The Actuary

The Newsletter of the Society of Actuaries

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REGULATORY PROBLEMS OF LIFE INSURANCE COMPANIES vs. OTHER FINANCIAL INSTITUTIONS

by Richard V. Minck

The investment returns earned by life insurance companies over the past decade have permitted the sale of contracts guaranteeing relatively high rates of interest. The contracts have given rise to problems in the areas of the federal securities laws, of federal income taxes, and of state valuation requirements.

Traditionally, insurance contracts funding qualified pension and profit-sharing plans have not been regarded as securities to be regulated under the 1933 and 1934 acts. During the 1960's, insurance companies began to issue annuity contracts that provided for the allocation of contributions to separate accounts, thus enabling those contributions to be invested in common stocks. The SEC staff took the position that these separate account contracts came within the federal securities acts' definition of "securities." The issue was brought to the Congress which amended the securities laws so that participating interests in life insurance company separate accounts established in connection with qualified retirement plans were declared to be "exempted" securities. Recently, insurance companies have offered contracts to fund pension plans which *do not* utilize separate accounts and which provide for only minimum, if any, mortality guarantees. Questions have been raised by the SEC staff whether these contracts are entitled to exemption. However, on March 18, the SEC issued a "no-action" letter which set forth conditions which, if met, would lead the SEC not to recommend enforcement action if guaranteed interest contracts are sold by life insurance companies to corporate pension plans without registration of such contracts as securities. (*Continued on page 7*)

David Garrick Halmstad Memorial Fund

Contributions to the fund established to award annual prizes in memory of Dave Halmstad now total $4,000. The goal of $5,000 appears to be in sight. Tax-deductible contributions in the form of checks payable to the Society of Actuaries may be sent to the Chicago office.

SEX AND THE SINGLE TABLE REVISITED

by Barbara J. Lautzenheiser

Editor's Note: Barbara Lautzenheiser's excellent article "Sex and the Single Table" (see *The Actuary*, February 1977) indirectly gave rise to the following comment:

"The issue never was or is now whether women live longer than men. The issue is whether in a given group formed by common employment, benefits to one class within that group should differ because of race, sex, smoking, blood pressure — or eye color."

Miss Lautzenheiser decided to reply to this comment and her reply is well worth reprinting:

"Although I agree with you that the issue never should have been nor should be now whether women live longer than men, I'm afraid in some people's minds that *is* the issue. I constantly receive questions and doubts about the credibility of the current statistics. People always question things they haven't developed themselves, and particularly things they don't understand or things that don't give the results that they want. And people questioning longevity data on men and (*Continued on page 8*)

JIMMY CARTER AND SOCIAL SECURITY

by Ronald G. Harris

On the same day that the "1977 Trustees Reports" were issued, the Carter Administration unveiled its financing program for the Social Security trust funds. The Administration presented a series of proposed changes designed to alleviate at least partially the financial problems of the programs. The proposal in total is rather complex and defies a simple explanation but there are basically eight major provisions:

—The first is that it would institute a special "counter-cyclical" system of financing from general revenues which is intended to replace social security taxes that are lost when the unemployment rate exceeds 6%. There is a retroactive feature on this provision going back to 1975.

—A second major characteristic of the proposal is that it would remove the ceiling on the amount of an individual's wage or salary on which the employer would pay social security taxes. This is proposed to be accomplished in three annual steps beginning in 1979 and ending in 1981.

—The third point, related to the second, would impose an increase in the maximum amount of wages or salary on which an employee would pay social security taxes and, of course, on which his benefits normally would be based. The proposed increases would be $600 in each of the four years 1979, 1981, 1983, and 1985. These would be increases that are in addition to the automatic increases that would result from current provisions of the law.

—The fourth item is a shift of some taxes from the HI program to the (*Continued on page 7*)

The Actuary

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EDITORIAL

ACTUARIES of Canadian life insurance companies will wake up one morning in 1978 to find that they have a great deal more freedom in making their valuations than they had in the past. This will come about as part of a substantial revision to the federal insurance laws; the amending act (25-26 Elizabeth II, Chapter 39) was assented to on 14th July but certain parts, including that on life insurance reserves will not become effective before the year-end, pending discussions with the industry.

Under the amended laws—which also apply to non-resident companies—there will be no prescribed tables of mortality and no prescribed interest rates. Instead, the interest rates and rates of "mortality, accident, sickness or other contingencies" will be such as are: (i) "in the opinion of the valuation actuary . . . appropriate to the circumstances of the company and the policies in force, and (ii) acceptable to the Superintendent."

