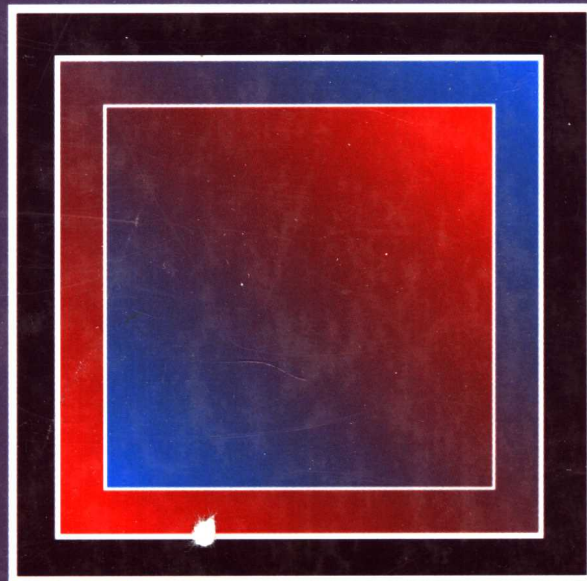


Risk Management and Insurance

SEVENTH EDITION



C. Arthur Williams, Jr.

Michael L. Smith

Peter C. Young

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University of Minnesota

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University of St. Thomas

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RISK MANAGEMENT AND INSURANCE

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To Roberta
C. A. W.

To Ann, Jim, and Julia
M. L. S.

To Sian, Hannah, and Mallory
P. C. Y.

Preface

Like the first six editions of *Risk Management and Insurance*, this seventh edition is designed primarily for introductory one-semester or one-quarter courses in risk management and insurance. The content and structure of this text are based on the twin beliefs that (1) the study of insurance, a major tool of risk management, should be preceded by an understanding of procedures and concepts of risk management; and (2) most students will take only one course in the area. For students who plan further study in the area, the balanced treatment of both subjects provides a comprehensive introduction to the field, which can be followed by case courses or more intensive study of specific topics. The authors are pleased to count among readers of earlier editions many persons either professionally engaged as risk managers or holding prominent positions in the insurance industry.

BACKGROUND COURSES AND LEARNING AIDS

The material in the book presumes a background typically found in a junior- or senior-level student majoring in a university program in business administration. Knowledge of accounting, business law or legal environment, economics, finance, management, and statistics are all helpful but not essential to mastering the material in the book. In general, a student whose background includes all six of these areas will find the material in the book relatively straightforward. A student whose background does not include one or more of the six areas is likely to find the material more challenging.

Each chapter begins with an outline of objectives and closes with a list of terms and concepts introduced in the chapter. Important terms and concepts appear in italics when they are introduced. Review questions appear at the end of each chapter. Suggested answers to the review questions appear in an instructor's manual available to teachers who use the book. The instructor's manual

also includes suggested course outlines and multiple-choice questions for each chapter.

ORGANIZATION AND DESIGN OF THE TEXT

The seventh edition of the text is divided into five parts. Part One acquaints the student with the concept of risk and with the management of risk in organizations. Part Two discusses the assessment of an organization's exposures to risk. Part Three offers an overview of risk management resources and methods, followed by a discussion of objectives and analysis for the risk management function. Part Four discusses the structure of the insurance industry, the analysis of insurance coverage, and functions related to insurance institutions. Part Five discusses topics in risk management administration, including the management of property and liability insurance coverage and employee benefit programs.

The text is designed to be adaptable within a range of student levels. Certain chapters have been written at a level appropriate for graduate-level introductory course offerings. In particular, the chapter on quantitative methods in risk assessment (Chapter 4) and the chapters on risk management decision methods (Chapters 11 and 12), could prove too challenging for undergraduate courses other than honors sections or advanced offerings. The text is designed to allow the instructor to omit these chapters or to include only selected portions without affecting the continuity of a course. Other surrounding chapters are designed to have little of their material depend critically on chapters 4, 11 and 12.

The text also is designed to offer flexibility with respect to features of the subject that an instructor wishes to emphasize. A course that emphasizes institutional aspects of risk management could be designed around the chapters whose primary purposes are to describe and to develop vocabulary: 1, 2, 3, 5-9, 13-19, and possibly 20-23. A more analytical course would incorporate chapters 4, 10, 11 and 12. The design and administration of employee benefit programs appears in separate chapters (24 and 25) to allow an instructor the option of deferring these subjects to other course offerings.

