tax increases and the long economic expansion with the latter having a more powerful effect. Revenues fell dramatically in the early 1980s because of the tax rate reductions enacted in 1980-1983 and also fell after 2001 because of the 2001 and 2003 tax cuts. Increasing income inequality appears to have had little association with tax revenues — the estimated correlation between the Gini coefficient and the ratio of tax revenues to GDP is close to zero. Part of the explanation for this lack of association could be while rising income inequality has pushed more income into higher tax brackets, the top marginal tax rates have fallen over the past three decades. Recent research has shown that the regular income tax has become less progressive since 1960.¹⁷

¹⁷ See James Alm, Fitzroy Lee, and Sally Wallace, “How Fair? Changes in Federal Income Taxation and the Distribution of Income, 1978 to 1998,” *Journal of Policy Analysis and Management*, vol. 24, no. 1 (Spring 2005), pp. 5-22; and Thomas Piketty and Emmanuel Saez, *How Progressive is the U.S. Federal Tax System? A Historical and International Perspective*, National Bureau of Economic Research, Working Paper no. 12404, July 2006.

Figure 7. Tax Revenues as a Percentage of GDP

Source: IRS and SSA.

The Social Security Payroll Tax

The Social Security payroll tax rate is 12.4%, half of which is paid by the employee and the other half paid by the employer (the self-employed are responsible for the entire amount).¹⁸ The payroll tax has a constant tax rate, which applies only to covered earnings below the maximum taxable limit of \$97,500 for 2007.¹⁹ Covered earnings above the maximum taxable limit are not subject to the Social Security payroll tax. Since 1983, the maximum taxable limit has been automatically updated as annual average earnings increase.²⁰ The Social Security payroll tax rate

¹⁸ For a more detailed description of the payroll tax, see Thomas L. Hungerford, "How Increasing the Payroll Tax Base Affects Tax Burdens," *Tax Notes*, vol. 115, no. 7 (May 14, 2007), pp. 643-648. Before 1984, the self-employed faced a tax rate that was lower than the combined employee and employer tax rate. Self-employed person can take an above the line deduction for one half of self-employment taxes they pay.

¹⁹ Covered earnings are earnings from employment covered by the Social Security program. Covered earnings below the maximum taxable limit are called taxable earnings. See U.S. Congressional Budget Office, *Differences in Wage and Salary Income Included in Various Tax Bases*, Background Paper, June 2005 for a discussion of differences in earned income used in various tax bases. The Medicare payroll tax is not considered in this report. The Medicare payroll rate is 2.90% and since 1994, there has been no taxable maximum limit for this payroll tax.

²⁰ The Social Security Trustees note that the real-wage differential (that is, the difference
(continued...)

increased periodically between 1980 (tax rate of 10.16%) and 1990, but has been steady at 12.4% since 1990.

Although the maximum taxable limit is indexed for growth in average earnings, the ratio of taxable earnings to covered earnings has fallen from 90% in 1983 to 85% in 2004 (see the dashed line in **Figure 6**). The estimated correlation between the ratio of taxable to covered earnings and the Gini coefficient is -0.860.²¹ As earnings inequality has increased, a greater proportion of covered earnings falls above the maximum taxable limit and is thus not subject to the Social Security payroll tax.

Social Security contributions (tax revenues) as a percentage of GDP have varied between 4.2% and 5.1% since 1980 (see the dashed line in **Figure 7**). In 2004, contributions were equal to 4.7% of GDP. Although this ratio has not followed an upward trend like earnings inequality, the estimated correlation between the two is 0.676. It would appear that as earnings inequality increased since 1980, payroll tax revenues also increased, but not by much.

The Individual Alternative Minimum Tax (AMT)

The individual AMT operates parallel to the regular income tax. It has a broader tax base but a lower tax rate.²² The original rationale for the AMT (and its predecessor) was to make sure high-income individuals paid at least a minimum of taxes. Higher income taxpayers calculate their regular tax liability and then their AMT tax liability; they pay whichever is greater.²³ Unlike the regular individual income tax, the parameters of the AMT are not indexed to inflation, but rather fixed in nominal terms. Consequently, over time the number of taxpayers subject to the AMT and AMT tax liability will increase due to income growth. While the AMT was established in its current form by the Tax Reform Act of 1986, Congress has

²⁰ (...continued)

between the percentage change in the average wage minus the inflation rate) averaged 0.9 percentage point over the past 40 years. Consequently, average earnings have grown faster than inflation. See The Board of Trustees, Federal Old-Age and Survivors Insurance and Federal Disability Insurance Trust Funds, *The 2007 Annual Report of the Board of Trustees of the, Federal Old-Age and Survivors Insurance and Federal Disability Insurance Trust Funds*, Apr. 27, 2007, p. 87.

