Joint Economic Committee
Republicans
Representative Kevin Brady, Chairman
Senator Dan Coats, Senior Republican Senator

How Tax Distribution Tables Mislead

An Updated Guide to Tax Policy Analysis

April 8, 2013

Executive Summary

As policymakers in Washington move forward on tax reform, demonstrating the effects that proposed changes in tax policy may have on individual taxpayers is tricky and always less than comprehensive. At best, tax distribution tables are incomplete because they lack a full description of their analytical limitations; at worst, tax distribution tables can be misused to make false claims about how proposed tax changes will affect taxpayers in different income groups. Recognizing the "tricks of the trade" will enable policymakers and taxpayers to better dissect the information a distribution table is intended to convey.

At best, tax distribution tables are incomplete because they lack a full description of their analytical limitations; at worst, tax distribution tables can be misused to make false claims about how proposed tax changes will affect taxpayers in different income groups.

The following evidence and findings are confirmed in this study:

- **Using the average (mean) taxpayer in each income group may be the least representative value, overstating or understating the tax liability of taxpayers in the group by many times.**

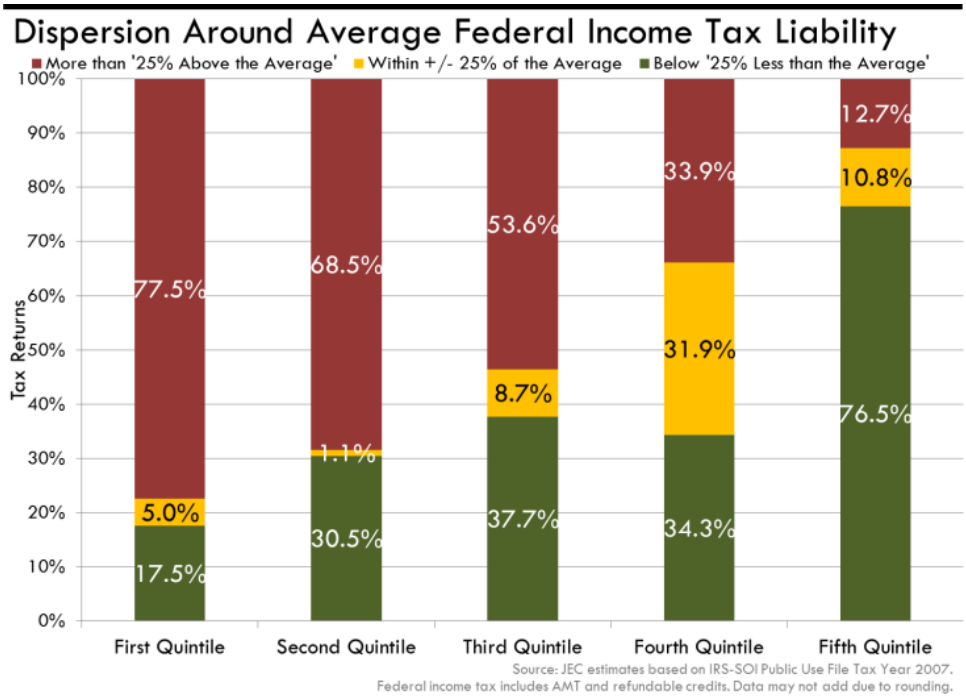

Figure 1 – As little as 1.1% of filers in the second quintile (and as much as 31.9% of filers in the fourth quintile) have tax liability equal to or within 25 percent more or less of the average tax liability for that quintile.

In the most extreme example, the average only represents 1.1 percent of taxpayers in the second quintile of income – not even remotely representative of the group as shown in Figure 1 above.

The closest example is in the fourth quintile of income where the average represents 32 percent of taxpayers – a very poor representation, still.

- **Basing tax distribution tables on income rather than tax liability is wildly unrepresentative.**

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The grouping of taxpayers into income categories presumes that taxpayers with similar incomes have similar federal income tax liabilities, when in reality their tax liabilities have little in common because of demographic variation and how aggressively a household pares down their taxes. For example, a family of four with a mortgage and a single earner making $100,000 may be able to shield more of its income from taxation than a young single earner making $50,000 without children, a mortgage, or health expenses and who hasn't started saving for retirement with a tax-deferred account.

  - Over 4.3 million taxpayers in the third income quintile pay more in federal income taxes than 9.6 million taxpayers in the higher fourth quintile as shown in Figure 2 below.

  - Similarly, nearly 6.2 million taxpayers in the fifth income quintile pay less in federal income taxes than 3.9 million taxpayers in the lower fourth quintile.

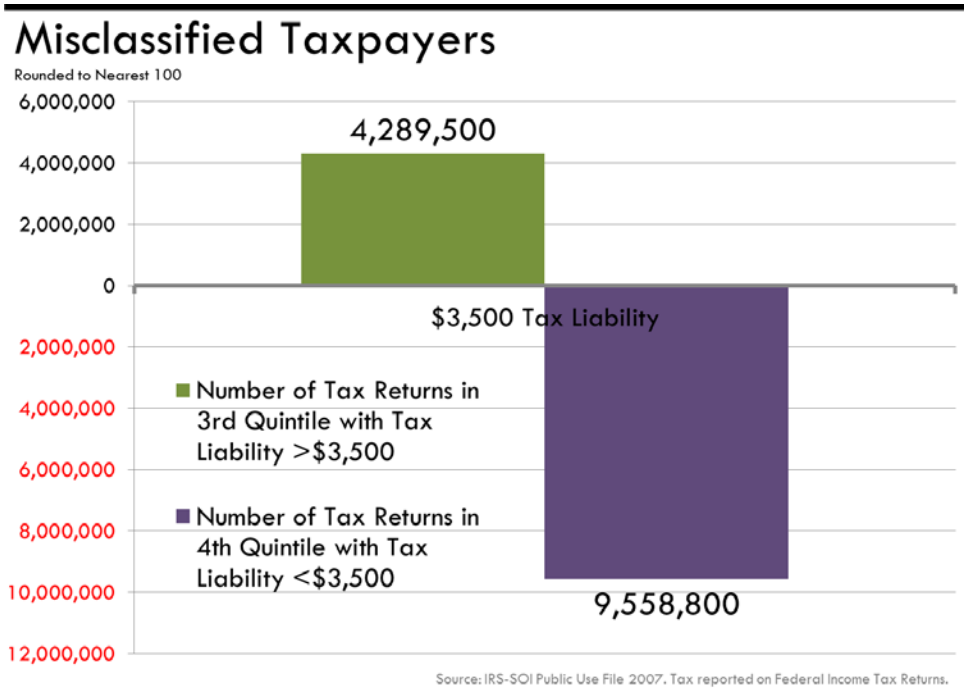

Figure 2 – Although there were roughly 23 million taxpayers in each quintile, more than 9.5 million taxpayers in the fourth quintile owed less federal income tax than nearly 4.3 million taxpayers in the third quintile.

- **Tax distribution tables ignore the decreasing share of taxes paid by the bottom 50 percent of taxpayers and the increasing share of taxes paid by the upper 1 percent.**

  What is omitted from tax distribution tables can be very important for policymaking decisions. Since 1980 the taxes paid as a share of the total federal income tax burden for the bottom 50 percent of taxpayers fell from 7.1 percent to 2.4 percent. Conversely, the share of the top 1 percent nearly doubled from 19.1 percent to 37.4 percent as shown in Figure 3 below.

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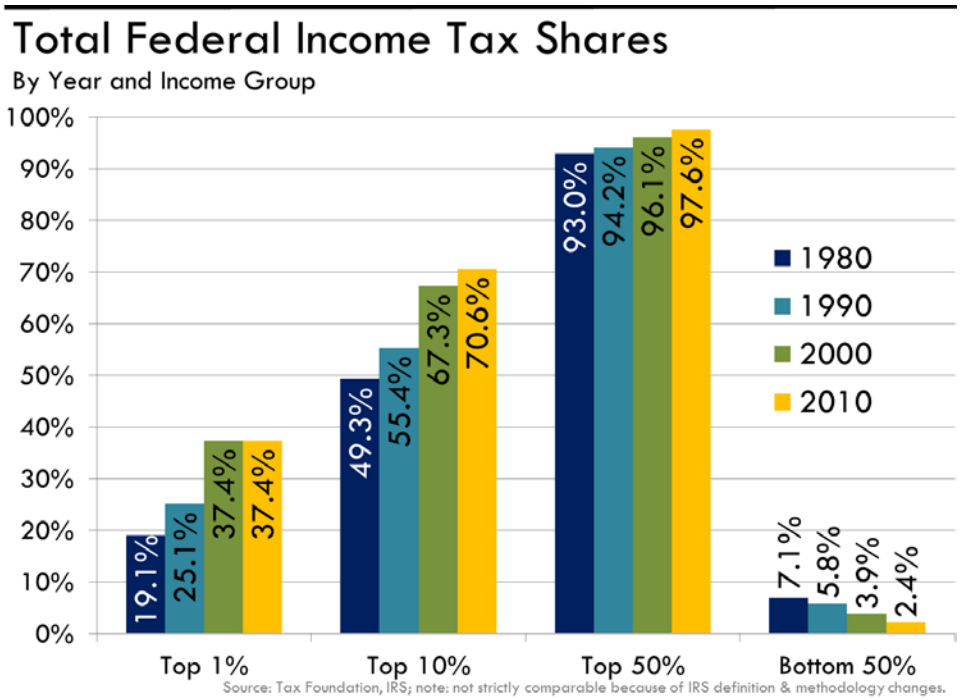

Figure 3 – As shown in the latest IRS data from 2010, since 1980, the share of the federal income tax burden has increased for the top percentiles and fallen for the bottom 50 percent.

- **Tax distribution tables often ignore the mobility of taxpayers.**

  For example, Tax Foundation data reveals that nearly 60 percent of households in the lowest quintile moved upward into a higher income group from 1999 to 2007, and nearly as many households move up as move down. Almost 40 percent of households in the higher quintile of income fell at least one quintile over the same nine year period.

- **Using the average creates a misleading view since taxpayers within the same income quintile have very little in common when it comes to what they owe in taxes.**

  There is a stark 433 percent difference between the average federal income tax liability for all tax returns and the median tax liability of all tax returns. In other words, many tax filers in one income group can have more in common with tax filers in another income group than with their own as shown in Figure 4.

Taxpayers grouped together in quintiles by adjusted gross income can have widely different tax liabilities within each quintile.

