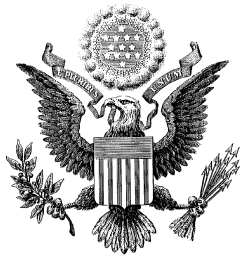
A GUIDE TO TAX POLICY ANALYSIS: PROBLEMS WITH DISTRIBUTIONAL TAX TABLES

A JOINT ECONOMIC COMMITTEE STUDY



Vice Chairman Jim Saxton (R-NJ)

Joint Economic Committee
United States Congress

January 2000

Abstract

The analysis of tax policy and tax legislation can be "highly conjectural" and consequently more art than science. Tables and figures detailing revenue effects and distribution of burdens associated with projected outcomes of proposed tax legislation are often presented in ways that distort or fail to disclose information regarding the economic outcomes. Additionally, some of these tables are based on data sources that are statistically compromised and for which statistical measures of accuracy are impossible to calculate. Furthermore, the public is often not informed as to the limitations inherent in the information. Members of Congress, students of tax analysis, the media and ordinary citizens seeking to understand the economic effects of proposed tax legislation are inundated with revenue estimates and distributional tables that often obscure the economic issues and hinder the policy process.

Joint Economic Committee
1537 Longworth House Office Building
Washington, DC 20515
Phone: 202-226-3234
Fax: 202-226-3950

Internet Address:
http://www.house.gov/jec/

A GUIDE TO TAX POLICY ANALYSIS: PROBLEMS WITH DISTRIBUTIONAL TAX TABLES

EXECUTIVE SUMMARY

This study examines the use of distributional tax tables for purposes of analyzing tax policy and tax legislation. It concludes that the process, development and release of distributional tax tables is misleading, "highly conjectural" and in need of reform.

Specifically, this report finds:

- The analysis of tax policy and tax legislation is more art than science.
- The Treasury Department's practice of imputing income items is based on "highly conjectural" analysis, which lacks any measure of statistically accuracy.
- The release of distribution tables by the Administration without detailed information regarding the possibility of data errors, degree of reliability, and validity violate the federal government's own policies on the dissemination of information to the public.
- The reliance on statistically compromised data sources to impute income measures inconsistent with the public understanding of income pushes average American taxpayers into higher income brackets.
- The Treasury Department's mere use of an income measure inconsistent with the public understanding of income serves only to confuse the average taxpayer and bias the tax policy debate.
- The presentation of tax data within distribution tables hides or omits most of the important information that people require in order to effectively evaluate the merits of any tax legislation.
- A more transparent dissemination of data and an insightful understanding of the "tricks of the trade" will enable taxpayers to better dissect the information contained in the estimates presented in distributional tax tables and to make educated decisions about the economic merits of tax legislation – promoting better understanding of tax policy, informed public debate and better tax policy outcomes.
- The following ten questions will assist taxpayers in reviewing tax distribution tables:

1. What measure of income is being used (<u>Ask that data be recomputed based on adjusted gross income (AGI), if not presented so already</u>)?

2. What taxes are being included in the analysis in both the before and after columns, and are they identical (i.e., comparing apples to apples)?
3. How many taxpayers reside within the displayed income categories?
4. What is the income range associated with each category?
5. What is the current and proposed (after full enactment of the proposed tax legislation) level of taxation (percent of total taxes paid to the government) paid by each income category?
6. What is the current and proposed (after full enactment of the proposed tax legislation) effective tax rate for each income category?
7. What are the ranges of tax cuts each income group is estimated to receive after full enactment of the tax legislation (ranges should be provided in addition to the often-presented average tax cut)?
8. Are the estimates presented free of imputations? If not, what imputations have been made to arrive at the estimates presented in the distributional tax tables?
9. What are the accuracy and reliability of the estimates presented in the distributional tax tables?
10. What are some additional or hidden burdens that are not captured in the distributional tax tables (e.g., the hidden burden of hiring lawyers and accountants to avoid the estate tax)?

A GUIDE TO TAX POLICY ANALYSIS: PROBLEMS WITH DISTRIBUTIONAL TAX TABLES

> [E]very calculation of income depends upon 'constructive valuation' i.e., upon *highly conjectural* estimates made, at best, by persons of wide information and sound judgement.
>
> *Henry C. Simons*[1]

> There are three kinds of lies: lies, damned lies and statistics.
>
> *Mark Twain*[2]

> Agencies should inform the public as to the limitations inherent in the information dissemination product (e.g., possibility of errors, degree of reliability, and validity) so that users are fully aware of the quality and integrity of the information.
>
> *U.S. Office of Management and Budget*[3]

I. INTRODUCTION

The analysis of tax policy and tax legislation can be "highly conjectural[4]" and consequently more art than science. Tables and figures detailing revenue effects and distribution of burdens associated with projected outcomes of proposed tax legislation are often presented in ways that distort or fail to disclose information regarding the economic outcomes. Additionally, some of these tables are based on data sources that are statistically compromised and for which statistical measures of accuracy are impossible to calculate. Furthermore, the public is often not informed as to the limitations inherent in the information. Members of Congress, students of tax analysis, the media and ordinary citizens seeking to understand the economic effects of proposed tax legislation are inundated with revenue estimates and distribution tables that often obscure the economic issues and hinder the policy process.

---

[1] Henry C. Simons, *Personal Income Taxation: The Definition of Income as a Problem of Fiscal Policy*. Chicago: University of Chicago Press, 1938, page 56. (Emphasis added).

[2] Mark Twain attributed this quotation in his autobiography to Benjamin Disraeli.

[3] United States Office of Management and Budget. Executive Office of the President. Circular NO. A-130. Appendix IV, Section 8a(7). February 1996. Available on-line at: http://www.whitehouse.gov/OMB/circulars/a130/a130.html

[4] Merriam Webster's Collegiate Dictionary, 10th Edition, defines conjecture as "inference from defective or presumptive evidence."

The taxation of individual income is a central aspect of fiscal policy. Legislators evaluating the fundamental components of tax legislation face decisions that often redistribute after-tax income and wealth among different members of society and, on a larger scale, can affect the performance of the greater economy. It is the aim of most legislators that tax law changes be designed to ease understanding and compliance and be less of a hindrance on individual economic decision-making.

Much data are available to legislators to help them make informed decisions relating to the costs and benefits of proposed tax legislation, as well as distributional income and wealth effects. However, the quantity and mixed quality of these data can lead to confusion about the economic effects of proposed tax legislation. This is especially the case when competing or contradictory information is presented. Distribution tables that purport to show the estimated income and tax distribution among groups of individuals and how these groups will bear the economic burden resulting from changes due to proposed tax legislation are a source of confusion for policymakers and the public.

The official sources of tax distribution data are the Office of Tax Analysis (OTA) of the Department of Treasury, the Congressional Joint Committee on Taxation (JCT) and, to a lesser extent, the Congressional Budget Office (CBO).[5] All of these organizations apply different assumptions and methodologies to the analysis of tax legislation. In addition, there are unofficial distribution tables that are publicly released by various interest groups to influence the policy process and the debate on particular aspects of tax legislation. Not surprisingly, the analyses put forth by these special interest groups are intended to tilt the results toward their political objectives and tend to muddle the tax policy debate. Perhaps Mark Twain's famous quotation that serves as an epigraph to this paper should now read: "There are three kinds of lies: lies, damned lies and distributional tax tables."

The first section of this paper briefly provides the reader with a basic knowledge and understanding of what distribution tables do and do not show, and how various methods of presentation can bias or influence the reader toward certain conclusions. The rest of this paper is devoted to explaining in further detail the essential issues surrounding distributional tax tables. Example tables are provided to assist the reader in understanding important concepts. Subsequent sections deal with issues such as statistical sampling and accuracy, confidence levels, accuracy and reliability using data from multiple samples, the illusion of precision, income mobility, what is income and who are the rich, and classification of taxpayers.

[5] For a more detailed discussion of their respective rolls, see: Michael J. Graetz. "Distributional Tables, Tax Legislation, and the Illusion of Precision," in David F. Bradford, ed. *Distributional Analysis of Tax Policy*. AEI Press. Washington, DC. 1995, page 20.

Additionally, a list of ten essential questions is provided to aid people evaluating distributional tax tables in understanding the tax policy nuances imbedded in distribution tables. By knowing the answers to these essential questions people can effectively evaluate the estimated outcomes of proposed tax legislation.

Lastly, the Appendix to this paper provides several examples of actual tax distribution tables constructed by selected organizations. The ten essential questions that are provided in Section VIII of this paper are then applied to these tables to evaluate whether the tables conform to the standards of transparency, statistical accuracy and reliability that are discussed throughout this paper.

II. DISTRIBUTIONAL ANALYSIS: THE BURDEN TABLE

A burden table can be deceptively simple. Generally, in the left-hand column are income categories classified in either dollars or divided into percentile groupings or quintiles such as, $0 - $10,000, $10,000 - $20,000, $20,000 - $30,000, etc., or lowest quintile, second quintile, third quintile, fourth quintile, and highest quintile. Additional columns provide information about the number of observations, income levels, taxes paid, etc., for each income category. Usually, the table provides information pertaining to the amount of tax currently paid and the amount of tax that is to be paid after the proposed tax legislation is enacted. The primary focus of tax analysis is the increases and decreases in taxes paid under current law in comparison to after the proposed tax legislation becomes fully effective. Table 1 provides an illustration of a simple burden table relating to a hypothetical proposal to reduce individual taxes:

Table 1.

Income Category	Change in Federal Taxes		Effective Tax Rate		Average Tax Change
			Present Law	Proposed Law	
	$ (millions)	Percent	Percent	Percent	$
Less than $10,000	-20	-0.2	7.1	7.0	-300
10,000 to 20,000	-365	-1.0	8.1	8.0	-400
20,000 to 30,000	-1,300	-1.5	15.2	15.0	-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**

Source: Hypothetical Data. JEC Calculations

In viewing the results displayed in the second column, it is quite clear that all taxpayer groups receive a nominal reduction in tax. The lowest group receives a total reduction in their tax of $20 million and the highest group receives a total reduction of $13.5 billion. The third column shows the reduction in terms of percentages. The lowest group receives a 0.2 percentage reduction in tax, while the highest group receives a 3.1

percentage reduction. The fourth and fifth columns display each group's effective tax rate under present law and after the legislation becomes effective, respectively. All income groups benefit from a lower effective tax rate under the proposed legislation. The last column displays the dollar amount of the average tax cut that each member in an income category might expect to receive.

