TAX FOUNDATION FIGURES LEAD TO INACCURATE IMPRESSION OF MIDDLE-INCOME TAX BURDENS

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Summary

The Tax Foundation each year releases a report on “Tax Freedom Day,” which it describes as the day when “Americans will finally have earned enough money to pay off their total tax bill for the year.” Over the years, pundits and policymakers have commonly misinterpreted these Tax Foundation reports as reflecting the tax burdens that the broad swath of middle income families must shoulder.

In fact, middle-income taxpayers pay much less in taxes than these Tax Foundation reports imply. The Tax Freedom Day reports consistently show tax burdens that are substantially higher than the most authoritative, nonpartisan sources find that middle income taxpayers actually bear.

- The Tax Foundation’s new Tax Freedom Day report, issued April 10, claims that federal taxes will equal 21.8 percent of income in 2002.

- By contrast, the Joint Committee on Taxation finds that the federal tax burden in 2002 on families in the middle of the income spectrum equals 14.8 percent of income. An update of a Congressional Budget Office analysis that uses a somewhat different methodology finds such families will pay no more than 16.2 percent of income in federal taxes in 2002.

- The Tax Foundation thus implies that typical or average middle-income taxpayers pay at least 35 percent more in federal taxes than either the Joint Tax Committee or the estimates based on the CBO study indicate to be the case.

The Tax Foundation’s conclusions conflict with Treasury, CBO, and Joint Tax Committee findings because the Tax Foundation uses a flawed methodology that distorts and inflates tax burdens. In fact, in a recent Congressional hearing, Federal Reserve Chairman Alan Greenspan essentially stated in response to a question that this type of methodology is invalid.

The Problems with the Methodology

In computing what it says are average tax burdens, the Tax Foundation uses a measure of tax receipts as a percentage of the economy. The Tax Foundation divides total tax receipts by an
estimate of the total amount of income in the nation. This method produces significant distortions.

Under our progressive tax system, high-income taxpayers pay significantly greater percentages of income in federal income taxes than middle-income families do. Under the Tax Foundation methodology, the higher tax payments that high-income taxpayers make are used to make the taxes that “average Americans” are said to pay look considerably larger than they actually are.

Suppose four families with incomes of $25,000 each pay $1,250 in income tax — five percent of their income — while one wealthy family with $400,000 in income pays $100,000 in income tax, or 25 percent of its income. If one averages these figures, one finds that 21 percent of the total income of these five families goes to pay federal income taxes. Dividing these families’ total tax payments of $105,000 by their total income of $500,000 shows that 21 percent of their total income is paid in taxes.

Under the Tax Foundation methodology, this 21 percent figure would then be used to say that the average family in this group pays 21 percent of income in income taxes and must work until 21 percent of the year has passed to pay its income tax. Yet the 21 percent figure would be a misleading indication of the typical tax burden of families in this group. The four moderate-income families pay five percent of their income in income tax, less than one-quarter of the average 21 percent rate. Using averages in this fashion when talking about tax burdens, as the Tax Foundation does, produces skewed results; it essentially ascribes to the average taxpayer the tax rates that only people at considerably higher income levels pay.

Exacerbating this problem, the Tax Foundation methodology fails even to provide an accurate representation of the average tax rate for the nation as a whole. At a recent Congressional hearing, Federal Reserve Chairman Alan Greenspan warned that the type of approach the Tax Foundation uses — dividing total tax receipts by total income, as measured by the Gross Domestic Product, to determine an overall average tax rate — is not valid. Greenspan flatly stated: “you can’t use tax receipts over nominal GDP as a tax rate.” He explained one reason such an approach is improper: although capital gains taxes are counted as part of federal
tax receipts, the capital gains income on which such taxes are paid is not counted in GDP. (The Tax Foundation uses another, similar Commerce Department measure of income that also omits capital gains.) Counting capital gains taxes as part of tax receipts while failing to count capital gains income as part of income distorts — and inflates — average tax rates. Despite Chairman Greenspan’s warning that “you can’t use” this measure, an admonition other tax experts have made in the past, the Tax Foundation repeats this mistake every year.