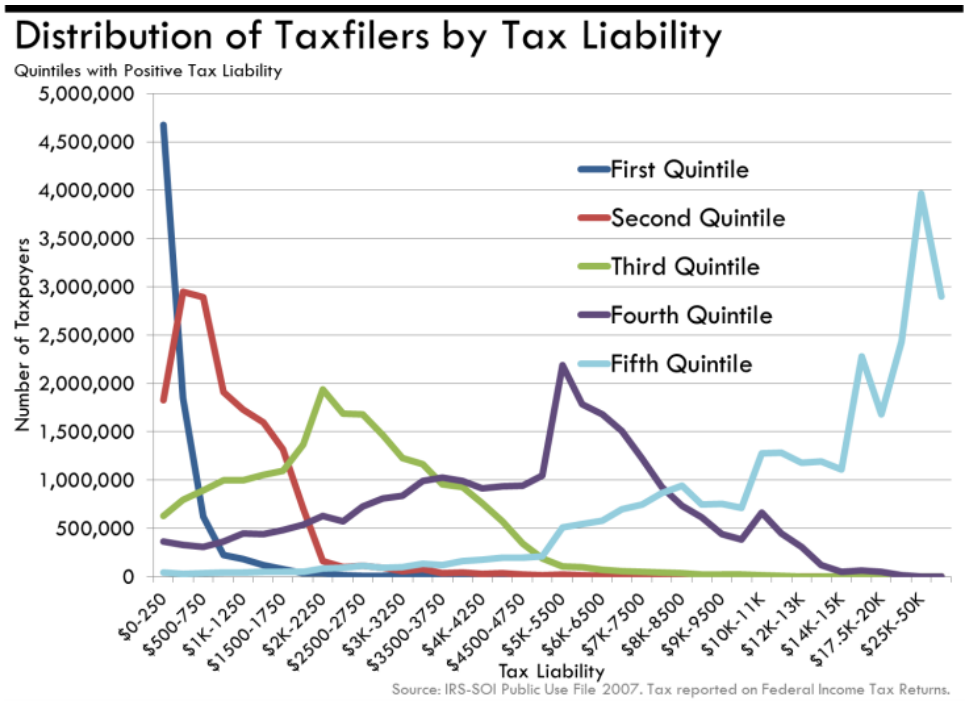

Figure 4 – Excluding those with no tax liability, there is great variation in the level of tax liability that taxpayers pay within their own quintiles.

Tax distribution tables often ignore the growing proportion of tax filers with zero or negative tax liability – which has increased over the past 50 years.

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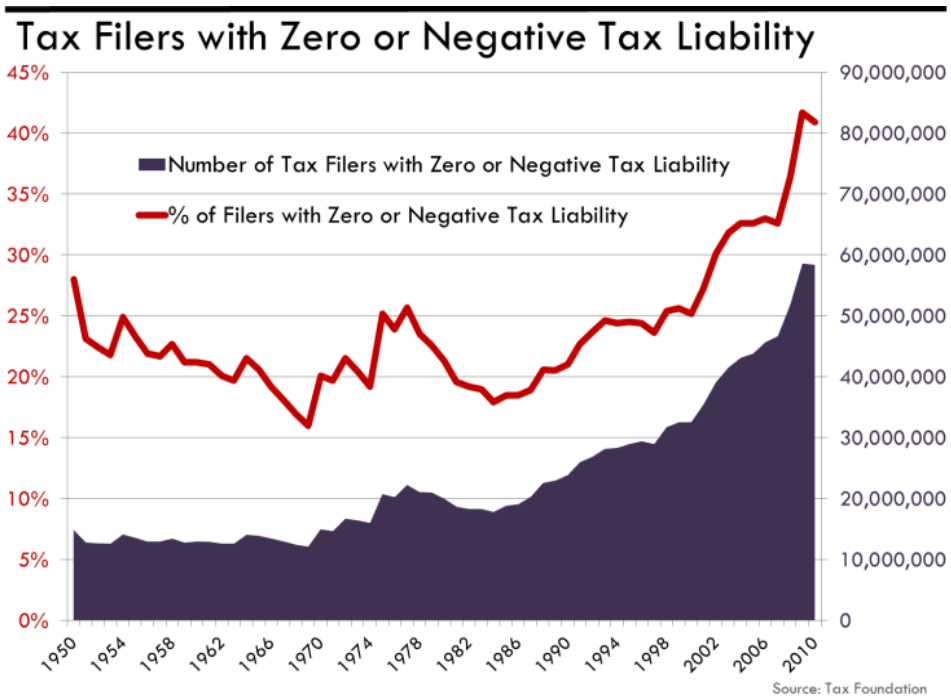

Figure 5 – Both the number and percent of tax filers that pay zero or negative income tax liability has increased over the past 50 years, with dramatic increases occurring in the past few years.

Using data from the Tax Foundation, in Figure 5 above, both the number and percent of filers with zero or negative tax liability has

traditionally ranged between 15 and 30 percent of filers, but has risen to highs of over 40 percent of filers in the past several years. If non-filers were included in the data, the proportion of all tax units would rise to just over half (filers and non-filers), according to data from the Joint Committee on Taxation (JCT).

- **Tax distribution tables often do not include information detailing the possibility of data errors and degree of reliability.**

  For example, as shown in Appendix C, Table 8, the JCT did not include estimated ranges and medians of tax changes for each income category, nor did they provide measures of statistical error.

- **Tax distribution tables should incorporate the long-term dynamic effects of a proposed tax policy change, if such a change is expected to produce long-term changes in economic growth and employment.**

  Specifically, tax distribution tables should reflect indirect changes, such as a change in real wages, as well as direct changes in taxes paid.

Tax distribution tables should incorporate the long-term dynamic effects of a proposed tax policy change, if such a change is expected to produce long-term changes in economic growth and employment.

With this in mind, this study:

(1) identifies the tricks used in creating tax distribution tables;

(2) describes the notable and critical omissions from most tax distribution tables;

(3) lists what questions policymakers should ask the creators of tax distribution tables; and

(4) recommends that tax distribution tables incorporate the dynamic effects of tax legislation on the broader economy.

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Introduction

Taxation of individual income is the backbone of the federal tax system. Moreover, the level and structure of federal individual income taxes have broad economic effects on output, employment, disposable income, consumption, saving and investment. While numerous statistics are available on individual income, marginal tax rates, and effective tax rates, demonstrating the effects that proposed changes in tax policy may have on individual taxpayers remains tricky and always less than comprehensive. There are so many taxpayer-specific factors that summary statistics cannot be completely accurate. Tax distribution tables can be helpful but only insofar as they concurrently acknowledge their limitations and omissions.

Demonstrating the effects that proposed changes in tax policy may have on individual taxpayers will remain tricky and always less than comprehensive.

This study updates and expands upon a particularly rich history of previous JEC Republican studies that examine the distributional analysis of federal tax policy. Beginning with a study on the subject in January 2000, JEC Republicans have published a number of studies to help policymakers and the public understand the information provided in tax distribution tables created to analyze the effects of proposed tax legislation. This updated study will apply critical questions from earlier JEC studies, formulated by economist Jason Fichtner, which policymakers and the public should ask in order to better understand what tax distribution tables show and what they obscure, as well as provide some suggestions to further improve distributional analysis.

Differences in Distribution Tax Tables and Tax Burdens

As with all economic models, a tax distribution table is intended to simplify a rather complex subject. However, like a map without a key providing the necessary details, tax distribution tables can lead one to reach inaccurate conclusions about the actual effects of a proposed tax change on specific taxpayers. As noted in prior JEC Republican studies, the primary information conveyed by a tax distribution table is the increases and decreases in taxes paid by different income groups under the current law in comparison to taxes that would be paid by those income groups after the proposed tax change is passed and implemented.[1]

Tax distribution tables can lead one to reach inaccurate conclusions about the actual effects of a proposed tax change on specific taxpayers.

In tax distribution tables, income is usually categorized by either percentiles or particular dollar ranges. Borrowing from earlier JEC Republican studies, an example tax distribution table follows on the next page.

Table 1. Example Distribution Table

Income Category	Change in Federal Taxes		Effective Tax Rate		Average Tax Change
	$ (millions)	%	Present Law (%)	Proposed Law (%)	$
Less than $10,000	-20	-0.2	7.1	7	-300
10,000 to 20,000	-365	-1	8.1	8	-400
20,000 to 30,000	-1,300	-1.5	15.2	15	-500
30,000 to 40,000	-2,150	-1.9	17.6	17.3	-750
40,000 to 50,000	-2,750	-2.1	19.3	18.9	-1,100
50,000 to 75,000	-7,200	-2.3	21.2	20.7	-1,500
75,000 to 100,000	-6,600	-2.4	23.9	23.2	-2,000
100,000 to 200,000	-8,100	-2.2	26.2	25.5	-3,500
200,000 and over	-13,500	-3.1	29.2	27.6	-5,000
Total, all taxpayers	$ (41,985)	-2.4%	22.2%	21.5%	$ (650)

While all income groups are expected to receive a tax cut in Table 1 (above), it is readily apparent that those earning more than $200,000 in income receive the largest tax cut (blue column), the greatest percent decrease in federal taxes (light blue column), and the highest average tax reduction (purple column) while those making less than $10,000 receive the least of the tax reduction of any income category. The red columns show the differences between the effective tax rates for current law and proposed law for each income category, which appears to favor taxpayers with the highest incomes as well. Many readers would interpret that the proposed tax change benefits all income groups, while others, some would find that it favors the rich. However, the tax distribution table should reveal more about the current tax distribution of payments before the proposed tax change takes place (red columns). Yet many tax distribution tables fail to include what the incidence of the current tax burden is for each income category, which is an important component in determining the relative effects that proposed legislation has relative to the current law (i.e., does proposed tax legislation broaden the base and reduce progressivity in the tax code?). This can have a critical impact on the interpretation of a tax distribution table; therefore, it is important to keep in mind that the more progressive the *current* tax code is, the more regressive any *proposed* tax reduction can appear.[2]

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Arguably, America's current federal tax code is quite progressive, both by historical and international standards. In fact, the Joint Committee on Taxation (JCT) joined the Organisation for Economic Co-operation and Development (OECD) and many others in noting that the U.S. tax system is quite progressive relative to other major developed economies, and this progressivity has been growing steadily. For example, the richest ten percent in the United States pay 1.35 times their share of income compared to Canada's 1.22 times, and the OECD average of 1.11.[3] Economist Greg Mankiw notes that adding transfer payments, the combined tax and benefit system in the United States is even more progressive.[4] Additionally, over the past 30 years, the tax burden of wealthier Americans has increased faster than their incomes. According to *The Wall Street Journal's* David Wessel, in the 1980s, the top five percent earned an average 22.6 percent of income and paid an average 28.5 percent of taxes, compared with the 2000s

during which the top five percent earned an average 28.4 percent of income but paid an average 40.3 percent of taxes.[5]