Thus the primary responsibility for choosing the valuation bases will rest on the valuation actuary. Although, in the past, permission to depart from the prescribed bases could be applied for, these were exceptional cases; now the exceptional cases will be those where the Superintendent finds the bases unacceptable.

Bernard Shaw tells us that "liberty means responsibility; that is why so many people dread it." We are sure that Canadian actuaries will prefer their new liberties and responsibilities to the comforts and constraints of the past.

A further change in the law requires that the appointment of valuation actuary be made by the board of directors, and reported to the Superintendent within fifteen days; another provides that the auditor may accept "any reserve . . . in the annual statement in respect of which the valuation actuary has given the opinion" mentioned above.

There are many other changes in the laws affecting valuation methods, asset values, and so on. The whole represents the culmination of several years of work on the subject of financial reporting. Its development has been mentioned in the Annual Reports of the Superintendent since 1972 and has been the subject of extensive study by professional and insurance industry bodies over the past several years. The Committee on Financial Reporting of the Canadian Institute of Actuaries has been closely involved. It is sponsoring a seminar in late September at which proposed standards for the guidance of actuaries in life insurance valuations will be presented for discussion.

The Actuary looks forward to carrying in its columns, reports and correspondence on this most interesting subject.

Colin E. Jack

LETTERS

The Professional Actuary

Sir:

Sidney Kaufmann's letter in the May 1977 issue leads me to write you on the same general topic of who is an actuary. I agree that the outcome of the ERISA and the Joint Board's regulations about enrolled actuaries was disappointing. However, if the profession had been more unified when the law and regulations were being drafted, the result might have been better.

This is why the Society and the other actuarial organizations are trying to find some way of unifying the profession so we can speak with one voice to the regulators. But I want to point out that unifying the profession means what the words say. It means we have to develop an organization that will admit and accept all bona fide actuaries in a spirit of good will and openness.

It is too late to think that the only actuaries in the United States are those who have passed the Society exams. There are competent actuaries who have never taken the exams and never will. If they are doing actuarial work, we should find a way to get them into the mainstream of the actuarial profession rather than try to exclude them.

The question whether an individual is an actuary should not be answered on the basis of whether the exams he took were sufficiently difficult. The basis for the answer should be whether the individual can do responsible actuarial work.

As to Enrolled Actuaries, it seems to me that if a person has been recognized by the federal government as being capable of doing responsible actuarial work, then it is desirable to bring that person into the actuarial profession and make him feel at home. Otherwise we are setting the stage for a further splintering of our profession, which is too small to support a lot of competing organizations, or to demand recognition by the general public of subtle and perhaps even inconsequential differences in training and experience.

What I've said so far doesn't mean that our problems in dealing with government will go away if we organize the profession more rationally. But I think an appropriate reorganization of the profession should help solve the prob-

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lems, whereas the current organizational structure can be a hindrance.

Also, I would hope that a reorganized profession could provide for recognition of credentials as well as membership. In other words, the objective would be to unify the profession through a single membership organization (in the U.S., and another one in Canada) while maintaining and perhaps improving a system of advanced study which will make the attainment and retention of credentials a meaningful objective for actuaries.

I hope our profession can strengthen itself by a process of unification so as to be better able to serve the public as well as the members of the profession in the future.

Finally, although I happen to be the current chairman of the Society's Steering Committee on Reorganization, I'd like this letter to be understood as my personal opinion rather than the consensus of the Committee.

Julius Vogel

* * * *

Sir:

We have been waiting to see if the Joint Board would stay in the running for "Rookie Bureaucracy of ERISA." The latest decision to reject pre-1976 Society exams was so far out in left field that Carl Yastremski would not have tried.

We have learned that the Board of Parole will get the "Most Valuable Player" award, and PBGC was knocked out of the running when it published guidelines on avoiding termination. But lack of competition has not affected the Joint Board.

Under the legislative mandate to set reasonable standards, they have been unreasonable at every opportunity. Where Congress wanted as many competent actuaries as possible, they drafted the minor leagues and then knocked out major league players who are in the wrong division.

There is only one more game this season, and that is the September exams. If they can insult the Society and still get its members to sit for the exam, they will be awarded the Rookie trophy unanimously.

Lawrence A. Ehrhart

Sir:

This letter replies to Mr. Kaufmann's diatribe in the May 1977 issue. I agree that the enrollment exams did little to plumb the depth of the candidates' theoretical and conceptual understanding. Nonetheless as a non-member of any professional body (and a non-graduate of any college or university for that matter), I passed the exam in order to be able to continue the practice of my profession.

