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Reading JCT Staff Distribution Tables: An Introduction to Methodologies and Issues

Edward D. Kleinbard
Chief of Staff
Joint Committee on Taxation

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What is Distributional Analysis?

- Distributional analysis is the study of how a tax system's aggregate costs and economic burdens are shared by taxpayers, taking into account their different incomes, consumption, etc.

- The subject is vitally important to policymakers, who wish to ensure that a tax system satisfies their visions of fairness.

- The JCT Staff helps policymakers by providing user-friendly distributional analysis in the form of our Distribution Tables. These convey how tax proposals would change the distribution of tax liabilities and tax burdens among taxpayers of different incomes, when compared with current law's distribution patterns.

  - Economists use "Gini coefficients" and other mathematical tools to describe the overall distributions of incomes (pre-tax or after-tax) in a society, but those tools are not intuitive and do not tell policymakers exactly how tax distributions would be affected by a revenue proposal.

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Progressive and Proportional Taxes

- Many policymakers are interested in whether a proposal would affect a tax's *progressivity*. A progressive tax is one where *average* tax rates go up as incomes go up.
  - Contrast this with a *proportional* tax. In a proportional tax, the average tax rate remains constant as income rises.
  - If a tax imposes $3,000 in tax on $30,000 of income, $10,000 in tax on $100,000 of income, and $100,000 in tax on $1 million of income, the amount of tax paid increases with income, but the tax *rate* (10%) remains constant, and the tax is a proportional tax.
  - And if at the same levels of income the taxes imposed are $3,000, $15,000 and $200,000, the tax is a progressive tax, because average tax rates increase with income.

- One way to implement a progressive tax system is to increase *marginal* tax rates as incomes increase, but there are many other techniques.

What is the Right Distribution of Taxes?

- There is no straightforward answer to this question!
  - In general, progressivity reflects our society's goals for fairness.
  - Ultimately this is the sort of question that the political system is uniquely well suited to resolve.
- One partial justification for progressivity is the principle of the declining marginal utility of money.
  - The idea is that one less dollar in his pocket should mean less to the rich taxpayer than to the poor one.
- But at the same time, there are important economic efficiency costs to increasing marginal tax rates.
- Difficult tradeoffs often must be made between equity (distributive) goals and economic efficiency concerns.

The JCT Staff's Distributional Work

- The JCT Staff's distributional analyses are designed to help policymakers make these difficult tradeoffs between equity and efficiency, not to suggest what degree of progressivity is appropriate.

- JCT Staff Distribution Tables model the *incremental changes* in the distribution of tax costs *and tax burdens* that we expect to follow from a proposed change in law, when compared with current law.

  - These Distribution Tables show the distributional effects of the proposal by income brackets, across a five-year window.
  - These incremental distributional effects help policy makers determine whether a proposal is consistent with their fairness goals.
  - Distribution Tables supplement revenue estimate tables.

A JCT Staff Distributional Table (Year One)

DISTRIBUTIONAL EFFECTS OF THE CONFERENCE AGREEMENT FOR H.R. 1836[1]

Calendar Year 2001

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	-$75	-1.0	$7	0.4	$7	0.4	8.7	8.6
10,000 to $20,000	-2,989	-11.5	26	1.5	23	1.4	7.5	6.7
20,000 to 30,000	-5,790	-9.4	62	3.5	56	3.3	13.4	12.2
30,000 to 40,000	-5,674	-6.4	89	5.1	83	4.9	16.1	15.1
40,000 to 50,000	-5,490	-5.4	102	5.9	97	5.7	17.4	16.4
50,000 to 75,000	-11,546	-4.5	256	14.6	244	14.4	19.1	18.3
75,000 to 100,000	-8,488	-3.5	244	13.9	235	13.9	21.7	21.0
100,000 to 200,000	-10,488	-2.6	408	23.3	397	23.5	24.2	23.6
200,000 and over	-6,997	-1.3	555	31.7	548	32.4	27.8	27.4
Total, All Taxpayers	-$57,536	-3.3	$1,748	100.0	$1,690	100.0	21.4	20.7

Source: Joint Committee on Taxation

Detail may not add to total due to rounding.

Note: Footnotes omitted.