Returning to the tax distribution table (Table 1), it actually provides very little information from which to draw accurate conclusions for several reasons, including but not exclusively: (1) it omits the amount of taxes currently paid by each income category (i.e., does the lowest income group pay zero or negative income tax?); (2) it omits how many taxpayers are in each income category; (3) it does not detail what counts as income; (4) it does not detail which taxes are being included or excluded (i.e., payroll or estate taxes); and (5) it fails to mention the time horizon considered for the proposed tax change.[6]

Classification of Income

As discussed in the recent JEC Republican staff commentary series on economic inequality, there are a multitude of definitions available for income.[7] Most taxpayers understand income to mean any source upon which they must pay taxes, including: (1) wages, salaries & tips; (2) interest; (3) dividends; (4) taxable refunds; (5) personal business receipts; (6) capital gains; (7) rental income, royalties, income from trusts and partnerships; (8) farm income; (9) unemployment compensation; and (10) taxable portions of Social Security pensions. This income, in addition to any adjustments made based on retirement contributions and deductions, amount to a taxpayer's adjusted gross income (AGI). However, tax liabilities can vastly differ among taxpayers with the same income due to demographic differences such as family size, and filing choices such as itemized deductions versus standard deductions, as well as the composition of taxpayers' income.[8]

At the time of the initial JEC study on tax distribution tables in January 2000, the complete Internal Revenue Code contained more than 2.8 million words. As of 2007, it contained 3.7 million words, and remained close to 4 million words in 2012.[9] No two taxpayers necessarily have the exact same tax liability, even if their income is nearly identical. Because the current condition of the tax code is a myriad of penalties and legal loopholes alike, some taxpayers choose to more aggressively pare down their income tax liability than others: (1) by choosing certain investments that are not taxed such as municipal bonds, or whose taxes are deferred, as is the case for 401(k)s and traditional IRAs; (2) by taking certain tax deductions and credits for itemized activities and situations (i.e., charitable deduction or child tax credit); and (3) by choosing certain consumption methods that reduce their tax liabilities (i.e., health savings accounts or flexible spending accounts). Others may find themselves taking the standard deduction, saving for retirement with an investment vehicle taxed upfront like a Roth IRA, or receiving income that is taxed at a higher rate than other forms (i.e., labor income versus dividend income). For this reason, in addition to the demographic variation that abounds in America, identifying the representative value of income and federal income tax liability for each income category is quite complex.

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Measures of Central Tendency and Tax Data

When data includes many outliers and does not fit the pattern of a normal distribution, then the average ceases to accurately represent the data.

The central tendency of data is the central point that represents a typical, representative, or middle number for a set of data. Most often, the measure of the average (or mean), median or mode is used, with the average being the most common as it is easily recognized and understood. However, when data includes many outliers and does not fit the pattern of a normal distribution (blue line in Figure 1), then the average ceases to accurately represent the data. In these cases, the median may be a more accurate representative than the average, because it is the value directly in the middle of the distribution with 50 percent of the observations below and above the middle value.

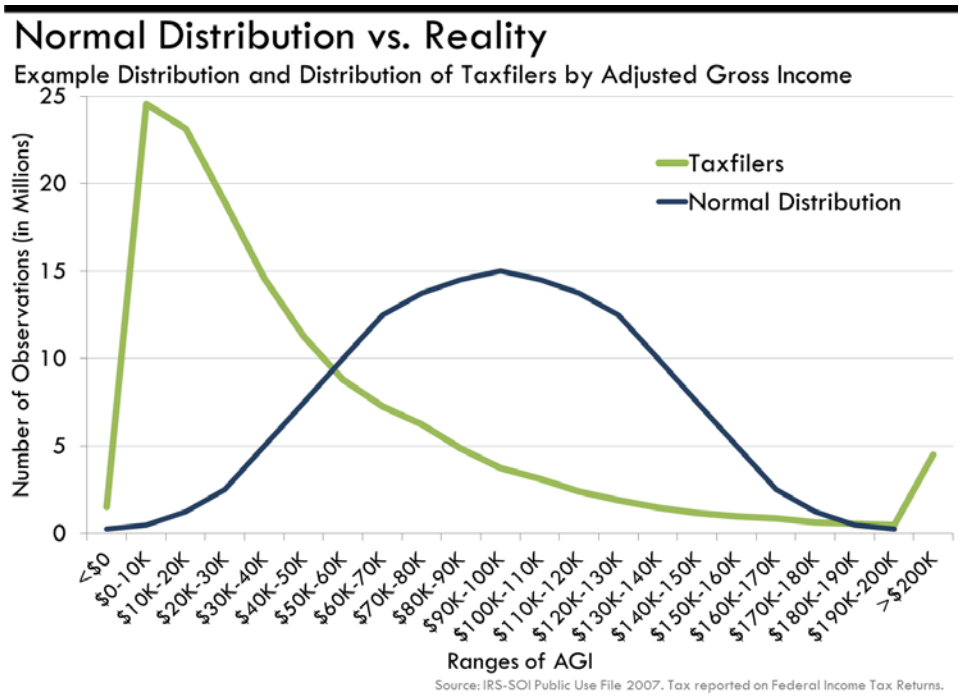

Figure 1 – As shown in the IRS Public Use File data for 2007, the distribution of tax filers by adjusted gross income is positively skewed to the right, making the average a very impractical measure of the representative tax filer.

Unlike the blue symmetrical line in Figure 1 above, the actual distribution of taxpayers by AGI (green line) for 2007 does not follow the pattern of a normal distribution, and thus cannot be accurately represented by the average. As shown in prior JEC Republican studies, the distribution of tax returns is positively skewed to the right, making average AGI a highly inaccurate representation of taxpayers.

Readers of such tax distribution tables may actually misclassify themselves based on tax liability even within their own quintile.

By another measure, federal income tax liability, the distribution is also very positively skewed to the right as shown in Figure 2 on the next page. Thus, the use of the average to describe the amount the typical taxpayer pays is also inaccurate. Since tax distribution tables rely on averages of AGI or a similar measure of income in conjunction with average tax liability changes when assessing the impact of proposed tax legislation, readers of such tax distribution tables may actually misclassify themselves based on tax liability even within their own quintile.

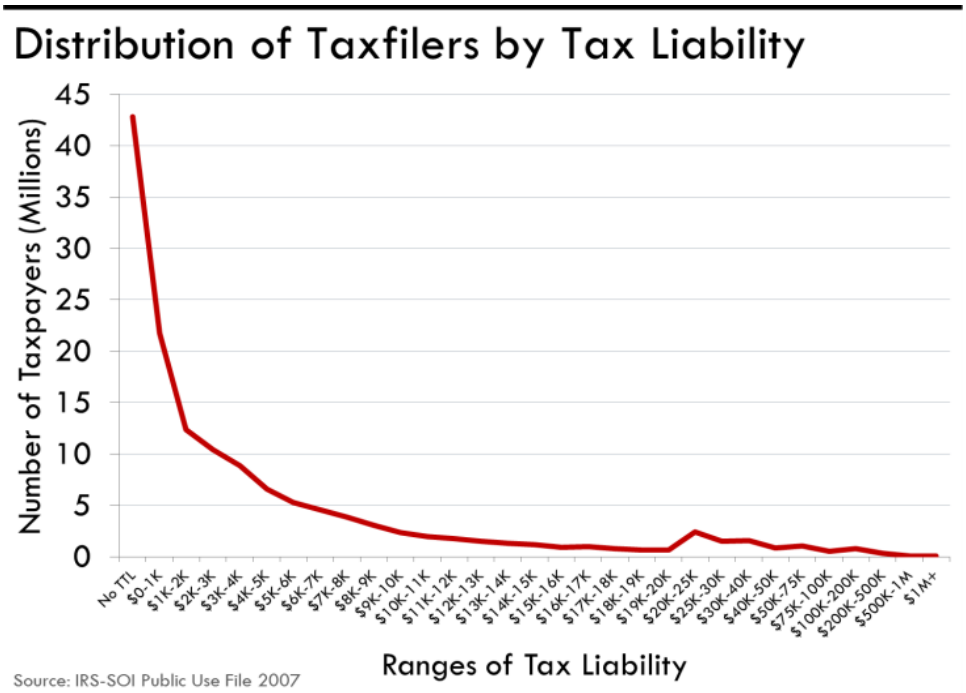

Figure 2 – From another perspective, the distribution of tax filers by tax liability is also positively skewed to the right, making the average a very impractical measure of tax liability as well.

Using the Statistics of Income (SOI) Public Use File comprising data from 2007, it is possible to determine what the average and median AGI and federal income tax liability amounts are in each quintile, as well as the minimum and maximum amounts as shown in Table 2.[i]

Table 2. Estimated Average and Median Amounts
2007 Federal AGI and Tax Liability
(Rounded to the Nearest $100)

Quintile	All Tax Returns	Average	Median	Minimum Amount	Maximum Amount
All Tax Returns	**AGI**	**$ 59,800**	**$ 32,200**	$ (116,900,000)	$ 249,100,000
	Tax Liability	**$ 8,000**	**$ 1,500**	$ -	$ 42,850,000
First	**AGI**	$ 1,400	$ 5,200	$ (116,900,000)	$ 11,100
	Tax Liability	$ 100	$ -	$ -	$ 346,600
Second	**AGI**	$ 17,300	$ 17,200	$ 11,100	$ 24,000
	Tax Liability	$ 500	$ 200	$ -	$ 75,800
Third	**AGI**	$ 32,500	$ 32,200	$ 24,000	$ 42,600
	Tax Liability	$ 1,800	$ 1,900	$ -	$ 98,200
Fourth	**AGI**	$ 57,700	$ 56,800	$ 42,600	$ 76,600
	Tax Liability	$ 4,900	$ 4,700	$ -	$ 59,900
Fifth	**AGI**	$ 199,000	$ 122,500	$ 76,600	$ 249,100,000
	Tax Liability	$ 32,700	$ 14,100	$ -	$ 42,850,000

Source: IRS-SOI 2007 Public Use File. Detail may not add due to rounding.

Notably, the average AGI amount for all tax returns is nearly 86 percent more than the median, as in the prior JEC studies. For federal income tax

The average AGI amount for all tax returns is nearly 86 percent more than the median, as in the prior JEC studies. For federal income tax liability, however, this contrast is a stark 433 percent difference.

