

gram. First, consider the aggregate or overall yield to participants as a whole. No explicit estimates have been made of this aggregate yield, but a glance at table 5 suggests that it is probably on the order of 4 percent.⁴⁸ This rate of return is not inconsistent with the implication of Aaron's simple model.⁴⁹ His analysis, like the present one assumes a fixed exponential growth rate, benefits keeping pace with earnings and pay-as-you-go; however, he adds the further simplifying assumptions that population grows exponentially and the active and retired population remain in fixed proportion. Under these conditions he establishes that the approximate condition for a break-even tax/benefit ratio of unity is that the real rate of interest equals the sum of the growth rates of per capita earnings and population. Putting the earnings growth rate at 2.5 percent and assuming a growth rate in the work force of 1.3–1.7 percent,⁵⁰ the Aaron model would also imply an overall real yield on contributions of around 4 percent. This provides rough confirmation of the more detailed analysis above, which took into account demographic projections. The empirical results for specific earner categories, displayed in chart 2, are also roughly consistent with Aaron's basic relationship.

It is not easy to evaluate an overall projected rate of return on social security contributions of 4 percent. It has been suggested via chart I that this yield is very attractive compared to past experience with fixed dollar claims; it would probably also look good in comparison with the *real* yield on an installment purchase of a private insurance annuity. However, these are all dwarfed by past long-run yields on equity. It is even more difficult to evaluate the projected 2.5-percent earnings growth rate and 1.5-percent work force growth rate which are fundamental to the 4-percent projection. In any case, it should first be acknowledged that a comparison of the 4-percent projection with the yield on equity is artificial in some respects. A public retirement scheme comparable to such a private plan as that developed by the Teachers' Insurance and Annuity Association, which provides for equity investment,⁵¹ is not feasible under a pay-as-you-go system. The present active population would not only have to finance pensions for the currently retired, but also would contribute to a mammoth equity trust fund. Furthermore, there is no reason to believe the high real yields earned on equity in the past would be impervious to the large new demand for securities which would be generated. The bidding up of price-earnings ratios (while cutting dividend rates) would probably yield real capital gains at the outset, but a highly unstable situation would be in prospect as selling of equities by the retired population began to offset buying on behalf of earners.

As a substantial improvement on the past yields on fixed claims a 4-percent real return under a pay-as-you-go social security program

⁴⁸ This rough approximation compromises midway between the two growth rates but weighs heavily the results for starting age 18 and beneficiaries not eligible for wife's benefits.

⁴⁹ Henry Aaron, *op. cit.*, pp. 371–74.

⁵⁰ This is the range of growth rates in the low-cost and high-cost projections by the Social Security Administration, for the intervals 1965–2000 and 1965–2025, *Actuarial Study No. 63, op. cit.*, p. 24.

⁵¹ As of Jan. 1, 1967, participants in TIAA were permitted to allocate up to 75 percent of contributions in their name to the college retirement equity fund.