economic perspective

by Gene Steuerle

Can the Progressivity of Tax Changes Be Measured in Isolation?

Nonprofit groups such as the Tax Policy Center and Citizens for Tax Justice, as well as governmental entities such as the Treasury Department, the Joint Committee on Taxation, and the Congressional Budget Office provide tables on the distributional effects of tax changes. Analysts then suggest that these tax cuts are progressive, proportional, or regressive by comparing such measures as the percentage change in after-tax income for different income classes. Certainly much of the debate over the 2001 and 2003 tax cuts centered on these issues. Unfortunately, these comparisons are incomplete. To know the effect of tax changes on the distribution of income, it is necessary to take into account what the government does with the money.

In the table on the next page, I show a tax system that is measured as regressive under any traditional standard of public finance theory. Taxpayer X, who is richer than taxpayer Y, pays a smaller percentage of income in taxes than does taxpayer Y, or, put another way, taxpayer Y has an even higher share of tax burden than of income before taxes. If we measure after-tax income without regard to any government spending, moreover, then taxpayer Y ends up with an even smaller share of total after-tax income in this economy than she does of before-tax income.

Note that in this economy, taxpayer Y, who is poorer, also receives a smaller share of total benefits from government spending than does taxpayer X. Lest this pattern appear unusual, remember that programs like Social Security are designed to provide greater benefits to the rich than the poor, and recent evidence suggests that a similar result holds in the case of Medicare, in part because the richer tend to live longer. On the other hand, income-tested programs like welfare or earned income tax credits are provided mainly to those with lower incomes and usually are not available at all to those with higher incomes. Finally, programs like public education are a mixed bag, partly because those with more income are more likely to attend private elementary and secondary schools but, then again, are more likely to get subsidized when they go to college. Thus, the example is probably not too far off from reflecting the distribution of spending benefits in a modern economy.

Looking at the expenditure side, one might also conclude that the spending side of this economy is regressive. In fact, I would expect many newspapers to protest how unfair this spending pattern would be if a similar distribution were proposed for some new social program. A major complication is that progressivity is often treated inconsistently on the tax and spending sides of the ledger. Progressivity in taxes is usually measured as a percentage or share of something else (taxes, after-tax income), while on the spending side many people tend to measure it in absolute terms — that is, who gets more dollars. Try to think, for instance, of any newspaper article that shows the distribution of some government expenditure program like education as a percentage of income rather than in dollars. Only in textbooks might one get expenditures distribution, when measured by itself, as a percentage of income. Thus, in the example, since X gets more than Y, many would conclude that the spending is regressive.

When all is said and done, however, it is clear that in this economy there is a net redistribution from X to Y. In fact, Y's income is increased by 60 percent despite paying a higher percent of his income in taxes and receiving fewer benefits than X. Such is the logic, by the way, that is often applied to Social Security when both taxes and expenditures are taken into account together. Thus, the example warns us that calling the tax "regressive" is very likely to be misleading.

Now consider what happens when taxes are reduced. If we try to measure the progressivity of the tax change by itself — say, by the percentage change in after-tax income — we will ignore the benefits as they affect after-tax, after-benefit income. I suggest that the only real test of progressivity is whether, on net, there is redistribution from richer to poorer as a result of all the changes on both the tax and spending sides of the budget.

(Three footnotes are in order. First, in a multiperson economy, one must have a way to measure whether on net there is redistribution when there are losers and winners along the income scale. More elaborate measures that give weight to these various differences, such as the so-called Gini coefficient, must be employed. Second, if the government temporarily runs a deficit to finance a tax cut, taxes and spending still must be balanced over the long run; we just don't know up front whose taxes will be raised or spending will be cut. Third, behavioral changes could affect the total amount of income and well-being in the economy, and concern over these changes are among the main reasons why one must move beyond more static measures of progressivity to assess the merit of changes. I will not elaborate on these issues here, as

Taxpayer	Income Before Taxes	Tax Liability	After-Tax Income	Taxes as a Percentage of Income	Benefits From Spending	Spending Benefits as a Percentage of Income	Taxes Less Benefits	Net Change in Income
X	$100,000	$20,000	$80,000	20%	$14,000	14%	-$6,000	-6%
Y	$20,000	$6,000	$14,000	30%	$12,000	60%	+$6,000	+30%
Y's Share of Total	17%	23%	15%		46%			

our two-person, balanced-budget economy will suffice for discussing the issue of whether the progressivity of tax changes can ever be measured in isolation.)