I do not punch a calculator, consult present value tables, or sell insurance which were the only choices Mr. Kaufmann allowed me. I am a pension actuary. I am, however, acquainted with many pension actuaries who are members of professional bodies and who would better serve their clients if they restricted their activities to punching calculators, consulting present value tables or selling insurance. It is worth noting that *The Actuary* as well as Mr. Kaufmann feel that the malicious innuendo contained in his letter is not subject to 5(b) of the Guides to Professional Conduct.

Vine H. Smith

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Sir:

Permit me to use your publication to expand briefly on the remarks attributed to me in the *BNA Pension Reporter* to the effect that I found certain Society of Actuaries' exams to be less difficult than the Joint Board exams.

The "Joint Board exams" I was referring to were the two which were then being prepared for the September 1977 exam sessions and to which only the members of the Advisory Committee and I were privy. These two exams will certainly be far more searching and require a much higher level of expertise to pass than the three which the Joint Board gave to initial applicants in the so-called "grandfather period."

It should be borne in mind that the Joint Board's mission is a rather specialized one, namely to validate an individual's competence to attest to the appropriateness of the actuarial valuations that are an integral part of demonstrating compliance with statutory minimum funding requirements. The Society's perspective on what a professional actuary in the pension field should know is considerably broader than this, and thus the Society exams cannot give as much detailed attention to this specific area as the Joint Board exams can (and do) give.

The result is that, by comparison with the Society exams, the Board exams necessarily deal more comprehensively and in greater depth with the various problems involved in the certification which by law only an enrolled actuary can sign. My review of all the pension questions on Society exams in recent years appeared to bear this out. In the discussion the Advisory Committee and I were having at the time, I thought that point was worth noting for the record. I frankly don't recall using the word "difficult"; perhaps "searching" would have more clearly conveyed my meaning.

Rowland E. Cross

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Sex and The Single Table

Sir:

Robert J. Randall (in the April 1977 issue) indicated he feels that previous reviewers of recent governmental attempts to forbid sex differentials in the pricing of pensions have "given too little weight to the fact that the ultimate decision rests with the people and their elected representatives and not with actuaries and other experts."

I disagree. The reviewers were quite proper in not going beyond recording inconsistencies and logical fallacies. To rely "solely" on logic and consistency, one is not evading the fact that the Government, appropriately or inappropriately, has the potential to enforce an outcome contrary to one's conclusions.

Mr. Randall proceeds to indicate that differentials in pension costs or insurance in the past were more a matter of "convenience" to insurers than fundamental risk differences. But Mr. Randall offers no examples of this! He chooses, rather, to construct a hypothetical example! Within that context he makes an assertion that risk classification based on religion could properly be prohibited by the Government. But he offers no support for this contention.

Mr. Randall then proceeds to indicate "similar arguments" which apply to racial differences. The Government's prohibition or potential prohibition of a certain type of transaction does not alter the primary standards — those of consistency and logic.

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Mr. Randall also indicates that the reviewers' arguments ignore the possibility of risk classification based on criteria other than sex. Some other classification can be used — but that's so obvious that reviewers don't need to point it out. To not mention an obvious point is not necessarily to ignore it. The essential point here is that any information which one has, but is prohibited from using potentially leads to *less sound* results than full use of all information. Further, the fact that one can recover from a prohibition does not justify the prohibition.

Mr. Randall closes with an indication that if sex differentials "would be permitted" then it seems to him that any mandatory retirement age "*should* be higher for women." The appropriate position is that differences in retirement age *should be permitted* but should *not* be *required.*

And, as closing thoughts, are not Tom Walsh and Barbara Lautzenheiser, as we all are, some of the people? Would we not all benefit if we were to follow their example and apply the standards of logic and consistency to major issues we face?

Ray Cole

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Full Funding Limitation

Sir:

The article by Peter V. McCluskey in the May issue entitled "Full Funding Limitation Under the Internal Revenue Code" seems to have overlooked one point. If under the aggregate cost method, the accrued liability is defined to be equal to the valuation basis value of the accumulated plan assets, then so long as the market value of those assets is not less than the valuation basis value of the assets, any accumulated funding deficiency whatever is eliminated through application of the full funding limitation credit. In this way minimum funding standards will be satisfied even if no funding whatever is performed. This situation is so ludicrous and so contrary to the intent of ERISA that we are forced to the conclusion that the full funding limitation under the aggregate cost method must be determined in terms of the Entry Age Normal Cost Method.

