8 – Reinsurance Principles and Concepts

**1 – Reinsurance and Its Functions**

**Objective**: Summarize the principal functions of reinsurance

Reinsurance is one way insurers protect themselves from the financial consequences of insuring others. This section introduces basic reinsurance terms and concepts, including the principal functions of reinsurance.

**Basic Terms and Concepts**

**Reinsurance, commonly referred to as “insurance for insurers”, is the transfer from one insurer (the primary insurer) to another (the reinsurer) of some or all of the financial consequences of certain loss exposures covered by the primary insurer’s policies.** The loss exposures transferred, or ceded, by the primary insurer could be associated with a single subject of insurance (such as a building), a single policy, or a group of policies.

An insurer that transfers liability for loss exposures by ceding them to a reinsurer can be referred to as the reinsured, the ceding company, the cedent, the direct insurer, or the primary insurer. “Primary Insurer” will be used to denote the party that cedes loss exposures to a reinsurer.

Reinsurance is transacted through a reinsurance agreement, which specifies the terms under which the reinsurance is provided. Example, it may state that the reinsurer must pay a percentage of all the primary insurer’s losses for loss exposures subject to the agreement, or must reimburse the primary insurer for losses that exceed a specified amount. The reinsurance agreement identifies the policy, group of policies, or other categories of insurance that are included in the reinsurance agreement.

The reinsurer typically does not assume all of the primary insurer’s insurance risk. The reinsurance agreement usually requires the primary insurer to retain part of its original liability. This retention can be expressed as a percentage of the original amount of insurance or as a dollar amount of loss. The reinsurance agreement does not alter the terms of the underlying (original) insurance policies or the primary insurer’s obligations to honor them.

Risk – although “risk” is often defined as uncertainty about the occurrence of a loss, in reinsurance, the term risk often refers to the subject of insurance, such as a building, a policy, a group of policies, or a class of business. Reinsurance practitioners use the term risk in this way and include it in common reinsurance clauses.

The primary insurer pays a reinsurance premium for the protection provided, just as any insured pays a premium for insurance coverage, the reinsurer might pay a ceding commission to the primary insurer. Theses expenses consist primarily of commissions paid to producers, premium taxes, and underwriting expenses (such as policy processing and servicing costs, and risk control reports. Ceding commission – an amount paid by the reinsurer to the primary insurer to cover part or all of the primary insurer’s policy acquisition expenses.

Reinsurers may transfer part of the liability they have accepted in reinsurance agreements to other reinsurers. Such an agreement is called a retrocession. **Under a retrocession, one reinsurer, the retrocedent, transfers all or part of the reinsurance risk that it has assumed or will assume to another reinsurer, the retrocessionaire**. Retrocession is very similar to reinsurance except for the parties involved in the agreement.

**Reinsurance Functions**

**Reinsurance helps an insurer achieve several practical business goals, such as insuring large loss exposures, protecting policyholder’s surplus from adverse loss experience, and financing the insurer’s growth.** The reinsurance that an insurer obtain depends mainly on the constraints or problems the insurer must address to reach its goals. Although several of its uses overlap**, reinsurance is a valuable tool that can perform 6 principal functions for primary insurers.**

* **Increase Large-Line Capacity**
* **Provide catastrophe protection**
* **Stabilize loss experience**
* **Provide surplus relief**
* **Facilitate withdrawal from a market segment**
* **Provide underwriting guidance**

**Increase Large-Line Capacity**

**The first function of reinsurance is to increase large-line capacity, which allows a primary insurer to assume more significant risks than its financial condition and regulations would otherwise permit**. Example, an application for $100 M of property insurance on a single commercial warehouse could exceed the maximum amount of insurance that an underwriter is willing to accept on a single account. This maximum amount, or line, is subject to these influences:

* The maximum amount of insurance or limit of liability allowed by insurance regulations. Insurance regulations prohibit an insurer from retaining (after reinsurance) more than 10% of its policyholders’ surplus (net worth) on any one loss exposure.
* The size of a potential loss or losses that can safely be retained without impairing the insurer’s earnings or policyholders’ surplus.
* The specific characteristics of a particular loss exposures. The line may vary depending on property attributes such as construction, occupancy, loss prevention features, and loss reduction features.
* The amount, types, and cost of available reinsurance.

Reinsurers provide primary insurers with large-line capacity by accepting liability for loss exposures that the primary insurer is unwilling or unable to retain. This function of reinsurance allows insurers with limited large-line capacity to participate more fully in the insurance marketplace. Reinsurance allows the primary insurer to increase it market share while limiting the financial consequences of potential losses.

**Provide Catastrophe Protection**

Without reinsurance, catastrophe could greatly reduce insurer earnings or even threaten insurer solvency when a large number of its insured loss exposures are concentrated in a area that experiences a catastrophe. Ex: Hurricane, fire, windstorm, earthquakes, or man made such as industrial explosions, airplane crashes, or product recalls.

The second function is to protect against the financial consequences of a single catastrophic event that causes multiple losses in a concentrated area; an insurer might purchase reinsurance that provides up to $50M of coverage per hurricane when the total amount of loss from a single hurricane exceeds the amount the insurer can safely retain.

