ARM – 56
Risk Financing

Presented by:
Erike Young, MPPA, CSP, ARM

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Chapter 6

Reinsurance

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Reinsurance

Educational Objectives

After learning the content of this assignment, you should be able to:

- Describe reinsurance and its principal functions.
- Describe the three sources of reinsurance.
- Describe treaty reinsurance and facultative reinsurance.
- Describe the types of pro rata reinsurance and excess of loss reinsurance and their uses.
- Explain the reinsurance concerns of risk management professionals.

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Reinsurance

- Reinsurance
  - Transfer of insurance risk from one insurer to another through a contractual agreement in which the reinsurer, in return for a reinsurance premium, indemnifies the primary insurer for some or all of certain loss exposures covered by the primary insurer's policies.
  - "Insurance for Insurers"
- Insurance Risk
  - Uncertainty about the adequacy of insurance premiums to pay losses

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Reinsurance

- Retrocession
  - A reinsurance agreement whereby one reinsurer transfers all or part of the reinsurance risk it has assumed or will assume to another reinsurer
  - Similar to reinsurance, except for the parties involved (not primary insurer)

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Reinsurance

- Reinsurance Functions

  1. Increase large line capacity
  2. Provide catastrophe protection
  3. Stabilize loss experience
  4. Provide surplus relief
  5. Facilitate withdrawal from a market segment
  6. Provide underwriting guidance

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Reinsurance

- Large Line Capacity
  - Insurer's ability to provide larger amounts of insurance for property losses, or higher limits of liability for loss exposures, than it otherwise is willing to provide
- Line
  - Maximum amount of insurance or limit of liability that an insurer will accept on a single loss exposure
  - Influenced by:
    - Insurance regulations that have limits
    - Size of potential losses the insurer can retain
    - Characteristics of loss exposure
    - Amount, types, and cost of available reinsurance

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Reinsurance

- Catastrophe Protection
  - Provides financial protection from single large losses, including
    - Fire, windstorms, earthquakes, flood
- Stabilize Loss Experience
  - Limits liability for single loss exposure
  - Limits liability caused by a common event
  - Limits liability for loss exposures that aggregate over time

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Stabilization of Annual Loss Experience for a Primary Insurer With a $20 Million Retention

(1) Time Period (Year)	(2) Actual Losses ($000)	(3) Amount Reinsured ($000)	(4) Stabilized Loss Level ($000)
1	15,000	—	15,000
2	35,000	15,000	20,000
3	13,000	—	13,000
4	25,000	5,000	20,000
5	40,000	20,000	20,000
6	37,000	17,000	20,000
7	16,500	—	16,500
8	9,250	—	9,250
9	18,000	—	18,000
10	10,750	—	10,750
Total	$219,500	$57,000	$162,500

The total actual losses are $219.5 million, or an average of $21.95 million each time period. If a reinsurance agreement were in place to cap losses to $20 million, the primary insurer's loss experience would be limited to the amounts shown in the stabilized loss level column. The broken line that fluctuates dramatically in the graph below represents actual losses, the dotted line represents stabilized losses, and the horizontal line represents average losses.

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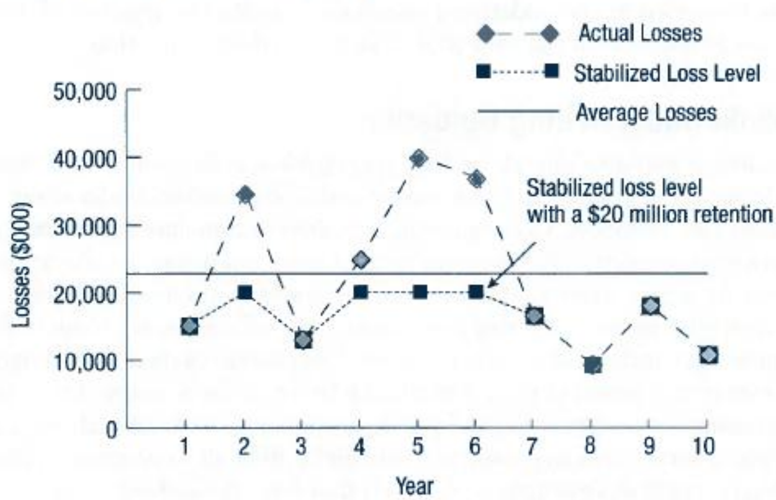
Graph of Hypothetical Loss Data



