

# UNDERSTANDING REINSURANCE

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#### **Preview**



This workshop will address theory and practice of reinsurance, and help participants to understand the following:

- Use and functions of:
- Non proportional Treaties.
- Arranging combined Proportional / Non Proportional Treaties Program.

#### Part II Non- Proportional Reinsurance



- Understanding and use of Risk profile
- Determining gross / net retention
- Protecting risk /accumulation of risks and facultative placements
- Determining GNPI and pricing of non-proportional program on working layers / catastrophe layers (single risk / accumulation of risks)
- Preparation of XOL treaty slip and Placement of Subscription and Non-subscription basis
- Understanding reinstatement of capacity and calculation of reinstatement premium minimum deposit and final earned premium
- Negotiating XOL reinsurance program
- Arranging combined Proportional / Non Proportional Program.



# Part II Non – Proportional Reinsurance

## What is Non Proportional RI?



- Non Proportional RI is basically a method of reinsurance through which the reinsured obtains <u>protection</u> for his portfolio.
- There is no pre-decided fixed proportion in which the reinsurer and reinsured share the premiums and losses of a portfolio. Hence this is called "Non Proportional".
- This method is also called <u>"Excess of Loss Reinsurance."</u>

## Why is it called "Excess of Loss"?



For a recovery under this method of reinsurance:

The loss amount must <u>exceed</u> a fixed threshold known as deductible or priority or underlying condition for qualifying recovery from Reinsurers.

Reinsurer's *liability is also fixed*, known as the Cover Limit.

## How does it work?



#### For example:

- If the cover is 750,000 excess of 250,000.
- Which means the <u>loss must exceed 250,000</u> to qualify for a recovery from the reinsurer.
- But at the same time, the <u>Reinsurer's liability is limited to</u> 750,000.
- All losses up to 250,000 each are retained net.
- If there is a loss of 1,250,000:
  - Reinsured retains 250,000
  - Recovery from Reinsurer: 750,000
  - Balance 250,000 also retained by Reinsured for inadequate cover arranged by him.

## Advantage & Disadvantages of XOL RI

#### Advantages:

- Simple and inexpensive administration.
- Efficient and clear protection.



#### Disadvantages:

- Premium cost may vary from year to year.
- The Sum of retentions for a per risk cover can be relatively high if the frequency of losses is large
- Risk might run out of cover if unexpected frequency exhaust the automatic reinstatements. (Solutions: Advance back up reinstatements, expensive around 20 to 25% then original reinstatements cost.)
- Further reinstatements might be at high costs, or may not be available.



#### NON PROPORTIONAL REINSURANCE

#### WORKING / OPERATION

LOSS OCCURANCE BASIS / DATE OF LOSS

#### **EXAMPLE**

- Risk XOL COVER
- CATASTROPHE XOL COVER
- STOP LOSS XOL COVER

## What are the main types?

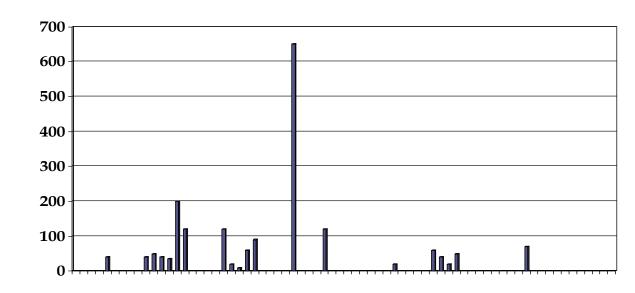


- ■Risk XOL: which protects the reinsured from large single risk losses, used for any traditional classes of business where a single risk can be defined.
- ■Catastrophe XOL: which protects the reinsured from accumulation of losses out of a single event, used for protection against traditional classes and particularly for Nat-Cat perils, e.g. earthquake, floods, hail storm, etc.
- Stop Loss XL: which protects the reinsured from accumulation of losses over a certain period, usually one year (e.g. Crop, Livestock Insurance), where single risk is difficult to be identified or assessed.