**Stabilize Loss Experience**

An insurer must have a steady flow of profits to attract capital investment and support growth. Demographic, economic, social, and natural forces can cause an insurer’s loss experience to fluctuate widely, which creates variability in its financial results. Volatile loss experience can affect the stock value of a publicly traded insurer; alter an insurer’s financial rating by independent rating agencies; cause abrupt changes in the approaches taken in managing the underwriting, claim, and marketing departments; or undermine the confidence of the sales force (especially independent brokers and agents who can place their customers with other insurers). In extreme cases, volatile loss experience can lead to insolvency.

Reinsurance can smooth the peaks and valleys in an insurer’s loss experience curve. In addition to aiding financial planning and supporting growth, this function of reinsurance encourages capital investment because investors are more likely to invest in companies whose financial results are stable.

**Reinsurance can be arranged to stabilize the loss experience of line of insurance, a class of business, or a primary insurer’s entire book of business. In addition, a primary insurer can stabilize loss experience by obtaining reinsurance to accomplish any, or all, of these:**

* **Limit its liability for a single loss exposure**
* **Limit its liability for several loss exposures affected by a common event**
* **Limit its liability for loss exposures that aggregate claims over time**

Stabilization of Annual Loss Experience for a Primary Insurer with a $20M Retention: If a reinsurance agreement was in place to cap losses to $20M , the primary insurer’s loss experience would be limited to the amounts shown in the stabilized loss level column (which shows loss level at a max of $20M).

**Provide Surplus Relief**

Insurers that are growing rapidly may have difficulty maintaining a desirable capacity ratio, because of how they must account for their expenses to acquire new policies. State insurance regulation mandates that, for accounting purposes, such expenses be recognized at the time a new policy is sold. However, premiums are recognized as revenue as they are earned over the policy’s life. When an insurer immediately recognizes expenses while only gradually recognizing revenue, its policyholders’ surplus will decrease as its capacity ratio increases.

Many insurers use reinsurance to provide surplus relief, which satisfies insurance regulatory constraints on excess growth. State insurance regulators monitor several financial ratios as part of their solvency surveillance efforts, but the relationship of written premiums to policyholders’ surplus is generally a key financial ratio and one considered to be out of bounds if it exceeds 3 to 1, or 300%. Policyholder’s surplus (also called “surplus to policyholders” or simply “surplus”) is an insurer’s net worth as reported on the financial statement prescribed by state insurance regulators. It represents the financial resource the primary insurer can draw on to pay unexpected losses.

Some reinsurance agreements facilitate premium growth by allowing the primary insurer to deduct a ceding commission on loss exposures ceded to the reinsurer. The ceding commission is an amount paid by the reinsurer to the primary insurer to cover part of all of a primary insurer’s policy acquisition expenses. The ceding commission immediately offsets the primary insurer’s policy acquisition expenses for the reinsured policies and often includes a profit provision, or an additional commission, if the reinsurance ceded is profitable.

Because the ceding commission replenishes the primary insurer’ policyholders’ surplus, the surplus relief facilitates the primary insurer’s premium growth and the increase in policyholder’s surplus lowers its capacity ratio.

**Facilitate Withdrawal From a Market Segment**

Reinsurance can also facilitate withdrawal from a market segment, which can be a particular class of business, geographic area, or type of insurance. A primary insurer may want to withdraw from a market segment that is unprofitable, undesirable, or incompatible with its strategic plan. When withdrawing from a market segment, the primary insurer has these options;

* Stop writing new insurance policies and continue in-force insurance until all policies expire (often referred to as “run-off)
* Cancel all policies (if insurance regulations permit) and refund unearned premiums to insureds
* Withdraw from the market segment y purchasing portfolio reinsurance

To withdraw from a market segment, an insurer can stop writing new business or, to the extent permitted by applicable cancellation laws, cancel all policies in effect and return the unearned premiums to its insureds. However, these approaches can be unwieldy and expensive and could create ill will among insureds, producers, and state insurance regulators. They also create uncertainty about the insurer’s outstanding claims, which must be settled, and about new claims, which might continue to be filed even after the insurer ceases operations.

Another approach available to the primary insurer is to transfer the liability for all outstanding policies to a reinsurer by purchasing portfolio reinsurance. Portfolio reinsurance can facilitate withdraws from a market segment and prevent the formation of ill will due to policy cancellation. It is an exception to the general rule that reinsurers do not accept all of the liability for specified loss exposures of an insurer. In portfolio reinsurance the reinsurer accepts all of the liability for certain loss exposures covered under the primary insurer’s policies, but the primary insurer must continue to fulfill its obligations to its insureds. Example, the primary insurer may decide to use portfolio reinsurance to withdraw from the errors and omissions market. In this situation, the reinsurer typically agrees to indemnify the primary insurer for all losses incurred as of, and following, the date of the portfolio reinsurance agreement. However, the primary insurer continues to pay claims to (or on behalf of) its insureds who are covered by the underlying insurance.

**Sometimes a primary insurer wants to completely eliminate the liabilities it has assumed under the insurance policies it has issued. This can be accomplished through a novation. A novation is not considered portfolio reinsurance because the substitute insurer assumes the direct obligations to insureds covered by the underlying insurance.** Usually the approval of state insurance regulators or the insured is required to effect a novation. (business law – Novation – an agreement under which one insurer or reinsurer is substituted for another – under business law concepts it usually requires an agreement by the other party).

