

“Rates Needed for the Supplementary Income Tax.” In *Taxing to Prevent Inflation: Techniques for Estimating Revenue Requirements*, by Carl Shoup, Milton Friedman, and Ruth P. Mack, pp. 108-110. New York: Columbia University Press, 1943.

In order to convert the estimates of the amount of income tax needed into a tax proposal with specified rates and exemptions, it was necessary to have estimates of the tax base for selected exemption levels.¹ Estimates were prepared for three levels of exemptions: (1) \$2,000 for a married couple, \$800 for a single individual, and \$400 for each dependent—the exemptions of the 1940 Revenue Act; (2) \$1,500, \$750, and \$400—the exemptions of the then pending Revenue Act of 1941; and (3) \$1,000, \$500, and \$300. It was clear from these estimates that the exemptions would have to be lower than those of either the 1940 Revenue Act or the 1941 Revenue Act, if the necessary amount of revenue was to be raised with tax rates that were not inordinately high. The third set of exemptions—\$1,000, \$500, and \$300—gave a sufficiently large tax base.

Estimating the tax base for exemptions lower than those for which data from *Statistics of Income* are available necessarily involves bold extrapolation and the piecing together of fragmentary data. Most of the scanty data for lower income levels are of little use for estimating an income-tax base. Like the data underlying the income distribution prepared by the National Resources Committee,² they are ordinarily in terms of “families” or “consumer units” and total income or consumer income. For tax purposes, data are needed in terms of “tax units” and net taxable income. A single “consumer unit”—say a family of four—may include four “tax units,” since the husband, wife, and two children may each have a separate income. Similarly, total income may include items not includable in taxable income—imputed income from owned home, value of home produced food, tax-exempt interest, and so on—and it makes no allowance for deductions permitted in computing net taxable income—interest paid, contributions, taxes paid, and the like. These discrepancies in concept are sufficiently serious to make the derivation of a distribution of net taxable income from a distribution of consumer income a hazardous undertaking.

Faced with this problem in their work in the Twentieth Century Fund's *Studies in Current Tax Problems*, Susan S. Burr and William Vickrey derived a distribution for the year 1933 by ingeniously piecing together income tax data³ of Delaware, Kansas, and the Federal Government. This distribution for 1933 was taken as the basis of the present estimates for the lower part of the income distribution. For 1933 incomes above \$5,000, *Statistics of Income* data were used.

The general principle followed in extrapolating the distribution to 1941 was to keep the proportionate distribution of income (the "Lorenz curve") the same. Scattered studies of changes in income distribution over time suggest that whatever changes may occur in the Lorenz curve are exceedingly small in magnitude. Indeed it is not firmly established whether change in the distribution occurs in the direction of greater equality or inequality as national income rises, though there is a growing weight of evidence that the two ends of the distribution change in opposite directions.

The number of tax units shown by the 1933 distribution was adjusted for the estimated increase in the number of income recipients and for the extension of the coverage of the income tax to state and local government employees, and the income classes were shifted to allow for the estimated increase in income per income recipient. The extrapolation was done in such a way as to yield separate distributions for single individuals with no dependents, with one, and with two dependents, and for married couples or heads of families with no, one, two, three, and four dependents. This procedure avoids the errors involved in using the average number of dependents for each income class and facilitates the estimation of the tax base.

The number of taxpayers and the tax base under each set of exemptions were derived from these distributions by interpolation within the income class containing the income level exempt from tax.

The final results were, of course, far removed from the basic 1933 distributions on which they rested. In order to test their validity, the same procedure was used to derive estimates for prior years that could be compared with actual data for those years. These comparisons showed a comforting measure of agreement, the discrepancy being uniformly less than 10 percent. However, this test is necessarily restricted to the upper end of the income distribution and hence offers only indirect evidence on the validity of the lower end of the distributions used in the present study.

The final estimates of the tax base for an assumed level of income payments in 1941 of \$85 billion were as follows:

EXEMPTIONS

<i>Married</i>	<i>Single</i>	<i>Dependent</i>	<i>Tax Base (in billions)</i>
\$2,000	\$800	\$400	\$14.7
1,500	750	400	18.5
1,000	500	300	26.4

The actual level of income payments for 1941 turned out to be \$92 billion, so that the above estimates are decidedly too low for 1941. For 1942, the estimates were raised to allow for an increase in income. The adjustment was entirely inadequate in light of the very large actual increase in income payments (from \$92 billion to an estimated \$114 billion or \$115 billion). However, a large part of this increase reflects the substantial price rise that the recommended taxes were designed to avert.

Notes

¹ These estimates were prepared primarily by George E. Lent, under the general direction of Milton Friedman.

² *Consumer Incomes in the United States*, Washington, D.C., Aug., 1938.

³ "Estimating Income and Estate Tax Yields," *Studies in Current Tax Problems*, New York, 1937.