

fers on a lifetime basis, another major redistributive feature of the social security system is the relatively high benefit-earnings ratios assigned to low-income groups. This feature is clearly "progressive" in the classical sense.³⁷ The extent of progressivity under a given tax-benefit structure varies with the relation between the earnings ceiling and average earnings. Departing from the previous emphasis on the average earner, the progressivity of the system will be considered here via the particular examples of the ceiling and benefit-earnings structure in effect since 1966 and the new laws proposed in 1967.

Two revisions of the previous per capita analysis are required. In the first place, in the presence of a ceiling on taxable earnings it is no longer true that the recipient of average earnings pays the average tax. This mean tax is paid by a worker who earns the mean taxable income throughout his career. Secondly, it is now recognized that the benefit-earnings ratio k , though still assumed invariant over time, varies cross-sectionally with the earnings level. The revised tax-benefit ratios based on the 1966 structure were obtained in two steps. First the average taxable earning in 1966 was put at \$3,700.³⁸ Adjustment of the T/B ratios to allow for the effect of the graduated benefit-earnings schedule was then accomplished by a multiplicative correction. Each multiplier is the ratio of the statutory k value for the specified earnings level to the k value for the recipient of the mean taxable income of \$3,700.³⁹ The ratios in table 4 were adjusted by these factors associated with earnings. The analysis presumes that the benefit-earnings ratios in the starting year 1966 remain fixed throughout the worker's life.

The yield under each assumption and by income level was obtained as before by interpolation. These yields are reported for selected income levels in table 6. It is apparent that graduation of the benefit-earnings schedule produces a substantial graduation in the yield-earning relationship.⁴⁰ For example the yields for \$2,000 earners are generally 1½ percentage points or more higher than for those earning \$6,600 or more and paying the maximum tax. However, even the most unfavorable projection for the latter continues to show a real rate of return over 2 percent which is generally better in the long-run than the savings account yield shown in chart 1.

³⁷ On a static, single-year basis progressivity is also introduced by the tendency for the taxes on relatively high-income earning population to accrue as benefits to the relatively low-income retired population.

³⁸ See *Actuarial Study No. 63, op. cit.*, p. 24.

³⁹ Estimates of these statutory k values by income level were obtained by interpolation in the official tables. The tables are provided by the Social Security Administration in *1967 Social Security Recommendations* (mimeographed), Jan. 21, 1967, table following p. 2. The use of statutory k values abstracts from details of the moving average of earnings levels on which benefits are based; there is also no way of knowing whether this schedule is consistent with our pay-as-you-go assumption. However, only the slope of the benefit-earning relationship shown in the official schedule is essential to the present argument. This allowance for the current degree of graduation serves adequately the broad purpose of displaying this progressive feature of the system.

⁴⁰ The degree of graduation is probably somewhat exaggerated because no correction could be made for the higher mortality rates of low-income earners. This makes a given benefit stream worth less to them than indicated by overall mortality. (They get some compensation for this in the life insurance features of social security, which are not considered here.)