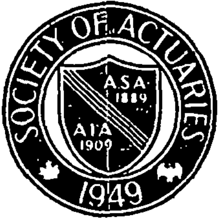

# The Actuary

The Newsletter of the Society of Actuaries

VOLUME 14, No. 7 SEPTEMBER, 1980


## TESTS OF A BUSINESS LIFE INSURANCE PROPOSAL

*by Ellis D. Flinn*

In this era of high interest rates, business life insurance funded by individual level-premium life policies has become popular, even to the point of undertaking to compete with group insurance plans.

It is easy and tempting to do what amounts to conjuring with facts and figures so as to show what good value these individual policy plans offer. But a proposal that fails to take all relevant points accurately into account may end up by conveying the false impression that the insurance doesn't cost anything.

We are seeing ordinary life insurance recommended for funding all sorts of benefit programs. It fills the role of chicken soup; it seems to be the answer, regardless of the question.

### Uses of Business Life Insurance Frequently Encountered

Industrial firms often feel that in these days of high taxes and high cost of living, they want to do more to help their key executives meet their financial obligations. Amid substantial competition for good executives, companies are trying to find an edge over their competitors. Hence companies have turned to the use of ordinary life insurance, one of whose merits is that it can be used in selected situations, steering clear of the restrictions placed on group insurance and on tax-qualified benefits.

Companies purchase ordinary life insurance on their executives to supplement existing life, disability and retirement programs and to help solve estate tax problems. The cost of these supplemental benefits can be kept low by providing them to only a select number of, rather than to all, employees. Amounts

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## SPREADING WORD ON CAREER OPPORTUNITIES

*by Linda M. Delgadillo, Communications Manager*

Some readers may not know of the employment listing service the Society operates for its members. For a $5 fee, a member can subscribe to an Employment Career Bulletin that lists current actuarial opportunities. The subscription list is confidential; only the Society office has access to it. A subscription runs for six months and is renewable each January and July.

The service works thus: Companies that have job openings for actuaries list these positions in the Bulletin through the Society office. To do so, a company sends us a Position Listing Form for each opening. This form gives the employer's name and address; who is to receive enquiries about the position; a job description; to whom the employee would report; education and experience requirements; and salary range. A $75 fee is charged for each job description we accept.

Whenever a new job listing arrives, we send the Career Bulletin to all subscribers. It is then up to the subscriber, if interested, to write, phone or visit the employer.

Employers may like to know that for $75 they reach up to 200 actuaries who are interested enough to have paid their fee within the last six months. And subscribers are likely to receive about one listing a month for their $5. We believe that if more employers and actuaries can know about this service, such as through this article, both those circulations will grow. If you want to subscribe, send the $5 fee along with your name, your address (which may differ from that used for Society mailings), and date you wish the service to start to: Society of Actuaries, Box 91901, Chicago, IL 60693. □

## HEALTH MAINTENANCE ORGANIZATIONS

*by John G. Turner and Michael J. Peninger*

John K. Kittredge's review of *HMO's and the Politics of Health System Reform* (May issue) comments that readers will "have to turn to other sources" to learn about Health Maintenance Organizations (HMO's). This article undertakes to describe, in a limited way, HMO's and the progress they are making.

The concept of prepaid medical care in the U.S.A. is not new. Several groups, notably the Kaiser-Permanente plans in California have been operating for many years. For the most part, though, the HMO movement is still in its first decade.

### What Is An HMO?

HMO's are organized delivery systems of comprehensive health care services (hospital and outpatient) to a voluntarily enrolled population in return for a fixed prepayment from each member. Traditional health insurance by contrast reimburses for a portion of expenses of treating sickness or injury as the policy specifies.

Because HMO's are at risk for services provided, they must emphasize efficient management and tight controls on use of services. Also they encourage minor treatments, traditionally given in the hospital, to be performed on a less expensive outpatient basis.

A typical subscription rate might be $35 to $45 per month for single coverage and $95 to $125 monthly for family coverage, a substantial portion of this being paid by the employer as for conventional health insurance. Individual

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The Actuary

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*The Society is not responsible for statements made or opinions expressed herein. All contributions are subject to editing.*

## *EDITORIAL*

## DOUGHTY PROTAGONIST

THE complaint that actuaries say nothing in rebuttal of published proposals they perceive to be actuarially unsound does not apply to one of our retired members—Ray M. Peterson, F.S.A. 1927.