[i] Note that the 2007 Public Use File available does not cover the full impact of the recession due to the delays imposed by ensuring that the data is completely scrubbed of all tax filer identity; but given this, it is the most comprehensive data available to identify tax filer income and tax liability. See Appendix A for more information about the 2007 Public Use File.

Part of the reason why the average tax liability is not an accurate measure of central tendency is because there are a number of tax returns in each quintile that have zero or negative tax liability.

liability, however, this contrast is a stark 433 percent difference. Part of the reason why the average tax liability is not an accurate measure of central tendency is because there are a number of tax returns in each quintile that have zero or negative federal income tax liability. In fact, the JCT reports that of the 164.4 million tax units,[ii] nearly 22 percent had zero federal income tax liability in the year 2009, and approximately 30 percent received a refundable credit, leaving approximately 49 percent of tax units that owed a federal income tax liability.[10] Excluding non-filing units, Figure 3 below shows the percent of returns with zero or negative federal income tax liability to be 41 percent of all filers for 2010.

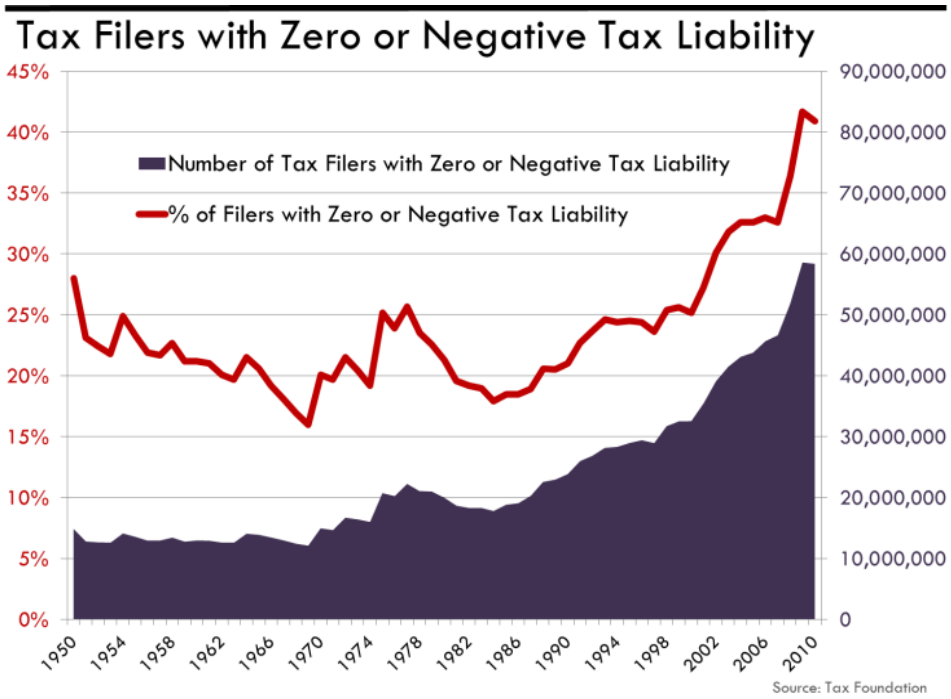

Figure 3 – Both the number and percent of tax filers that pay zero or negative income tax liability has increased over the past 50 years, with dramatic increases occurring in the past few years.

Many tax filers in one income group can have more in common with filers from another income group than with those within their same income group.

As shown in Figure 3, using data on filing units from the Tax Foundation, the number of tax filers with zero or negative federal income tax liability has significantly increased both in numbers and by percent of all filers.[11] Those with no federal income tax liability are concentrated in lower income groups, but are nonetheless present in each income group. Many working taxpayers in the lower income groups do not effectively pay payroll taxes in cases where the refundable portion of the earned income tax credit provides a net transfer.[12] As a result, the average federal income tax liability for each income group is less likely to represent the central tendency of each group, and many tax filers in one income group can have more in common with filers from another income group than with those within their same income group.

[ii] Tax units encompass both filing (tax returns) and non-filing units.

As shown in Figure 4 below, the majority of tax filers in each quintile are outside the margins of 25 percent above or below the average federal income tax liability. Tax filers in the fourth quintile have the greatest concentration around the average (within 25 percent more or less) of any other quintile at 31.9 percent, but that figure is still less than the approximate 68 percent of filers having more than 25 percent above and below the average. The second quintile has the least number of tax filers accurately represented by the average; a mere 1.1 percent fall within 25 percent above or below the average for that quintile.

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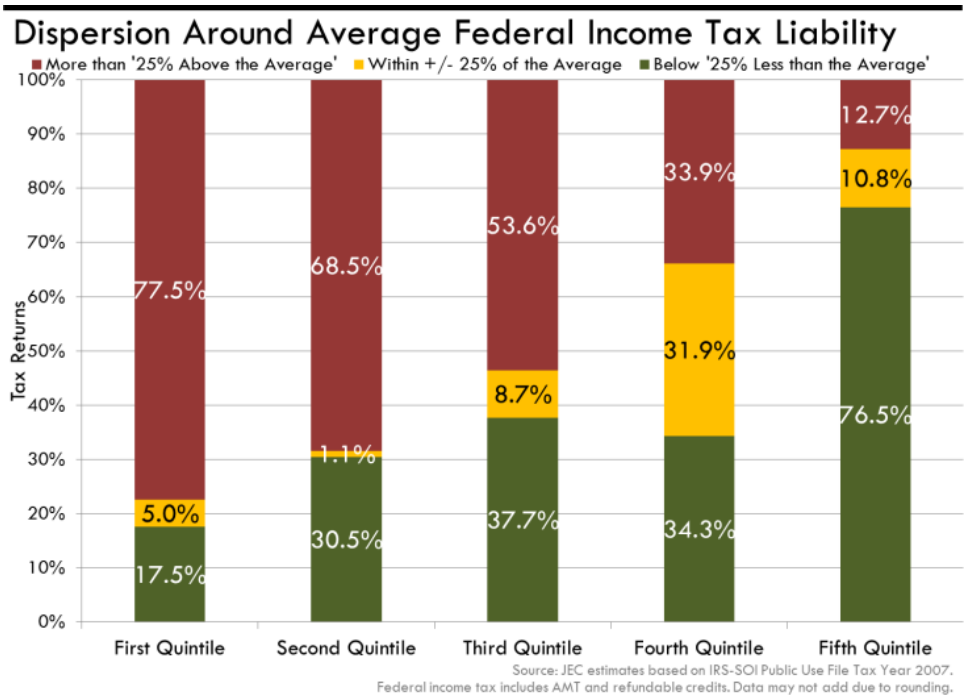

Figure 4 – As little as 1.1% of filers in the second quintile (and as much as 31.9% of filers in the fourth quintile) have tax liability equal to or within 25 percent more or less of the average tax liability for that quintile.

Table 3 below demonstrates the range of federal income tax liability that is within 25 percent above or below the average for each quintile. For example, someone in the first quintile receiving a transfer payment of $7,000 would be well above the average transfer payment of $290, thus having a negative tax liability that is over 23 times the first quintile average.

Table 3. Average Federal Income Tax Liability

Quintile	Average	Below 25% Less than the Average	Within 25% of the Average	Above 25% More than the Average	Maximum Transfer Payment
First	**$ (290)**	$ (360)	($360) to ($220)	$ (220)	$ (7,000)
Second	**$ (570)**	$ (710)	($710) to ($430)	$ (430)	$ (7,810)
Third	**$ 1,170**	$ 880	$880 to $1,460	$ 1,460	$ (5,430)
Fourth	**$ 4,470**	$ 3,350	$3,350 to $5,590	$ 5,590	$ (7,140)
Fifth	**$ 32,450**	$ 24,340	$24,340 to $40,560	$ 40,560	$ (8,000)
All Returns	**$ 7,450**	$ 5,590	$5,590 to $9,310	$ 9,310	$ (8,000)

Note: Data may not add due to rounding (rounded to tens).

Federal Income Tax Liability Included AMT and refundable credits.

Maximum refundable credit reported in 2007 Public Use File was $8,000.

Source: Joint Economic Committee estimates based on SOI Public Use File Tax Year 2007.

Based on this update, it appears that the same holds true as in the prior studies: the average is so misleading as a representation of central tendency for tax distribution analysis, that the average is the *least* representative measure for taxpayers. Not only is the average federal income tax liability of each quintile the least accurate measure, but compared to prior tax years covered in earlier JEC studies, the average has become *less* accurate over time.[13]

To gain a better idea of how many returns have zero or negative federal income tax liability and the incidence in each quintile, this study uses the criteria of the prior JEC Republican studies: (1) returns having zero or negative income tax liability; (2) returns with negative income tax liability; (3) returns receiving less than $500 in refundable credits; (4) returns receiving $500 to $999 in refundable credits; and (5) returns receiving $1,000 or more in refundable credits, as demonstrated in Table 4 below.

rns with Negative or Zero Federal Income Tax Liability

All	First	Second	Third	Fourth	Fifth
,900,000)	$ (116,900,000)	$ 11,100	$ 24,000	$ 42,600	$ 76,600
,100,000	$ 11,100	$ 24,000	$ 42,600	$ 76,600	$249,100,000
65,800	21,796,200	13,119,600	7,692,200	2,017,500	240,200
31%	76%	46%	27%	7%	0.8%
73,500	8,182,500	9,539,000	6,785,700	1,720,000	146,200
8%	29%	33%	24%	6%	0.5%
58,700	4,295,000	610,000	921,400	400,100	32,200
4%	15%	2%	3%	1%	0.1%
47,300	588,100	669,200	830,600	329,200	30,200
2%	2%	2%	3%	1%	0.1%
67,500	3,299,400	8,259,800	5,033,700	990,700	83,900
2%	12%	29%	18%	3%	0.3%

unded to hundreds), weighting and disclosure requirements of IRS-SOI.
nd refundable credits.
n approximately 28.6 million returns per quintile.
ased on SOI Public Use File Tax Year 2007.

In total, for tax year 2007, approximately 31 percent of all tax returns filed have negative or zero federal income tax liability, amounting to nearly 44.9 million tax returns as shown in Table 4 above, which compares with the JCT estimate of approximately 80.6 million. Dissimilarities arise from differing years under analysis and different units of measurement, but also because the JCT includes both filing and *non-filing* units. Thus, the variation is so great, that no particular income category has an average that represents most tax filers within that group.

Illusion of Precision: Misclassification of Taxpayers

Since distribution tables are based on data sources that sample the larger set of the population, the exclusion of this information in the tax distribution table (including the year of sampling) creates a sense of false precision in determining the effects that a proposed tax change may have.