Since every income group benefits, a cursory review of the above table might lead readers to conclude that the tax proposal is good for all. However, some might come to completely different conclusions. These readers may conclude that the tax legislation is not fair to the lowest income group, since the highest income group receives 32 percent of the total benefit ($13,500 / $41,985) while the lowest income group receives less than ½ percent of the total benefit ($20 / $41,985).

Furthermore, if taxpayers want to see how much their family would save in taxes under the proposed legislation, theoretically all they need to do is find which income category they belong to and their tax cut will be presented in the last column of the table. However, as will be illustrated later in this paper, members of a family earning $50,000 would probably misclassify themselves in a distribution table. This is due to the fact that many analyses are based upon definitions of income that are unfamiliar to typical members of an average American family.

Table 1 actually provides insufficient information from which to draw an informed conclusion as to the merits of the proposed tax legislation. For example, this table does not show the current amount of taxes that each income group pays. For purposes of illustration, assume that the lowest income group currently pays no tax at all, while the highest income group pays 50% of the total tax collected. Then, based on fairness, it could be argued that the highest income group should receive 50% of the benefits of the total tax reduction and, therefore, the proposed 32% ($13,500 / $41,985) is *unfair* to the upper income group.

Additionally, Table 1 does not indicate how many taxpayers make up each income group, although this can be mathematically derived. Additional information is also necessary to effectively evaluate the proposed tax legislation, such as what items are included in income, what types of taxes are being included/excluded, and over what time horizon the effects are being measured, among others.

III. STATISTICAL STANDARDS, SAMPLING AND ACCURACY

All distributional tax tables constructed and released by the Treasury's Office of Tax Analysis, the Joint Committee on Taxation, the Congressional Budget Office and the various interest groups are all based on one or more statistical samples. None of the distribution tables are based on a pure census of the population. These tables are based on sample surveys that inevitably have limitations. These limitations are routinely

disclosed by statisticians. Furthermore, government policy requires that government agencies disclose such data limitations when information based on sample surveys are released to the public.[6]

A sample is a portion of a population that is examined or tested in order to obtain information or draw conclusions about the entire population.[7] Every statistical sample inherently contains some amount of error. Each statistic or estimate generated from a sample has a measurable precision, or sampling error, that may be expressed as a plus or minus figure. Sampling error indicates mathematically how closely the estimated number is to the actual number that would result if a database were constructed consisting of the entire population.

For example, the confidence interval for the monthly change in total employment from the household survey released by the Bureau of Labor Statistics (BLS) is on the order of plus or minus 376,000, at a 90-percent level of confidence.[8] Suppose the estimate of total employment provided by the sample increases by 100,000 from one month to the next. The 90-percent confidence interval on the monthly change would range from –276,000 to 476,000 (100,000 +/- 376,000). These figures do not mean that the sample results are off by these magnitude, but rather that there is about a 90 percent chance that the "true" population over-the-month change lies within this interval.

In other words, a confidence interval at the 90-percent confidence level means that 90 out of 100 instances, the sampling procedure used would produce a confidence interval containing the population value that is being estimated, in this case change in employment. For this example, since the confidence interval includes values of less than zero and includes zero itself, it cannot be said with certainty that employment had, in fact, increased. Hence, in order to effectively analyze results derived from sample data, it is necessary to take into account the confidence level and confidence interval. The same applies to tax statistics that result from sample studies.

All of the distributional tax tables constructed by the Treasury's Office of Tax Analysis, Joint Committee on Taxation, Congressional Budget Office, and lobbying organizations base their estimates on a sample database constructed by the Internal Revenue Service – Statistics of Income Division (SOI).[9] Since the numbers presented in

---

[6] United States Office of Management and Budget. Executive Office of the President.
Circular NO. A-130. Appendix IV, Section 8a(7). February 1996.
Available on-line at: http://www.whitehouse.gov/OMB/circulars/a130/a130.html

[7] United States General Accounting Office. *Using Statistical Sampling.* (GAO/PEMD-10.1.6), May 1992.

[8] United States Department of Labor – Bureau of Labor Statistics. "The Employment Situation: April 1997." News Release.

[9] Only government agencies that are given authority under law have access to individual taxpayer records, or micro-data. All other parties, including lobbying organizations, must use SOI's public-use file, which is sanitized so that no information can be directly or indirectly identified to individual taxpayers.

distributional tax tables are estimates based on a sample of tax returns, they are subject to sampling error.

To properly use the estimates presented in any distribution table, as noted above, the magnitude of the potential sampling error must be known in order to make any informed views relating to the significance of the estimates presented. The SOI Division, as any reputable statistical agency does, stresses in every article it publishes that its estimates are based on a sample and that the statistics presented are only estimates and are subject to error. Hence, all numbers must be analyzed within the context of the sampling error. The SOI Division is so strongly committed to the transparency of its work and the importance of viewing estimates within the context of sampling error that it either publishes, or makes available to the public, tables that openly provide the coefficients of variation (a measure of sampling error).[10]

In fact, an omission of such information would be in violation of government policy. According to the U.S. Office of Management and Budget (OMB), an agency within the Executive Office of the President with responsibility for overseeing Federal regulations and developing policies to improve government statistics: "Agencies should inform the public as to the limitations inherent in the information dissemination product (e.g., *possibility of errors, degree of reliability, and validity*) so that users are fully aware of the quality and integrity of the information."[11]

Unfortunately, such important information is missing from the tax distribution tables released by the Treasury Department. The omission of these data, which would help determine the accuracy of the estimates, only hinders the policy debate and furthers the illusion of precision surrounding the estimates. If the public understood that the numbers released by the Treasury were subject to sampling error, the reliability of these data would then be subject to question. Table 2 below details by how much estimates for

---

[10] In SOI reports, the standard error is not directly presented. Instead, the ratio of standard error to the estimate itself is presented in percentage form. This ratio is called the coefficient of variation (CV). The user of SOI data has to multiply an estimate by its CV to recreate the standard error and to construct confidence intervals. For example, if a sample estimate of 150,000 returns is known to have a coefficient of variation of 4-percent at a 95-percent confidence level, then the following arithmetic procedure would be followed to construct a 95-percent confidence interval estimate:

150,000	(sample estimate)
x0.04	(coefficient of variation)
=6,000	(standard error of estimate)

then:

150,000	(sample estimate)
+ or – 6,000	(standard error)
=[144,000 - 156,000]	(95 percent confidence interval)

[11] United States Office of Management and Budget. Executive Office of the President. Circular NO. A-130. Appendix IV, Section 8a(7). February 1996. Available on-line at: http://www.whitehouse.gov/OMB/circulars/a130/a130.html (Emphasis added)

the number of returns and the amount of tax generated from the SOI sample can vary due to sampling error based on a 95-percent level of confidence.

Table 2.

Coefficients of Variations and Confidence Intervals for Selected Items, Tax Year 1996 - Modified Taxable Income - (Amounts in Thousands, except percentages)

Size of AGI	Number of Returns	Tax Generated Amount	Number of Returns (CV)	Tax Generated Amount (CV)	Number of Returns (interval)	Tax Generated Amount (interval)
Total	96,514	$666,574,904	0.42%	0.46%	96,109 - 96,919	$663,508,659 - $669,641,149
Under $2,000	1,298	81,957	12.14	12.56	1,140 - 1,456	71,663 - 92,251
$2,000 under $4,000	1,381	191,096	13.40	14.44	1,196 - 1,566	163,502 - 218,690
$4,000 under $6,000	1,842	342,525	10.68	11.36	1,645 - 2,039	303,614 - 381,436
$6,000 under $8,000	2,708	650,262	9.58	9.58	2,449 - 2,967	587,967 - 712,557
$8,000 under $10,000	3,280	1,308,655	7.58	7.70	3,031 - 3,529	1,207,889 - 1,409,421
$10,000 under $12,000	3,439	2,066,940	7.02	7.02	3,198 - 3,680	1,921,841 - 2,212,039
$12,000 under $14,000	3,887	2,776,060	6.84	6.84	3,621 - 4,153	2,586,177 - 2,965,943
$14,000 under $16,000	4,515	3,863,139	6.32	6.34	4,230 - 4,800	3,618,216 - 4,108,062
$16,000 under $18,000	4,428	4,824,118	6.14	6.16	4,156 - 4,700	4,526,952 - 5,121,284
$18,000 under $20,000	4,129	5,557,164	6.18	6.18	3,874 - 4,384	5,213,731 - 5,900,597
$20,000 under $25,000	9,437	16,652,891	3.90	3.90	9,069 - 9,805	16,003,428 - 17,302,354
$25,000 under $30,000	7,954	19,253,299	4.08	4.08	7,629 - 8,279	18,467,764 - 20,038,834
$30,000 under $40,000	12,481	42,845,950	2.74	2.78	12,139 - 12,823	41,654,833 - 44,037,067
$40,000 under $50,000	9,507	46,663,357	2.84	2.96	9,237 - 9,777	45,282,122 - 48,044,592
$50,000 under $75,000	14,300	105,754,831	2.24	2.32	13,980 - 14,620	103,301,319 - 108,208,343
$75,000 under $100,000	5,798	73,816,834	3.20	3.28	5,612 - 5,984	71,395,642 - 76,238,026
$100,000 under $200,000	4,609	110,330,516	2.78	2.72	4,481 - 4,737	107,329,526 - 113,331,506
$200,000 under $500,000	1,197	87,893,139	2.44	2.38	1,168 - 1,226	85,801,282 - 89,984,996
$500,000 under $1,000,000	214	43,745,287	2.58	2.44	208 - 220	42,677,902 - 44,812,672
$1,000,000 or more	111	97,956,884	0.56	0.56	110 - 112	97,408,325 - 98,505,443

Source: Statistics of Income Division. SOI Bulletin - Spring 1999. Pages 26 - 28.

Although publishing coefficients of variation (CV) for estimates provides the user with a measure of accuracy, it does not provide effortless transparency. A person would have to go through the mathematical calculations described in the footnote above in order to derive the information similar to that which is presented in Table 2. Additionally, CVs do not provide an easy way to perceive the measure of variation. Table 2 shows that based on both a nominal and percentage basis the variation between income ranges varies greatly. Focusing on the column for "Tax Generated Amount," the CV for those taxpayers with an AGI under $2,000 is 12.56 percent (+ / -).

However, the amount of tax generated can vary by $20,588, or 28.7 percent [(92,251 – 71,663) / 71,663)]. The CV associated with tax generated amount (tax liability) for those taxpayers with an AGI of $1,000,000 or more is 0.56 percent and the amount of tax liability varies by $1,097,118, but only 1.1 percent [(98,505,443 – 97,408,325) / 97,408,325]. Although the nominal variation for tax liability is higher for the highest income group, the highest income group has the lowest percent of variation. However, the lowest income group has the highest percent variation. This fact calls into question the precision of any report based on SOI data that claims that the lowest income groups are losers under a particular tax reduction proposal since, based on the SOI data alone, the variation of some estimates of tax liability can vary by almost 29 percent.