**Provide Underwriting Guidance**

Reinsurance may also provide underwriting guidance. Reinsurers work with a wide variety of insurers in the domestic and global markets under many different circumstances. Consequently, reinsurers accumulate a great deal of underwriting expertise. A reinsurer’s understanding of insurance operations and the insurance industry can assist other insurers, particularly inexperienced primary insurers entering new markets and offering new products. Example; one medium size insurer reinsured 95% of its umbrella liability over a period of years and relied heavily on reinsurer for technical assistance in underwriting and pricing its policies. Reinsurers must respect the confidentiality of their clients’ proprietary information. Reinsurers often learn about the primary insurer’s marketing and underwriting strategies but should not reveal insurer specific information to other parties.

**2 – Reinsurance Sources**

**Objective**: Describe the three sources of reinsurance

**Participants in the international reinsurance market can take many forms, including professional reinsurers that deal only in reinsurance, licensed insurers that also market reinsurance, and organized entities (pools, syndicates, and associations) that allow small organizations to pool their resources so that they can participate in lines of reinsurance that would otherwise be out of reach**.

Reinsurance not only strengthens the primary insurance market by providing insurers with a greater ability to take on risk, but also provides an extra stream of revenue for insurers that are able to take on excess risk from other insurers.

**Professional Reinsurers**

Professional reinsurers interact with other insurers directly or through an intermediaries, as primary insurers do.

A reinsurer who employees deal directly with primary insurers is called a direct writing reinsurer. Most direct writing reinsurers in the US also solicit reinsurance business through reinsurance intermediaries.

**A reinsurance intermediary generally represents a primary insurer and works with that insurer to develop a reinsurance program that is then placed with one or more reinsurers**. The reinsurance intermediary receives a brokerage commission – almost always from the reinsurers – for performing other necessary services in addition to placing the reinsurance, such as disbursing reinsurance premiums among participating reinsurers and collecting loss amounts owed to the insurer.

Although the variety of professional reinsurers leads to differences in how they are used an what they can offer, some broad generalizations may be made about professionals reinsurers:

* 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 for both domestic and international markets
* Reinsurance intermediaries can usually obtain reinsurance under favorable terms and at a competitive prices because they work regularly in this market with many primary insurer and can therefore determine prevailing market conditions.

Because the treaty reinsurer underwrites the primary insurer as well as the loss exposures being ceded, professional reinsures evaluate the primary insurer before entering into a reinsurance agreement. To do so, the reinsurer analyzes the primary insurer’s financial statements or reviews information developed by a financial rating service as well as information from the state insurance department bulletins and trade press.

Reinsurers also consider the primary insurer’s experience, reputation, and management. The relationship between the primary insurer and the reinsurer is considered to be one of utmost good faith. This is because each party is obligated to an relies on the other for full disclosure of material facts about the subject of the agreement.

**Just as the reinsurer should evaluate the primary insurer, the primary insurer should evaluate the reinsurer’s claim-paying ability, its reputation and management’s competence before entering into the reinsurance agreement**.

**Reinsurance Departments of Primary Insurers**

Unless prohibited from doing so by statute or charter, primary insurers may also provide treaty and facultative reinsurance through their reinsurance departments. A primary insurer may offer reinsurance to affiliated insurers, regardless of whether it offers reinsurance to unaffiliated insurers, to ensure that information from other insurers remains confidential, a primary insurer’s reinsurance operations are usually separate from its primary insurance operations.

Most primary insurers are groups of commonly owned insurance companies. Intragroup reinsurance agreements are used to balance the financial results of all insurers in the group.

*How Blockchain Could Change Reinsurance – Instead of going through the usual, sometime arduous, process of evaluating a reinsurer or a primary insurer, potential parties to a reinsurance contract would be able to quickly consult the verifiable data held within a blockchain to confirm that the organization is a viable partner for the contract. Smart contracts could also facilitate this process by allowing primary insurers to place notification of the excess loss exposure they are seeking to place on the blockchain, and reinsurers could use algorithms to decide whether the terms offered are favorable. If they are, the contract could be accepted and verified on the blockchain. Additionally, if applicable triggers could be put in place to speed up payment of eligible losses or premiums*.

**Reinsurance Pools, Syndicates, and Associations**

**The third source of reinsurance is reinsurance pools, syndicates, and associations. These entities provide member companies the opportunity to participate in a line of insurance with limited amount of capital – an a proportionate share of the administrative costs – without having to employ the specialists needed for such a venture**. Whether a pool is a reinsurance device is determined by the organizational structure, the type of contract issued, and the internal accounting procedures. The terms “pool”, “syndicate”, and association” are often used interchangeable, although there are some fine differences.

In a reinsurance pool, a policy for the full amount of insurance is issued by a member company and reinsured by the remainder of the pool members according to predetermined percentages. Some pools are formed by insurers whose reinsurance needs are not adequately met in the regular market place, while others are formed to provide specialized insurance requiring underwriting and claims expertise that the individual insurers do not have. A reinsurance pool may accept loss exposures from nonmember companies or offer reinsurance only to its member companies.

In a syndicate, each member shares the risk with other members by accepting a percentage of the risk. The members collectively constitute a single, separate entity under the syndicate name. Example, (Lloyds). Each individual investor of Lloyds, called a Name, belongs to one or more syndicates. The syndicate’s underwriter, or group of underwriters, conducts the insurance operations and analyzes applications for insurance coverage. The syndicate will indicate their percentage (portion) of the risk they are willing to accept.

