

the above net premiums. It will be apparent that the plan may be correctly described as an adjusted net premium method, inasmuch as the present values of the level net premiums and the net premiums as adjusted above are equal at the issue of the policy.

Turning attention to the limited payment life policy, it is clear that the additional net premium required for this plan in excess of the whole life net premium is required for a definite purpose, and it would not be wise to detract in any way from this special provision. Accordingly, on the limited payment life policy, the deduction from the net level premium of the first year must be equal to the deduction made for the whole life plan. Similar reasoning holds in the case of endowment assurances.

The effect of reducing the net premium of the first assurance year is to set free an additional amount of loading to provide for the large initial expenses. Table D. shows the first year allowances on the three plans. The gross premiums employed are the with-profit rates commonly used in Canada at age 35.

D.

Plan	Gross Prem.	Loading.	Special Allowance	Total Allowance	p.c. of Gross Prem.
Life	27.95	7.19	12.28	19.47	69.7
Life 20 Pts.	36.95	8.70	12.28	20.97	56.8
End'd 20 Yrs.	50.55	10.09	12.28	22.37	44.3

The larger net premium of the second to fifth years involves a smaller amount of loading for those years. This amount is shown in Table E.

E.

Plan	Gross Prem.	Adjusted Net Premium.	Allowance.	p.c. of Gross Prem.
Life	27.95	24.17	3.78	13.5
Life 20 Pts.	36.95	31.67	5.28	14.3
End'd 20 Yrs.	50.55	43.85	6.67	13.2

The above Table shows that, in spite of the increase of the net premium, there is still ample loading remaining on with-profit policies for expenses and contingencies.

The Canadian method has thus been described, without introducing the words "Mortality gains."

It is true that under non-participating assurances the loadings of the four years, subsequent to the first, after making good the overdrafts of the first year, will be insufficient to provide for contemporary expenses and recourse must be had to other surplus funds. The formula, however, does not in any way connect mortality gains exclusively with this process, and in fact the gains from interest and withdrawals are equally available. The order of events is therefore as follows:—During the first year, the whole ordinary loading is spent and part of the loading of the next four years. If during these four years the balance of loading be insufficient to pay renewal expenses, the surplus arising from other sources will be diverted for this purpose. We see, therefore, that the gains from mortality, interest, etc., enter only indirectly into the matter. Their direct use is in providing a fund to assist in paying the renewal expenses. Accordingly, for non-participating policies, the first year's allowance is based upon a partial anticipation of the general profits of the four subsequent years applied through the loading factor.

Its Practical Operation.

Having thus explained the theory of the Canadian method, Mr. Ferguson now reverts to its practical operation. He states that it would be an easy matter to prepare reserves for all plans of assurance according to this method, and the work would be facilitated by the fact that for a given age and duration the deductions to be made from the level premium reserves are constant for all plans except term policies. (Schedules I and II submitted with the original paper show these deductions calculated on the HM and American Experience Tables with 3 1-2 p.c. interest.)

The Royal Commission, acting on the suggestion of the Life Officers' Association, have recommended that the reserve liability be calculated by the level premium method as heretofore, but that companies desiring to do so, may make a deduction so as to bring out the net reserve equal to that calculated by the method now described. Mr. Moir has pointed out that this is in the form of a special concession and that consequently a company holding the lower reserves will be regarded as being in a certain degree under a cloud, while no expanding company, unless it holds smaller reserves on its new policies, could deal impartial justice to all its policy-holders. The discussion of this question lies outside the scope of this paper. It is pointed out, however, that another recommendation of the Commission, if it becomes law, will probably have the effect of forcing all companies which have a deferred dividend business on their books to adopt the new valuation method. This is the requirement that the tontine surplus is to be apportioned to each year of issue and treated as a liability. If this becomes law it will probably be necessary for a company, which holds to the rigid net premium method, to show considerable deficits for the policies recently issued. This is a thing which companies may not care to do and they will probably prefer to go themselves under the cloud which in that event will become general and so lose its objectionable character.

It has just been stated that the deductions are constant for all plans of assurance other than term policies. The Royal Commission proposes to limit the application of the method to policies subject to a net premium equal to or greater than the whole life net premium. This will result, as Mr. Fackler has suggested, in the holding of a higher reserve on a twenty year term than on a whole life policy—a manifest absurdity. As a matter of fact, the adjustment of the term assurance net premiums presents no difficulty.

The Canadian method, though making a considerable allowance for new business, does not materially increase the total loading of the company. The adjustment made on the net premium has the effect of increasing the loading for policies in the first year and of decreasing the loading for assurances more than one year and less than five years in force. This fact should be remembered in preparing a Gain and Loss Exhibit.

Mr. Ferguson's comparison of the Canadian Method with the Select and Ultimate and the Preliminary Term Methods will be summarized in a future issue of THE CHRONICLE.