CHANGES FROM PREVIOUS EDITIONS

When the first edition of this text appeared in 1964, Professors Williams and Heins stated their intent that the book represent a substantial departure from existing texts on insurance principles. All chapters were written from the viewpoint of a risk manager. Business risk management received special emphasis, with management of risks in households treated separately. Although the discussion of insurance principles and institutions was an important part of the book, non-insurance methods of managing risk were prominent. The book added rigor to instruction in the risk management process by adapting statistical and economic analysis to the assessment of risk and to measuring the effectiveness of risk treatment methods.

These themes were maintained in the second through sixth editions. The seventh edition continues in this tradition, with four changes that are outlined

below. We believe that fundamental principles identified by Professors Williams and Heins over 30 years ago still govern the risk management process. The four changes merely extend trends that were evident in the first six editions.

First, the book focuses almost exclusively on the management of risks in organizations. Our decision to reduce the discussion of household risk management in no way reflects a belief that the subject is unimportant. Rather, we believe that students who understand the management of risk in organizations can adapt this knowledge to a number of different environments including household risk management as well as financial planning, risk management consultation, brokerage, and so on. Where risks confronted by households are discussed in the seventh edition, they appear in the context of their effect on risk management in organizations.

Second, the statistical and economic analysis has been updated to reflect developments in finance and economics. Much of the updated material appears in Chapters 11 and 12, which present conceptual and analytical methods for handling problems likely to confront risk managers in organizations.

Third, the discussion of public sector risk management has been expanded. Management of risk in the private sector cannot ignore risk management in the public sector, and vice versa. However, we believe that risk management in the public sector has much in common with private sector risk management. Some of the common areas arise from similar issues and similar activities. Other common areas arise from fading boundaries between the public and private sectors. Where differences between the public and private sectors are present, the seventh edition incorporates sections noting the differences.

Fourth, we begin to explore the idea of risk management as a general management function. The key word in the preceding sentence is "begin." While the seventh edition acknowledges the possibility of unified management for all an organization's risks and offers illustrations extending traditional risk management principles into new areas, the text's primary orientation is towards traditional concerns of risk managers, such as: possible damage to the organization's assets, exposure to legal liability, or loss to human resources. The task of shifting towards a more balanced treatment of all an organizations' risks is left to future editions.

CONCEPTUAL APPROACH

Much of the sixth edition's structure survives intact in the seventh edition. The four changes identified earlier in this preface merely extend trends that were evident in the first six editions. Also, the sequence of topics explaining the risk management process (Chapters 1-12) is virtually identical to the pattern followed in the first six editions. Readers who are familiar with previous editions may notice few if any changes in this sequence compared with earlier editions. In planning for the seventh edition, we considered and in a few cases attempted to execute changes in the basic pattern developed by Professors Williams and Heins. Eventually we were drawn back to the strong framework developed by Professors Williams and Heins for explaining the logic of risk management.

The chapters on insurance institutions and coverage (Chapters 13–19) follow a pattern of organization that is different from the sixth edition. The seventh edition's approach is less encyclopedic, oriented towards presenting what the risk manager needs to know about insurance for the effective practice of risk management. The discussion of insurance institutions and types of coverage now focuses on the structure of insurance markets, the functions performed by insurers and insurance regulators, the financial assessment of insurers, and the analysis of insurance coverage. As has been the case with preceding editions, the seventh edition organizes the analysis of insurance coverage into three parts: property and liability insurance, life insurance, and health insurance. The analysis of life and health insurance coverage has been revised to focus on the issues and features that distinguish these lines of coverage from property and liability lines.

When we began writing the seventh edition, we had hoped to avoid much of the detailed description of insurance institutions and practices typically found in texts on risk management, including previous editions of this text. Our belief that risk management is a business function, which is articulated in chapter 2, led us to question the need for an extensive discussion of insurance institutions and types of coverage. Eventually our questions helped us realize that even in the absence of insurance, risk managers think about risks as insurance companies do. For example, they "underwrite" and "price" risks when they establish accounting systems for allocating risk management costs across a corporation's divisions. When insurance is used, the risk manager provides liaison between the organization and the insurance industry on matters such as providing evidence on loss control programs and in negotiating terms of coverage and reimbursement for claims. The seventh edition's discussion of insurance institutions and types of coverage recognizes the close connection between the risk management profession and the insurance industry.