An Association consists of member companies that use both reinsurance and risk-sharing techniques. In many cases, the member companies issue their own policies; however, a reinsurance certificate is attached to each policy, under which each member company assumes a fixed percentage of the total amount of insurance. One member company is usually responsible for inspection and investigation, while a committee comprising underwriting executives from the member companies establishes the associations’ underwriting policy. Organizations of this type allow members to share risks that require special coverages or special underwriting techniques, and can increase the primary insurer’s capacity in insure extra-hazardous risks.

**3 – Reinsurance Transactions**

**Objective**: Contrast Treaty Reinsurance with Facultative Reinsurance

No single reinsurance agreement performs all the reinsurance functions. Each reinsurance agreement is tailored to the specific needs of the primary insurer and the reinsurer.

**There are 2 types of reinsurance transactions: Treaty and Facultative**

**Treaty reinsurance, also referred to as obligatory reinsurance, uses one agreement for an entire class or portfolio of loss exposures. The reinsurance agreement is typically called the treaty.**

**Facultative reinsurance uses a separate reinsurance agreement for each loss exposure being reinsured. It is also referred to as nonobligatory reinsurance**.

**Treaty Reinsurance**

**With treaty reinsurance, the reinsurer agrees in advance to reinsure all the loss exposures that fall under the treaty. Although some treaties allow the reinsurer limited discretion in reinsuring individual loss exposures, most treaties require that all loss exposures within the treaty’s terms be reinsured**.

Primary insurer usually use treaty reinsurance as the foundation of their reinsurance programs. Treaty reinsurance provides primary insurer with the certainty needed to formulate underwriting policy and develop underwriting guidelines. Primary insurer work with reinsurance intermediaries (or with reinsurers directly) to develop comprehensive reinsurance programs that address the primary insurers’ varied needs. The reinsurance programs that satisfy those needs often insured several reinsurance agreements and the participation of several reinsurers.

Treaty agreements are tailored to fit the primary insurer’s individual requirements. The price and terms of each reinsurance treated are individually negotiated. They are usually designed to address a primary insurers need to reinsure many loss exposures over a period of time. Although the term may only be for one year, the relationship often spans many years.

Most, but not all, treaty reinsurance agreements require the primary insurer to cede all eligible loss exposures to the reinsurer. **Primary insurers usually make treaty reinsurance agreements so their underwriters do not have to exercise discretion in using reinsurance. If treaty reinsurance agreements permitted primary insurers to choose which loss exposures they ceded to the reinsurer, the reinsurer would be exposed to adverse selection**.

Because treaty reinsurers are obligated to accept ceded loss exposures once the reinsurance agreement is in place, reinsurers usually want to know about the integrity and experience of the primary insurer’s management and the degree to which the primary insurer’s published underwriting guidelines represent its actual underwriting practices.

**Facultative Reinsurance**

**With facultative reinsurance, the primary insurer negotiates a separate reinsurance agreement fore each loss exposures it wants to reinsure. The primary insurer is not obligated to purchase reinsurance, and the reinsurer is not obligated to reinsure loss exposures submitted to it.** A facultative reinsurance agreement is written for a specified time period and cannot be canceled by either party unless contractual obligations, such as payment of premiums, are not met.

The reinsurer issues a facultative certificate of reinsurance (or facultative certificate), which is attached to the primary insurer’s copy of the policy being reinsured.

Facultative reinsures serves 4 functions

* **Facultative reinsurance can provide large-line capacity for loss exposures that exceed the limits of treaty reinsurance agreements**
* **Facultative reinsurance can reduce the primary insurer’s exposure in a given geographic area**. (numerous shiploads of cargo stored at the same warehouse belonging to different insureds, facultative reinsurance could reduce the primary insurer’s overall exposure to loss)
* **Facultative reinsurance can insure a loss exposure with atypical hazard characteristics and thereby maintain the favorable loss experience of the primary insurer’s treaty reinsurance and any associated profit-sharing arrangements**. Maintaining favorable treaty loss experience is important because the reinsurer has underwritten and priced the treaty with certain expectations. A loss exposure that is consistent with the primary insurer’s typical portfolio of insurance policies may cause excessive losses and lead to the treaty’s termination or a price increase. The treaty reinsurer will usually allow the primary insurer to remove high-hazard loss exposures from the treaty through facultative reinsurance. (Eliminating the underwriting concern by being able to place a loss in the facultative reinsurance instead of the treaty reinsurance. The facultative reinsurer knows that adverse selection occurs in facultative reinsurance. Consequently, the loss exposures submitted for reinsurance are likely to have an increased probability of loss. Therefore, facultative reinsurance is usually priced to reflect the likelihood of adverse selection.
* **Facultative reinsurance can insure particular classes of loss exposures that are excluded under treaty reinsurance**.

Primary insurers mainly purchase facultative reinsurance to reinsure loss exposures they do not typically insurer or for exposures with high level of underwriting risk. Consequently, primary insurers use facultative reinsurance for fewer of their loss exposures than they do treaty reinsurance. Primary insurers that are increasingly using facultative reinsurance may want to review the adequacy of their treaty reinsurance.

The expense of placing facultative reinsurance may be high for both the primary insurer and the reinsurer. In negotiating facultative reinsurance, the primary insurer must provide extensive information about each loss exposure. Consequently, administrative costs are relatively high because the primary insurer must devote a significant amount of time to complete each cession and to notify the reinsurer of any endorsement, loss notice, or policy cancellation. Likewise, the reinsurer must underwrite and price each facultative submission.