Mr. Peterson and his typewriter sprang into action when he read the following in the New York Times of June 29th:

> , . . . . surely it's time to stop pretending that Social Security is an insured system, with workers paying their own way. Why not forgo those economically unsound increases (in payroll tax rates)—24 percent at the maximum level—and move at last to judicious use of general revenues to supplement the most basic social program we have? That would be good for inflation, good for recession and good for Social Security.

Our champion's letter dealt succinctly with several principles familiar to actuaries, but majored on two, namely, drawbacks in recourse to general revenues and the true lesson that we should learn from knowing that the payroll tax rate is headed toward 24 percent. But first Peterson described the system in these words:

> Social Security is a social insurance system involving, at its heart, an implicit social contract between successive generations (in which) present workers (and their employers) contribute from earnings for the benefit of the present elderly persons (formerly contributors) with confidence that such workers, when they are among the elderly, can rely . . . . on the contributions with respect to future workers.

On the drawbacks implicit in general revenue financing, he said:

> Persons not covered by the system—i.e., all Federal government employees, members of Congress and many state and local government employees—would be required to contribute but with no benefits . . . .
>
> Also, presently and future retired persons receiving old age income derived from personal savings and employer contributions under private plans (savings that established legitimate claims on future national income) would be required to pay increased taxes on such income. . . . In view of these effects can there really be, in the very nature of things, a judicious use of general revenues?

Concerning what the predicted 24 percent payroll tax rate ought to be telling us all, Mr. Peterson's observations were these:

> (Your columnist should) recognize that the "24 percent" . . . constitutes a vital warning of the ultimate costs of scheduled benefits, regardless of how they are financed. . . . A prominent and wide-spread publication of that 24 percent is a necessary red light to warn of the future costs of the system (which) can be lessened only by reduction of benefits.

It would be rash for us to assume that this was the only letter that the New York Times received from a Society member. Nor do we take for granted that every reader will unhesitatingly support every one of these particular arguments. We do commend this action to others as a better course than just throwing aside the newspaper with a sigh or an imprecation.

E.J.M.

## LETTERS

### Academy Is Moving Too Fast

*Sir*:

There are grounds for major objection to the Academy's proposal to adopt the Report of its Committee on Dividend Principles and Practices while that Report is still in its present seriously incomplete form.

Its incompleteness is of two kinds:

First, it attempts to make recommendations for two of the three types of business now called participating, while postponing judgment on the third type. That third type is business of stock companies that isn't subject to the stockholder limits set forth in the Committee's para. 1.2. This would certainly brand the large number of such companies with the implication that their practices are inferior or unfair.

Second, it asks our professon to accept recommendations with the promise that interpretations of them will follow. This is unjust because there apparently are large, maybe irreconcilable, differences in the ways that different actuaries now interpret the promulgated wordings; actuaries who now think they can support the Recommendations will later discover that they cannot.

The Academy Board must postpone its approval of this Report until these questions are cleared up.

*Claude Thau*

*Ed. Note: Mr. Thau will happily send a memo dealing with these points to any reader requesting it to his Year Book address.*

* * * *

### Public Expressions

*Sir*:

Paul H. Jackson (May issue) correctly objects to Academy committees almost always expressing a single viewpoint. To explain this failure to portray diverse actuarial thought, Academy leaders have said that we as a small profession should "speak with once voice."

As good an explanation can be found in our insurance company "follow the leader" heritage, a one-voice syndrome evidenced also by some consulting firms whose spokesmen pretend in public tha their opinions are shared by all their people.

I am convinced that incomplete statements of actuarial thought expressed by

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## Letters

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the profession to the IRS and to the accounting profession on pension matters contribute to results that are not in the best interests of pension actuaries and plan sponsors.

Many will disagree. But the larger question is whether our scientific origins are such that intellectual integrity will become a hallmark of our profession.

What we will become will not be determined by the Guides to Professional Conduct. These have prohibited actuaries from advising when not qualified to do so; but this has never stopped board members and committee chairmen from expressing views to the public on matters of which they have limited knowledge.

What we will become will also not be determined by pious posturing or frequent quotations from Ruskin. We are what we are, not what we pretend to be. I am amazed by Academy members' failure to object to incomplete and false statements made by the Academy to the public on pension matters.

Indeed, the self-serving nature of Academy public statements may already have been discovered. A rule of the Joint Board for Enrollment of Actuaries, for which there is no counterpart in the professional guides, is that an actuary deemed to be engaged in "disreputable conduct" is subject to discipline. Such conduct includes, but is not limited to:

> "Knowingly making false or misleading representation, either orally or in writing, on matters relating to employee benefit plans or actuarial services, or knowingly failing to disclose information relative to such matters."

