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WASHINGTON STATE REGULATION GOVERNING REPLACEMENTS

by Stuart A. Robertson

Methods of solicitation employed by a few agents active in his state gave rise to the Washington State Insurance Commissioner's development of a regulation relating to replacement of existing life insurance policies. The regulation, which took effect Oct. 1, 1968, requires that in any case where such a replacement is proposed, the prospect be furnished a written comparison of the cost of insurance under the old policies and under those proposed as replacements. The method of making such a comparison and details of the presentation to the prospect are specified in the regulation.

Not Perfect

The form and the formula fall short of perfection. The writer and many others interested in the subject submitted criticisms when invited by the Commissioner to do so in the course of public hearings. Whatever its shortcomings, however, a comparison prepared in accordance with the regulation will represent a substantial improvement over the grossly misleading comparisons that were being used by some agents.

The formula underlying the regulation expresses the cost of insurance per unit of net amount at risk as:

$$\frac{P' + i\,({}_tCV) - ({}_tCV - {}_{t-1}CV)}{(1 - {}_tCV)}$$

This is simply an approximate adaptation of the familiar formula:

$$P + i\,(P + {}_{t-1}V) - ({}_tV - {}_{t-1}V) = q_{x+t-1}\,(1 - {}_tV)$$

The fact that the regulation is based

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ACTUARIAL EDUCATION AT UNIVERSITY OF MICHIGAN

by the Michigan Actuarial Faculty

Ever since a first course was offered in 1902 by Professor James W. Glover, there has been an actuarial program at the University of Michigan. In the 66 years, some 900 alumni have completed actuarial studies. A high proportion have served in the actuarial profession, and many have had outstanding careers. Michigan alumni comprise approximately 13% of the Fellows of the Society of Actuaries resident in the United States.

An actuarial student at Michigan may be at any stage from freshman to final doctoral year. He may enter as a freshman, as a transfer undergraduate student, or as a graduate student. At some stage, he will go through a core program of probability and statistics, finite differences, compound interest, life contingencies, actuarial theory of pensions, and mortality studies. The first three of these subjects are at an intermediate level (junior, senior, and beginning graduate), the latter three at a graduate level.

As to undergraduate programs, we advise students in the freshman and sophomore years to get a basic background in mathematics, English, and economics, and to fulfill college requirements in foreign languages, humanities and science. At the junior level, students may elect to continue in a Bachelor of Arts program with concentration in actuarial mathematics or to proceed toward a Bachelor of Business Administration degree. In either case, the student will take the intermediate level core courses, and will sit for the first three actuarial examinations.

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FEDERAL INCOME TAX EFFECT OF RESERVE INTEREST RATE UNDER PHASE 1

by John C. Fraser

Under Phase 1 of the Federal Income Tax Act of 1959, life insurance companies are taxed on the excess of their interest earnings over their reserve interest requirements. Reserve interest requirements are not based upon the reserve valuation interest rate but upon the actual interest rate earned by the company averaged over 5 years, called the "adjusted reserves rate." The company's valuation reserves are revalued at this rate and such revalued reserves are then multiplied by this adjusted rate to obtain the reserve interest requirements for tax purposes.

"10 for 1" Rule

In making this revaluation of reserves for tax purposes, companies are required to use the "10 for 1" rule. This rule says that for every 1% increase in the reserve interest rate there will be a 10% decrease in reserves. For example, if reserves are held at 3% and the adjusted reserves rate is 5%, the adjusted reserves for tax purposes are obtained by reducing the reserves held by 20%—that is, by 10 times the excess of 5% over 3%.

It is remarkable how well the "10 for 1" rule works (if you leave out of the picture reserves based on dual interest rates). This means that the level of reserves for tax purposes, and hence a company's reserve interest requirement, is virtually independent of the actual valuation interest rate used for reserves. This means that a company gets about the same reserve interest deduction on, say, 2½% policies as on 3% policies.

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Income Tax Effect

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It is generally agreed that it is necessary to build up larger funds on 2½% policies than on 3% policies, even though there may be a higher ratio of surplus to reserves on 3% policies than on 2½% policies. Perhaps in theory there is no reason to build up larger funds on 2½% policies; but because of annual statement surplus requirements and other practical considerations, larger funds will be built up on 2½% policies, either by having larger premiums, and/or lower dividends, than on 3% policies.

