

5. It will be noted that the funds shown herein differ from those shown by the Superannuation Fund Board by £64,500, which sum the Board regard as unearned subsidy, and therefore treat as a liability. In this connection I would point out that the accounts of a superannuation fund are obviously not designed to show the annual profit or loss of the fund, nor does the balance-sheet make any pretensions to show the real contingent liabilities of the fund in connection with pensions or other benefits. Under the circumstances no good purpose is served by so understating the funds, and the Board is recommended to bring its accounting methods into line with the world-wide practice of life-assurance and other funds whose liabilities involve contingencies which cannot be measured by ordinary accountancy standards.

6. *Income.*—On the income side the chief item of importance is the fall in the Government subsidy from £136,000 in 1925 to £86,000 in 1926 and 1927. Compared with the annual subsidies recommended by the Actuary in the last report the subsidies paid in during the triennium exhibit a shortage of over £400,000, apart from the loss of interest thereon.

The effective rates of interest credited to the fund during the triennium were £5 15s. 1d. per cent. for 1924–25; £5 17s. 11d. per cent. for 1925–26; and £5 17s. 9d. per cent. for 1926–27, as compared with the average annual rate of £5 11s. 7d. for the previous valuation period. This increase of approximately one-quarter per cent. per annum in the interest-yield is very gratifying, as a good margin between the rate of interest earned and that assumed in the valuation is the best possible means of counteracting the effect of a possible fall in mortality-rates among pensioners.

7. *Outgo.*—Retiring-allowances are increasing, and will continue to do so for many years to come. It is somewhat disturbing to note that the outgo for benefits during the triennium approximately equals the total of the contribution income and the Government subsidy, and is about 70 per cent. of the combined income from contributions, interest, and Government subsidy. This is not what might normally be expected in a young superannuation fund, since the liabilities are essentially of a deferred nature, and consequently funds should at this stage be increasing very rapidly.

In order to illustrate this I cannot do better than present the following table, showing for specimen age-groups the average net liability per member in the Service at the valuation date :—

Age-group.	Average Net Liability per Member.	
	Males.	Females.
	£	£
15–19	27	7
25–29	150	85
35–39	376	318
45–49	774	694
55–59	1,349	809
65–69	2,068	..

The table, which should dispel the popular and fairly prevalent impression in many quarters that increasing funds are a sign of prosperity or that money is being saved up for posterity, shows that, while in respect of each male contributor aged 25–29 at the valuation date the fund should have in hand an average sum of £150 in order, with the assistance of his future contributions and the interest earnings of the fund, to be able to pay his pension on retirement or other subsidiary benefits, it requires £774 in respect of each male contributor aged 45–49, and no less than £2,068 for each male contributor aged 65–69 to effect the same purpose.

If, as would be quite possible, the total funds were analysed to see how much applies to any individual member, it would be ascertainable by how much the amount held in the fund on his behalf was, on the average, insufficient or over-sufficient to provide his benefits. This when applied to all members, contributors, and pensioners, is, in effect, what is achieved by actuarial valuation.

DATA.

8. The preliminary particulars required for this examination have been obtained from cards supplied by the Secretary of the Superannuation Fund—a separate card being compiled for each member who was in the Service at the valuation date or who had died or withdrawn since the inception of the fund—and these particulars form the main basis of this investigation and valuation.

THE VALUATION.

9. The main object of an actuarial valuation is to ascertain whether the current funds, together with the present value of the future contributions, will be sufficient to meet the future liabilities. Before the valuation can be carried out it is necessary to make a careful estimate of the various factors on which the payment of the benefits and contributions is dependent. These factors may be briefly summarized as follows :—

- (a) Rate of interest;
- (b) Mortality-rates of pensioners;
- (c) Average salary scales;
- (d) Mortality-rates of contributors;
- (e) Voluntary-withdrawal rates of contributors;
- (f) Retirement-rates of contributors;
- (g) Marriage-rates of contributors;
- (h) Probability of a member leaving children under fourteen years of age, and the average number of such children;
- (i) Remarriage-rates of members' widows.