ACTEX Professional Series

LIFE, HEALTH & ANNUITY REINSURANCE

Fourth Edition

John E. Tiller, Jr., FSA, CERA | Denise Fagerberg Tiller, FSA

LIFE, HEALTH & ANNUITY
REINSURANCE

FOURTH EDITION

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DEDICATION

To our Muses:

Katherine Marie, Mary Elizabeth, Elizabeth Elaine, Victoria Jo,

& Alexandra Jean.

Also to our sons-in-law Mark Jones & James Comoletti

And our grandchildren Oliver Jones, Amelia Jones, & Joseph Comoletti.

Follow your hearts!

And when people ask what actuaries do

You can show them this book.

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INTRODUCTION TO FOURTH EDITION

As was mentioned in the introduction to the third edition of this book, the world has changed dramatically since the third edition of this book was published in 2005. Just as with the weather, wait five minutes and there are bound to be changes. Well, change may not come as quickly, but change is inevitable. Since 2005, the global financial crisis drastically affected the availability of capital to support insurance company liabilities, and especially the capacity of reinsurers to meet this need. Since 2008/2009 the financial recovery has restored capacity and created opportunities for the emergence of new reinsurers to the market.

This fourth edition reflects many of the changes having taken place during the previous ten-year period. Expanding on more than just the reinsurance practices in the United States, notably significant material has been added reflecting:

- Reinsurance practices in Canada
- The emergence of the use of captives for special reinsurance solutions
- The importance of arbitration and treaty contract language
- Risk transfer considerations

This textbook continues to be the primary source for many individuals on all topics reinsurance – not only for candidates taking actuarial examinations, but also for practitioners dealing with reinsurance issues in insurance and reinsurance organizations.

I want to thank the authors, and the group of reviewers, for the diligence in preparing this latest edition of the "Tiller Textbook". It is a monumental task to update material for publication; it is a vital resource for all of us.

Larry N Stern, FSA, MAAA
Canterbury Consulting, LLC
June 1, 2015

PREFACE

This fourth edition of Life, Health and Annuity Reinsurance has had a long gestation period, largely because it features the most additions and revisions since the first edition twenty-five years ago. Several factors contributed to the volume of changes.

The Financial Crisis of 2008 is the most critical factor as it affected the financial services industry in the U.S., Canada, and elsewhere. The United States Congress enacted the Dodd-Frank Wall Street Reform and Consumer Protection Act that created the Federal Insurance Office to collect and analyze data on the insurance industry and identify risky insurers for Federal Reserve supervision. The NAIC created new regulations and updated older regulations so extensively that only three regulations discussed in this text pre-date 2008 in their current version. The holdovers are: *Assumption Reinsurance Model Act* (1999), *Disclosure of Material Transactions Model Act* (2001), and *Insurance Receivership Model Act (2007).* All of the Actuarial Standards of Practice notes discussed herein were issued by the Actuarial Standards Board between 2010 and 2012. U.S. GAAP has undergone a significant facelift along with adding some new guidance.

The Financial Crisis of 2008 was not as severe in Canada because of the different regulatory system already in place. Still, all OFSI Guides, Guidelines, and Guidance relating to reinsurance discussed in this text were issued since 2008.

The second factor was an overdue decision to expand content relating to Canada. Two new chapters were added: *Canadian Regulation of Reinsurance* and *Canadian Reinsurance Accounting and Tax Considerations.* The *Reinsurance Treaty* chapter was expanded to compare and contrast treaty provisions between Canada and the U.S. Other chapters include expanded comments to highlight practices specific to Canada. In researching and writing these additions, the authors' respect and admiration for the Canadian system grew and we encourage our U.S. readers to study these chapters.

The third factor was the decision to expand the history sections and utilize sidebars for nuggets of information. In conversations with other actuaries, the authors realized that the backstory surrounding the development of regulation, taxes, and the reinsurance industry itself is worthy of preservation in one text. Students may hate us for the decision, but we felt it was important for people new to the field to understand how and why the industry evolved to its current position. We expanded coverage of important court cases and revenue rulings as these shaped how we work today. We included brief stories of Baldwin-United, Equity Funding, and First Executive Life because these are examples of the clash of ethics and money that result in financial hardship for policyholders and reinsurers and should not be forgotten. And, it is good to know what was done in the past; like clothing fashions, what is now out of style or unused may become valuable in the future.

The international chapter, *Reinsurance Outside Canada and the U.S.,* was greatly expanded. In a global economy, it is important to understand regulation and markets in other countries and how companies in the U.S. and Canada can work with them. While details of various international developments affecting accounting and reserve treatments that may affect reinsurance in the future are beyond the scope of this text, some discussion of current concepts has been included.

Other areas that were significantly expanded and updated include captives, dispute resolution, administration, management of treaties, inforce reinsurance transactions, and risk transfer. The last two earned their own chapters in this edition.

A final factor that affected the content was the availability of relevant and reliable information on the Internet. The Reinsurance Section of the Society of Actuaries deserves special commendation for its contribution to the literature. The "alphabet soup" organizations: ACLI, AAA, AIDA, ASB, CIA, EU, FSAB, IAIS, IASB, IRS, NAIC, NOLHIGA, OECD, SOA, and many others have comprehensive and easy to search websites. The insurance supervisory entities of all the countries discussed in the text had English language versions of their websites, including China and Japan. Large accounting and law firms were also a valued source of information. The bibliography has been expanded to reflect the contributions of these sources and we encourage the reader to continue to research.

It is important to note that, despite the twenty-five years since the first edition, the fundamental principles of life, health, and annuity reinsurance have not changed. Risk transfer is still the cornerstone of a reinsurance transaction. The three basic forms of reinsurance – yearly renewable term, coinsurance, and modified coinsurance – are still the building blocks, and can be used in many ways to meet client needs. The information needs of the ceding and assuming companies, while unchanged, are now satisfied using electronic techniques no one could have dreamed possible in 1990.

This edition is intended to continue to serve as a reference for both experts and novices involved in assuming or ceding reinsurance. Of course, it is impossible for one book to contain all of the knowledge necessary to analyze or document every possible reinsurance transaction. The purpose of this book is to provide the historical foundation and the current regulatory and technological framework. The reinsurance professional can apply the foundation and framework in creative ways to design reinsurance programs to fit the 21st century.

Because regulations change, and vary by state in the U.S., the authors expect the professional to always refer to the most recent version of the applicable regulations. This information is readily available online.

The reader is assumed to have a working knowledge of individual life, health, and annuity products and practices in the U.S. and Canada. It is also assumed that the reader has a basic understanding of taxation as well as statutory and GAAP accounting. Although the authors are both Fellows of the Society of Actuaries, an actuarial background is not necessary for understanding the concepts, with the possible exception of some of the pricing and retention limit determination discussions.

The following conventions are used throughout the text.

1. **FIRST LEVEL HEADINGS ARE 14 POINT BOLD FONT AND UNDERLINED;**
2. **SECOND LEVEL HEADINGS ARE IN 12 POINT BOLD FONT;**
3. **Third Level Headings appear in 11 Point Bold Font;**
4. Fourth level headings are underlined;
5. A word appearing in **bold type** in its first use is defined in the glossary;
6. A word or phrase in *italics* is either important or the title of a book or paper; and,
7. Sidebars are used to add nuggets of information.

The chapters are organized into six parts:
1. Introduction to Life, Health, and Annuity Reinsurance;
2. Methods and Applications of Reinsurance;
3. Treaties and Risk Considerations;
4. Reinsurance Regulatory, Accounting, and Tax Considerations;
5. Additional Products and Topics; and,
6. Administration and Management Considerations.

Part One of this book introduces the special vocabulary of reinsurance and the basic concepts. These terms and concepts are essential for understanding later sections.

Chapter One: Basic Terms and Concepts begins with a brief history of reinsurance. It describes the classifications and uses of reinsurance, classification of reinsurers, and the effects of reinsurance on company operations.

Chapter Two: Automatic Reinsurance discusses the requirements for automatic reinsurance introducing and illustrating concepts such as full retention, binding limit, jumbo limit, and participation limit as well as other requirements. Examples are given for determining the amount of reinsurance ceded under both excess and quota share arrangements. It further describes common methods of dividing reinsurance among multiple reinsurers, how reinsurance in placed into effect, and other automatic considerations.

Chapter Three: Facultative Reinsurance describes the process of offer and acceptance. Ceding company uses of facultative reinsurance including the advantages and disadvantages of facultative programs are detailed. It also looks at reinsurer uses of facultative reinsurance and special considerations, and facultative variations such as facultative obligatory and conditional automatic.

Part Two deals with the methods and applications of reinsurance.

Chapter 4: Basic Methods of Reinsurance discusses the uses and advantages and disadvantages of the three traditional forms of reinsurance: yearly renewable term, coinsurance, and modified coinsurance. A simple two year model shows the income statement and balance sheet effects of all three forms of reinsurance on both parties to a transaction.

Chapter Five: Advanced Methods and Structures of Reinsurances covers advanced forms of reinsurance. Simple models illustrate the effects of coinsurance, modified coinsurance, funds withheld coinsurance, funds withheld modified coinsurance, and combinations of coinsurance and modified coinsurance. The models show the effect of the methods on the income statement and balance sheet of both parties over a two year period. Special purpose vehicles are also discussed.

Chapter Six: Assumption discusses the unique aspects of assumption where the obligations and relationship with the policyholder legally and permanently shift from the original issuing company to the assumption company. It describes the reasons why a company would choose to sell business and why a company would choose to buy business. The assumption process in the U.S. is described using the *Assumption Model Regulation* as the basis for the transaction. It also describes the assumption process in Canada under the provisions of the *Insurance Company Act*.

Chapter Seven: Reinsurance of Inforce Policies is new to this edition and addresses the special considerations for both the ceding company and reinsurer when blocks of inforce policies are reinsured on an indemnity basis.

Part Three focuses on the reinsurance treaty and risk considerations in the U.S. and Canada. Risk transfer and the insolvency risk are issues that should be addressed in the treaty.

Chapter 8: The Reinsurance Treaty discusses the importance of the treaty as the documented legal agreement between the parties. It describes and compares the provisions of the ACLI's *Life Reinsurance Treaty Sourcebook, Second Edition 2008* with the provisions of the Canadian Life and Health Insurance Association's *2009 Reinsurance Treaty Template.* The provisions of the NAIC's *Life and Health Insurance Agreements Model Regulation* and OSFI's *Guideline B-3: Sound Reinsurance Practices and Procedures* are discussed. Dispute resolution and arbitration procedures in the U.S. and Canada are described. Treaty preparation considerations are listed.