W. H. Crosson

Treasury Bill Yields

Sir:

Recently, our office has become interested in how the government determines the so-called "yield" of Treasury Bills, whether they be 13-week bills or 26-week bills. After every Treasury-Bill auction, the average, high, and low prices of each issue can be found in publications such as the *Wall Street Journal* with their corresponding yields shown alongside in parentheses. The reader is given the following explanation:

> "Yields are determined by the difference between the purchase price and the face value. Thus, higher bidding narrows the investor's margin of return while lower bidding widens the yield. The percentage rates are based on the discount from par and are calculated on a 360-day year rather than the 365-day year on which yields of bonds and other coupon securities are figured."

Based upon this explanation, we attempted to reproduce the yields for the various Treasury-Bill issues and were unable to do so at first. Additional calculations led us to the conclusion that the aforementioned explanation is only partially correct. The percentage rates are based on the discounts from par; for 13-week bills, the rates represent the nominal rates of discount payable four times a year and the rates for 26-week bills represent the nominal rates of discount payable two times per year. This in itself is not too surprising. However, this nominal rate of discount is based upon an effective rate of interest determined using a compound-interest version of the so-called "Banker's Rule." In other words, while it is true that $d^{(m)} = m \times (1-(1+i)^{(-1/m)})$, the i is computed in accordance with the following formula: $i = (\text{price}/100)^{(-360/n)} - 1$ where n = the exact number of days in the period. In the case of 13-week bills, n usually equals 91, while in the case of 26-week bills, n usually equals 182.

For example, the following data were found in the July 26, 1977 issue of *The Wall Street Journal* (with our calculations which follow)

13-Week

	Price	(Rate)
Average price (Rate)	98.695	(5.163%)
High price (Rate)	98.703	(5.131%)
Low price (Rate)	98.692	(5.175%)
Coupon Equivalent		5.30%

Our Calculations

i	$d^{(4)}$
5.334%	5.163%
5.300%	5.131%
5.347%	5.175%

We have been unable to reproduce the coupon equivalent and wonder if anyone has any information regarding the meaning of the term as well as how it is determined.

Mitchell L. Barlás

* * * *

The Inequity of Equality

Sir:

The article "The Inequity of Equality" by Robert J. Johansen was fascinating.

I suppose it's necessary to provide an actuarial response to a nonsense affidavit, but why not just say: "Don't be so silly."

Using the complainant's own table, after pairing off the matching deaths, it is apparent that the unmatched males *all* died before age 86 and the unmatched females *all* died after age 85.

It is obvious that fewer annuity payments will be made to the males than to the females. If it were worth my time, I could easily compute the weighted average, to show *any* 10 year old child the *substantial* difference.

Incidentally, neither Mr. Johansen's answer nor mine recognizes interest, which would have a considerable effect but not alter the principle.

Gilbert W. Fitzhugh

* * * *

Pensions and Survival

Sir:

Concerning the idea of deferring the normal retirement date under Social Security (and the same applies to the Canada or Quebec Pension Plans), I think Mr. Robert J. Myers hints at an important point. The correction in the funding must certainly be made but it need not be made immediately. If the correction in funding were made by deferring the full benefit retirement date of Social Security, then this change

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should itself be postponed until after the present period of high unemployment. We all know that as the last of the "baby boom" passes into the workforce, and if immigration continues to be restricted, we can expect a period of labour shortage in the 80's. Until then, higher contributions, general revenue or even borrowing would seem a better stop gap.

I would also like to draw the attention of the profession to the effect which making Social Security less generous would have on the funding provisions of ERISA. The resulting actuarial losses in pension plans will have to be rapidly amortized. I think the legislators who are thinking of making Social Security less generous should also be encouraged to change Section 412 (c) (4) (A) of the Internal Revenue code. This also applies to the various "decoupling" proposals.

C. V. Schaller-Kelly

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Open Forums

Sir:

Committees which produce draft statements for circulation to the membership for comment should be required to hold some sort of an "open hearing," preparatory to the issuance of final statements.

The issues are often too important to rely only upon written correspondence which prevents dialogue as to intent as well as the ability to discuss other suggestions fruitfully.

On a more fundamental point, there should be some mechanism, involving a membership vote, before matters of professional interest become part of our guides or opinions on professional matters.

