

1903.  
NEW ZEALAND.

# GOVERNMENT INSURANCE DEPARTMENT:

REPORT BY THE ACTUARY ON THE TRIENNIAL VALUATION, 31st DECEMBER, 1902.

*Presented to both Houses of the General Assembly pursuant to Section 45 of "The Government Insurance and Annuities Act, 1874," and "The Government Life Insurance Acts Amendment Act, 1890."*

Wellington, 31st March, 1903.

I HAVE the honour to report the result of the valuation of the Department's liabilities under its assurance and annuity contracts as on 31st December last.

The new business of the triennium just completed and the total business existing at the close of the period are summarised in the following table:—

NEW BUSINESS OF THE TRIENNium.					
Class.	Number of Policies.	Sum Assured.	Reversionary Bonuses.	Annual Premiums.	Annuities.
		£	£	£	£
Endowment Assurances ..	8,546	1,715,845	..	58,007	..
Double-endowment Assurances ..	749	179,664	..	5,482	..
Annuity Assurances ..	243	34,400	..	1 817	13,308
Miscellaneous Assurances ..	26	6,744	..	252	..
Annuities ..	66	..	..	15	2,454
Simple Endowments, &c. ..	289	36,925	..	1,372	..
Total New Business ..	9,919	£1,973,578	..	£66,945	£15,762
BUSINESS IN FORCE AT END OF TRIENNium.					
Whole-life and Term Assurances	15,744	4,584,630	591,966	112,425	..
Endowment Assurances ..	23,522	4,735,819	241,984	164,769	..
Double-endowment Assurances ..	1,788	445,690	3,362	13,825	..
Annuity Assurances ..	468	63,250	776	3,346	24,069
Annuities ..	301	..	..	76	12,323
Simple Endowments, &c. ..	583	67,183	..	2,432	..
Total Business in force ..	42,406	£9,896,572	£838,088	£296,873	£36,392

Including annuities, there were 42,406 policies for valuation, assuring the sum of £9,896,572, with reversionary bonus additions of £838,088—making the total amount payable at death or maturity £10,734,660—and £36,392 annuities per annum, immediate and deferred, in respect of which ordinary premiums amounting to £296,873 are receivable annually. The Department also receives £3,383 per annum, representing additions to the tabular premiums imposed when assurances are accepted on lives which are estimated to fall below the requisite standard for any reason. These extra premiums are held to cover the current extra risk, and are not brought into the valuation as an asset.

The course of the business during the triennium is indicated in the following

CONSOLIDATED REVENUE ACCOUNT.

<i>Dr.</i>	£	s.	d.	<i>Cr.</i>	£	s.	d.
Funds at beginning of triennium	2,997,681	0	4	Death claims .. ..	337,146	2	6
Tontine Savings Fund No. 1 ..	16,752	13	11	Matured claims .. ..	190,222	19	10
Renewal premiums .. ..	799,447	6	1	Annuities paid .. ..	34,840	3	11
New premiums .. ..	66,758	17	2	Surrenders .. ..	156,235	15	8
Consideration for annuities ..	25,912	19	10	Cash bonuses .. ..	28,915	1	1
Interest .. ..	426,890	6	2	Commission .. ..	43,387	9	9
Fees .. ..	39	3	10	Taxes .. ..	28,695	1	3
				Expenses .. ..	108,438	17	2
				Investment reserves ..	22,783	9	6
				Funds at end of triennium ..	3,382,817	6	8
Total .. ..	£4,333,482	7	4	Total .. ..	£4,333,482	7	4

The premium income shows a satisfactory increase of £57,385 over that of the previous triennium. The interest income was £426,890, as against £393,078 for the former period; the average rate of interest realised was £4 9s. 3d. in 1900, £4 8s. 5d. in 1901, and £4 8s. 6d. in 1902. These figures, which were deduced by finding the rate yielded by the interest for each year on the mean of the funds at the beginning and end of the year, indicate that the fall in the rate received a check towards the close of the triennium.