Once one takes account of both taxes and spending, there are few tax cuts in the modern economy that could ever be progressive — that is, result in a net redistribution from X to Y. Most forms of spending are distributed more evenly than most types of taxes. Hence, most tax cuts, if they do result in less spending rather than increased taxes down the road, will result in less net redistribution in society.

Consider the elimination of an excise tax, which is usually treated as regressive under tax definitions because it takes a larger share of the income of those with lower income than of those with higher income. This tax reform is still likely to result in less redistribution in society once spending is taken into account. Tax cuts like those in 2001 and 2003, if eventually financed by spending reductions, are likely to force even less redistribution than would a cut in an excise tax. Since a large percentage of the cuts went to those in the top 5 percent of the income distribution, the only way this result would not hold is if somehow that same top 5 percent lost most of the benefits from the forthcoming spending reductions. On the other hand, if tax increases eventually finance the 2001 to 2003 cuts, the answer is more ambiguous. For instance, it is fairly clear that these cuts are being offset in part by increases in the alternative minimum tax that Congress might have otherwise reduced or eliminated. And, if the 1990 and 1993 tax increases are examples of what Congress will do when it increases taxes, then on net the rich could even end up paying more.

I am not suggesting that there are no combinations of tax and spending cuts that are progressive or redistributive to those who are poorer. Social Security and Medicare, for instance, currently do not redistribute very much once the higher mortality rates of the poor are taken into account, so there are a number of ways to cut taxes and spending in these programs and make them on net more redistributive. But in the modern economy, much government spending is on transfers in areas like health care for the poor, education, and welfare. Spending on defense and justice — items that are hard to allocate but for which one might argue the benefits are proportional to income — is now only a small percent of the total budget.

Let us return to the example in the table. Ignoring spending while measuring the progressivity of taxes by the change in after-tax income, for instance, a tax cut of $8,000 (or 10 percent of after-tax income) for X would have to be matched by a tax cut of at least $1,400 for Y to be labeled progressive by the traditional tax standard. But I suggest that if X had a tax cut of $8,000 and Y had one of $2,000, the net effect would likely be regressive no matter what the tax measure of progressivity. Of the $10,000 of spending cuts now required for balance, it is highly unlikely that X would lose less than $2,000 and Y would lose more than $8,000. Of course, once again, this result holds only if spending cuts, rather than later tax increases, pay for the initial tax change.

Consider an economy in which poor people pay no taxes. Would they get more redistribution from government after a tax cut? Highly unlikely. The lower level of spending in an economy would likely affect them somewhat as well, at least down the road when their programs were pared or not increased. To get around this problem, advocates for the poor may try to get some spending to them at the time of the tax cut (for instance, an increase in refundable credits might be sought, but it is basically a spending increase). That way, the poor might gain a little spending increase at the time of the cut to offset their eventual loss in other spending benefits down the road.

If the sole goal of policy is to redistribute, therefore, there are few tax cuts that could be expected to turn out progressive once spending is taken into account. In the modern welfare state, there are only limited ways that smaller government can entail larger amounts of redistribution, and most of these involve shifts in the distribution of benefits within spending programs themselves (for instance, fewer Social Security benefits for the rich rather than across-the-board Social Security cuts). Ironically, the higher the level of redistribution achieved by government, the harder it becomes for liberals favoring more redistribution to get there any other way than always favoring bigger government through higher levels of taxes, and the harder it becomes for conservatives to favor more redistribution, including increased attention to the needs of the poor, along with their tax cuts.