Doesn't this define the one-voice approach as "misconduct", at least in pension work? Aren't enrolled actuaries who serve on Academy committees now obligated to reveal views other than their own?

Many Academy members may welcome the idea of the Academy as a trade association—why not battle to retain *all* our perogatives? Others perhaps reject that charge emotionally and without analysis.

Questions: Does the Academy act as a professional organization or as a trade association when it publicly expresses a small group's consensus as the profession's view? Should non-Academy members interested in the truth organize to assure our profession's integrity?

*John Hanson*

* * * *

*Sir*:

A letter in your May issue is critical of an alleged position of the American Academy of Actuaries at the February 1980 meeting of the President's Commission on Pension Policy (Study Group No. 1) in support of tax-deductibility of employee contributions under qualified retirement plans. Since that letter contains inaccuracies of fact, it is important that the record be set straight.

The Academy did not present any statement in connection with the February 26th hearing. Moreover, the Academy has never taken a position for or against tax-deductibility of employee contributions.

A witness at that hearing representing the Association of Private Pension and Welfare Plans listed the Academy along with six other organizations as supportive of this proposal. Inclusion of the Academy by the APPWP representative was simply incorrect.

In fact, the following appears in the Academy statement at the public hearing on the Williams-Javits ERISA revision bill on August 17, 1978:

> "The tax deductibility of employee contributions under qualified plans is a public policy issue not within the realm of actuarial science. Accordingly, the Academy takes no position on this proposal."

Extensive review of past Academy statements indicates that this is the only one on the tax-deductibility of employee contributions.

*Mary H. Adams, Chairman*
*AAA Pension Committee*

* * * *

### In Graduation, A Fresh Idea

*Sir*:

Graduation by a symmetrical moving weighted average has suffered from the serious disadvantage that it doesn't extend to the ends of the data; an average of $2m + 1$ terms yields no graduated values corresponding to the first m and the last m crude values.

I have recently devised a natural method, based on the mathematical properties of the weighted average, that extends the graduation to these extremities and that appears to be a great improvement over the suggestion made on pages 21-22 of the Part 5 study note on Graduation. The series of crude values is extended at both ends by a special extrapolation formula that depends critically on the particular moving average being used, a method shown to have interesting optimal properties. This extension procedure makes use of moving averages competitive with the Whittaker-Henderson method.

Complete details and tables to facilitate calculations are given in Technical Summary Report #2025 of the Mathematics Research Center, University of Wisconsin-Madison. Copies may be had by writing to me at my Year Book address.

This Report will eventually be published in three instalments, the first two in the Scandinavian Actuarial Journal, the third, I hope, in the Journal of Approximation Theory.

*T. N. E. Greville*

* * * *

### TEKEL (Dan. 5:27)

*Sir*:

This is a comment on the widely distributed Report of the Task Force on (application of the Standard Valuation and Nonforfeiture Laws to) Nonlevel Premium and Benefit Policies, made to the ACLI Actuarial Committee last April. The frontiers of actuarial theory interest me, so I found that document stimulating.

Yet, I believe the concept for minimum nonforfeiture values that the Task Force called "dynamic segmentation" and decided by a slim 4-3 vote to recommend, is flawed. To paraphrase one line of the Report's argument:

(1) "Nonforfeiture values should return to terminating policyholders . . . a fair share."

(2) The asset share represents a fair share.

(3) The minimum cash value should be the net premium reserve less the unamortized portion of the prescribed acquisition expense allowance, because that is a good approximation to the asset share.

(4) If at some duration a company provides a cash value larger than the minimum, it must have amortized the

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## Letters

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acquisition expense faster than called for in (3). Therefore its adjusted premium for all future durations should be reduced because not all the portion for that amortization is needed. Once the cash value equals the net premium reserve, no more premium to amortize acquisition expense should be allowed.

My quarrel is with point (3). Surely the net premium reserve based on 1958 CSO mortality and 4% (or 5½%) interest less the unamortized portion of the acquisition expense allowance prescribed by a crude formula (with no allowance for maintenance expense, withdrawals or contribution to surplus) cannot closely approximate the asset share at all durations for all plans of all companies.

The actuary should have the freedom, and the responsibility, to establish cash values that resemble real asset shares. In my experience, minimum values during the first t policy years, grading to the reserve at duration n, have worked well, yet the Report dismisses this approach on the grounds (p. 36 of the Report) that it would not comply with the proposed segmentation methodology.

Let's not mess up the cash values; let's scrap the proposal.