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A JCT Staff Distributional Table (Year Five)

DISTRIBUTIONAL EFFECTS OF THE CONFERENCE AGREEMENT FOR H.R. 1836[1]

Calendar Year 2005

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	-$76	-1.0	$8	0.4	$8	0.4	10.1	10.0
10,000 to $20,000	-3,867	-14.0	28	1.3	24	1.2	7.6	6.5
20,000 to 30,000	-7,937	-11.6	68	3.2	60	3.0	13.7	12.1
30,000 to 40,000	-7,720	-7.9	98	4.6	90	4.4	16.0	14.7
40,000 to 50,000	-6,945	-6.2	112	5.3	105	5.2	17.2	16.2
50,000 to 75,000	-16,630	-5.5	303	14.2	286	14.1	18.7	17.6
75,000 to 100,000	-14,709	-5.1	287	13.5	273	13.5	21.4	20.3
100,000 to 200,000	-24,654	-4.5	547	25.7	522	25.8	24.0	22.9
200,000 and over	-21,182	-3.1	678	31.9	657	32.4	28.3	27.4
Total, All Taxpayers	-$103,720	-4.9	$2,129	100.0	$2,025	100.0	21.6	20.6

Source: Joint Committee on Taxation

Detail may not add to total due to rounding.

Note: Footnotes omitted.

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Critical Issues in Constructing a Distributional Table

- Definition of the relevant taxpaying unit.
  - Whose income and tax liabilities will be measured?
- Measure of the tax unit's income.
  - Adjusted Gross Income? Haig-Simons income?
- Determination of the incidence of the tax.
  - Who really bears the tax? Statutory or economic incidence?
- Measure of distributional effects.
  - Distribute taxes paid? Or the economic burden of those taxes?
- Changes in distributional effects over time.
  - Handled by 5 charts, one for each of next 5 years.

JCT Staff Distribution Tables: Whose Income?

- JCT Staff tables measure the income of *Filing Units*.
  - These are tax returns filed, less dependent returns and negative income returns, plus (imputed) nonfilers.
  - Results are similar to households, but somewhat narrower.
  - Example: grandmother living with son and daughter in law, but filing her own return – one household, two filing units.
- Other Government agencies use different measures.
  - IRS SOI Division reports data by tax returns filed.
  - Other agencies use standardized or actual households.
  - Examples of the differences in results set out below.

JCT Staff Distribution Tables: How Much Income?

- JCT Staff tables are built around *Expanded Income*.
  - Defined as Adjusted Gross Income + (1) tax-exempt interest, (2) employer contributions for health and life insurance, (3) employer share of FICA tax, (4) worker's compensation, (5) nontaxable social security benefits, (6) insurance-equivalent value of Medicare benefits, (7) AMT preference items, and (8) section 911 income.
- What income is missing from this list? Examples:
  - Add-back for 401(k)/pension contributions/IRA contributions, plus income earned on retirement accounts.
  - Unrealized capital gains.
  - Imputed rental value of owner-occupied housing.
  - Taxpayer's share of corporate income (see below).

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JCT Staff Distribution Tables: Which Taxes?

- JCT Staff tables distribute:
  - The individual income tax (including refundable credits as negative taxes);
  - Employment taxes (employer and employee shares); and
  - Excise taxes

- What taxes are missing?
  - Corporate income tax.
  - Estate and gift tax.

- Why are they missing?
  - These taxes are thought to be uncertain in their *incidence*. Individuals ultimately bear both (that is, a corporation is a legal fiction), but *which* individuals bear the tax is not certain.

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JCT Staff Distribution Tables: Tax Incidence

- The question of tax *incidence* is a way of asking, who bears a tax? That is, how much tax should be assigned to each Filing Unit?

- Largely for reasons of simplicity, available data, and certainty of outcome, JCT Staff individual tax distribution tables largely follow a tax's *statutory incidence* – the tax is distributed to the individual with legal liability for the tax.

- In 2 cases, JCT Staff tables follow the *economic incidence* of a tax.
  - Economic incidence looks to who bears the ultimate economic consequences of a tax, not who writes the check to the IRS.
  - Case 1: All excise taxes are distributed to consumers.
  - Case 2: Employer's share of FICA (employment) taxes are distributed to employees – that is, the taxes are treated as ultimately borne by employees (through lower wages).