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Provide Surplus Relief

- Policyholder's Surplus
  - An insurer's net worth as reported on financial statement prescribed by state insurance regulators
    - Represents resources primary insurer can draw on to pay unexpected losses
    - Typically surplus not to exceed 3 to 1
- Capacity Ratio
  - Ratio of net written premiums to policyholder's surplus
    - Growing company has harder time maintaining ratio
      - Expenses to get new business is lump sum, but revenue from new policy may be monthly

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Facilitate Withdrawal from Market

- A market is…
  - Particular class of business
  - Geographic area
  - Type of insurance
- Primary insurer can withdrawal by
  - Stop selling new insurance policies and let old policies run-off
  - Cancel all policies and refund unearned premium
  - Purchase portfolio reinsurance
    - Similar to a Loss Portfolio Transfer (LPT)

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Facilitate Withdrawal from Market

- Portfolio reinsurance
  - Agreement that reinsures the loss exposures of an entire type of insurance, class of business or geographic area
  - Primary still manages/pays claims, but reinsurer indemnifies (pays back primary) for all losses
  - Intended for future claims, not buying old claims
- Novation
  - Agreement under which one insurer or reinsurer is substituted by another
    - Also called a Loss Portfolio Transfer (LPT)

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Provide Underwriting Guidance

- Reinsurers work with wide variety of exposures and have more experience dealing with large loss events
  - May help with pricing of policies

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Reinsurance Sources

- Reinsurance can be purchased from three sources:
  - Professional reinsurers
  - Reinsurance departments of primary insurers
  - Reinsurance pools, syndicates, associations

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Reinsurance Sources

- Professional Reinsurers
  - Direct writing insurer
    - Employees deal directly with primary insurers
  - Reinsurance Intermediary – Broker
    - Works with primary insurer and several reinsurers
    - Job is to convince reinsurer that primary is good risk
    - Trust and full disclosure is essential to reinsurance market
- Reinsurance Departments of Primary Insurers
  - Arms-length operation of primary insurers
- Reinsurance Pools, Syndicates, and Associations
  - Group of insurers that share the loss exposures of the group, usually through reinsurance

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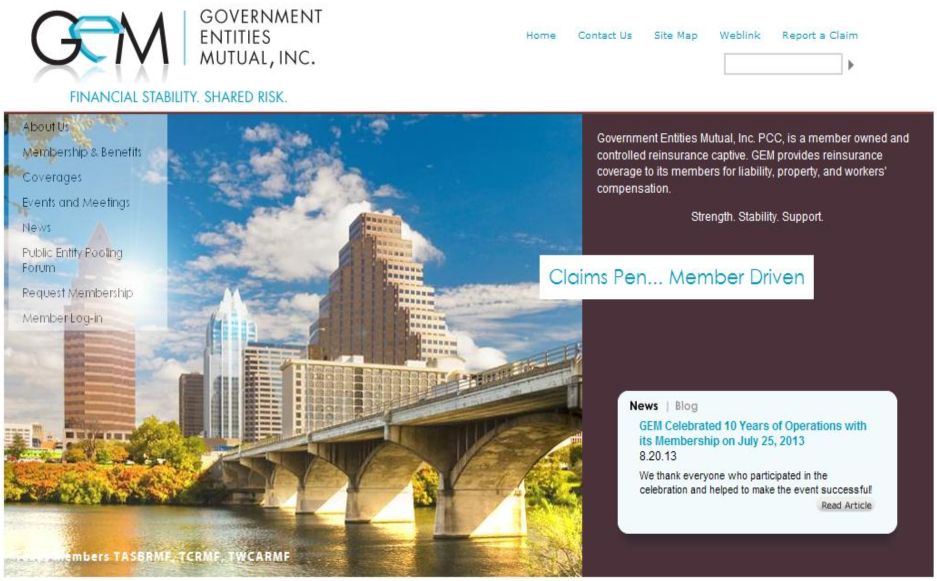

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Reinsurance Sources

- Professional reinsurers
  - An insurer whose primary business is serving other insurers' reinsurance needs
    - Direct writing reinsurer
    - Reinsurance intermediaries – most common

- Primary insurers dealing with direct writing reinsurers often use fewer reinsurers in their reinsurance program.
- Reinsurance intermediaries often use more than one reinsurer to develop a reinsurance program for a primary insurer.
- Reinsurance intermediaries can often help secure high coverage limits and catastrophe coverage.
- Reinsurance intermediaries usually have access to various reinsurance solutions from both domestic and international markets.
- Reinsurance intermediaries can usually obtain reinsurance under favorable terms and at a competitive price because they can determine prevailing market conditions and work repeatedly in this market with many primary insurers.