The mortality experienced has again been very favourable, both in the General and Temperance Sections, and, though the amount paid in death-claims has increased, this is to be expected concurrently with the growth of the office. Surrenders show an increase, largely due to the winding-up of a Tontine Section falling during the triennium. The amount paid in commission and expenses of management was practically the same, being £151,826, as against £151,578 for the previous three years. The manner in which the expense-rate has declined during the last twelve years will be seen from the following :—

RATIO OF COMMISSION AND EXPENSES (excluding Taxation).					
Year.			To Total Income.		To Premium Income.
1890	..	..	14·4 per cent.	..	20·2 per cent.
1894	..	..	13·5 "	..	19·6 "
1898	..	..	12·2 "	..	18·0 "
1902	..	..	11·3 "	..	16·8 "

The taxation, not included in the above, represents approximately 2 per cent. of the total income, or 3 per cent. of the premium income, of the Department.

THE VALUATION.

The valuation of the policies current at 31st December, 1902, has been made on the same basis as that adopted in 1899—viz., by the Institute of Actuaries' H<sup>m</sup> Table of Mortality, with interest at the rate of 3½ per cent., the net premiums only being valued as an asset, and the whole of the loading reserved for future expenses and profits. The annuities were valued by the 1884 Government Annuitants' Experience, a special reserve being made in their case to bring up their reserves to a 3 per cent. standard.

A valuation upon this basis resulted in a net liability of £3,214,409, as will be seen from the appended Valuation Summary, and as the Assurance and Annuity Funds at the close of the triennium, after making a further provision of £22,783 towards the Investment Reserve Fund, amounted to £3,382,817 6s. 8d., there resulted a surplus of £168,408 6s. 8d.

The following is the valuation balance-sheet :—

VALUATION BALANCE-SHEET, 31ST DECEMBER, 1902.

<i>Dr.</i>	£	s.	d.	<i>Cr.</i>	£	s.	d.
To Net value of liabilities (as per Valuation Summary)	3,214,409	0	0	By Accumulated Funds (as per Consolidated Revenue Account)	3,382,817	6	8
„ Surplus .. ..	168,408	6	8				
	£3,382,817	6	8		£3,382,817	6	8

In addition to the above surplus, £9,300 was paid as interim bonus, thus making the total profit for the three years, £177,708 6s. 8d.

## THE APPORTIONMENT OF THE SURPLUS.

In my preliminary report of the 25th October last, I recommended the substitution of the Compound Reversionary Bonus method of apportioning profits in place of the one formerly in use. That report, which contained detailed reasons for the proposed change, was submitted to the Department's Consulting Actuaries in London, Messrs. R. P. Hardy and George King, who approved of its adoption, and I was instructed to give effect thereto. I have accordingly apportioned £167,932 10s. of the surplus among the participating policyholders, distinguishing between General and Temperance policyholders in regard to profit from favourable mortality in the manner provided for by "The Government Life Insurance Acts Amendment Act, 1890." The result is that policies in the General and Temperance Sections respectively will, on this occasion, receive compound bonuses of 20s. per cent. and 19s. per cent. upon the sum assured and existing bonuses for each year's premium paid since the last valuation, the total reversionary bonuses so allotted amounting to £290,073 15s.

Since the abovementioned Act was passed in 1890, there have been five allotments of bonus: in 1890 and in 1899 the two sections received equal bonuses; in 1893 the Temperance Section had a higher rate of bonus; while in 1896 and on the present occasion the General Section obtained a slight advantage. It does not follow from these results that the vitality of the policyholders composing the Temperance Section is inferior to that of the General Section policyholders. The former section is too small to avoid fluctuations, and contains a large proportion of endowment assurances, from which class of business there accrues less mortality profit than from whole-life policies, of which the General Section is more largely composed.

The bonuses which have been allotted in the manner described will vest immediately, and are generally considerably greater than those granted three years ago. I beg to recommend, in addition, that interim bonuses at the same rates be allotted to all policies entitled to participate which go off the books during the current triennium, whether by death, maturity, surrender, or lapse.

The full details of the valuation and distribution have been arranged in the forms prescribed by "The Government Insurance and Annuities Act, 1874."

In conclusion I may express my opinion that the strong valuation which has been made discloses a very satisfactory position, and that there is every reason to look forward to equally good results being achieved during the current triennium.

Respectfully submitted,

MORRIS Fox,  
Actuary.

The Government Insurance Commissioner.

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