In recent years, the Tax Foundation’s Tax Freedom Day report has included a list of the dates it says represent “Tax Freedom Day” for each state. These dates reflect the Foundation’s estimate of the average tax rate in each state. The serious flaws that mar the Tax Foundation’s estimates of tax burdens nationally plague its state-by-state estimates, as well.
• About two-thirds of the tax burdens in the Tax Foundation calculations are federal tax burdens. The amount of federal taxes paid by the residents of a state thus has a large impact on that state’s “Tax Freedom Day.” Since, as shown in this report, the Tax Foundation methodology substantially overstates the federal tax burden of middle class families, the Tax Freedom Day figures for each state also are exaggerated.

**Tax Burdens on Middle-Income Families are Substantially Overstated**

Given these and other problems with the Tax Foundation measure, it is not surprising that the Tax Foundation’s claims are inconsistent with the findings of the leading authoritative, nonpartisan institutions that study tax burdens. Data from the Treasury Department, the Congressional Budget Office, and the Joint Committee on Taxation all show that tax burdens on families in the middle of the income scale are considerably lower than the Tax Foundation reports suggest.

**Income Tax Burdens**

The Tax Foundation times the release of its Tax Freedom Day report each year to coincide with the date by which federal income taxes are due. In so doing, the Tax Foundation evidently seeks to foster the impression that income taxes are high and, by implication, that they need to be reduced. In fact, a Treasury Department analysis with data through 1999 (updated by the authors to reflect recent income trends and tax law through 2001) shows that federal income taxes on a median-income family of four have fallen significantly and are now at their lowest level in 44 years.1

• In 1999, a median income family of four with two children paid 7.9 percent of its income in federal income tax. The federal income tax burden on this family — that is, the percentage of income the family paid in income tax — was lower in 1999 than at any time since 1966.

• The tax cut enacted last year has further reduced income tax burdens. In 2001, a median income family of four paid 6.8 percent of income in federal income taxes, the lowest level since 1957. The federal income tax burden of a median income family of four was one-third lower in 2001 than during the 1980s, when it averaged 10.3 percent of income.

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Total Federal Tax Burdens

A similar picture emerges if all federal taxes are considered. Both the Congressional Budget Office and Joint Committee on Taxation provide comprehensive data on the tax burdens that families at different income levels bear.

- Families in the middle fifth of the income spectrum will pay an average of 16.2 percent of their income in total federal taxes in 2002, including payroll, excise, and other taxes as well as income tax. This estimate is based on a Congressional Budget Office study with full data through 1997 and some data for 2000, as updated by the authors to extend through 2002. This is the lowest level of federal taxation on middle-income taxpayers for the period from 1979 to the present. The year 1979 is the first year for which these CBO data are available.2

- Data from Congress’ Joint Committee on Taxation shows similar, although somewhat lower tax burdens. The Joint Tax Committee’s estimates show that families with incomes between $30,000 and $40,000 — approximately the middle of the income spectrum — will pay an average of 14.8 percent of income in total federal taxes in 2002.3

As noted, the Tax Foundation claims that average federal taxes will equal 21.8 percent of income in 2002. The Tax Foundation thus implies that typical or average middle-income taxpayers pay between 35 percent and 47 percent more in federal taxes than is actually the case. (See Table 1.) The federal tax burdens the Tax Foundation portrays families as bearing are not only considerably larger than the tax burdens that CBO and the Joint Tax Committee estimate

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2 Effective Federal Tax Rates, 1979-1997, Congressional Budget Office, October 2001. The federal taxes the CBO analysis includes are individual income taxes, including EITC outlays, employer and employee shares of payroll taxes, excise taxes, and corporate income taxes. The Congressional Budget Office divides families into five equal groups (or quintiles). The middle quintile thus reflects families from the 40th percentile to the 60th percentile of income. The CBO estimated tax burdens for 2000 by applying 2000 tax law to the income distribution in 1997. We updated this figure by adjusting for income growth between 1997 and 2002 and for the 2001 tax cut. For additional information, see Isaac Shapiro, Overall Federal Tax Burden on Most Families — Including Middle-Income Families — at Lowest Levels in More than a Decade, Center on Budget and Policy Priorities, April 10, 2002.