²¹ The estimated correlation is statistically significant. Similarly, the 90th-10th percentile ratio is negatively correlated (and statistically significant) with the taxable-to-covered-earnings ratio.

²² See CRS Report RL30149, *The Alternative Minimum Tax for Individuals*, by Gregg A. Esenwein; and Greg Leiserson and Jeffrey Rohaly, *The Individual Alternative Minimum Tax: Historical Data and Projections*, Tax Policy Center, Nov. 2006 for detailed descriptions of the AMT.

²³ See CRS Report RL30149, *The Alternative Minimum Tax for Individuals*, by Gregg A. Esenwein for details on calculating AMT tax liability.

made several changes to the AMT since then, recently enacting temporary “patches” so as to limit the number of taxpayers subject to the AMT.²⁴

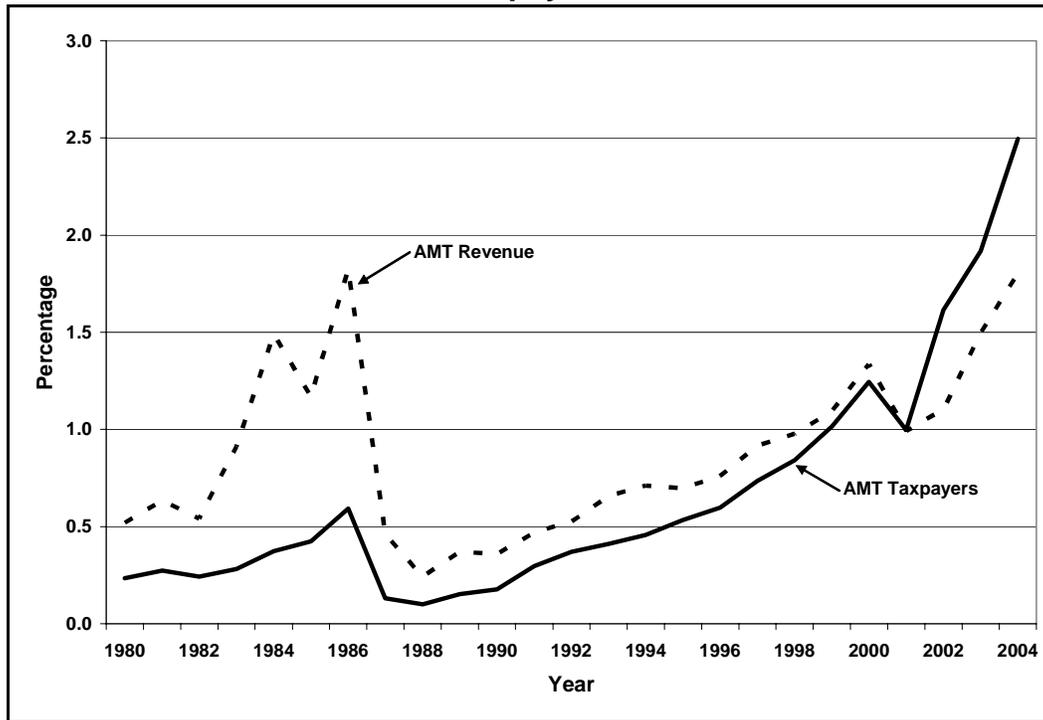
AMT tax revenue and the number of taxpayers affected by the AMT has fluctuated over the past 25 years, and has steadily increased since 1988 (see **Figure 8**). Both the proportion of taxpayers paying the AMT and the proportion of individual income tax revenues due to the AMT increased after 1982 with the enactment of the Tax Equity and Fiscal Responsibility Act of 1982, which expanded the individual AMT tax base. The Tax Reform Act of 1986 substantially modified the AMT by changing the tax rate and expanding the tax base, among other changes. The dramatic reduction in AMT taxpayers and tax revenues after 1986, however, was due to changes in the tax treatment of capital gains under the regular income tax. After 1986, capital gains income was fully taxed under the regular individual income tax and no longer taxed as a tax preference item under the AMT, thus reducing the number of taxpayers with capital gains income subject to the AMT.²⁵

