Article From:

The Actuary

PRE-TEFRA

S^* = the smaller of:

   (a) S, or

   (b) [(G' − T), if positive,] + L.

TEFRA

S^* = the smaller of:

   (a) S, or

   (b) the larger of

      (1) [(G' − T), if positive,] + L, or

      (2) Q + the smaller of (i) (1+f) * (P+N), or

                      (ii) L+f * (P+N).

where L is $250,000 pre-TEFRA and is now defined as $1 Million, reduced for S > $4 Million (to 0 when S = $8 Million), allocated proportionately to the number of companies in the affiliated group. And where f = .85 for stock companies and f = .775 for mutual companies.

Thus, a company's tax position can be classified in terms of the amount of Special Deductions allowed under Section 809(f). Assuming increasing levels of S^*, the classes for stock companies would be:

Category		
Category V	:	$S^* = L$
Category W L > (P+N)	:	$S^* = Q + 1.85 (P + N)$
Category X L < (P+N)	:	$S^* = Q + L + .85 (P + N)$
Category Y	:	$S^* = G' - T + L$
Category Z	:	$S^* = S$

The variable L introduces a factor into the tax calculation that may come from data not included in the company's tax return. Also, a new corridor situation develops when an affiliated group's total special deductions fall in the range from $4 Million to $8 Million. Interesting marginal tax rates develop within this corridor.

Comments are being made indicating a switch of the tax phase for most mutual companies from Phase I to Phase II−. While being basically true, the statement is not fully accurate in that only a few companies will find themselves in the old Phase II-position. It might better be said that the old Phase II-companies, which previously had a $250,000 limit on Special Deductions, will join the old Phase I companies in a new category, both having a variable amount of allowable Special Deductions. □

The Northampton Table

It is right for us today to remember and to acclaim Richard Price's work. James S. Elston, in the second edition of *Sources And Characteristics of the Principal Mortality Tables* (1932) gives this endorsement by an 1823 author:

> "Dr. Price did as much as the nature of his materials would allow. For in those days no census or enumeration of the population had been made; and without (that) . . . an accurate Table of Observations cannot possibly be obtained."

My thanks to Howard W. Johnson, F.I.A. of London's Equitable Society for sending helpful material used in this account.

Wigglesworth's Table (1789)

"The first American table used at all for calculating life contingencies"—these words are quoted from *TASA* VII (1901), 3—made up from records in healthy portions of Massachusetts, was published, by Prof. Edward Wigglesworth of Harvard University, only six years later than was the Nortohampton Table.

E.J.M.

Golden Anniversary

remain. They became Fellows in the year in which the total number of Fellows went past the 400-mark; happily, 90 of those 400 are still with us.

The number of Associates who have 50 or more years as such is now 33.

The Society member who has been one for the longest time is Horace Holmes (F.S.A. 1921); he earned his Associateship in 1913 and is our only living member whose name is in the first published Index to the *Transactions* (1889-1914). Erston Marshall, though, is still our dean among Fellows, dating from 1919. □

THE PROPOSED NOTATION OF ENGELFRIET AND KOOL

by Frank G. Reynolds

(This is Article No. 6 in a series.)

Engelfriet and Kool explored the possibilities of using a linear form involving only the keys found on the standard typewriter keyboard. To replace the superscripts and lower left corner resort was made to an ingenious series of combinations of the special characters. For example, the double quotation symbol replaced the dieresis; $\doteq$ was used to indicate that annuity payments were deferred for a given period and then continued, and this for a limited period from the end of the deferment period; the apostrophe was used to indicate that the annuity was payable in advance. Thus, $n|m\ \ddot{a}_x^{(h)}$ became ' "a $\doteq$ (x,n,m,h).

For a compound status an additional letter was added to the stem to indicate last survivor and other conditions. In general, the proposal met its design criterion of being linear, of being readily transformable into programming names, and of using only typewriter characters. The problem was the extensive use of backspacing to create characters such as $\doteq$ and the use of auxiliary symbols which made it difficult to relate symbols to the present notation. □