3 JCX-65-01, August 2, 2001. There are methodological differences between JCT and CBO that result in calculation of different, although similar, tax burdens. The federal taxes that the JCT analysis includes are individual income taxes (including the outlay portion of the EITC), the employer and employee shares of payroll taxes, and excise taxes. Unlike CBO, the Joint Tax Committee analysis does not include corporate income taxes. The Joint Tax Committee divides families based on income ranges. The $30,000 to $40,000 range used in this analysis reflects the 43rd percentile to the 55th percentile; it is the best approximation of the “middle” in the Joint Tax Committee figures. There also are differences between CBO and JCT in the ways in which families are sorted into income categories.
middle-income families shoulder, but also exceed what the Joint Tax Committee estimates that families at a significantly higher income level — those in the $75,000-$100,000 range — pay.4

### Average Taxes Misrepresent Tax Burdens on Typical Taxpayers

The Tax Foundation’s annual report contending that Americans, on average, must work until late April to pay their taxes is based on a computation of average tax burdens. The Tax Foundation takes what it says is the total amount paid in federal, state, and local taxes and simply divides this amount by a measure of the total amount of income in the nation. The result is the percentage of income the Tax Foundation describes Americans as paying, on average, in taxes. The Foundation then converts this into the percentage of the year that Americans must work to satisfy their tax obligations. This method produces results that bear little relationship to the tax burdens that middle-income families actually face.

The tax code — and particularly the federal personal income tax — is progressive, which means that people pay a larger share of their income in taxes as their incomes rise. The typical middle-income family is in the 10 percent or 15 percent federal income tax bracket (three-quarters of tax filers are in the 15 percent bracket or a lower bracket), while the top marginal income tax rates extend up to 38.6 percent. The “average” tax burden figure that the Tax Foundation computes is skewed upward by the higher tax rates that high-income families pay. This “average” figure is misleading as an indication of the taxes that a family in the middle of the income spectrum pays.

Figure 1 shows the extent to which the “average income tax rate” is higher than the income tax rate that middle-income families pay. The Joint Tax Committee has estimated that families right in the middle of the income spectrum (those in the $30,000 to $40,000 range) paid four percent of their incomes in federal income taxes in 2001.5 (This figure reflects the 2001 changes made in last year’s tax bill.) The overall percentage of national income paid in federal

### Table 1

<table>
<thead>
<tr>
<th>Percentage of Income Families Pay in Federal Taxes in 2002</th>
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<td>CBO (middle quintile)</td>
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<td>JCT ($30,000 to $40,000)</td>
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<td>Tax Foundation (average)</td>
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4 The Joint Tax Committee estimates that families in this income range, which largely are families in the top fifth of the population, will pay 20.8 percent of income in federal taxes in 2002. See JCX-52-01, May 26, 2001.

5 Although these families are likely to be in the 10 percent or 15 percent bracket, the 10 percent and 15 percent tax rates apply only to their taxable income, which is total income after allowable deductions and exemptions are subtracted. Because these tax rates apply only to a portion of their income, the resulting effective tax rates are much lower — 4.0 percent for families with total income of $30,000 to $40,000 — according to the Joint Committee on Taxation.
Average Tax Rates Overstate Burden on Middle-Income Families

Federal Effective Income Tax Rates from the Joint Committee on Taxation in 2001

- $30,000-$40,000: 4.0%
- Average for All Families: 11.6%

The average tax burden — or the average income tax rate — is considerably higher, at 11.6 percent. The income taxes that higher-income families pay push up the average.