## Risk Excess of Loss Cover



- •Generally out of the claims profile of an insurer most of the losses are small in size & few claims are large.
- Insurer has capacity to pay small claims but needs help to pay large claims.
- •Hence he chooses to pay all losses up to a level he is comfortable with and beyond that threshold asks the reinsurer to pay.



#### Risk Excess of Loss Cover



- It operates on 'each and every risk' basis. Allows the insurer to retain a high amount of a Risk to his net account which he would otherwise have reinsured proportionally.
- For example, in proportional reinsurance cover, if the insurer's maximum retention is 100,000. Then on a SI of 500,000 he can retain 20% share and if the 100% premium is 5,000, his net retained premium will be 1,000.
- However if the risk is good and if he retains it fully, he can also retain full premium of 5,000. He can then arrange a Risk XOL cover for 400,000 XS 100,000 and which will be more cost effective. (if cost of this XL cover is suppose 1000, the reinsured can retain 4000 of premium, having retained the risk.

## Limit of Liability in Risk XL



- In the Risk XL Slip, the Limit of Liability will be expressed "FOR EACH AND EVERY RISK / EACH AND EVERY LOSS" e.g.
- Rs 45 mln EER / EEL in excess of Rs 5 mln. EER / EEL.

**Total Gross** 

Claims

320

2,490

6,700

4,060

4,500

14,310

5,790

5,780

1,780

12,580

58,310

**Gross Claim** 

Ratio (%)

34

60

52

57

30

47

34

30

11

22

32

Prm & claim in PKR thousands

**Probabilty** 

Claim

Ratio (%)

50

75

42

52%

19

16

13

18

16%

44

9

5

22%

27%

**Fire Department** 

**Total Gross** 

**Premium** 

950

4,140

12,990

7,080

15,040

30,540

16,830

19,070

15,830

57,840

180,310

# of Claims

52

45

48

145

10

15

19

9

53

28

4

8

40

238

Risk Profile -2023

**Total Sum** 

**Insured** 

3,700

11,200

28,244

18,148

43,609

79,336

34,017

49,392

37,710

153,916

421,562

# of Risk

104

60

115

279

52

92

142

51

337

63

45

161

269

885

SI in PKR mlns

0

100

200

300

400

500

600

700

800

900

Risk Range

100

200

300

400

500

600

700

800

900

1000

Comments: Adequacy of Rates.

#### Computation:

Loss Experience Rate: Gross Losses / Total Sum Insured X 100

(Burning Cost) 58.31 million / 421,562 million X 100

=0.14%0.

0.14% o X 100 / 70=0.20% o.

(loading for acquisition cost, management expenses

and margin of profit)

#### Computation:

Average Rate: Gross Premium / Total Sum Insured X 100

180.31 million / 421,562 million X 100 = 0.43%o.

The Burning Cost rate of 0.2%o is much lower to average rate charged 0.43%o.lt is due to excellent loss ratio for the year under review.

However, similar exercise need to be carried out on last five years risk profiles to test adequacy of rates.

Comments: Structure of Portfolio, claims control and risk improvement.



Small Risks up to 300 million has probability of losses 52% ( # of losses145 / 279 X 100)

Medium Risks 400 plus to 700 million has probability of losses 16% ( # of losses 53 / 337 X 100)

Major Risks above 700 million has probability of losses 22% ( # of losses 40 / 269 X 100)

It is observed that **medium and large risks** are well maintained as the probability ratio of claims is relatively low as compared to **small risks**.

For small risks the ratio is very high and the company should find the reasons by addressing the following:

- 1. Insured's attitude for maintenance of risk.
- 2. Workers and management relations
- 3. Adequacy and maintenance of fire fighting equipments.