***Hybrids of Treaty and Facultative Reinsurance***

Reinsurers sometimes use hybrid agreements that have elements of both treaty and facultative reinsurance. The hybrid agreements usually describe how individual facultative reinsurance placements will be handled. Example, the agreement may specify the basic underwriting parameters of the loss exposures that will be ceded to the reinsurer as well as premium and loss allocation formulas. These agreements demonstrate the flexibility of the reinsurance market to satisfy the mutual needs of primary insurer and reinsurers.

* In facultative treaty, the primary insurer and reinsurer agree on how subsequent individual facultative submissions will be handled. A facultative treaty could be used when a class of business has insufficient loss exposures to justify treaty reinsurance but has a sufficient number of loss exposures to be determined the details of future individual placements
* In a facultative obligatory treaty, although the primary insurer has the option of ceding loss exposures, the reinsurer is obligated to accept all loss exposures submitted to it. Facultative obligatory treaties are also called semi-obligatory treaties.

**4 – Types of Pro Rata Reinsurnce**

**Objective**: Given a case, determine the amount of a loss that would be payable under a pro rata reinsurance contract

Primary insurers have unique needs, so each reinsurance agreement between a primary insurer and reinsurer must be uniquely designed to meet those needs. As a result, several types of reinsurance have been developed. The more you know about these different types of reinsurance, the better you’ll be able to navigate the reinsurance process.

Unlike primary insurance contracts, reinsurance agreements are not standardized, and a primary insurer’s reinsurance program can combine several of the various types of reinsurance agreements to meet the insurer’s specific needs.

Reinsurance

**Types of Reinsurance Transactions**

**Treaty** **Facultative**

**Pro Rata Excess of Loss** **Pro Rata Excess of Loss\***

Quota Share - Surplus Share Per Risk - Per Occurrence\*\* – Aggregate\*\*

**\***Excess of loss reinsurance written on a facultative basis is always on a per-risk or per-policy basis

**\*\*** Per Occurrence and aggregate excess of loss reinsurance relate to a type of insurance, a territory, or the primary insurer’s entire portfolio of in-force loss exposures rather than to a specific policy or a specific exposure.

**Under the two primary types or reinsurance transactions – treaty reinsurance and facultative reinsurance – are two principal approaches that insurer and reinsurers use to share the amounts of insurance, policy premiums, and losses.** **Those principal approaches are pro rata and excess of loss insurance**.

**Pro Rata Reinsurance**

**Under pro rata reinsurance, or proportional reinsurance the amount of insurance, premium, and losses (including loss adjustment expenses) is divided between the primary insurer and the reinsurer in the same proportions as the loss exposure. For example, if the reinsurer covers 60% of the liability for each loss exposure that is insured by the primary insurer, then the reinsurer is entitled to 60% of the policy premiums and is responsible for 60% of each loss. Loss adjustment expenses related to a specific loss are also usually shared proportionately**.

The reinsurer usually pays the primary insurer a ceding commission for the ceded loss exposures. A flat commission (a fixed percentage) is commonly the type of ceding commission used. However, profit-sharing commission (contingent on the reinsurer realizing a predetermined percentage of excess profit on ceded loss exposures) or sliding scale commission (which adjusts the commission according to the profitability of the reinsurance agreement) arrangements are also used often and provided an incentive to the primary insurer for ceding profitable business. The amount of ceding commission paid to the primary insurer is usually negotiated and taken from the reinsurance premium remitted to the reinsurer.

Pro Rata reinsurance is generally chosen by newly incorporated insurer or insurers with limited capital because it’s effective at providing surplus relief. This results from the payment of ceding commissions, a practice that is uncommon under excess loss treaties.

**Two Classifications of Pro Rata Reinsurance**

Pro rata reinsurance can be classified as either quota share (a primary insurer and the reinsurer share the amounts of insurance, policy, premiums, and losses (including loss adjustment expenses) using a fixed percentage or Surplus share reinsurance (pro rate reinsurance in which the policies covered are those whose amount of insurance exceeds a stipulated dollar amount, or line). The principal difference is how each structures the primary insurer’s retention.

**Quota Share Reinsurance**

**The distinguishing characteristic of quota share reinsurance is that the primary insurer and the reinsurer use a fixed percentage when sharing the amounts of insurance, policy premiums, and losses (including loss adjustment expenses).** Example, an insurer may arrange a reinsurance treaty in which it retains 45% of policy premiums, coverage limits, and losses while reinsuring the remainder. **This treaty would be called a “55% quota share treaty” because the reinsurer accepts 55% of the liability for each loss exposure subject to the treaty**. Quota share reinsurance can be used with both property and liability but is more frequently used in property insurance.

**Under quota share treaties, even policies with low amount of insurance that the primary insurer could safely retain are reinsured. In addition, a variable quota share treaty (the cession percentage retention varies based on specified predetermined criteria such as the amount of insurance needed) enables a primary insurer to retain a larger portion of the small loss exposures it’s capably of absorbing, while maintaining a safer and smaller retention on larger loss exposures**. Example:

X Insurance company has a quota share treaty with Y Reinsurer. The treaty has the following:

$250,000 limit, retention of 25% and a cession of 75%

3 policies are issued by X insurance Company and are subject to the quota share treaty with Y Reinsurer