The Tax Foundation’s averaging approach is similarly flawed with respect to a number of taxes other than income taxes. For example, the Tax Foundation method assumes that middle-class families pay the same percentage of income in estate taxes as a family with a multi-million-dollar income. Yet estate taxes are paid on only the largest one to two percent of estates; all smaller estates are exempt. The Treasury Department estimates that 99 percent of estate taxes are paid on the estates of people who were in the top fifth of the income distribution around the time of their death and that 91 percent of estate taxes are paid on the estates of people who were in the top five percent of the income distribution.

This also holds true for corporate income taxes, which most economists (including those at CBO) believe are primarily passed through to the owners of capital assets (i.e., stockholders and other investors). The Tax Foundation’s averaging method effectively assumes that typical middle-class families pay the same percentage of income in corporate income taxes as wealthy investors and stockholders. That clearly is not correct.

An example may help to explain further why the average tax burden can differ so much from the tax burden of a typical middle-income family. If four families with incomes of $25,000 each pay $1,250 — or five percent of their income — in income tax while one wealthy family with $400,000 in income pays $100,000 (or 25 percent of its income), these five families as a group are paying 21 percent of their total income in income tax. But this 21 percent figure is a misleading indication of the typical tax burden of the families in this group. The four moderate-income families pay five percent of their income in income tax, less than one-quarter of the average 21 percent rate. Using averages across the entire population when talking about tax burdens, as the Tax Foundation does, produces skewed results. It essentially ascribes tax rates to the average person that only taxpayers at considerably higher income levels pay.

A second factor that has driven the Tax Foundation numbers up in recent years has been the increasing disparities of income in the United States. Recent data from CBO and the Internal Revenue Service show that over the past several decades, income has become more concentrated among families at the top of the income spectrum. CBO data show, for example, that the share of the nation’s income that goes to the richest one percent of families jumped from 9.3 percent in
When Should Tax Freedom Day Be?

This report focuses on the methodological flaws behind the Tax Foundation’s calculation of Tax Freedom Day. These shortcomings are amplified by another characteristic of the Tax Freedom Day report — it lacks a meaningful context for analyzing tax burdens because it ignores developments or trends that affect the federal expenditures these taxes finance.

The announcement of Tax Freedom Day comes with the not-too-subtle message that this day occurs too late in the year; the only remedy, of course, is to reduce taxes. But taxes are not levied in the abstract. Federal revenues pay for the nation’s defense and homeland security needs, Social Security and Medicare, health research, education, highway construction, environmental protection, and programs assisting low- and moderate-income families. Revenues in excess of current expenditure needs reduce the federal debt and thereby help the nation face future needs, such as the looming retirement of the baby-boom generation.

This broader view is especially appropriate in light of the sharp changes in the fiscal outlook that have occurred over the past year. In the short term, the budget is under pressure due to the lingering effects of the recession and the costs of war abroad and increased security needs at home. In the long term, the budget faces the considerable challenge of accommodating the pension and health care costs of the retiring baby boomers. Addressing these fiscal problems in both the short and long term was made considerably more difficult by the enactment last year of very large tax cuts. Measures affecting both expenditures and revenues are likely to be needed to keep the federal government on a more sustainable path over the long term.

Given these budget realities, one might ask the Tax Foundation: “When should Tax Freedom Day be?” Cutting federal taxes enough to make Tax Freedom Day come one week earlier, for example, would cost the federal government $175 billion in 2002, when the interest costs arising from having a higher federal debt are included. That would push the estimated 2002 federal deficit from $45 billion to $220 billion. If this tax reduction were continued over the decade, the cost would grow to $2.9 trillion, nearly twice as large as the ten-year cost of the tax cuts enacted last year. Of course, these costs could be absorbed by offsetting cuts in federal programs. If that is the Tax Foundation’s intention, it would do a service by indicating which types of programs it suggests cutting. In the absence of such information, the Tax Freedom Day report does not contribute constructively to a debate over the trade-offs the nation ultimately must confront.

1979 to 15.8 percent in 1997. The share of income that the top tenth of families receive similarly increased, from 30.6 percent of the income in the nation in 1979 to 38.7 percent in 1997.6

As a result of this increased concentration of income, the share of federal taxes that wealthy families pay also increased. The top one percent of families paid 23 percent of federal taxes in 1997 (the last year for which these data are available), up from 15.5 percent in 1979.