*David H. Raymond*

* * * *

### One (So Far) vs. Seventeen

*Sir:*

How many other actuaries, you ask (May issue), have broadcast on radio or television? As an actuary, I've been on TV three times, and on radio more often.

*James L. Clare*

### RECRUITABLE STUDENTS

To help companies recruit for their actuarial student programs, the Society office prepares a booklet listing particulars of students who have just passed Part 1, 2, or 3, *and* who are using residential or academic mailing addresses. A copy is sent to all employers of actuaries in Canada and the U.S.A., usually addressed to the Chief Actuary by name. If you want a copy, ask said office.

## HMO's

(Continued from page 1)

enrollment, if permitted at all, usually requires evidence of insurability.

HMO's are of three major forms:

(1) The Individual Practice Association (IPA) or "open panel" HMO which enrolls many doctors who treat subscribers in their own private offices along with their other patients.

(2) The group practice or "closed panel" HMO in which a group of physicians, generally primary care physicians and specialists, form a corporation that contracts to provide HMO services.

(3) The staff model, another form of closed panel HMO, in which the physicians are salaried employees of the HMO.

IPA's can reduce costs if their managements exert adequate controls. An IPA physician submits to the HMO his regular bill, but rather than paying him the full amount, the HMO generally reimburses a percentage, usually 80%, of the average charge by all the IPA physicians for that service. At the year-end, if the HMO has a surplus after paying overhead expenses, it is distributed to the physicians. Thus they have financial incentives to refrain from giving unnecessary services.

IPA's often institute a hospital review program as a further means of cost control. Typically, the physician notifies the HMO before he admits a non-emergency patient to the hospital; the HMO then monitors the patient's progress in an effort to keep the stay no longer than average for that illness.

Closed panel HMO's have generally controlled costs more successfully than IPA's. They have the advantage of attracting younger, healthier enrollees, because older people are often reluctant to break long established physician ties to join the closed panel HMO. Closed panel HMO's operating in well equipped clinics can perform more outpatient services than IPA physicians who must rely on hospitals for routine testing. Also, most administrative functions are handled by the HMO, freeing the physician's time for other pursuits; this alone may save 15% of normal charges. In addition, the above-described hospital review programs may be used in closed panel HMO's.

### Has The Movement Been Successful

A study[2] has shown total medical-care costs lower for HMO enrollees than for people with conventional health insurance. Savings were due mainly to a lower hospital admission rate—there was no evidence that HMO enrollees had shorter stays. Federal statistics up to September 1979 showed the following comparison of hospital utilization rates per 1,000 members per year:

| | |
|---|---|
| General Population | 1,099 days |
| Blue Cross Subscribers | 729 |
| All HMO's | 467 |
| IPA's | 531 |
| Closed Panel HMO's | 458 |

Physician and other outpatient visits, though, tended to be higher, at least among IPA members, than among conventional insured groups. But this was more than offset by decreased hospital use.

The most disappointing aspect of HMO's has been their relatively moderate growth in number of subscribers. Proponents had predicted a dramatic increase in the numbers and sizes of HMO's during the decade of the 1970's In 1973 before passage of the HMO Act discussed in John Kittredge's article, there were 132 HMO's in the U.S.A. with 3.6 million enrollees. Forecasts for the early 1980's ranged as high as 1,700 HMO's with 40 million subscribers; yet in April 1980 there were only 230 HMO's (110 of them qualified) with 9 million enrollees, and another 123 under development free of any government involvement.

Besides the unattractiveness of government incentives, reasons for the slow growth are: (i) lack of experienced managers, (ii) patient reluctance to switch doctors and, in the case of closed panel HMO's, to visit physicians only at a prescribed location, and (iii) the low concern for cost containment by people whose medical bills are largely paid by insurance.

Seven of 117 federally qualified HMO's have failed; four went completely out of business and three merged with other HMO's. Defaulted loans to these seven have cost the government over $12 million. Another 15 qualified HMO's are

[2] "How Do Health Maintenance Organizations Achieve Their 'Savings'?" Harold S. Luft, *New England Journal of Medicine*, June 15, 1978.

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## HMO's

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now in non-compliance with qualification regulations.

**Where Do HMO's Go From Here?**

It is generally agreed that HMO growth will continue, but whether the 15% annual growth rate of the last five years can continue in the 1980's will be determined by several factors.

Most important is their success in delivering high quality care at a reasonable cost. They must demonstrate effectiveness in the care rendered to their own subscribers and in their impact on health care in general. Some regard the claimed HMO economies as nothing more than a shifting of costs from them to other health care users.