It has just been demonstrated that in order for readers to make informed decisions regarding the accuracy of a given set of statistics, it is necessary for the agencies or groups responsible for the release of statistical tables to publish some type of companion table providing measurement of error. In order to meet the reasonable standards of statistical integrity, every government publication based on statistical sampling should also provide companion information to the public on possible measurement errors.

However, the current Administration's practice of releasing distributional tax tables prepared by the Treasury Department without providing information relating to the statistical errors of its estimates fails to meet the standards of transparency that are typically adhered to by reputable statistical agencies.[12] However, even if the Administration *desired* to have complete transparency and be open to the public, it can't! This is because the Treasury Department *has no way to calculate measures of error based on a statistically compromised data set.*

IV. STATISTICAL ACCURACY AND RELIABILITY COMBINING DATA SETS OF DIFFERENT SAMPLE DESIGNS

Mixtures from different sources can produce results that are less than the sum of its parts. For example, if grammatical Chinese is mixed with grammatical German, the results are likely to be a hybrid that would be neither grammatical nor intelligible. A similar problem emerges from efforts to combine different statistical samples. Individual statistical samples by themselves can be accurate and reliable. However, if different samples are *combined* in order to impute additional variables, the result is not necessarily a reliable and accurate sample, but more likely a statistically compromised sample from which it is impossible to provide accurate measures of error and reliability. This is exactly what the Treasury Department does in order to develop the data set it uses to construct its tax model and produce distributional tax tables. Consequently, when the Administration releases official tax tables based on Treasury's statistically compromised data set, it has no way of knowing how accurate these statistics are.

Consider the following simple example: Suppose a team of economists was interested in income and level of education by zip code. Assume that the variable for income was only available from the SOI sample data of tax returns used by the Treasury Department. Furthermore, assume that the variable for education was only available from the Census Bureau's Current Population Survey (CPS). For a particular zip code, the economists estimate that the percentage of persons with an income over $50,000 is

[12] Please note that the civil servants employed by the Department of Treasury are not those responsible for releasing distributional tax tables into the public domain. The responsibility for releasing and disseminating data resides solely with the Administration and its political appointees within the Treasury Department.

50 percent (from the SOI data set), while the percentage of persons with a college degree is 30 percent (from the CPS data set). The economists may be tempted to conclude that the percentage (or joint distribution) of persons in the zip code that have a college degree with incomes over $50,000 is 15 percent (50% x 30% = 15%).

However, the only way for this inference, or imputed value, to be accurate is if income and education are statistically independent. If they are not, which is the case in this example, then the conditional probability needs to be computed, e.g., what is the probability of having an income over $50,000 given that a person has a college degree. To accurately arrive at this statistic, both variables would have to be included in a single and complete sample, not derived from a merged sample consisting of two different samples of different sample designs. Only then could the economists determine the number of persons that have income over $50,000 with a college degree.

The fallacies of combining statistics from different samples can best be illustrated using the old discipline, *reductio ad absurdum*; i.e., if one sample study indicates that 50 percent of Americans own stocks either directly or through stock mutual funds and another sample study indicates that 10 percent of Americans have income over $100,000, it would be silly to combine the two results and argue that only 5 percent of Americans with income over $100,000 own stocks (50% x 10% = 5%)![13]

As illustrated above, statistical samples generally should not be merged together if the samples have different sample designs and the data were collected under different conditions. If there are differences in the sample designs and sampling conditions, the samples normally cannot be combined, as the results would not be statistically accurate or reliable. Furthermore, measurements of error cannot mathematically be calculated for sample data resulting from the combination of two totally different samples. However, the Treasury violates this principle in the construction of its tax model and the production of distributional tax tables.

Treasury's Office of Tax Analysis (OTA) bases its data set on SOI's sample of individual tax returns, as mentioned previously. SOI's data is based on taxpayers, not families – the unit of analysis for OTA's tax model. In order to construct families out of taxpayers, OTA combines data from the Current Population Survey (CPS) released by the Census Bureau. CPS data contain information on nonfilers, nontaxable sources of income and family structure. OTA further adds to its data set by drawing information from the Consumer Expenditure Survey (CES) released by the Bureau of Labor Statistics, the IRS' Taxpayer Compliance Measurement Program (TCMP) and the Federal Reserve Board's Survey of Consumer Finances.

[13] A recent study by the Investment Company Institute and the Securities Industry Association found that 49.2 million, or 48.2 percent, of all U.S. households owned equities in early 1999 or 78.7 million individuals. Additionally, of U.S. households with income of $100,000 or more, 67 percent owned individual stock and 88 percent owned stock mutual funds. *Equity Ownership in America.* Fall 1999, pages 5 and 71.

All of these data sources have different sample designs, sample different populations and are conducted at different points in time. Extensive imputations are added to the Treasury's data set based on all of these mutually exclusive samples of different sample designs. Because these mutually exclusive samples are merged, there is no way to measure the accuracy and reliability of the estimates that the current Administration publicly releases based on these combined data.

As OTA Director of Tax Analysis James R. Nunns has observed, "The accuracy of the matching and imputation procedures cannot be independently verified, because no single data source contains all of the income, consumption, and wealth data necessary for such a verification. For distributional purposes, however, the methods need only provide a *reasonable* accurate distribution of *certain variables* by broad family economic income classes." [14]

However, one cannot objectively define "reasonable" when it is impossible to measure accuracy. The estimates released by the Administration based on the Treasury's statistically compromised tax model do not meet the statistical standards by which every other government statistical agency adheres. Although imputations are made for all income categories, the imputations made by the Treasury add "income" with disproportionately large amounts allocated to the middle and upper income categories (those Americans that pay the vast majority of tax). This has the effect of making the middle and upper income groups appear to be "richer" than they actually are while simultaneously making the lower income groups (those that may not incur tax liability) appear to be less well off, thus portraying the tax code as overly regressive.

V. THE ILLUSION OF PRECISION

Distribution tables are constructed based on data sources that sample parts of the population to make inferences about the population at large, not data sources that count the entire population like a census. Furthermore, many economic and mathematical assumptions are relied upon in order to fashion distribution tables. The end result produces tables which often purport to consist of absolute numbers but instead present a false sense of precision. Despite the appearance of precision conveyed by changes expressed down to one or even two decimal places, the reality is that significant problems usually are just below the surface.

[14] James R. Nunns. "Distributional Analysis at the Office of Tax Analysis." In David F. Bradford (Editor). *Distributional Analysis of Tax Policy*. AEI Press. Washington, DC. 1995, page 113. (Emphasis added.)

Table 3.

Income Category	Change in Federal Taxes		Effective Tax Rate		Average Tax Change
			Present Law	Proposed Law	
	$ (millions)	Percent	Percent	Percent	$
Less than $10,000	-20	-0.2	7.1	7.0	-300
10,000 to 20,000	-365	-1.0	8.1	8.0	-400
20,000 to 30,000	-1,300	-1.5	15.2	15.0	-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**

Source: Hypothetical Data. JEC Calculations

In Table 3, a taxpayer that falls into the $30,000 to $40,000 income range could reasonably expect that their tax cut for the year would be $750. Not $400 or $300, or even an unspecified amount somewhere between $700 and $800. As Yale University law professor and former Treasury Deputy Assistant Secretary for tax policy Michael J. Graetz writes, "[t]he current practice of fashioning tax legislation to achieve a particular result in a distribution table creates the illusion of precision when such precision is impossible."[15] It is statistically possible, based on averages, that some taxpayers would receive no tax cut or even face a tax increase.

Furthermore, the distribution tables provide averages of certain tax data of all the taxpayers identified within a given income category. It is well known to most taxpayers that tax liabilities often differ among families with the same income. This can be because of family size, filing status, whether a family itemizes their deductions or elects to take the standard deduction, whether a family pays a mortgage on their home and deducts the interest expense or rents, the nature of a family's income and other factors. Additionally, some families are more aggressive at reducing their tax liabilities than others. For example, this can be done legally by contributing to a 401(k) plan, an individual retirement account or a medical savings account.

Additionally, the dispersion of taxpayers within an income group is impossible to determine from the information presented in tax distribution tables. Do most of the taxpayers within the $20,000 to $30,000 income range lie closer to $20,000 or to $30,000? All other things being equal, and from the information presented in Table 3, it would be expected that a taxpayer with income closer to $30,000 would have a higher tax liability, and subsequently should receive a greater tax cut, than a taxpayer with income closer to $20,000.

[15] Michael J. Graetz. "Distributional Tables, Tax Legislation, and the Illusion of Precision." In David F. Bradford (Editor). *Distributional Analysis of Tax Policy.* AEI Press. Washington, DC. 1995.

Furthermore, the use of averages can be an inappropriate measure of central tendency because extreme outlying data points can skew the average toward a higher number. Central tendency is a summary number used to represent several numbers. Instead of the average, the median, or middle value, can be presented. For example, consider the five salaries of a company:

Annual Income	
CEO	$1,000,000
Attorney	$70,000
Systems Administrator	$60,000
Economist	$50,000
Secretary	$40,000
Average	$244,000
Median	$60,000

The average of these five salaries is $244,000. The median value is $60,000. In this instance, and in any situation where extreme outliers can skew the average, the median is a better indicator of the central tendency because the CEO's salary is an extreme outlier causing the average to lie far from the other four salaries. For example, Bill Gates, who has an estimated net worth near $85 billion dollars, resides in the upper most income category of any distributional tax analysis. His income alone would be enough to skew any average income measure in the upper percentiles. Due to this statistical fact, most official income data provide the median as a measure of central tendency or provide the median along with the average.

The use of averages in distribution tables hides information relating to the dispersion and the true central tendency of the data from the public, further clouding the ability to make sound decisions about tax policy.

Lastly, tax changes alter the after-tax prices and costs of goods and services, thereby adjusting the relative mix of inputs used in production, the types of goods and services businesses offer, as well as the amount of labor and capital. Tax changes can alter the economy and can produce broad economic effects that are not reflected in distributional analyses. Therefore, attempts to ascertain the distributional impact of proposed tax legislation should consider the possible macroeconomic effects.

VI. INCOME MOBILITY

The results of any distributional tax table are based over some stated time horizon -- one year, five years, 10 years, or over a lifetime. Presenting estimates in this fashion implicitly assumes a static, non-mobile population of Americans. Tax distribution tables are usually used in a way that ignores the important factor of income mobility.