Both the number of AMT taxpayers and AMT tax revenue steadily increased after 1988 with a slight dip in 2001 due to the 2001 recession and tax changes in the Economic Growth and Tax Relief Reconciliation Act of 2001. Increasing income inequality since 1980 is correlated with AMT taxpayers as a percentage of all taxpayers; the estimated correlation is 0.714 and is statistically significant. The Gini coefficient, however, is not correlated with AMT revenues as a percentage of total income tax revenues (the estimated correlation is 0.339 and is not statistically significant).

²⁴ The most recent patch to the AMT increased the AMT exemption amount for 2006. See CRS Report RL30149, *The Alternative Minimum Tax for Individuals*, by Gregg A. Esenwein for more details. Leiserson and Rohaly, *The Individual Alternative Minimum Tax: Historical Data and Projections*, estimate that if the temporary changes for 2006 expire, then the number of taxpayers subject to the AMT will increase from 3.5 million to over 23 million in 2007.

²⁵ See CRS Report RL30149, *The Alternative Minimum Tax for Individuals*, by Gregg A. Esenwein.

Figure 8. AMT Revenues as a Percentage of Total Individual Tax Revenues and AMT Taxpayers as a Percentage of All Individual Taxpayers



Source: Tax Policy Center.

Implications of Inequality for Tax Policy

The regular individual income tax, the individual alternative minimum tax, and the payroll tax all have different tax bases and tax parameters. On the one hand, many of the parameters of the regular income tax and the payroll tax are annually updated for inflation and average earnings growth, respectively. On the other hand, the parameters of the AMT are not indexed at all. To illustrate how rising income and earnings inequality can interact with the various forms of indexation, the University of Michigan's Panel Study of Income Dynamics is employed.²⁶

Table 1 shows the distribution of income among families in eight income categories for selected years between 1982 and 2002. The percentages displayed in

²⁶ The Panel Study of Income Dynamics (PSID) is a nationally representative longitudinal data set of the U.S. population that has been ongoing since 1968. The replacement mechanism of the PSID for births is designed to yield a representative sample of the nonimmigrant population in each year. The PSID oversamples low-income households because it was created by combining the Survey of Economic Opportunity (SEO), a survey of low-income households, with a representative group of households from the Survey Research Center (SRC) national sampling frame. Consequently, family weights are used throughout the analysis. See Martha S. Hill, *The Panel Study of Income Dynamics: A User's Guide* (Newbury Park, CA: Sage Publications, 1992).

the table show the share of aggregate total family income (realized capital gains are omitted from this measure) for all the families with annual income in the indicated income category or bracket. There are three scenarios:

- Scenario 1: the income bracket cutoffs remain fixed at the 1982 levels shown in the first column of the table.
- Scenario 2: the income bracket cutoffs are indexed to inflation in much the same way many of the regular individual income tax parameters are indexed. For example, by 2002, the cutoff for the first income bracket (denoted “Less than \$10,000” in the table) had increased to \$18,642.
- Scenario 3: the income bracket cutoffs are indexed to average earnings growth in much the same way the maximum taxable limit for the Social Security payroll tax is indexed. For example, the cutoff for the first income bracket had increased to \$22,883 by 2002.

Panel A of **Table 1** shows how income shares have changed between 1982 and 2002 under scenario 1. The share of income to families in the first income category fell from 4.8% in 1982 to 0.7% by 2002.²⁷ At the other end of the income distribution, the share of aggregate income received by those in the highest income category (\$120,000 or more) increased from 5.2% to 36.5% between 1982 and 2002.²⁸ In general, income shifted from the lower-income categories to the higher-income categories between 1982 and 2002. Consequently, in the case of a tax system with fixed parameters, such as the AMT, more income and more taxpayers will be subject to the tax over time because of income growth and rising income inequality.

