



Understanding Actuarial Practice

Stuart A. Klugman
Editor

Jeffrey A. Beckley
Patricia L. Scahill
Matthew C. Varitek
Toby A. White

SOCIETY OF ACTUARIES

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Preface

A critical point in an actuary's education is the transition from understanding the mathematical underpinnings of actuarial science to putting them into practice. The problems become less well-defined and the solutions less clear-cut. This is not only a challenge for candidates who are making the transition but also a challenge for those who are guiding their learning and assessing their performance. In 2003 the Society of Actuaries Board of Governors took the inspired step of moving a candidate's education in this transition from a self-study reading of textbooks followed by a proctored exam to delivery of the candidate's education through a supported e-Learning environment. Starting in 2006, candidates for the ASA designation began taking the Fundamentals of Actuarial Practice Course (FAP).

The FAP Course brought several new features to the education and assessment process. Among them were:

- Self-paced learning through online modules. The modules were designed to guide candidates through the material. This would be done through readings (both online and offline), review questions, case studies, activities, and exercises.
- Rather than organize the course by function or practice area, the course was organized around the control cycle. This is a framework for problem solving and decision making that begins with defining the problem, continues with designing the solution and concludes with monitoring the results. Candidates are made aware that external forces affect the process and that the work must be completed in a professional manner.
- Formal assessments evolved to become take-home open book problems that often required making judgments and recommendations to be communicated to the intended audiences, usually in the form of memos.

Fortunately, a suitable text was available (Bellis, et. al., 2003) covering the application of the control cycle to solving actuarial problems. In order to supplement the overview provided by this text, course candidates were asked to purchase several additional texts covering risk management, property and casualty insurance, investments, retirement benefits, health insurance, and life insurance and annuities. Because these texts were written for other purposes, disjoint sections of each text were used for FAP. This was both inconvenient and expensive for candidates. In 2010 a project was undertaken to create a text that would be purpose-written for FAP candidates with coverage of finance, life insurance and annuities, retirement benefits and health insurance.

Four authors with extensive experience were recruited to write the sections. Biographical information about each appears elsewhere in this book. They were asked to ensure that all the information on their subject that is covered in FAP appears in their section. However, while the FAP Course makes reference to readings in this text, the text itself does not reference other aspects of the FAP Course. Thus, this text also provides a stand-alone introduction to actuarial practice in each area.

The text begins with an introductory section that has a brief review of the actuarial profession, some comments on what it means to be a professional and a discussion of the Actuarial Control Cycle. It is designed to provide context for FAP candidates and for the rest of this book. Each of the four practice area sections of this book are self-contained and can be studied in any order. FAP candidates will skip from some parts of this book to others as their study in FAP is organized by the Actuarial Control Cycle and not by practice area.

As you read this book there will be references to “online resources.” There is a dedicated webpage for this text. At it, you can download additional readings, spreadsheets that support various examples and exercises, and solutions to the book’s exercises. These resources can be found at www.soa.org/FAP.

To both FAP candidates and those who want an introduction to how actuarial science is practiced in the four areas covered, I hope this book is both illuminating and enjoyable.

Stuart Klugman, FSA, CERA

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My thanks go to my wife Jean for her patience during the writing of the Life and Annuity Section. Also, I want to thank James Christou, Michael Kavanagh, and Chris Fievoli for help with the Canadian material. Finally, Stuart Klugman was a tireless reviewer which greatly improved my section. —*Jeffrey Beckley*

I am grateful for the encouragement and understanding I received from my husband, Gary Larreategui, and Nyhart's CEO, Tom Totten, as I juggled priorities while working on the Retirement Plans section. Stuart Klugman was an excellent reviewer of the material and I am glad he asked me to participate in this wonderful endeavor. —*Pat Scahill*