Chapter 9: Risk Transfer Considerations is also new to this edition and focuses on issues surrounding risk transfer and variations in the definition of risk transfer in different accounting systems.

Chapter Ten: Insolvency and Reinsurance begins with a discussion of U.S. insolvency regulations: *Model Regulation to Define Standards and Commissioner's Authority for Companies Deemed to be in Hazardous Financial Condition* and *Insurer Receivership Model Act.* Cut-through and setoff provisions and significant court cases are discussed. The discussion on insolvency in Canada centers on: the *Insurance Company Act, Winding up and Restructuring Act, The Guide to Intervention of Federally Regulated Companies,* and *Guideline B-3: Sound Reinsurance Practices and Procedures.*

Part Four deals with regulation, accounting, and taxes.

Chapter 11: U.S. Regulation of Reinsurance begins with a brief history of regulation in the U.S. It addresses 13 model regulations.

Chapter 12: Canadian Regulation of Reinsurance starts with a brief history of the regulatory framework in Canada. Current OFSI regulations and guidelines are discussed as are CIA papers and education notes.

Chapter 13: U.S. Statutory Accounting discusses the principles of statutory account and describes the effect of reinsurance on the annual statement.

Chapter 14: U.S. GAAP Accounting briefly compares U.S. statutory and GAAP accounting as well as relating the development of GAAP accounting. The pertinent *Statements of Financial Accounting Standards: 60, 91, 97, 109, 113, 115, 120,* and *133* are detailed. Special considerations for ceded and assumed reinsurance are described.

Chapter 15: U.S. Tax Considerations begins with a review of state and local taxation followed with a brief history of federal income taxation of the insurance industry. Private letter rulings regarding §845 are described. Special considerations for inforce reinsurance and assumption are discussed. Court cases and revenue rulings involving captive insurance and reinsurance are reviewed. A discussion of international tax considerations and tax planning is included.

Chapter 16: Canadian Accounting and Tax Considerations reviews the Canadian Institute of Actuaries *Standards of Practice* regarding valuation and *IFRS 4 Insurance Contracts.* Financial statement treatment is discussed. The history of taxation in Canada is reviewed. Special considerations for assumption and inforce blocks are described.

Part Five focuses on special products and topics.

Chapter 17: Nonproportional Reinsurance deals with stop-loss, catastrophe, and spread loss reinsurance.

Chapter 18: Health Reinsurance addresses the unique considerations for these products.

Chapter 19: Annuity Reinsurance covers reinsurance considerations of single premium deferred annuities, flexible premium deferred annuities and variable annuities. The chapter contains a special discussion of annuitization and longevity risk reinsurance.

Chapter 20: Captives provides background information regarding the development of captives. It discusses the various types of captives, reasons for forming captives, tax considerations, and administration. Special considerations for U.S. and Canadian companies are described.

Chapter 21: Reinsurance Outside Canada and the United States covers the global reinsurance market. Regulations and taxes are discussed with special attention for international reporting standards, Solvency II and EU directives. The market, regulations, treaty provisions, insolvency, taxation, and dispute resolution are detailed for the large EU countries, popular captive locations, and China, Japan, and Australia.

Chapter 22: Additional Reinsurance Topics discusses Group life and AD&D, accelerated or living benefits, reinsurance with affiliates, reinsurance intermediaries, and dispute resolution.

Part Six covers administration and management considerations.

Chapter 23: Reinsurance Administration looks at administration from both a ceding company and reinsurer's point of view. The systems used for reinsurance administration have changed dramatically since the first edition of this book and sound administrative practices are vital.

Chapter 24: Managing Reinsurance deals with ceding and assumed reinsurance. Topics include setting retention limits, effecting recapture, soliciting reinsurance proposals for new business, evaluating reinsurance proposals, evaluating counterparty risk, reviewing agreements, monitoring results, and auditing.

Happy reading!

John E. Tiller, FSA, MAAA
Denise Fagerberg Tiller, FSA

Punta Gorda, Florida
April 2015

ACKNOWLEDGEMENTS

This fourth edition is the result of the contributions of numerous people we have worked with for over thirty years. We are grateful to be part of the greater reinsurance community which includes actuaries, attorneys, accountants, regulators, sales and marketing staff, and administrative and management professionals who possess brilliant minds and are dedicated to furthering reinsurance education and maintaining a high level of professional standards.

We especially thank the Reinsurance Section of the Society of Actuaries for their support and sponsorship of this edition. They have contributed greatly to reinsurance research and reinsurance literature. Their newsletters, seminars, and presentations were invaluable.

We thank the Society of Actuaries for their role in education and research. We have learned much from their meetings, seminars, and publications. The Society meetings and seminars also provide opportunities for networking which is vital in any career. The Society is an organization of dedicated and dynamic people and we are proud to be members.

Our special thanks go to Gail Hall, President of ACTEX who gently prodded us over the years it took to complete this revision. This was nearly a total rewrite, and at times, she probably wanted a whip, but she always believed in this project and supported us. We also thank Garrett Doherty for all his hard work formatting the text. It was not an easy job managing the headings, tables, graphics, and sidebars. We are grateful to Jeff Melaragno for the lovely cover art and to Sandi Lynn Scherer who is in charge of production.

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Without the contributions of our colleagues, this book would not be possible and we are indebted to them.

We wish to thank all our reviewers and contributors of this fourth edition:

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- Jim Mulholland
- Ed Robbins
- Michael Shumack
- Todd Watson

We realize this is not terribly entertaining material and we appreciate the hours our reviewers put into this project. Their insightful comments and observations enabled us to make this edition current and comprehensive. If there are errors in this book, they are the responsibility of the authors, not Gail, Larry or other reviewers.

We thank the American Council of Life Insurers for providing us with the *Life Reinsurance Treaty Sourcebook, Second edition.* Without this material, the Treaty chapter would be less thorough.

Our thanks go out to the librarians at the Society of Actuaries and the National Association of Insurance Commissioners who provided documents. Both organizations have excellent websites filled with valuable resources.

We thank the authors of all of the books, papers, study notes, presentations, and journal articles listed in the bibliography for their work in advancing the understanding of this complex subject. It takes time and effort to produce this work and we hope that readers of this edition will review these sources for further information.

Although this edition represents a significant revision from the first three editions, we want to acknowledge many of the people who helped us get here. First and foremost, we must thank Dick London, founder of ACTEX who saw the need for this book and approached us to write it. We are also grateful to the late John C. Woody, a pioneer in the field of reinsurance; our original editor, the late Jack M. Turnquist, who gave the first edition its shape and substance; the late Irwin T. Vanderhoof, our "Yoda" in the reinsurance field; and the late James C. H. Anderson who embodied what it meant to be an actuary and a leader. All of these people had a profound influence on us professionally and personally.

This edition would not have been possible without the initial reviewers of our first draft: John Baily, Cecil Bykerk, Sue Ann Collins, Deborah Gero, Robert Johnson, Donald Kiefer, Denis Loring, Richard Miller, Thomas Rees, Irwin Vanderhoof, Diane Wallace, Michael Winn, Greig Woodring, James Ylvisaker, and Mel Young. Bruce Moore of the Society of Actuaries provided editorial improvement for the draft used for the Education and Examination Course I-550.

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Finally, we must thank our five daughters who inspire us, two sons-in-law who tolerate us, and our three grandchildren who charm us.

ABOUT THE AUTHORS

DENISE FAGERBERG TILLER is a graduate of the University of Nebraska-Lincoln, and a Fellow of the Society of Actuaries. She recently earned a Master's Degree in Library and Information Science from Emporia State University.

Ms. Tiller began her actuarial career with CNA and worked at Maccabees Mutual Life Insurance Company as Manager of Life Actuarial prior to joining Transamerica Occidental Life Insurance Company as Manager of Reinsurance Pricing in 1980. She later moved to Tillinghast Towers Perrin where she focused her consulting services on individual life insurance product development and reinsurance.

Ms. Tiller has served as Treasurer of the Section Council of the Reinsurance Section of the Society of Actuaries and chaired the Society's Professional Development Committee. She organized the Society's first Symposium on HIV and AIDS, and was a faculty member for the 1988 Society of Actuaries Seminars on Financial Reinsurance. She has participated in numerous panels and workshops at Society meetings. Ms. Tiller served as president of the Los Angeles Actuarial Club and on the Board of Directors of the Los Angeles Junior Chamber of Commerce.

She has been married to her coauthor, John Tiller, since 1983. Now settled in Florida, she works with Mr. Tiller at Butterfly Financial Consultants. Ms. Tiller is also CEO of an international consulting firm dedicated to the care of the Tiller family, including the five Tiller daughters and three grandchildren with branches in London, England, Lincoln, Nebraska, and San Angelo, Texas. She re-engineered her skill at counting dead people into plotting murders as a mystery writer. Her first novel, *Calculated Risk*, was published by Timberwolf Press, and after a long hiatus, she is writing another mystery, *The Trouble with Dead People*, featuring Newport Beach, California actuary and psychic Circe Lindquist.

JOHN E. TILLER is a graduate of Harvey Mudd College in Claremont, California. He is a Fellow of the Society of Actuaries and a Chartered Enterprise Risk Analyst. Mr. Tiller began his career as an insurance agent before joining Transamerica Occidental as an actuarial student in the systems department. He escaped to the reinsurance line of business where he became Vice President and Actuary and helped establish the company as a leader in the reinsurance market.

He then joined Tillinghast Towers Perrin where he became a principal and the unit manager for the Irvine, California office. His consulting activities covered a broad range of assignments, many of which involved indemnity and assumption reinsurance from both the ceding and assuming companies' sides. Mr. Tiller subsequently became Executive Vice President and Chief Actuary for Resource Deployment, Inc. In this role, he oversaw the actuarial functions of twenty-two insurance companies including American Health and Life

Insurance Company, Transport Life Insurance Company, Voyager Life Insurance Company, and Primerica.

Mr. Tiller became National Director of the Life Insurance Actuarial Consulting Practice of KPMG in 1993. While he was responsible for a wide range of actuarial and general consulting services, he maintained his leadership role in reinsurance. He was later named the first National Director of KPMG's Insurance Consulting Practice, responsible for all insurance and actuarial consulting services.