HMO managers are faced with price/quality/profit decisions very similar to those of any competitive business. Margins are thin; the market is price-sensitive. Sound management practices—planning, organizing, controlling—are essential. Through the painful lessons of bankruptcies, the need for strong management in an increasingly competitive marketplace has been shown; hence, growth will be constrained by the limited availability of managers with the required credentials.

The federal government role, as Mr. Kittredge has said, is likely to slow HMO growth despite exactly the opposite objective. Misapplications of capital will result in formation of HMO's that are not economically justified. An example is the power of federally qualified HMO's, not efficient enough to compete on their own, to require employers to permit employee solicitation, thus removing incentive for potentially effective organizations to be formed. Growth is likely to slow unless the federal government removes competitive limitations within the HMO industry.

A fourth factor is the developing surplus of physicians in many areas. This is likely to accelerate expansion of prepaid health care as physicians compete for new patients.

Another factor that will spur HMO growth is the increasing sophistication among large employers in health care matters, stemming in part from dramatic increases in employee health costs. More of these employers are likely to offer their employees the HMO alternative.

The form most likely to develop rapidly is the IPA. It requires less capital and has less impact on physicians. But its success will depend on whether physicians can alter historical patterns of patient care.

New HMO's will spring from existing multi-specialty group practices, this resulting from concern by their trade associations about competition from IPA's. This type's chance for success is good because review procedures already exist and the group practice organizations already have experienced management. These will usually not choose to qualify under the federal law.

Observers of the HMO industry are closely watching developments in the Minneapolis-St. Paul Metropolitan area. There are seven HMO's here; total enrollment has increased by over 30% per year since 1975, and now exceeds 350,000, nearly 20% of this area's population. Studies, not yet conclusive, to measure the impact of this development on total health care costs have been undertaken. HMO proponents point out that we have had a smaller increase in hospital expenditures and utilization than has the country as a whole, but others contend that this is a shift in costs and that our expenditure data are not valid.

In summary, the prospects are for slowed growth in HMO's unless the federal government alters its role, either through regulatory changes or through a national health scheme that contains realistic free market incentives. In any event, competition between HMO's and the existing system seems sure to benefit all health care users, in terms of both price and quality.

*Ed. Note: The attention of interested readers is directed also to the remarks about HMO's by John Haynes Miller in his article,* The Continuing Escalation In Cost Of Medical Care, *in his* Disability Newsletter, *No.* 23, *March* 1980. □

## Summary of Non-Routine Business By Board and Executive Committee, Four Months To June 30

*by Myles M. Gray, Secretary*

At meetings of the Executive Committee on March 3-4 and May 28, and the Board of Governors on April 13, the following non-routine business was transacted:

(1) *Education and Examinations.* The Executive Committee approved (a) increases in examination fees, effective May 1981, to $30 for Parts 1-3, $35 for Part 4, and $70 for Parts 5-10, and (b) publishing the newly written pension textbook.

(2) *Research.* The position of Director of Research on the Chicago staff was created. The President is to proceed to fill that post.

(3) *Future of the Society.* Reports on possible creation of Sections within the Society were received. The Executive Committee studied long-range planning objectives, issues and procedures.

(4) *Anti-Trust Guide.* (See notice elsewhere in this issue.)

(5) *Meetings.* The Board approved a special topic 1982 spring meeting on Inflation. Publication of the proceedings of the 1980 Mortality Symposium was approved. □

## Study of New Mortality Basis For Individual Annuities

The Society now has a Committee to Recommend a New Mortality Basis for Individual Annuity Valuation. This Committee is to evaluate the need for new mortality tables and projection factors, and if it finds such a need, to develop such tables or factors.

Committee members are: Robert J. Johansen (Chairman), Gayle E. Emmert, Thomas R. Huber, Harry I. Klaristenfeld, John B. Kleiman, John H. Welch, Michael Winterfield and Richard K. Wong.

Interested readers are welcome to make their thoughts and views known to any member of the Committee.

## Business Life Insurance Proposal

(Continued from page 1)

of life insurance range from modest supplemental benefits to substantial sums designed to create estates for the executives.

### Tests That A Sound And Adequate Proposal Should Meet

There are sound reasons for a company to purchase ordinary life insurance on its executives, but the proposals used for sales purposes frequently do a poor job of illustrating how these plans work and the real cost of the program. Illustrations often try to portray the plan as a no-cost item. To be sure that business insurance proposals give a true picture of their cost and enable the buyer to reach an intelligent decision, the following tests should be made.