It is possible that a committee can be somewhat nonrepresentative in terms of our membership. It is possible that written dissenting comment can be substantial and yet not be fully recognized. We also need some formal means, by membership vote, to overturn a guide or opinion that fails to stand the test of time.

We need a more open forum for these kinds of discussions.

Barnet N. Berin

* * * *

Interest-ing

Sir:

Kellison, in "The Theory of Interest," shows that $a_{\overline{n+k}|}$, where n is an integer and $0<k<1$, is equal to

$$a_{\overline{n}|} + v^{n+k}\left[\frac{(1+i)^k-1}{i}\right]$$

where the final payment at time n+k is

$$\frac{(1+i)^k-1}{i}$$

Since the final payment is usually taken to be k, the author leaves it as an exercise for the student to find the resulting error. It is possible, by adjusting the time of payment, to almost eliminate this error.

The problem may be restated as follows: given an amount to be amortized by n equal payments and a final payment of k, when must k be paid to fully amortize $a_{\overline{n+k}|}$

Here is a simple approach:

$$a_{\overline{n+k}|} = a_{\overline{n}|} + v^n a_{\overline{k}|}$$

$$= a_{\overline{n}|} + v^n(\bar{a}_{\overline{k}|})\left(\frac{\delta}{i}\right)$$

$$\doteq a_{\overline{n}|} + v^n(k\,v^{\frac{k}{2}})(v^{\frac{1}{2}})$$

$$= a_{\overline{n}|} + v^n k\,v^{\frac{k+1}{2}}$$

and

$$\ddot{a}_{\overline{n+k}|} \doteq \ddot{a}_{\overline{n}|} + v^n k\,v^{\frac{k-1}{2}}$$

The error in $a_{\overline{n+k}|}$ is an overstatement equal to

$$v^n(a_{\overline{k}|} - k\,v^{\frac{k+1}{2}})$$

The magnitude of this error may be evaluated by binomial expansion in powers of i of the terms within the parentheses. Thus

$$a_{\overline{k}|} = k - \frac{k(k+1)}{2}i + \frac{k(k+1)(k+2)}{6}i^2 - \dots$$

$$k\,v^{\frac{k+1}{2}} = k - \frac{k(k+1)}{2}i + \frac{k(k+1)(k+3)}{8}i^2 - \dots$$

Since the error in dropping the higher order terms in a convergent alternating power series is less than the highest order term retained, it follows that the maximum error is

$$v^n\left[\frac{k(k+1)(k+3)}{8} - \frac{k(k+1)(k+2)}{6}\right]i^2$$

$$= v^n\left(\frac{k-k^3}{24}\right)i^2$$

The error is zero when $k=0, 1$ and is at its maximum when

$$k = \frac{1}{\sqrt{3}} \doteq .58$$

An example should make this clear. Let $i=5\%$. Then

$$a_{\overline{10.5}|} = 8.017640 \doteq a_{\overline{10}|} + v^{10}(.5\,v^{\frac{1.5}{2}}) = 8.017662$$

The error is an overstatement of .000022. The maximum error is

$$v^{10}\frac{k-k^3}{24}i^2 = .000024$$

so that the actual error is well within the maximum, and in this example is less than 30 parts per million.

Thus the final payment to fully amortize $a_{\overline{10.5}|}$ $(\ddot{a}_{\overline{10.5}|})$ is a half payment at the end of the third quarter of the eleventh (tenth) year. This result is simple and accurate enough for all practical purposes.

Christopher C. Street

Letters

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Let's Speak Out!

Sir:

The accuracy of Jonathan Wooley's editorial message (June 1977) about actuaries not speaking up on issues seems to be verified in microcosm in my own incoming mail.

I have been urging that all individual life insurance except term be issued henceforth on participating forms only. The result has been a total of two letters. One of these writers said I was wrong, and expressed concern about the possible adverse effect of my message upon the entire life insurance business — to the detriment of the consumer as well as the insurance company and the agent. The other writer said he agreed with me.

Isn't this one of the subjects on which at least several actuaries would like to air their opinions?

E. J. Moorhead

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SOCIAL SECURITY NOTE

A limited number of free copies of the publication by the staff of the Senate Finance Committee on *Social Security Financing* (summarized in the June issue) are available from the Office of The Actuary, Social Security Administration, Suite 700, Altmeyer Building, 6401 Security Boulevard, Baltimore, Maryland 21235. ☐

Actuarial Meetings

Sept. 8, Baltimore Actuaries Club

Sept. 19, Fraternal Actuarial Association

Sept. 20, Boston Actuaries' Club

Sept. 26, Chicago Actuarial Club

Oct. 3 & 4, Annual Meeting — Conference of Actuaries in Public Practice

Oct. 13, Baltimore Actuaries Club

Oct. 18, Chicago Actuarial Club

Note: Is your attendance falling off at Club Meetings? Maybe it's because you don't have the meeting dates published in The Actuary.