# PRACTICAL EXAMPLES NON PROPORTIONAL REINSURANCE



DETERMINATION OF COMPANY'S RETENTION / PRIORITY FOR MARINE CARGO PROTFOLIO

#### **RULES OF THUMB**

 MAXIMUM RETENTION PER RISK AND PER LOSS SHOULD NOT BE MORE THAN 10% OF CAPITAL AND FREE RESERVES.

COMPANY'S CAPITAL 2024 RS.600.00 MLN FREE RESERVES 2024 RS.300.00 MLN

TOTAL NET ASSESTS. RS. 900.00 MLN

10% OF RS. 900.00 MLN. = RS. 90.00 MLN. RECEMMENDED RETENTION RS. 90.00 MLN.

## **RULES OF THUMB**



2) THE RETENTION PER LOSS LIES SOMEWHERE AROUND 10% OF PREMIUM RETAINED FOR OWN ACCOUNT FOR THE CLASS OF BUSINESS IN QUESTION.

Est.NET PRM FOR 2024 RS. 1650 MLN

10% OF RS. 1650.00 MLN. RS. 165 MLN

RECOMMENDED UP TO RS.165.00 MLN

#### **RULES OF THUMB**



3) THE LIQUIED ASSETS SHOULD BE AROUND 5 TIMES THE MAXIMUM RETENTION PER LOSS IN THE COMPANY'S MOST IMPORTANT BRANCH.

#### LIQUID ASSET OF COMPANY 2024

(AMOUNT IN MLNS.)

| TOTAL LIQUID ASSETS            | <b>RS.800</b> |
|--------------------------------|---------------|
| CASH IN HAND                   | RS. 20        |
| CASH ON CURRENT A/C WITH BANKS | RS. 280       |
| CASH ON DEPOSIT A/C WITH BANKS | RS. 500       |

RS. 800 MLN./5 = RS. 160

RECOMENDED UP TO RS. 160

## **SUMMARY**



METHOD 1 90.00 MLN

METHOD 2 165.00 MLN

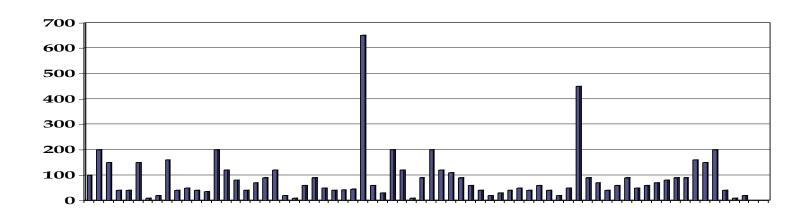
METHOD 3 160 MLN

PRIORITY COULD BE FIXED ANY WHERE BETWEEN THE ABOVE, KEEPING IN VIEW FREQUENCY OF LOSSES, SWING OF LOSSES AND UNDERWRITING PEFORMANCE OF BUSINESS PORTFOLIO

## Catastrophe Excess of Loss



of a single event. Proportional Reinsurance and Risk XL control the <u>vertical</u> exposure on individual risks. However the Cat XL protects an insurer from <u>horizontal</u> exposure, when a single loss affects a number of policies and risks. Natural events such as a flood, cyclone, earth-quake, volcanic eruption, or large fires in conflagration areas, or political risks such as riots can cause wide-spread loss.



#### Catastrophe Excess of Loss



- If an insurer has to retain several small losses arising out of one event, then their aggregate loss will be very large.
- Similarly if an insurer has miscalculation on loss assessment under the Risk XL it could be bad. Example Probable Maximum Loss (PML) calculations have bust.
- Catastrophe XL is meant to respond to such a situation. It is not meant to respond when sufficient reinsurance has been arranged for a risk.
- ■Two-risk-warranty.
- ■Insuring Risk-XL program (PML Bust).