Policy A for $25,000 for a premium of $400 with one loss of $8,000

Policy B for $100,000 for a premium of $1,000 with one loss of $10,000

Policy C for $60,000 for a premium of $1,500 with one loss of $60,000

|  |  |  |  |
| --- | --- | --- | --- |
|  | X Insurance Company | Y Reinsurance | Total |
| Policy A  Amounts of Insurance  Premiums  Losses | $6,250  100  2,000 | $18,750  300  6,000 | $25,000  400  8,000 |
| Policy B  Amounts of Insurance  Premiums  Losses | $25,000  250  2,500 | $75,000  750  45,000 | $100,000  1,000  10,000 |
| Policy C  Amounts of Insurance  Premiums  Losses | $37,500  375  15,000 | $112,500  1,125  45,000 | $150,000  1,500  60,000 |

Most reinsurance agreements specify a maximum dollar limit above which responsibility for additional coverage limits or losses reverts back to the primary insurer (or is taken by another reinsurer). With a quota share reinsurance agreement, that maximum dollar amount is stated in terms of the coverage limits of each policy subject to the treaty. Example, a primary insurer and a reinsurer may share amounts of insurance, policy premiums, and losses on a 45% and 55% basis, respectively, subject to a $1M max coverage amount for each policy.

In addition to a maximum coverage amount limitation, some quota share reinsurance agreements include a per occurrence limit, stated as an aggregate dollar amount or as a loss ratio cap, which restricts the primary insurer’s reinsurance recovery for losses originating from a single occurrence.

**Surplus Share Reinsurance**

**The distinguishing characteristic of surplus share reinsurance is that when an underlying policy’s total amount of insurance exceeds a stipulated dollar, or line, the reinsurer assumes the surplus share of the amount of insurance (the difference between the primary insurer’s line and the total amount of insurance).** Surplus share reinsurance is typically used only with property insurance.

Under surplus share reinsurance, the primary insurer and the reinsurer share the policy premiums and losses proportionately. The primary insurers’ share is the proportion that the line bears to the total amount of insurance; the reinsurer’s share is the proportion that the amount ceded bears to the total. Example:

Line is $50,000

Amount ceded is $200,000

The primary insurer would receive 20% ($50,000 divided by $250,000) of the policy premium and pay 20% of all losses, while the reinsurer would receive 80% ($200,000 divided by $250,000) of the policy premium and 80% of all losses.

Re reinsurance limit (maximum amount that the reinsurer will pay for a claim and that is commonly stated in the reinsurance agreement) of a surplus share treaty is expressed in multiples of the primary insurer’s line. Example, a primary insurer with a 9 line surplus share treaty has the capacity under the treaty to insure loss exposure with amount of insurance that exceed its retention by a multiple of 9. So if the line is $300,000 for a 9 line surplus share treaty, the primary insurer has a total underwriting capacity $3,000,000 ($3M), calculated as the $300,000 line plus nine multiples of that $300,000 line (10 x 300,000). In addition to being expressed as a number of lines, the reinsurance limit of a surplus share treaty can be expressed as an amount of insurance the reinsurer is willing to provide, such as $2.7M (300,000 multiplied by 9 lines).

Many surplus share treaties allow the primary insurer to increase its line from a minimum amount to a maximum amount, depending on the potential loss severity of the exposed limit. Example, X’s surplus share treaty may allow the company to increase its line on a quality loss exposure from $25k to $50K. In this case the 9 line surplus share treaty would give X company large-line capacity to insure loss exposures with amount of insurance as large as $500,000, which is calculated s the $50,000 line, plus nine multiplied by $50,000 line. The primary insurer’s ability to vary its line also allows it to retain some loss exposures it would otherwise cede.

X company has a surplus share treaty with Y Reinsurer with the following agreement

$25,000 limit retained

Company & has 9 lines and a maximum cession of $225,000 - Company X has the ability to issue policies with amount of insurance as high as $25,000

The following 3 policies are issued and subject to company Y Reinsurer

Policy A – Building for $25,000 for a premium of $400 with one loss of $8,000

Policy B – Building for $100,000 for a premium of $1,000 with one loss of $10,000

Policy C – Building for $150,000 for a premium of $1,500 with one loss of $60,000

|  |  |  |  |
| --- | --- | --- | --- |
|  | X Insurance Company | Y Reinsurance | Total |
| Policy A  Amounts of Insurance  Premiums  Losses | $25,000  400  8,000 | $0.00  0. 00  0.00 | $25,000  400  8,000 |
| Policy B  Amounts of Insurance  Premiums  Losses | $25,000  250  2,500 | $75,000  750  45,000 | $100,000  1,000  10,000 |
| Policy C  Amounts of Insurance  Premiums  Losses | $25,000  250  10,000 | $125,00  1,250  50,000 | $150,000  1,500  60,000 |

**5 – Types of Excess of Loss Reinsurance**

**Objective**: Given a case, determine the amount of a loss that would be payable under an excess of loss reinsurance contract

Among the several types of reinsurance that have been developed to help insurers meet their goals and fulfill their promises of excess of loss reinsurance. Knowing how a loss would be paid under an excess of loss reinsurance program will put you in a better position to decide which reinsurance product would work best in a given situation.

Excess of loss reinsurance (the primary insurer is indemnified for losses that exceed a specified dollar amount) is one of the principal reinsurance agreements that insurer and reinsurer use to share the amount of insurance, policy premiums, and losses.