²⁷ The share of families in the lowest income category also fell from 24.4% in 1982 to 9.3% in 2002. See **Appendix B** for the distribution of families across the income categories for the selected years.

²⁸ The percentage of families in the top income category also increased from 0.8% to 10.4% between 1982 and 2002.

Table 1. Income Shares for Selected Years

1982 Income Categories	1982	1986	1990	1994	1998	2002
A. Fixed Income Ranges						
Less than \$10,000	4.8	2.4	2.0	1.8	1.0	0.7
\$10,000 to \$19,999	14.5	9.4	7.4	5.9	3.9	2.9
\$20,000 to \$29,999	19.9	14.3	10.5	8.9	6.9	5.2
\$30,000 to \$44,999	25.4	22.4	17.3	15.7	11.6	10.2
\$45,000 to \$59,999	14.4	16.4	17.1	13.3	11.4	10.8
\$60,000 to \$79,999	9.6	13.3	14.0	15.8	13.3	13.3
\$80,000 to \$119,000	6.1	12.1	15.7	16.0	18.8	20.4
\$120,000 or more	5.2	9.8	15.9	22.7	33.0	36.5
B. Income Ranges Keep Pace with Inflation						
Less than \$10,000	4.8	3.3	4.1	4.5	3.3	3.1
\$10,000 to \$19,999	14.5	11.8	12.7	12.8	11.4	10.8
\$20,000 to \$29,999	19.9	17.2	15.8	15.7	13.6	12.6
\$30,000 to \$44,999	25.4	23.5	22.3	20.1	17.8	19.0
\$45,000 to \$59,999	14.4	16.0	14.5	13.4	13.9	14.7
\$60,000 to \$79,999	9.6	11.0	11.4	11.7	11.7	12.4
\$80,000 to \$119,000	6.1	9.2	9.4	8.3	10.6	11.2
\$120,000 or more	5.2	7.8	9.9	13.5	17.7	16.3
C. Income Ranges Keep Pace with Income growth						
Less than \$10,000	4.8	3.6	4.7	5.0	4.9	5.0
\$10,000 to \$19,999	14.5	13.3	14.0	14.1	14.3	14.7
\$20,000 to \$29,999	19.9	17.5	17.0	16.4	15.4	16.1
\$30,000 to \$44,999	25.4	24.9	23.4	20.6	19.2	20.5
\$45,000 to \$59,999	14.4	14.8	14.1	13.4	12.8	13.5
\$60,000 to \$79,999	9.6	10.4	10.4	10.4	10.6	9.6
\$80,000 to \$119,000	6.1	8.7	7.6	7.6	7.5	7.7
\$120,000 or more	5.2	6.8	8.9	12.4	15.2	12.9

Source: Author's analysis of the PSID

The income shares for selected years under scenario 2 (when the income category cutoffs are indexed to inflation) are shown in panel B of **Table 1**. Over time income tends to shift from the lower income categories to the higher income categories, but not to the same extent as when the category cutoffs are fixed in nominal terms (see panel A), since income tends to increase faster, on average, than prices over time. The percentage of aggregate income of families in the top income bracket more than tripled between 1982 and 2002, from 5.2% to 16.3%.²⁹ Even when tax parameters, such as exemptions and tax brackets for the regular income tax, are indexed to inflation, income growth and rising inequality will lead to more income being taxed and at higher marginal tax rates over time.

The results for scenario 3, with the income category cutoffs indexed to average earnings growth, are displayed in panel C of **Table 1**. Even under scenario 3, there is some evidence of income shifting up to higher income categories. Most of the shift, however, appears to be from the middle income categories toward the higher categories. The percentage of income in the bottom two categories remained fairly steady at about 20% between 1982 and 2002. The share of income of the next four categories (\$20,000 up to \$79,999) fell from about 70% in 1982 to 60% by 2002. The share for the top two categories increased over this period from 11% to over 20%, with the share of income received by families in the top income category increasing from 5.2% to 12.9%.

The distribution of individual earnings for the selected years under the three scenarios is reported in **Table 2**.³⁰ Although the earnings categories or brackets are different from the income categories in **Table 1**, the results reported in panel A are broadly similar to the results for family income. With inflation-indexed earnings bracket cutoffs, there is a general shifting of aggregate earnings toward the higher earnings categories over time (see panel B in **Table 2**).