|                      |        |                |       |                 | 'I I ====  |  |
|----------------------|--------|----------------|-------|-----------------|------------|--|
| Property Insurance   |        |                |       | Pakistan Insure | I I        |  |
| Cresta Report - 2024 |        |                |       | Tukinul libut   | Since 1951 |  |
|                      |        |                |       |                 | Pak Rs in  |  |
| Fire Risks           |        |                |       |                 | millions.  |  |
| Locations            | No. of | Gross Sum Ins. | QST   | Facultative     | NET        |  |
| ABBOTTABAD           | 1      | 129,023        | 323   | 128,378         | 323        |  |
| D.G.KHAN             | 2      | 75             | 38    | 0               | 38         |  |
| FAISALABAD           | 2      | 5,055          | 361   | 4,031           | 663        |  |
| GWADAR               | 1      | 45             | 22    | 0               | 22         |  |
| GUJRANWALA           | 1      | 27             | 14    | 0               | 14         |  |
| HYDERABAD            | 23     | 2,738          | 125   | 2,488           | 125        |  |
| ISLAMABAD            | 9      | 61,458         | 926   | 59,144          | 1,388      |  |
| JAMSHORO             | 2      | 471            | 235   | 0               | 235        |  |
| KARACHI              | 42     | 87,857         | 5,389 | 75,445          | 7,024      |  |
| KHAIRPUR             | 1      | 173            | 87    | 0               | 87         |  |
| LAHORE               | 17     | 3,998          | 1,684 | 315             | 1,999      |  |
| MUZAFFAR GARH        | 2      | 331            | 166   | 0               | 166        |  |
| MATIARI              | 1      | 213            | 106   | 0               | 106        |  |
| MANSEHRA             | 1      | 199,503        | 249   | 199,004         | 249        |  |
| NOORIABAD            | 1      | 134            | 67    | 0               | 67         |  |
| PESHAWAR             | 1      | 2,802          | 392   | 1,821           | 588        |  |
| PISHIN               | 1      | 0              | 0     | 0               | 0          |  |
| QUETTA               | 2      | 106            | 53    | 0               | 53         |  |
| RAWALPINDI           | 1      | 4,000          | 400   | 3,200           | 400        |  |
| SHAHDAD KOT          | 2      | 1,050          | 525   | 0               | 525        |  |
| SUKKUR               | 2      | 310,406        | 471   | 308,770         | 1,166      |  |
| SUJAWAL              | 2      | 2,210          | 389   | 597             | 1,223      |  |
| THATTA               | 2      | 13,990         | 245   | 13,500          | 245        |  |

## **Climatic Change**



- In order to assess their exposures from these hazards, they developed various cat modeling tools.
- Insurers and risk mangers use cat modeling tools to assess the risk in a portfolio of exposures. This helped them to prepare underwriting strategy to buy reinsurance protection, (Capacity of the cover).
- In our market, this was adopted in early 1990s as recommended by leading reinsures / brokers and currently it is extensively being used to formulate underwriting strategy at each renewal.
- The exposure data is maintained on CRESTA zone, and the required results are calculated by using Dynamic Financial Analysis (DFA) software.



## Dynamic Financial Analysis (DFA)

- DFA is a method the financial performance of an insurance company under various conditions, particularly focusing on solvency and risk management.
- It's a holistic approach that considers the interconnectedness of different factors affecting an insurance company's financial well being, such as business mix, reinsurance, asset allocation and profitability.

#### STRUCTURE OF XOL PROGRAM



#### **LAYERING**

XL COVER IS DIVIDED INTO VARIOUS CONSECUTIVE LAYERS

#### **EXAMPLE:**

THE DIRECT INSURER WANTS AN XL CAPACITY OF 400 MLN

#### **WORKING LAYERS**

COVER FOR INDIVIDUAL SINGLE RISK OR PER POLICY OR PER EVENT

| FIRST LAYER  | 45.0 MLN. | XS | 5.0 MLN  |
|--------------|-----------|----|----------|
| SECOND LAYER | 50.0 MLN. | XS | 50.0 MLN |

#### **CATASTROPHE LAYERS**

PROTECTION AGAINST UNKNOWN ACCUMULATIVE LOSSES PER EVENT. (Usually have Two Risks warranty.)