The chapters on topics in risk management administration (Chapters 20–25) also follow a pattern of organization that is different from the sixth edition. In the sixth edition, the discussion of these topics appeared alongside other chapters on risk management resources and methods. We drew these topics together when we recognized two elements they have in common: they extend material presented in earlier chapters and they discuss issues likely to appear in the day-to-day administration of a risk management program. Again, the approach is to present what the risk manager needs to know for the effective practice of risk management.

SIGNIFICANT NEW ADDITIONS

- 1 In Chapter 2 we anchor the seventh edition's definition of risk management into an expanded view of organizational management: the strategic, operations, and risk management model.
- 2 Chapter 4 includes new sections on data requirements for risk management and on claim development methods.
- 3 The discussion of risks related to poor health in Chapter 7 has been expanded significantly, in line with its growing importance as a public policy

- issue. Appendix 7.1 at the end of Chapter 7 offers a cultural and historical perspective on government and private methods for alleviating risks involving human resources.
- 4 The discussion of insurance as a risk financing technique appearing in Chapter 9 incorporates recent developments on the effect of the "law of large numbers" on insurance.
 - 5 Chapter 10 presents new material on pooling and nontraditional risk financing techniques.
 - 6 Chapters 11 and 12 are new chapters on the economic analysis of the risk management function in organizations.
 - 7 Chapter 13 is a new chapter on the structure of the insurance industry. Previous editions discussed the structure of the insurance industry as an issue affecting the implementation of an insurance decision.
 - 8 Chapter 15 now includes appendices 15.1 and 15.2, which offer a brief introduction to principles of accounting for insurance organizations.
 - 9 Chapter 18 extends the concept of life insurance as a two-part contract comprised of term insurance and an investment. The two-part concept is extended to consider analysis of coverage features.
 - 10 Chapter 19 is a new chapter on health insurance. The discussion of coverage features now focuses on efforts to control the behavior of health care providers and consumers.
 - 11 Chapter 20 is a new chapter on day-to-day administrative issues faced by risk managers. Some of the information presented consolidates material previously appearing in other chapters.
 - 12 Chapter 25 is a new chapter on issues affecting the design of employee benefit programs.

ACKNOWLEDGMENTS

A number of individuals contributed to the development of the seventh edition. Students at St. Cloud State University and Ohio State University offered helpful suggestions during classroom testing of chapters. The fact that many of them now enjoy careers in risk management and insurance professions suggests that they, as well as the text, benefited from the experience.

One danger in thanking individuals by name is that those named are likely to expect it, while those not named are not likely to forget it. With advance apology to individuals whose names we forgot to include, we can identify a number of persons who directly affected the final manuscript. Ken MacLeod was editor during nearly all of the development effort. He and the staff of McGraw-Hill provided invaluable advice during the two years the manuscript was being prepared. Fifteen reviewers offered constructive criticism while the manuscript was being written: Stephen Avila, Ball State University; Mark Cross, Louisiana Technical University; Louis Drapeau, Wayne State University, Donald Fehrs, University of Notre Dame; Elizabeth Grace, San Jose State University; Mike McNamara, University of Rhode Island; Joseph Meador, Northeastern University; Gregory Niehaus, University of South Carolina; Bernard Ross, American University; Barry Smith, New Mexico State University; Wayne Snider, Temple

University; Emilio Venezian, Rutgers University; Mary Wald, Temple University; David Ward, University of Wisconsin at Oshkosh; and Rudy Yaksick, Clark University. Ralph Walkling of The Ohio State University provided an insightful review of Chapters 11 and 12. The large number of reviews did not allow us to accept all comments, but reviewers' criticism significantly affected both the form and content of the final manuscript. The authors accept full responsibility for any remaining errors.