²⁹ The percentage of families in this bracket increased from 0.8% to 2.3%. See panel B in **Appendix B**.

³⁰ Earnings includes wage and salary income and earnings from self-employment.

Table 2. Earnings Shares for Selected Years

1982 Earnings Categories	1982	1986	1990	1994	1998	2002
A. Fixed Income Ranges						
Less than \$10,000	11.4	7.1	5.3	3.7	2.9	2.5
\$10,000 to \$14,999	12.1	9.3	6.3	5.0	3.1	2.4
\$15,000 to \$19,999	14.4	10.4	8.9	6.4	4.6	3.2
\$20,000 to \$24,999	13.4	11.2	9.0	8.0	6.0	4.9
\$25,000 to \$29,999	11.9	11.4	9.9	8.8	6.3	5.4
\$30,000 to \$39,999	15.3	18.3	16.7	15.6	14.1	13.7
\$40,000 to \$54,999	10.3	13.7	18.3	16.2	17.5	16.3
\$55,000 or more	11.3	18.6	25.6	36.3	45.5	51.7
B. Income Ranges Keep Pace with Inflation						
Less than \$10,000	11.4	9.8	9.8	8.8	8.0	7.4
\$10,000 to \$14,999	12.1	12.1	12.2	10.4	9.8	8.9
\$15,000 to \$19,999	14.4	12.0	13.1	12.9	11.2	13.1
\$20,000 to \$24,999	13.4	13.1	12.1	11.5	12.6	11.4
\$25,000 to \$29,999	11.9	11.9	11.6	10.4	10.1	9.0
\$30,000 to \$39,999	15.3	16.1	15.3	14.4	12.2	12.2
\$40,000 to \$54,999	10.3	10.3	9.4	11.8	14.2	11.8
\$55,000 or more	11.3	14.7	16.5	19.7	21.9	26.3
C. Income Ranges Keep Pace with Income growth						
Less than \$10,000	11.4	10.2	11.2	9.8	10.6	10.8
\$10,000 to \$14,999	12.1	12.6	12.5	11.3	12.4	14.9
\$15,000 to \$19,999	14.4	13.2	14.0	14.1	14.0	14.3
\$20,000 to \$24,999	13.4	13.4	14.5	12.6	12.3	11.1
\$25,000 to \$29,999	11.9	12.1	9.9	9.2	8.6	7.3
\$30,000 to \$39,999	15.3	15.1	14.3	15.2	13.4	11.7
\$40,000 to \$54,999	10.3	10.0	8.6	9.6	11.3	9.9
\$55,000 or more	11.3	13.5	15.1	18.2	17.4	20.0

Source: Author's analysis of the PSID.

The Social Security maximum taxable limit is indexed to average earnings growth. The final panel of **Table 2** (panel C) reports the distribution of earnings among the earnings categories under scenario 3 where the bracket cutoffs are indexed for average earnings growth. The proportion of earnings received by workers in the four lowest earnings categories remains almost the same between 1982 (51.3%) and 2002 (51.1%). The proportion received by workers in the next three categories fell from 37.5% in 1982 to 28.9% in 2002. Lastly, the share of aggregate earnings received by workers in the top earnings category increased from 11.3% in 1982 to 20.0% in 2002. Overall, the share of aggregate earnings received by workers with annual earnings above the maximum taxable limit increased from 29.5% to 33.2% between 1982 and 2002. Consequently, even indexing the maximum taxable limit to average earnings growth, the proportion of covered earnings that are taxable will fall when earnings inequality is rising.

Concluding Remarks

Income and earnings inequality have steadily increased since 1980. Research has demonstrated that rising inequality is due to those at the top of the income distribution pulling away from those lower down in the distribution — the rich are getting richer, but the poor appear to be holding their own. Since various federal taxes have different tax bases, tax rates, adjustments to income, and methods for updating the tax parameters over time, changing income inequality can have different effects on who pays the different taxes, and how much they pay. The two major components of the U.S. federal tax system are the individual income tax and the Social Security payroll tax. Additionally, the individual income tax system consists of the regular income tax and the alternative minimum tax (AMT).

