

Preface

The book aims at providing the “basics” of health insurance techniques. The first chapters (Chaps. 1–3) explain the need for health insurance, the risks taken by an insurance company writing health insurance policies, and describe insurance products in this area (sickness insurance, accident insurance, critical illness covers, income protection, long-term care insurance, health-related benefits as riders to life insurance policies). Both individual and group policies are considered. Of course, issues of specific current interest, e.g., the design of recent insurance products, are also addressed.

A shift to general actuarial features of health insurance products follows (Chap. 4). Then, basic actuarial models are presented for sickness insurance (Chap. 5) and income protection, i.e., disability annuities (Chap. 6); a short introduction to actuarial models for long-term care insurance products is also provided.

As regards actuarial models, “basic” means that only the traditional equivalence principle is considered for premium and reserve calculations, whereas risk and solvency issues are briefly addressed. Actually, the book aims at offering a comprehensive introduction to the basic aspects of pricing and reserving, thus providing the reader with the technical tools needed to move ahead in the field of health insurance management.

The book has been planned and structured assuming as its target readers: advanced undergraduate and graduate students in Actuarial Sciences; graduate students in Economics, Business and Finance; professionals and technicians operating in insurance and pension areas.

It is assumed that the reader has attended courses providing basic notions of Financial Mathematics (interest rates, compound interest, present values, accumulations, annuities, etc.) and Probability (probability distributions, conditional probabilities, expected value, variance, etc). The mathematics has been kept at a rather low level: indeed, almost all topics are presented in a “time-discrete” framework, thus analytical tools like derivatives, integrals, etc., are not required. Some sections in which differential calculus has been used can be skipped without significant loss in understanding the basic calculation principles.

Although the book is “teaching” rather than “research oriented”, many scientific and professional contributions to the health insurance technique have been included in the References, such as papers in scientific journals and conference proceedings, working papers, technical reports, etc. This material can provide substantial help, especially if, for specific topics, textbooks are not available, or not updated. Citations, together with some comments, are listed in a special section at the end of each chapter.

The logical structure and the contents of the book have successfully been tested in various teaching initiatives; in particular:

- courses, short courses, and seminars in several universities (University of Trieste, University of Louvain in Louvain-La-Neuve, European University at St. Petersburg, MIB School of Management in Trieste);
- seminars for professional bodies (Portuguese Institute of Actuaries, U.S. Society of Actuaries, Australian Institute of Actuaries, Polish Society of Actuaries), in the framework of CPD (Continuing Professional Development);
- CPD seminars in insurance companies (in Brussels and Lisbon).

If this book helps the reader to understand the basic technical features of the products in the manifold areas of health insurance, and stimulates the reader’s interest in deepening his/her knowledge of more complex topics, such as the risk profile of health insurance portfolios, then it will have achieved its objective.

Health Insurance

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