Studies by the Joint Economic Committee (JEC) support the conclusion that due to the great degree of income mobility in the U.S. economy, comparisons of similar income categories over time are virtually meaningless.[16] According to these studies, 85.8 percent of filers in the bottom quintile in 1979 had exited this quintile by 1988. The corresponding rates were 71 percent for the second lowest quintile, 67 percent for the middle quintile, 62.5 percent for the fourth quintile, and 35.3 percent for the top quintile. Taxpayers residing in the often-discussed top one percent had a mobility rate of 52.7 percent.

As Mark Maier points out in his influential book *The Data Game: Controversies In Social Science Statistics*, longitudinal data from the University of Michigan's Panel Study of Income Dynamics (PSID) and the Census Bureau's Survey of Income and Program Participation (SIPP) also show considerable movement between income classes.[17] Using the official U.S. government poverty level as a benchmark, the PSID data found that only 2.6 percent of the population was poor in eight out of 10 years between 1969 and 1978, while over 24 percent were poor for at least one year.[18] Similarly, the SIPP data found that only 6 percent of the population was poor in every month of 1984, but 26 percent were poor for at least one month.[19]

Income categories may be a convenient way of presenting snapshots of income data for a group of people at a certain point in time. Nonetheless, the notion of a quintile as a fixed economic class or social reality is a statistical mirage.

Distributional tax tables do not purport to show how various tax legislation will affect the mobility of taxpayers (i.e., due to the components of the proposed tax legislation, how many taxpayers will move up the income ladder). As a result, the reality of income mobility should be at least considered by analysts of tax distribution tables and by the public.

[16] See, for example: Christopher Frenze. "Income Mobility and Economic Opportunity." Joint Economic Committee. June 1992, and JEC staff study "Income Mobility and the U.S. Economy: Open Society or Caste System?" Joint Economic Committee. January 1992.

[17] Mark H. Maier. *The Data Game – Controversies in Social Science Statistics*. M.E. Sharpe, Inc. Armonk, NY, 1991.

[18] *Ibid*. Page 127.

[19] *Ibid*.

VII. WHAT IS INCOME AND WHO ARE THE RICH?

According to the Internal Revenue Service (IRS), to rank in the top 10 percent of individual tax returns for 1996, a taxpayer[20] need report an adjusted gross income amount of $74,986 – up from $72,094 in 1995.[21] However, distributional tax tables released by the Department of Treasury's Office of Tax Analysis defines the top quintile (the top 20 percent, not 10 percent) of families as having an income of at least $100,767![22] This raises the question of how it is mathematically possible that the income level needed to be included in the Treasury top 20 percent is over 34 percent higher than the income amount needed to be included in the IRS top 10 percent.[23] The answer lies in the details of what the Treasury considers "income."

To the average citizen, "income" is anything on which they have to pay tax. Every year, taxpayers fill out their Form 1040 and list their sources of income on which they owe tax. Such sources of income are:

1. wages, salaries, tips;
2. interest;
3. dividends;
4. taxable refunds;
5. personal business;
6. capital gains;
7. rental income, royalties, trust, partnerships;
8. farm income;
9. unemployment compensation; and
10. certain taxable portions of social security.[24]

The addition of all income sources defines a taxpayer's total income. Certain adjustments to total income, such as contributions to an IRA (Individual Retirement Account), MSA (Medical Savings Account) and student loan interest deductions, are

[20] For IRS statistical purposes, the term "taxpayer" refers to the filing unit on a tax return. Individual taxpayers filing under the "single" status with an AGI of $50,000 are ranked the same as a married couple with two children filing under the "married filing jointly" status with the same $50,000 AGI.

[21] Internal Revenue Service. *Statistics of Income Bulletin. Spring 1999.* Washington, D.C. 1999.

[22] Department of the Treasury. Office of Tax Analysis. "Distribution of Income and Federal Taxes Under Current Law." July 21, 1999.

[23] The $100,767 figure presented by the Treasury is for year 2000 income levels. A comparable figure computed by the JEC for 1996 levels would be $89,530, based on an income growth rate of 3%. In other words, for 1996, the Treasury income level necessary to be included in the top 20 percent is 19% higher than the amount necessary to be included in the IRS top 10 percent of tax returns.

[24] For more information, see: Internal Revenue Service. Publication 17. *Your Federal Income Tax and Form 1040. U.S. Individual Income Tax Return. 1998 Tax Guide.*

subtracted from total income to arrive at a taxpayer's AGI. AGI can be located by any taxpayer by taking it right off Line 33 of their Form 1040. The concepts of total income or AGI are used by most citizens when they think of "income." AGI is reflected in the amount of money available in taxpayers' wallets and bank accounts for spending. It is from this base that taxpayers make their decisions regarding whether or not they can afford a new car, spend money on new clothes, or go on a vacation.

Since current tax policy can be confusing enough (the complete Internal Revenue Code is more than 21 megabytes in size, and contains more than 2.8 million words; printed 60 lines to the page, it would fill almost 6000 letter-size pages[25]), the government should help to simplify the tax policy debate by using a measure of income that is readily understandable to typical Americans -- AGI. However, AGI is not what the Treasury Department's Office of Tax Analysis uses. The Treasury Department uses an income concept called "Family Economic Income."

The Treasury Department's "Family Economic Income" (FEI) concept is an attempt to measure income based on a concept that economists refer to as the Haig-Simons income concept. The Haig-Simons income concept defines income as the "total value of rights exercised in the market, together with the accumulation of wealth in that period."[26] Unlike the tangible dollar amounts that make up AGI, the *theoretical* Haig-Simons income concept is measured by adding to AGI such items as in-kind income (e.g., cash transfers and food stamps), *imputed* income from durable goods consumption (e.g., imputed rental income from an owner-occupied home), and accrued (i.e., unrealized) capital gains.

Henry Simons recognized the great difficulties with the valuation of imputed sources of income. He readily acknowledged this problem when he stated: "Thus, every calculation of income depends upon 'constructive valuation' i.e., upon *highly conjectural* estimates made, at best, by persons of wide information and sound judgement."[27] The term "highly conjectural" concedes that these estimates would be based, in part, on imperfect and even questionable inferences. Upon close inspection, the Treasury's methodology demonstrates that this is indeed the case.

---

[25] U.S. Tax Code On-Line. Available on-line at: http://www.fourmilab.ch/ustax/ustax.html

[26] Robert Murray Haig, "The Concept of Income: Economic and Legal Aspects," in R.M. Haig (editor), *The Federal Income Tax*. New York: Columbia University Press, 1921, and Henry C. Simons, *Personal Income Taxation: The Definition of Income as a Problem of Fiscal Policy*. Chicago: University of Chicago Press, 1938.

[27] Henry C. Simons, *Personal Income Taxation: The Definition of Income as a Problem of Fiscal Policy*. Chicago: University of Chicago Press, 1938, page 56. (Emphasis added).

Items added to AGI to arrive at the FEI concept include:

1. tax-exempt interest;
2. employer contributions for health plans, pension plans, and life insurance, as well as deductible purchases of health insurance by the self-employed;
3. employer's share of FICA tax;
4. workers' compensation;
5. nontaxable social security benefits;
6. deductible contributions to IRAs and 401(k)s;
7. welfare payments, food stamps, child support, and certain veterans' benefits;
8. net operating losses carried over from previous years;
9. accrued earnings on pension and individual retirement arrangements;
10. employer contributions for other fringe benefits, including military benefits;
11. inside buildup of life insurance;
12. imputed rental income from owner-occupied housing net of costs such as mortgage interest, property tax, and depreciation;
13. pre-tax corporate profits allocated to individuals based on ownership of shares (both directly and through pension holdings);
14. nontaxable pension benefits;
15. excluded income of U.S. citizens living abroad;
16. alternative minimum tax (AMT) preferences;
17. unreported income; and
18. income from people who don't file tax returns. [28]

Furthermore, the Treasury Department aggregates the income of all tax filers in a household into a single-family unit. This means that the income of dependents that file tax returns is added to the income of the primary taxpayers. Lastly, the Treasury *excludes* from its FEI concept in-kind transfers such as Medicare and Medicaid, which often benefit middle and lower income groups. The Treasury's justification for excluding Medicare and Medicaid is based both on "the difficulty of assigning a value of benefits to the recipient, and the difficulty of properly identifying recipients."[29] However, the Treasury Department would face similar problems with the difficulty in imputing values for unreported income, income from people who do not file tax returns and rental income from owner-occupied housing. Additionally, any imputed data variable will contain some measurement error. Measurement error results when a variable can't be measured accurately or when it is inherently unmeasurable. Errors in measuring variables create serious statistical problems.[30]

---

[28] James R. Nunns, "Distributional Analysis at the Office of Tax Analysis," in David F. Bradford (editor), *Distributional Analysis of Tax Policy*. The AEI Press. Washington, DC, 1995 and Letter from the Joint Committee on Taxation Chief of Staff, Lindy Paull to Representative Jim Saxton, June 1999.

[29] Julie-Anne Cronin. "U.S. Treasury Distributional Analysis Methodology." Office of Tax Analysis. Department of Treasury. OTA Paper 85. September 1999.

[30] Peter Kennedy. *A Guide to Econometrics (3rd Edition)*. The MIT Press. Cambridge, MA, 1992, pages 3 and 137.

Many economists and statisticians will argue that one of the greatest problems encountered working with sample data is the fact that much data are poor. As Josiah Stamp, a former President of the Bank of England, recounts:

> The Government are (sic) very keen on amassing statistics – they collect them, add them, raise them to the *n*th power, take the cube root and prepare wonderful diagrams. But what you must never forget is that every one of those figures comes in the first instance from the village watchman, who just puts down what he damn pleases.[31]

Furthermore, noted econometrician Peter Kennedy addressing the problem of imputed values states:

> The errors-in-variables problem is concerned with the implication of using incorrectly measured variables, whether these measurement errors arise from the whims of the village watchman or from the use by econometricians of a proxy variable in place of an unobservable variable suggested by economic theory.[32]

Treasury's additions to income listed above push the average American family up to a higher income level relative to an AGI measure. The inclusion of additional income items, including the unreliable imputations relating to non-filer income, rental income from owner-occupied housing, inside buildup of life insurance, and unreported income, differs radically from the concept of AGI used by taxpayers on their tax returns and only serves to muddle the tax policy debate whenever significant tax legislation is discussed. When the Treasury Department selectively releases distributional tax tables for publication, the American people naturally view the results in the context most familiar to them -- AGI. When taxpayers see popular media reports that rely on these Treasury data, few are aware that the income definition used is based on a concept other than AGI, and one that few outside a handful of Washington tax experts can understand.

