NET RATES AND RESERVES ADAPTED TO CALCULATIONS INVOLVING PRELIMINARY TERM INSURANCE, ALSO TABLES FOR VARIOUS INCREASING TEMPORARY INSURANCES

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ALSO TABLES FOR

VARIOUS INCREASING TEMPORARY INSURANCES

BY

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Mr Behrens

Explanation of Tables.

The net premiums and reserves for Preliminary Term policies are given at the ages at which the Whole Life or Endowment contract begins. For example, the net premium as given in the tables at age 21 is the premium required for the second policy year under a Preliminary Term policy issued at age 20, and the reserve for the first year at age 21 is the reserve for the second policy year under a Preliminary Term policy issued at age 20. If this is borne in mind no confusion will arise in using the tables.

The net premiums and reserves for Increasing Temporary Insurances, or Mortuary Additions, are given on the basis of $1,000 added to the insurance annually.

INTRODUCTION.

About one-half of the Legal Reserve Life Insurance Companies in the United States calculate their reserves upon what is styled "Preliminary Term Valuation".

The phrase "Preliminary Term Valuation" is a misnomer. It is apt to convey to the layman the idea that there are two systems or ways of valuing policies under the same legal reserve laws; or that the legal reserve laws of the various States may be interpreted in two different ways. Much confusion has arisen from the use of the term referred to, and some of the discussion on the subject has been clouded by reason thereof.

As a matter of fact, there is but one way of interpreting the legal reserve statutes in the various States; and as a rule these laws are unambiguous. A One Year Term contract must be valued as One Year Term, whether written by one of the oldest and largest companies, or by one of the youngest and smallest. A Nineteen Payment Life policy must be valued as such by all Insurance Departments, regardless of the company writing it. The only question that can logically arise is as follows:

Has a Legal Reserve company a legal right to write a One Year Term as such, the same to be followed, for example, by a Nineteen Payment Life, the two contracts to be issued as one document, and each and the whole to be construed according to the terms of the same, like any other contract?

The question is analogous to the rental of a certain property or estate for one year, to be followed by a lease for a term of years; it being agreed that the second lease shall go into effect upon payment of the first installment of the rental due at the beginning of the second term.

There has been much occasion and demand for actuarial data adapted to Life and Endowment contracts written with a One Year Preliminary Term. Many standard books of reference give net rates and reserves for Life and Endowment policies for periods of Ten, Fifteen and Twenty years. There are no publications, however, of easy access, giving these data for periods of Nine, Fourteen and Nineteen years. In other words, some of the essential elementary data required by the younger and smaller companies of the country have heretofore not been obtainable in printed form.

Tables and rates herein have been computed on the basis of the Actuaries' 4 per cent and the American 3 per cent and 3½ per cent Tables, these being the three tables now in common use. Net premiums have been calculated for the following forms of policies:

Ordinary Life.
Nineteen Payment Life.
Fourteen Payment Life.
Nine Payment Life.
Nineteen Year Endowment.
Fourteen Year Endowment.
Nine Year Endowment.

Terminal and mean reserve values are given for the above forms of policies in conjunction with One Year Term insurance for the first year of the policy. Under this arrangement of reserves the usual method of determining the net value or mean reserve of a policy for any age, after any given number of years, is ascertained in the same manner as usually obtains with such tables without the Preliminary Term feature.

Tables are also given for net rates, mean and terminal reserve values for Ten, Fifteen and Twenty Year Increasing Temporary Insurances, or Mortuary Additions, as they are properly called. The use of these tables for the purpose of ascertaining premiums and net values on return premium policies and other styles containing provision for Increasing Temporary Insurance is apparent. It has seemed best that these tables should not be calculated on the Preliminary Term basis, since a careful investigation of the subject shows that most companies employing Preliminary Term treat their Increasing Temporary Insurances as beginning in the first year of insurance.

All the tables in this work have been carefully computed and checked by means of Tate's Arithmometer, and afterwards re-checked by the method of differences. They have since again been carefully checked by tables independently computed where these were readily available. The figures given are believed to be accurate up to the last decimal figure, which is a close approximation. Computations involving decimals to a greater degreee of accuracy than those employed would in some instances add to or subtract from the final decimal in the tables one or two units, but without in any way affecting the practical accuracy of the figures.

As to the development of the One Year Term in connection with Life and Endowment Insurances, a few words are appropriate.

In the beginning of Legal Reserve legislation the cost of getting business was much smaller than at the present time, and the technical reserve in the first year of insurance might relatively correspond to the real reserve in the company's hands after paying first-year expenses. In other words, the legal requirements were adapted to the conditions as they then existed. As time went on, the cost of field operations increased. The real reserve left in the company's hands in the first year of insurance became smaller and smaller. Companies were obliged to make a fictitious credit by applying something of their capital stock to make the technical reserve good; or, in the case of a mutual company, this deficit had to come from surplus accumulated by policy-holders already in the company. With the increasing cost of business in the field the technical reserve and the real reserve have become more and more divergent, and the legal requirements do not conform to present conditions.

The inapplicability of the standard of valuation to present conditions has nothing whatever to do with age, size or strength of a company. The cost of new business exceeds the loading on the premium. Without recourse to a Preliminary One Year Term, surplus belonging to other policy-holders must be drawn upon to make a technical showing, which does not exist in fact. The strongest and largest company might become technically insolvent by merely writing too large a volume of business. Surely statutory provisions designed to regulate and safeguard business are not well adapted to present conditions when the very extension of that business under the most favorable of present conditions would lead to technical insolvency, as judged by the statutory provisions in question.

The Preliminary One Year Term in the case of Whole Life and Endowment policies is a recognition of the facts as they exist. Under this method every entrant pays the cost involved in the placing of his own business on the books of the company. The securing of his business is not made an expense to the policy-holders already in the company; and similarly he is not called upon to pay the expenses of acquiring others. It is an elementary principle that he who is benefited should pay the cost of the benefit received. It has been contended that the use of the general surplus of a company in establishing fictitious reserves in the first year of insurance for new entrants is legitimate and for the use and benefit of policy-holders already in the company. It is said that the new policy-holder will in time make good the surplus taken from other policy-holders' account without their knowledge or consent. We do not see the force of this reasoning. The securing of new business involves an expense absolute and immediate, and the profit to the policy-holder whose surplus has been used to secure the new business is contingent and deferred. Surely no profit will ever inure to the policy-holder whose surplus has been used to secure another member of the corporate family if such member is allowed to retire, say after three years, taking with him the full technical reserve in the form of paid-up insurance, or otherwise. An instance of this is found where companies allow retiring policy-holders proportionate parts in paid-up insurance on Limited Payment Life Policies. On the other hand, if policy-holders were not given surrender values, or other concessions, in excess of the real reserve in the company's hands, their withdrawal would not adversely affect the surplus of the company.

The purpose of this book, however, is not commendation or criticism of the policies or plans of any company, nor is it an argument for or against the so called Preliminary Term system of valuation. The fact that one-half of the Legal Reserve Companies in the United States are operating on this basis justifies a work of this kind.

The publication of this book would not have been possible had it not been for subscriptions made in advance for the same by many of the Legal Reserve Companies and various State Departments, and special thanks are due for this co-operation.

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WILBUR S. TUPPER.

Los Angeles, May, 1904.

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