(1) The time value of money must be recognized. And, because the purchase contemplates transferring large sums from the firm to a life insurance company, the firm has a right to know what rate of return is involved in this transfer. I believe that for business insurance proposals rate-of-return information is essential.

(2) Mortality assumptions should be appropriate and consistent with those used in determining the life insurance premiums and dividends. Fallacious calculations, such as those using the life expectancy concept, census data, and the 1958 CSO table, must be avoided.

(3) The likelihood that some lives will prove to be substandard should be taken into account, specially when comparing an individual policy arrangement with a group insurance plan.

(4) All tax aspects, not just the favorable ones, should be fully explained. It is common for agents to stress favorable Section 79 status or estate tax results, but to down-play the widow's ordinary income tax liability.

(5) Cost illustrations should recognize that not all covered executives will stay in the plan until death or retirement.

(6) Comparisons between costs of different funding methods should employ actuarial procedures that properly reflect the yearly benefits.

(7) Deferred compensation benefits should be measured in terms of their after-tax values.

(8) When benefits are related to salary, the proposal should explain how increased benefits will be provided and, if a different premium band or policy form is to be used, the cost of the new plan compared to the original.

(9) Proposals should provide appropriate funding for all benefits offered. For example, plans designed to provide retirement benefits should not use a minimum deposit arrangement.

(10) Disclosure information is useless once the program is approved by management, hence it should be presented as part of the original proposal.

### Responsibility of Actuaries

The only people who have sufficient background to appraise these proposals are actuaries. So it is up to us to instruct agents and those who train them and design sales material for them. Statements in proposals that can be made only after actuarial analysis should be certified by qualified actuaries.

Before corrective steps have to be demanded by others, insurance company actuaries had better find out what their agents are doing in presenting business insurance proposals, and get rid of inappropriate procedures whenever these are found. □

## Steering Clear of Antitrust Violations

You can reduce the chance of inadvertently getting yourself and the Society into legal difficulties stemming from your Society activities if you will read the Academy's ANTITRUST GUIDE, a 23-page pamphlet written by the Academy's General Counsel, William D. Hager. Our President, Julius Vogel, has sent a copy to each Board member and each committee chairman, and commends it to every active Society member. See the Academy *Newsletter*, May 1980, for a description of its contents.

You can obtain one free copy (additional copies 50¢ each, prepaid) by writing to Cheryl Long, American Academy of Actuaries, 1835 K Street, N.W., Ste. 515, Washington, DC 20006.

## ACCEPTABILITY OF PAPERS FOR THE TRANSACTIONS

*by Edward J. Porto, Chmn., Committee on Papers*

Potential authors of papers for publication in the *Transactions* should take note of the following changes that were made several years ago in the general considerations for acceptable papers:

(i) The requirement that the subject be "of interest to a substantial proportion of Society members" has been replaced by the less stringent requirement that it be "of professional interest."

(ii) The requirement that the paper be more suitable for publication in the *Transactions* than in some other publication has been deleted.

These liberalizations first appeared in the 1978 Year Book, but may have escaped many members' notice.

In regard to (i), the Committee on Papers obviously will continue to include interest to members among the factors that determine whether a paper is acceptable; but this factor has been down-graded considerably in importance.

On another matter: Ever since ARCH came into being in 1973 there has been one exception to the long-standing rule that a paper published or widely distributed elsewhere will generally not be accepted for the *Transactions*. Please be assured that a paper built on a previous contribution to ARCH will not be barred from the *Transactions* if otherwise acceptable. □

## NEWS FROM LONDON

After 3½ years of work, a Committee to Review the Functioning of Financial Institutions, chaired by former Prime Minister Sir Harold Wilson, published its Report in June. Two F.I.A.'s were prominent in its work: Mr. Gordon V. Bayley, a past president of the Institute, was one of the 18-member committee; Mr. Peter G. Moore, a past Institute vice-president, was a committee consultant, specially for its study of pension funds. An article on the Report is planned for our next issue.

Another Institute past president known to many here, Mr. Ronald S. Skerman, has been awarded the Institute's Gold

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## ...w From London

(Continued from page 6)

Medal "in honour of actuarial work of pre-eminent importance."

The July issue of FIASCO contains a letter from an Australian actuary, Mr. John T. Corbett, describing his company's option, included in all policies accepted standard, that permits an annual increase in face amount proportionate to the rise in the consumer price index.