Besides confusing the average citizen, the Treasury's FEI concept biases the policy debate by moving families up the income ladder and making it appear that reductions in tax liabilities that would actually be received by the middle income families are primarily benefiting the wealthy. It's easier for a family of four making $30,000 a year to discount the value of a tax reduction when the Treasury Department's tables show that families with incomes above $50,000 get most of the benefit. However, that family making $30,000 a year doesn't understand that under the Treasury's FEI concept, *they* are the family that the Treasury Department considers to be making $50,000 a year.

---

[31] Josiah Stamp. *Some Economic Factors in Modern Life.* King and Son. London, 1929, pages 258-259.

[32] Peter Kennedy. *A Guide to Econometrics (3rd Edition).* The MIT Press. Cambridge, MA, 1992, page 137.

A comparison of AGI to FEI using 1983 data showed that the value of total AGI in the economy was 67 percent of the value of total FEI. In other words, **FEI was 50 percent greater than AGI**.[33] The Treasury Department verifies these figures in its own comparative analysis of AGI to FEI in a recently released paper.[34] Although analyzing the FEI's impact on a specific income level is difficult because FEI departs so radically from the more commonly understood income definition of AGI, a study by the Congressional Joint Economic Committee compared AGI and FEI income levels by quintiles and discovered that Treasury's FEI income concept overstated income between 68 and 95 percent.[35] Income levels at the 20th, 40th, 60th, and 80th percentiles can be estimated using Internal Revenue Service tax return data and compared with the corresponding points in the FEI data using the quintile boundaries disclosed by the Treasury Department. As can be seen below in Table 4, the overstatement of income under FEI ranges from 68 to 95 percent.[36]

Table 4.

Treasury Overstatement of Income			
Quintile	**Tax Return Data (AGI)**	**FEI**	**% Overstatement**
20th Percentile	$8,701	$16,950	94.80
40th Percentile	$18,363	$32,563	77.33
60th Percentile	$31,866	$54,758	71.84
80th Percentile	$55,540	$93,222	67.85

Source: U.S. Department of Treasury and JEC Calculations

The Treasury's FEI income concept is a broader measure of income than AGI. Generally (and especially the case with FEI) the broader the income measure, the greater the income imputed to an individual or family. If families or individuals are classified by a dollar value of income, a broader income measure (FEI) will show a larger number of families in the upper income categories than will a narrower definition (AGI).

Thus, by inflating the income amounts for those families primarily included in the middle and upper income brackets, the FEI income concept biases tax policy deliberations. Using this methodology, virtually any broad-based income tax reduction proposal would appear to overly favor the so-called "wealthy" and understate the progressivity of any tax proposal. Thus, when distributional tax tables that use the FEI concept purport to show that tax cuts are only going to the "rich," it only appears that

[33] Susan C. Nelson, "Family Economic Income and Other Income Concepts Used in Analyzing Tax Reform," *Compendium of Tax Research*, 1986, (Washington: Office of Tax Analysis, Department of Treasury), 1987. (Emphasis added).

[34] Julie-Anne Cronin. "U.S. Treasury Distributional Analysis Methodology." Office of Tax Analysis. Department of Tax Analysis. OTA Paper 85. September 1999.

[35] Christopher Frenze. "Treasury Department's Estimate of Tax Changes: A Review and Analysis." Joint Economic Committee. July 1997.

[36] *Ibid*.

way primarily because the middle and upper income class categories have been inflated. To reiterate, a family with an AGI of $30,000 that is evaluating the merits of a tax proposal based on the FEI concept would not necessarily recognize that benefits accruing to a family making $50,000 (based on the FEI concept) would actually apply to them. The use of the FEI income concept fails to give the American taxpayer a transparent, useful, meaningful, and understandable measure of income from which they can evaluate the merits of proposed tax legislation.

Under the FEI concept, "income is the money value of the net accretion to one's economic power between two points of time."[37] In other words, the FEI concept measures income as the amount a family can *spend* during a given time period and still have the same *net assets* at the end of the period as it did in the beginning. Since accrued, though unrealized, capital gains do, in theory, increase an individual's economic power to *spend*, it is included in the Treasury's FEI measure of income. Like many other income sources included in the Treasury FEI measure (e.g., inside buildup on life insurance and income earned in pension funds), many American taxpayers would argue that their pension funds are used for saving and do not provide current cash flow that can be *spent* in the time period under analysis. Therefore, most of the items in the Treasury FEI concept should not be considered a source of income until the gains from such sources are realized and available for *spending*.

Although some economists in the Treasury Department and advocacy organizations may consider the Treasury's FEI measure to be a more *theoretically* correct measure of income, it cannot be as accurate, reliable or understandable to the public as an income measure based on AGI due to the many imputations that the Treasury staff has to infer.

The fallacy of including the imputed rental value of owner-occupied housing can be illustrated in the following example: The Treasury's FEI concept attempts to impute the rental value of owned consumer durable goods, such as the imputed rental value from owner-occupied housing. In theory, economists will recognize that the imputed rental value of owner-occupied housing fits the Treasury's FEI concept of income (i.e., the Haig-Simons theory of income discussed earlier). Furthermore, the average person understands that people who own their own homes are generally more wealthy than those that rent. However, if owner-occupied housing is included as a durable good, why isn't an owner-occupied car? Obviously, a person who owns a car is wealthier than a person who cannot afford to own a car.

Therefore, under the Treasury's income concept, there should also be an imputation for the rental value of owner-occupied automobiles. In fact, any consumer durable good that could be rented, as opposed to purchased, should have some rental

[37] Robert Murray Haig. "The Concept of Income – Economic and Legal Aspects." In Robert Murray Haig (Ed.). *The Federal Income Tax.* Columbia University Press, 1921, page 7.

value and, hence, should be included as imputed income. As noted economist Jane G. Gravelle states, "Imputed income, in economic theory, would include income from the flow from all durable goods…"[38] This would include cars, washing machines, dryers, refrigerators, televisions, etc.

Although the cost of depreciation and maintenance on most consumer durable goods would most likely net against any imputed rental value, the very notion that any imputed rental value for owner-occupied consumer durable goods (such as housing) should be included as "income" in distributional tax analysis is misleading and confusing to the average taxpayer. In fact, the largest item of imputed income in the National Income and Product Accounts compiled by the U.S. Department of Commerce (one of the data sources used by the Treasury Department) was $159.8 billion in 1995 under the category personal interest income, which includes the benefits of banking services provided free to customers in lieu of interest.[39]

The true effect of including all aspects of theoretical income under the Treasury's FEI income measure is dubious and vastly overstates a more realistic measure of family income -- AGI. Furthermore, most taxpayers will no doubt agree that the imputed rental value of any durable good should be excluded from income and "ability to pay" measures, and should purposefully be excluded from any income measure when evaluating changes in tax burdens resulting from changes in tax policies. One typical reaction to the Treasury approach is reflected in the following quotation from former ABC commentator and talk show host David Brinkley:

> Finally, a few words about federal taxes and what some of the great minds in the U.S. Treasury are thinking about.
>
> The Treasury likes to calculate the American people's ability to pay taxes based not on how much money we have, but on how much we might have or could have had. For example, a family that owns a house and lives in it, the Treasury figures that if the family didn't own the house and rented it from somebody else, the rent would be $500 a month. So it would add that amount, $6,000 a year, to the family's so-called imputed income. Imputed income is income you might have had, but don't. They don't tax you on that amount.
>
> The IRS does not play this silly game. Instead the Treasury calculates how much they could take away from us if they decided to. If that were the system, consider the possibilities. How about being taxed on Ed McMahon's $10 million magazine lottery? You didn't win it, you say?

[38] Jane G. Gravelle. "Imputed Income." In Joseph J. Cordes, Robert D. Ebel, and Jane G. Gravelle (Editors). *The Encyclopedia of Taxation and Tax Policy.* The Urban Institute Press, 1999, page 168.

[39] *Ibid*.

> But you could have. The Treasury must have something better to do. If not, there is a good place for Clinton to cut some spending.[40]

Furthermore, even Henry Simons (of the famed Haig-Simons income concept) recognizes the major problem with imputing the rental value of owner-occupied housing. As he states:

> Another difficulty with the income concept has to do with the whole problem of valuation. The precise objective measurement of income implies the existence of perfect markets from which one, after ascertaining quantities, may obtain the prices necessary for routine valuation of all possible inventories of commodities, services, and property rights. In actuality there are few approximately perfect markets and few collections of goods or properties which can be valued accurately by recourse to market prices. Thus, every calculation of income depends upon 'constructive valuation' i.e., upon *highly conjectural* estimates made, at best, by persons of wide information and sound judgement.[41]

Hence, Treasury's FEI concept contains *"highly conjectural"*[42] estimates that may be statistically unreliable and inaccurate. Data for which statistical measures of reliability and accuracy cannot be measured should not be used in analyses that are released into the public domain to influence tax policy.

Another major problem with the Treasury's FEI measure results from the fact that the Treasury data include non-filers with no income or payroll tax liability. In addition, there are millions of households that do not pay taxes and also rely on federal and state public assistance. Common sense might question whether it is appropriate to include those without tax liability in an analysis of income tax burdens.

Since most of these non-filers without tax liability will reside in the bottom quintiles, the predictable outcome is that any income tax reduction will not appear to provide significant benefits to low income households and the progressive nature of the tax system will be understated. Thus, the Treasury's method does not really analyze the effects of tax changes on taxpayers, but on taxpayers and non-taxpayers alike.

---

[40] "This Week with David Brinkley," Washington, D.C.: ABC News, February 28, 1993. In: Michael J. Graetz. "Distributional Tables, Tax Legislation, and the Illusion of Precision," page 43. In: David F. Bradford (Ed.). *Distributional Analysis of Tax Policy*. AEI Press. Washington, DC. 1995.

[41] Henry C. Simons, *Personal Income Taxation: The Definition of Income as a Problem of Fiscal Policy*. Chicago: University of Chicago Press, 1938, page 56. (Emphasis added).

[42] Merriam Webster's Collegiate Dictionary, 10th Edition, defines conjecture as "inference from defective or presumptive evidence." 1993.

In addition, despite the term "Family" in the Family Economic Income concept, many of these non-filers actually are non-family households, i.e., single persons. Thus, for example, it would not be surprising that an income tax cut which includes a child tax credit provision would provide much larger average benefits to taxpaying families than to those who are non-filers without children and who disproportionately reside in the bottom quintile. The larger relative presence of non-filers and single persons in the bottom quintiles means that the average benefits of income tax reductions in a distribution table will appear to be lower than they otherwise would be to those residing in the lower income categories.

