

**THE INCENTIVE EFFECTS OF MARGINAL TAX RATES:
EVIDENCE FROM THE INTERWAR ERA**

Christina D. Romer
David H. Romer

**Notes on an Alternative Timing Convention in Computing Policy-Induced Changes
(on-line materials, subfolder “FOOTNOTE7”)**

In our baseline specification, we measure the “policy-induced change” in year t as the change in the after-tax share from year $t - 1$ to year t if income were at its $t - 1$ level in both years. A referee pointed out that one could also compute the policy-induced change as the change in the after-tax share from year $t - 1$ to year t if income were at its year t level in both years, and asked that we see what happens when we do the estimation using that measure.

(The underlying issue behind the referee’s concern is that the marginal tax rate rises with income, which can cause the actual after-tax share that taxpayers face to move less-than one-for-one with the policy-induced change (computed either way). In response to a tax cut, for example, the resulting rise in income will tend to push the taxpayer into a higher bracket, and so the taxpayer’s after-tax share will rise by less than it would if income did not rise. As the referee recognized, neither our approach nor his or her alternative is fully immune to this problem. The IV procedure we describe in the paper addresses this problem. As we discuss in the paper, the actual after-tax share moves almost exactly one-for-one with our measure of policy-induced changes, and a result, the OLS and IV results are virtually identical. Thus, the endogeneity of marginal tax rates is not important in practice.)

The additional programs and data needed to implement the referee’s alternative are in the folder “FOOTNOTE7.” (The programs also use some data not in the folder. In particular, any RATS data banks – “.DED” files – without “_FOOTNOTE” in their names that are called by the programs in this folder are not in this folder, but with the main data and programs.) Two issues make implementing the referee’s alternative not completely straightforward: retroactive changes in taxes and changes in the definition of taxable income. These complications are described and addressed in the program **MRATES_FOOTNOTE.RAT**. We then added the 3 series constructed by that program into the data bank **TSCS_FOOTNOTE.DED** (which differs from TSCS.DED only in those 3 series). We then do the estimation in **TSCS_FOOTNOTE.RAT**.

Note that we only do the calculations needed to implement the referee’s suggestion. For example, the after-tax share of year t income using the year $t-2$ tax code is computed only for the 3 years where retroactive changes cause us to need it. (That is, the many zeroes should not be taken seriously.) The limitations of our calculations are noted in **MRATES_FOOTNOTE.RAT**.

The 2 series for policy-induced changes are very highly correlated. The raw correlation is 0.986. Regressing the referee’s alternative on our measure and time and group dummy gives a coefficient on our measure of 0.966 with a t-statistic of 63.

As one would expect given the very high correlation of the two series (and given the similarity of the results using our approach and the IV results), using the alternative has almost no effect. For example, our baseline estimate of the elasticity of taxable income changes from 0.207 (with a standard error of 0.031) to 0.191 (0.032). We note the fact that using the alternative approach has little effect on the results in footnote 7 in the paper.