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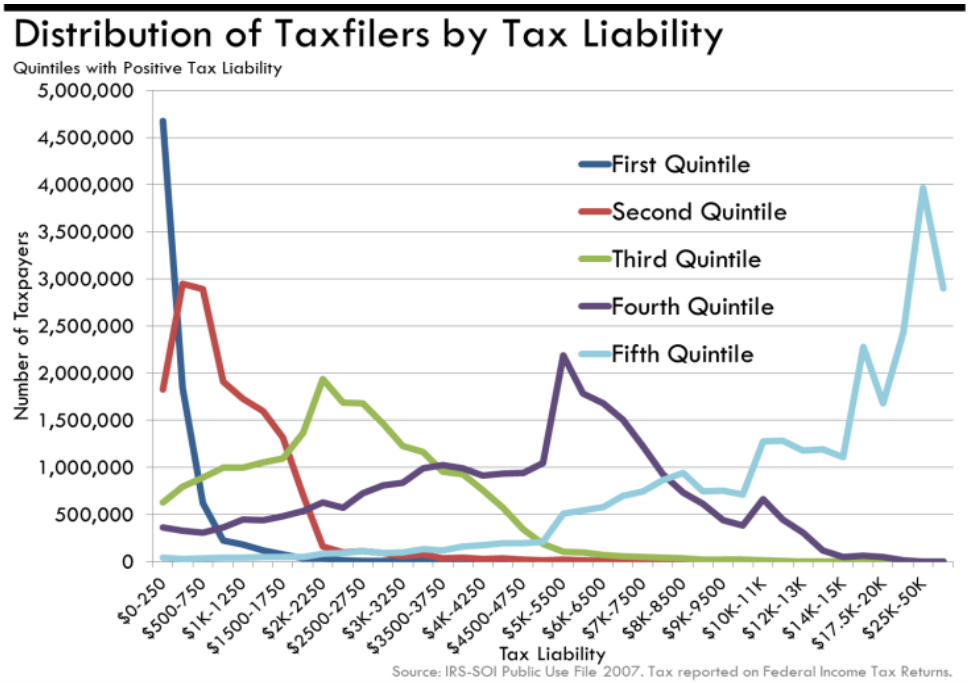


Figure 5 – Excluding those with no tax liability, it is notable that there is great variation in the level of tax liability that taxpayers pay within their own quintiles.

Figure 5 demonstrates the problem with classifying taxpayers by income category, especially given the various levels of federal income tax liability amongst different quintiles. While many pay less than $1,000 in reported federal income tax liability, many more within the same quintile pay more, and there is greater variability in the upper quintiles. For example, looking at the data in Figure 5 above for 2007, nearly 2 million in the third quintile (green line) owe between $2,000 and $2,250 in tax liability, but close to one million paid between $1,000 and $1,250, and yet another one million paid between $4,000 and $4,250 in that same quintile.

In fact, the dissimilarities within each quintile abound when comparing two adjacent quintiles' federal income tax liabilities. Figures 6 and 7 on the next page show the number of taxpayers with dissimilar federal income tax liability to their own quintile is in the millions.

Figure 6

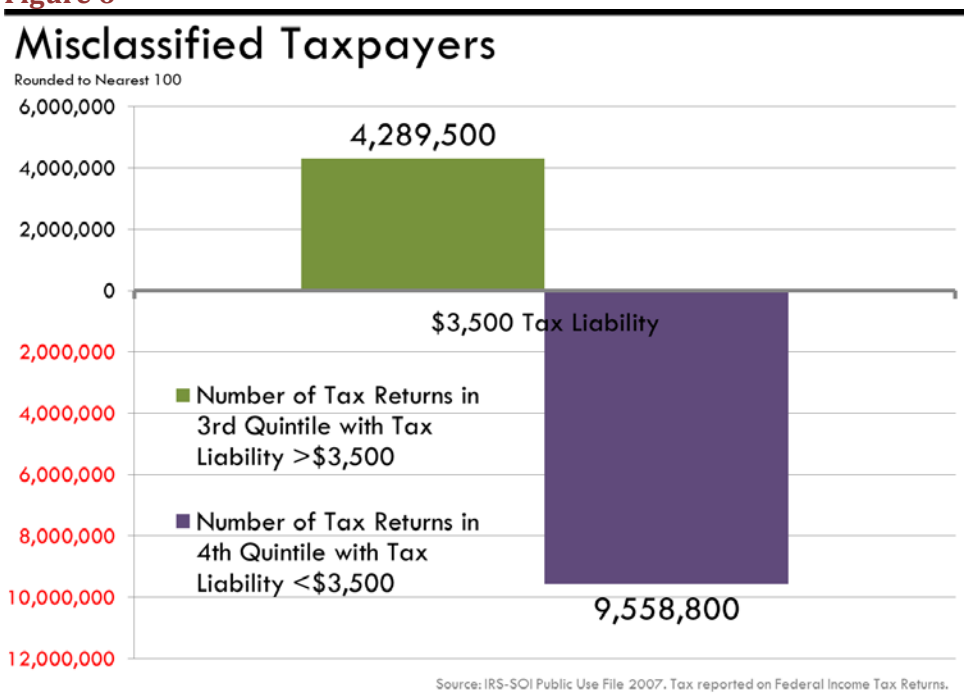
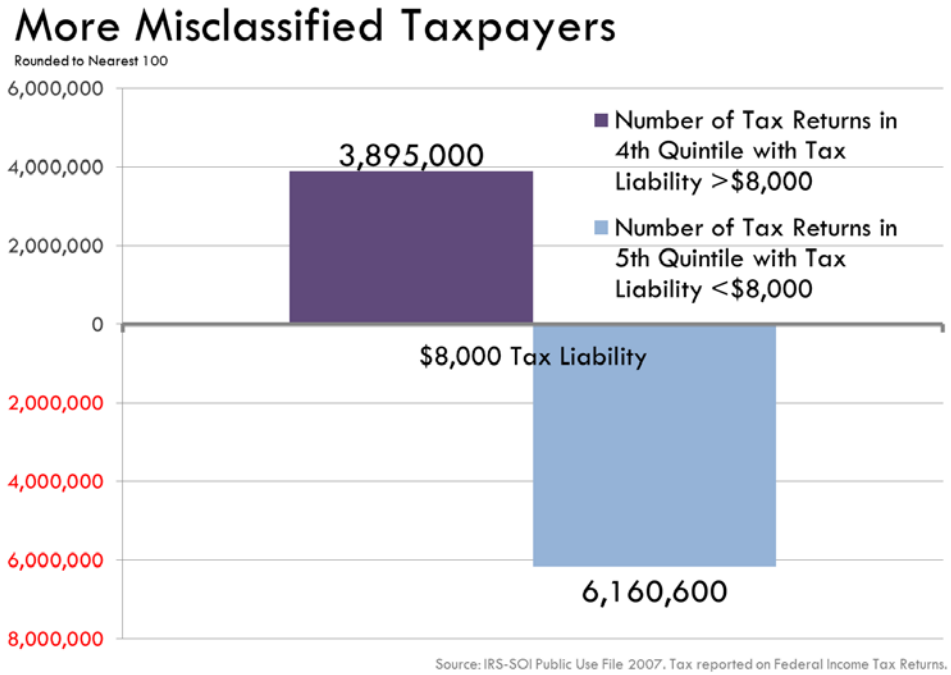


Figure 7



Figures 6 and 7 – Notably, more taxpayers in the 3rd and 4th quintiles pay more than those in the 4th and 5th quintiles respectively in terms of tax liability.

Over 3.9 million tax returns in the fourth quintile paying in excess of $8,000 in federal income tax liability, compared with nearly 6.2 million tax returns in the fifth quintile paying less than $8,000 in tax liability.

In Figure 6, approximately 4.3 million tax returns in the third quintile (green bar) had tax liability greater than $3,500, while 9.6 million tax returns in the fourth quintile (purple bar) had less than $3,500 in tax liability. In Figure 7, the disparity is notably larger, with over 3.9 million tax returns in the fourth quintile (purple bar) paying in excess of $8,000 in federal income tax liability, compared with nearly 6.2 million tax returns in the fifth quintile (light blue bar) paying less than $8,000 in tax liability.

Using data from the Tax Foundation, what is omitted from tax distribution tables can be as important as what is included. Over the past three decades, there has been a significant shift in the burden of taxation from the bottom 50 percent to the top 50 percent and in the top percentiles, as shown in Figure 8 below.[14] The top 1 percent's share jumped from 19.1 percent in 1980 to 37.4 percent in 2010, and the bottom 50 percent saw a drop from 7.1 percent in 1980 to 2.4 percent in 2010.

Over the past three decades, there has been a significant shift in the burden of taxation from the bottom 50 percent to the top 50 percent and in the top percentiles.

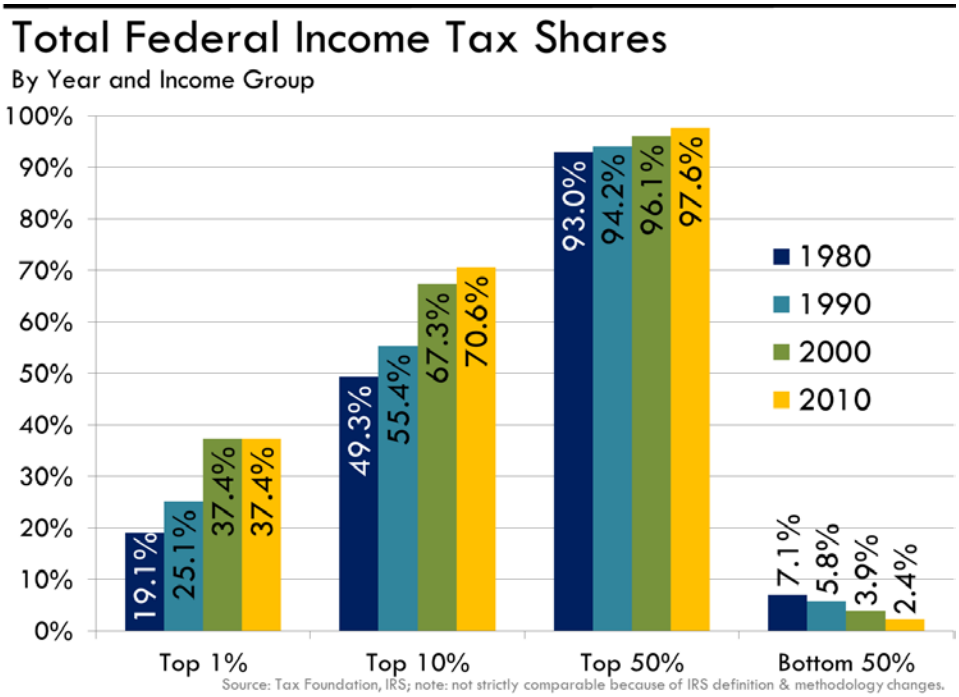


Figure 8 – As shown in the latest IRS data from 2010, since 1980, the share of the federal income tax burden has increased for the top percentiles and fallen for the bottom 50 percent.

Table 5 below demonstrates the AGI threshold percentile and percentage of federal income tax paid for each percentile in 2009.

Table 5. AGI Thresholds & Tax Shares by Percentile Group – 2009[15]

Percentiles Ranked by AGI	AGI Threshold on Percentiles	Percentage of Federal Income Tax Paid
Top 0.1%	$1,432,890	17.11%
Top 1%	$343,927	36.73%
Top 5%	$154,643	58.66%
Top 10%	$112,124	70.47%
Top 25%	$66,193	87.30%
Top 50%	$32,396	97.75%

Source: IRS

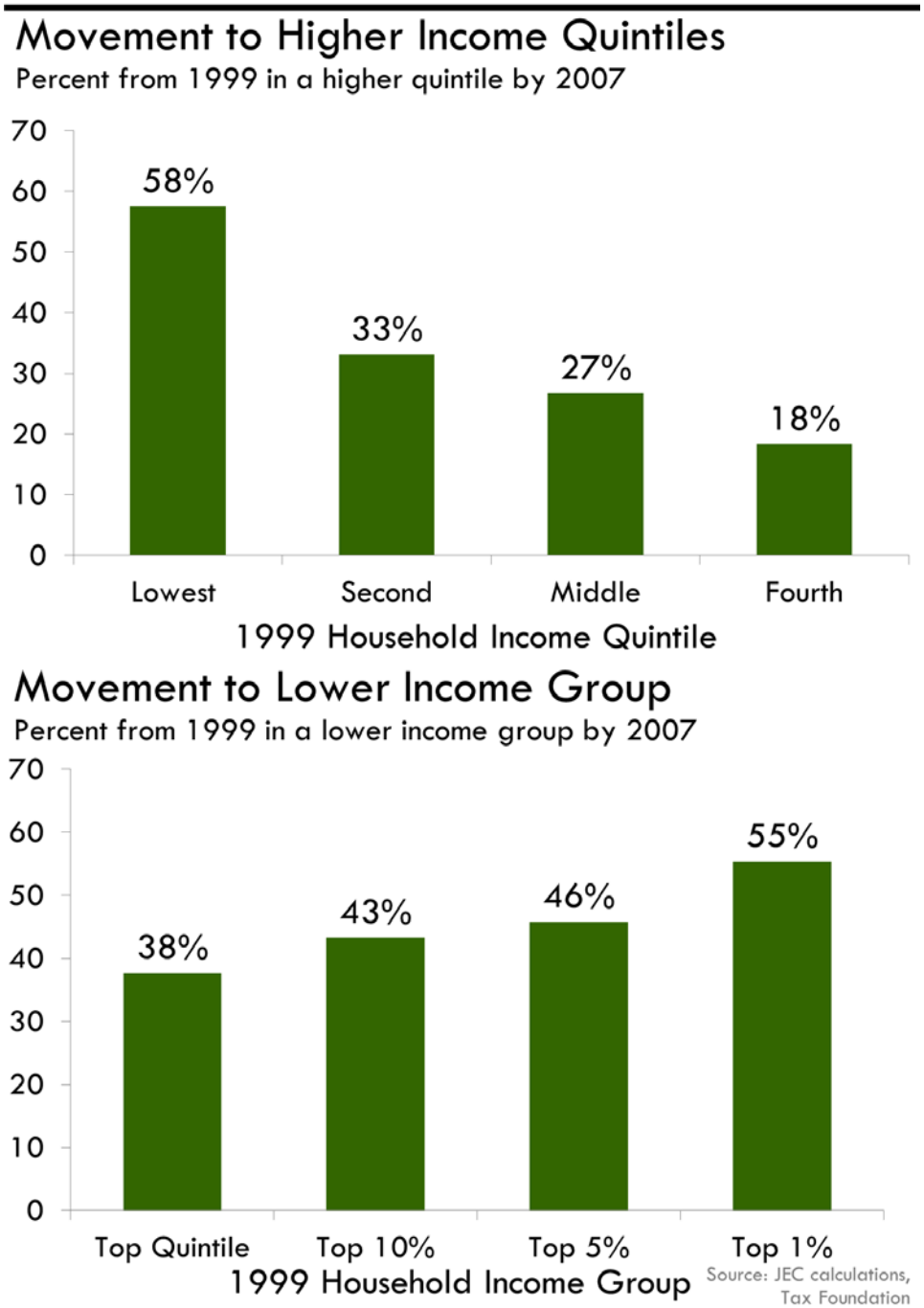
Income is not the only measurement of economic well-being, through which taxpayers may be classified. Taxpayers may be classified by wealth (i.e., market value of assets less liabilities) or by consumption that includes the monetary value of non-cash government benefits such as Medicare, Medicaid, and housing subsidies. As mentioned in the September 2003 update to the JEC Republican study on tax distribution, focusing on income alone furthers "the illusion of precision and does not allow for comprehensive analysis of equity."[16] Tax distribution tables fail to consider

how a proposed tax change can affect the savings and consumption behavior of tax filers that can shape their accumulation of wealth in the long term.

Income Mobility

A multi-year tax distribution analysis fails to capture the considerable upward and downward economic mobility occurring over the time period being considered.

Tax distribution tables depict the effects of a proposed tax change based on a particular time horizon, whether it is one year or a decade. However, a multi-year tax distribution analysis fails to capture the considerable upward and downward economic mobility occurring over the time period being considered. As pointed out in a recent JEC Republican staff commentary, data from the Tax Foundation in Figure 9 shows that nearly 60 percent of



Figures 9 and 10 – The percent (rounded) of the lowest quintile moving into a higher quintile reaches nearly 60% over 1999-2007. The highest percentiles experience nearly as much movement into a lower percentile.

households that were in the lowest income quintile in 1999 were in a higher quintile in 2007; over 30 percent of the second quintile in 1999 were in a higher quintile by 2007; 27 percent in the middle quintile moved up at least one or higher; and 18 percent in the fourth quintile moved to the top quintile. As many households move up, many also move down. Another almost 40 percent of households in the top quintile fell at least one quintile over the same nine-year period, as shown in Figure 10 on the previous page. Nearly the same percentage of households fell from the top one percent as those that moved from the lowest quintile into a higher income group. Almost half fell from the top 5 percent, and over 40 percent fell from the top 10 percent.[17]

More importantly, tax distribution tables fail to consider how proposed tax legislation might affect the ability of taxpayers to move between income categories over time. For example, a highly progressive system can make it more difficult for taxpayers to move upward if the marginal dollars of income earned are taxed at a much higher rate.

As with many measurements of economic equality, tax distribution tables take only a "snapshot" of what is otherwise a moving picture of individuals, households, and families moving up and down between income categories. A more dynamic analysis should note the effects that a proposed tax change could have on the relative mobility of individuals between income categories based on changes in economic opportunities as well as the mobility estimated to occur over time due to demographic factors relating to age, marital status, and work experience.

A more dynamic analysis should note the effects that a proposed tax change could have on the relative mobility of individuals between income categories based on changes in economic opportunities.

Questions to Apply to Distribution Tables

JEC Republican staff has developed eleven questions to evaluate the comprehensiveness and relative accuracy of tax distribution tables.[18] The first ten questions originate from earlier JEC Republican studies and were designed to ensure that policymakers and citizens alike are able to make informed decisions regarding the "fairness" of proposed tax changes.[19] This study adds an eleventh question to determine whether tax distribution tables take the dynamic effects of proposed tax changes on economic growth, employment, and wages into account. These questions are:

1. What measure of income is used?

2. How many taxpayers reside within the displayed income categories?

3. Is the median presented as a measure of central tendency, or at least provided in addition to the average?

4. What taxes are included in the analysis (e.g., income taxes, payroll taxes, estate taxes, etc.)?

5. What is the range of income and tax liability associated with each category?

6. What are the current and proposed (after full enactment of the proposed tax legislation) levels of taxation (percent of total taxes paid to the government) for each income category?

7. What are the current and proposed (after full enactment of the proposed tax legislation) effective tax rates for each category?

8. What are the estimated ranges and medians of the amount of tax change that each income group is estimated to receive after full enactment of the tax legislation?

9. Are the accuracy and reliability of the estimates presented in the tax distribution tables, and are data limitations disclosed?

10. Are the estimates presented free of imputations? If not, what imputations have been made to arrive at the estimates presented in the tax distribution tables?

11. Does the tax distribution table include dynamic analysis considering the indirect effects the proposed tax legislation may have on the broader economy including economic growth, employment, and real wages as well as consider the effects of economic mobility over the given horizon?

Out of the multitude of changes resulting from top marginal rate increases, limits, and extensions in ATRA, different tax filers will get hit by the adopted tax changes in different ways, with some more capable of addressing and buffeting these taxes, while others will likely be more exposed. A tax distribution table, however, fails to fully capture how most taxpayers in each income category may be hit without the information to answer the eleven questions listed above.

Focus on Economy-Wide Effects

A tax distribution table, however, fails to fully capture how most taxpayers in each income category may be affected.

Despite all the weight and influence given to tax distribution tables, they offer only one part to the tax policy debate. Less emphasized, though no less important, are the effects that proposed tax legislation will have on the economy at large. Tax changes can alter not only the amount that tax filers pay, but can also affect the after-tax costs of goods and services, labor and capital.

For example, a recent report based on the expected changes associated with the "fiscal cliff" from Ernst & Young prepared on behalf of the Independent Community Bankers of America, the National Federation of Independent Business, the S Corporation Association, and the United States Chamber of Commerce determined that the long-run effects of higher top tax rates[iii] would cause a 1.3 percent decrease in output, a half a percent decrease in employment, a 2.4 percent decrease in investment, a 1.4 percent decrease in capital stock, and a 1.8 percent decrease in after-tax wages if the revenue from these tax increases was used to finance higher government spending. According to the report, in today's economy, this would amount to a $200 billion decline in GDP and a loss of 710,000 jobs. If instead the revenue was used to finance across-the-board reduction in tax rates, it could still result in

[iii] These top tax rates include the assumed increase in the top dividends tax rate to 39.6 percent, the top capital gains rate to 20 percent, the increase in the top two ordinary tax rates to 36 percent and 39.6 percent, and the increase in the Medicare tax from 2.9 percent to 3.6 percent including its application to dividends, capital gains and interest income for high-income taxpayers.

a 0.4 percent decrease in output, a 0.4 percent increase in employment, a 1.4 percent decrease in investment, a 0.6 percent decrease in the capital stock, and a 0.3 percent increase in real after-tax wages.[20] Given that certain parts of the "fiscal cliff" still occurred, it is likely there will be negative effects to some extent similar to the scenario described above.

Although the effects above are just estimates, historical data on the changes in real capital stock and the change in hours worked has important implications for tax policy. More investment results in larger capital stock. More capital enables greater worker productivity. Greater worker productivity leads to higher wages. The supply of labor responds to an increase in after-tax wages, which leads to more hours worked, which can lead to more job creation (i.e., workers shifting from part-time to full-time, or new hires).[21]

Recommendations for Incorporating Dynamism in Distribution Tables

Given that when an activity is taxed more, there is less of it, taxes not only affect the amount of revenue the government receives, but also affect economic growth. In the context of tax distribution analysis, a table should provide the effects of tax policy changes on the level of investment, employment and output relative to the baseline current tax law.

- **Broader effects that proposed tax changes may have on other forms of tax revenue are missing from tax distribution tables.**
  As it stands, current analysis is based on static calculations, as Mankiw states, "they ignore the general-equilibrium effects that arise as the true burden of taxation is shifted by behavioral responses."[22] Mankiw goes on to note that the implicit assumption that the tax incidence will stay where legislators estimate is implausible, especially in the long run.

- **A better measure of income may be necessary for more technical analysis.**
  Unfortunately, tax distribution tables with a time horizon greater than one year fail to take into account changes that occur because of economic mobility and the ability to shift the burden of taxation through changes in employment, wages, and prices. For example, this may require adding back in certain treatments into income that would otherwise be excluded in AGI (to arrive at gross income), but this would also be a less familiar concept to readers of the tax distribution table.

- **Ideally, a tax distribution table would be able to estimate dynamic factors along with economic mobility to more accurately determine the economic effects of a proposed tax change.**
  Incorporating these changes into a tax distribution table requires consideration of several factors including the effects that a proposed tax change has on the user cost of capital (the opportunity cost associated with making a particular investment accounting for tax, depreciation, and interest), the change associated with corporate taxation on income allocation behaviors, the change associated with wages and hiring decisions, and many more.

The implicit assumption that the tax incidence will stay where legislators estimate is implausible, especially in the long run.

Conclusion

This study and previous JEC Republican studies have demonstrated that at their best, tax distribution tables can be misleading without the relevant information about omissions and analytical limitations, but at their worst, tax distribution tables can be easily misused to advance particular policy objectives rather than present a balanced assessment of the effects that proposed tax changes may have on taxpayers. While the sophistication of distributional analyses has improved, there is still much missing from the presentations and discussions of tax policy that leave policymakers and the public misinformed.

A tax distribution table should include dynamic economic effects that reflect the changes to economic growth, mobility, employment, and real wages in addition to the information required to answer the ten other questions for distributional analysis.

A tax distribution table should include dynamic economic effects that reflect the changes to economic growth, mobility, employment, and real wages in addition to the information required to answer the ten other questions (listed on pages 13 and 14) for distributional analysis. Tax distribution analysis may not provide the simplest answers, but the more comprehensive the analysis, the more informed policymakers and the public will be on the effects that proposed tax changes may have on taxpayers as well as on the health of the broader economy.

Appendix A

2007 Statistics of Income Public Use Tax File

"The Internal Revenue Service 2007 Public Use Tax File, which contains 143,142 records, was selected as part of the Statistics of Income program that was designed to tabulate and present statistical information for the 142.6 million Form 1040, Form 1040A, and Form 1040EZ Federal Individual Income Tax Returns filed for Tax Year 2007. The Individual Tax File is designed for making national level estimates.

For 2007 many Form 1040, Form 1040A, and Form 1040EZ Federal Income Tax Returns were filed in response to the Economic Stimulus Act of 2008. A secondary file has been added this year identifying such returns, containing 3,444 records.

The Tax Files, which have been produced since 1960, consist of detailed information taken from SOI sample records. The public use versions of these sample files are sold in an unidentifiable form, with names, Social Security Numbers (SSN), and other similar information omitted. The primary uses made of these files have been to simulate the administrative and revenue impact of tax law changes, as well as to provide general statistical tabulations relating to sources of income and taxes paid by individuals."[23]

In order to comply with IRS disclosure procedures, several changes are made to the Individual Tax File, including: (1) all returns sampled at rates of more than ten percent are subsampled at a rate slightly less than one tenth; (2) records with a weight of 13.70 or less or with AGI of $200,000 or more have been altered to remove the state code and alimony paid and received, and also modified in marital status, personal exemption amounts, and multivariate blurring in high income returns; (3) all returns with AGI of less than $200,000 and weights greater than 13.70 have been blurred nationally for alimony, sorted by state and a two-level marital status, and blurred for salaries and wages, real estate tax deductions, net receipts, medical and dental expenses, and state and local income tax deductions (state of Wisconsin only for last item); and (4) all records on file have fields rounded to the four most significant digits and fiscal year returns have been converted to the most recent tax filing year unless from Tax Year 2004 or older, in which case they are removed.

Individual records from the Public Use File never contain the full item content of any particular tax return, and all sample data are subject to further sampling and measurement errors as discussed in Appendix B.

Appendix B

Statistical Standards, Reliability of Combining Data, Sampling and Accuracy

No distribution table is based on the entire population of income tax returns; the best source available is the IRS's sample survey of returns, which inevitably has limitations in accurate analysis. Therefore, it is important to include this limitation in explanation of a tax distribution table, indicating the magnitude of the potential sampling error. In the case of the IRS SOI Public Use File for 2007, as aforementioned, this is 143,142 records representing 142.6 million returns, which is a smaller sampling than the one in Table 6 below. The amount of AGI can be multiplied by the coefficient of variation for the respective size of AGI (or other income category) to find the standard error of the estimate, giving a range at the 95 percent confidence interval.

As noted in the prior JEC Republican studies, the coefficients of variation associated with the Public Use File will be equal to or greater than the coefficients of variation listed below because of the disclosure procedures applied to the Public Use File as detailed in Appendix A.[24] Below is the range of sampling error for tax returns and tax generated by size of AGI for tax year 2007 based on a sample of 336,226 returns and an estimated final population of 153,832,380 returns:

Table 6. Coefficients of Variation for Selected Items, by Size of Adjusted Gross Income, Tax Year 2007[25]

Size of AGI	Number of returns	Tax Generated Amount	# of returns (CV)	Tax Gener-ated Amou-nt (CV)	Number of Returns (interval)			Tax Generated Amount (interval)		
Total	110,522,670	$1,155,426,356	0.13%	0.13%	110,378,991	-	110,666,349	$1,153,924,302	-	$1,156,928,410
Under $2,000	332,748	$213,691	5.11%	6.67%	315,745	-	349,751	$199,438	-	$227,944
$2,000 under $4,000	445,034	$284,439	4.37%	5.68%	425,586	-	464,482	$268,283	-	$300,595
$4,000 under $6,000	752,121	$213,758	3.49%	6.18%	725,872	-	778,370	$200,548	-	$226,968
$6,000 under $8,000	1,255,749	$171,080	2.72%	3.33%	1,221,593	-	1,289,905	$165,383	-	$176,777
$8,000 under $10,000	1,963,300	$158,664	2.15%	3.06%	1,921,089	-	2,005,511	$153,809	-	$163,519
$10,000 under $12,000	2,692,926	$253,609	1.82%	2.24%	2,643,915	-	2,741,937	$247,928	-	$259,290
$12,000 under $14,000	2,632,537	$283,458	1.85%	2.07%	2,583,835	-	2,681,239	$277,590	-	$289,326
$14,000 under $16,000	2,901,992	$228,209	1.77%	2.00%	2,850,627	-	2,953,357	$223,645	-	$232,773
$16,000 under $18,000	2,915,121	$224,953	1.76%	1.98%	2,863,815	-	2,966,427	$220,499	-	$229,407
$18,000 under $20,000	3,429,422	$284,342	1.62%	1.91%	3,373,865	-	3,484,979	$278,911	-	$289,773
$20,000 under $25,000	8,699,878	$783,511	0.99%	1.16%	8,613,749	-	8,786,007	$774,422	-	$792,600
$25,000 under $30,000	8,413,366	$836,035	1.01%	1.16%	8,328,391	-	8,498,341	$826,337	-	$845,733
$30,000 under $40,000	14,210,556	$1,638,233	0.75%	0.85%	14,103,977	-	14,317,135	$1,624,308	-	$1,652,158
$40,000 under $50,000	10,951,497	$1,361,085	0.79%	0.88%	10,864,980	-	11,038,014	$1,349,107	-	$1,373,063
$50,000 under $75,000	19,275,761	$2,973,904	0.49%	0.57%	19,181,310	-	19,370,212	$2,956,953	-	$2,990,855
$75,000 under $100,000	11,695,564	$2,117,960	0.73%	0.78%	11,610,186	-	11,780,942	$2,101,440	-	$2,134,480
$100,000 under $200,000	13,427,748	$928,359	0.54%	0.56%	13,355,238	-	13,500,258	$923,160	-	$933,558
$200,000 under $500,000	3,486,362	$183,544	0.66%	0.64%	3,463,352	-	3,509,372	$182,369	-	$184,719
$500,000 under $1,000,000	649,556	$43,963	0.94%	0.88%	643,450	-	655,662	$43,576	-	$44,350
$1,000,000 under $1,500,000	166,036	$12,923	1.14%	1.16%	164,143	-	167,929	$12,773	-	$13,073
$1,500,000 under $2,000,000	70,607	$6,149	0.82%	0.88%	70,028	-	71,186	$6,095	-	$6,203
$2,000,000 under $5,000,000	108,390	$10,332	0.48%	0.45%	107,870	-	108,910	$10,286	-	$10,378
$5,000,000 under $10,000,000	28,029	$3,439	0.53%	0.49%	27,880	-	28,178	$3,422	-	$3,456
$10,000,000 or more	18,370	$2,826	0.02%	0.02%	18,366	-	18,374	$2,825	-	$2,827

The lack of detail given regarding the range of error for each income group in the tax distribution tables results in missing information about the reliability and accuracy of the data being used for the analysis. As mentioned in the prior JEC Republican study from January 2000, the lowest

income categories have the highest percent variation, which can draw skepticism regarding the accuracy of how proposed tax legislation will affect lower income groups.[26] As an example based on the 2007 SOI data shown above in Table 6, the variation of some estimates of tax generated could be as high as nearly 14 percent of estimates for the under $2,000 size of AGI income category. Therefore, this kind of information should be necessarily included with any tax distribution table based on statistical sample data so that readers can keep in mind the possible measurement errors affecting the accuracy of the tax distribution analysis.

Appendix C

Detailed Distribution Table Examples and Shares of Taxes Paid

As shown in the table below, produced by the Urban-Brookings Tax Policy Center detailing the tax distribution based on the "fiscal cliff" scenario, the average change in federal tax dollars paid was projected to increase by $3,446 in 2013. This figure was picked up by media outlets, which ran with the figure $3,500 as the average fiscal cliff tax hike along with the average federal tax increase expected for each quintile.[27]

Table 7. Tax Policy Center[28]

Distribution of Federal Tax Change by Cash Income Percentile, 2013

Cash Income Percentile	Tax Units		Percent Change in After-Tax Income	Share of Total Federal Tax Change	Average Federal Tax Change (dollars)	Average Federal Tax Rate	
	Number (thousands)	Percent of Total				Change (% points)	Complete Fiscal Cliff (percent)
Lowest Quintile	40,520	25.6	-3.7	3.1	412	3.7	4.3
Second Quintile	36,208	22.9	-4.5	8.2	1,231	4.1	12.1
Middle Quintile	31,370	19.8	-4.4	11.4	1,984	3.8	17.8
Fourth Quintile	26,062	16.5	-5.1	16.9	3,540	4.2	21.6
Top Quintile	23,189	14.7	-7.7	60.3	14,173	5.8	30.9
All	**158,260**	**100.0**	**-6.2**	**100.0**	**3,446**	**5.0**	**24.3**
Addendum							
80-90	11,692	7.4	-6.3	13.6	6,359	5.1	24.9
90-95	5,736	3.6	-6.3	8.7	8,271	5.0	26.7
95-99	4,615	2.9	-6.9	12.6	14,871	5.2	29.9
Top 1 Percent	1,147	0.7	-10.5	25.4	120,537	7.2	38.4
Top 0.1 Percent	117	0.1	-11.8	13.6	633,946	7.9	40.5

Source: Urban-Brookings Tax Policy Center Microsimulation Model (version 0412-7).
Number of AMT Taxpayers (millions). Baseline: 4.0 Proposal: 21.7
Notes: Includes both filing and non-filing units but excludes those that are dependents of other tax units. Tax units with negative cash income are excluded from the lowest income class but are included in the totals. For a description of cash income, see http://www.taxpolicycenter.org/TaxModel/income.cfm.

Using the eleven-question criteria, the Tax Policy Center's model is a significant improvement over other tax distribution tables, as shown in the criteria below; the table above is broken down into further detailed tables in a report estimating the impact of nine "fiscal cliff" provisions, and how each one would affect each income group. The report itself lists the tax provisions included in the table, but does not mention the current and proposed levels of taxation for each income category.

Does the table show the answers to the following 11 essential questions?	**Yes**	**No**
1. What measure of income is used?	X	
2. How many taxpayers reside within the income categories?	X	
3. Is the median presented as a measure of central tendency?		X
4. What taxes are included in the analysis?	X	
5. What is the range of income and tax liability of each income category?	X	
6. What are the current and proposed levels of taxation for each		X

income category?		
7. What are the current and proposed effective tax rates for each income category?	X	
8. What are the estimated ranges and medians of tax changes for each category?		X
9. Are measures of error provided relating to the precision, accuracy and reliability?		X
10. Are the estimates presented free of imputations?		X
11. Does the tax distribution table include dynamic analysis considering the indirect effects the proposed tax legislation may have on the broader economy?		X

The table uses a particular concept of "cash income" as defined by the Tax Policy Center to mean:

> ...AGI minus taxable state and local tax refunds, plus total deductions from AGI (IRA deductions, Student loan interest deduction, alimony paid, one-half of self-employment tax, moving expenses, penalty on early withdrawal of savings, self-employed health insurance deduction and medical savings account deduction, Keogh and self-employed SEP and SIMPLE plans), non-taxable pension income, tax-exempt interest, non-taxable social security benefits, cash transfers, worker's compensation, employee's contribution to tax deferred retirement savings plans, employer's share of payroll taxes and corporate tax liability.[29]

While this is more comprehensive than using AGI alone, it may not be as easily recognized as an income concept. For example, many taxpayers would not consider their employer's share of payroll taxes as part of their income. It is easy to determine the number of units in each cash income percentile based on the information in the report presented with the table. The report associated with the table demonstrates not only how many are expected to be affected, but also notes the share of total federal tax change and the average of that change, as well as the baseline for each category.

While the Urban-Brookings' tax distribution table gives more comprehensive detail than most to explain the impact of pending tax changes on AMT taxpayers in the "fiscal cliff" scenario, what remains missing from the detail is (1) the estimated ranges of tax increases for each category; (2) as in past microsimulations from the Tax Policy Center, it is likely imputations are made by adding back in "non-filers" from datasets based on different sampling designs; and (3) there are no measures of error noted. While the table answers five of the eleven questions, there is still enough information missing that could skew the perception of a reader determining the impact of impending tax changes based on the tax distribution table.

Another example comes from the Joint Committee on Taxation (JCT) regarding the distributional effects of the Economic Stimulus Act of 2008 submitted February 8th, 2008:

Table 8. Joint Committee on Taxation[30]

Distributional Effects of a Provision to Provide Tax Credits for Individual Taxpayers as Contained in The "Economic Stimulus Act of 2008," as Passed by the House of Representatives and the Senate on Feb 7th, 2008 (1)
Calendar Year 2008

Income Category (2)	Change in Federal Taxes (3)		Federal Taxes (3) Under Present Law		Federal Taxes (3) Under Proposal		Average Tax Rate (4) Present Law	Proposal
	Millions	Percent	Billions	Percent	Billions	Percent	Percent	Percent
Less than $10,000	-$4,856	-117.5%	$4	0.2%	-$1	(5)	3.7%	-0.6%
$10,000 to $20,000	-$10,112	-72.7%	$14	0.7%	$4	0.2%	3.7%	1.0%
$20,000 to $30,000	-$9,617	-24.0%	$40	1.9%	$31	1.5%	9.2%	7.0%
$30,000 to $40,000	-$10,274	-15.2%	$67	3.2%	$57	2.9%	12.1%	10.2%
$40,000 to $50,000	-$9,921	-11.3%	$88	4.2%	$78	3.9%	14.3%	12.7%
$50,000 to $75,000	-$21,652	-8.6%	$252	12.0%	$230	11.5%	16.3%	14.9%
$75,000 to $100,000	-$16,014	-6.3%	$254	12.1%	$238	11.9%	18.4%	17.2%
$100,000 to $200,000	-$20,199	-3.3%	$608	28.9%	$588	29.4%	22.4%	21.7%
$200,000 and over	-$50	(5)	$776	36.9%	$776	38.8%	25.8%	25.8%
Total, All Taxpayers	**-$102,696**	**-4.90%**	**$2,103**	**100%**	**$2,001**	**100%**	**19.60%**	**18.60%**

Source: Joint Committee on Taxation. JCX-18-08.
Details may not add to total due to rounding.
(1) Distributes the effect of the tax credit for tax year 2008. Does not include amounts paid in rebates to individuals not eligible for the credit in tax year 2008. Taxpayers eligible for the credit because they receive VA disability income or VA DIC income are not included in the analysis. For this particular proposal, the distributional analysis does not include all behavioral effects.
(2) The income concept used to place tax returns into income categories is adjusted gross income (AGI) plus: [1] tax-exempt interest, [2] employer contributions for health plans and life insurance, [3] employer share of FICA tax, [4] worker's compensation, [5] nontaxable social security benefits, [6] insurance value of Medicare benefits, [7] alternative minimum tax preference items, and [8] excluded income of U.S. citizens living abroad. Categories are measured at 2006 levels.
(3) Federal taxes are equal to individual income tax (including the outlay portion of the EIC), employment tax (attributed to employees), and excise taxes (attributed to consumers). Corporate income tax is not included due to uncertainty concerning the incidence of the tax. Individuals who are dependents of other taxpayers and taxpayers with negative income are excluded from the analysis. Does not include indirect effects.
(4) The average tax rate is equal to Federal taxes described in footnote (3) divided by income described in footnote (2).
(5) Less than 0.05%.

In Table 8 above, the JCT analysis shows how much each income group would benefit in dollars as well as the amount each group currently pays in taxes, the amount that each tax group would pay in 2008 under the proposed legislation, and the effective tax rate under current law compared to the proposed changes, quite like the tables presented in past JEC studies on tax distribution analysis.[31]

Does the table show the answers to the following 11 essential questions?	**Yes**	**No**
1. What measure of income is used?	X	
2. How many taxpayers reside within the income categories?	X	
3. Is the median presented as a measure of central tendency?		X
4. What taxes are included in the analysis?	X	
5. What is the range of income and tax liability of each income category?	X	

6. What are the current and proposed levels of taxation for each income category?	X	
7. What are the current and proposed effective tax rates for each income category?	X	
8. What are the estimated ranges and medians of tax changes for each category?		X
9. Are measures of error provided relating to the precision, accuracy and reliability?		X
10. Are the estimates presented free of imputations?		X
11. Does the tax distribution table include dynamic analysis considering the indirect effects the proposed tax legislation may have on the broader economy?		X

While the JCT does not use AGI as a measure for income categories, the use of "expanded income" includes AGI taken directly from tax returns along with government transfers and certain employer-provided benefits. Because it is the closest to what taxpayers report on their returns, this measure of income is likely the most familiar to the public. As in other distributional tables produced by the JCT, the effects of the corporate tax are excluded from the analysis because the uncertainty surrounding the effects of these taxes, but unlike past analysis, does not mention whether the estate and gift taxes are included or not.

The number of units in each income category is mentioned in a follow-up table attached to the analysis, as well as detail on the type of return (i.e., single, joint or head of household) in each income category. Overall, readers could answer six of the eleven questions based on the information provided with the JCT analysis. What remains missing is an average or median level of tax benefit taxpayers receive in each income group, the estimated range and median of tax changes in each category, as well as measures of error, and notification of possible imputations. The analysis does provide enough information to determine that the amount of federal taxes paid by each income category decreases or remains the same, while the total share of taxes paid by those earning $100,000 in expanded income or more is expected to increase under the proposal as the total share of taxes paid by all other income categories decreases.

Endnotes

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