A number of persons in risk management and insurance professions and in our universities contributed insight or provided support that was important in preparing the seventh edition. Many are cited in references appearing in the text. In addition, we are grateful to the following persons for their contributions: Mike Anderson, Risk Manager of Northern States Power; Jayce Beckstrand and Todd Carlisle, Sedgwick James of Minnesota; Greg Berg of Tillinghast; Mark Blackburn of General Reinsurance Corp.; David Christopherson and Dwaine Tallent of St. Cloud State University; Jim Cicchetti, formerly risk manager at Borden, Inc.; Pat Doyle of Nationwide Insurance Co.; Russ Drake of The Ohio Companies; Mike Evers and Jim Mock, University of St. Thomas; Ron Guilfoile, Risk Manager for the City of St. Paul, Minnesota; Brad Johnson and David Randall of the Public Entities Division of Sedgwick; Fred Johnson, Risk Manager for the State of Minnesota; Felix Kloman of Tillinghast; Logic Associates, Inc.; Pat Mayer of the North Dakota Workers' Compensation Bureau; John Meder, Risk Manager at John W. Galbreath & Co.; members of the Public Risk Management Association; B. J. Reed of the University of Nebraska-Omaha; Ed Rice and Dan Monson of the St. Paul Companies; Steve Stoffel, Larry Lewellen, and Nick Maul, The Ohio State University; members of the Minnesota and Central Ohio chapters of RIMS; Roberta Williams; and Susan Witcraft of Milliman and Robertson.

The dedication of the text reflects our gratitude for the patient support we received from our families during the writing effort. Failing to acknowledge the grace with which they bore the indirect effects of our writing efforts would be gross negligence on our part.

Each edition of this text has been directed towards the goal of improving on its predecessors. Readers can judge whether the seventh edition meets this standard.

C. Arthur Williams, Jr.

Michael L. Smith

Peter C. Young

*When life strips off all her finery, what remains is fortune.
Everything that happens is a constant collision of tossed dice.*

Roberto Calasso

The Marriage of Cadmus and Harmony

Contents

PREFACE xxvii

Part One
AN OVERVIEW OF RISK AND MANAGEMENT

1. An Introduction to Risk and Uncertainty	3
<i>Learning Objectives</i>	3
Introduction	3
Essential Concepts: Certainty, Uncertainty, and Risk	5
Some Further Concepts Related to Risk	7
<i>Pure and Speculative Risks</i>	7
<i>Diversifiable and Nondiversifiable Risks</i>	9
Some Further Issues Related to Uncertainty	10
<i>Levels of Uncertainty</i>	10
<i>The Response to Uncertainty</i>	11
<i>Uncertainty, Information, and Communication</i>	12
<i>Two Specific Concepts Related to Uncertainty</i>	13
Risk, Uncertainty, and Morality	14
Managing Risk and Uncertainty	15
Key Concepts	16
Review Questions	16
References and Suggestions for Additional Reading	17
2. An Introduction to Risk Management	18
<i>Learning Objectives</i>	18
Introduction	18

Historical Development of the Risk Management Function	19
<i>Early Post-World War II</i>	19
<i>Post-1960</i>	20
Risk Management Today	22
<i>Evidence of Current Risk Management Practices</i>	22
<i>The Nature of Risk Management Activities</i>	24
<i>The Nature of the Risk Management Function</i>	25
Organizational Risk Management	27
<i>The Strategic, Operations, and Risk Management Model</i>	28
<i>Elements of Organizational Risk Management</i>	31
<i>The Placement of the Risk Management Function</i>	33
Key Concepts	34
Review Questions	34
References and Suggestions for Additional Reading	34

Part Two
ASSESSING RISK

3. Risk Assessment I: Risk Assessment Fundamentals	39
<i>Learning Objectives</i>	39
Introduction	39
Risk Identification	40
<i>Methods of Risk Identification</i>	44
<i>A Framework for Identifying Potential Risks</i>	44
<i>Application of Checklist</i>	46
Hazard and Loss Analysis	52
Accident Causation	52
Loss Analysis	54
Hazard Analysis	55
Risk Measurement	56
Hidden Costs of Accidents	56
Dimensions of Exposure to Risk	58
Loss-Frequency Measures	61
Loss-Severity Measures	62
Key Concepts	63
Review Questions	64
References and Suggestions for Additional Reading	64
Appendix 3.1. Assets-Exposures Analysis	65
4. Risk Assessment II: Quantitative Methods in Risk Assessment	71