I am forever grateful to my wife Joy for supporting me through the exams, cheering my successes and helping me through difficult times. I am grateful to Sara Teppema for inviting me to participate in this project, and am honored to work with Stuart Klugman to complete the Group and Health section. I thank the many actuaries and other thought leaders who have valued my work over the years—and I thank you, the readers of this book, for seeking actuarial education and for using this book as part of your education. May you continue to grow and prosper in this rewarding profession. —*Matt Varitek*

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About the Authors

Editor

Stuart A. Klugman, FSA, CERA, PhD

Stuart is Staff Fellow, Education at the Society of Actuaries (SOA), a position he has held since 2009. Prior to that he was Professor of Actuarial Science at The University of Iowa (1974–1988) and Drake University (1988–2009). He earned a B.S. in actuarial science from Drake University in 1970 and a Ph.D. in statistics from the University of Minnesota in 1975. He served on the SOA Board as both member and as Vice-President. He co-chaired the committee that redesigned the SOA's education system in 2005 and has been extensively involved in the creation and maintenance of the e-Learning modules. He is a co-author of *Loss Models: From Data to Decisions*, a required text for Exam C. In 2007 he received the SOA President's Award.

Authors

Jeffrey A. Beckley, FSA

Jeff is the Co-Director and Professional Actuary in Residence for the Actuarial Science Program at Purdue University. Prior to joining Purdue in 2003, he spent 18 years as a consulting actuary for life and health insurance companies and seven years working for life insurance companies. Jeff is a 1978 graduate of Ball State University. He has been a consistent volunteer for the Society of Actuaries since earning his Fellowship in 1980. Among other roles, he has served as the Examination Chairperson, the Chair of the Committee on Life Insurance Research, and has been on the Board of Directors for the Society of Actuaries.

Patricia L. Scahill, FSA, EA, JD

Pat is General Counsel for Nyhart, a leading independent actuarial and employee benefits consulting firm located in Indianapolis, Indiana. She has a BA degree in Mathematics from Indiana University and a Juris Doctor degree from the University of Maryland School of Law. Pat worked as an actuary, including more than 25 years specializing in retirement plans, before focusing on her legal expertise. Pat served on the Society of Actuaries Board of Directors, including two years as Vice President. Pat has been involved in the Education and Examination Committee for many years, and she helped launch the Fellowship Admissions Course.

Matt Varitek, FSA, MAAA

Matt is an actuary for the Arizona Health Care Cost Containment System (AHCCCS), which is Arizona's version of Medicaid. His primary responsibilities include rate setting for various programs offered by AHCCCS, risk adjustment modeling, and other efforts to prepare for the 2014 implementation of Affordable Care Act provisions. He has 14 years of actuarial

experience in the commercial health insurance industry, performing individual and small-group pricing, reserving, forecasting, rating factor analysis, and support for provider negotiations. His previous employers include Blue Cross/Blue Shield plans in Arizona and Wisconsin, Fortis Health (now known as Assurant) and John Alden Life. He is active in SOA volunteer efforts and in leadership of the Arizona Actuarial Club. His essay “Beautiful Minds, Healthy Bodies” was published by the SOA in a 2009 e-book of actuaries’ visions for the future of the U.S. healthcare system. Matt has a B.S. in mathematics from Illinois State University.

Toby A. White, FSA, PhD, CFA

Toby is an Assistant Professor of Finance and Actuarial Science at Drake University. After graduating from Kalamazoo College and The University of Iowa, Toby worked for four years at The Lincoln Financial Group in the mid-to-late 1990s. Thereafter, Toby was a consultant for Tillinghast-Towers Perrin in Chicago, and a visiting lecturer at The University of Illinois in Champaign-Urbana. Toby became a Fellow of the Society of Actuaries in 2000 and became a Chartered Financial Analyst (CFA) in 2003. In 2008 he earned a Ph.D. in Statistics from the University of Washington. He currently writes questions for Exams P, FM, and MFE, and has served in the past on committees for Course 5, Course 6, Course 7, and FAP. Before joining the MFE exam committee, Toby also authored a study manual for Exam MFE.