PLEASE send notice of your meetings to The Actuary *at least* 2 *months in advance!* ☐

Results of Competition No. 8

The last Competition was suggested by Dr. Ellen Torrance who noted that current rates of growth in the FSA and US populations would result in more FSA's than people by the year 2140. The Competition appeared in the February issue of *The Actuary* which most readers received around the first of April. By coincidence, that date happened also to be the deadline for the Competition.

Old Pogo fans, recalling that Friday the thirteenth falls on a Tuesday in some months, saw nothing strange in this. Less cultured but more imaginative readers saw instead a solution to Dr. Torrance's problem in what Daniel Case calls "the Competition Editor's puzzling habit of setting deadlines for Competition entries which have already passed . . ." John Fibiger, for example, says the solution is merely to publish exam results in *The Actuary* and requiring exams to be passed in order. "By the year 2140, *The Actuary*, by extrapolation, will be 522 days late . . . Given the well-known truth that the Education and Examination Committee arbitrarily fails half the candidates . . . it would appear to take 36 years to attain fellowship . . ." Obviously a charitable man, Mr. R. G. Mepham blamed the whole thing on the mail service and suggested that we "rely on the males to increase the U.S. population and the mails to generate the growth in FSA's . . ." (Ms. Torrance, arise). Among others in this vein, Richard Hester would attack the problem through contraception, ". . . turn over the distribution of the application forms to *The Actuary*", while Merrill Mack would ". . . announce all exams one day prior to the exam date, the time frame for completion of entries to the Competition . . ." James Shearer, like all consultants, saw the brighter side, ". . . in requesting a reply by April 1, you are helping to sustain that hallowed industry tradition: 'When do you need this?' 'Yesterday'."

Ken Leone and Donald Grubbs aren't certain there is a problem, the latter asking, "What's wrong with having more FSA's than people?" And Karen Mitchell felt "The Joint Board has already solved this problem: Simply refuse to accept any more applications."

Otherwise the solutions fell generally into the two categories outlined by Robert H. Selles "Increasing the rate of population growth or decimating the FSA population." Like most others, he opted for the latter, proposing that FSA's be immediately pensioned on passing Part nine, the pension ending at 65, and then be given an incentive to "take such action that would lead to $l_x/l_{65}=0$". Dan Case's solution was similar, ". . . have FSA's die before they are created" but kinder, ". . . the FSA designation would be made at the end of the year of death."

Roger Gray also suggested paying subsidies but to "people for not becoming FSA's", controlling fraud by requiring applicants to "establish they had at least latent actuarial tendencies." Thomas Phillips thought the number of exams should be indexed, an approach also favored by Jerrold Scher who suggested as well the alternative, "By reinforcing the attitude, 'I wouldn't mind an actuary living next to me, but I don't want my son or daughter to marry one', we can increase the proportion of unmarried actuaries which, in turn, should reduce the number of actuarial offspring."

Jacques Deschênes, nose to the grindstone as the Society's Secretary, focused on the problem of producing a yearbook listing one trillion FSA's by 2233 AD. After alerting his printer he suggested, "The solution would be to reinstitute a 10th Fellowship examination: a physical test requiring the lifting of the yearbook." Richard Hester would have the old Language Aptitude Test reinstated urging, "Read, don't breed." Curiously enough, Bill Lane's new examination took a divergent tack, "Subject matter to be limited to Procreation with the usual choice between Group or Individual (multiple choice in either case) ... attainment of FSA would be slightly extended, and population growth greatly encouraged."

Frank Di Paolo opted for actuarial birth control in an unusual way, ". . . actuarial examinations be held only in Chicago in one of the buildings around the Loop . . ." (Frank, is this a positive or negative population check?)

We liked Joel Rich's legal solution:

> The conclusion . . . relies heavily on the assumption that growth will follow the "classic" compound interest curve.

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Competition No. 8

(*Continued from page 6*)

The obvious solution is to lobby Congress to outlaw compound interest and all its "derivatives. Some sample slogans might be (i) think simple (ii) compound interest discriminates against women and minorities, (iii) compound interest causes cancer . . ."