| THIRD LAYER  | 100.0 MLN. | XS | 100.0 MLN |
|--------------|------------|----|-----------|
| FOURTH LAYER | 200.0 MLN. | XS | 200.0 MLN |

## Limit of Liability in Cat XL



- Under a Cat XL Treaty the limit of liability is expressed as "EACH AND EVERY EVENT / EACH AND EVERY LOSS". e.g.
- Rs.100 mln. EEE / EEL in excess of Rs.100 mln. EEE / EEL.
- Cat XL will have TWO RISKS WARANTTY. Which means minimum two risks insured by the company, must be involved in the event.

## **XOL Caters for Unknown Factors**



- WHEN THE LOSS EVENT WILL OCCUR ?
- WHICH INSURED RISKS WILL BE DAMAGED AND IN WHAT WAY?
- HOW MANY INSURED RISKS WILL BE AFFECTED AT ALL?

#### Rating-Working XL Layers



- The priority or deductible depend on insured's ability to retain losses and experience of business portfolio.
- The reinsured & Reinsurers expect frequent recoveries under this cover.
- Good example is the Motor XL cover.
- Usually these covers have unlimited reinstatements and the premium is charged on the Burning Cost method.

#### Rating – Working XL Layers



#### GNPI:

- Gross = Premiums booked by reinsured without any deductions i.e. commission, brokerage, taxes etc.
- Net = Net cost of any other reinsurances which have the effect of reducing the exposure to reinsurers under the XOL contracts. Therefore, premiums paid for Facultative / Treaty Reinsurances to be deducted.

Example: Gross Premium Rs.600 mln
 Less Fact. RI Prm. Rs.100 mln
 GNPI Rs.500 mln

# Burning Cost Calculation ABC Insurance Limited List of loss involving Reinsurance Recovery



(Amount in Mins.)

(Priority 1.0 Min)

| Year | 100 % Paid | ABC       | R/I        |
|------|------------|-----------|------------|
|      | Losses     | Priority  | Recoveries |
|      |            |           |            |
| 2019 |            |           |            |
|      | 3,500,000  | 1,000,000 | 2,500,000  |
|      | 2,000,000  | 1,000,000 | 1,000,000  |
|      | 1,800,000  | 1,000,000 | 800,000    |
|      | 1,650,000  | 1,000,000 | 650,000    |
|      | 1,350,000  | 1,000,000 | 350,000    |
|      |            |           |            |
|      | 10,300,000 | 5,000,000 | 5,300,000  |

## ABC INSURANCE LIMITED Burning Cost Calculation



(Amount in Mlns.)

| U/W Year | GNPI     | Recovery from XL R/I Priority 1.0 Min. | Burning Cost |
|----------|----------|--|--------------|
| 2019     | 378.85   | 5.30                                   | 1.39%        |
| 2020     | 433.60   | 1.04                                   | 0.23%        |
| 2021     | 450.75   | 4.24                                   | 0.94%        |
| 2022     | 455.43   | 2.05                                   | 0.45%        |
| 2023     | 526.42   | 4.02                                   | 0.76%        |
| Total    | 2,245.05 | 16.65                                  | 0.74%        |
| Average  | 449.01   | 3.33                                   | 0.74%        |

Burning Cost Factor ( 100/80 ) X 0.74% = 0.93%

Note: Load Factors (Examples)

100/70 OR 100/75 OR 100/80

#### Minimum deposit premium

EPI Rs.  $600 \text{ Min } \times 0.93\% = 5.58 \text{ Min } \times 90\% = 5.02 \text{ Min.}$ 

Reinsurers charge M&D premium @ 90%. (Sometimes they charge M&D in the range of 75% to 90%)

THIS METHOD IS USED FOR RATING OF WORKING EXCESS OF LOSS LAYERS WHICH HAVE LOSS EXPERINCE / HISTORY

## XL Cost / Premium



Based on Reinsured's assessment of risk, which will depend upon a number of factors:

- GNPI
- Normal / Maximum acceptance limits
- Risk profile of protected account.
- Zone-wise accumulations.
- Loss experience.
- Limit / deductible of cover.
- Weather pattern of the country.
- Seismic activities etc.