In its annual policy cost comparison article, *The Economist* says this about non-par whole life policies:

The amount finally paid out . . . is arrived at by the life office's in-house mathematician who peers into the future—the actuary. . . . If his assumptions are cautious or even pessimistic (as they usually are) then at the end of the day, there will be a surplus over the guaranteed sum (as there usually is) that goes into the company's reserves. The policyholders' returns on non-profit policies are puny. . . . As a method of investment with-profit policies are plainly preferable to non-profit ones.

The Institute's President for the next two years is Mr. Anthony R. N. Ratcliff, F.I.A. 1953. Mr. Ratcliff's interest in North American matters is evidenced by his having been an Associate of the Society since 1965. An American actuary who chatted with him just before he took office readily confirmed FIASCO's appraisal that he has a friendly personality and enjoyable sense of humor. To the extent that a company Chief General Manager may be said to have specialized, his major field has been Pensions. We look forward to a visit from him. □

## FINANCIAL CONDITION OF OASDI SYSTEM

*by E. J. Moorhead*

### The 1980 Trustees Report

Readers determined to keep abreast of the condition of, and outlook for, the OASDI system — we hope there are many — can do so by requesting a copy of each of two clearly written and fairly ...ief documents, viz.,

(1) *Summary of The* 1980 *Reports On The Social Security Trust Funds,* June 19, 1980, prepared by the Social Security Administration and Health Care Financing Administration. Consisting of only 23 pages—two of which are highlights of highlights, and five others are charts—this gives the major findings and forecasts extracted from the customary three Trustees Reports.

(2) Francisco R. Bayo and Joseph F. Faber, *United States Population Projections for OASDI Cost Estimates,* 1980, Actuarial Study No. 82, Social Security Administration, June 1980. In its 54 pages this presents the population projections used in the 1980 Reports. Separate sections describe assumptions, methods and results; life expectancies and fertility rates are charted.

Copies of these can be had free from Office of the Actuary, Social Security Administration, Baltimore, MD 21235.

The existence of Item 1 above makes it redundant for this newsletter to continue our customary series of annual articles summarizing the Trustees Reports. Instead we shall comment in this space on a few features revealed by the Reports. Only OASDI will be discussed here; Medicare will be saved for later.

### How Have Short-Range Estimates Worked Out?

Table 1 herewith undertakes to display how the official estimates of income, disbursements, and changes in fund balances for the years 1980, 1981 and 1982, have been modified through three successive Trustees Reports. Actual results for 1978 and 1979, and 1980 estimates for 1983 and 1984 are shown for comparison.

It can be seen that the annual estimates for 1980 made ever since the 1977 amendments were adopted, have been within a reasonably compact range, but the original estimates for 1981 and 1982 have had to be changed materially in the unfavorable direction. For 1984, the 1980 range of estimates extends all the way from plus $25 billion to minus $43 billion, a spread of $68 billion which seems certain to raise some eyebrows.

**OASDI, TABLE 1**

**Estimates of Financial Condition of Combined Trust Funds Given In 1978, 1979 and 1980 Trustees Reports**

**(Figures in billions of dollars)**

| Calendar Year | Report Year | Income | Disbursements | Net Increase in Funds | Funds Dec. 31 |
|---|---|---|---|---|---|
| 1978 | 1979, Actual | 91.9 | 96.0 | −4.1 | 31.7 |
| 1979 | 1980, Actual | 105.9 | 107.3 | −1.5 | 30.3 |
| 1980 | 1978, Estimate | 119 to 116 | 119 to 121 | 0 to −5 | 29 to 24 |
| | 1979, " | 121 to 119 | 121 to 123 | 0 to −4 | 31 to 27 |
| | 1980, " | 121 | 124 | −3 | 27 |
| 1981 | 1978, Estimate | 140 to 134 | 131 to 134 | 9 to 0 | 38 to 24 |
| | 1979, " | 141 to 139 | 134 to 139 | 7 to 0 | 37 to 26 |
| | 1980, " | 142 to 138 | 145 to 149 | −3 to −11 | 24 to 16 |
| ...82 | 1978, Estimate | 157 to 150 | 143 to 149 | 14 to 1 | 52 to 25 |
| | 1979, " | 159 to 155 | 148 to 154 | 11 to 1 | 48 to 27 |
| | 1980, " | 163 to 158 | 165 to 174 | −2 to −16 | 22 to 0 |
| 1983 | 1980, Estimate | 182 to 179 | 183 to 198 | −1 to −19 | 21 to −18 |
| 1984 | 1980, Estimate | 204 to 200 | 200 to 224 | 4 to −24 | 25 to −43 |

(Continued on page 8)

## OASDI

(Continued from page 7)

### Assumptions Used For Cost Estimates

The question of what economic and demographic assumptions are appropriate for these estimates was explored last year by a panel of consultants to the 1979 Advisory Council, this panel chaired by Walter Shur, F.S.A. Its recommendations appear in Appendix B to the *Reports Of The* 1979 *Advisory Council On Social Security* which were admirably reviewed by E. Allen Arnold for Vol. XXXI of the *Transactions*. The assumptions employed by the Trustees in both their 1979 and 1980 Reports were materially influenced by this panel's recommendations.