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Reinsurance Transactions

- Treaty reinsurance
  - Covers an entire class or portfolio of loss exposures and provides that the primary insurer's individual loss exposures that fall within the treaty are automatically reinsured
  - Foundation for most reinsurance programs
  - Avoids adverse selection
  - Typically long-term relationship, but policy is for individual years
- Facultative Reinsurance
  - Reinsurance of individual loss exposures
  - Primary submits exposures to reinsurer
  - Reinsurer can accept or reject any loss exposure submitted.
  - Priced to reflect likelihood of adverse selection

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Reinsurance Transactions

- Facultative Reinsurance has four primary functions
  - Provide large-line capacity for loss exposures that exceed the limits of treaty reinsurance agreements
  - Can reduce primary insurer's exposure in a give geographic area
  - Can insure a loss exposure with atypical hazard characteristics and maintain favorable loss experience of primary insurer's treaty reinsurance and associated profit sharing
  - Can insure particular classes of loss exposures that are excluded under treaty reinsurance

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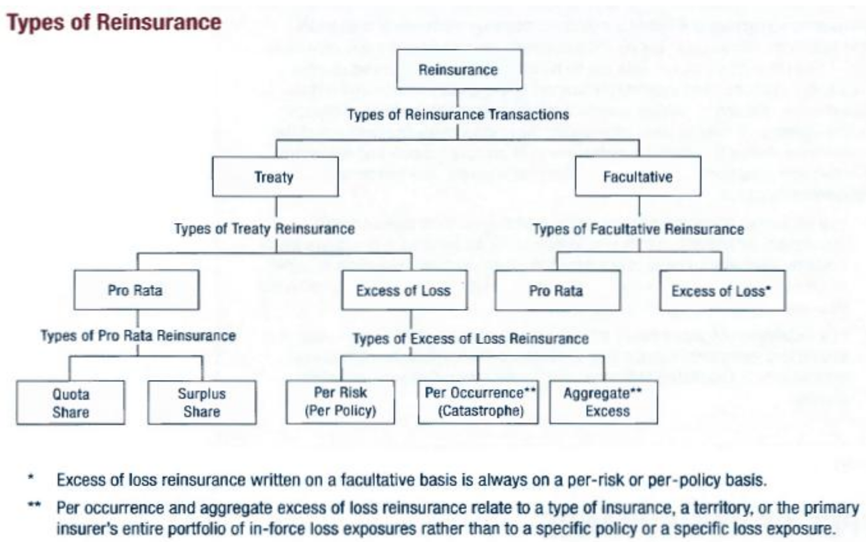
Reinsurance Types



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Reinsurance Types

- Pro-rata reinsurance
  - Primary and reinsurer proportionally share the amounts of insurance, policy premiums, and losses
  - Quota Share reinsurance
    - Type of pro-rate reinsurance in which primary and reinsurer share the amounts of insurance, policy premium and losses using a fixed percentage.
  - Surplus Share Reinsurance
    - Pro rata in which policies covered are those whose amount of insurance exceeds a stipulated dollar amount or line.

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Reinsurance Types

- Excess of Loss Reinsurance – (more common)
  - Primary insurer is indemnified for losses that exceed a specified dollar amount
  - Types
    - Per risk excess of loss
    - Catastrophe excess of loss
    - Per policy excess of loss
    - Per occurrence excess of loss
    - Aggregate
  - Reinsurer only pays when loss amount exceeds the Attachment Point
  - Reinsurers do not pay a ceding commission

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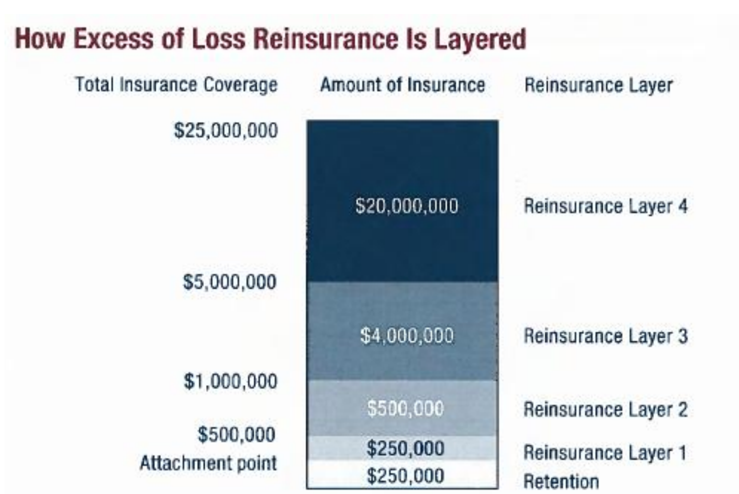
Excess of Loss Reinsurance