In 1999, Mr. Tiller joined General Electric's Employers Reinsurance Corporation where he became President and Chief Executive Officer of their $3 billion Global Life and Health Reinsurance Business. Following ERC's decision to exit the life and health reinsurance business, he became a founder and President and Chief Executive Officer of the newly formed Wilton Reassurance Company. He then joined Unified Life Insurance Company in Kansas as President and Director. He is now Chief Executive Officer of Butterfly Financial Consultants, dedicated to services in the areas of reinsurance, acquisitions, capital management, and litigation support.

Mr. Tiller has been active in the Society of Actuaries. He served on the original Reinsurance Section Council and was elected to a second term, becoming an officer both times. He has also served as Vice Chair and Chair of the Non-traditional Marketing Section Council and as a member of the Futurism Section Counsel. He has been Chairman of the Society' of Actuaries' Program Committee and Continuing Education Committee. He has also been a member of the Services to Members, Research Policy, and Professional Development Committees and the first Task Force on AIDS. He chaired the ACLI's special task force on taxation of reinsurance transactions in the early 1980s and served on the American Academy of Actuaries' task force on risk classification. Mr. Tiller is a frequent speaker at industry meetings, both actuarial and non-actuarial. He was a faculty member for the Society's seminars on reinsurance in 1981 and 1988.

Mr. Tiller married his co-author in 1983, and his five favorite productions are his daughters, and he takes pride in his three grandchildren. He enjoys having more time for sailing on his 34-foot catamaran, *Miraposa*, and for perfecting his Texas-originated barbeque skills.

PART 1

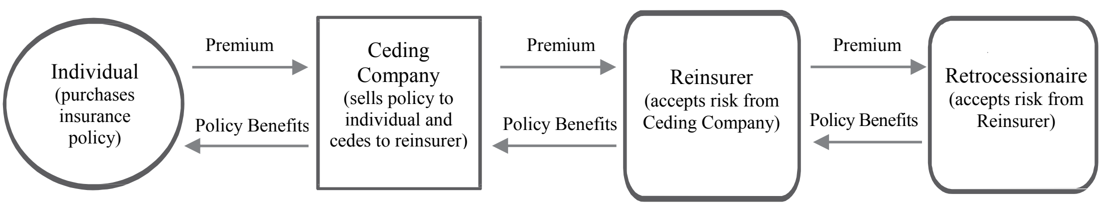
INTRODUCTION TO LIFE, HEALTH, AND ANNUITY REINSURANCE

1

BASIC TERMS AND CONCEPTS

In simple terms, **reinsurance** refers to insurance purchased by an insurance company to cover all or part of certain risks on insurance policies issued by that company. The portion of the risk transferred on an individual policy or contract is known as a **cession.** In a reinsurance transaction, one insurance company, referred to as the **reinsurer**, for a consideration, agrees to indemnify another insurance company, referred to as the **ceding company**, against all or part of a loss that the ceding company may incur under certain policies of insurance that it has issued. The reinsurer also may purchase reinsurance on its risk from another insurance company. This new reinsurer is referred to as a **retrocessionaire** and the portion of the risk transferred is known as a **retrocession**. The retrocession may or may not be in the same form as the original reinsurance.

Typical Reinsurance Structure with Retrocession[1]



The fundamental principle of reinsurance is that a transfer of an insurance risk occurs. The risk transferred can be either a single risk, or any combination of the risks on the underlying policies. As discussed later, the definition or standards for **risk transfer** differs somewhat according to the accounting system in use and the application. Nevertheless, the transfer of some level of insurable economic risk drives all reinsurance transactions; otherwise the transaction is financing, not reinsurance. The risks transferred and terms of the arrangement are defined in a written legal agreement between the ceding company and the reinsurer; this agreement is commonly known as a **reinsurance treaty**.

> The ceding company may also be referred to as the *direct insurer*, the *issuing company*, the *reinsured*, or the *cedant*, and the reinsurer may be referred to as the *reinsuring company*, the *accepting company*, or the *assuming company*, all with equal validity. For clarity and consistency, in this book the terms ceding company and reinsurer will be given preferred usage.

Reinsurance has powerful applications in risk management, financial planning, capital management, and meeting strategic objectives. Its importance in the insurance industry has grown steadily since the 1980s, especially in the United States and Canada.

[1] Mike Kaster. "Types of Reinsurance." Society of Actuaries Introduction to Reinsurance Boot Camp. Toronto, Canada. May 8, 2013. Presentation.

The purpose of this book is to introduce the basic concepts and advanced techniques of this valuable tool. This book is concerned only with insurance risks transferred on individual and group life, health, and annuity policies and contracts.[2] The risks transferred under a reinsurance arrangement on these policies may include:

1. Mortality and morbidity;
2. Lapse and surrender;
3. Expense, including commissions and other costs of distribution and acquisition; and,
4. The performance of invested assets, including default.

Depending on the terms of the reinsurance arrangement, the reinsurer's share of any one of these risks can vary from zero through full participation.

> The term "reinsurance" and related terms are not used only in the world of insurance. For example, in 1887, Germany and Russia entered into a secret "Reinsurance Treaty" which required each party to come to the military assistance of the other in the event of certain events. The discussion in this book will not address any uses of "reinsurance" beyond transactions between two insurance entities unless specifically noted.

In this chapter, many of the basic terms used are introduced and defined. The uses of reinsurance, classifications of reinsurance, classifications of reinsurers, and the operational effects of reinsurance are discussed. More detailed treatment of these topics will be found in later chapters. Differences between U.S. and Canadian practice are highlighted.

SOME BACKGROUND ON REINSURANCE

It is useful to know a little of the historical development of reinsurance and of the importance of reinsurance in Canada and the United States today. Reinsurance may be even more vital in the property and casualty marketplace, but that is beyond the scope of this discussion.

A VERY BRIEF HISTORY OF REINSURANCE[3]

Merchants and fires have played a vital role in the development of insurance and reinsurance throughout history. Long ago, probably before 3000 BCE, in the first known example of risk management, Chinese merchants placed goods on multiple ships, realizing the significant risk of placing all of their goods on one ship. As early as 3000 BCE, Babylonians developed a system of maritime loans that relieved borrowers from repaying the loan if the ship was lost (Carter as quoted by Holland 2009).

> In his excellent and well researched article, "A Brief History of Reinsurance," David Holland, FSA, MAAA describes the development of reinsurance. The abridged summary below is taken from this work and readers are encouraged to read the entire article.

This Babylonian system was expanded upon and documented in the Hammurabi Code around 1800 BCE (Bernstein as quoted by Holland 2009). Ancient Greeks and Romans included a risk fee on loans taken out on ships and the cargo. Such practices continued for centuries (Borgardus and Morse as quoted by Holland 2009).

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[2] For information on reinsurance for property and casualty coverages, see R. W. Strain. *Reinsurance.* (New York: College of Insurance, 1980).

[3] David A. Holland, FSA, MAAA. "A Brief History of Reinsurance." *Reinsurance News*. Issue 65 February 2009.

The earliest known insurance contract was written in 1298 to cover a shipment of alum from Genoa to Burges in Flanders (Briys and de ter Beerst as quoted by Holland 2009).

The word "Assurance" was used for the first time in Bruges when the Chamber of Assurance was founded in 1310 to insure marine risks. In 1435, a law was passed in Barcelona specifying premiums for insurance risks (Martin as quoted by Holland 2009).

The first documented reinsurance contract reinsured a portion of a trip from Genoa to Sluis near Burges in 1370. The term "reinsurance" was used for the first time in a document from Florence in 1457 (Geranthewohl as quoted by Holland 2009).

Law Merchant:
Beginning in Medieval times, the Law Merchant governed trade in the civilized world and was administered in merchant courts. Civil governments rarely interfered. It was designed to work internationally and is particularly important in that it established arbitration as a means to settle disputes and developed arbitration procedures.

During the Renaissance, the Law Merchant governed trade and developed arbitration procedures. The first known disputed life insurance policy was issued in 1583 (Zartman as quoted by Holland 2009).

Fires played a large role in the development of insurance. Two years after the Great Fire of London in 1666, the first fire insurance company was founded (Golding as quoted by Holland 2009). After the 1842 fire that destroyed much of Hamburg, many insurance companies were unable to pay claims. Cologne Reinsurance, the first professional reinsurer, was founded in response (Kopf as quoted by Holland 2009). Swiss Reinsurance was founded in 1863 after the 1861 The Great Fire of Glarus (Swiss Re as quoted by Holland 2009).

Insurers and merchants began meeting at Edwin Lloyd's London Coffee House in 1688. This developed into a viable insurance market place until gambling interests entered into the dealings. "New Lloyd's" was founded in 1769 as a closed group with a code of conduct (Marshall as quoted by Holland 2009). Both the institution and the code have evolved somewhat continuously to meet evolving needs and challenges.

The difference between insurable interest and gambling became a significant concern in England. The Marine Act of 1746 required an insurable interest for the placement of coverage. This Act also prohibited reinsurance because of abuses, a prohibition that was not repealed until 1864 (Arnould as quoted by Holland 2009). The Life Insurance Act of 1774 required a legitimate insurable interest for a policy to be valid (Marshall as quoted by Holland 2009).

The world life reinsurance market was dominated by German, Russian, and Austro-Hungarian companies until World War I. The reinsurance market in the United States developed slowly because of protectionist legislation prohibiting credit for reinsurance ceded to non-admitted companies. Until the early 1900s most reinsurance in the United States was shared among pools of direct writing companies. American Central Life Insurance Company (later known as American United Life Insurance Company) started a reinsurance department in 1904, the first life reinsurer domiciled in the United States.

Prior to World War I, German reinsurers wrote two-thirds of the reinsurance premium income in the world. The war totally destroyed their market. (Kopf as quoted by Holland 2009).

The war disrupted the payment of premium and claims between United States and Canadian ceding companies and the European reinsurers; many claims were never paid due to the collapse of the economies in several of these counties. After World War I, several United States companies entered the market, using a different business model. Whereas European reinsurers tended to provide only reinsurance, the new United States entrants tended to be separate business units of existing direct life insurance companies.

During World War II, companies in neutral countries were able to maintain business relationships, but reinsurance ceded to companies domiciled in the Axis countries (primarily Germany) was problematic. After World War II, more companies entered the life and health reinsurance markets in the United States and Canada. This process of more entrants continued until the late 1990s. Since then, the number of life and health reinsurers active in the United States and Canada has shrunk dramatically. Most participants at this time are affiliated with larger European corporate parents, which are also very active in property and casualty reinsurance. However, a number of newer reinsurers have been organized and domiciled offshore, focusing on reinsuring only annuities.

REINSURANCE TODAY IN CANADA AND THE UNITED STATES

Reinsurance is a vital and widely used service in both the United States and Canada in the life and health markets, with emerging use with annuity products. The data[4] which follows demonstrates the extent to which life reinsurance is used today.

> 2013 is the last date for which data was available at the time of drafting of this book. At that time, most industry observers anticipated the portions reinsured to remain in this range or drop slightly for the near future.

In the period from 1994 to 2003, ordinary life reinsurance ceded inforce quadrupled in the United States. In fact, in 2002, approximately 62% (by face amount) of new life insurance issued was reinsured. As market conditions and the economic environment changed, that percentage dropped annually through 2013, when 27% of new face amount was reinsured. The higher percentage in 2002 was the result of a set of conditions that may not occur again, but even at 27%, it is clear that the life insurance market in the United States would be significantly different without the availability of reinsurance. In addition, portfolio transactions ceding large portions of life insurance previously retained by insurers has occurred, particularly near the end of the twentieth century and in the early part of the twenty-first century, but activity decreased in 2013.

The professional retrocession market in the U.S. increased slightly in 2012 after a large drop in 2010, but is still about 20% of the 2000 total. Retrocession is vitally necessary for large individual risks and certain concentrations of risk. Business is almost evenly divided between three professional retrocessionnaires.

In Canada, between 2006 and 2011, individual life reinsurance ceded represented about 70% of the face amount of new issues. It fell to 60% in 2013. This trend is anticipated to continue through 2013[5]. This is higher than the peak of the United States experience.

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[4] David M. Bruggeman, FSA, MAAA. "Life Reinsurance data from the 2013 Munich Re Survey." *Reinsurance News*. Issue 79 August 2014.

[5] Jim Filmore and Binni Rana. "Reinsurance Market." Society of Actuaries Introduction to Reinsurance Boot Camp. Toronto, Canada. May 8, 2013. Presentation.

Interestingly, only 1.5% of Canadian reinsurance was written on a coinsurance basis around 2013, while 25% of the U.S. reinsurance was written on a coinsurance basis. This difference is partly the result of differing regulatory reserve and capital requirements in the two countries and the fact that there are more small insurers in the United States that need relief from the financial strain of new issues. Ceding companies and reinsurers also tend to have much less difference in Canada than in the U.S. regarding the basic assumptions of anticipated experience and in pricing frameworks.

Retrocessions of new issues are important in Canada for large risks, but relatively less so than in United States. Portfolio reinsurance of inforce blocks had been significant in Canada since the global financial crisis, but no transactions were reported in 2013.

Statistics are not readily available for health and annuity reinsurance. Reinsurance is, if anything, more necessary for certain health products, primarily major medical insurance with few or no maximum limits on benefits. The demand for reinsurance of annuities is highly dependent on the availability of capital for ceding companies. Similarly, the availability of reinsurance for annuity products is highly dependent on availability of capital.

CLASSIFICATIONS OF REINSURANCE

In this section the different ways in which reinsurance may be classified or distinguished are discussed, and several new terms are introduced.

CEDE/ASSUME/RETROCEDE

To **cede** refers to the transfer of an insurance risk from the ceding company to the reinsurer. The portion of insurance passed to the reinsurer is known as the cession. In accounting, the transferred business is identified as *ceded reinsurance* or just *ceded*. In most traditional individual life, health, and annuity reinsurance arrangements, a cession is defined in terms of the individual policy. However, a cession may also refer to a group of policies such as in a stop loss agreement.

To **assume** refers to the acceptance of an insurance risk from the ceding company by the reinsurer. The reinsurer may also be referred to as the assuming company or assuming insurer. In accounting the reinsurance accepted is called *assumed reinsurance* or just *assumed*.

The reinsurer is not obligated to **retain** all risks which it has assumed. It may decide to **retrocede** all or some portions of the risks it has assumed to a retrocessionaire. The reinsurance passed in this situation, known as the retrocession, is usually defined in terms of an individual policy. In accounting, this type of reinsurance sometimes is identified as *retroceded reinsurance* or just *retroceded*, but more frequently is included with ceded amounts.

NEW ISSUES / CURRENTLY INFORCE POLICIES

Most reinsurance agreements address new policies to be issued in the future. This business is frequently referred to as **recurring reinsurance**. Since the 1990s, however, insurers frequently have found it advantageous to cede significant portions of their existing inforce policies to one or more reinsurers. This may be done to reduce capital requirements or in hopes of achieving higher returns on capital if the profitability of the business ceded is lower than desired. Ceding of inforce policies is frequently referred to as **portfolio reinsurance** or **block reinsurance**.

INDEMNITY/ASSUMPTION

A reinsurance arrangement is defined by a written legal agreement commonly referred to as a reinsurance treaty. Such an agreement identifies the risks being transferred, defines the manner in which the risks are to be transferred, and describes the basic administrative and accounting procedures which both parties are to follow.

Risks may be transferred on either an **indemnity** or **assumption** basis. The differences between these two types of transactions lie in the relationship among the owners of the insurance policies, the ceding company, and the reinsurer.

Indemnity

Under indemnity reinsurance, the policyholders have no contractual relationship with the reinsurance company, and in fact, the policyholders rarely have any knowledge of the reinsurance agreement. The policyholders remit premium payments to the insurance company that issued the policy and look to that company for the payment of benefits. The ceding company remits the reinsurance premium to the reinsurer and looks to the reinsurer for reimbursement on claims for ceded policies. Should the reinsurer fail to meet its obligations to the ceding company, the ceding company still has full responsibility for any liability or benefits payable to the policyholder.

A **recapture** provision is a common feature in indemnity reinsurance contracts, although it is not mandatory. A recapture provision allows the ceding company to regain all or a portion of its liabilities under the policies reinsured upon the occurrence of some specified conditions. The recapture period is usually determined by the reinsurer at the inception of the agreement to allow the reinsurer to recoup its initial investment and make a reasonable profit.

Assumption

Assumption is the permanent transfer of insurance liabilities from one company to another. In these transactions, the original company is referred to as the **transferring insurer** and the new company is referred to as the **assuming insurer.**

> The terms "assuming insurer" and "transferring insurer" are used in the NAIC Assumption Reinsurance Model Act and refer to the parties in an assumption agreement. These terms have been adopted by this text for that purpose. The term "assuming insurer" can also be used to describe the reinsurer in an indemnity reinsurance transaction.

Under assumption, the assuming insurer assumes the position formerly occupied by the transferring insurer that originally issued the insurance. The exact manner in which this is done will vary with state regulatory requirements. In most of the United States, each policyholder must agree to the assumption. This is not, however, a universal requirement and does not even hold in all circumstances in states that generally require policyholder approval, such as in the event of insolvency of the original insurer. Those policyholders whose policies are assumed are given **assumption certificates** by the assuming insurer. The original insurance company then ceases to have any contractual obligation to the policyholders. The substitution of the original insurance contract with transferring insurer for a contract with the assuming insurer is called **novation.**

From the date of assumption forward, the policyholders remit premium payments to the assuming insurer and look to the assuming insurer for payment of benefits. Because assumption involves a permanent transfer of risk and a novation of the policyholder's original policy, the accounting treatment and tax effects of the transaction normally differ from the treatment given to indemnity reinsurance.

Assumption transactions are less common than indemnity reinsurance. Unless otherwise specified in this book, reinsurance will refer to indemnity reinsurance and special reference will be made to assumption and assuming insurers where applicable.

PROPORTIONAL/NONPROPORTIONAL

Reinsurance may be conducted on either a **proportional** or a **nonproportional** basis. The differences between proportional and nonproportional reinsurance lie in both the coverage provided and in the way premiums are determined. Proportional reinsurance is usually used for life insurance, annuities, or other products where the claim can be known in advance, such as the death benefit of a life insurance policy. Non-proportional reinsurance is usually used for products where the amount of claim is not known in advance, such as a hospital stay or a liability claim.

> Life and annuity reinsurance is largely proportional in nature. Property and casualty reinsurance is almost totally nonproportional. Health reinsurance is mixed, but nonproportional coverages predominate as the amounts of most claims are unknown at issue.

Proportional Reinsurance

For proportional reinsurance, the portion of the benefit for which the reinsurer is responsible is defined at the time of the cession by a formula relating to the ceding company's retention limits, and the amount of benefit provided by the reinsurance can be determined at issue for any point in the future. As an example, a company issues a $400,000 annually renewable term insurance policy and reinsures the amount in excess of its $100,000 retention. In this situation, the company retains 25% of the risk in all years.

There are other methods of determining the proportion of reinsurance ceded, and the proportion may vary by policy duration. In each case, the proportion by duration is fixed at issue by some formula and is dependent upon the parameters for that policy only.

Proportional reinsurance is conducted using one or more methods of reinsurance known as **coinsurance**, **modified coinsurance**, and **yearly renewable term (YRT)** plans of reinsurance. The methods are discussed fully in later chapters and are briefly described below to help the reader through the introductory sections of this book.

<u>Coinsurance.</u> Coinsurance is indemnity reinsurance coverage where the portion of the policy ceded to the reinsurer follows the original terms of the individual policy. Coinsurance is sometimes referred to as *original terms* or *same form* reinsurance. The ceding company and the reinsurer are exposed to the same risks in a proportionate manner. The reinsurer establishes its share of the policy reserves and pays its share of the benefits in exchange for its share of the policy premium. The reinsurer usually provides the ceding company with an **expense allowance** to cover a share of the underlying policy expenses, including commissions.

<u>Modified Coinsurance.</u> Modified coinsurance is similar to coinsurance except that the ceding company maintains the entire policy reserve. The reinsurer reimburses the ceding company

for its share of the reserve increase and the ceding company pays the reinsurer for investment income on the assets backing the reserves.

Yearly Renewable Term (YRT). Under this method of indemnity reinsurance, only the mortality or morbidity risk is transferred to the reinsurer. The YRT premiums paid for this coverage are not related to the premiums paid by the policyholder, but use a specified scale of premiums on the issue age and duration of the risk reinsured. The YRT premium is calculated based on the amount of risk transferred. The amount of risk transferred is the **Net Amount at Risk (NAAR)** which is the excess of the policy death benefit over the policy reserve.

Nonproportional Reinsurance

When nonproportional reinsurance is used, the amount for which the reinsurer is liable is not fixed in advance. Rather, the amount of reinsurance benefit is dependent on the amount of claims incurred during the contract period. The primary nonproportional plans of life reinsurance are **stop loss** and **catastrophe coverage**. When stop loss coverage is purchased, the company only collects on a claim if total claims exceed a defined attachment point. If a company purchases catastrophe coverage, it collects only if multiple deaths occur from a single covered event.

AUTOMATIC/FACULTATIVE

A reinsurance treaty may allow business to be ceded on either an automatic or facultative basis. Under an **automatic reinsurance** treaty, the ceding company cedes all risks issued in excess of its retention limit, subject to certain specific criteria, to a specific reinsurer at a predetermined cost without submitting underwriting papers to the reinsurer for approval.

> In property and casualty reinsurance, automatic coverage is known as "treaty" business. This term is sometimes used for automatic life, health, or annuity reinsurance also.

A **facultative reinsurance** treaty provides that a reinsurer must approve each individual risk before it has any liability. Variations include the **conditional automatic** treaty, where the reinsurer provides an underwriting service to the ceding company, and the **facultative obligatory** treaty, where the reinsurer can decline a risk only when it has previously retained its full retention on the individual involved.

EXCESS/QUOTA SHARE/FIRST DOLLAR QUOTA SHARE

An **excess** treaty covers risks ceded in accordance with a scheduled set of retention limits. The **retention limit** is the amount of insurance benefit the ceding company has decided to keep or retain. The retention limits usually vary by age and underwriting classification of the insured. Alternatively, the reinsurance treaty may provide that a fixed percentage of each risk will be ceded. This is known as **quota share** reinsurance. In most instances, quota share reinsurance applies to the **first dollar** of coverage; that is, the reinsurer received a stated portion of each risk. Quota share can, however, be used in combination with an excess risk arrangement where the reinsurer received a stated portion of only the excess of a stated amount.

Typically, when a quota share arrangement is used, the ceding company will keep only a stated retention limit. Once the amount issued reaches a level where the ceding company's normal retention would be exceeded, the excess of that amount is ceded in an excess manner.

EXPERIENCE RATED/NON-EXPERIENCE RATED

At one time, most reinsurance treaties were written on an **experience rated** or **experience refund** basis; the ceding company shared in a portion of any profits realized on the reinsurance in excess of a certain level. The experience refund paid is sometimes known as a **profit commission**; this term is more commonly used in Europe and in the P&C reinsurance business.

Total premiums paid to the reinsurer on experience refund treaties typically are higher than the premiums on comparable non-refund treaties. This provides the reinsurer with an additional margin for fluctuation. In today's market, most reinsurers and ceding companies prefer the use of non-refund treaties.

TRADITIONAL/FINANCIAL

Two basic classifications of reinsurance are defined in this book: traditional and financial. **Traditional reinsurance** refers to reinsurance arrangements where the primary purpose is the transfer of risk. **Financial reinsurance** refers to reinsurance arrangements where the primary purpose is the achievement of a specific business objective such as increasing statutory surplus, reducing taxes, or acquiring blocks of business. While financial reinsurance involves risk transfer, the risk transfer purpose is typically secondary to the business purpose.

The distinctions between traditional and financial reinsurance may not be immediately obvious in the treaty. The differences tend to be in the expected level of risk transferred and will be discussed throughout this book.

USES OF REINSURANCE

Reinsurance is one of the major risk management tools available to insurance companies, and provides these companies with protection against adverse fluctuations in experience. Reinsurance is also a powerful financial planning instrument. It can be used to optimize capital as well as to execute business strategy by entering or exiting product lines or supporting growth beyond the resources of the ceding company. The most common reasons why an insurance company would purchase or sell reinsurance are discussed next.

MORTALITY/MORBIDITY RISK TRANSFER

The oldest and most common reason for an insurance company to purchase reinsurance is to enable that company to issue a policy on a single risk for an amount in excess of the maximum amount that it considers to be prudent for its relative financial size.

For life insurance, with respect to reinsurance for excess amounts, the retention limit is usually stated as a maximum dollar amount per risk; that is, the ceding company will retain all of the risk up to a stated amount and cede any excess. With respect to quota share reinsurance, the ceding company will retain a specified percentage of the risk issued until its retained share reaches the stated retention limit; it will then reinsure any amounts in excess of its retention limit.

Retention limits in action: In 1970, a $15,000,000 claim was incurred on the murder of Eugene Mullendore. The ceding company had retained only $40,000 and the rest was ceded and retroceded among more than100 reinsurers. This was the largest claim ever at the time. (Qwitny as quoted by Holland 2009)

Annuities during the deferral period are usually reinsured using a percentage of the accumulation fund. Reinsurance of annuities in payout status is rare, but when it exists, either an excess of a flat retention amount or a quota share of the annuity payment may be used. In either case, significant investment and longevity risks are involved.

Were there no retention limit, or if the limit is set at too high a level, a company could face serious financial impairment, or even insolvency, if it experienced a number of large claims over a short period of time. The retention limit is normally set at a level which will enable the company to use reinsurance as a tool to smooth out fluctuations in statutory earnings and surplus which could result from variations in the claim frequency and volume.

LAPSE OR SURRENDER RISK TRANSFER

An insurance company generally cedes business to cover excessive mortality or morbidity risks but, on occasion, a company may cede reinsurance to cover the risk of excessive lapses or surrenders. The lapse or surrender risk is the greatest on products with large first year surplus strain, particularly on products where the first year commission or the sum of first year commission and the first year cash value exceeds the first year premium.

Products with steeply increasing premiums and products with heavy policy loan activity also are prone to high lapses or surrenders. Excessive voluntary terminations may lead to deterioration in future mortality or morbidity experience. Also, a high level of surrenders can create disintermediation or other investment exposures.

Conversely, certain products, such as level premium term insurance with steeply increasing claim costs, may present problems if too few lapses occur.

INVESTMENT RISK TRANSFER

The ceding company may reinsure a block of business in order to take advantage of the reinsurer's investment facilities or otherwise shift part of the investment risk to the reinsurer. This may be chosen when the reinsurer has access to particular investments which are not available to the ceding company or when the ceding company wishes to avoid a high concentration of assets arising from a single product or from a large single annuity.

Prior to 1980, such reinsurance was relatively rare. Since the early 1980s, several factors have combined to cause more investment risk to be transferred to the reinsurer. Increasing demand for and sales of interest sensitive products, such as annuities and universal life, have created an increasing realization of the need for protection in the investment arena on the part of many ceding companies.

High profile life insurance insolvencies and other regulatory problems have caused regulatory and accounting standards to increase focus on the asset side of the balance sheet with respect to reinsurance agreements and on the interaction of reinsurance, asset performance, and solvency. Specific regulation in the United States and actuarial reserve guidance in Canada have addressed the necessary investment risk transfer requirements for reinsurance reserve ceded credit. Such regulation and guidance also addresses what constitutes acceptable assets regarding obligations or amounts receivable from reinsurers.

The result of these environmental changes is that coinsurance and modified coinsurance treaties now transfer meaningful investment risk participation to the reinsurer, unless the underlying products reinsured have minimal investment risk.

NEW BUSINESS FINANCING

A common use of reinsurance is to finance the acquisition of new business. In certain circumstances, the acquisition costs and reserve requirements associated with the writing of new business may be such that a successful sales effort would depress statutory earnings to the point of possible impairment of the company's statutory capital and surplus position. In this situation, the insurance company may seek a reinsurer to share the burden of the acquisition costs, often referred to as **surplus strain.**

In most cases, the sharing of acquisition costs will be in proportion to the mortality or morbidity risk sharing. As long as regulatory requirements are met, the reinsurer may provide a proportionately larger amount of the first year surplus strain, increasing its expected profit margins in later years to recover its additional investment.

UNDERWRITING ASSISTANCE

An insurer may seek reinsurance for underwriting needs. In the early days of reinsurance, all reinsurance was underwritten by the reinsurers. Today, the reinsurers are still the underwriting experts. Many insurance companies use an underwriting manual developed by a reinsurer; the reinsurer may also provide training and audit services for the ceding company's underwriters.

The availability of an experienced reinsurance underwriter provides the insurer's underwriter the opportunity to have a difficult case reviewed, to seek a second opinion, or to obtain a more competitive rating. The reinsurer, which typically sees a greater number of large or complicated risks, often makes more aggressive underwriting decisions than a ceding company due to more advanced underwriting knowledge and techniques, and because it has a wider spread of these less common risks. Competitive pressure among reinsurers may also lead to more aggressive underwriting decisions.

The reinsurer may be willing to reinsure a large portion or even all of a difficult case, enabling the insurance company to place the case for its agent. An insurance company may maintain an underwriting relationship with several reinsurers in order to offer its agents the best possible underwriting service on difficult cases. In fact, several reinsurers may share the risk on a given policy, although this appears to be less common today than in the past. Very large policies may require facultative approval from one or more retrocessionaires.

ENTERING NEW MARKETS

An insurance company entering a new line of business or embarking in otherwise unfamiliar territory, may form a partnership arrangement with a reinsurer because of the reinsurer's expertise in this particular area. The ceding company may receive assistance from the reinsurer in product development or local regulation and practices.

The ceding company may utilize the reinsurer's administration systems for a fee or in exchange for ceding reinsurance on the product. Such an arrangement typically lasts for only a relatively short period until the insurer has gained sufficient experience to administer the business itself.

MERGERS AND ACQUISITIONS

Most of the applications discussed in this book involve indemnity transactions between a professional reinsurance company and a direct writing insurance company. Reinsurance is also used to transfer blocks of business, or sell or purchase entire companies. A permanent sale is usually accomplished via assumption, but indemnity reinsurance is preferred in some situations.

DIVESTING A PRODUCT LINE

An insurance company may cede reinsurance in order to exit from a certain product line or geographic area, to reallocate capital, to simplify future administration, or reduce overhead expenses. It may choose to cede the business by the means of an assumption reinsurance agreement, thereby eliminating or reducing the original insurer's exposure to future issues, or through indemnity reinsurance.