We took due note of Mr. Rich's use of i to separate his slogans but wish to point out that elimination of compounding will make present value calculations so simple that accountants could pass the exams, thus further increasing the FSA population. Not for this flaw alone did we pass his solution and award the prize to Denise Fagerberg Roeder whose solution struck us as the most elegant:

I would suggest that the Society immediately embark on a program of offering group therapy to new FSA's. This would help them reenter the real world, something *which* they have *not* been *in* touch with since sitting for their first actuarial exam. After a period of such therapy, FSA's would once again be real people, and the problem would be eliminated.

We assume Ms. Roeder would go along with Bill Lane and offer an Individual option.

So, Mr. Mepham's solution notwithstanding, the females have it.

C.E.

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Regulatory Problems

(*Continued from page* 1)

The SEC staff, as a result of advertisements appearing in major newspapers, have examined contracts sold by insurance companies to individuals or groups to fund tax-qualified pension and profit-sharing plans, *other than qualified corporate plans,* and contracts sold to individuals not part of any pension or profit-sharing plan. In the SEC's view, the sales approach has been to emphasize strongly "investment" features rather than insurance and/or annuity features and the SEC feels that these products differ in material respects such as the absence of purchase rate guarantees and the high level and short term duration of interest rate guarantees from products traditionally offered by insurance companies. The questions asked by the SEC staff are: In what context are the contracts being sold? Are they being sold as an alternative form of investment?

This problem has been highlighted by advertising that heavily stresses the investment advantages of contracts with tax-deferred interest and makes little or no reference to the annuity aspects of the contracts. Such advertising will continue to capture the attention of the SEC, which is in the middle of a review of the questions raised above.

The Federal income tax laws have encouraged the elimination of traditional insurance-type guarantees.

The fundamental Federal income tax issue presented by these contracts concerns the amount that may be deducted with respect to interest credited under the contract. There are two basic possibilities:

(1) If the funds held under the contract are determined to constitute "life insurance reserves" the deduction is measured by the life insurance company's overall portfolio earnings rate, even though, as explained above, interest is actually credited at a higher rate.

(2) On the other hand, if the amounts credited are held to be in the nature of interest on funds which do not involve life contingencies, then the full amount of credited interest is deductible.

The problems described flow from the effort of insurance companies to compete for savings. Banks have diversified in the past several years and expanded their services; mutual funds have developed new mechanisms (e.g., money market funds and municipal bond funds). Insurance companies have also attempted to provide a greater variety of services to maintain or increase their share of the savings market. In doing so, they have come into conflict with the various federal regulatory agencies. The dilemma of the next several years is how to compete effectively and yet not be hamstrung by increasing federal involvement.

Editor's Note: We are indebted to the author for permission to excerpt these comments from his presentation at the "Open Forum One" session at Quebec City. □

Jimmy Carter

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OASI and DI programs. This would be considered feasible for a couple of reasons: (1) the reduction in HI expenditures that presumably would result from the enactment of the hospital cost containment proposal which the Administration is proposing and (2) the increased revenue to the program resulting from the higher wage bases and from the interjection of general revenue financing.

—The fifth point relates to the restoring of the OASDI tax that is paid by the self-employed to the traditional rate of 1½ times the employee rate.

—The sixth item is the only one that directly involves employer-employee tax rates. It advances the 1% increase in the OASDI rate that is currently scheduled to go into effect after the turn of the century. ¼ of 1% would be added in 1985 and the remaining ¾ of a percent in 1990 (employers and employees, each).

—The seventh item is to correct the over-indexing of benefits that occurred as a result of the automatic adjustment provisions in the 1972 amendments. This is commonly described as "decoupling."

—The eighth and last item in the Carter proposal would be to change the eligibility test for dependents' benefits to offset or approximately offset the financial impact of recent Supreme Court decisions relating to equal treatment of male and female dependents.

The net effect of all these proposals on the operation of the trust fund will be roughly to balance the income and outgo of the OASDI system during the next 25 years. It would, however, leave the OASDI system underfinanced after the turn of the century by about 1½% of taxable payroll for the first 25 years of the 21st century and by about 4½% for the second 25-year period of that century. And, finally, it would leave the HI system in slightly better financial condition that it would be if none of these proposals were adopted. Even so, the HI system would still be significantly underfinanced over the 25-year period.