**Excess of Loss Reinsurance**

**Under an excess of loss reinsurance agreement, also called nonproportional reinsurance, the reinsurer responds to a loss only when it exceeds the primary insurer’s retention, often referred to as the attachment point**. The primary insurer fully retains losses below the attachment point. **Sometimes, the reinsurer requires the primary insurer to retain a percentage of the losses that exceed the attachment point to provide the primary insurer with a financial incentive to efficiently manage losses that exceed the attachment point.**

An excess of loss reinsurer’s obligation to indemnify the primary insurer for losses depends on the amount of the loss and the layer of coverage the reinsurer provides. The reinsurer providing the 1st layer of excess loss reinsurance would indemnify the insurer for losses that exceed the attachment point, up to total incurred losses. The reinsurer in the 2nd lay of the excess of loss reinsurance would indemnity the primary insurer for losses that exceed the 1st layer up to the total of the 2nd layer and so forth. Much like policy layering. **If losses exceed the layers, the primary is responsible for that amount**.

Excess of loss reinsurance premiums are calculated according to the likelihood that losses will exceed the attachment point. The premium is usually stated as a percentage (often called rate) of the policy premium charged by the primary insurer (often called the subject premium, or underlying premium). Therefore, unlike with quota share and surplus share reinsurance, the excess of loss reinsurer receives a nonproportional share of the premium.

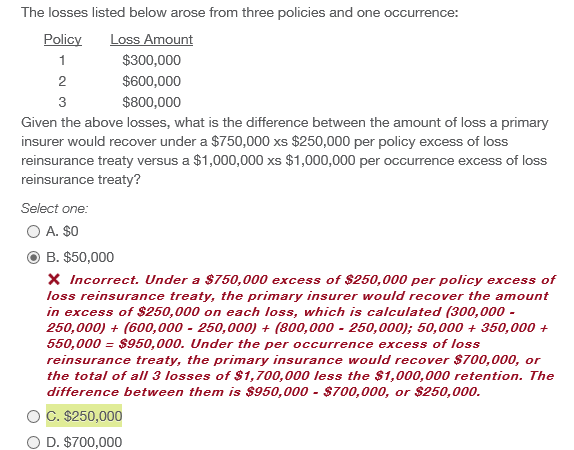
Reinsurer generally do not pay ceding commission under excess of loss reinsurance agreement, but they may reward a primary insurer for favorable loss experience by paying a profit commission or reducing the rate used to calculate the reinsurance premium.

**The primary insurer’s attachment point is usually set at a level where expected claims would be retained. But if the primary insurer’s volume of losses is expected to be significant, a lower attachment point may be set. This type of reinsurance agreement is sometimes referred to as a working cover. It enables the primary insurer to spread its losses over several years. Primary insurers selling a type of insurance with which they have little experience may select a working cover agreement until they better understand the frequency and severity of losses for that type of insurance.**

**Five Types of Excess of Loss Reinsurance**

**These are the 5 types of excess of loss reinsurance and their specific uses**:

* **Per Risk Excess of Los Reinsurance** – often referred to as property risk excess of loss and generally used with property insurance**. The attachment point and reinsurance limit apply separately to each loss to individual risk (loss exposures), with the primary insurer usually determining what constitutes one risk.** The attachment point and reinsurance limit are stated in dollar amounts.
* **Catastrophe Excess of Loss Reinsurance** – **protect the primary insurer from an accumulation of retained losses that arise from a single catastrophic event**. As with per risk excess of loss reinsurance, the attachment point and reinsurance limit are stated in dollar amounts. The attachment pint is subject to negotiation, but it’s usually set high enough to be exceeded only if the aggregation of losses for a catastrophe would impair the primary insurer’s policyholders’ surplus. In addition, losses exceeding the attachment point are usually subject to a co-participation provision (requires the primary insurer to retain a specified percentage of the losses that exceed its attachment point).
* **Per Policy Excess of Loss Reinsurance** – **used primarily with liability insurance. It applies the attachment point and the reinsurance limit separately to the total losses occurring under each insurance policy and is triggered when a loss exceeds the attachment point**.
* **Per Occurrence Excess of Loss Reinsurance** **– is typically used for liability insurance. It applies the attachment point and the reinsurance limit to the total losses arising from a single event, regardless of the number of policies or risks involved**.
* **Aggregate Excess of Loss Reinsurance** – can be used for property or liability and covers aggregated losses that exceed the attachment pint an occur over a stated period, usually 1 year. **The attachment point is stated as a loss ratio, the treaty is called a stop-loss reinsurance. Most aggregate excess of loss treaties also contain a co-participation provision of 5-10% to provide the primary insurer with an incentive to efficiently handle claims that exceed the attachment poin**t.



**6 – Alternatives to Traditional Reinsurance**

**Objective**: Explain how finite risk reinsurance and capital market based methods are used as alternatives to traditional reinsurance.

Alternatives to traditional reinsurance have emerges as the industry adapts to new economic and regulatory pressures. Knowing what’s available can help primary insurers meet their changing reinsurance needs.

**Finite Risk Reinsurance**

Under finite risk reinsurance**, the reinsurer’s liability is limited (or finite),** and anticipated investment income is an underwriting component. It transfers a limited amount of risk to the reinsurer in order to improve the primary insurer’s financial result. As a result, it’s often called financial reinsurance.

**Finite risk reinsurance can be arranged to protect a primary insurer against traditionally insurable loss exposures (such as building damage from an explosion) as well as traditionally uninsurable losses (for example, from economic variables such as product demand and market competition). It also handles extremely large and unusual loss exposures, such as catastrophic losses resulting from an oil rig explosion or an earthquake. Generally, it is designed to cover high-severity losses**.