Position described as $250,000 in excess of $250,000

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Excess of Loss Reinsurance

- Subject Premium
  - Premium the primary insurer charges on its underlying policies and to which a rate is applied to determine reinsurance
- Working Cover
  - Excess of loss reinsurance with low attachment point.
  - Enables primary insurer to spread losses over several years by anticipating profitable years will offset unprofitable years
  - Good to enter a new market (same concept of an organization starting with small SIR)
- Co-participation Provision
  - Provision in reinsurance agreement that requires primary insurer to retain a specified percentage of loss that exceed its attachment point.

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Excess of Loss Reinsurance

Five Types of Excess of Loss Reinsurance

1. Per risk excess of loss
2. Catastrophe excess of loss
3. Per policy excess of loss
4. Per occurrence excess of loss
5. Aggregate excess of loss

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Excess of Loss Reinsurance

- Per Risk Excess of Loss Reinsurance
  - Covers property insurance and applies separately to each loss occurring to each risk (loss exposure as determined by primary, ex. Building).

Example of Per Risk Excess of Loss Reinsurance Applying $950,000 xs $50,000

Building Number	Loss Amount	Primary Insurer's Retention	Reinsurer's Payment
1	$ 500,000	$ 50,000	$ 450,000
2	350,000	50,000	300,000
3	700,000	50,000	650,000
Total	$1,550,000	$150,000	$1,400,000

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Excess of Loss Reinsurance

- Catastrophe Excess of Loss Reinsurance
  - Protects the primary insurer from an accumulation of retained losses that arise from a single catastrophic event
  - Loss Occurrence Clause
    - Agreement clause that defines scope of a catastrophic occurrence for the purpose of the agreement
      - Usually a period of hours is specified (72 for hurricane and 168 for earthquake) in which claims can be aggregated and applied to the attachment point
      - Primary can specify the data and time when the period of consecutive hours begins

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Excess of Loss Reinsurance

Example of the Operation of a Loss Occurrence Clause in a Catastrophe Excess of Loss Reinsurance Agreement

Day	Losses	Period of Coverage Providing Maximum Recovery
1	$1,000,000	
2	1,000,000	
3	2,000,000	$7,000,000
4	4,000,000	
Total	$8,000,000	

The total losses that could potentially be applied to the reinsurance agreement are $7 million if the seventy-two-hour period starts on the second day, as opposed to $4 million if the period had started on the first day.

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Catastrophe Excess of Loss Reinsurance Example

Brookgreen Insurance Company (Brookgreen) decides to sell earthquake coverage in southern California but wants to limit its losses to approximately $1 million from any one earthquake. Brookgreen conducted a study and estimated that its maximum loss from any one earthquake, given its spread of earthquake loss exposures in southern California, would be $10 million. Brookgreen purchases catastrophe excess of loss reinsurance of 95 percent of $9,250,000 xs $750,000. If Brookgreen were to sustain a $10 million loss from an earthquake, it would retain $1,212,500 and the reinsurer would pay $8,787,500. These figures are calculated as follows:

Step 1—Determination of the loss amount exceeding the attachment point

Amount exceeding the attachment point	=	Amount of loss (subject to the reinsurance limit)	−	Retention
	=	$10,000,000	−	$750,000
	=	$9,250,000		

Step 2—Determination of the co-participation

Amount of co-participation	=	Amount exceeding the attachment point	×	Co-participation percentage
	=	$9,250,000	×	0.05
	=	$462,500		

Step 3—Determination of the amount of loss owed by the reinsurer

Amount owed by the reinsurer	=	Amount exceeding the attachment point	−	Amount of co-participation
	=	$9,250,000	−	$462,500
	=	$8,787,500		

Step 4—Determination of the amount retained by Brookgreen

Amount retained by Brookgreen	=	Retention	+	Amount of co-participation
	=	$750,000	+	$462,500
	=	$1,212,500		

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Excess of Loss Reinsurance

- Per Policy Excess of Loss Reinsurance
  - Applies attachment point and reinsurance limit separately to each insurance policy issued by the primary regardless of the number of losses occurring under each policy

Example of Per Policy Excess of Loss Reinsurance Applying $900,000 xs $100,000

Primary Insurer has a $900,000 xs $100,000 per policy excess of loss treaty. The table below shows three policies for which Primary Insurer is indemnified by Reinsurer because the amount of loss arising out of each of the policies exceeds Primary Insurer's attachment point.