The Carter Administration proposal departs from more traditional proposals

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PENSIONS AND THE U.S. SUPREME COURT

by Susan J. Velleman

In their recent decision in the case of *Alabama Power Co. vs. Davis,* the U.S. Supreme Court touched on a fundamental issue of employee benefits philosophy. The Court, in holding that defined benefit pension plans must grant benefit accrual credit for periods of military service, concluded that "pension payments are predominantly rewards for continuous employment with the same employer" as contrasted to "deferred compensation for a year of actual service."

This characterization of pensions as a reward for continuous employment seems contrary to current attitudes, as exemplified by the requirements in the ERISA to fund and vest accrued pensions after fairly short periods of service and by the acceptance of negotiated pension costs as part of a cents-per-hour wage settlement. □

Jimmy Carter

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or methods of financing the programs in two key areas. One is the interjection of general revenue funds rather than relying solely on payroll taxes. The other is the treatment of the wage base—removing any limitation from the wage base on which the employer would make contributions. This latter item itself involves a couple of major departures. First, it's really the first time that the wage base has been used strictly as a financing tool. Normally, an ad hoc change in the wage base would affect both benefit computations and revenue to the program. Secondly, and I'm sure most of you are aware of this, professional firms such as actuarial consultants who have relatively high average wages would be affected rather strongly without any corresponding increase in the benefits that their employees would receive.

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Sex and the Single Table

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woman are no exception. Since they feel the industry and our profession both have a vested interest in the results, there is the natural doubt in their minds as to whether or not that vested interest might have gotten in the way of the facts when we developed them. Fortunately, much of that data is census data and Social Security data, not developed by the industry, and therefore it's more credible.

Some of those who do accept the current data as credible, however, question whether or not the data will change with time. They're referring to the data equalizing, of course, rather than further separating as it has in the past. The beauty of the separate tables is that if they do change (hopefully the same way they have in the past, i.e. longer life for women, since in that respect I do have a vested interest) we can then reflect that in the rates in the future.

I sincerely wish that the issue you stated, i.e. "whether in a given group, formed by common employment, benefits to one class within that group should differ because of race, sex . . ." were the only real issue. If the issues were restricted only to this, I would have concern, but not nearly the concern I have for what I perceive the real issues to be. Unfortunately, the issues involve not only group insurance paid for by one employer, but also individual purchases for small groups paid for by many different buyers. In these latter cases equity and fair pricing, not just benefit structure, is absolutely necessary between different buyers.

It's also not just sex, but physical handicap and age as classifications, that are being challenged. It's the ability to assess the risk and charge a fair price for it, with no unfair overcharge for someone else's extra cost risk, that's being jeopardized. The proper assessment of the risk is a responsibility of the provider of the benefit, as well as a necessity, in a voluntary coverage system. Mandation of how to classify or rate policies, through unisex, or unihealth or uni-age tables, or just mandation of what benefits should be provided, reduces the options the public has because some insurers merely cease selling the coverage (as many have done in states where health benefits were mandated) and causes unfair charges to be made on the majority of the public — since low risks are forced to subsidize high risks. Ultimately this could cause elimination of the private insurance market with the necessity of a take-over by the government — a trend which is just the opposite of what the public and the President, appear to want.

It also involves not just annuities, but life insurance, health insurance and casualty insurance, where anti-selection is more prevalent. When an unlimited amount of insurance on a high risk coverage can be made at the same price as a low risk coverage, low risk coverage purchases will cease to be made. This will further spiral the costs and essentially make insurance unavailable at a price that's reasonable to the large majority of the population. This would just not be in the best interests of the public.

There's also the basic question of how to determine when benefits are equal. Paying one person $100 a month for 10 years provides the same monthly benefit as providing another person $100 a month for 20 years, but they don't have the same value. Providing one person a Cadillac to drive to work and another a VW gives them both equal transportation in terms of how long it will take the car to get them there too, but they don't have the same value. I've always measured equality and equity by cost, by value in dollars, because I don't have any other way to measure. And I use the same basis for annuities, i.e. the value of the benefits to be paid. And it's this present value of the payments to be made, not the payments individually, that should be equal.

I feel the profession's responsibility is to determine the facts, substitute them for appearances, and make sure those facts reach the persons responsible for making the decisions. If equality, not in terms of costs, and subsidization of one group by another is for the social good (and we have considered it so in cases such as cost of education for all children), that's for the public, through their representatives, to decide. But we, as professionals, as actuaries, have a responsibility to point out those consequences, costs and inequities (subsidization) that are caused by doing so, so that intelligent, informed decisions can be made." □