In response to some of the criticisms of the Treasury's FEI concept that have been illustrated in this paper, raised by previous JEC studies and elsewhere,[43] the Treasury has begun to release companion distribution tables using another measure of income, "Cash Income." However, Treasury's notion of "cash income" still differs from the commonly understood concept of AGI. According to the Treasury Department, "Cash Income consists of wages and salaries, net income from a business or farm, taxable and tax-exempt interest, dividends, rental income, realized capital gains, cash transfers from the government, and retirement benefits. Employer contributions for payroll taxes and the federal corporate income tax is added to place cash income on a pre-tax basis."[44]

This measure still departs from common notions of income. Not many taxpayers would add the share of Social Security tax that is paid for by their employers when calculating their family cash income. Additionally, many taxpayers may even be unaware that their employer pays half of their Social Security tax liability.

Furthermore, the addition of many millions of non-taxpayers at the bottom of the income range ratchets up the relative position of taxpayers in the income distribution. For example, millions of taxpayers that were in the fourth quintile are pushed up into the top fifth of households. In other words, the Treasury approach increases taxpayer income in both relative and dollar terms. This is further evidence of how the Treasury's FEI and "cash income" concepts bias the consideration of tax policy changes and underestimate the progressivity of the tax system.[45]

---

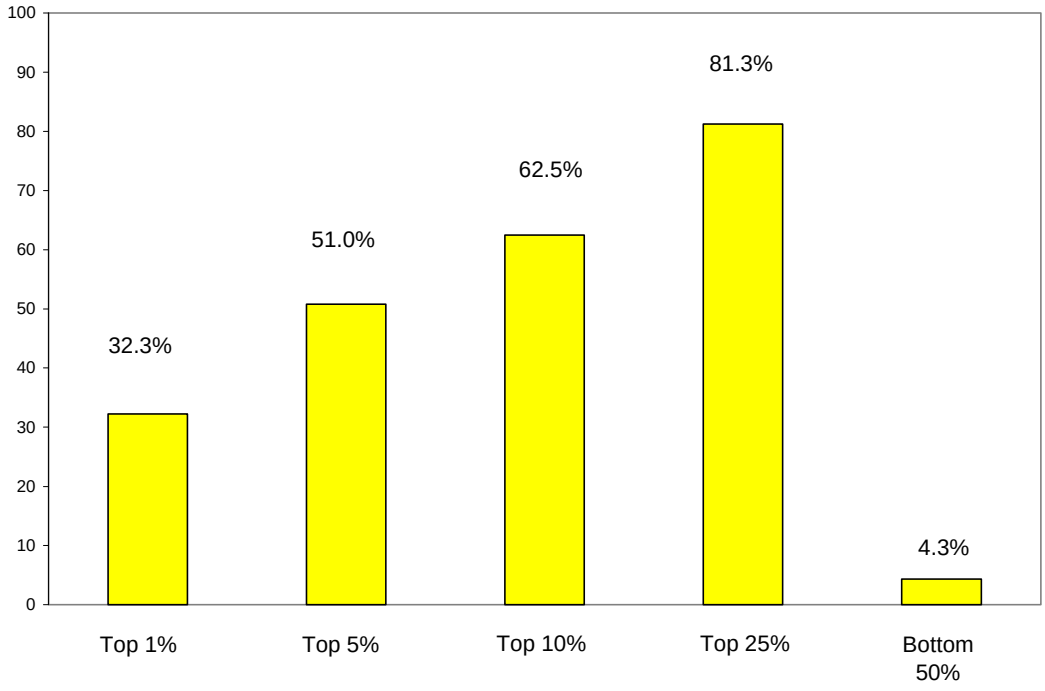
[43] See, for example, Christopher Frenze. "Treasury Department's Estimates of Tax Changes: A Review and Analysis." Joint Economic Committee. July 1997. See also, Bruce Bartlett. Brief Analysis #303: "Income Distribution." National Center for Policy Analysis. Washington, DC. August 10, 1999.

[44] Julie-Anne Cronin. "U.S. Treasury Distributional Analysis Methodology." Office of Tax Analysis. Department of Tax Analysis. OTA Paper 85. September 1999, page 18.

[45] See, for example, Christopher Frenze. "Treasury Department's Estimates of Tax Changes: A Review and Analysis." Joint Economic Committee. July 1997. See also, Bruce Bartlett. Brief Analysis #303: "Income Distribution." National Center for Policy Analysis. Washington, DC. August 10, 1999.

The chart below shows that the entire bottom half (bottom 50 percent) of taxpayers that reported positive AGI paid 4.3 percent of all individual taxes in 1996. This compares with 32.3 percent paid by the top 1 percent, 51 percent paid by the top 5 percent and 62.5 percent (well over half of all individual taxes) paid by the top 10 percent of taxpayers reporting positive AGI. Obviously, if the bottom half of all taxpayers, approximately 51 million taxpayers, are only paying 4.3 percent of all federal income taxes, then many of these taxpayers are paying little or no income tax.

Personal Income Tax Burden
(Shares of Personal Income Tax Payments by Percentile Groups)



Source: Internal Revenue Service - Statistics of Income Division

Public trust and a transparent tax policy debate is hindered by limiting the availability of publicly released tax data, or by showing data only for high income groups while excluding the same data for lower income groups. Not only do these practices reduce the transparency of government and hinder an open policy debate, but these current practices further serve to bias tax policy debates against middle-income and upper-income earners.

VIII. TOP TEN ESSENTIAL QUESTIONS TO ASSIST IN EVALUATING TAX DISTRIBUTION TABLES

The points made in this paper and the following 10 questions will assist taxpayers in reviewing distribution tables of proposed tax legislation. If citizens evaluating the merits of tax distribution tables are unable to determine the answers to the following 10 questions, more information should be requested from the authoring agency or organization. Only with the answers to all of the following questions can taxpayers make informed decisions about the merits of tax proposals.

1. What measure of income is being used (Ask that data be recomputed based on AGI, if not presented so already)?
2. What taxes are being included in the analysis in both the before and after columns, and are they identical (i.e., comparing apples to apples)?
3. How many taxpayers reside within the displayed income categories?
4. What is the income range associated with each category?
5. What is the current and proposed (after full enactment of the proposed tax legislation) level of taxation (percent of total taxes paid to the government) paid by each income category?
6. What is the current and proposed (after full enactment of the proposed tax legislation) effective tax rate for each income category?
7. What are the ranges of tax cuts each income group is estimated to receive after full enactment of the tax legislation (ranges should be provided in addition to the often-presented average tax cut)?
8. Are the estimates presented free of imputations? If not, what imputations have been made to arrive at the estimates presented in the distributional tax tables?
9. What are the accuracy and reliability of the estimates presented in the distributional tax tables?
10. What are some additional or hidden burdens that are not captured in the distributional tax tables (e.g., the hidden burden of hiring lawyers and accountants to avoid the estate tax)?

Using the answers to these 10 questions, taxpayers will be able to unveil the information that is not always contained in tax distribution tables and evaluate the economic merits of proposed tax legislation. Distributional tax tables that are presented in such manners that withhold or omit the answers to these questions, or are based on statistically compromised data sources, should seriously be questioned on the issues of transparency, accuracy and reliability.

IX. CONCLUSION

This paper has demonstrated how tax distribution tables can be designed and presented in order to further policy objectives rather than advance a balanced and accurate perspective on tax policy. Unless there is greater public recognition of both the art and the science of distributional analysis, tax policy will be unduly influenced by sub-standard data and research.

The use of statistically compromised data sources and the imputation of income variables inconsistent with the public understanding of income overstate income and push average American taxpayers into higher income brackets. This, in turn, gives the appearance that the average American family is wealthier than it actually is. This biases the debate of proposed tax relief legislation that attempts to return taxpayer money by perpetuating a myth that tax cuts only benefit the rich.

The presentation of tax data within distribution burden tables hides or omits much of the important information that citizens require in order to effectively evaluate the merits of any tax legislation. Furthermore, the omission of statistical measures of accuracy and reliability relating to estimates contained in distributional tax tables released into the public domain creates an illusion of precision that is misleading.

A former Treasury Deputy Assistant Secretary for Tax Policy, Michael J. Graetz, argues that due to the current opaque nature of communicating even the simplest facts about tax policy to the American pubic, distributional tax tables should be abandoned as a basis for legislative decision-making.[46] Although this paper makes no recommendations for continuing or discontinuing the use of tax distribution tables in the legislative decision making process, it is obvious that the process, development and release of tax distribution tables need reform.

A more transparent dissemination of data and an insightful understanding of the "tricks of the trade" will enable citizens to better dissect distributional tax tables. This will enable the average American taxpayer to make educated decisions about the economic merits of tax legislation – promoting better understanding of tax policy, informed public debate and better tax policy outcomes.

Jason J. Fichtner
Senior Economist

[46] Michael J. Graetz. "Distributional Tables, Tax Legislation, and the Illusion of Precision." In David F. Bradford (Editor). *Distributional Analysis of Tax Policy*, pages 75 and 76.

APPENDIX – TABLE A1.

Distribution of Income and Federal Taxes Under Current Law

(2000 Income Levels)

Family Economic Income Quintile	Number of Families (millions)	Family Economic Income (1) ($B)	Federal Taxes Under Current Law (2) ($B)	Taxes as a Percent of Income (%)	After-tax FEI ($B)	Percent Distribution of:		
						Family Economic Income (%)	Federal Taxes Under Current Law (%)	After-tax FEI (%)
Lowest (3)	22.4	226.0	13.3	5.9	212.6	2.7	0.7	3.2
Second	23.0	602.4	70.3	11.7	532.0	7.2	3.9	8.0
Third	23.0	1,062.2	184.9	17.4	877.4	12.6	10.2	13.3
Fourth	23.0	1,790.1	359.1	20.1	1,431.0	21.3	19.9	21.6
Highest	23.0	4,771.4	1,175.3	24.6	3,596.1	56.7	65.1	54.4
Total (3)	**115.2**	**8,419.3**	**1,806.5**	**21.5**	**6,612.8**	**100.0**	**100.0**	**100.0**
Top 10%	11.5	3,406.7	876.6	25.7	2,530.2	40.5	48.5	38.3
Top 5%	5.8	2,479.5	659.9	26.6	1,819.6	29.4	36.5	27.5
Top 1%	1.2	1,247.0	363.2	29.1	883.9	14.8	20.1	13.4

Source: Department of the Treasury. Office of Tax Analysis. Fax from Jim Nunns, July 30, 1999.