JCT Staff Distribution Tables: Corporate Tax Incidence

- Current JCT Staff practice is to ignore the economic incidence of the corporate tax (*i.e.*, its ultimate cost to individuals) in our tables.
  - Individuals of course must ultimately bear the cost of the corporate income tax, but JCT Staff agnosticism reflects the uncertainty as to *which* individuals bear that cost.
  - This issue is largely irrelevant for incremental changes to the individual income tax, but relevant to large-scale corporate reform.

- CBO (and Treasury) assume that the corporate income tax is borne by all owners of capital (not just stockholders); that tax is then allocated to individuals in proportion to their capital income.

  - CBO does not include investments in owner-occupied homes (and imputed rental value), or unrealized gains, in these measurements.
  - CBO thus distributes actual tax revenues (like JCT), but on a broader range of taxes (following economic incidence for corporate tax).

JCT Staff Distribution Tables: Corporate Tax Incidence (cont'd)

- Distributing the corporate income tax to owners of all capital is controversial.
  - Some argue that employees bear much of the economic burden of the corporate tax, through reductions in wages.
  - Others argue that, over the revenue estimating window, the incidence falls mostly on owners of stock, not all capital.
  - And still others argue that the answer differs across different industries (or different countries).

- Similar issues exist for the estate tax.
  - The question is, is the estate tax borne by the decedent, or by the heirs?
  - Estate tax also raises the question (analogous to corporate tax) whether taxes on capital are borne by owners of capital, or labor, or both.

JCT Distribution Tables: Distribute Tax Revenues or Tax Burdens?

- JCT Staff Distribution Tables distribute the *revenue* consequences of a legislative proposal.
  - This ties the distribution tables directly to our revenue tables.
- But in some cases (*e.g.*, capital gains) tax revenues present a misleading picture of changes in the *burden* imposed by the taxes collected.
  - When capital gains rates go down, taxpayers rush to recognize accrued gains (termed "induced" gains).
  - The result is a (temporary) increase in both the gains realized and taxes paid, but a lower tax *burden (rate)* on those realized gains.
- JCT Staff tables reconcile these conflicting perspectives through their Effective Tax Rate columns:
  - The total taxes distributed tie into the proposal's revenue estimate.
  - But the Effective Tax Rate (= average tax rate) columns signal the lower tax burden imposed when capital gains taxes are reduced.

Economic Incidence of Tax Revenues or Economic Burden of Taxation?

- To summarize, JCT Staff today distributes the *statutory incidence* of individual income tax revenues, and the *economic incidence* of employment and excise tax revenues. The Effective Tax Rate columns suggest a proposal's effect on the real burden of taxes.

- This dual picture technically is incomplete, because taxes impose on the private sector economic deadweight losses on top of the taxes collected (at whatever rate).
  - The tax equivalent of the dog that didn't bark!
  - ETR columns do not address deadweight loss.

- The 1993 JCT Staff "Redbook" (JCS-7-93) developed a method for distributing in table form the approximate economic *burden* imposed by taxes, not just the incidence of tax *revenues*.
  - But this approach was soon abandoned, in part because policy makers found it difficult to understand.

Constructing the Tables: Changes in Taxes Paid

- JCT Staff holds assignments of Filing Units to income classes constant, based on current law.
  - Filing Units do not move up or down the income brackets to reflect any changes in Expanded Income resulting from the proposal.
  - Brackets themselves are expressed in constant first-year dollars, so behind the scenes the income brackets creep up for Years 2-5.
- JCT Staff methodologies employed in developing the numbers follow our revenue estimating methodologies.
  - JCT Staff thus takes anticipated taxpayer behavior – dynamic effects – into account in calculating the distributional table numbers.
- JCT Staff then distributes predicted incremental changes in tax revenues to Filing Units by income bracket.
  - Distributions follow incidence assumptions described earlier.
  - Does not address changes to economic burdens of tax (*e.g.*, "induced" capital gains).

Constructing the Tables: Effective Tax Rate

- Effective Tax Rate columns suggest how a proposal will change the relative tax *burdens* borne by taxpayers, by showing each income bracket's taxes paid as a share of its Expanded Income.