In order to help protect taxpayers from bracket creep, many of the parameters of the regular income tax are indexed to inflation. Nevertheless, with income growing faster than prices and rising income inequality, more income is pushed into higher tax brackets. Individual income tax revenues as a percentage of GDP, however, do not appear to be associated with rising inequality, because the income tax has become less progressive as inequality has increased (that is, the top marginal tax rates have fallen).

The parameters of the AMT are not indexed, but rather are fixed in nominal terms. Consequently, the amount of income and the number of taxpayers subject to the AMT will increase dramatically over time because of income growth and rising income inequality in the absence of legislative changes. The actual increase in AMT taxpayers has been limited because of a series of enacted temporary “patches.”

Although the maximum taxable limit of the payroll tax is indexed for average earnings growth, rising earnings inequality has pushed more and more of covered earnings above the limit. Thus, the proportion of covered earnings that is taxable has fallen over the past 25 years.

Rising income inequality can be ameliorated through the tax system and government transfers. Transfers to the poor and a progressive tax system can help

limit rising inequality. But, given that the parameters of the various components of the tax systems differ, using the tax system to reverse rising inequality would argue in favor of a comprehensive understanding of how inequality affects the various components and how the various components interact with each other.

Appendix A. Parameters for the Individual Income Tax

Year	Personal Exemptions		Deductions as Percentage of AGI	Range of Tax Rates	Lowest Bracket	Highest Bracket
	Single	Married				
1980	\$1,000	\$2,000	22.6%	14.0%- 70.0%	\$3,400	\$215,400
1981	1,000	2,000	22.6	13.825- 69.125	3,400	215,400
1982	1,000	2,000	23.0	12.0-50.0	3,400	85,600
1983	1,000	2,000	23.1	11.0-50.0	3,400	109,400
1984	1,000	2,000	23.3	11.0-50.0	3,400	162,400
1985	1,040	2,080	24.1	11.0-50.0	3,540	169,020
1986	1,080	2,160	24.6	11.0-50.0	3,670	175,250
1987	1,900	3,800	21.9	11.0-38.5	3,000	90,000
1988	1,950	3,900	22.3	15.0-28.0	29,750	29,750
1989	2,000	4,000	22.7	15.0-28.0	30,950	30,950
1990	2,050	4,100	23.2	15.0-28.0	32,450	32,450
1991	2,150	4,300	23.6	15.0-31.0	34,000	82,150
1992	2,300	4,600	23.4	15.0-31.0	35,800	86,500
1993	2,350	4,700	23.4	15.0-39.6	36,900	250,000
1994	2,450	4,900	22.8	15.0-39.6	38,000	250,000
1995	2,500	5,000	22.5	15.0-39.6	39,000	256,500
1996	2,550	5,100	22.0	15.0-39.6	40,100	263,750
1997	2,650	5,300	21.4	15.0-39.6	41,200	271,050
1998	2,700	5,400	21.0	15.0-39.6	42,350	278,450
1999	2,750	5,500	20.6	15.0-39.6	43,050	283,150
2000	2,800	5,600	20.3	15.0-39.6	43,850	288,350
2001	2,900	5,800	22.1	15.0-39.1	45,200	297,350
2002	3,000	6,000	23.0	10.0-38.6	12,000	307,050
2003	3,050	6,100	23.5	10.0-35.0	14,000	311,950
2004	3,100	6,200	23.0	10.0-35.0	14,300	319,100
2005	3,200	6,400	22.6	10.0-35.0	14,600	326,450

