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THE NEW MODEL VALUATION AND NONFORFEITURE LAWS

by John O. Montgomery

(Continued from November issue)

Mortality Assumptions

The 1980 CSO Mortality Tables, sex-distinct for the first time, are specified initially—i.e., until the NAIC exercises its new authority to promulgate yet more modern assumptions. These tables follow the underlying experience more closely than did the 1958 CSO, thus retaining the observed mortality dip for men in their early twenties and the nearly flat rates for women at these ages.

Construction particulars are in the report of the Special Society Committee (Charles A. Ormsby, Chmn.) distributed to Society members in July 1979 and discussed in the *Record*, Vol. 5, No. 4 (1979), pp. 1301-1335. The Committee's full report, including a later addendum, is available as a Part 10 Study Note coded 10LB-507-81. A brief description was in the April 1980 issue of this newsletter, at which time the tables bore the names K(M) and K(F).

It continues to be important for actuaries to stress to the uninformed that CSO mortality rates are not experience rates. The few figures in the table below show the signficance of this distinction.

The rapid mortality improvement since the period of the underlying experience (1970-75) has prompted the NAIC Technical Task Force to ask the Special Committee to develop tables of ten-year select factors for optional use in calculating reserves and nonforfeiture values. Use of these optional factors produces lower net premiums but higher terminal reserves. These factors, not heretofore published though widely distributed, are given in a table on page five. Their use is permitted for all plans; they probably will be found most helpful in easing deficiency reserve requirements for term insurance.

Maximum Valuation Interest Rate

The maximum valuation interest rate under the new law (a) will differ in major degree by type of policy being valued, particularly in respect of the length of the period over which guarantees are given to the policyholder or subsequent beneficiary, and (b) will automatically change, for new issues, depending upon trends in a "reference interest rate" (R), that measures yields recently prevailing on seasoned corporate bonds.

To obtain the value of R, which will be announced annually by the NAIC, one looks into Moody's Investors Service for their Corporate Bond Yield Average. R will be whichever is the smaller, as of each June 30th, of those published averages for the immediately preceding 36 months and 12 months. For example, for 1982 R will be whichever is smaller of those two Moody averages for July 1978—June 1981 and July 1980—June 1981.

In this article we will describe only the interest rate formula that applies to whole life and other traditional forms that provide implicit level interest guarantees extending over at least 20 years. (Formulas for other types will be given in the third article next month.) The formula comes in two parts depending upon whether the value of R is not greater than 9%, or is greater than 9%.

If R is not greater than .09,
then $I = .35R + .0195$

If R is greater than .09,
$I = .175R + .03525$

The result of this calculation is to be rounded to the nearest quarter of one percent. But no change is to be made in the maximum interest rate unless the change from the then applicable rate would be at least one-half of a percentage point.

Applying this pair of formulas to various hypothetical values of R produces these results:

Moody's Average (R)	3%	6%	9%	12%
Valuation Rate (I) (after rounding)	3%	4%	5%	5.5%

The base year for this calculation (regardless of when the legislation happens to be enacted in any state) is 1980. The immediate effect of all this is that the maximum valuation interest rate on traditional policy forms (4½% under the old law) will be 5½% for 1982. On other life insurance forms that extend guarantees for 10 years or less the valuation interest rate for 1982 will be 6¾%. It runs substantially higher for single premium annuities and so-called guaranteed interest contracts.

Maximum Nonforfeiture Interest Rate

The maximum nonforfeiture interest rate under the new law for a policy to be issued in a particular calendar year is equal to 125% of its corresponding valuation interest rate, rounded to the nearest quarter of one percent. The immediate effect of this is that the maximum interest rate at which nonforfeiture values may be calculated on the aforementioned traditional policy forms (4½% under the old law) will be 7% in 1982.