In Tables 2A and 2B of this article we compare the wage and CPI increase assumptions used in the Trustees Reports before and since release of the Consultant Panel Report, first for one selected near-term year (1983), then for the ultimate values assumed (in the 21st century)—and, likewise, the so-called "aged dependency ratios" for the years 2000 and 2050, that arose from the demographic assumptions. Of course, the changes from the 1978 to the 1980 assumptions were also greatly influenced by what has been happening since 1978.

Particularly striking are (i) the range of CPI increases now forecast for 1983 (Table 2A), and (ii) the extraordinary range, all the way from .270 to .644, of the "aged dependency ratios" for the year 2050 (Table 2B).

### The Payroll Tax Increase, January 1981

The system stands at a critical point in its history as the time comes close when the largest and most pervasive payroll tax increase will be effective unless Congress yields to pressures to modify the rates called for in the December 1977 amendments. The 1980 and scheduled 1981 rates and taxable maximum wages are shown below (Table 3).

These large increases place severe stresses upon Congress's determination and voters' willingness to adhere to the visible and disciplinary payroll tax system without resort to general revenue financing or other proffered alternatives.

**OASDI, TABLE 2A**

**Ranges of Annual Wage and CPI Increase Assumptions Given in 1978 Trustees Report, Consultant Panel Report, and 1980 Trustees Report—Calendar Year 1983 and Ultimate Values.**

| | 1978 *Trustees Report* | *Consultant Panel Report* | 1980 *Trustees Report* |
|---|---|---|---|
| | *Values Assumed For Year* 1983 | | |
| Annual Wage Increase (%) | 7.1 to 8.0 | 10.1 to 6.0 | 9.3 to 10.9 |
| CPI Increase (%) | 4.0 to 6.0 | 7.0 to 4.0 | 7.3 to 10.6 |
| Real Wage Increase (%) | 3.1 to 2.0 | 3.1 to 2.0 | 2.0 to 0.3 |
| | Ultimate Values Assumed | | |
| Annual Wage Increase (%) | 5.25 to 6.25 | 10.25 to 3.25 | 5.25 to 7.25 |
| CPI Increase (%) | 3.0 to 5.0 | 8.0 to 2.0 | 3.0 to 6.0 |
| Real Wage Increase (%) | 2.25 to 1.25 | 2.25 to 1.25 | 2.25 to 1.25 |

**OASDI, TABLE 2B**

**Ranges of "Aged Dependency Ratios"* Arising From Demographic Assumptions Used In 1978 Trustees Report, Consultant Panel Report, and 1980 Trustees Report—Calendar Years 2000 and 2050.**

| | 1978 Trustees Report | Consultant Panel Report | 1980 Trustees Report |
|---|---|---|---|
| Calendar Year 2000 | .208 | .215 | .215 to .242 |
| Calendar Year 2050 | .285 to .404 | .297 to .507 | .270 to .644 |

*The "Aged Dependency Ratio" is the ratio of the population aged 65 years and over to the population aged 20-64.

**OASDI, TABLE 3**

| | *Employees & Employers, each* | | | *Self-employed* | | | *Taxable Maximum* |
|---|---|---|---|---|---|---|---|
| | *OASDI* | *Medicare* | *Total* | *OASDI* | *Medicare* | *Total* | |
| 1980 | 5.08% | 1.05 | 6.13 | 7.05 | 1.05 | 8.10 | $25,900 |
| 1981 | 5.35 | 1.30 | 6.65 | 8.00 | 1.30 | 9.30 | 29,700 |

### Actuarial Meetings

Sept. 9, Chicago Actuarial Club

Sept. 24, Actuaries Club of Indiana, Kentucky and Ohio

Oct. 15, Chicago Actuarial Club ☐

### SEMINAR FEES

The fee for a 2-Day Society Seminar is $175.00, not the $125.00 erroneously stated in our April issue "Non-Routine Business."

### Deaths

Joseph R. Lawrence, F.S.A. 1968

Rulon Williamson, F.S.A. 1919