Appendix B. Distribution of Families

1982 Income Categories	1982	1986	1990	1994	1998	2002
A. Fixed Income Ranges						
Less than \$10,000	24.4	19.5	16.3	16.4	12.3	9.3
\$10,000 to \$19,999	24.8	20.3	19.2	17.0	14.5	12.1
\$20,000 to \$29,999	20.2	18.5	16.4	15.4	14.9	13.0
\$30,000 to \$44,999	17.5	19.4	18.1	18.4	17.1	17.3
\$45,000 to \$59,999	7.0	10.2	12.6	11.1	12.0	12.8
\$60,000 to \$79,999	3.6	6.3	7.9	9.9	10.5	12.0
\$80,000 to \$119,000	1.6	4.1	6.4	7.2	10.7	13.0
\$120,000 or more	0.8	1.6	3.1	4.5	8.1	10.4
B. Income Ranges Keep Pace with Inflation						
Less than \$10,000	24.4	22.3	23.3	25.7	21.9	19.8
\$10,000 to \$19,999	24.8	22.6	24.4	24.2	24.7	24.2
\$20,000 to \$29,999	20.2	19.8	18.1	18.0	17.6	17.1
\$30,000 to \$44,999	17.5	18.1	17.1	15.6	15.6	17.3
\$45,000 to \$59,999	7.0	8.8	8.0	7.4	8.7	9.4
\$60,000 to \$79,999	3.6	4.5	4.8	4.9	5.5	6.0
\$80,000 to \$119,000	1.6	2.8	2.8	2.5	3.6	3.9
\$120,000 or more	0.8	1.1	1.5	1.7	2.4	2.3
C. Income Ranges Keep Pace with Income growth						
Less than \$10,000	24.4	22.9	24.9	27.1	26.7	25.4
\$10,000 to \$19,999	24.8	24.3	25.3	25.4	26.7	27.2
\$20,000 to \$29,999	20.2	19.2	18.4	17.8	17.2	17.8
\$30,000 to \$44,999	17.5	18.3	16.9	15.0	14.3	15.2
\$45,000 to \$59,999	7.0	7.8	7.2	7.0	6.8	7.1
\$60,000 to \$79,999	3.6	4.1	4.0	4.1	4.3	3.8
\$80,000 to \$119,000	1.6	2.5	2.1	2.1	2.2	2.2
\$120,000 or more	0.8	0.9	1.2	1.5	1.8	1.4

Source: Author's analysis of the PSID.

Appendix C. Distribution of Workers

1982 Earnings Categories	1982	1986	1990	1994	1998	2002
A. Fixed Income Ranges						
Less than \$10,000	44.1	34.8	30.2	24.7	23.0	21.6
\$10,000 to \$14,999	15.1	14.8	12.1	11.3	8.5	7.6
\$15,000 to \$19,999	12.7	11.9	12.2	10.5	9.1	7.2
\$20,000 to \$24,999	9.2	9.9	9.5	10.2	9.1	8.4
\$25,000 to \$29,999	6.7	8.2	8.6	9.2	7.8	7.7
\$30,000 to \$39,999	7.0	10.5	11.6	12.9	13.8	15.5
\$40,000 to \$54,999	3.4	5.8	9.3	10.0	12.7	13.5
\$55,000 or more	1.9	4.1	6.6	11.3	16.1	18.6
B. Income Ranges Keep Pace with Inflation						
Less than \$10,000	44.1	39.7	39.4	36.2	35.8	35.0
\$10,000 to \$14,999	15.1	16.6	16.9	15.9	15.4	14.6
\$15,000 to \$19,999	12.7	11.8	12.8	14.1	12.6	15.6
\$20,000 to \$24,999	9.2	10.0	9.3	9.8	11.1	10.4
\$25,000 to \$29,999	6.7	7.4	7.3	7.3	7.2	6.7
\$30,000 to \$39,999	7.0	8.0	7.6	7.9	7.0	7.3
\$40,000 to \$54,999	3.4	3.8	3.5	4.9	6.1	5.2
\$55,000 or more	1.9	2.8	3.2	3.9	4.8	5.2
C. Income Ranges Keep Pace with Income growth						
Less than \$10,000	44.1	40.4	41.6	38.0	40.5	41.2
\$10,000 to \$14,999	15.1	16.9	16.5	16.3	16.9	20.0
\$15,000 to \$19,999	12.7	12.5	13.1	14.6	13.7	13.8
\$20,000 to \$24,999	9.2	9.8	10.5	10.1	9.4	8.3
\$25,000 to \$29,999	6.7	7.3	5.8	6.1	5.4	4.5
\$30,000 to \$39,999	7.0	7.2	6.8	7.9	6.6	5.7
\$40,000 to \$54,999	3.4	3.5	3.0	3.7	4.2	3.5
\$55,000 or more	1.9	2.4	2.8	3.4	3.3	3.0

Source: Author's analysis of the PSID.