PRACTICAL ASPECTS OF REINSURANCE

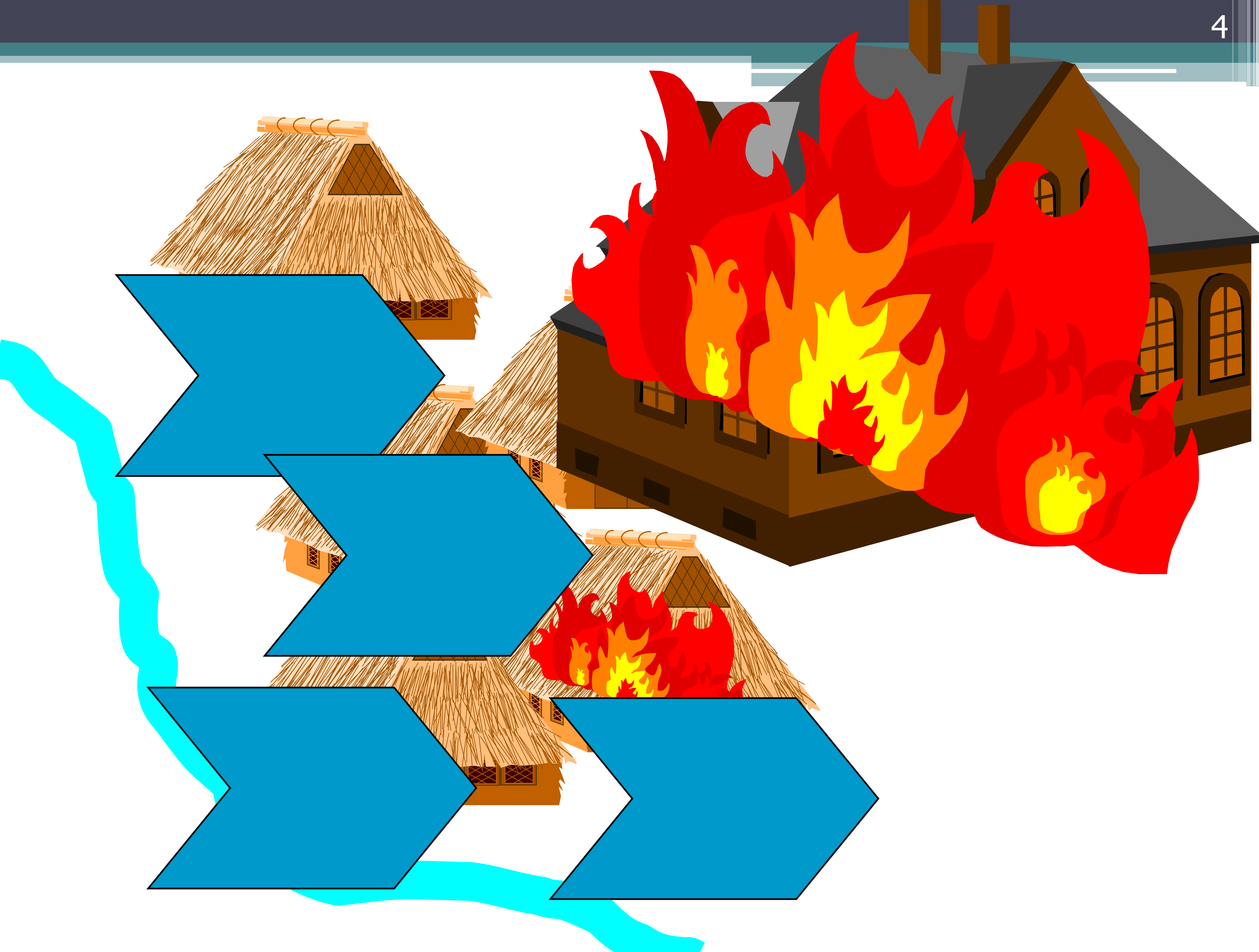
Darius H Sidhwa
Executive Director
Efu General Insurance Ltd

Presented by:

Mr. Darius H. Sidhwa
ED - HR Department

Insurance, Coinsurance, Reinsurance

- What is Insurance ?
  - It is a Risk transfer from an insured to an Insurance company.
- What is Co-insurance ?
  - It is risk sharing between two or more Insurance companies.
- What is Reinsurance ?
  - It is Insurance of Insurance or
  - Risk transfer from an insurance company to a reinsurance company.



Need for reinsurance

- There are large SINGLE RISK LOSSES
  - For example The BUSINESS HOUSE
- There are large CATASTROPHE LOSSES
  - For example The FLOOD LOSS
- Such occurrence/s can destabilise an insurance company financially or can also push it to insolvency.
- Reinsurance enables an insurance company to expand its capacity; stabilize its underwriting results; finance its expanding volume, and secure catastrophe protection against shock losses.

ABC General Insurance Company Ltd

Fire Department								
SI in PKR mlns			Risk Profile -2009			Prm & claim in PKR thousands		
Risk Range		# of Risk	Total Sum Insured	Total Gross Premium	# of Claims	Probabilty Claim Ratio (%)	Total Gross Claims	Gross Claim Ratio (%)
0	100	104	3,700	950	52	50	320	34
100	200	60	11,200	4,140	45	75	2,490	60
200	300	115	28,244	12,990	48	42	6,700	52
		279			145	52%		
300	400	52	18,148	7,080	10	19	4,060	57
400	500	92	43,609	15,040	15	16	4,500	30
500	600	142	79,336	30,540	19	13	14,310	47
600	700	51	34,017	16,830	9	18	5,790	34
		337			53	16%		
700	800	63	49,392	19,070	28	44	5,780	30
800	900	45	37,710	15,830	4	9	1,780	11
900	1000	161	153,916	57,840	8	5	12,580	22
		269			40	22%		
		885	421,562	180,310	238	27%	58,310	32

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%o.

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.It 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.

Engineering Section						
Cresta Report - 2017						
Contractor All Risks					Pak Rs in millions.	
Locations	No. of	Gross Sum	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	

Exposure Monitoring

- The Reinsures and Brokers have developed "Impact on Demand" an analytical tool to assist clients on following:
- Exposure monitoring and information
- Identifying exposure accumulations
- Individual risk mapping and underwriting
- Hazard mapping for underwriting and pricing

It is web based exposure management platform, could be accessed on internet.

Functions of Reinsurance

- