

REINSURANCE SECTION

"A KNOWLEDGE COMMUNITY FOR THE SOCIETY OF ACTUARIES"



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CONTENTS

LETTER FROM THE CHAIR
by Mary Ellen Luning, FSA, MAAA

A BRIEF HISTORY OF REINSURANCE:
by David M. Holland, FSA, MAAA

ABOUT THE AUTHOR

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LETTER FROM THE CHAIR

This is a special edition of Reinsurance News containing a history of reinsurance prepared by Dave Holland. It is a very interesting read, whether you are a newcomer to reinsurance and are interested in how we got here, or a reinsurance veteran taking a trip down memory lane (although not too many of us date back to 3000 BCE!).

I look at this from both sides. I enjoy the close community of people that make up the reinsurance industry, and I also enjoy talking to the new folks about how the business developed the way it did; why the treaties are written the way that they are. I suspect that this issue will become required reading for our new hires, and treasured reading for our many readers who know and/or have worked with Dave Holland.

On behalf of the Reinsurance Section Council and the reinsurance community, thank you Dave for this addition to our libraries.

Mary Ellen Luning



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A BRIEF HISTORY OF REINSURANCE

by David M. Holland, FSA, MAAA



Reinsurance is basically insurance for insurance companies. Park, writing in 1799, more colorfully stated:

“RE-ASSURANCE, as understood by the law of England, may be said to be a contract, which the first insurer enters into, in order to relieve himself from those risks which he has incautiously undertaken, by throwing them upon other underwriters, who are called re-assurers.”¹

In order for commerce to flourish, there has to be a way to deal with large financial risks. Both reinsurance and insurance evolved from the larger family of risk management.

- Thousands of years ago, Chinese merchants practiced risk management by spreading their

goods over a number of ships in order to reduce the risk from any one boat sinking.²

- In 1601, during the reign of Queen Elizabeth I, the English Parliament enacted “AN ACTE CONCERNINGE MATTERS OF ASSURANCES, AMONGSTE MARCHANTES,” which states:

“... by meanes of whiche Policies of Assurance it comethe to passe, upon the losse or perishinge of any Shippe there followethe not the undoinge of any Man, but the losse lightethe rather easilie upon many, then heavilie upon fewe. ...”³

- Edwin Kopf, FCAS, in his 1929 paper “Notes on Origin and Development of Reinsurance”⁴ translates from a German text by Ehrenberg as follows:

“Reinsurance achieves to the utmost extent the technical ideal of every branch of insurance, which is actually to effect (1) the atomization, (2) the distribution and (3) the homogeneity of risk. Reinsurance is becoming more and more the essential element of each of the related insurance branches. It spreads risks so widely and effectively that even the largest risk can be accommodated without unduly burdening any individual.”⁵

The goals of this paper are to discuss early risk management tools, to discuss the development of insurance, particularly marine insurance and fire insurance, and to discuss the origin and evolution of reinsurance.

¹ James Allen Park, *A System of the Law of Marine Insurances*, Second American Edition From the Latest English Edition (Boston, Massachusetts: Thomas and Andrews, David West, John West, 1799; <http://books.google.com>), pp. 276-277.

² R. L. Carter, *Reinsurance* (Brentford, Middlesex: Kluwer Publishing Limited, (c) Mercantile & General Reinsurance Company Limited, 1979), p. 1.

³ “43 Elizabeth I, c. 12” as quoted in John Ashton, *The History of Gambling in England* (London: Duckworth & Co., 1898; <http://books.google.com>), p. 276.

⁴ Edwin W. Kopf, FCAS, “The Origin and Development of Reinsurance,” *Proceedings of the Casualty Actuarial Society* (Casualty Actuarial Society) XVI (1929), p. 25.

⁵ Ehrenberg, *Handbuch des Gesamten Handelsrecht*, Bd. 8. II Abteilung (Leipzig, 1922), p. 593.

1. FROM HAMMURABI (1800 BCE) TO JUSTINIAN (530 CE)

Shipping has always represented significant financial risk. Ships are expensive to build and maintain, the cargo they carry is an accumulation of financial risk, and the perils of weather and piracy are beyond individual control. Rather than retain the risk, it's easy to see how someone would want to transfer the risk to another party.

Around 3000 BCE, the Babylonians developed a system of maritime loans, which relieved the borrower from having to repay the loan in the event of the loss of the ship or other collateral for the loan due to certain accidents.⁶ The Code of Hammurabi, which developed around 1800 BCE, devoted 282 clauses to the subject of such loans.⁷

Around 916 BCE, Rhodes promulgated a system of maritime law, which included such concepts as settling losses that were incurred for the benefit of all on the basis of the "general average" thereby "the loss of one was divided amongst several."⁸ In the times of the Greeks and Romans, it was possible to finance a venture by taking out a loan on the hull of the ship and to borrow money to purchase the cargo. These types of sea loans were in later times referred to as bottomry and respondentia bonds. Bottomry refers to the bottom or hull of the ship, and respondentia refers to the cargo. A form of insurance was included in these transactions in that the loans would be forgiven in the event the ship is lost. A bottomry transaction would consist of a loan on the ship, an interest rate on the loan and a charge for the risk of loss.⁹

Another example of risk sharing is found in the Babylonian Talmud (oral tradition from just after

In Roman times, there were precursors to insurance. Burial societies provided an early form of life insurance. Annuities were utilized, and related actuarial tables dated around 220 CE were cited by Ulpian and Macer.

the Babylonian Captivity of Israel in 586 BCE until it was compiled around 500 CE). It provides rules for sharing a loss if cargo must be jettisoned to save the ship. The owners may agree that if a ship is lost, another ship will be provided unless there was evidence of willful carelessness. Land travel is also covered in the Talmud. A caravan provided for strength and protection for the individual merchants and travelers. The Babylonian Talmud sets out procedures for sharing the loss in the event of robbery of a caravan.¹⁰

In Roman times, there were precursors to insurance. Burial societies provided an early form of life insurance. Annuities were utilized, and related actuarial tables dated around 220 CE were cited by Ulpian and Macer.¹¹

From around 50 BCE up to the compilation of all Roman law by the Byzantine Emperor Justinian around 530 CE, the maximum interest rate had been set at 12 percent. However, the Code of Justinian, or *Corpus Juris Civilis*, created a sliding scale with 12 percent only applying to sea loans (*foenus nauticum*), 8 percent to business loans, 6 percent to those not in business, and 4 percent to distinguished persons and farmers.¹² The maximum rate of 12 percent for nautical insurance or Bottomry, was "on the ground that this was not a

continued on page 6

⁶ Carter, p.10-11.

⁷ Peter L. Bernstein, *Against the Gods* (New York: John Wiley & Sons, Inc., 1996), p. 92.

⁸ C. E. Golding, *A History of Reinsurance with Sidelights on Insurance*, Second Edition (London: Waterlow & Sons Ltd. for Sterling Offices Limited, 1931), p. 10.

⁹ John A. Bogardus, Jr. and Robert H. Moore, *Spreading the Risks* (Chevy Chase: Posterity Press, Inc., 2003), p. 4.

¹⁰ Michael L. Rodkinson, *New Edition of the Babylonian Talmud*, Section Jurisprudence (Damages), Vol. III (XI) Tract Baba Kama (New York: New Talmud Publishing Company, 1900), p. 267.

¹¹ Walter J. Mays, ASA, "Ulpian's Table," *Actuarial Research Clearing House* (Society of Actuaries), Volume 2 (1979), p. vi-x; also see Code of Justinian, Digest, Lib. XXXV, Tit. II, lxxviii, circa 530 AD.

¹² Norman Jones, "Usury," *EH.Net Encyclopedia*, ed. Robert Whaples, Feb. 10, 2008, <http://eh.net/encyclopedia/article/jones.usury>.

mere lending of money, but an adventure involving the risks of the sea.”¹³

Marshall, writing in 1810, comments that such an interest rate might have been adequate for a country where navigation is along the coast for short distances, but where transport is among nations covering great distances, it doesn't make sense. He goes on to say:

“The marine interest, therefore, however high or exorbitant it may seem, cannot be deemed usury, provided the money lent be boná fide put in risk. Several attempts, however, have been made to call in question the legality of such contracts; but in every instance, the courts, both of law and equity, have held that if the principal be boná fide put in risk, the contract is legal, however high the marine interest reserved may be. If, indeed, the form of a bottomry or respondentia loan be used as a cloak to an usurious contract, there can be no doubt, but that it would be illegal and void.”¹⁴

The fall of the Roman Empire in the West is dated around 476 CE. The widespread implementation of the Code of Justinian in the West was slowed by the ensuing Dark Ages; the development of insurance and reinsurance was also slowed.

2. THE EVOLUTION OF INSURANCE AND REINSURANCE IN THE MIDDLE AGES (CIRCA 1000 – 1400)

Some feel that the church inadvertently played a role in the evolution of insurance. The Law of Moses prohibited Israelites from charging their fellow countrymen interest (Exodus 22:25, Leviticus

25:35-37, Deuteronomy 23:19) although they were permitted to charge interest to foreigners (Deuteronomy 23:20). Older translations say usury and some interpret this as excessive interest while others define it as any interest. (The Jewish and Muslim interpretations of usury appear to be to prohibit any interest.) In the New Testament in Luke 6:34-35, Jesus says to lend without expecting anything back. However, in discussing business in the parable of the talents (Matthew 25 and Luke 19), Jesus sets the return from bankers/money changers as a hurdle rate in measuring performance.

Sea loans (*foenus nauticum*) ran into conflict with church law dealing with usury; for some loans, the charge for the interest and risk could be as much as 30 percent, 40 percent or 50 percent.¹⁵ In 1236, Pope Gregory IX condemned sea loans as usurious and banned their use. Prior to this, sea loans were considered free from charges of usury because part of the payment was clearly a risk charge. However, other loans were being disguised as sea loans to get higher returns and to avoid charges of usury. The net result of this was to stimulate a change in the forms of financing. Some contracts were written on a basis that involved foreign exchange (*cambium nauticum*). Other contracts consisted of a joint venture sharing all business risks (*commenda*) combined with a separate marine insurance. Thus, stand alone marine insurance was borne. Other structured transactions were used.¹⁶

The rise of trade and the development of the city-states were also factors in the evolution of insurance. In working through the restrictions imposed by Pope Gregory IX, Gerathewohl observed:

“Eventually, however, the insurance ‘business’ was able to overcome all of these obstacles, as it had slowly but surely become an indispensable

¹³ Frederick Martin, *The History of Lloyd's and of Marine Insurance in Great Britain* (London: Macmillan and Co., 1876, <http://google.books.com>), p. 3.
¹⁴ Samuel Marshall, *A Treatise on the Law of Insurance in Four Books*, Second American from the second London edition, U. S. cases collected by J. W. Condy, Vol. I & II (Philadelphia: William P. Farrand and Co., 1810), p. 749.
¹⁵ Martin, pp. 19-20; Klaus Gerathewohl, *Reinsurance Principles and Practice*, trans. John Christopher La Bonté, Vol. II (Karlsruhe: Verlag Versicherungswirtschaft e. V., 1982), p. 654.
¹⁶ Meir Kohn, “Risk Instruments in the Medieval and Early Modern Economy (Working Paper 99-07),” in *Draft chapter from: Finance, Business, and Government Before the Industrial Revolution* (Hanover, NH: Dartmouth College, 1999), pp. 3-4.

element in trade and commercial life. It was supported in this process particularly by the pragmatic legislation of the Italian trade cities, which sought to create a sound and viable basis for their growing trade relations protected from both abusive practices and the ‘pitfalls of exaggerated ecclesiastical ambition.’”¹⁷

“The Hanseatic League (also known as the Hansa) was an alliance of trading guilds that established and maintained a trade monopoly along the coast of Northern Europe, from the Baltic to the North Sea, during the Late Middle Ages and Early Modern Period (c. 13th-17th centuries).”¹⁸ The chief city of the Hansa was Lübeck, but the Hansa included dozens of cities throughout Northern Europe including major Counting Houses or Kontore in Bruges and London. Wisby (or Visby), one of the Hansa cities, developed its own sea code in the early 14th century. It is in the Laws of Wisby that:

“the word Bottomry occurs for the first time, and it is therefore reasonable to suppose that the revival of marine insurance in the Middle Ages was due to that famous confederacy of merchants and traders, mostly of Teutonic nationality, known as the Hanseatic League.”¹⁹

Bruges in Flanders (now Belgium) was one of the leading members of the Hanseatic League and a major center of commerce. The use of the term “Assurance” in the modern sense, occurs for the first time in reference to Bruges in the “Chronyk van Vlaendern”:

“On the demand of the Inhabitants of Bruges, the Count of Flanders permitted, in the year 1310, the establishment in this Town of a Chamber of Assurance, by means of which the

Merchants could insure their Goods, exposed to the Risks of the Sea, or elsewhere, in paying a stipulated Percentage.”²⁰

Sluys was the seaport of the city of Bruges, and on June 24, 1340, the French fleet of some 250 vessels assembled there for an invasion of England. Before the invasion could get underway, the English attacked and virtually destroyed the entire French fleet, which included Genoese Galleys serving as mercenaries. This was one of the opening battles of the Hundred Years’ War.²¹ The development of insurance and reinsurance in England and France was slowed by the Hundred Years’ War whereas commerce flourished under the Italian Renaissance.²² In discussing the origins of marine insurance in England, Martin says:

“Although launching edict after edict against ‘usury,’ threatening the severest penalties to all practising it, the monarchs of England, in their private capacity, were neither then nor afterwards at all averse to breaking the law, and when in want of money, which constantly happened, borrowed it wherever it was to be obtained, and at whatever rate of interest the lenders demanded. ... The Italians, as they made money-lending their principal business, so began marine insurance by advancing sums on Bottomry loans.”²³

The development of insurance and reinsurance in England and France was slowed by the Hundred Years’ War. ...

continued on page 8

¹⁷ Gerathewohl, p. 656.

¹⁸ Wikipedia, *Hanseatic League*, August 24, 2008, http://en.wikipedia.org/wiki/Hanseatic_League

¹⁹ Martin, p. 3.

²⁰ Martin, pp. 5-6.

²¹ Wikipedia, *Battle of Sluys*, Aug. 31, 2008, http://en.wikipedia.org/wiki/Battle_of_Sluys.

²² Gerathewohl, p. 654.

²³ Martin, pp. 19-20.

Martin goes on to laud the role of the Italians in the development of insurance in England:

“But the Italian merchants left something better than their names, in the foundation of a most important branch of finance and commerce. While the Hanseatics were the first to practise marine insurance in this country, the Lombards were the first to bring it into general use, and to make it acceptable to the trading community at large, by the introduction of proper rules and regulations, elaborated by the shrewd merchant-legislators of Florence and Pisa, Barcelona and Venice. More or less unsettled, crude, and tentative in its previous condition, the practice of marine insurance was placed by the Italians on the firm basis of legal enactments and international regulations, and as such came to be adopted in England. The adoption left its broad traces in names and designations. The word insurance, or as formerly called, assurance, is of Italian origin, and so also is the word policy, derived from ‘polizza,’ a promise.”²⁴

There has long been a quest for the oldest extant life insurance policy. Golding discusses a contract dated Oct. 23, 1347 from Genoa as one of the oldest insurance contracts in existence.²⁵ Gerathewohl cites a policy issued Feb. 20, 1343 also from Genoa.²⁶ In 2006, the (Fédération Française des Sociétés d’Assurances (FFSA) 2006) cited a policy in the archives of Florence dated April 2, 1329.²⁷ A paper by Eric Briys and Didier Joos de ter Beerst analyzes a contract dated Oct. 29, 1298, and covers a shipment to Bruges by a rich Genoese merchant; their analysis includes a modern finance perspective (using Option Pricing Theory) as well as historical and economic views.²⁸ The date seems to be moving closer to the ban on sea loans imposed by Pope Gregory IX.

Early agreements, which may be considered as reinsurance treaties, developed along with insurance contracts in the 14th century. Gerathewohl cites an agreement dated July 12, 1370 as the earliest known agreement that embodies the elements of reinsurance.

“The treaty, written in Latin, concerned the cargo of a ship sailing from Genoa to Sluis (near Bruges in Flanders) for which the direct ‘insurer’ transferred the more hazardous part of the voyage from Cadiz (in Andalusia) to Sluis to another ‘insurer’ who thus provided ‘reinsurance coverage.’ As was sometimes practiced in the transfer of risks, the treaty was, in legal terms, effected as a sales contract.”²⁹

“The contract does not state what the premium was. However, such failure to mention the premium was typical of insurance contracts effected before notaries in Genoa up to the second half of the 15th century, and is most probably attributable to the canonical rule against usury. ...”³⁰

This contract meets the distinguishing characteristic of a true reinsurance contract in that the risk is transferred from the original insurer to a reinsurer without involving the original insured in the transaction. Park’s definition of reinsurance as cited at the beginning of this paper goes on to say:

“... it might be observed, that it was a distinguishing character of this species of contract, that notwithstanding a re-insurance, the first contract subsists as at first, without change or amendment. The re-insurer is wholly unconnected with the original owner of the property insured; and as there was no obligation between them originally, so none is raised by the subsequent act of the first underwriter. The risks of

continued on page 10

²⁴ Martin, p. 31.

²⁵ Golding, p. 12.

²⁶ Gerathewohl, p. 657.

²⁷ Fédération Française des Sociétés d’Assurances (FFSA), “A Page from the History Books,” *Marine Insurance*, Nov. 2006.

²⁸ Eric Briys and Didier Joos de ter Beerst, “The Zaccaria Deal - Contract and Options to fund a Genoese shipment of alum to Bruges in 1298” (Helsinki: XIV International Economic History Congress, August 2006).

²⁹ Gerathewohl, p. 649.

³⁰ Gerathewohl, p. 651.



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the insurer from the object of the re-insurance, which is a new independent contract, not at all concerning the insured; who consequently can exercise no power or authority with respect to it.”³¹

It is interesting to note that the original insurer was willing to cover the entire risk from Genoa to Cadiz, and thus, we may assume that the desire for reinsurance is not because the risk is too large to be handled. However, the fact that the insurer wants to shed the entire risk from Cadiz to Sluys leads to the obvious conclusion that this is the more hazardous part of the transaction. Perhaps the risks of tempest and piracy were greater in this portion of the voyage. At this time, there could have been concern about falling off the edge of the earth or being devoured by sea monsters. As further speculation, there could have been concern because the Hundred Years War between France and England had reignited at the end of 1369. Thirty years earlier, the English had destroyed the French fleet (including Genoese mercenaries) in the port of Sluys.

At this point, it seems appropriate to reflect on Solomon’s comment that:

“What has been will be again, what has been done will be done again; there is nothing new under the sun.”³²

Bottomry bonds, which are forgiven if the ship is lost, seem similar to today’s CAT bonds, which are forgiven in the case of a catastrophic event such as hurricane or earthquake. Bottomry bonds include a risk charge as a percentage of the amount of the risk; CAT bonds are often priced at LIBOR plus a significant spread. Bottomry bonds include both financing and risk transfer, and a reinsurance treaty can also provide both. Canon law regarding usury led to a decomposition of bonds into risk and financing components just as today there are questions about splitting out risk transfer elements for accounting purposes. There was also concern in some cases as to whether or not there was sufficient risk transfer to qualify as a bottomry transaction.

The 1370 reinsurance transaction could be structured as a sale with a put. There were two tranches to the risk—one from Genoa to Cadiz and a more risky component from Cadiz to Sluys. Finally, the more risky portion of the transaction went to the reinsurer.

Although much has been made of the 1370 treaty covering a voyage from Genoa to Cadiz to Sluys, other earlier reinsurance transactions may yet come to light. The fact that this treaty was for pure risk transfer rather than capacity is notable.

As insurance continued to evolve, many large risks exceeded the capacity of any one insurer, and rather than reinsurance, coinsurance emerged as the predominant solution. Often, a broker would shop a risk to a number of potential insurers, and those interested would sign their name under the description of the risk and thereby truly “under write the risk.” They would also specify the share of the risk taken. This is not reinsurance in that rather than having one insurer and one or more reinsurers, there were a multiple number of coinsurers.

3. THE RENAISSANCE AND THE LEGAL BASE FOR INSURANCE (CIRCA 1400 – 1600)

In medieval times and earlier, the legal basis for international commerce was “The Law Merchant” or *Lex Mercatoria*. Civil Law, including the Code of Justinian, was not efficient in resolving trade disputes that could stretch over a number of countries.

“International commercial law today owes some of its fundamental principles to the Law Merchant as it was developed in the medieval ages. This includes choice of arbitration institutions, procedures, applicable law and arbitrators, and the goal to reflect customs, usage and good practice among the parties. ... The Law Merchant was administered by merchant courts, set up along trade routes and trade centres. A distinct feature of the Law

³¹ Park, pp. 276-277.

³² Solomon, “Ecclesiastes 1:9,” in *The Bible* (New International Version).

Merchant was the reliance by merchants on a legal system developed and administered by them. States or local authorities seldom interfered, and surrendered some of the control over trade within their territory to the merchants. In return, trade flourished under the Law Merchant, increasing tax revenues.”³³

Marshall indicates that the law of insurance was borrowed from the Lombards and continues:

“It is a branch of the law of merchants being founded in the practice of merchants, which is nearly the same in all the countries where insurance is in use; and, indeed merchants were themselves for a long time, the only expounders of it. The law of merchants not being founded in the institutions, or local customs of any particular country, but consisting of certain principles which general convenience has established, to regulate in all countries the dealings of merchants with each other may be considered a branch of public law.”³⁴

The oldest law dealing with insurance whereby there were specific premiums for the insurance risk is found in a 1435 ordinance passed in Barcelona. The law was “... to extirpate all manner of frauds that may take place in effecting insurances on ships, great and small, and on goods and merchandise. ...”³⁵ As historical perspective, Queen Isabella of Spain, who married Ferdinand II of Aragon and who subsequently financed Christopher Columbus, was born in 1451.

The first time that the equivalent of the words “to reinsure” appears—as the Italian term “*rasichurare*”—is in a document from Florence dated Feb. 19, 1457.³⁶

The oldest insurance law of the Italian maritime cities was a decree of the Grand Council of Venice in 1468.

“The preamble of the decree states, quaintly enough, that, ‘owing to the perversity of human nature—male condition de homine—men are apt to quarrel about money matters,’ and that notably underwriters, ‘persons who undertake to insure large and small vessels,’ not unfrequently get into ‘the pernicious and detestable habit’ of disputing insurance claims upon frivolous causes. It was for the purpose of protecting the insured, and to see, at the same time, that no fraudulent claims are made upon insurers, that the Grand Council of the Republic established the ‘Consular Mercantile Court.’”³⁷

The oldest law dealing with insurance whereby there were specific premiums for the insurance risk is found in a 1435 ordinance passed in Barcelona.

One example of a dispute regarding an insurance policy is a life insurance policy issued on June 15, 1583 to William Gybbons. This policy is often credited as being the earliest extant life insurance policy, but it is probably so well known because it is the earliest known disputed life claim. The policy provided a death benefit of £383, 6s., 8d., if Mr. Gybbons died within 12 months from issue. Thirteen* different underwriters subscribed for amounts ranging from £25 to £50; the premium was 8 percent of the face amount. Mr. Gybbons died on May 28, 1584. The underwriters argued that the policy was for 12 lunar months of 28 days each and thus the policy had expired before Mr. Gybbons died. The Commissioners concluded that the intent of the policy was for one full year and decided against the insurers. The insurers appealed to the Court of Admiralty, which also decided against the insurers in

continued on page 12

³³ Wikipedia, *Law Merchant*, Sept. 1, 2008, http://en.wikipedia.org/wiki/Law_Merchant.

³⁴ Marshall, pp. 18-19.

³⁵ Martin, p. 23.

³⁶ Gerathewohl, p. 653.

³⁷ Martin, pp. 25-26.

* Some sources say there were 16 underwriters on this policy.

1587.³⁸ Some feel that this was a wager transaction in the form of an insurance.³⁹ Bogardus comments that life insurance was practiced in Spain from 1100, alludes to the Gybbon's policy, and also indicates that life insurance did not expand to Europe until the 1700s and 1800s.⁴⁰

4. FROM QUEEN ELIZABETH TO THE AMERICAN REVOLUTION (CIRCA 1600 – 1776)

The role of England in the world changed significantly during the reign of Queen Elizabeth I (born 1533; reigned 1558-1603). Around the beginning of the 14th century, King Henry IV had given the Lombards a piece of marshland that was ultimately to become Lombard Street. Criticism of the importance of foreigners in English trade continued for centuries, and in 1568, the center for English trade was moved from Lombard Street to the newly built Royal Exchange.⁴¹ "In 1574, Queen Elizabeth granted Richard Candler the right to establish an insurance office in the Royal Exchange Building..."⁴² Although the Hanseatic traders and the money-lenders from Lombard were not expelled from England, they gradually moved away about this time. For most of the next 300 years, insurance policies issued at the Royal Exchange included the statement that, "It is agreed by us the insurers, that this policy of assurance shall be of as much force and effect as the surest writing or policy of assurance heretofore made in Lombard street."⁴³

To put the developments at the end of the 16th century into historical context, England's defeat of the Spanish Armada in 1588 marked England's rise as a world power and the changing role of trade, including insurance, was a natural consequence.

In 1601, England passed its first legislation dealing with insurance. Sometimes referred to as the Francis Bacon Act, the preamble describes it as "AN ACTE CONCERNINGE MATTERS OF ASSURANCES, AMONGSTE MARCHANTES." The preamble recognizes the importance of insurance in commerce and complains that it was not as open as it had been.

"WHEREAS it ever hathe bene the Policie of this Realme by all good meanes to comfote and encourage the Merchante, herebie to advance and increase the generall wealth of the Realme, her Majesties Customes and the strengthe of shippinge, which Consideration is now the more requisite, because Trade and Traffique is not, at this presente, soe open as at other tymes it hathe bene; and, whereas it hathe bene tyme out of mynde an usage amongste Merchantes, both of this Realme and of forraine Nacyons, when they make any greate adventure (speciallie into remote partes) to give some consideracion of Money to other persons which commonlie are in noe small number to have from them assurance made of their Goodes Merchandizes Ships and Things adventured, or some parte thereof, at such rates and in such sorte as the Parties assurers and the Parties assured can agree, whiche course of dealinge is commonly termed a Policie of Assurance ... wher of be it enacted &C."⁴⁴

One of the most notable catastrophes of England was the Great Fire of London in 1666. The fire started in a bakery on Pudding Lane,⁴⁵ and destroyed an estimated five-sixths of the walled area of the medieval city and left some 65,000

³⁸ Ashton, p. 283.

³⁹ Lester W. Zartman, *Life Insurance - Yale Readings in Insurance*, ed. William H. Price (New Haven: Yale University Press, 1914; <http://books.google.com>), pp. 250-251.

⁴⁰ Bogardus, p. 5.

⁴¹ Martin, p. 20.

⁴² Bogardus, p. 5.

⁴³ Martin, pp. 20-32.

⁴⁴ Ashton, pp. 275-276.

⁴⁵ Bruce Robinson, *London's Burning: The Great Fire*, Apr. 1, 2004, http://www.bbc.co.uk/history/british/civil_war_revolution/great_fire_01.shtml.

people homeless. “Much merchandise had been destroyed and there was virtually no fire insurance, so many people were ruined, and some moved away permanently.”⁴⁶ Dr. Nicolas Barbon, son of Praise-God Barebone, was actively involved in rebuilding London following the Great Fire and in 1667 set up an office for insuring houses and buildings against fire. In 1681, he took on partners and founded the first insurance company known as the “Fire Office”; this company is also noted for setting up the first fire marks to identify houses insured with the “Fire Office.” Barbon also set up a system of “watermen in livery with badges,” which was the forerunner of the modern fire brigade.⁴⁷ Gerathewohl also credits the Great Fire with initiating the development of direct insurance, and goes on to quote Ibsen:

“England’s insurance and reinsurance industries expanded significantly as a direct result of the disaster of 1666, and England soon found itself far in advance of other European countries.”⁴⁸

In 1681, Louis XIV of France enacted the *Ordonnances de la Marine*, which was based on an earlier text known as the *Guidon de la Mer*. The *Guidon* were published in Rouen in 1671 but the original had been prepared much earlier; the FFSA dates it at 1570. Marshall says the Ordinances are the completest and most comprehensive system of marine law;⁴⁹ Geratherwohl says that the most important provisions relating to the future development of reinsurance are included there and that they are the foundation of our present-day insurance legislation.⁵⁰ A major point in the Ordinances and the earlier *Guidon* is that reinsurance is explicitly authorized. Marshall quotes *Guidon* as follows:

“But if an underwriter repent of what he has done; if he be afraid to encounter the risk he has engaged

to run, or find that he has incautiously bound himself to a greater amount than he may be able to discharge, he may shift it, or part of it, from himself to other insurers by causing a re-insurance to be made on the same risk, upon the best terms he can, and the new insurers will be responsible to him in case of loss, to the amount of the re-insurance.”⁵¹

Reinsurance was explicitly authorized in a law passed in Antwerp in 1609. It should also be noted that specific legislation relating to reinsurance was also passed in Venice (1705), Hamburg (1731), Bilbao (1738) and Prussia (1794).⁵²

The “Society of Assurance for Widows and Orphans” was set up in England in 1699 as an assessment society and was the first of the “mutual contribution life offices.” Although not based on scientific actuarial principles it did comply with many of the features expected of a life company. A number of other similar societies soon followed. However, this was also the era of the South Sea Bubble and many of these societies started investing and raising capital. In the Bubble Act of 1720, provisions were enacted so that such undertakings and subscriptions were declared illegal and void. With the bursting of the South Sea Bubble, only the Amicable Society for Perpetual Assurance survived.⁵³ In the Bubble Act, King George I of England agreed to the Establishment of the Royal Exchange Assurance Corporation and the London Assurance Corporation setting them up exclusive of all other corporations and societies. For this agreement, King George was reputedly given a “bribe of £300,000.” Although these two companies were granted a corporate monopoly, “private and particular persons” were still allowed to assume risks as underwriters.⁵⁴ These new companies were originally marine insurers, but in 1721, their authority was extended to include life insurance.

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⁴⁶ John Schonfield, *London After the Great Fire*, June 1, 2001, http://www.bbc.co.uk/history/british/civil_war_revolution/after_fire_01.shtml.

⁴⁷ Golding, p.15.

⁴⁸ Gerathewohl, p. 703.

⁴⁹ Marshall, p 18.

⁵⁰ Gerathewohl, p. 668.

⁵¹ Marshall, p. 143.

⁵² Gerathewohl, p. 668.

⁵³ Zartman, pp. 63-74.

⁵⁴ Bernstein, p. 91.

In 1746, insurance in England had been found to create so many “pernicious practices” that remedial legislation was required. Some of the examples cited in the Preamble to the Marine Act of 1746 include:

- great numbers of ships, with their cargoes, have either been fraudulently lost and destroyed, or taken by the enemy in time of war;
- carrying on many other prohibited and clandestine trades, which by means of such assurances have been concealed and the parties concerned secured from loss;
- by introducing a mischievous kind of gaming or wagering, under the pretence of assuring the risk on shipping and fair trade.

The Act prohibited any marine policy “without further proof of interest than the policy, or by way of gaming or wagering, or without benefit of salvage to the assurer.”⁵⁵

Insurable interest and the prohibition on insurance used as a cover for wagers are important fundamental principles of insurance. Similarly, the absence of the right of salvage calls into question valid risk transfer. However, the act goes on, and in paragraph 4, states:

“And be it further enacted by the authority aforesaid, that it shall not be lawful to make re-assurance, unless the assurer shall be insolvent, become a bankrupt, or die; in either of which cases such assurer, his executors, administrators or assigns may make re-assurance to the amount of the sum before by him assured, provided it shall be expressed in the policy to be a re-assurance.”⁵⁶

Although there is a general preamble to the act, there is no specific rationale given for the prohibition of reinsurance. Comments given by various writers include:

- Marshall: “... this mode of insurance [reinsurance], though perfectly reasonable, when confined to its proper object, had been perverted from its original use, and was employed as a mode of speculating in the rise and fall of premiums; and the legislature foreseeing that it might be used as a colour for wagers, and a means of evading the provisions of that act, declares, (sect. 4) ‘That it shall not be lawful to make reinsurance. ...’⁵⁷
- Kopf: “Some underwriters found they could effect reinsurance with others. Underwriters were accustomed to assign parts of risks to others at lower rates, and these reinsurers had hopes of finding other persons who would take parts of these risks at still lower rates.”⁵⁸
- Gerathewohl: “Following abusive practices in the English reinsurance market in the first half of the 18th century, the government and the responsible authorities intervened. Particular criticism was raised regarding ‘difference-in-premium’ transactions, in which case direct insurers wrote risks (in many cases also on the Continent) and ‘reinsured’ them in full at a premium lower than the original premium.”

Given that reinsurance is only permitted if the assurer becomes insolvent, bankrupt or dies, this appears not to be true reinsurance but more of a substitution or assumption transaction. The ban on reinsurance was not repealed until July 25, 1864 some 118 years later.⁵⁹ The development of reinsurance in England was no doubt slowed by the legal prohibition of reinsurance.

Marshall does discuss other types of cover that are sometimes called reinsurance, but because they are actions of the insured rather than the insurer, they are not technically reinsurance. One is for the insured to buy coverage that insures the solvency of the insurer (a precursor to Credit Default Swaps?).

⁵⁵ 19 Geo. 2, c. 37 as quoted in Joseph Arnould, *Arnould on the Law of Marine Insurance*, Third, ed. David Maclachlan, Vol. II (London: Stevens & Sons, H. Sweet, and W. Maxwell, 1866; <http://books.google.com>), pp. 1093-1094.

⁵⁶ Arnould, pp. 1093-1094.

⁵⁷ Marshall, p. 144.

⁵⁸ Kopf, p. 27; Gerathewohl, p. 677.

⁵⁹ Arnould, p. 1113.

Another is where the insured (rather than the insurer) buys additional coverage due to the insolvency of the insurer. There is also the case of “double insurance,” where the insured takes out multiple policies on the same risk; technically this is permitted in that the multiple policies constitute a wager and is not reinsurance. However, in the case of multiple policies, the insured can only collect up to the extent of the value of the effects put in risk and is thus prohibited from collecting more than once.⁶⁰

In 1762, the Society for Equitable Assurance on Lives and Survivors was founded and is known as the first life insurance company to be based on scientific principles and the first insurance organization to have an officer with the title actuary.

Around 1688, merchants and insurers met at Edward Lloyd’s coffee house and informally exchanged information. By the early 1700s, this had evolved into a true market place. However, by the mid-1700s, gamblers had joined the gatherings. In 1769, a large number of merchants broke away from Lloyd’s and founded “New Lloyd’s,” which was a closed group of names with their own self-regulating code of conduct and which became the real Lloyd’s.⁶¹

However, the gambling problem was not solved outside New Lloyd’s. Marshall tells us:

“Wagers came to be daily made upon the duration of men’s lives, in the form of insurances, by persons who were neither connected with the parties, nor in any manner interested in the duration of their lives; nor did the insurers much concern themselves to know upon what interest, or for what reason, such insurances were made. Such practices were big with mischiefs of various descriptions; nor is it probable that even the lives, thus presumptuously insured, were always free from danger.”⁶²

The Life Insurance Act (also known as The Gambling Act) was passed by Parliament in 1774. The act provided that any life insurance policy that did not involve a legitimate insurable interest or that was made for the purpose of gambling was null and void. The act also required that the policy name those who had such an insurable interest and that the amount of the policy could not exceed the value of that interest. In contrast to the situation in England, Marshall has commented that in Europe life insurances have been prohibited by positive law.⁶³

The Life Insurance Act was passed approximately two years before the American Revolution. By the 1770s, the insurance had started to emerge in the United States, but most large policies were still being written in England. After the revolution broke out, Americans were deprived of Lloyd’s services and thus had to form more local insurance companies.⁶⁴ Golding points out that local U.S. insurers may have reinsured amongst themselves during this period, but he feels it is more likely that insurers would only accept coverage for the amount they could retain. There is an ad from this period that states that a Boston firm has 20 underwriters who are available to accept a proportional part of each risk consistent with the well-known Lloyd’s method.⁶⁵

5. REINSURANCE IN THE INDUSTRIAL REVOLUTION AND 19TH CENTURY

According to Kopf, the fire insurance business is chiefly responsible for the development of modern reinsurance business.

“Following the industrial revolution during the last third of the eighteenth century, the growth

continued on page 16

⁶⁰ Marshall, pp. 144-146.

⁶¹ Bogardus, pp. 6-7.

⁶² Marshall, p. 774.

⁶³ Marshall, pp. 768-775.

⁶⁴ Bernstein, p. 91.

⁶⁵ Golding, p. 14.

of the factory system gave rise to the existence of things and interests which rendered insurance necessary in large amounts. Reinsurance developed slowly at first. Insurers of fire risks had, until the amounts of insurance requested became too great, adopted the practice of charging different premiums for different risk classes and by limiting their commitments in certain areas. Furthermore, fire insurance at its outset seems to have been cultivated largely by mutual institutions having assessment arrangements with their members. At the beginning of the 19th century, however, stock companies became more numerous in the fire insurance field. These offices soon learned that offering coverage in large amounts, especially in areas of concentrated risk, was an exceedingly hazardous procedure. The stock companies could not appeal to their policyholders for assistance in event of calamitous losses as could the mutuals which had an assessment arrangement. And so coinsurance practices developed whereby the companies transferred the business which they felt they could not keep to other insurers by means of direct contracts between the other companies and the insured.”⁶⁶

The first independent professional reinsurance company was the Cologne Re.

Most fire reinsurance in the first half of the 1800s was written on a coinsurance basis by direct writing companies rather than by reinsurance companies. Risks were submitted facultatively to other insurers, who were most likely competitors. To avoid disclosing terms to competitors, companies would try to

cede business to foreign companies. In one German treaty written in 1839, there was a clause that specified that disputes would be settled by arbitration.⁶⁷

In 1842, the city of Hamburg experienced a great fire that destroyed about one-fourth of the inner city leaving 20,000 people homeless. It took more than 40 years to rebuild after this conflagration.⁶⁸ The City Fire Fund, which had been organized in 1667 (the year after the Great Fire in London), was depleted and a number of German insurance companies were “seriously embarrassed.”⁶⁹

As insurance amounts rose, companies were faced with the option of limiting coverage, which would drive business to their competitors, use reciprocity which was soon exhausted, or reinsure with foreign countries. The Niederrheinische Güter-Assekuranz-Gesellschaft, a German company based in Wesel, tried to reinsure one-third of its portfolio with a French company, and when negotiations fell through, they decided to offer the reinsurance to their own shareholders. Rather than see one-third of their business go out the door, the shareholders were willing to assume this risk and in 1842 set up a subsidiary company to reinsure this business. A number of companies followed this procedure and set up subsidiaries to reinsure the business of the parent.⁷⁰

The first independent professional reinsurance company was the Cologne Re. The need for such a company was evident following the losses of the Great Fire in Hamburg. On Dec. 22, 1842 invitations were sent to deliberate on the founding of a reinsurance company in Cologne. Statutes were drafted in 1843 and the Cologne Re was founded on April 8, 1846. Its first official treaty was written in 1852.⁷¹ Golding notes that one of the main goals in founding Cologne Re was “to preserve for

continued on page 18

⁶⁶ Kopf, pp. 27-28.

⁶⁷ Kopf, p. 28.

⁶⁸ Wikipedia, *Hamburg*, Sept. 8, 2008, <http://en.wikipedia.org/wiki/Hamburg>.

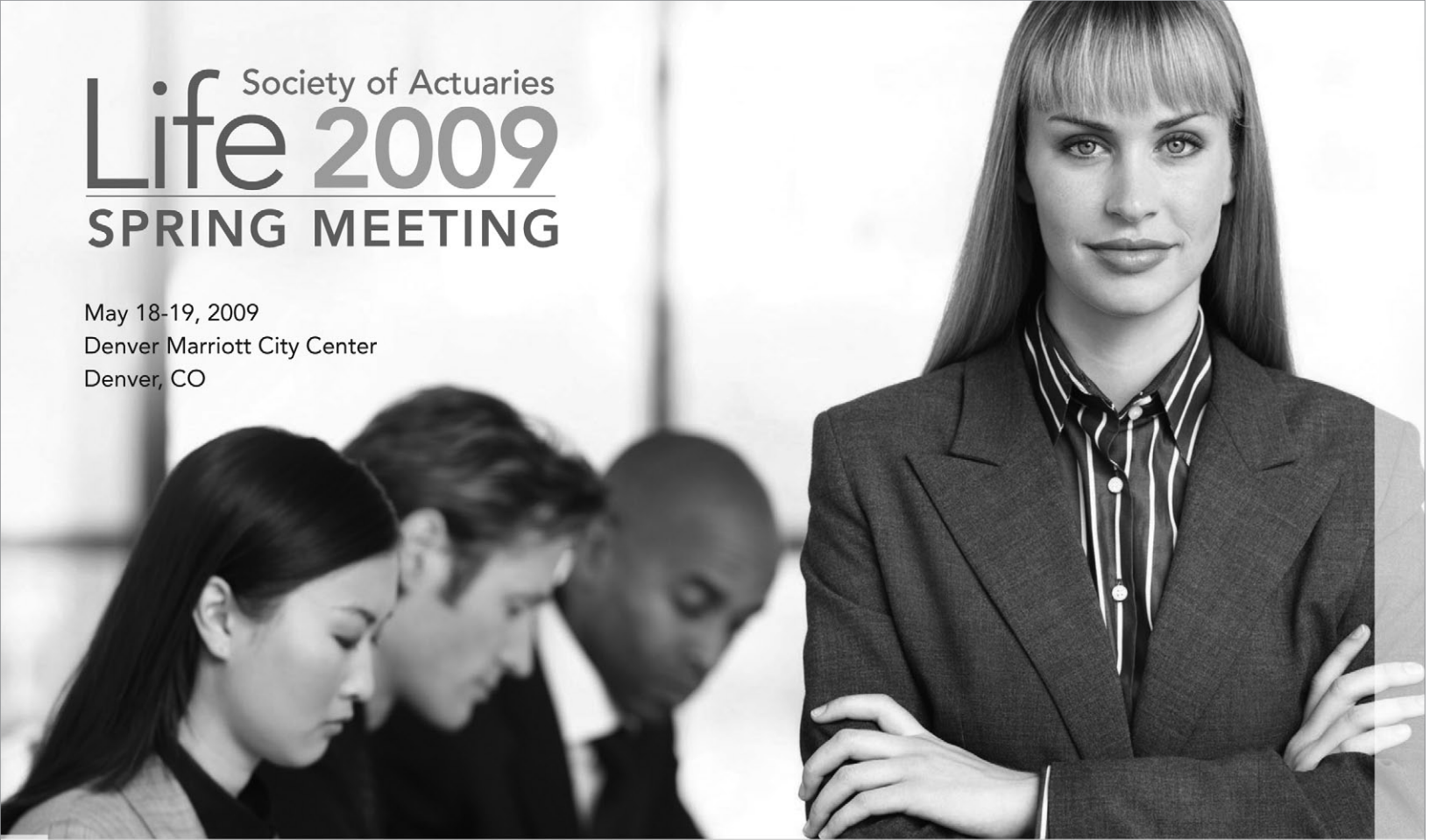
⁶⁹ Kopf, p. 29.

⁷⁰ Gerathewohl, pp. 687-689.

⁷¹ Gerathewohl, pp. 691-692.

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a German company the surpluses which the direct German offices had previously placed with French and Belgian companies.” Aachener Re (1853), Frankfurter Re (1857) and Magdeburger Re (1862) were founded after Cologne pioneered the way. Golding also observes:

“No doubt, the foremost idea was to initiate a business which would provide regular profits for its proprietors. Equally, without doubt, this idea was not always realized but it cannot be supposed that any one would be willing to found such a company, or would be able to find others to support him, unless in the long run they were convinced there was money in the business.”⁷²

Of 13 reinsurers founded in Germany in 1870-1871, most were out of business by 1880.⁷³ Kopf notes: “The pressure of competition led to unwholesome practices, and soon many of these newly formed companies found themselves in dire straits.”⁷⁴ Retrocession dates back to 1854 when Le Globe Compaigne d’Assurance contre L’incinde ceded fire business to Riunione Adreiatica.⁷⁵

In 1848, the Swiss adopted a new federal constitution that was greatly influenced by the U.S. Constitution and the ideas of the French Revolution.⁷⁶ This constitution also set the stage for the founding of the insurance industry in Switzerland. In 1857, Swiss Life was founded, and by 1863, at least six companies had been founded in Switzerland. Reinsurance in Switzerland was originally practiced on a reciprocal basis sharing risks amongst local companies.⁷⁷

The great fire of Glarus in 1861, like other great conflagrations, demonstrated the need for insurance and reinsurance. This led to the founding of the Swiss Re in 1863 by Helvetia General Insurance, Credit Suisse, and Basler Handelsbank. Foreign companies were also interested in doing business with Swiss Re and soon there were treaties with companies in Germany, Italy, France, Austria, England, Belgium and Russia.⁷⁸ J.M. Grossman, the managing director of Helvetia and the “initiator” of Swiss Re, had the following to say about the rationale for a “professional” reinsurer:

“... first because a reinsurance company can give more attention to this specific type of underwriting and can develop this business more carefully, diligently, and successfully than a direct insurance company writing reinsurance merely as a ‘sideline’ of its business, second because companies which fear that reinsurance cessions will expose their business and insurance conditions need not have such doubts in the case of a reinsurance company that does not write direct business itself.”⁷⁹

The reinsurance system adopted in England was the use of mutual sharing risks with other direct insurers. This approach was adopted in other European countries and in the United States.⁸⁰ According to Golding, the face amounts reinsured on life policies in earlier times was not large enough to warrant an organized system of reinsurance; a general system of life reinsurance only began in England in 1844. In 1854, the English and Scottish Life Offices drafted and approved a set of regulations to govern the

⁷² Golding, pp. 100-103.

⁷³ Gerathewohl, p. 701.

⁷⁴ Kopf, p. 31.

⁷⁵ Carter, p. 16.

⁷⁶ Wikipedia, “Swiss Federal Constitution, Sept. 9, 2008, http://en.wikipedia.org/wiki/Constitution_of_Switzerland.

⁷⁷ Gerathewohl, p. 693.

⁷⁸ Swiss Re, *Corporate History 1863 - 1870*, <http://swissre.com/pws/about%20us/corporate%20history/1863%20-%201870/corporate%20history%201863%20-%201870.html>.

⁷⁹ Gerathewohl, p. 694.

⁸⁰ Gerathewohl, pp. 687-689.

conduct of reinsurance business. These regulations only provide for reinsurance on a facultative basis.⁸¹ Carter cites an 1849 agreement amongst 17 Scottish life offices regarding life reinsurance; citing some of the issues, he said:

“... original insurers did not always disclose retentions or even retain any part of the risk for their own account, and reinsurances were not always cancelled following the discontinuance of the original policy. In addition, problems arose because rates of premium and policy conditions varied between companies.”⁸²

Cologne Re transacted life reinsurance during the period 1854 to 1860. Swiss Re wrote its first life reinsurance treaty in 1865. However, life reinsurance seemed to be rather slow in development and it seems that no company other than Swiss Re wrote life reinsurance from 1865 to 1880.⁸³ Cologne Re started writing life business again in 1885.⁸⁴ Life reinsurance was taken up by Munich Re in 1888 to 1889.⁸⁵ In 1894, the Egid, a Swedish company, offered reinsurance on a risk-premium basis (i.e., yearly renewable term for the net amount at risk).⁸⁶

Before unification in 1871, Germany consisted of 26 constituent states comprised by kingdoms, grand duchies, duchies, principalities, free Hanseatic cities and one imperial territory. In 1871, shortly before the end of the Franco Prussian war, Wilhelm I was proclaimed German Emperor and Otto von Bismarck was named Chancellor.⁸⁷ This marked a period of general economic expansion in Germany including growth in insurance. In Germany in 1879, there were 27 joint-stock insurance companies along with mutual societies and other insurance institutions. Although there were a number of reinsurers operating in Germany, the majority of the reinsurance premium was going abroad. In

1880, Carl von Thieme proposed the foundation of a reinsurance company to a group of bankers and industrialists in Munich. The proposal was accepted and in 1880, Munich Re was founded. One of Munich Re’s early goals was to conduct business on an international basis, and by 1886, it had agents in Paris and Russia and by 1890, it had offices in London and New York.⁸⁸

Speaking of Thieme, Kopf said, “He bore always in mind the possibilities of a monoline, multifield business, truly international in scope.”⁸⁹ To clarify somewhat, Thieme felt that reinsurance should be a specialized line of business in and of itself (i.e., the monoline of indemnity reinsurance). He also felt there would be diversification benefits in writing in multiple fields (e.g., marine, fire, life, etc.) as well as multiple locations. Kopf goes on to say:

“Thieme’s internationalism was based on the idea of smoothing out the effects of purely local fluctuations in business, climatic and operating conditions. Losses on one branch of the business in one country could be counterbalanced by gains on another branch in the same country. Or losses on all lines in one country would be compensated by gains on all lines in another country. The internationalization of reinsurance was, in his opinion, the first step toward the atomization and the widespread distribution of risk.”⁹⁰

Turning to reinsurance in the United States, there does not appear to have been a prohibition to its use other than questions about the applicability of the Marine Act of 1746 before the Revolutionary War. In 1837, the Supreme Court of New York upheld the validity of a reinsurance contract. In 1847, *Hone v. Mutual Safety Insurance*, the court declared reinsurance to be a contract of indemnity

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⁸¹ Golding, p. 53-55.

⁸² Carter, p. 16.

⁸³ Kopf, pp. 52-53.

⁸⁴ Golding, p. 54.

⁸⁵ Gerathwohl, p. 697.

⁸⁶ Kopf, p. 49.

⁸⁷ Wikipedia, *German Empire*, Sept. 9, 2008, http://en.wikipedia.org/wiki/German_Empire.

⁸⁸ Gerathwohl, pp. 695-696.

⁸⁹ Kopf, p. 31.

⁹⁰ Kopf, p. 32.

between the insurer and the reinsurer, which has been used as an argument that reinsurance is a separate line of business. The court cited a number of well known texts and concluded:

“... the contract of reinsurance is described as a contract of indemnity to the party obtaining it; and in all the modern treatises such indemnity is explicitly declared to be the whole sum reinsured. ... The reassurer has nothing to do with the payment by the insurer.”

In June, 1853, New York passed acts dealing with the incorporation of life and fire insurance companies. Each act provided that a company organized under the act has the authority to reinsure any risks taken.⁹¹

Reinsurance companies were slow to develop in the United States. Kopf explains:

“All the early American treaties seemed to be placed either with foreign unadmitted reinsurers or with the few native reinsurance offices, of which the first was the Reinsurance Company of America which was wound up in 1890. It was not until 1898 or 1899 that foreign reinsurance companies were admitted to business in the States under current conditions.”⁹²

Reinsurance in America appears to have been mainly on a facultative basis, with Munich Re credited with introducing automatic treaty terms. Regarding the prohibition of reinsurers operating on a “non-admitted” basis, Golding comments:

“About the year 1896 so many important States had passed laws, prohibiting reinsurance in non-admitted companies and refusing to allow credit of any kind for such reinsurance, that the direct-writing companies, having treaties with non-admitted companies, were embarrassed to

considerable extent to maintain the high premium reserves required.”⁹³

Gerathewohl also cites complaints about the treatment of foreign reinsurers by the United States:

“The activities of foreign reinsurers in the USA were nevertheless hampered by protectionist legislation. As an example, foreign reinsurers had to put up substantial security, which prompted small companies to withdraw from the U.S. market.”⁹⁴

Another related case is the Bavarian Mortgage and Exchange Bank as recounted by Golding:

“... about the middle of 1900 it was discovered that additional funds must be supplied by the head office due to the increase in premium reserve. Unfortunately, the company did not understand the American method of reserves, and, rather than supply any additional funds, decided to withdraw.”⁹⁵

6. LIFE REINSURANCE IN THE U.S. IN THE 20TH CENTURY

Catastrophes loomed heavily in the early years of the 20th Century. The great fire of Baltimore occurred in 1904. In relative terms, the San Francisco earthquake (April 18, 1906) and subsequent fire was the costliest insured event of the 20th century. Approximately one-fifth of the city was destroyed, representing some 80 percent of property value; 225,000 people were left homeless. Several insurers were unable to pay claims while others made their reputation and that of the insurance/reinsurance industry by their ability to pay.⁹⁶ These events were followed by the sinking of the Titanic (1912), World War I (1914 to 1918), and the 1918 influenza pandemic.

⁹¹ Kopf, pp. 57-61.

⁹² Kopf, p. 61.

⁹³ Golding, pp. 92-93.

⁹⁴ Gerathewohl, p. 705.

⁹⁵ Golding, p. 94.

⁹⁶ Gerathewohl, pp. 724-727; Munich Re, *The 1906 Earthquake and Hurricane Katrina*, http://www.munichre.com/en/corporate/history/san_francisco/the_1906_earthquake_and_hurricane_katrina/default.aspx.

At the turn of the century, life reinsurance in the United States was mainly achieved by sharing of risks amongst direct companies. Some foreign reinsurance companies such as Cologne Re and Munich Re had become licensed in the United States, and there were a number of Russian companies involved in U.S. reinsurance. In terms of domestic reinsurance companies, the Reinsurance Company of America had wound up its business by 1890; otherwise, the next domestic American reinsurance company was founded in 1909.⁹⁷

As life re progressed, it was mostly a department within a direct company. In 1904, American Central Life (later American United Life or AUL) established a reinsurance division. Risk-premium reinsurance was introduced in the United States in 1903. It was preferred by companies in the South and West, but did not appeal to the large Northeastern mutuals or the Canadian companies.⁹⁸ In 1912, Lincoln National set up a reinsurance division and had written 14 treaties by the end of the year. One difficulty these new reinsurance operations faced was that because they were not necessarily licensed in all states, ceding companies encountered problems taking credit for reserves on the business ceded. One approach to address this was to modify the general coinsurance arrangement so that reserves were deposited with the ceding company. This arrangement is now known as modified coinsurance or mod-co and has proven useful for many different reasons. Speaking of modified coinsurance as a variant of coinsurance, John Wooddy has said that it:

“... reflects the historical development of a device originally designed to enable the principal company to take credit for reserves on business ceded to a non-admitted reinsurer.”⁹⁹

At this time, there was still debate as to whether or not reinsurance should be considered a “monoline, multifield” business. In 1912, the First

Reinsurance Company of Hartford was organized in Connecticut to “carry on a reinsurance business and to make reinsurance on insurance risks of every kind and description undertaken by other companies, associations or persons.” This company has the distinction of being the only insurance company to operate in the United States writing all lines including fire, life and casualty; 90 percent of the shares were owned by Munich Re who favored the monoline approach. In 1913, the monoline question was raised by the Massachusetts insurance commissioner and in 1914, the Connecticut Commissioner presented papers in support of this at the convention of insurance commissioners. At the 1913-14 sessions of the New York legislature bills were introduced which would permit the monoline approach for reinsurance. The bills were criticized in that it would adopt the “European system” in favor of the “American system” which separated certain lines. Kopf indicates that the New York Superintendent was not satisfied that this was a good change:

“He did not feel that the operation by one corporation, either as a direct or re-insurer of an unlimited number of lines was wise. The fiduciary or trust funds of a life insurance company should not, in his opinion, be subjected to the conflagration hazards of fire insurance or to the indefinite liability incidental to casualty and miscellaneous insurance. The bill was defeated.”

“In general, the transaction of reinsurance business exclusively by native companies in the United States, and on a large scale, appears to have been a phenomenon of the last two decades [*i.e.*, 1910–1930]. The earlier and largely unrecorded history of reinsurance in our country relates that treaties were made between direct writing companies or with foreign reinsurance companies admitted to do business in the States.”¹⁰⁰

continued on page 22

⁹⁷ Kopf, pp. 61, 73-75; Golding, pp.120-121; Carter p. 18.

⁹⁸ Kopf, p. 64.

⁹⁹ John Culver Wooddy, FSA, *Reinsurance of Life, Health and Annuity Coverages*, Study Note 62-102-76 (Itasca, IL: Society of Actuaries, 1976), p. 7.

¹⁰⁰ Kopf, pp. 70-72.

To close the story on the First Reinsurance Company of Hartford, during the War the stock of the company was sold by the Alien Property Custodian to 10 insurance companies. In 1925, interests allied with the Rossia Insurance Company (formerly St. Petersburg, Russia) acquired control and reinsured the life business to Sun Life of Canada.¹⁰¹

As the stage was being set for World War I, the reinsurance world was divided into two camps—the supply countries and the demand countries. The supply countries included Germany, Switzerland, Austro-Hungary and Russia.¹⁰² The United States did not have a strong domestic system of reinsurance companies. The War did away with the German companies, which accounted for 67 percent of the total premium income of all the independent reinsurance companies in the world.¹⁰³

As the stage was being set for World War I, the reinsurance world was divided into two camps. ...

Before the War, approximately six Russian reinsurance companies were active in the United States, but after the Russian Revolution of 1917, the only survivor in the United States was the remnant of the Rossia. Kopf credits the principal innovation of the foreign companies to be that, “they made it possible for institutions to cede reinsurance in large amounts without the obligation of accepting any reinsurance in return favor.”¹⁰⁴

Shortly after the opening of the War, Britain and France prohibited trade with hostile countries, and Germany responded by banning payments to France and England. After entering WWI in 1917, the United States passed the “Trading with the Enemy Act” which among other things prohibited all reinsurance relations with hostile coun-

tries. In order to meet the demand for reinsurance, there was an increase in business ceded to foreign countries that were not affected by the restrictions (e.g., Switzerland and Denmark). In Denmark, more than 100 new insurance companies were formed during the War, most of which were reinsurers. Most of these new companies were closed after the war. The other way to meet demand was by increasing the domestic reinsurance industry, and in the United States, 10 new reinsurers were founded in 1910–1920. Commenting on the War, Swiss Re said:

“The outbreak of the war in August 1914 put an end to a world of good order, as a result of which the company, now entering the third quarter century of its existence, was faced with a number of difficulties hitherto unknown. Not matters of underwriting, but rather non-underwriting problems started to play an increasingly important role: problems of investment policies, exchange rates and foreign currencies, foreign exchange control, and the formation and maintenance of business concerns. All of these phenomena obstructed the otherwise ongoing-development of underwriting business.”¹⁰⁵

In 1917, the Reinsurance Life Company of America was founded in Des Moines to reinsure life, double indemnity and disability.¹⁰⁶ In 1919, Connecticut General (CG) set up a reinsurance bureau within its actuarial department. Also in 1919, the Metropolitan Life Insurance Company (MET) organized a separate Reinsurance Division. Another reason for MET establishing a Reinsurance Division was that during the war, the Alien Property Custodian asked MET to take over the business of the Prussian Life Insurance and the Mercury Reinsurance Company. By the time Kopf wrote his excellent paper on the Origin and Development of Reinsurance in 1929, MET’s reinsurance operation was the largest single life reinsurance unit in the world.¹⁰⁷ (Kopf, in addition to being a founder and prominent

¹⁰¹ Kopf, pp. 70-72.

¹⁰² Gerathewohl, p. 727.

¹⁰³ Kopf, p. 33.

¹⁰⁴ Kopf, pp. 71-73.

¹⁰⁵ Gerathewohl, pp. 724-736.

¹⁰⁶ Kopf, p. 64.

¹⁰⁷ Kopf, pp. 64-65.

member of the Casualty Actuarial Society, was also Assistant Statistician at Metropolitan Life Insurance Company.)

In 1923, the North American Reassurance Company was founded by the Swiss Re. North American Re was set up to operate exclusively in the United States and Canada. This company wrote life reinsurance only and was the first life reinsurance company to be operated on such a large scale in the United States.¹⁰⁸ Business Men's Assurance (BMA) was founded as a direct insurer in 1909 and started writing reinsurance in 1928. Similarly, The Employers Indemnity Exchange was founded in 1908 and in 1928 became Employers Re. In 1930, Transamerica started accepting life reinsurance.

The period following WWI was marked by hyperinflation in Germany, a worldwide stock market crash and the Great Depression, and ultimately World War II with its many tragic developments. Gerathewohl comments:

“Following the experience gained in World War I, numerous international reinsurance treaties contained clauses rendering the treaty null and void in the case of an outbreak of war. Soon after World War II had broken out, trade with business partners in hostile countries was forbidden in many of the nations at war.”¹⁰⁹

In a recent text by Swiss Re, Schwepcke and Arndt comment:

“The Second World War again split the international insurance market into two camps. Only the reinsurance companies in neutral countries were able to maintain their business relationships with the two warring sides. This

benefited Switzerland especially, but also Spain, Portugal and Sweden.”

“Often companies from the warring nations broke off their business relationships with companies in hostile countries. But there are also many examples of international business relationships having survived those turbulent times.”¹¹⁰

The depression era and the war years were difficult for reinsurers. On a more personal note, Fred Bossert of the Nederlandse Reassurantie Group (NRG) provides the following reflection:

“It is still a bit early to write a history of Dutch professional reinsurance, but when the time comes it promises to be an interesting task, and some snippets of information deserve to be revealed now. It is on record that, during the last year of the war, it was the practice at one of the mentioned Dutch reinsurance companies to use reinsurance bordereaux as fuel to keep warm in the office and that immediately after the liberation it took one of the managers two days to travel by bicycle from Amsterdam to The Hague in order to visit a client.”¹¹¹

In 1952, Charles Ormsby wrote a key paper on the cost of reinsurance, and Archibald McAulay wrote a discussion of that paper which includes the following observations on attitudes in the preceding decades:

“I believe that an essential part of the paper is Mr. Ormsby's statement that there is usually higher mortality on reinsured business and that the originating company must pay to the reinsurer at least enough to cover the higher mortal-

_____ *continued on page 24*

¹⁰⁸ Kopf, p. 65.

¹⁰⁹ Gerathewohl, p. 754.

¹¹⁰ Andreas Schwepcke and Dieter Arndt, *Reinsurance: Principles and State of the Art*, ed. Second (Karlsruhe: Verlag Versicherungswirtschaft, for Swiss Re Germany, 2004), p. 5.

¹¹¹ Fred Bossert, “A Brief Look at the History of Reinsurance,” *World-Wide News*, Dec. 1979, p. 14.

ity expected. The first part of Mr. Ormsby's statement in regard to the higher mortality of reinsured business would normally be accepted as correct, but the interesting question, of course, is, 'Why should this business—business which the originating company knew had a higher mortality—have been issued in the first place at standard rates?' Apart from the question of discrimination, it is possible that the originating company may have thought it could dump its poor risks on the reinsuring company at no extra cost. Back in the '30s, everyone was impressed with the tremendous losses suffered by the reinsuring companies and it is possible that some originating companies still believe that they can outsmart their reinsuring companies. However, within the last few years the second part of Mr. Ormsby's statement has come to be recognized as correct, namely that the originating company must pay enough to the reinsurer to cover the higher mortality expected."¹¹²

The postwar times through the remainder of the century were marked by favorable economic times and a significant growth in reinsurance, particularly in the founding of new life insurance companies and companies engaged exclusively in reinsurance. Commenting on the revitalization of the reinsurance business, Ormsby said:

"The increase in life insurance sales during the past 10 or 15 years alone has led many of the larger companies to re-establish for their excess lines a reinsurance connection which they had previously enjoyed or to establish for the first time formal relations with a reinsurer. ... The ease with which both new and well-established life companies have turned and are turning to reinsurers is sufficient evidence that life reinsurance is firmly entrenched in the life insurance business in both the United States and Canada and has won the confidence

and respect of the overwhelming majority of direct-writing companies."¹¹³

Some of the reinsurance developments through the 1960's include:

- 1948 Security Life of Denver (ING Re) entered reinsurance field
- 1953 CNA began selling reinsurance
- 1954 Gerling Global Re established (parent founded in 1904)
- 1959 Munich American Reassurance Company founded
- 1965 Phoenix Mutual entered reinsurance field
- 1967 Cologne Life Re founded
- 1967 General Reassurance Company founded
- 1969 Transamerica began to solicit reinsurance directly (including a joint venture with NRG)

In 1968, the face amount of life reinsurance in force amounted to \$23.5 billion with new business of \$5.5 billion. The market leaders in terms of face amount in force were:

Lincoln National	31%
CG	15%
North American Re (Swiss Re)	11%
BMA	10%

The 1970's included some sensational developments involving reinsurance. The largest individual US life insurance claim to date was on the murder of oil magnate Eugene Mullendore in 1970. He had taken out policies totaling \$15,000,000 of which the insurer reinsured \$14,960,000. The primary reinsurer retroceded parts to others who in turn ceded parts of the risk. In the final accounting, more than 100 reinsurers were involved in this case. The partner of the agent who wrote the business was found murdered in Canada, and there was alleged mafia involvement in this case.¹¹⁴

¹¹² Charles A. Ormsby, FSA, "The Cost to Reinsure Individual Life Policies," *Transactions*, (Society of Actuaries) IV (1952): 466.

¹¹³ Ormsby, p. 448.

¹¹⁴ Jonathan Qwitny, *The Mullendore Murder Case* (New York: Farrar, Straus and Girman, 1974), pp. 246 - 270

In 1973, Equity Funding committed what was then called “The Fraud of the Century” and the engine of the fraud was reinsurance. Equity Funding was a fast growing life insurance company that had such good experience that reinsurers were willing to pay first year commissions of well over 180 percent to 198 percent. Equity Funding realized that they could generate tremendous earnings just by fraudulently creating large amounts of new business; ultimately, the scheme collapsed.¹¹⁵

In the late 1970s and early 1980s, there were a number of modified coinsurance transactions which had significant financial benefits under the then existing Section 820 of the US Internal Revenue Code. Tiller and Fagerberg Tiller comment:

“The application of reinsurance to obtain tax benefits made a number of people aware of the potential of financial reinsurance and educated a whole generation in the use of reinsurance for financial planning ... The rapid growth of many life insurance companies was fueled by reinsurance financing in terms of both allowances and risk bearing, and much of this financing was motivated, or at least assisted, by tax benefits to the reinsurer.”¹¹⁶

Another major development during this period was the 1980 landmark paper by Michael J. Cowell and Brian L. Hirst on “Mortality Differences between Smokers and Nonsmokers”. This was the same year that Jeffery Dukes and Andrew M. MacDonald published “Pricing a Select and Ultimate Annual Renewable Term Product.” The resulting revolution in life insurance pricing increased the level of competition, which in turn increased the demand for reinsurance to support these new concepts. The tremendous growth in reinsurance in the remainder of this century began as a result of these fundamental changes.

Developments in the 1970s and 1980s include:

- 1973 GE Capital acquires Puritan Life, later renamed Employers Reassurance Corporation (ERAC)
- 1974 General American (RGA) began accepting reinsurance
- 1978 Optimum Re Insurance Company incorporated
- 1980 Reassurance Company of Hannover (RCH) established (parent founded in 1923)
- 1982 M&G U.S. founded
- 1984 General Electric acquired Employers Re
- 1988 General Reassurance was sold and renamed Life Re
- 1989 London Reinsurance Group (LRG) set up by London Life

The 1990s were characterized by failures of some of the largest direct insurance companies in North America including Executive Life, Mutual Benefit and Confederation Life. The growth in life reinsurance in the 1990s was fueled by the introduction of increasingly competitive products including the use of preferred underwriting classifications. In addition to the pricing issues, reinsurers were also involved in providing capital support for the reserves associated with these products. The 1990s saw the beginning of a major consolidation movement as well as new life reinsurers being founded in Bermuda or other off shore locations.

- 1990 Hannover Re (1966) acquired Reinsurance Company of Hannover and Hamburg International Re
- 1993 General American took RGA public
- 1994 Cologne Re merged with General Re
- 1995 ITT Lyndon became joint venture between RGA and Swiss Financial
- 1995 Employers Re acquired Frankona Re (founded 1886) renaming the U. S. life company as

continued on page 26

¹¹⁵ Ronald L. Soble and Robert E. Dallos, *The Impossible Dream: The Equity Funding Story, The Fraud of the Century* (New York: G. P. Putnam’s Sons, 1973), pp. 18-19.

¹¹⁶ John E. Tiller and Denise Fagerberg Tiller, *Life, Health & Annuity Reinsurance* (Winsted, CT: ACTEX Publications, 1995), p. 390.

	ERC Life	(1999)
1995	Employers Re acquired Aachen Re (founded 1853)	2003 Scottish Re acquires ERC Life
1997	Swiss Re acquired M&G	2004 Annuity and Life Re is delisted from the NYSE
1997	London Life's LRG acquired by Great-West	2004 Scottish Re Completes ING Acquisition
1998	Berkshire Hathaway acquired General Re (and hence Cologne Re)	2004 Wilton Re founded
1998	Swiss Re acquired Life Re	2006 ACE Tempest Life Re enters U. S. market
1998	Annuity & Life Re founded	2006 SCOR acquires Revios
1998	Scottish Annuity & Life Re founded	2006 XL Re Life America incorporated
1999	ERC Life acquires Phoenix Home life re business	2006 Wilton Re acquires inforce business of Annuity and Life Re
1999	Transamerica Re acquired by AEGON	2007 Scottish Re is delisted from NYSE
		2008 MET Life sells majority stake in RGA

The continued growth in reinsurance in 2000 and beyond is also associated with the capital required to finance XXX reserves on term products. Reinsurers that were parts of a larger direct operation found themselves in competition for capital with the core direct business with the result that many direct companies sold their reinsurance operations. The quest for capital also stimulated offshore and capital markets approaches to this funding need. In 2002, reinsurance new business peaked at an historic high and has subsequently declined as reinsurers have focused on cost of capital and return on equity.

Although there are a number of companies shown in the catalog of U.S. and Canadian life reinsurers, the list is by no means exhaustive. Scottish Re has ultimately acquired the U.S. life re operations of E. F. Hutton, Worldwide, NRG, Harbourton, Urbaine as well as ING. SCOR acquired the life re operations of Republic-Vanguard, Winterthur and Partner Re. Some of the others who played a role in the life re market are Republic National, Security Benefit Life, American General, Life & Casualty, Hudson, American Skandia, ITT Hartford, TMG, Guardian, Alabama Re and the professional retrocessionaires. Undoubtedly, there are others who could be mentioned but whose story is not readily available.

2000	MET acquires General American including majority interest in RGA
2000	Munich American acquires life re business of CNA
2000	CIGNA sells its U. S. accidental death, individual life and group life reinsurance businesses to Swiss Re
2001	Swiss Re acquires Lincoln Re
2001	Employers Re (ERC) acquires AUL Life Re business
2003	Gerling Global Life Reinsurance became Revios Reinsurance U. S.
2003	RGA acquires reinsurance business of Allianz Life
2003	Generali USA Life Re acquires BMA Life Re
2003	Great-West Life acquires Canada Life Re

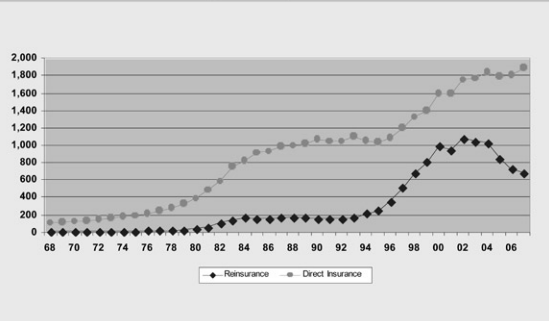
In 2007, the face amount of recurring life reinsurance inforce amounted to \$6.3 trillion with recurring new business of \$683 billion.¹¹⁷ The market leaders in terms of recurring face amount inforce were:

Swiss Re	22%
RGA	18%
Scottish Re (US)	15%
Transamerica Re	13%
Munich American Re	10%

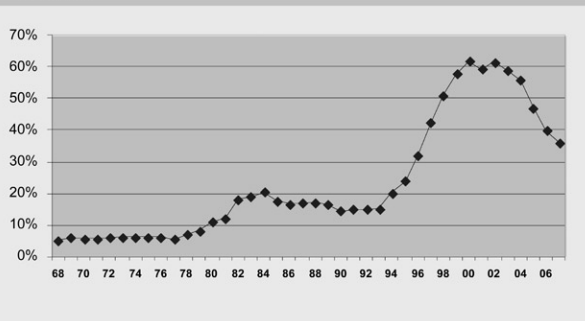
Following are graphs showing the development of life reinsurance in the United States over the past 40 years.

¹¹⁷ David Bruggeman, Munich American Reassurance Company, *Life Reinsurance Surveys 2007*, June 2, 2008, <http://www.marclife.com/>

U.S. Life Insurance New Business 1968-2007
Direct and Reinsurance (\$ billions)



U.S. Life Reinsurance as a % of Direct Purchases
1968-2007



Today's times are filled with issues such as principles based reserves, optional federal charter, credit for reinsurance, risk transfer, capital market transactions, securitization, economic capital, embedded value, enterprise risk management, and the like. It will be interesting to see what the future holds.

However, insurance and reinsurance help make modern society possible. Airliners and satellites have replaced the risks associated with early sailing vessels. Hurricanes, earthquakes and terrorism present risks beyond the great fires of the past. Life reinsurers help provide financial capacity as well as the atomization of risk. Reinsurance will be of long and continuing importance not only to the insurance business itself but to risk management worldwide.

EPILOGUE

I hope you've enjoyed this "rear window" tour of reinsurance and listening to voices of the past along the way. Obviously, I owe a debt of gratitude to those who have documented this story in the past. The words are truly theirs rather than mine, but I hope that I have pieced them together so that a tapestry emerges. Obviously, this account has an historical bias; if you feel there are stories from countries or regions that should have also been told, then I encourage you to help share that history. Please accept my very best wishes for a wonderful

career in an industry and profession that ultimately is involved in making a positive difference in the lives of people. ✨

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ABOUT THE AUTHOR



David M. Holland is retired President and CEO of Munich American Reassurance Company in Atlanta, GA. He can be reached at dhollandfsa@bellsouth.net.

After nearly 40 years at Munich American Reassurance Company (MARC), David Holland retired as vice chairman, president and CEO on Jan. 31, 2008. Although well known for his involvement in the reinsurance community serving on the first SOA Reinsurance Section Council and the first ACLI Reinsurance Subcommittee, he is also known for his service to the actuarial profession and the life insurance industry. He has served as president of the Society of Actuaries and chairman of LOMA as well as serving on the SOA and LOMA Boards for numerous years. He has also served on the Boards of the American Academy of Actuaries, the ACLI, the Medical Information Bureau (MIB), the Georgia Association of Life Companies, and the Educational Foundation at Georgia State University. He is currently on the Boards of MARC, IA American Life Insurance Company, the Actuarial Foundation, and he serves as an elder at the Northlake Church of Christ. *Reinsurance News* asked Dave to update an earlier presentation on the history of reinsurance as one of his retirement projects. *Reinsurance News* also took advantage of this opportunity to talk to Dave about his time in the reinsurance industry.

Reinsurance News (RN): Have you always worked for MARC?

Dave Holland (DH): I was with MARC for over 38 years, which is certainly the majority of my life. In addition to MARC, I worked for two consulting actuarial firms. I sometimes say I've never worked for a real insurance company. Actually, I found reinsurance to be a natural blend between consulting and direct company work. Whenever someone comes out with a new product, they have to figure out how to reinsure it; this involves the reinsurer on the cutting edge of product development. Similarly, as a reinsurer you have to understand what drives a direct company financially in order to be able to create effective reinsurance solutions.

RN: How long were you president of MARC?

DH: I was president for over 20 years, which is a long time by today's business standards. It's easy for me to find the date my presidency was announced in the local press; it was Oct. 19, 1987, the day the stock market crashed.

RN: How did you get to MARC?

DH: While I was an undergraduate in the actuarial science program at Georgia State University, I worked part time with the consulting actuarial division of Alexander & Alexander. When I finished my job interview, they asked if I knew anything about computer programming, and I said no, but if you'll send me a book, I'll learn. They sent me a technical manual on programming in assembler language, and I dug my way through it. My work involved everything from preparing a data request to working on valuations of defined benefit plans, but a good portion of projects involved the computer. The first computer I worked on had 8k of memory, and was so primitive that we had to write our own multiply/divide subroutines. If a program crashed, we had to use lights on the console to enter changes in binary directly into the computer's memory.

When I completed my undergraduate degree, I wanted to see what life insurance work was like, and I got a job with Bowles, Andrews and Towne (BAT). However, they soon learned that I knew how to program a computer, and I was up to my neck in computer work. I completed my Masters Degree and got my associateship in the Society of Actuaries while I was at BAT.

Bob Braund, the actuary who had hired me at BAT, left BAT and joined MARC on a fast track to become president. MARC needed someone to do actuarial work but most of all they needed someone to redesign their computer system. Bob remembered me and hired me as associate actuary at MARC. By day, I did actuarial work, and by night, I designed and programmed computer systems. In my spare time, I finished my fellowship exams. Designing the general administrative computer system for a reinsurance company was a great challenge but also a great learning experience because I had to know in detail how everything worked within the company. Some 18 years later when Bob retired and I became president of MARC, Bob finally told me that they almost didn't hire me at MARC because they weren't sure what they would do with me when the computer system was finished. I'm glad that they found something else for me to do.

RN: What was the reinsurance world like when you started at MARC? Do you have any practical lessons you'd like to pass along?

DH: Part of the reinsurance history article talked about events that took place during my time, and there are certainly things that are clearer now than when they were happening.

For instance, the Mullendore murder case was a big deal for the reinsurance industry. The total line on Mullendore was \$15 million, making it the largest claim to date in the life insurance industry and one where there were more than 100 reinsurers involved. There were three policies involved, two of which were in the grace period at the end of the first year and the third policy was still in the first year. There was alleged mafia involvement, and my recollection is that the policy was settled for a reduced amount due to questions relating to underwriting. The writing company was a small Atlanta company that had been founded some years earlier as a burial insurance company; the writing company kept \$40,000 and reinsured \$14,960,000. With perfect hindsight, you have to ask why someone would take out such a large policy with a company that had such a small retention? How experienced was this company in the large case market? How well did the company know its producers, especially given the alleged gangland connections with this case? Undoubtedly, the case was thoroughly underwritten by the reinsurers involved, but the reinsurer is still removed from the insured and the actual producer and has to rely on the skills of the ceding company. We would say it's as important for us to underwrite the ceding company as it is to underwrite the risk. Over time, there has also been pressure from direct companies for extremely high automatic binding limits; however, it's a good idea for the direct company to maintain a healthy insurable interest in the underlying business. That principle could probably apply to the sub-prime mortgage business too.

RN: Were you involved in Equity Funding?

DH: At the time of Equity Funding, Dr. Hans Dienst, Munich Re's Chief Actuary, was stationed in Atlanta. Even though Equity Funding was the biggest deal in the reinsurance industry at the time, we had trouble convincing Dr. Dienst to quote because of the

excessive first year allowances. Eventually, we got him to agree to make a quote with 185 percent first year commission, and he went to Equity Funding with a blank check. Being a natural negotiator, Dr. Dienst said we'd had trouble meeting their target and we were only willing to offer 175 percent. Surprisingly, their response was, "OK." They said they needed more capacity and they were willing to go along with our offer. Dr. Dienst then said that because of the size and financial strain of this deal, it was really important that we know just how much business they were going to write. Their response was that they could guarantee \$100 million of production, which was a big deal at the time. However, Dr. Dienst asked how could they "guarantee" production? They seemed somewhat surprised by the question, and they said they'd already written the business and one of the other reinsurers had more than they wanted; there would be no problem ceding this business to us. Dr. Dienst then said that since the business had already been written, we'd send our chief underwriter out to do an audit to make sure we were in agreement on underwriting standards. Their reaction was there was no way they would let our underwriter come out to review cases; their underwriters were already working 12 to 15 hours per day on new business and they weren't going to waste their time with an underwriting audit. Dr. Dienst came back home with the blank check and received a lot of grief over not doing the deal just because of an underwriting audit. We had no idea that they were fraudulently creating phony policies to make money off the excess first year allowances, but we were kept out of the deal because of Dr. Dienst's persistence and principles.

RN: There were a lot of new reinsurers entering the market in the 1960s and '70s. How did you compete as a start-up reinsurer?

DH: It was tough for new reinsurers. Companies weren't eager to change where they had long-standing relationships. The typical approach for a new reinsurer was through facultative underwriting. European experience was more liberal on risks such as diabetes and build and blood pressure. Agents were pushing for the best underwriting quotes possible, and companies were willing to bring on fac-

continued on page 32

ultative reinsurers to provide competitive quotes for substandard risks. I thought Dr. Gottfried Berger of Cologne Re had a great strategy. My perception was that he had higher premium rates on average but more aggressive underwriting. The underwriter decided who got the case based on underwriting quote (rather than reinsurance cost) and Cologne usually had the best underwriting offer.

Ultimately, the facultative shopping programs became an unhealthy game for the reinsurers. Some companies went to what I'd call underwriting by Xerox machine. They would copy all cases and send them to 12 or so reinsurers. If all the reinsurers agreed, the ceding company would keep its normal retention and cede the rest (probably to their automatic). If a reinsurer had a quote that was two tables or more better than the others, that reinsurer would get 100 percent of the risk ceded facultatively. For example, if there were 11 declines and one reinsurer offered table two, the reinsurer making the quote would get 100 percent of the risk. In essence, the reinsurer would wind up winning its mistakes.

RN: Were there other such "games" where the reinsurer was at a significant disadvantage?

DH: Select and ultimate term policies often led to opportunities for such antiselection. On term policies, reinsurers typically paid a first year commission of 100 percent. Select and ultimate term policies had premiums which increased each year due to increase in age and time from original underwriting. That meant, for example, a policy issued to a 45-year-old in the second policy duration would have a premium in the second policy year that was higher than a new policy issued to a 46-year-old. This led to a motivation for the agent to shop the policy every year. As long as the applicant remained insurable, the agent would get a first year commission every year, the insured would get the lowest rate in the market, and the writing company would get the new business volume that went along with being the hottest company in the market. Unfortunately, the reinsurer would get a year's risk where the 100 percent first-year commission meant that the reinsurer would not get anything for the risk. I recall that Mel Young found a \$10,000,000 case which had been moved every year for 10 years.

This probably meant that the reinsurance market had \$10 million at risk for 10 years without getting any net premium for taking the risk.

Of course, ceding companies were appalled by the lapse rate on this business, but their solution seemed to be to let their agents replace their own business. At first, this was subject to full underwriting and the applicant had to pay the cost of the medical exam. That didn't fly for long, and the company took over paying for the medical exam. That quickly morphed into a nonmedical application, and then to a statement of good health. Ultimately, they concluded if the premium check cleared the bank the applicant must be in good health; anyway, the business was reinsured. Although there is some hyperbole here, times were tough for reinsurers.

RN: Has this situation improved? What brought about the changes?

DH: The situation has improved considerably. Part of the coming of age of reinsurance had to do with a recognition by ceding companies of the value reinsurers provide. Facultative programs helped companies provide lower quotes and allowed them to obtain experience based on the business ceded facultatively. One area where I was involved was evaluating the potential impact of the AIDS pandemic on the insurance industry; one thing we learned was that there was significant protective value in risk selection and underwriting aside from any AIDS questions. The replacement problems associated with select and ultimate term were not just a reinsurance problem; the excess lapse rates were a problem for ceding companies too. Identification of the problem by the reinsurers helped everyone. The role of reinsurance in financial planning, especially with Section 820 modified coinsurance, and the provision of capital as well as expertise in the preferred risk term market helped to increase the importance of the reinsurer as a full business partner.

RN: Earlier you mentioned that reinsurers are sometimes on the cutting edge of product development. Could you give us an example?

DH: I remember getting a call from Sam Turner, who at the time was president of Life of Virginia.

continued on page 34

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Sam said, I want you to come up to Richmond, but bring an empty briefcase and an open mind. When we got there, Sam described the concept of Universal Life Insurance, and said they were ready to start issuing it as soon as they could figure out how to reinsure it. Fortunately, we were able to work out an agreement with Sam, and thus played a role in the introduction of this product.

RN: One thing MARC is known for is the annual reinsurance survey. How did that get started?

DH: One thing that I got when I first joined MARC in 1969 was a reinsurance production survey done by Swiss Re (then North American Re). Shortly thereafter, Swiss Re stopped doing the survey because they felt it put too much emphasis on top line growth. Although I now agree they were right about that, it seemed that imperfect information was better than no information, and I took over the survey. It was just a friendly informal survey of what was going on in the reinsurance market because there was no other reliable public information.

When the SOA Reinsurance Section was formed, Irwin Vanderhoof was the first chair and I was the first vice chair. Van asked me to concentrate on organizing activities to make the Section a vital part of the reinsurance community. I hope I made some contributions, and one thing I tried to do was to set up a statistical committee for the Section. I volunteered MARC to continue doing the survey, but to have it done on behalf of the Section and to have it published in a Section Newsletter. Subsequently, I passed the administration of the survey on to Jim Sweeney and ultimately to David Bruggeman.

Partnering with the Reinsurance Section has been overwhelmingly good, but not without some bumps. I wanted to expand the survey. For example, when last survivor products became popular, I wanted to split production into single life and last survivor. Similarly, I wanted to add health insurance and other areas. However, the Reinsurance Section was firm that they didn't want changes in what we had done historically. As I look back on what is now almost 40 years of experience, I think the general consistency of the survey is one of its strong points.

As time went on, we learned what started as an informal survey was being used for incentive comp purposes, and ultimately, it was quoted in IPOs, 10-ks, industry analysis by investment banks, etc. There were times when some survey participants wanted to use their own interpretation of how the data should be reported and the Section Council was generally able to keep things on a consistent footing. Similarly, as the users became more widespread and the data became more important in industry analysis, we required certification of the data submitted and I feel the Section has been helpful in supporting this. I'm pleased that MARC and the Reinsurance Section have been able to cooperate on this over the years.

RN: What led to you writing the reinsurance history article?

DH: About 10 years ago I had done a brief presentation on the history of reinsurance for the SOA Reinsurance Section. Last year, the ACLI Reinsurance Committee was working on the program for the ACLI Reinsurance Executive Roundtable, and given that they knew that I was retiring in January 2008, they were kind enough to invite me to speak at the meeting. I felt honored, but also pressed to come up with a topic. Given that my crystal ball was cloudy, I thought maybe the traditional actuarial view out the rear window would be appropriate. Even before the topic of my presentation was announced, several people suggested that one of my retirement projects should be to write a reinsurance history. Some of the co-conspirators in suggesting this include Gaetano Geretto, Monica Hainer, Donna Kinnaird, Chris Stroup and Mel Young, and some of the friends who helped make this article a reality include Richard Jennings, Ozzie Scofield, Harold Skipper, Mike Slater, and John Tiller. When you called and suggested that the Reinsurance Section would like for me to prepare a history of reinsurance for the Reinsurance News, I thought this would be a great gift I could give my friends and colleagues who have made this a truly wonderful industry and profession for me. ✨

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