OPTIMIZING ADMINISTRATIVE FUNCTIONS

An insurance company may find that it has excess administrative capacity. In that event, it may look to accept reinsurance from another insurer if it can also perform some or all of the relevant administrative functions. Conversely, an insurer may find that the cost of maintaining full administrative functions leads to excessive expenses, especially for a small or discontinued product or line of business. In such circumstances, insurers may look to a reinsurance partner to sell inforce to it or to purchase inforce from it, depending on the insurer's needs. Such circumstances are frequent causes of the mergers, acquisitions, or divestures discussed earlier.

INCREASING REINSURER'S RETURNS

As with directly issued insurance and annuity contracts, insurance companies accept reinsurance anticipating a profit. This allows the company to deploy otherwise idle capital and improve its returns. There are several ways in which a company can participate in the reinsurance marketplace; these are discussed later in this chapter.

INCREASING REINSURER'S INFORCE

Some companies may assume reinsurance in order to increase the size of the company. A company may do this to take advantage of under-utilized administrative capacities, to develop a larger base of policies over which to spread administrative or overhead expenses, or to augment inforce amounts when direct sales do not meet business plans.

FRONTING

On occasion, a direct insurer will issue insurance policies to specified applicants at the request of another company, reinsuring all or substantially all of the risks on the insurance to the other company. Typically, the administration of the direct insurance and the reinsurance is handled by the reinsurer using **third party administration** agreements with the insurer.

The use of this process, known as **fronting,** is relatively frequent in the property and casualty insurance and accident and health markets. Fronting is relatively rare for life insurance and annuities, except in some joint ventures.

INCREASING CEDING COMPANY SALES AND PROFITS

While there is a cost to reinsurance, there are advantages for a company to write business knowing it will cede a significant amount of the risk. Some of the most common advantages for ceding large portions of new business are discussed below.

1. Reinsurance frequently can be purchased at a relatively *low marginal cost* to the ceding company because reinsurers normally have lower issue and administrative expenses. A reinsurer may also use different assumptions, based on its experience or on higher confidence in medical treatment or new underwriting techniques, resulting in lower mortality or morbidity assumptions. Within reason, the insurance company can cede a large portion of the risks on an insurance policy and still maintain an acceptable level of profit on the total policy. A small profit is generally considered superior to no profit at all. In effect, reinsuring large portions leverages upward the return on a company's surplus by issuing and administering more business.
2. The company's agents can write *larger face amount polices and contracts* with the company which might otherwise be placed with competitors having higher retention limits, providing a sales tool to smaller and medium-sized companies. This increases the insurance company's sales and enables the agents to earn more commissions with one company, encouraging loyalty.
3. The insurance company's underwriters can gain *valuable underwriting experienc*e by learning from reinsurer's underwriting of larger amounts of insurance which will be useful when retention limits are increased. This would not be possible if all large policies were declined.
4. If the reinsurance contract contains a *recapture provision*, the company may increase its retention limit at some future point and recapture amounts on previously issued policies up to the new retention limit, subject to the terms of the reinsurance contract. This might allow the company to generate more future profits from currently reinsured policies.

INCREASING AGENT LOYALTY

In addition to using professional reinsurers to issue more or larger polices, some insurers go much further in providing opportunities for agents. A significant example is the formation of **producer-owned reinsurance companies** (PORCs). In this situation, a company allows a group of agents known to produce large volumes of business to participate in the earnings resulting from the business written by that group. This is typically done by helping the agent group establish and own a reinsurer. A portion of the business written by the agent group is ceded by the insurer to the PORC. If the business is profitable, then the group makes more money; if not, it loses part or all of its investment in the PORC.

FINANCIAL PLANNING AND MANAGING CAPITAL

On occasion, an insurance company may have a need for increased statutory surplus. One method to accomplish this is to reinsure or sell a block of business to another insurer or reinsurer.

There are several reasons why a ceding company might wish to increase its surplus position. These reasons may include one or more the following.

1. The company has been overly successful in issuing new policies with resultant *acquisition expenses* reducing its surplus below prudent or required levels.
2. The company must increase its surplus in order *to obtain a license* in a new jurisdiction.
3. The company's surplus may have been reduced because of *poor mortality, morbidity, or surrender experience*.
4. The company needs to increase its surplus to meet **risk based capital** (**RBC**) or other statutory requirements.
5. The company desires to *improve or maintain its rating* with a rating agency, such as A. M. Best, Moody's, or Standard and Poor, in order to increase agent, policyholder, stockholder, or lender confidence in the company or to permit it to market in certain situations.
6. The company wishes to meet certain objectives regarding *policyholder dividends, shareholder dividends, or debt service*.

Alternatively, the company may want to invest in accepting reinsurance to *utilize otherwise idle capital*. Better capital management and optimization of returns can be assisted by the judicious use of reinsurance, ceding business when capital is low and accepting reinsurance when overcapitalized.

Just as surplus can be increased by ceding business, the various components of the RBC calculation and the target capital needed is reduced by ceding business, and similarly increased by assuming business. Interestingly, because of the covariance aspect of the RBC calculation, a company that is overweighted proportionately in the asset component can sometimes add mortality or morbidity risk with little effect on total RBC and vice versa.

RAISING CAPITAL AND SUPPORTING DEBT OBLIGATIONS

Reinsurance may be used to facilitate the raising of capital, for both stock insurance companies and mutual insurance companies.

In order to obtain favorable analysis of its future earnings from a rating agency or a potential lender, insurance companies need to demonstrate that fluctuations in earnings, especially negative ones, are unlikely. A credible reinsurance ceded program demonstrates that a company is aware of the need to control its risk exposure. Examination of that program can demonstrate whether the risk exposure is better controlled as a result.

Arranging debt is sometimes assisted by the presence of reinsurance to assure the lenders that its loan is secure. Capital-raising normally is accomplished by issuing common stock, preferred stock, or surplus notes; only the last is available to mutual companies. However, surplus can be increased by ceding one or more blocks of existing inforce business, in essence selling the future stream of profits on that business at a discounted value.

In the U.S., there are some constraints on how that discounted value is allowed to enter into earnings and profits for both statutory and GAAP accounting. An assumption transaction may be reported differently than an indemnity transaction.

New capital markets products are emerging regularly. As discussed later, **securitization** and **special purpose vehicles** have emerged in the most recent decade as valuable sources of outside capital used to fund excessive reserve when the level of such funding required by regulation is considered excessive in relation to economic exposure to loss. These typically are used to fund capital that is considered to be at low risk to the insurance or reinsurance application.

TAX PLANNING

Historically, reinsurance has had powerful applications in tax planning for both ceding companies and reinsurers. Here are some examples of these applications in the United States:

1. A company may wish to assume life insurance or cede health insurance in order to *maintain or secure life insurance company status* for federal income tax purposes. Conversely, it may cede life insurance or accept health insurance in order to secure or retain a non-life insurance company status for federal income tax purposes.
2. A company may wish to cede insurance and use the increased statutory earnings in order to *utilize expiring tax loss carry-forwards*. The company can use reinsurance to change the timing of taxable income for federal income tax purposes.
3. Conversely, a company may wish to assume business and reduce its current taxable income to qualify as a small company for tax purposes.

The U.S. federal tax laws and regulations are complex and constantly changing, so use of reinsurance to assist in tax planning requires considerable expertise and continuous learning. Canadian tax and accounting practices do not lend themselves as readily to such reinsurance tax planning opportunities.

LIMITING CATASTROPHIC CLAIMS

When a jet airliner crashes or a hotel burns, an insurance company may incur claims on two, three, or more individuals. While a single event involving multiple claims is not a common occurrence, such an event can have a dramatic effect on a company's earnings. Multiple deaths from a single event will affect both large companies and small companies. Companies providing group coverage have a significant exposure to catastrophic claims. For partial protection, many companies purchase **catastrophic insurance coverage**, or **cat cover**.

In the aftermath of the 9/11 attacks, hundreds of millions of dollars were paid in life insurance claims on the roughly 3,000 individuals killed in the attacks and providing safety services. Some insurers and reinsurers had purchased cat covers which provided significant protection for their surplus. This was probably the largest single catastrophe in the history of the life insurance business, although well under the cost of claims for natural disasters in the property and casualty business. After 9/11, many insurers begin to search for catastrophe coverage, but it was not available in large amounts at that time.

Catastrophic coverage generally provides for the reinsurer to pay claims in excess of a certain limit, subject to a minimum number of claims and subject to a maximum amount of reinsurance per event. Coverage is usually limited to accidental deaths due to catastrophes such as plane crashes or earthquakes and does not include deaths due to epidemics, wars, insurrections, or natural causes. This coverage often excludes specific concentrations of lives such as sports teams, airline personnel, and other organizations or groups which would involve a large single conveyance transportation exposure. Coverage for these concentrated risk groups may sometimes be obtained from domestic or foreign syndicates and pools.[6]

LIMITING TOTAL CLAIMS

While the major purpose of retention limits is to help smooth out fluctuations in earnings caused by large individual claims, some insurers, particularly smaller ones, are concerned with fluctuations caused by excessive claims in any one year. In order to provide protection against this risk, some companies purchase **stop loss reinsurance** coverage.

A stop loss program provides for the reinsurer to reimburse the company for all or a specified percentage of retained claims in excess of a specified amount, known as the **attachment point,** up to a defined maximum. The attachment point is usually expressed as a percentage of the expected claims. The contract usually limits the amount of any claim to be included in the stop loss calculation to the company's retained portion of the claim. Claims from all causes generally are covered under a stop loss agreement.

DEMUTUALIZATION

Several U.S. mutual life insurance companies have demutualized in the recent past. In most, if not all, of these demutualizations, a *closed block* was created for the inforce participating policies that had previously been the "owners" of the mutual company. In some instances, future dividends were guaranteed; also, a defined amount of capital was allocated to those closed policies. Reinsurance of some risks, especially the mortality risk, was put in place to protect the capital or dividends for those policies.

ENTERPRISE RISK MANAGEMENT

Insurance companies, as well as other types of companies, are focusing on **enterprise risk management** (**ERM**) with increasing intensity and scope. Much has been and will be written about ERM, and it is not possible to give adequate discussion in a limited space. A partial list of *ERM objectives* and some effects and applications of reinsurance is given below.