(1) Family Economic Income (FEI) is a broad-based income concept. FEI is constructed by adding to AGI unreported and under-reported income; IRA and Keogh deductions; nontaxable transfer payments such as Social Security and AFDC; employer-provided fringe benefits; inside build-up on pensions, IRAs, Keoghs, and life insurance; tax-exempt interest; and imputed rent on owner-occupied housing. Capital gains are computed on an accrual basis, adjusted for inflation to the extent that reliable data allow. Inflationary losses of lenders are subtracted and gains of borrowers are added. There is also an adjustment for accelerated depreciation of noncorporate businesses. FEI is shown on a family rather than a tax-return basis. The economic incomes of all members of a family unit are added to arrive at the family's economic income used in the distributions.

(2) The taxes included are individual and corporate income, payroll (Social Security and unemployment), excises, customs duties, and estate and gift taxes. The individual income tax is assumed to be borne by payors, the corporate income tax by capital generally, payroll taxes (employer and employee shares) by labor (wages and self-employment income), excises on purchases by individuals in proportion to relative consumption of the taxed good and proportionately by labor and capital, and the estate tax by decedents. Federal taxes are estimated at 2000 income levels but assuming 2009 law and, therefore, exclude provisions that expire prior to the end of the Budget period and are adjusted for the effects of unindexed parameters.

(3) Families with negative incomes are excluded from the lowest quintile but included in the total line.

Note: Quintiles begin at FEI of: Second $17,988; Third $34,844; Fourth $59,019; Highest $100,767; Top 10% $140,581; Top 5% $189,835; Top 1% $462,053.

Does the table show the answers to the following 10 essential questions?	**Yes**	**No**
1. What measure of income is used?	X	
2. What taxes are included?	X	
3. How many taxpayers are in each income category?	X	
4. What income range is associated with each income category?	X	
5. What are the current and proposed levels of taxation for each category?		X
6. What are the current and proposed effective tax rates for each category?		X
7. What are the estimated ranges of tax cuts for each category?		X
8. Are the estimates presented free of imputations?		X
9. Are measures of error provided relating to the precision, accuracy and reliability?		X
10. Do the estimates provided account for hidden burdens?		X

The FEI concept is used in this analysis, and families with negative incomes are excluded from the lowest quintile, biasing the analysis. Furthermore, this Treasury table excludes information relating to the percentage *change* in after after-tax income, which is

considered by the Treasury Department to be the most important piece of information to include in a distributional tax table. As one of the Office of Tax Analysis' own economists writes:

> The only tax burden measure with some theoretical basis is the percentage change in after-tax income. It alone provides some indication of a family's change in welfare, because after-tax income represents the family's consumption possibilities in either the current or future years. In contrast, the share of the total change in tax burdens, which is often quoted in the popular press, does not convey information on a family's initial welfare position.[47]

The Treasury table reproduced above provides the percent *distribution* of after-tax FEI, which is not the same as the percentage *change* in after-tax FEI. The opaque nature of the exclusion of this information prevents citizens from making an informed debate regarding the "fairness" of the tax proposal under analysis.

[47] Julie-Anne Cronin. "U.S. Treasury Distributional Analysis Methodology." Office of Tax Analysis. Department of Tax Analysis. OTA Paper 85. September 1999. Page 34.

APPENDIX – TABLE A2.

$10 Billion Tax on Alcoholic Beverages[1]

(2000 Income Levels)

Family Economic Quintile[2]	Number of Families (millions)	Average Tax Change ($)	Total Tax Change		Percent Change in:	
			Amount[3] ($M)	Percent Distribution (%)	Current Federal Taxes[4] (%)	After-Tax Income[5] (%)
Lowest	22.4	14	303	4.0	2.27	-0.14
Second	23.0	35	805	10.7	1.15	-0.15
Third	23.0	55	1,258	16.8	0.68	-0.14
Fourth	23.0	77	1,772	23.6	0.49	-0.12
Highest	23.0	145	3,350	44.7	0.29	-0.09
Total	**115.2**	**65**	**7,500**	**100.0**	**0.42**	**-0.11**
Top 10%	11.5	190	2,190	29.2	0.25	-0.09
Top 5%	5.8	254	1,465	19.5	0.22	-0.08
Top 1%	1.2	515	599	8.0	0.16	-0.07

Source: Department of the Treasury, Office of Tax Analysis. OTA Paper 85, Table 16.

(1) This table distributes the estimated change in tax burden due to a proposed $10 billion tax on alcoholic beverages.
(2) Family Economic Income (FEI) is a broad-based income concept. FEI is constructed by adding to AGI unreported and under-reported income; IRA and Keogh deductions; nontaxable transfer payments such as Social Security and AFDC; employer-provided fringe benefits; inside build-up on pensions, IRAs, Keoghs, and life insurance; tax-exempt interest; and imputed rent on owner-occupied housing. Capital gains are computed on an accrual basis, adjusted for inflation to the extent that reliable data allow. Inflationary losses of lenders are subtracted and gains of borrowers are added. There is also an adjustment for accelerated depreciation of noncorporate businesses. FEI is shown on a family rather than a tax-return basis. The economic incomes of all members of a family unit are added to arrive at the family's economic income used in the distributions.
(3) The change in Federal taxes is estimated at 2000 income levels but assuming long run (2009) law.
(4) The taxes included are individual and corporate income, payroll (Social Security and unemployment), excises, customs duties, and estate and gift taxes. The individual income tax is assumed to be borne by payors, the corporate income tax by capital generally, payroll taxes (employer and employee shares) by labor (wages and self-employment income), excises on purchases by individuals in proportion to relative consumption of the taxed good and proportionately by labor and capital and excises on purchases by businesses and customs duties proportionately to labor and capital, and the estate tax by decedents. Federal taxes are estimated at 2000 income levels but assuming 2009 law and, therefore, exclude provisions that expire prior to the end of the Budget period and are adjusted for the effects of unindexed parameters.
(5) After-tax income is Family Economic Income less current Federal taxes.
(6) Families with negative incomes are excluded from the lowest quintile but included in the total line.
NOTE: Quintiles begin at FEI of: Second $17,988; Third $34,844; Fourth $59,019; Highest $100,767; Top 10% $140,581; Top 5% $189,835; Top 1% $462,053.

Does the table show the answers to the following 10 essential questions?	**Yes**	**No**
1. What measure of income is used?	X	
2. What taxes are included?	X	
3. How many taxpayers are in each income category?	X	
4. What income range is associated with each income category?	X	
5. What are the current and proposed levels of taxation for each category?	X	
6. What are the current and proposed effective tax rates for each category?		X
7. What are the estimated ranges of tax cuts for each category?		X
8. Are the estimates presented free of imputations?		X
9. Are measures of error provided relating to the precision, accuracy and reliability?		X
10. Do the estimates provided account for hidden burdens?		X

The FEI concept is used in this analysis, and families with negative incomes are excluded from the lowest quintile, biasing the analysis.

APPENDIX – TABLE A3.

Distributional Effects of the Conference Agreement for H.R. 2488

Calendar Year 2004

Income Category (2)	Change in Federal Taxes (3)		Federal Taxes (3) Under Present Law		Federal Taxes (3) Under Proposal		Effective Tax Rate (4)	
							Present Law	Proposal
	Millions	Percent	Billions	Percent	Billions	Percent	Percent	Percent
Less than $10,000	-$36	-0.5%	$7	0.4%	$7	0.4%	7.1%	7.0%
10,000 to 20,000	-807	-2.3%	35	2.0%	34	2.0%	8.1%	7.9%
20,000 to 30,000	-2,734	-3.0%	90	5.0%	87	5.0%	15.2%	14.8%
30,000 to 40,000	-4,022	-3.5%	116	6.5%	112	6.4%	17.6%	17.0%
40,000 to 50,000	-4,454	-3.4%	130	7.3%	126	7.2%	19.3%	18.6%
50,000 to 75,000	-10,452	-3.3%	314	17.6%	304	17.5%	21.2%	20.4%
75,000 to 100,000	-8,475	-3.2%	269	15.1%	260	15.0%	23.9%	23.0%
100,000 to 200,000	-6,655	-1.8%	377	21.1%	370	21.3%	26.2%	25.3%
200,000 and over	-6,092	-1.4%	445	25.0%	439	25.2%	29.2%	27.1%
Total, All Taxpayers	**-$43,726**	**-2.5%**	**$1,784**	**100.0%**	**$1,740**	**100.0%**	**22.2%**	**21.3%**

Source: Joint Committee on Taxation. JCX-62-99. August 5, 1999

(1) Includes: individual (15% rate) rate reduction, dependent care credit expansion, AMT credit limitation repeal, deductible IRA provisions, student loan interest deduction, elderly caretaker exemption, capital gains, and self-employed health insurance deduction.

(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 1999 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.

(4) The effective tax rate is equal to Federal taxes described in footnote (3) divided by: income described in footnote (2) plus additional income attributable to the proposal.

Does the table show the answers to the following 10 essential questions?	Yes	No
1. What measure of income is used?	X	
2. What taxes are included?	X	
3. How many taxpayers are in each income category?		X
4. What income range is associated with each income category?	X	
5. What are the current and proposed levels of taxation for each category?	X	
6. What are the current and proposed effective tax rates for each category?	X	
7. What are the estimated ranges of tax cuts for each category?		X
8. Are the estimates presented free of imputations?		X
9. Are measures of error provided relating to the precision, accuracy and reliability?		X
10. Do the estimates provided account for hidden burdens?		X

Although the table by the JCT does not provide all of the information necessary to make completely informed decisions, the JCT table gives solid information to determine fairness: percent of federal taxes paid under present law and after implementation.

APPENDIX – TABLE A4.

Selected Federal Taxes in 1999 / Effects of the House GOP 1999 Tax Plan

Income Group	No. of Taxpayers (000)	Income Range	Average Income	Total Income (billions)	Federal Income & Payroll Taxes	% of Total Pretax Income	% of Total Fed PIT & Payroll Tax	Fed PIT & Payroll Tax/ Income	House 99 Tax Cut/PIT & Payroll Tax
Lowest 20%	25,350	Less than $13,300	$8,400	$213.2	$5.5	3.4%	0.5%	2.6%	-12.73%
Second 20%	25,329	13,300 – 23,800	18,300	464.5	43.7	7.5%	3.6%	9.4%	-8.3%
Middle 20%	25,339	23,800 – 38,200	30,300	766.8	111.9	12.3%	9.2%	14.6%	-7.9%
Fourth 20%	25,341	38,200 – 62,800	49,100	1,245.3	233.2	20.0%	19.1%	18.7%	-7.7%
Next 15%	19,009	62,800 – 124,000	83,600	1,590.0	348.7	25.6%	28.6%	21.9%	-8.2%
Next 4%	5,068	124,000 – 301,000	173,000	877.8	203.1	14.1%	16.7%	23.1%	-12.1%
Top 1%	1,264	301,000 or more	837,000	1,058.0	273.0	17.0%	22.4%	25.8%	-25.0%
ALL	**127,648**		**$48,700**	**$6,211.8**	**$1,219.2**	**100.0%**	**100.0%**	**100.0%**	**-12.6%**

Source: Citizens for Tax Justice. E-mail from Bob McIntyre, July 14, 1999.