**A finite risk reinsurance agreement typically has a multiyear term (3-5 years). This allows the reinsurer to spread the risk and losses over several years while imposing an aggregate limit for the agreements’ entire term.** The primary insurer can rely on long-term protection and a predictable reinsurance cost over the coverage period, while the reinsurer can rely on a continual flow of premiums. Because of these benefits, both the primary insurer and the reinsurer tend to flexible when negotiating the price and terms.

Finite risk reinsurance premiums can be a substantial percentage of the reinsurance limit (for example 70%). This relationship between premium and reinsurance limit reduces the reinsurer’s potential underwriting loss to a level that is much lower than that typically associated with traditional types of reinsurance.

The reinsurer commonly shares profits with the primary insurer when it has favorable loss experience or generate investment income. This profit-sharing income can compensate the primary insurer for the higher-than-usual premium of finite risk reinsurance. Also, the reinsurer will not assess any additional premium, even if losses exceed the premium.

**Capital Market Alternatives**

Capital market have emerged as tools primary insurers can use to finance risk as an alternative to insurance. Instead of purchasing reinsurance to cover it potential liability, the primary insurer uses traded security instruments to finance insurance risk.

Some of the capital market instruments are rooted in the concepts of securitization of risk (use of securities or financial instruments such as stocks, bonds, commodities, financial futures, to finance an insurers’ exposure to catastrophic loss) and special purpose vehicles (SPVs) (a facility established for the purpose of purchasing income producing assets from an organization holding title to them, and then using those assets to collateralize securities that will be sold to investors), which allow primary insurers to exchange assets for cash. Others are based on insurance derivatives (financial contract whose value is based on the level of insurable losses that occur during a specific time period) or contingent capital arrangements (an agreement, entered into before any losses occur, that enables an organization to raise cash by selling stock or issuing debt at prearranged terms after a loss occurs that exceeds a certain threshold). A common theme in all of this: rather than working with a reinsurer, primary insurers obtain funding from capital markets (made up of investors and financial institutions) to help cover losses.

Although capital market alternatives can evolve rapidly, these are among the products and methods most often used.

* **Catastrophe bond – a type of insurance-lined security that is specifically designed to transfer insurable catastrophe risk to investor.** A bond is issued with a condition that if the insurer suffers a catastrophe loss greater than the specified amount, the obligation to pay interest and/or repay principal is deferred or forgiven by bondholders and used to pay losses. As long as the catastrophe related losses do not exceed the specified amount, investors can earn a relatively high interest rate and receive a return of their principal. Typically issued by SPV of insurers, large reinsurers, or large corporations for any type of catastrophic insurance.
* **Catastrophe Risk Exchange –** **a means through which a primary insurer can exchange a portion of its insurance risk for another insurer’s**. A primary insurer with a geographic concentration of loss exposures can use a catastrophe risk exchange to reduce its loss from a single loss occurrence. A primary insurer can also diversity the kinds of property insured to make it less susceptible to heavy losses from a single cause of loss.
* **Contingent Surplus Note** – **a surplus note that has been designed so a primary insurer, if it chooses, can immediately obtain funds by issuing notes at a previously agreed-upon rate of interest.**  A benefit of surplus notes is that they increase a primary insurer’s assets without increasing its liabilities.
* **Industry Loss Warranty (ILW)** – **An insurance-linked security that covers the primary insurer in the event that an industry-wide loss from a particular catastrophic event exceeds a predetermined threshold.** The distinguishing characteristic of this instrument is that its coverage is triggered by industry losses as a whole, rather than only a loss for the primary insurer.
* **Catastrophe Option – An agreement that gives the primary insurer the right to a cash payment from investors if a specified index of catastrophe losses reaches a specified level (the strike price).** The catastrophe loss index, such as that provided by ISO, Property Claims Services, keeps track of catastrophe losses by geographic region, by cause of loss, and by time of occurrence.
* **Line of Credit – An arrangement under which a bank or another financial institution agrees to provide a loan to a primary insurer in the event that the primary insurer suffers a loss. The credit is prearranged so that the terms, such as the interest rate and principal repayment schedule, are known in advance of a loss.** In exchange for this credit commitment fee. A line of credit does not represent any risk transfer; it simply provides access to capital.
* **Sidecar – a limited-existence SPV, often formed as an independent company, that provides a primary insurer more capacity to write property catastrophe business or other short-tail lines through a quota share agreement with private investors**. Investors in the SPV assume a proportion of the risk and earn a corresponding portion of the profit on the primary insurer’s book of business. The primary insurer charges a ceding commission and may receive an additional commission if the book of business is profitable.

The Rise of Parametric Insurance

Parametric insurance, a type of insurance-linked security, is becoming more common. It’s a highly customizable form of coverage against losses caused by a specific event or movement in an index. Typically, the payment is a specific, agreed-upon figure, which is paid out if the parameters (parametric triggers) set around the event or index are reached.

Triggers could be earthquake, magnitude, hurricane wind speed, level of precipitation, length of a drought, or a specific economic variable (like loss of income).

Because the triggering event is tied to a specific measure, determining when a payout is required is relatively easy. Combine that with the fact that the payout was determined from the outset of the agreement, and parametric insurance eliminates the need for a lengthy adjustment and claim process. For insureds this means they will receive funds rapidly one a qualifying event occurs.