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6 These figures represents the shares of before-tax income these groups received. See Isaac Shapiro, Robert Greenstein, and Wendell Primus, “Pathbreaking CBO Study Shows Dramatic Increases in Income Disparities in the 1980s and 1990s: An Analysis of the CBO Data,” revised May 31, 2001.
IRS data show that from 1989 to 1999, the share of income taxes paid by the top one percent of tax filers rose from 25.2 percent to 36.2 percent. If the top one percent had paid the same percentage of its income in income taxes in 1999 as it did in 1989, it would have paid 32.5 percent of all income taxes in 1999. Stated another way, if the average income tax burden of the top one percent of tax filers had remained the same, this group’s share of all income taxes would have risen from 25.2 percent in 1989 to 32.5 percent in 1999 simply because of the increased share of the national income it received. The increasing concentration of income thus accounted for about two-thirds of the increase that occurred in the share of income taxes that the top one percent pays.

**Tax Levels versus Expenditures on Food, Shelter and Housing**

Tax Foundation reports often state that families must pay more in taxes than they pay for food, clothing, and shelter combined. This Tax Foundation claim, which apparently compares total tax payments in the nation to total food, clothing, and shelter expenditures, further illustrates how the Tax Foundation’s selective presentation of information can foster misleading impressions.

If the statement that total tax payments exceed total expenditures for food, clothing and housing is accurate, that would tell us little about the relationship between taxes and spending for families in the middle of the income scale. It is no doubt true that upper-income families pay more in taxes than they do for basic necessities. It also is true that low- and moderate-income families pay much less in taxes than they spend for basic necessities; necessities consume most of their income. The precise family income level at which taxes typically exceed expenditures for food, clothing and housing is unclear. The Foundation’s report does not provide information on that matter.

Furthermore, while Americans spend a smaller proportion of their incomes on food, clothing, and housing than they used to, this is not because they are paying more in taxes. Rather, it is because the share of after-tax expenditures devoted to food, shelter, and clothing has shrunk significantly in recent years, while the share devoted to costs for items such as health care has risen. In 1970, some 44 percent of total after-tax expenditures in the nation went for food, clothing and shelter. By 2000, that figure had declined to about 33 percent, largely because of a drop in the share of expenditures going for food.

The share of taxes paid by the top 10 percent of families increased from 41.1 percent in 1979 to 49.9 percent in 1997, largely reflecting the increase in the share the top one percent pays. IRS data on individual income taxes show that this trend continued at least through 1999.7

Because of the progressive nature of the tax system, income that very affluent individuals receive is taxed at a higher rate than the income that middle-income families receive. Thus, when income becomes more heavily concentrated on the upper rungs of the income spectrum, the percentage of total income in the nation that is collected in taxes increases. These higher tax burdens are not, however, a reflection of an increase in tax burdens among typical middle-class

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families.\(^8\) As shown above, the supposed increase in tax burdens among typical middle-income families is fictitious; their tax burdens have fallen, not increased.

One way to help grasp these developments is to return to the example given above of the five families and to examine what would happen if the income of the four moderate-income families that make $25,000 a year increased by 10 percent while the income of the high-income family grew 50 percent. (These are roughly the income trends experienced over the past decade.) With these increases in income, the “average” income tax rate for this group of families would rise from 21 percent to 22 percent \textit{without any increase in the percentage of income that any of these families paid in income tax.} The increase from 21 percent to 22 percent would simply reflect the fact that a larger share of the total income of this group of families was going to the high-income family and thus being taxed at a higher rate.\(^9\) Under the Tax Foundation’s logic, this rise in the “average” tax rate for this group of families from 21 percent to 22 percent would result in Tax Freedom Day advancing to several days later in the year, implying that the average family’s tax burden had increased. Yet the percentage of income that families were paying in income taxes would remain unchanged, with the moderate-income families continuing to pay five percent of their income in income taxes.