Note: For most taxpayers (all but the top quintile), income tax figures alone would exclude most current federal taxes.
Current tax figures do not include federal excise taxes, corporate income taxes or estate taxes, nor state and local taxes.
Tax cut figures include proposed cuts in corporate income taxes and estate taxes.
Totals ("ALL") include taxpayers with negative incomes; lowest group does not include those taxpayers.
Taxpayers include taxpayers who file federal income tax returns and those who do not. Dependent filers are excluded.

Does the table show the answers to the following 10 essential questions?	**Yes**	**No**
1. What measure of income is used?		X
2. What taxes are included?	X	
3. How many taxpayers are in each income category?	X	
4. What income range is associated with each income category?	X	
5. What are the current and proposed levels of taxation for each category?		X
6. What are the current and proposed effective tax rates for each category?		X
7. What are the estimated ranges of tax cuts for each category?		X
8. Are the estimates presented free of imputations?		X
9. Are measures of error provided relating to the precision, accuracy and reliability?		X
10. Do the estimates provided account for hidden burdens?		X

Although this table presents a lot of data for the reader, it only answers three out of the 10 essential questions that are necessary in order for a reader to make an informed decision. Furthermore, this table is very dishonest due to the data used. The notes to the table reveal that the author excluded certain taxes in the current tax base, but included them in the tax cut base. This has an effect of skewing the benefits received towards the upper income categories and, furthermore, is a comparison of apples and oranges. This type of statistical analysis is only used to distort data and hide the truth. Lastly, note that the author excludes those taxpayers with negative income from the lowest income group

(those taxpayers who pay no taxes and may in fact receive federal tax subsidies). This has an effect of making the lowest income group appear worse off than would otherwise be the case. This effect is compounded by the exclusion of certain taxes paid by the upper income groups and the table reproduced above is misleading.

APPENDIX – TABLE A5.

Effects of the House GOP Tax Plan

Income Group	Income Range	Average Income	Tax Cut (billions)	Average Tax Cut	% of Total Tax Cut
Lowest 20%	Less than $13,300	$8,400	$-0.7	$-29	0.5%
Second 20%	$13,300 – 23,800	18,300	-3.6	-144	2.4%
Middle 20%	23,800 – 38,200	30,300	-8.9	-350	5.8%
Fourth 20%	38,200 – 62,800	49,100	-18.1	-712	11.8%
Next 15%	62,800 – 124,000	83,600	-28.8	-1,513	18.8%
Next 4%	124,000 – 301,000	173,000	-24.7	-4,866	16.1%
Top 1%	301,000 or more	837,000	-68.3	-54,027	44.6%
ALL		**$48,700**	**$-153.1**	**$-1,199**	**100.0%**
Addendum					
Bottom 60%	Less than $38,200	$19,000	$-13.3	$-174	8.7%
Top 10%	$89,000 or more	204,000	-105.8	-8,355	69.1%

Source: Citizens for Tax Justice. "House GOP Tax Plan: The Rich Get Richer." July 27, 1999

Notes: Figures show the annual effects of (1) a 10% cut in personal income tax rates; (2) a reduction in the income tax rates on realized capital gains, from 20% to 15% (for those in all but the bottom regular tax bracket) and from 10% to 7.5% (for those in the bottom regular tax bracket); (3) elimination of the estate tax; (4) repeal of the individual Alternative Minimum Tax; (5) a $200 interest and dividend exclusion ($400 for couples); (6) an increase in the standard deduction for couples to double the single amount; (7) increased contribution and benefit limits for pensions and 401(k)s; (8) deductions for health insurance for people without employer plans; and (9) various corporate tax breaks. Not included are about $3 billion a year in miscellaneous tax breaks, mostly for certain health and education expenses. All figures are at 1999 levels, showing full-year effects after phase-ins are completed.

Does the table show the answers to the following 10 essential questions?	**Yes**	**No**
1. What measure of income is used?		X
2. What taxes are included?	X	
3. How many taxpayers are in each income category?		X
4. What income range is associated with each income category?	X	
5. What are the current and proposed levels of taxation for each category?		X
6. What are the current and proposed effective tax rates for each category?		X
7. What are the estimated ranges of tax cuts for each category?		X
8. Are the estimates presented free of imputations?		X
9. Are measures of error provided relating to the precision, accuracy and reliability?		X
10. Do the estimates provided account for hidden burdens?		X

Although the variable amounts for income range and average income are identical to those presented in the table for Appendix - Table A4, the footnotes are different for this table that was released into the public domain. They do not detail whether taxpayers with negative incomes are excluded from the lowest income category, nor does it identify whether "taxpayers" who don't file tax returns are included in the analysis. This lack of transparency and the exclusion of essential information from their distributional tax tables, as is the case with many of the distributional tax tables released by the CTJ, only serves to bias the reader towards the preconceived notions of the CTJ.

BIBLIOGRAPHY

Auerbach, Alan J. "Public Finance and Tax Policy." in Bradford, David F. (Ed.) *Distributional Analysis of Tax Policy.* Washington, DC: The AEI Press, 1995.

Barthold, A., James R. Nunns and Eric J. Toder. "A Comparison of Distribution Methodologies." in Bradford, David F. (Ed.) *Distributional Analysis of Tax Policy.* Washington, DC: The AEI Press, 1995.

Barthold, Thomas A. "Distributional Analysis at the Joint Committee on Taxation." in Bradford, David F. (Ed.) *Distributional Analysis of Tax Policy.* Washington, DC: The AEI Press, 1995.

Bradford, David F. (Ed.) *Blueprints for Basic Tax Reform.* Arlington, VA: Tax Analysts, 1984.

———. *Distributional Analysis of Tax Policy.* Washington, DC: The AEI Press, 1995

Bartlett, Bruce. Brief Analysis #303: "Income Distribution." National Center for Policy Analysis. Washington, DC. August 10, 1999.

Browning, Edgar K. "Tax Incidence Analysis for Policy Makers." in Bradford, David F. (Ed.) *Distributional Analysis of Tax Policy.* Washington, DC: The AEI Press, 1995.

Cordes, Joseph J., Robert D. Ebel, and Jane G. Gravelle (Editors). *The Encyclopedia of Taxation and Tax Policy*. Washington, DC: The Urban Institute Press, 1999.

Cronin, Julie-Anne. "U.S. Treasury Distributional Analysis Methodology." U.S. Department of the Treasury. Office of Tax Analysis. OTA Paper 85. September 1999.

Frenze, Christopher. "Income Mobility and the U.S. Economy: Open Society or Caste System?" Joint Economic Committee. United States Congress. January 1992.

———. "Income Mobility and Economic Opportunity." Joint Economic Committee. United States Congress. June 1992.

———. "Treasury Department Estimates of Tax Changes: A Review and Analysis." A Joint Economic Committee Brief. Washington, DC: Joint Economic Committee. United States Congress, July 1997.

———. "Tax Reduction and the Economy." Joint Economic Committee. United States Congress, July 1999.

Graetz, Michael J. "Distributional Tables, Tax Legislation, and the Illusion of Precision." in Bradford, David F. (Ed.) *Distributional Analysis of Tax Policy.* Washington, DC: The AEI Press, 1995.

Haig, Robert Murray. "The Concept of Income – Economic and Legal Aspects." in Haig, Robert Murray (Ed.) *The Federal Income Tax.* New York, NY: Columbia University Press, 1921.

Hubbard, R. Glenn. "Distributional Tables and Tax Policy." in Bradford, David F. (Ed.) *Distributional Analysis of Tax Policy.* Washington, DC: The AEI Press, 1995.

Investment Company Institute and Securities Industry Association. *Equity Ownership in America*. Washington, DC: Fall 1999.

Kasten, Richard A. and Eric J. Toder. "Distributional Analysis at the Congressional Budget Office." in Bradford, David F. (Ed.) *Distributional Analysis of Tax Policy.* Washington, DC: The AEI Press, 1995.

Kennedy, Peter. *A Guide to Econometrics*. Cambridge, MA: The MIT Press, 1992.

Maier, Mark H. *The Data Game – Controversies in Social Science Statistics.* Armonk, New York: M.E. Sharpe, Inc, 1991.

McIntyre, Bob. "House GOP Tax Plan: The Rich Get Richer." Citizens for Tax Justice. CTJ News, released July 27, 1999.

Miller, Dan. "The Economics of the Estate Tax." Joint Economic Committee. United States Congress, December 1998.

Nunns, James R. "Distributional Analysis at the Office of Tax Analysis." in Bradford, David F. (Ed.) *Distributional Analysis of Tax Policy.* Washington, DC: The AEI Press, 1995.

Pechman, Joseph A. *Federal Tax Policy (5th Edition).* Washington, DC: The Brookings Institution, 1987.

Robbins, Gary and Aldona. "An Analysis of the Financial Freedom Act of 1999." Institute for Policy Innovation. Issue Brief. July 30, 1999.

Simons, Henry C. *Personal Income Taxation: The Definition of Income as a Problem of Fiscal Policy.* Chicago, IL: The University of Chicago Press, 1938.

Stamp, Josiah. *Some Economic Factors in Modern Life.* London: King and Son, 1929.

Ture, Norman B. and B. Kenneth Sanden. *The Effects of Tax Policy on Capital Formation.* New York, NY: Financial Executives Research Foundation, 1977.

United States Congress, Joint Committee on Taxation. *Methodology and Issues in Measuring Changes in the Distribution of Tax Burdens* (JCS-7-93), June 14, 1993

United States General Accounting Office. *Quantitative Data Analysis: An Introduction.* (GAO/PEMD-10.1.11), June 1992.

———. *Using Statistical Sampling.* (GAO/PEMD-10.1.6), May 1992.

———. *Tax Expenditures: A Primer*. (PAD 80-26), 1979.

United States Internal Revenue Service. Publication 17. *Your Federal Income Tax.* Washington, DC.

———. *Statistics of Income Bulletin.* Spring 1999. Washington, DC 1999.

———. *Statistics of Income Bulletin.* Winter 1998-1999. Washington, DC 1999.

United States Office of Management and Budget. Executive Office of the President. *Circular NO. A-130*. Washington, DC 1996.