

it takes no account of the liabilities to which the fund is committed. These liabilities are deferred for periods ranging from one year to a whole lifetime, whilst the contributions to meet them are coming in in present cash, and the funds are accumulating because the liability for which they are paid lies hidden, and only emerges just when the corresponding contributions have ceased to come in.

7. A glance at the accounts of the Railways Superannuation Fund shows that the fund had increased to £377,585 by March, 1917, and that it decreased in the next two years to £363,804 at the 31st March, 1919. The increase in the funds to 1917, far from denoting solvency, did not nearly keep pace with the liabilities; whilst, on the other hand, the decrease between 1917 and 1919, while very alarming to a layman, actually arose largely from a circumstance beneficial to the fund—viz., the withdrawal of a large number of members, who released the fund from a much larger liability than is represented by the cash they drew out.

8. The object of the actuarial valuation is to weigh all the assets and liabilities, including the near and distant engagements entered into by the fund; and it may be stated that in any concern where money is paid in respect of long-deferred engagements, particularly those depending upon the duration of human life, there is no other method of approximating to the position. In making an actuarial valuation it becomes necessary to compare the weight of sums of money payable at different epochs of time and upon different contingencies, and the only practicable method of doing this is by discounting them all (with due allowance for interest, mortality, &c.) to one period of time, reducing them to common capital, or present, values.

THE VALUATION.

9. In making the valuation it is taken that interest at the rate of 4 per cent. per annum will be earned upon the funds during the whole future lifetime of members; that a proportion of members will leave the service and a proportion die at each age, in accordance with the pre-war experience of the fund, drawing the appropriate benefits and relieving the pension liability; and that salaries and the corresponding contributions will increase from age to age according to ratios of increase deduced from the average salaries at the 1st April, 1919, the pensions payable at retirement depending upon the same rates of salary-increase. These and other factors are more specifically set out in the appendix. In regard to the rate of interest, the rates earned for the past seven years run from £4 2s. 5d. to £4 12s. 4d. per cent.; and, while a higher rate than 4 per cent. may continue to be earned for some time, it is hardly safe to allow more than 4 per cent. for the very long period of time covered by a pension fund.

10. The result of the valuation shortly is as follows:—

Present or discounted value of the liabilities for benefits contracted for, after allowing for interest, rates of secession and mortality of members, increases of salary, &c., as indicated above	£	5,582,506
Present value (on same basis) of contributions receivable from members	£	1,259,247
Funds in hand at 31st March, 1919		363,804
		<hr/> 1,623,051
Present value of subsidies to be furnished by State		<hr/> <hr/> £3,959,455

At the date of the valuation the State was paying a subsidy of £25,000 per annum. This was increased last year by £50,000, making £75,000 per annum. If this amount is made permanent the position will be as follows:—

Present value of subsidies to be furnished (as above)	£	3,959,455
Less present value, £25,000 per annum	625,000	
Less present value, £50,000 per annum	1,250,000	
		<hr/> 1,875,000
Present value of further subsidies to be found in addition to the £75,000		<hr/> <hr/> £2,084,455

11. As compared with the valuation made as at the 31st March, 1912, the total liability of the State is now valued at £3,959,455 (or nearly £4,000,000), as against £1,776,851 then. This increase is mainly due to the higher pay-roll and the increase in the pension-list. The pay-roll increased approximately from £1,425,117 to £2,256,369, and the average salary in the general division from £147 to £202 and in the salaried division from £182 to £240, and I need hardly say that an increase of salary given to a contributor approaching the pension age adds materially to the value of his pension and comparatively little to the value of his contributions, hence the increase in the liability. This applies also, but in a less degree, to any contributor with service prior to the increased scale of salaries coming into operation, for his pension will necessarily be computed on the new scale for past as well as future service, while the increased contributions will apply only to the future.

12. The high scale of salaries resulting from the effects of the war is the cause of very great difficulty in estimating the liabilities, as it is hard to judge the future course of the salary scale, a matter upon which so much depends. In point of fact the scale in force at the moment of writing represents an increase as compared with that of April, 1919, which will have the effect of adding still further to the liabilities.