The more funds a company builds up on a series of policies the more interest it will earn. Nevertheless, as indicated above, the reserve interest deduction for tax purposes is not significantly affected by the valuation interest rate. This means that for all practical purposes the additional interest earned on the higher funds associated with 2½% policies, as compared with the funds associated with 3% policies, is taxed in full without any offsetting credit for additional reserve interest requirements. The additional tax is about half of the interest earned on the extra funds.

Comparison

To illustrate the foregoing, we have shown the calculation of the Phase 1 tax of Company A, a company with 2½% reserves, and compared it with the calculation of the Phase 1 tax of Company B, a company with 3% reserves. The illustration assumes that Company B has the same amount of surplus as Company A. To the extent that Company B feels it needs more surplus than Company A because of its higher reserve valuation interest assumption, it will have to pay more tax than shown in the illustration, such additional tax being about half of the interest earned on the additional surplus. The illustration also assumes for simplicity that the 5 years average interest rate is the same as the current interest rate.

Line 1 of the illustration shows that Company A has $8,000,000 of reserves at 2½% and Company B has $7,500,000 of reserves at 3%. Line 2 shows that each company has $500,000 of surplus.

Simplified Comparison of Phase 1 Federal Income Tax
2½% Reserves vs. 3% Reserves

	Company A 2½% Reserves (a)	Company B 3% Reserves (b)	Difference (a)—(b) (c)
1. Reserves	$8,000,000	$7,500,000	$500,000
2. Surplus	500,000	500,000	0
3. Assets = (1) + (2)	$8,500,000	$8,000,000	$500,000
4. Interest at 5% on (3)	425,000	400,000	25,000
5. Reserve Adjustment Factor	75%	80%	—
6. Adjusted Reserves = (1) x (5)	6,000,000	6,000,000	0
7. Reserve Interest Deduction = 5% of (6)	300,000	300,000	0
8. Tax Base = (4) − (7)	125,000	100,000	25,000
9. Tax at 48% on (8)	60,000	48,000	12,000
10. Retained Interest = (4) − (9)	$ 365,000	$ 352,000	$ 13,000

Line 3, assets, is the sum of lines 1 and 2 and shows that Company A has $8,500,000 of assets and Company B has $8,000,000 of assets. The higher assets of Company A are due entirely to its higher reserves. Line 4 shows the interest earnings at 5% on each company's assets. Company A has $425,000 of interest earnings compared to $400,000 for Company B, a difference of $25,000. Line 5 shows the reserve adjustment factor determined on the basis of the "10 for 1" rule. In the case of Company A, the 25% reduction in reserves is equal to 10 times the excess of the 5% earned rate over the 2½% valuation interest rate. In the case of Company B, the 20% reduction in reserves is equal to 10 times the excess of the 5% earned rate over the 3% valuation interest rate.

Line 6 shows that when the reserves of each company are adjusted by the reserve adjustment factor they become the same, that is, $6,000,000. Line 7 shows that the two companies also have the same reserve interest deduction of $300,000, equal to 5% of the $6,000,000 adjusted reserves. Line 8 shows the tax base for each company, that is, the excess of the interest earned in line 4 over the reserve interest deduction in line 7. Note that the entire additional interest of $25,000 earned by Company A is carried through to the tax base. Line 9 shows the tax at 48% on the taxable income. Company A's tax is $60,000 and Company B's tax is $48,000. Note that the $12,000 by which Company A's tax exceeds Company B's tax equals 48% of the $25,000 of additional interest earned by Company A. Line 10 shows the retained after tax earnings for each company. Company A is retaining only $13,000 of the $25,000 of additional interest earnings.

The illustration clearly shows that any interest earned on additional funds associated with 2½% reserves as compared with the funds associated with 3% reserves is taxed at a very high rate, almost 50%. This seems to be a high price to pay in order to keep the good net cost position associated with the higher cash values on 2½% policies as compared with 3% policies.

Rule of Reason

Some actuaries may take exception to this. The argument, carried to its logical conclusion, states that no company should hold more funds than are absolutely necessary, either (1) in reserves through the use of a lower valuation interest rate than is necessary or (2) directly as a part of surplus. The trouble with arguments carried to their logical conclusion is that they can lead to extreme positions. Certainly, a company needs an adequate amount of surplus and it is not proposed that surplus be cut to the bone.

The whole general question of whether a company should have high funds or low funds, earn more interest or less interest and pay more tax or less tax can get very involved; the present space is too limited for that discussion. This note merely shows the very high rate of tax being paid on the additional funds necessary to support 2½% reserves as compared with the funds necessary to support 3% reserves. □