1. *Mitigation of earnings surprises* is improved with appropriate reinsurance ceded programs to transfer risks as discussed earlier in this chapter.
2. *Optimization of risk* is aided with both ceded and assumed programs to develop orthogonal risk profiles.
3. *Concentrations of risk* are reduced with the appropriate purchase of reinsurance.
4. Reinsurance may offer a *lower cost of capital* than other means of financing growth, thereby improving *capital efficiency*.

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[6] Lloyds of London is the best known provider of such coverages, although certainly not the only one.

5. Reinsurance allows an insurance company to carry *less capital* for catastrophes or claims volatility.
6. *Policyholder security* is improved when reinsurance absorbs much of the claims volatility.
7. *Capital management, tax planning, and debt management* are significant tools in ERM; reinsurance increases the relevant options available to both ceding companies and reinsurers.
8. *Investor confidence* is improved and the *company's value increased* when reinsurance is used to avoid overcapitalization or broader earning swings.

In Canada, federally registered companies are required to develop an *Enterprise Risk Management Framework*. This framework includes a *Risk Appetite Framework* which consists of a risk appetite statement, risk limits, and an outline of the roles and responsibilities for implementing the framework. Risk limits should be developed and tested for various lines and products. Insurers are also required to have a *Reinsurance Risk Management Policy*. Insurers are required to assess all reinsurance arrangements including the counterparty risk. Senior management has the responsibility for implementing the ERM policy and the Board of Directors is responsible for overseeing it.

U.S. regulators are behind Canadian regulators in developing formal risk management procedures, but the process is moving rapidly at this time.

One of the significant tools being required in Canada and the U.S. is the Own Risk Solvency Assessment (ORSA) reporting. All Canadian companies are required to fulfill the ORSA requirements; in the U.S. it is required only of companies with over $500 million of direct written and unaffiliated assumed premiums and for groups with more than $1 billion of such premiums.

CLASSIFICATIONS OF REINSURERS

Insurance companies may assume reinsurance for a number of different reasons. Their degree of involvement ranges from an occasional reinsurance transaction to a full-time commitment of all resources. The various classifications of reinsurers are described in this section. A reinsurer may fall into more than one classification.

These classifications do not have any legal or regulatory weight. The **National Association of Insurance Commissioners** (NAIC) in the United States and the **Office of the Superintendent of Financial Institutions** (OSFI) in Canada each have specific terminology to define reinsurers for regulatory purposes. These terms will be discussed in later chapters.

PROFESSIONAL REINSURER

All companies that assume reinsurance do so with the expectation of earning a profit. In this book, the term **professional reinsurer**, or **commercial reinsurer,** refers to those companies that actively seek to assume reinsurance either as a major line of business or as their only line of business. A distinguishing feature of professional life reinsurers is a sales staff dedicated to reinsurance activities with some interaction with reinsurance brokers or intermediaries. Most

P&C reinsurance, a significant portion of A&H reinsurance, and much annuity reinsurance are placed with a variety of reinsurers via brokers.

Professional life reinsurers have specialized actuarial and accounting departments to meet the special needs of the reinsurance line. Most professional reinsurers offer the full range of reinsurance plans and services for both traditional and financial needs. Recently, some newer reinsurers have specialized in a single product such as annuities. A few reinsurers specialize in facultative or financial reinsurance, while others provide such treaties only as an accommodation to clients with automatic treaties.

Most domestic professional reinsurers in the U.S. and Canada fulfill the requirements established by the NAIC and OSFI, respectively, thereby allowing the ceding company to take a reserve credit in the U.S. or establish a reinsurance asset in Canada.

OCCASIONAL REINSURER

The term **occasional reinsurer** is used to refer to a company that does not actively seek recurring reinsurance in the general market, but participates in certain reinsurance pools or acquires blocks of business.

Many companies participate in two large government sponsored pools: *Federal Employees' Group Life Insurance (FEGLI) and Servicemen's Group Life Insurance (SGLI).* These pools offer very low exposure to risk and require little administrative effort. Use of these pools is more to spread profits than to spread risks; their existence may satisfy political rather than economic needs.

Some insurance companies actively seek to acquire blocks of business. This is often done to utilize excess administrative capabilities or to increase the inforce insurance base for the purpose of spreading overhead and other expenses. Most special purpose reinsurers tend to specialize in one type of business. In many situations, assumption would be preferred over indemnity reinsurance.

Some large insurers accept individual risks on a facultative basis, providing capacity for very large risks.

In the past, reinsurers sometimes offered selected clients **reciprocity** in their own retrocession pools in exchange for participation in the client's automatic reinsurance. The retrocession pool is made up from the reinsurer's assumed business. The amount of reciprocity reinsurance typically is proportional to the amount ceded to the reinsurer, but the ratio of ceded to accepted volume is subject to negotiation.

Reciprocity arrangements historically were profitable to the retrocessionaires until the overall poor persistency experienced by the insurance industry in the late 1970s and early 1980s. Ceding companies found they could achieve lower reinsurance costs with less total risks by obtaining the best price rather than the best reciprocity. Many professional reinsurers cannot afford to retrocede reinsurance assumed on competitive coinsurance rates unless competitive retrocession rates are used in the pools. Consequently, reciprocity is used rarely today.

RETROCESSIONAIRE

Some companies act only as professional retrocessionaires serving professional reinsurers. As discussed earlier, some ceding companies historically participated in reciprocal pools with professional reinsurers. However, because of the highly competitive coinsurance marketplace, reinsurers frequently must retrocede assumed business on more competitive and, therefore, less profitable terms.

Professional retrocessionaires are those companies that are willing and able to assume risks from professional reinsurers at competitive rates. The underwriting function is very important to the professional retrocessionaire because it is involved in a large portion of jumbo policies. Most, if not all, retrocessions today go to companies that are either professional retrocessionaires or are one of a few very large companies with large retentions. In the latter instance, those insurers are not active in the retrocession or reinsurance markets, but provide occasional facultative coverage for very large individual life risks.

POOL PARTICIPANT

In the early 1900s, before professional reinsurers entered the market, some insurance companies filled their reinsurance needs by forming reinsurance pools with similar companies. These companies would cede a portion of their risks to the pool and, in return, assume a proportion of the risks contained in the pool. These pools were operated on an experience rated basis and were, in essence, a sort of spread loss coverage. The primary purpose of these pools was to smooth out mortality fluctuations at no long term cost to any participant. Under the terms of the pool agreement, a company was usually required to remain in the pool until its experience account was positive.

These pools were established by companies whose overall mortality and underwriting characteristics were perceived to be homogeneous. When companies began to generate larger volumes of reinsurance and commercial reinsurance costs became very competitive, pools could no longer easily be kept in balance. By the 1980s, most of these pools were disbanded. While a few pools continued to exist for a few products, the members now purchase commercial reinsurance for the large volume plans, such as term insurance.

> The term “pool” has many meanings in the reinsurance industry. The context is important. In general, a pool involves multiple reinsurers assuming risks in a predetermined proportional basis. A pool, such as FEGLI or SEGLI, may be sponsored by a governmental entity. Reinsurers or retrocessionnaires may sponsor a pool. Affiliated companies may pool risks. Commercial pools may be sponsored by a group of insurance companies, a single insurance company for a single product, or a pool manager. The unifying characteristic is that specific policies are placed in the “pool” and reinsurance is ceded to the participants in a proportional manner.

JOINT VENTURE REINSURER

Sometimes a life insurance company may have a particular expertise in a given product area which it can market to other insurance companies utilizing a joint venture approach. In such an arrangement, the insurance company with the expertise forms an informal partnership with an inexperienced insurance company and assists it in developing a particular insurance product. In return for the assistance, the inexperienced company agrees to cede to the other company some portion of the risk on the policies written on the new products. The reinsurer may allow the ceding company to use its administrative systems for a fee until the ceding company can develop its own.

Joint ventures tend to be more common in situations involving difficult or new products, such as long term care or variable life, or products viewed as having greater risk, such as term insurance or disability income.

CAPTIVE OR PRODUCER-OWNED REINSURER

A substantial volume of reinsurance is ceded to producer owned reinsurance companies. These are companies formed and controlled by a separate entity in order to assume business from a specific source, usually from an affiliated or related party. In the credit insurance arena, many credit insurance companies were formed to reinsure business produced by a particular credit insurance source such as an automobile dealership. In the past, banks, savings and loans, and other financial institutions often formed insurance companies in order to assume certain insurance coverages written on their customers. These financial institutions are largely moving from traditional credit insurance products to *debt cancellation* products that do not fall under insurance regulation.

Over the past 30-40 years, some life insurance companies have assisted their agents in forming **captive insurance companies**. The insurance company cedes a portion of the business written by the agents to the agent-owned company in order that the agents may share in the overall profitability of the business which they write. Companies expect that by giving the agents a stake in the future profitability of the business, the agents will be stimulated to produce higher quality business and to be more loyal to the insurer. Non-insurance corporations may form captive insurance companies to insure their employees.

SPECIAL PURPOSE VEHICLES

In recent years, insurance and reinsurers have created special purpose vehicles as means of raising capital and mitigating certain risks, primarily through a process known as securitization. Simply stated, securitization allows a company to raise funds by selling defined streams of cash flows. An SPV is a form of captive.

In the life insurance arena, special purpose vehicles (also known as special purpose reinsurers and SPVs) have been formed to assume selected risks and create related cash flows. Bonds whose repayments are funded by these cash flows and release of surplus are sold into general investments by a parent of the SPV. The funds raised are contributed to the SPV. The assets purchased with those funds are used to back “redundant” reserves. The parent generally funds the first level of necessary capital and a level of “economic reserves” (typically at the level of GAAP reserves) and an outside investor funds any “excess reserves” needed. These excess reserves are considered to be a very safe investment.

The major application of securitization thus far has been to fund the “redundant” reserves required by the application of Reserve Guideline XXX to level premium term products and by the application of Reserve Guideline XXX-A for secondary guarantees on non-guaranteed products, but more applications are anticipated shortly.

INFORCE (BLOCK) SPECIALISTS

Some insurers grow by purchasing closed inforce blocks of policies or inactive insurance companies. These companies focus on efficient administrative conversion and integration into existing systems and procedures. These *inforce specialists* may or may not issue new policies;

the primary focus is on optimizing profits from the runoff of the inforce policies acquired. The acquisition of an entire company is a stock transaction, not reinsurance, and requires a change in share ownership; the acquisition of blocks requires the use of indemnity reinsurance, assumption, or both.

