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## 1978 ACTUARIAL RESEARCH CONFERENCE

by John A. Beekman

The thirteenth annual Actuarial Research Conference on "New Methods and Applications of Life Contingency Mathematics" was held at Ball State University, Muncie, Indiana on August 31, September 1-2, 1978. An introduction to the theme of the conference was given by Dick Ziock, Chairman of the Committee on Research, and program chairman. Thursday morning papers were presented by Cecil Nesbitt on *Exploration of the Exactly Vested Case of Pension Funding* and by Hans Gerber on *A General Model for Contingencies*. The four afternoon speakers and their subject titles were:

David Jesionowski — *Stationary Population Problems*

Tom Greville — *Exposure Formulas Based on the Assumption of Uniform Distribution of Deaths*

Arnold Shapiro — *A Bayesian Approach to Persistency when Projecting Pension Costs*

Bill Wetterstrand — *Are the Makeham "Constants" Random Variables?*

Lively discussions ensued after all of the papers and proved useful to the authors, as well as the participants. Robert Batten presented a written discussion of the Greville paper.

Cecil Nesbitt was the after-dinner speaker on Thursday evening and provided a thorough and enlightening review of the *Actuarial Education and Research Fund*.

A joint presentation by Harry Panjer and David Bellhouse of their paper *Theory of Stochastic Mortality and Interest Rates* began Friday's proceedings. Aaron Tenebein of New York University

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## SOCIAL SECURITY BENEFITS AND THEIR IMPACT ON PRIVATE BENEFIT PROGRAMS

During July the Society of Actuaries sponsored seminars in four cities to discuss current issues in the private sector relating to the new OASDI benefit formulas. Over 250 people attended, mostly enrolled actuaries interested in retirement plan problems.

Panelists were Steven F. McKay, FSA and Richard G. Schreitmueller, FSA, from the Social Security Administration, along with consulting actuaries Douglas C. Borton, FSA, Frank H. Pollard, ASA and David W. Riddell, FSA.

Each panelist covered the effects of the 1977 Social Security amendments on various areas of the benefit system.

Steve McKay covered the computation of the PIA and the effect on future benefits including how the Social Security Administration calculates the official benefits "Baltimore style" when they become payable, and the records and procedures needed to duplicate the SSA figures. He also gave an outline of the background of the amendments and the general picture of Social Security.

Dick Schreitmueller discussed current problems in calculating the new PIA under offset plans and the possibilities, in the absence of IRS rules, of estimating the PIA. He also pointed out that offset pension plan administration needs to be reviewed because a precise PIA calculation creates significant delay in meeting ERISA requirements on disclosure.

Doug Borton discussed the revised Social Security integration rules proposed by the Carter administration. The present rules use the value of an employee's total Social Security benefit and adjustments are needed for ancillary benefits and employee contributions. Un-

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## INDEXATION

Robert J. Myers, *Indexation of Pensions and Other Benefits*, pp. xviii, 153, Richard D. Irwin, Inc., Homewood, Illinois 60430, \$10.

Published for the Pension Research Council, Wharton School, University of Pennsylvania.

by Preston C. Bassett

*Indexation of Pensions and Other Benefits* has been written by an eminent author well known for his writings and actuarial activities, particularly in the field of social insurance and has been published by an organization greatly respected for its work in the pension field. Members of the Pension Research Council are all recognized authorities in pension planning and must approve any works before publication; but, individuals may nevertheless have views differing from those of the author.

The primary purpose of the book is to set forth how and where indexing of pensions and other benefits is taking place in the world today. The concept of indexing is limited by the author to adjusting benefits for changes in the standard of living or cost of living. Thus, variable (equity) annuities and benefits with fixed increases, such as 3% per year, are given short treatment.

About one-fourth of the book is devoted to the history and description of the indexing of the Social Security program in the United States. After going through several phases such as ad hoc increases and false starts, the U.S. program now appears to have a sound indexing program in place.

The next 42 pages describe the indexed pension plans for federal, state and local employees of the United States. Again, both history and current provisions are outlined. At the federal level, indexing, in one form or another, applies to civil service employees, federal judges, military personnel, foreign service employees and most other groups on the

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## Social Security

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der the administration proposals, the allowable integration would depend on the level of benefits provided by the private plan. The lower projected benefits under the 1977 amendments result in increased actuarial costs under offset plans. However, there will be cost savings under step-up benefit pension plans where the break point is related to a higher Social Security tax base.