#### Rating – Cat Layers



#### Total coverage 800 m XS 10 m

500 m XS 310 m

250 m XS 60 m

50m XS 10 m

3<sup>rd</sup> Layer

2<sup>nd</sup> Layer

1<sup>st</sup> Layer

## **EXPOSURE REDUCES**FOR HIGHER LAYERS

Premium12,500,000

ROL 2.50% PBP 40 yrs

Premium 9,000,000

**ROL 3.6%** 

PBP 28 yrs.

Premium 5,000,000

ROL 10% PBP 10 yr.

**ROL** indicates Pay Back Period

#### Rate of Adjustment and M & D Premium



- Rate of adjustment:
  - Used to fix the cost / premium for the contract.
  - Various methods used:
    - Burning Cost.
    - Exposure rating.
    - Rate on line method.
- Minimum & Deposit:
  - -GNPI 1,000
  - -ROA 10%
  - XL Cost 100

Minimum & Deposit premium at the beginning of the contract may be paid at 80% to 100% of XL premium.

Reinsurer sells his capacity, hence minimum return must.

## **Reinstatements**



- Recovery under XOL is per loss /occurrence/ event. So whenever the reinsurers settle a loss, the limit of loss will reduce to that extent.
- The Reinsured would require reinstatement of the reduced cover, depending upon the perceived exposure / past experience.
- When a claim is recovered from the Excess of cover, the cover is deemed to have been used up to that extent and it needs to be restored or 'reinstated' to its former level by payment of additional premium.
- Hence provision for required number of reinstatements can be made at additional premium



## Calculation of Reinstatement Premium

Pro-rata as to amount only:

Cover is from 1.1.2024 to 31.12.2024

For 20,000,000 Xs 5,000,000 EEL

XL M&D Premium is 2,000,000

Loss to the cover on 30.6.2024 for 10,000,000

Reinstatement Premium is

 $10,000,000 \times 2,000,000 = 1,000,000$ 

20,000,000

Adjusted Premium on 31.12.2024 2,400,000.

Additional Reinstatement premium 200,000 (50% 0f additional reinsurance premium 400,000 is payable).

# ABC INSURANCE COMPANY LIMITED MARINE CARGO XL PROGRAMME 2024 RECOVERY OF LOSS UNDER FIRST LAYER

DATE: 01.01. 2024 to 31.12.2024.

#### TERMS OF XOL CONTRACT

PRIORITY 4.0 MLN

LIMIT OF LAYER 16.0 MLN

MINDEP 3.6 MLN

RATE 2.0 %

EPI 200.0 MLN

REINSTATEMENET TWO AT 100% PRORATA TO AMOUNT ONLY.

#### **EXAMPLE**:

Pakistan Insurance Institute

NAME OF VESSEL
DATE OF LOSS
CAUSE OF LOSS
100% LOSS
NAME OF INSURED

MV KOHINOOR 15TH APRIL 2024 SINKING 18,400,000 XYZ INDUSTRIES

#### PART ONE

LOSS RECOVERY ON

FIRST LAYER

100% LOSS 18,400,000 LESS 20% UNDERLYING QUOTA SHARE TREATY (3,680,000) 14,720,000

LESS PRIORITY (4,000,000)

RECOVERY UNDER FIRST LAYER

10,720,000

#### **PART TWO**



CALCULATION OF REINSTATEMENT PREMIUM (DATE 10-07-2024) FORMULA

LOSS RECOVERY X MINDEP PREM X 100%
CAPACITY OF 1ST LAYER

 $\frac{10,720,000}{16,000,000}$  X 3,600,000 X 100% = 2,412,000

#### **PART THREE**

ADJUMENT OF PREMIUM (DATE 31-12-2024)
GROSS PREMIUM 300,000,000
LESS Q/SHARE TREATY PREMIUM (60,000,000)
LESS FACT. R/I PREMIUM (25,000,000)
GROSS NET PREMIUM INCOME 215,000,000