<i>Learning Objectives</i>	71	
Introduction	71	
Importance of Numerical Estimates	72	
<i>Budget Setting</i>	72	
<i>Estimation of Future Effects</i>	72	
Claim Estimation	73	
<i>Sources and Types of Data</i>	75	
<i>Exposure-Based Loss Development Methods</i>	77	
<i>Timing of Claim Payments</i>	78	
Estimates of Precision	79	
<i>MPC Estimation in a Single Time Period</i>	80	
<i>Basic Probability Concepts</i>	80	
<i>Probability Distributions</i>	83	
<i>Summary Statistics Where Full Data Are Not Available</i>	84	
<i>Probability Distributions and Measures of Risk</i>	85	
<i>The Accuracy of Estimates</i>	89	
<i>A Word of Caution</i>	92	
Key Concepts	93	
Review Questions	93	
References and Suggestions <i>for Additional Reading</i>	96	
5. Property Exposures to Risk		97
<i>Learning Objectives</i>	97	
Introduction	97	
Types of Property Exposures	98	
<i>Property Class</i>	98	
<i>Cause of the Exposure Outcome</i>	98	
<i>Direct, Indirect, and Time Element Outcomes</i>	100	
<i>Interest in Property</i>	102	
Valuation of Potential Property Losses	105	
<i>Methods for Valuing Owners' Property Exposures</i>	105	
<i>Methods of Valuing Other Interests</i>	109	
Time Element Losses: A Further Look	109	
<i>Decreases in Revenues</i>	109	
<i>Increases in Expenses</i>	111	
Property-Loss Frequency and Severity Data	113	
Key Concepts	115	
Review Questions	115	
References and Suggestions <i>for Additional Reading</i>	117	
6. Liability Exposures to Risk		118
<i>Learning Objectives</i>	118	
Introduction	118	
A Brief Introduction to Law	119	
<i>Sources of Law</i>	120	
<i>Types of Law</i>	121	

<i>Issues in the Legal Process of Civil Actions</i>	122
Specific Liability Problem Areas for Organizations	125
<i>Tort Law</i>	125
<i>Intentional Torts</i>	126
<i>Unintentional Torts: Negligence</i>	127
<i>Strict or Absolute Liability</i>	131
<i>Liability Problem Area 1: Liability</i>	
<i>Arising from Ownership, Use, and Possession of Land</i>	132
<i>Liability Problem Area 2: Liability Arising</i>	
<i>from Maintaining a Public or Private Nuisance</i>	134
<i>Liability Problem Area 3: Liability Arising from the Sale, Manufacture, and</i>	
<i>Distribution of Products or Services</i>	135
<i>Liability Problem Area 4: Liability Arising from</i>	
<i>Fiduciary Relationships</i>	137
<i>Liability Problem Area 5: Professional Liability</i>	138
<i>Liability Problem Area 6: Agency and Vicarious Liability</i>	139
<i>Liability Problem Area 7: Bailee Liability Exposures</i>	140
<i>Liability Problem Area 8: Contract Liability</i>	142
<i>Liability Problem Area 9: Employment Liability</i>	142
<i>Liability Problem Area 10: Work-Related Injury</i>	144
<i>Liability Problem Area 11: Motor Vehicle Liability</i>	144
Ethics, Law, and Their Relationship to	
<i>Risk Management</i>	147
<i>Key Concepts</i>	148
<i>Review Questions</i>	149
<i>References and Suggestions</i>	
<i>for Additional Reading</i>	150
7. Human Resource Exposures to Risk	151
<i>Learning Objectives</i>	151
<i>Introduction</i>	151
<i>Reasons for Concern of Risk Managers</i>	152
<i>The Issue of Cost-Efficiency</i>	152
<i>Sense of Employer Responsibility</i>	153
<i>Public Relations</i>	153
<i>Compliance with Government Regulations</i>	153
<i>Employer-Sponsored Programs Can Substitute for</i>	
<i>Welfare or Social Insurance</i>	153
<i>A Word about Human Resource Exposure to</i>	
<i>Speculative Risks</i>	153
<i>Assessing Exposures of Employee: Loss Frequency</i>	154
<i>Mortality Rates</i>	154
<i>Poor Health</i>	155
<i>Old Age and Retirement</i>	157
<i>Unemployment</i>	158
<i>Assessing Loss Exposures: Loss Severity</i>	159
<i>Potential Loss of Earnings: Human Life Value</i>	159
<i>The Needs Approach</i>	162