- JCT staff calculates the projected changes in Expanded Incomes for each income bracket (keeping assignment of Filing Units to original brackets unchanged) as a result of legislative proposal.

- Projected Taxes Paid ÷ Projected Expanded Income
  = New Effective (average) Tax Rate.

- Since the numbers reflect anticipated behavior, a reduction in capital gains tax rate shows up (behind the scenes) as a change in projected Expanded Income as well as a change in projected taxes paid, so the Tables can show both lower tax *burdens* (a lower percentage of Expanded Income paid in tax), and more tax paid.

Next Steps for JCT Staff Tables

- Expand income classifications.
  - Current tables stop at $200,000.
  - New tables will add $200K - $500K, $500K - $1 million, and $1 million+.
- Extend Distributional Analysis to 10 years.
  - This will align distributional tables with revenue estimates.
  - Tables for Years 1, 3, 5, 7, 10.
- Expedited review of corporate and estate tax incidence.
  - Goal is to determine whether a strong consensus can be found that one theory of economic incidence, even if itself not perfect, is demonstrably superior to current practice.

Appendix I: Defining the Middle Class

- Different methodologies lead to different answers. Examples of median pretax incomes from 2005:
  - IRS: $30,881(by tax returns)
  - Census: $49,202 (by households, cash income)
  - CBO: $64,800 (by households, comprehensive income)
  - JCT Staff: $33,857 (by filing units, expanded income)
    $85,074 (married family of 4)
- How can these numbers be so different?
  - Different measures of the relevant taxpaying unit (tax return, household, etc.).
  - Different measures of the income (or wellbeing) of that unit.
  - Different population data sets (*e.g.*, only families of four).

Defining the Middle Class (cont'd)

- The IRS reports median *adjusted gross income* of taxpayers, as reported on tax returns.
  - Result: 2005 median AGI of taxpayers (excluding dependent filers and those with negative income) = $30,881.
- The Census Bureau reports *money (cash) income* of *households*.
  - Includes wages, social security, unemployment compensation, public assistance, interest and dividends (but not capital gains), rental income, child support.
  - Does not include noncash benefits, such as food stamps, health benefits, and subsidized housing.
  - Result: 2005 median household money income = $49,202.

Defining the Middle Class (cont'd)

- CBO reports "*comprehensive*" income of *households*.
  - CBO statistically matches Census Bureau household data to IRS tax data. This enables a more comprehensive measure of household income than Census data alone. (JCT Staff does similar statistical matches with slightly different data sets.)
  - To rank households by quintiles, CBO adjusts incomes for household size by dividing household income by the square root of household size. Theory is that (i) a large household is less well off than a smaller household with the same income, but (ii) each new member is not as costly as the first. This process attempts to equate relative well-being of differently-sized households, solely for income *ranking* purposes. CBO main reports show *unadjusted* incomes of households, but ranked using *adjusted* incomes.
  - 2005 *mean* of middle quintile (ranked as above) = $58,500. By contrast, 2005 median (ranked by *unadjusted* incomes) = $64,800.

Defining the Middle Class (cont'd)

- The JCT Staff distribution tables report the *expanded income* of *filing units*. Median numbers not normally reported, but here are 2005 data from JCT tax model:

JCT 2005 Median Income				
Income Definition	All Returns	Non-Joint Returns	Joint Returns	Joints with 2 Dependents
AGI	$25,141	$14,950	$60,125	$67,620
Expanded Income	$33,587	$20,749	$74,629	$85,074

- Medians refer to subsets of total population: so median family of four (expanded income, $85,074) refers to median of families of four, not median of all taxpayers!

Appendix II: Progressivity and Redistribution

- Observers often explain a preference for progressive income taxes as one element of a society's commitment (expressed through the political process) to the *redistribution* of resources from high income taxpayers to lower income ones.

- But the redistributive effects of government policies ultimately are functions of government spending as well as government revenue collections.

- Consider, for example, two otherwise identical countries that raise revenues through equally progressive new tax reforms:

  - In Sylvania, the incremental revenues go to build new highway lanes reserved for cars costing more than $75,000.

  - In Freedonia, the incremental revenues fund Medicaid outlays.

- No government agency today regularly publishes data on the comprehensive redistributive effects of all government policies.