BOOK REVIEW

PENSION MATHEMATICS FOR ACTUARIES
by Arthur W. Anderson

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Acquisition of knowledge and perspectives cannot take place overnight, but the process is speeded up considerably if you start off with a solid foundation in theory behind the practice. The book in my opinion achieves this and helps build and expand this foundation quite effectively.

I quite liked the author’s approach - inductive and evolutionary in the beginning; starts with simplified settings and move quickly through the important points, returns again to sharpen the earlier definitions. It helped me to first understand and later expand and sharpen the understandings.

The book is divided into six chapters and shorter sections, as below in brief.

The chapter Actuarial Cost Methods explains how a Unit Credit Method works and provides a detailed explanation of Entry Age Normal Method. It further elaborates on treatment of Frozen Pension Plans and Pension Plans with New Entrants.

The chapter Contributory Plans further expands the above concepts for contributory plans. The concepts of salary scale and cash refunds (excess of contribution over annuities paid on death) are nicely blended with the above theory.

Disability pensions, survivor pensions, death benefits, temporary early-retirement pensions and severance benefits are separately dealt in the chapter Ancillary Benefits.

The asset valuations including market value, smoothed market values are covered separately in the chapter Assets. This chapter also explains the valuation methods of alternate asset classes like group annuity contracts and individual life insurance contracts.

The book also deals with the selection of actuarial assumptions. The chapter Assumptions helps to have a firm understanding of how the results may be affected by future event – a layoff, plan improvement or a turn in the economy.

Finally the author integrates the practical complexities into these methods in the chapter Cost Methods Again explaining how the normal cost would vary under different circumstances.

Overall the book helped me to concentrate on the central question of how to determine the cost of a pension plan avoiding direct discussion of national matters.

The author in my view has addressed the needs of both beginners as well as practitioners who have firm grounding in basic actuarial theory, particularly life contingencies. The only complaint that I have is that the book uses commutation notations extensively. However these notations make it easier to understand at many places and have been defined separately in the index.

The book contains extensive exercises of several types at the end of each section. A separate solutions manual for the text exercises “Pension Mathematics for Actuaries Solutions Manual, 3rd Edition, 2006” is also available for those of you who are interested in the exercises.

I also understand that this edition has been revised to reflect the many significant changes in the world of pension since the previous one: accounting rules, actuarial standards as well as technology. Much of the discussion has been sharpened up, and new material has been added concerning the selection of cost methods.

This book had been the principal reference for the pension mathematics topic on the Society of Actuaries examination program for about twenty years. The book is listed on the Course of Reading for the Course-8 Retirement Benefits Examination of the Society of Actuaries and the EA-2,A Examination of the Joint Board for the Enrollment of Actuaries.

Happy Reading!