Frank Pollard discussed trends and actuarial assumptions pertaining to Social Security benefit calculations used in actuarial valuations. He also discussed the effect of the 1977 amendments on actuarial valuations of defined benefit plans. The effect will be greatest on offset plans where the prior assumptions did not anticipate decoupling. A more complex law suggests the use of an approximate method of projecting Social Security benefits for valuation purposes.

Dave Riddell described the administrative determination of estimated PIA's for benefit calculation and statement purposes. ERISA has greatly increased the need for such determinations primarily as a result of its accrued benefit disclosure requirements. He outlined a number of approximation methods in current use. Under this approach, the calculation of estimated PIA values can be reduced to a one or two step procedure which should reasonably approximate most actual PIA amounts.

*Note:* This was one of the series of Society seminars held in 1978. Plans are being made for other seminars during 1979. These seminars are sponsored by the Committee on Continuing Education and Research and the Committee would welcome comments from any of the seminarians. □

## Indexation

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federal payroll. At the state and local level, a great variety of programs exist with about half having some type of indexing, usually with a maximum such as 3% per year maximum increase. To those not familiar with the "1% kicker" merely in the federal civil service and some other federal plans, Mr. Myers gives an interesting review of its birth and death through the legislative process.

Similar backgrounds and current status is provided of indexed govern-

## Social Security Administration

We welcome the appointment of Dwight K. Bartlett 3rd as Chief Actuary of the Social Security Administration.

ment benefits in Canada and social security benefits in other foreign countries. The programs of international governmental organizations such as the United Nations are generally indexed in one form or another. The author provides details on many of these plans.

The indexing of private pension plans in the United States, Canada and other countries is given brief treatment. Automatic indexing appears in relatively few private plans and when it does there are limits or maximums on the amount of the annual increase. The reasons for the lack of automatic indexing of benefits are primarily that (1) the current cost of the plan would increase significantly and (2) the potential exists for even greater costs under future economic conditions. Mr. Myers observes that corporations may have been taking advantage of excess investment income resulting from inflation to reduce pension plan costs, rather than using the excess investment income to provide automatic indexing for all beneficiaries. (This sounds like an equity or variable annuity, which didn't work, with the plan sponsor taking all of the risk). The author did acknowledge that many plan sponsors, particularly the larger ones, have given ad hoc benefit increases related to changes in the cost of living to current retirees.

As the author states, the primary purpose of the text is to set forth the current status of indexation of pension benefits. In the first few pages, Mr. Myers gives a brief summary of the arguments for and against indexing and discusses various approaches to indexing. These approaches include indexing by prices, by wages, by job classification and by combinations of these.

In his final chapter, Mr. Myers advocates the adoption of automatic indexing of private pension plans for economic, social and political reasons. On the last item, the author fears that unless private industry acts voluntarily, the government will take action either mandating indexing or expanding social security to fill the vacuum. Mr. Myers proposes several ways for plan sponsors to "get their feet wet." □

## 1978 Conference

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spoke on *Mortality Rates as Random Variables*. The subject *Standard Deviation of Actuarial Functions* was presented by Stuart Klugman. The afternoon meeting commenced with a panel discussion on the new *Society of Actuaries Textbook on Life Contingencies*. Historical background for the project was provided by Warren Adams. The philosophy for the writing efforts was given by Jim Hickman. Newton Bowers discussed the contents of the successive chapters, and Don Jones concentrated on the issues which the writing team perceives. The writing team is composed of Newton Bowers, Hans Gerber, Jim Hickman, Don Jones, and Cecil Nesbitt.

As was true of previous research conferences, Saturday morning's program was a very busy one. The four speakers and titles of their papers were:

Dick Ziock — *A Proof of Lidstone's Theorem*

Neil Vance — *Credibility and Sex Related Mortality Differences*

William Roach — *Life Contingencies Algorithms for Programmable Calculators*

William Bailey — *Use of Bayes Lemma to Construct Frequency Distributions of  $q_x$*

The proceedings of the Conference will appear as a special issue of ARCH.

The 1979 conference will be at The University of Iowa on the subject of *Statistical Estimation with Emphasis on Robust Procedures*. □

## Actuarial Meetings

Dec. 7, Kansas City Actuaries Club  
 Dec. 14, Baltimore Actuaries Club  
 Dec. 19, Chicago Actuarial Club  
 Dec. 20, Seattle Actuarial Club  
 Jan. 11, Baltimore Actuaries Club  
 Jan. 16, Chicago Actuarial Club  
 Jan. 21, Seattle Actuarial Club

## Deaths

M. Louis Johnson, FSA 1913  
 Giovi Perez, FSA 1964  
 Herbert J. Stark, FSA 1929  
 George M. Wilson, ASA 1942