

sometimes used. In summarizing these estimates in subsections A and C below, their percentage figures are quoted. However, in the alternative estimates reported in subsections B and D below, taxes-to-benefits relationships are identified as "tax-benefit ratios" for brevity and clarity. These ratios are obtained by dividing the total compounded value of taxes by the total discounted value of benefits, both as of a given year. To compare with other estimates, tax-benefit ratios in tables 1, 2, and 3 need to be multiplied by 100. (See tables 1, 2, and 3 on pp. 73, 74, and 77.)

Gainers in social security are discussed in subsections A and B, and losers in C and D. A worker is a gainer if he has a tax-benefit ratio of less than unity (or smaller than 100 percent in previous studies); the larger the gains, the smaller the ratio. A worker becomes a loser if his tax-benefit ratio is greater than unity (or larger than 100 percent in previous studies); the larger the losses, the larger the ratio.

A. SOCIAL SECURITY GAINERS: SUMMARY OF EXISTING ESTIMATES

With respect to gainers, four sets of computations may be noted. The Social Security Administration has reported two sample studies of the relationship of contributions to benefits.¹ Both samples were chosen by using an account number digital pattern designed to yield a random sample of 100 awards each. Sample No. 1 was selected from benefit awards in August 1960, and No. 2, in September 1962, reflecting different insured requirements. When contributions were accumulated at 3 percent interest and benefits were discounted at the same rate, sample No. 1 showed the value of contributions as a percentage of the value of total benefits to be 5.5 percent for male and 4.1 percent for female beneficiaries. The corresponding figures in sample No. 2 were 8.5 percent and 4.8 percent, respectively. Contributions included only the taxes paid by the employee and those paid by the self-employed. The mortality basis used was the U.S. Life Tables for White Persons, 1949-51.² Total benefits included those for old-age,

¹ Robert J. Meyers and Bertram Oppal, "Studies on the Relationship of Contributions to Benefits in Old-Age Benefit Awards," Actuarial note No. 20, Social Security Administration, U.S. Department of Health, Education, and Welfare, June 1965.

² According to *Life Tables for 1949-51*, the average number of years of life remaining at age 65 was 13.86 for all whites (12.75 for white males and 15.00 for white females). The following table shows the life expectancies for different groups in the population, as well as improvements in mortality during a period of 10 years. (See the following table:)

AVERAGE NUMBER OF YEARS OF LIFE REMAINING AT AGE 65

Population groups	1949-51 ^a	1959-62 ^b
Total population.....	13.83	14.39
Total males.....	12.74	12.95
Total females.....	14.95	15.80
Total whites.....	13.86	14.44
White males.....	12.75	12.97
White females.....	15.00	15.88
Total nonwhites.....	13.59	13.96
Nonwhite males.....	12.75	12.84
Nonwhite females.....	14.54	15.12

^a "Life Tables for 1949-51," U.S. Department of Health, Education, and Welfare, Public Health Service, National Office of Vital Statistics, vol. 41, No. 1, Nov. 23, 1954, pp. 9, 11, 13, 15, 17, 19, 21, 23, and 25.

^b "United States Life Tables: 1959-61, U.S. Department of Health, Education, and Welfare, Public Health Service, Public Health Service Publication No. 1252, vol. 1, No. 1, December 1964, pp. 9, 11, 13, 15, 17, 19, 21, 23, and 25.