ADJUSTMENT OF PREMIUM @ 2% X 215,000,000 = 4,300,000 LESS MINIMUM DEPOSIT PREMIUM PAID - (3,600,000) ADDITIONAL PREMIUM PAYABLE = 700,000

#### **PART FOUR**

## CALCULATION OF REINSTATEMENT PREMIUM ON FINAL ADJUSTED PREMIUM



**FORMULA** 

## LOSS RECOVERY X ADJUSTED PREMUM X 100% CAPACITY OF 1ST LAYER FOR 1ST LAYER

10,720,000 X 700,000 X 100% = 469,000 16,000,000

SUMMARY

LOSS RECOVERY FIRST LAYER 10,720,000 LESS REINSTATEMENT PREMIUM

(Part Two) (2,412,000)

(Part Three) (469,000)

NET RECOVERY FROM R/I 7,839,000

### Non-proportional (Risk XL) Reinsurance Slip

- Reinsured: XYZ Insurance Ltd. Karachi.
- Type of Treaty: Excess of Loss Reinsurance.
- Period: 12 months at 1 January 2025
- Scope of business: Protecting any one risk, underwritten in Reinsured's Fire Department.
- Conditions & Exclusions: As per list.
- Territorial Scope: Pakistan
- Priority & 100% Treaty Limit:
- -1st layer: Rs.45 mln Xs 5 mln
- -2nd layer: Rs.50 mln Xs 50 mln
- Reinstatement: 1<sup>st</sup> layer, 2 @ 100% Add. Prm. pro rata to amount only. 2nd layer, 1 @ 100 Add. Prm. pro rata to amount only.
- Rates & minimum deposit premiums:
- 1<sup>st</sup> layer 2%, Rs. 1.80 mln.
- -2<sup>nd</sup> layer 1%, Rs. 0.80 mln.
- GNPI: Rs. 100 mln
- Brokerage: 15%
- Statistics & Information regarding the portfolio: As seen by reinsurer on 10 December, 2024.
- Leader: JYC Re 30%.



## Pro-rata vs. XL - A Comparison



#### **Pro-rata**

- Pro-rata sharing of S.I., Premium & Liability
- Premium cession is substantial
- Significant help in Solvency Margin
- Considerable admin. work

#### XL

- No pro-rata sharing of
- S.I., Premium & Liability
- Retains a large share of Premium
- Not of much help in Solvency Margin
- Minimal admin. work

## Pro-rata vs. XL - A Comparison



#### **Pro-rata**

- Commission/P.C.
   help reduce exp. ratio
- No limit on no. & amt. of losses to net & treaty.
- Cash flow advantage
- Stable Market

#### XL

- No Commission/ P.C.
- XL protects Net a/c exposure for limited amount & number of recoveries
- Negative Cash flow
- Volatile market



## Stop Loss XL or Aggregate Ratio XL

- •Also known as 'Excess of Loss Ratio cover' or 'Annual Aggregate Excess of Loss cover'. It does not respond to any single risk losses or Cat-events.
- •It responds if a particular portfolio shows a high loss ratio in a particular year owing to several losses during the year.

## Pakistan Insurance Institute

## Stop Loss XL or Aggregate Ratio XL

- As per cover terms, the insured bears all losses
   (aggregated during a year) up to a loss ratio of say 110%
   (priority) and loss amount representing loss-ratio in
   excess of the priority and up to the Limit shall be borne by
   the reinsurers.
- The Priority and the Limit are expressed as a Loss Ratio Percentage and also in monetary terms.
- Usually used for Crop Insurance business where single loss is difficult to quantify, or to protect a portfolio or combined portfolio.