\textbf{Increase in Taxes as a Percentage of GDP Does Not Reflect Increased Tax Burdens for Middle-Income Families}

The Tax Foundation methodology also is flawed in another way because it includes capital gains receipts in its estimates of total tax collections while failing to include capital gains income in its measure of national income. (The Tax Foundation’s measure of national income is similar to the Gross Domestic Product.\(^10\)) That is, the Tax Foundation counts the taxes paid on capital gains income as part of tax receipts without counting these capital gains themselves in its estimate of national income. Counting taxes while failing to count the income on which those taxes are paid makes taxes appear larger as a percentage of income than they actually are.

\(^8\) Although the share of taxes paid by high-income taxpayers has increased in recent years, it has not increased as fast as their share of income has. After-tax income is now more concentrated at the top of the income spectrum than at any time since the end of World War II. Center estimate based on Thomas Piketty and Emmanuel Saez, \textit{Income Inequality in the United States, 1918-1998}, NBER Working Paper 8467, September 2001, Tables A1 and A3, and CBO, \textit{op.cit.}

\(^9\) Initially, $400,000 of the $500,000 — or 80 percent — of the total income of the five families was taxed at the 25 percent rate. After income growth of 10 percent for the middle-income families and 50 percent for the higher-income family, nearly 85 percent of total income — or $600,000 out of $710,000 — would be taxed at the 25 percent rate.

\(^10\) The Tax Foundation uses Net National Product as its measure of total national income. NNP is similar to GDP. Neither measure includes capital gains income.
Federal Reserve Board Chair Alan Greenspan has made the same point. He testified in January 2002 that “… you can’t use tax receipts over nominal GDP as a tax rate … largely because a goodly part of the numerator are taxes not on the incomes that appear in the gross domestic product, but are capital gains type taxes.”

This methodological flaw has significantly distorted the Tax Foundation’s estimates over the past several years because of the outsized role that capital gains revenues played in the growth of federal revenues during the latter part of the 1990s. CBO has found that between 1994 and 1999, capital gains income nearly quadrupled. The increase in capital gains taxes alone

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11 Testimony before Senate Budget Committee, January 24, 2002.
accounted for roughly 30 percent of the increase in tax collections as a share of GDP.\textsuperscript{12} This increase, however, has little if any effect on families in the middle of the income scale. Three-quarters of all capital gains taxes are paid by the 1.8 percent taxpayers with incomes exceeding $200,000. The bottom third of taxpayers pay almost no capital gains taxes, while the middle third of taxpayers pay about one percent of these taxes.\textsuperscript{13}

**Other Flaws in Tax Foundation Methodology**

The Tax Foundation’s methodology contains other shortcomings as well that make taxes look larger as a percentage of income than they actually are. The Tax Foundation counts as taxes certain items that are not taxes. These include optional Medicare premiums that older Americans pay if they wish to receive coverage for physician’s services under Medicare, intra-governmental transfers that are solely bookkeeping devices and not taxes, and rental payments that individuals or businesses pay to state or local governments to rent property those governments own.

**Conclusion**

The Tax Freedom Day reports present a misleading picture of the tax burden that middle-income Americans face, creating an impression that middle-income families pay much larger percentage of their incomes in taxes — and work later in the year to pay their taxes — than is truly the case. The Tax Foundation methodology is flawed in two fundamental ways. First, it attributes to average families some taxes that are paid only by people with much higher incomes. Second, its methodology counts capital gains tax payments as taxes while failing to include the capital gains income on which these taxes are paid in the measure of national income it uses. These shortcomings result in Tax Foundation estimates that artificially inflate tax burdens.

These and other flaws result in a distorted picture of both the amount of taxes that middle-income families pay and of changes in recent years in middle-class tax burdens. Compared to estimates based on the CBO and Joint Tax Committee data, the Tax Freedom Day reports create an impression that the federal tax burden that middle-income families face is more than one-third higher than it actually is. Simply put, the Tax Foundation’s calculation of Tax Freedom Day fails to provide a meaningful picture of the tax burdens that average, middle-income families bear.
