28. The invalidity benefits, which do not vest until the completion of five years' membership, were not sufficiently numerous to provide a reliable basis for the future, and the expected rates of invalidity used in the valuation were those exhibited by the New Zealand friendly societies.

The Approved-friendly-societies and Local-authorities Schemes.

29. I did not consider it advisable to make any use of the scanty data available in connection with the approved-friendly-societies and local-authorities schemes, particularly in view of the short time they have been in force.

30. The approved-friendly-societies scheme was valued on the same assumptions as the main scheme.

31. The local-authorities scheme was valued on a hypothetical basis. It is impossible to give in detail the whole of the processes followed, on account of the number of variations in the schemes, one departing sufficiently from the standard to require the preparation of a separate life and service table. The fundamental principle was the construction of a service table from the safest decremental rates of any of the New Zealand superannuation schemes. For example, the rates of mortality and discontinuance followed the First Division of the New Zealand Railways, the rates of retirement were a blend of the Railways' and Teachers' rates, while the values of the widows' and orphans' benefits were based on the Civil Service Superannuation Fund. Until the fund can be valued on its own experience, it was considered advisable to adopt a method which would secure a greater number of survivors than any other New Zealand fund, so that the valuation would be as stringent as possible with the data at present available.

32. The elementary probabilities of death, withdrawal, and retirement used for the standard local-authorities scheme will be found in Table V of the Appendix.

33. The valuation assumes that the interest earned will not be less than 4 per cent.

34. The ages of the contributors at the date of valuation, together with their contributions and other particulars, are shown in Table IV of the Appendix.

35. Section 24 (2) of the Act requires the Actuary's report to show "*the state of the fund at the close of the period, having regard to the prospective liabilities and assets.*" Technically these liabilities and assets should each include the present value of future maternity benefits, but as these are annually voted by Parliament and no amount of variation can affect the stability of the fund, I have omitted them. The valuation balance-sheet is given in detail in Table VI of the Appendix, a summary being as follows:—

VALUATION BALANCE-SHEET OF THE NATIONAL PROVIDENT FUND AS AT 31ST DECEMBER, 1919.

Liabilities.	£	*Assets.*	£
Value of liability for—		Amount of the fund at 31st December, 1919	338,729
Pensions	1,078,550	Value of future contributions	1,013,439
Orphans' benefits	132,280	Value of future State subsidies of one-fourth (assumed to be received a year later than above)	248,389
Widows' benefits	108,523	Balance (deficiency)	5,934
Incapacity allowances	41,403		
Return of contributions on death ..	59,123		
Return of contributions on withdrawal ..	172,287		
Sundry benefits	14,325		
	£1,606,491		£1,606,491

From this it will be seen that the fund has a ratio of solvency of 19s 11d. in the pound. There has been no retrogression in the fund since the last valuation, the deficiency being due solely to a more stringent valuation basis, provision having been made, *inter alia*, for a separate fund containing the deductions made from the refund to discontinuants in respect of maternity benefits.

36. Section 24 (2) further requires the report to show "*the probable annual sums required by the fund to provide the pensions and other allowances falling due within the ensuing three years without affecting or having recourse to the actuarial reserve appertaining to the contributor's contributions.*" I have taken this to mean that the Actuary is to report what proportion of the estimated claims during the triennium succeeding the valuation are unprovided-for by the contributions; in other words, he is to state the further subsidies per annum necessary during the period specified, beyond the statutory one-fourth subsidy, to meet the current charges on the fund, and section 25 (2) of the Act makes "such further amounts (if any)" an additional charge on the State.

37. I have to report, under the provisions of these sections, that beyond the present annual subsidy, no "such further amounts" require to be paid during the three years following the date of this valuation.

GENERAL REMARKS.

38. I have endeavoured to make the valuation as searching as possible, and have made provision for a mortality-rate among pensioners lighter than that shown by the latest available statistics of New Zealand superannuation funds, but probably not more stringent than present indications justify. A study of the tables of mortality compiled at successive censuses here and elsewhere reveals a steady and persistent drop in the death-rate, and it is to be expected that as the result of medical and sociological research longevity will continue to increase. It is only possible to estimate the extent of such improvement, and it will be necessary, unless the State is to contribute more than was originally intended, to take immediate steps to counteract this almost certain future strain on the fund. The most important of these steps is to secure an improved yield on the invested funds. Subject to the maintenance of an adequate margin between the experience and valuation rates of interest, the National Provident Fund, with good management, should at no time fear any actuarial test.

C. GOSTELOW, A.I.A. (London), Actuary.

6th October, 1921.