### **Example**





- 1st Layer 90% Xs 110%
- GNPI 2023 200 mln 2024 280 mln.
- Rate 10%
- Example 1: Loss Recovery
- U/W year 2023: Adjusted Premium. 240 Claims. 160
- Loss Ratio 160/240=67%. As the claim ratio is below 110% of priority limit, no recovery is possible from Reinsurers.
- Example 2: Loss Recovery
- U/W year 2024: Adjusted Premium. 300 Claims. 360
- Loss Ratio 360/300=120%. As the claim ratio is above 110% of priority limit, 10% of loss recovery is possible from Reinsurers.
   i.e. 10% x 300= 30.
- Reinsured loss 110%= 330, + Reinsurer 10%=30 Total claims 360.

## Combined proportional and Non Proportional reinsurance program



- Currently, reinsurers are encouraging reinsured, to buy combined proportional non proportional program, as they do not want to use their capacity on stand alone proportional program.
- They provide proportional capacity in shape of Quota Share Treaty, asking reinsured to keep high gross retention, and are providing additional capacity by Surplus Treaty on top of Quota Share Treaty.

## Combined proportional and Non Proportional reinsurance program



- The net retention of reinsured than further is protected by non proportional program, a combination of Risk excess of loss treaty and Cat excess of loss treaty.
- An example of combined cover with USD 200mln. capacity on proportional basis with net retention of USD 10 mln. is displayed on next slides.
- The non proportional program (Risk XL and Cat XI) will protect reinsured net retention and spill over's from Event limit, Annual Aggregate Limit.

### Combined Proportional / Non-proportional Program



| Pro-rata Treaties (USD in Millions) |                |           |         |  |  |
|-------------------------------------|----------------|-----------|---------|--|--|
| Treaty                              | Total Capacity | Retention | Cession |  |  |
| Fire QS (50%)                       | 100            | 50        | 50      |  |  |
| Fire Surplus (1 Line)               | 200            | 100       | 100     |  |  |

#### File Pro-rata Treaties

| Net Ret | QS (50%) | Surplus |
|---------|----------|---------|
| 50 m    | 50 m     | 100 m   |

### **Combined Proportional / Non-proportional Program**

| Excess of Loss Treaties |                            |    |  |  |
|-------------------------|----------------------------|----|--|--|
| Treaty                  | Ground-up Limit Deductible |    |  |  |
| Fire Risk XL            | 50                         | 10 |  |  |
| Fire Cat XL             | 100                        | 10 |  |  |

Limit
40 m

Priority
10 m

Cat XL

Limit
80 m

Priority
20m

Extremely

Very strong

strong

Strong

Good

Marginal

Very weak

Extremely weak

Regulatory

action

Weak

**VULNERABLE** 

**SECURE** 

|           |       |         | 52                |
|-----------|-------|---------|-------------------|
| A.M. Best | Fitch | Moody's | Standard & Poor's |

Aaa

Aa

Α

Baa

Ba

В

Caa

Ca

C

Exceptionally

Very strong

Moderately

Very weak

Distressed

weak

Weak

strong

Strong

Good

**VULNERABLE** 

**STRONG** 

**WEAK** 

Exceptional

Excellent

Adequate

Questionable

Good

Poor

poor

1,2,3 (1 high, 3 low)

Lowest

Very poor

Extremely

AAA

AA

Α

**BBB** 

BB

В

CCC

CC

R

+,-

| SECURE |  |
|--------|--|
|        |  |

**VULNERABLE** 

Fair

Marginal

Weak

Poor

Under

Rating suspended

Within-category modifiers

regulatory

supervision

In liquidation

A++,A++

B++, B+

A, A-

B, B-

C, C-

D

Ε

F

S

C++,C+

Superior

Excellent

Very good

AAA

AA

Α

**BBB** 

ВВ

В

+,-

CCC,CC,C

DDD,DD,D

**SECURE** 