Policy	Loss Amount	Primary Insurer's Retention	Reinsurer's Payment
1	$ 300,000	$ 100,000	$ 200,000
2	500,000	100,000	400,000
3	600,000	100,000	500,000
Total	$1,400,000	$300,000	$1,100,000

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Excess of Loss Reinsurance

- Per Occurrence Excess of Loss Reinsurance
  - Applies the attachment point and reinsurance limit to the total losses arising from a single event affecting one or more of the primary insurer's policies

Example of Per Occurrence Excess of Loss Reinsurance Applying $4,900,000 xs $100,000

Primary Insurer has a $4,900,000 xs $100,000 per occurrence excess of loss treaty. The table below shows how losses are accumulated to determine whether the attachment point has been exceeded. Primary Insurer is indemnified by Reinsurer because the total amount of the loss arising out of all three policies exceeds Primary Insurer's attachment point.

Policy	Loss Amount		Primary Insurer's Retention		Reinsurer's Payment
1	$ 300,000				
2	500,000				
3	600,000				
Total	$1,400,000	=	$100,000	+	$1,300,000

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Excess of Loss Reinsurance

- Clash Cover
  - Type of per occurrence excess of loss reinsurance for liability loss exposures that protects the primary insurer against aggregations of losses from one occurrence that affects several insureds or several types of insurance.
    - Has attachment point higher than any of the limits of the applicable underlying policies
  - Example of occurrence that injuries both employees and visitors would have both WC and GL Claims. Clash cover would provide as one occurrence for reinsurance purposes

Excess of Loss Reinsurance

Application of a Clash Cover to One Occurrence Involving Multiple Claims

Policy	Damages	Brookgreen Insurance Co. Retention	Per Occurrence Reinsurer	Clash Cover Reinsurer
1	$1,000,000	$ 250,000	$ 750,000	$ 0
2	1,000,000	—	1,000,000	0
3	1,000,000	—	1,000,000	0
4	1,000,000	750,000	250,000	0
5	1,000,000	—	Limit exhausted	1,000,000
6	1,000,000	—	—	1,000,000
Total	$6,000,000	$1,000,000	$3,000,000	$2,000,000

Excess of Loss Reinsurance

- Other Terms
  - Extracontractual damages
    - Damages awarded to the insured as a result of the insurer's improper handling of a claim
  - Excess of Policy Limits Loss
    - A loss that results when an insured sues an insurer for failing to settle a claim within the insured's policy limits when the insured had an opportunity to do so.

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Excess of Loss Reinsurance

- Aggregate Excess of Loss Reinsurance
  - Covers aggregated losses that exceed the attachment point and that occur over a stated period, usually one year
  - Type of reinsurance is less common and more expensive
  - Attachment point can be dollar amount or loss ratio
    - When stated as a loss ratio, called stop loss reinsurance
      - Example: Primary retains up to 90% loss ratio, stops the bleeding

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Reinsurance Concerns of RM Professionals

A risk management professional might deal directly with a reinsurer in these situations:

- A reinsurer takes the place of an insurer as a result of a portfolio reinsurance arrangement.
- A reinsurer takes the place of an insurer through a cut-through endorsement added to an insurance policy.
- An organization establishes a subsidiary that insures or reinsures the organization's loss exposures.
- An organization purchases reinsurance for a pool of which it is a member.
- A reinsurer or several reinsurers team up with an insurer or several insurers to provide coverage.

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Reinsurance Concerns of RM Professionals

- Portfolio reinsurance arrangement
- Cut through endorsement
  - In case of insolvency of primary, can cut-through to reinsurer for the reinsured amount of loss
  - Would want endorsement in case of low credit rating of primary
- Reinsurance through a subsidiary (captive)
- Reinsuring a Pool
  - Being a member and going out to bid for reinsurance
- Cooperation between insurers and reinsurers to provide capacity

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