Ed. Note: Next article by Mr. Montgomery will give more on interest rates and will discuss adjusted premiums and some transitional problems. □

Mortality Rates per 1000

MALES				FEMALES		
(1) *Underlying Experience*	(2) 1980 *CSO*	(3) *Percent (2) is of (1)*	(4) AGE	(5) *Underlying Experience*	(6) 1980 *CSO*	(7) *Percent (6) is of (5)*
1.28	1.90	148%	20	.48	1.05	219%
1.91	3.02	158	40	1.44	2.42	168
13.20	16.08	122	60	7.11	9.47	133
87.28	98.84	113	80	56.56	65.99	117

10-Year Selection Factors Permitted In Determining Life Insurance Reserves and Nonforfeiture Values

MALES	Policy Year									
Issue Ages	1	2	3	4	5	6	7	8	9	10
Under 20	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
20-39	75	80	85	90	90	95	95	95	95	95
40-44	70	75	80	85	85	90	95	95	95	95
45-49	65	70	75	80	80	85	90	90	90	90
50-54	61	65	70	75	75	80	85	85	85	85
55-59	56	60	65	70	70	75	80	80	80	80
60-64	52	56	60	65	65	70	75	75	75	75
65 & over	48	52	55	60	60	65	70	70	70	70
FEMALES										
Under 20	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
20-39	96	96	96	100	100	100	100	100	100	100
30-34	92	92	96	96	96	100	100	100	100	100
35-39	88	88	92	96	96	96	96	100	100	100
40-44	84	84	88	92	92	92	92	95	95	95
45-49	80	80	84	88	88	88	88	90	90	90
50-54	76	76	80	84	84	84	84	85	85	85
55-59	72	72	76	80	80	80	80	80	80	80
60-64	68	68	72	76	76	76	80	80	80	80
65-69	64	64	68	72	72	72	75	75	80	80
70 & over	60	60	64	68	68	72	75	75	80	80

CANADA'S NATIONAL PENSION CONFERENCE

by J. Bruce MacDonald

Ed. Note: The first part of this article was in our September issue.

On Coverage, the delegates agreed that government should be responsible for a basic floor, but the level of that floor was hardly discussed. It was also agreed that increases in government programmes offer the only way to help the current elderly poor; this problem is perceived as becoming less serious since full CPP benefits have become payable and the private sector's coverage continues to increase.

The consensus was that CPP benefits should continue to be a function of 100% of the average industrial wage, though some talked of raising this to 150%; whether the replacement percentage from government alone should remain at 25% or be at least doubled was briskly but inconclusively debated. It was agreed that the number who won't get pensions from private plans is too large, yet charges that the private system has failed were refuted.

Women. Many of the elderly Canadians living in poverty are women, so their plight was discussed under both Coverage and Women. The solution was a combination of benefit increases and broader use of survivor benefits. While it seemed to be agreed that women who leave the labour force to raise children should somehow be covered, there was no agreement on how to do this. There was strong support for putting QPP's child-raising drop-out provision into the CPP, and for making homemaker participation in CPP more than just voluntary. It was felt that private plans should provide benefits for part-time workers, many of whom are women. And there were heated and inconclusive discussions on unisex mortality.

Many women want pensions in their own right, not just as dependents. Some think the answer lies in reform of the social system, from which pension changes will flow automatically.

Vesting, Portability and Locking-In were not particularly contentious subjects. It is almost universally accepted that pensions are deferred wages, the premise from which the principle of immediate vesting follows, and from this the concept of immediate locking in of all employee contributions. It was also accepted that the value of any vested pension should come in substantial part—say, 50% — from employer contributions. A pension provided mainly by employee contributions isn't acceptable.

Inflation. Vested pensions must, it was thought, be protected from inflation, which can be done by leaving them in the original plan with some form of indexing. But many employers object to doing this, and most delegates doubted that either this or a system of reciprocal transfer agreements would work. The preferred solution is to transfer both employer and employee money into a locked-in Registered Retirement Savings Plan; the machinery for doing this is in place, and current high interest rates give some protection against inflation.

Industry questions the need for full indexing of all pensions inasmuch as government plans are so indexed; labour, specially the public sector unions, wants universal indexing. Excess interest indexing, i.e., using excess investment earnings to increase current pensions, was much discussed; for this to be helpful, pension costs may have to be calculated at a lower interest rate than currently, with concomitant increase in costs. It is recognized that all such changes will increase costs, but to an unspecified extent. Some doubt that the private sector can solve these problems, or even that it is interested in doing so. □