INTERNATIONAL REINSURERS

The United States and Canada have large insurance markets and it is not uncommon for insurers to seek reinsurance internationally. There are several reasons for a company to seek an international reinsurance partner.

1. Specialty coverages such as stop loss and catastrophe reinsurance are more readily available internationally.
2. Many U.S. and Canadian companies are part of a global corporation and find transactions between affiliates to be efficient and beneficial to all parties.
3. Multinational companies may reinsure internationally for business purposes.
4. Many U.S. companies enter into international reinsurance transactions to improve surplus or finance new business as reserve requirements are often less stringent abroad.
5. Formerly, U.S. companies could enter into international reinsurance transactions for tax purposes, but changes to the Internal Revenue Code have made such transactions less attractive.

International reinsurance transactions generally have different regulatory and tax implications than do purely domestic transactions.

BRANCH REINSURER

> A company domiciled outside the United States with no United States licensing is known as an "alien" company. A company domiciled outside Canada is known as a "foreign" company.

In the U.S. and Canada, the majority of recurring reinsurance is ceded to domestically licensed companies, many of which are subsidiaries of foreign reinsurers. There is, however, another way in which foreign companies can operate in the United States, and that is through a United States branch of an **alien company**. To accomplish this, an alien company establishes and licenses a branch in a selected state. The branch must meet all the statutory regulation and reporting standards of that state and maintain assets appropriate to and at least equal in value to the reserves to qualify in the U.S. as a **certified reinsurer** or **accredited reinsurer**. The branch is operated according to U.S. standards on its business in the branch, but the total company then restates the results to its domicile's standards.

In Canada, foreign insurers are regulated under the **Insurance Companies Act (ICA).** A federally regulated insurer reinsuring business with a foreign company may establish a reinsurance asset only if the business is reinsured in Canada or the foreign company provides suitable collateral as defined in the regulations.

Many Canadian companies have used both branches and subsidiaries to provide insurance and reinsurance in the United States and elsewhere. United States, Canadian, and other domiciled companies frequently use branches to start operations in emerging economies.

AFFILIATE REINSURER

It is common for reinsurance transactions to occur among affiliated insurance companies. The affiliated companies may have a reinsurance pool in which all companies participate, or a subsidiary may cede part or all of its reinsurance to its parent or to a larger affiliate. Reinsurance pools of affiliated companies may have spread loss characteristics, or they may use traditional risk transfer arrangements. Reinsurance among affiliates is frequently financially motivated, including surplus, capital, earnings or tax effects. Both the NAIC and OSFI have regulations and guidelines concerning transactions between affiliated companies.

FRONTING COMPANY

A fronting company is not a reinsurer, but rather a company that issues policies on behalf of another insurer that reinsures all or most of the policy liabilities. A fronting company is typically used because the reinsuring company lacks either licensing in a specific jurisdiction where the fronting company is licensed or the fronting company has a higher financial rating needed in certain product markets.

SYNDICATE MEMBER

There are certain *syndicates* of professional reinsurers in North America and Europe that provide specialty reinsurance such as accidental death and health coverage and also stop loss and catastrophe protection. Syndicates usually have staffs dedicated to marketing, underwriting, administration, and claims.

EFFECTS OF REINSURANCE ON COMPANY OPERATIONS

Reinsurance affects many areas of a ceding company's operations. The major areas are regulation and compliance, accounting, enterprise risk management, pricing and profitability, actuarial valuation and opinion, administration, and underwriting. Some of the key issues are summarized briefly in this section.

REGULATION AND COMPLIANCE

Reinsurance is less regulated than individual insurance because the perceived need for regulation is not as great. Policyholders are not parties to the reinsurance treaties. The insurance companies which are parties to the treaties are considered to be sophisticated buyers.

Regulation in the U.S. is more cumbersome than it is in Canada because each state has its own regulations, regulations may vary by state, regulations frequently change, and different states change regulation at different times. The NAIC has established an *accreditation program* for state insurance departments and *codification* of regulations to increase uniformity in insurance regulation and its application, with the intention of improving protection of policyholders from insurance company insolvencies.

Reinsurance regulation in the U.S. centers on two major areas of concern: the transfer of risk and the ability of the ceding company to collect reinsurance obligations when due. In general, the regulations do not prohibit any reinsurance transaction; instead, the regulations focus on the accounting treatment of the transactions. Specific regulations govern reinsurance transactions with a **foreign reinsurer,** that is, a domestic insurer that is not licensed in the ceding company's state of domicile.

The federal government in the U.S. left insurance regulation to the states until 2011 when the **Dodd-Frank Wall Street Reform and Consumer Protection Act**[7] was passed. It established the **Federal Insurance Office** (FIO) to collect and analyze data on the insurance industry, identify risky insurers for Federal Reserve supervision, identify gaps in insurance regulations, and represent the federal government in international insurance issues.

The **Nonadmitted and Reinsurance Reform Act** (NRRA)[8] is also part of the Dodd-Frank Reform Act. It prohibits states from denying credit for reinsurance if the domiciliary state of the ceding company is an NAIC-accredited state and allows the credit. The NRRA prohibits the extraterritorial application of state credit for reinsurance laws.

In Canada, all but a few small provincial insurers are regulated by OSFI.

In most states and Canada, reinsurance treaties do not need approval of the insurance department. It is important, however, to determine that reinsurance treaties comply with all existing regulations, particularly in the areas of reserve credits and insolvency.

Regulation in other countries will affect reinsurance transactions which cross international borders. Reinsurance agreements should be constructed with the most recent regulatory changes in mind.

ACCOUNTING

Reinsurance transactions have an effect on the statutory balance sheet and summary of operations. Accounting is primarily oriented towards statutory and cash information. For example, an insurance company must determine when it is appropriate to take reserve credit on reinsurance ceded.

Accounting and financial reporting needs should be addressed when the reinsurance treaty is drafted. Procedures must be communicated to the accounting department so proper recognition can be given to reinsurance premiums, allowances and claims, and proper information be provided for statutory purposes at a minimum.

In the U.S., companies that prepare financial statements in accordance with Generally Accepted Accounting Principles (GAAP) must apply these principles to all reinsurance transactions. For traditional reinsurance, appropriate GAAP treatment is fairly well defined. However, in the area of financial reinsurance, the appropriate GAAP treatment is less well defined and subject to greater latitude. Special treatments or different methods are frequently used to arrive at a common result.

[7] U.S. Congress. House. Dodd-Frank Wall Street Reform and Consumer Protection Act. H.R. 4173. 110th Cong., 2nd sess. (January 5, 2010).
[8] U.S. Congress. House. Dodd-Frank Wall Street Reform and Consumer Protection Act. H.R. 4173. 110th Cong., 2nd sess. (January 5, 2010). Title V, Part II.

In the U.S., tax accounting and reporting are also important and normally differ from statutory, cash, and GAAP needs. Tax needs must also be considered in developing accounting and reporting standards. In Canada, all three accounting regimes are essentially the same.

ENTERPRISE RISK MANAGEMENT

Reinsurance is an integral part of enterprise risk management (ERM). Risk management is a process of identifying, assessing, monitoring, managing, and reporting material risks. The Chief Risk Officer or equivalent individual is responsible for the ERM process and delivering the report to the Board of Directors. The company's risk appetite is a key element. The risk limits must be established and the company's retention limits are a part of the risk limits.

PRICING AND PROFITABILITY

The cost of reinsurance affects the overall profitability of a life insurance company and should be reflected in pricing. The actuarial department and Chief Financial Officer should be involved in the analysis of reinsurance proposals and in evaluating the overall reinsurance program. This periodic evaluation will normally include a retention limit study.

THE APPOINTED ACTUARY AND THE ACTUARIAL OPINION

The appointed actuary’s review of the insurance company’s liabilities is very important and calls for a detailed study of all components of these values. The actuary must be familiar with all existing regulations and must review all reinsurance treaties to make certain they comply. All reinsurance reserves, reserve credits, and receivable and payable items must be carefully evaluated. United States and Canadian appointed actuary standards and guidelines differ somewhat.

ADMINISTRATION

The proper administration of reinsurance is necessary to ensure that all policies requiring reinsurance are ceded, that the reinsurance coverage on these policies is maintained throughout their lives, that premiums, allowances, and benefits are paid when due, and that the proper liabilities are established. Accurate information must be exchanged on a timely basis, and sufficient detail must be retained to properly audit records. Today, electronic transmission of cession records and other values is common.

Many companies have taken on more of the administrative responsibility for reinsurance using **self-administration** or *self-billed* programs. Early self-administered systems involved periodic paper reports, but today information is exchanged electronically in most instances. Developing a self-administration system requires a major commitment of time and money. Both parties to a reinsurance transaction must also be aware of the need to audit reports and systems from time to time, both to ensure the accuracy of the amounts being reported by or to the other party and to provide support to the outside auditors for both parties.

Issues concerning the Appointed Actuary's Actuarial Opinion and other financial reporting considerations have increased both the ceding company and reinsurer's awareness of the need to establish sound administrative procedures. The appointed actuary of the reinsurer may need to rely on the evaluation of the ceding company’s appointed actuary with respect to self-administered business, but it is more desirable for the reinsurer to have sufficient electronic data to perform its own evaluation.

Administration is one point where Canadian and United States practices diverge. In the United States, it is acceptable, but not preferable, for a reinsurer's appointed actuary to accept an actuarial opinion of accepted reserves from the ceding company's appointed actuary, or to develop reserves using a model. In Canada, the appointed actuary is required to perform a seriatim valuation, computing reserves on each risk separately. Further, for statutory purposes United States actuaries may use experience from similar products and companies to develop the assumptions for cash flow testing. Canadian actuaries must use their company's experience on the block as the basis of reserves; accordingly, the introduction of new reserve assumptions take some time to evolve for new products or underwriting standards in Canada.

UNDERWRITING

An insurance company's underwriting philosophy and facultative reinsurance program are closely related. A company uses facultative reinsurance for many reasons and may have relationships with several reinsurers for different purposes. The insurance company underwriter may have daily contact with the reinsurer's underwriter and may develop a longstanding relationship.

This chapter has been a short introduction to the topic of life, health and annuity reinsurance. The balance of the book will discuss a selection of these topics in greater depth.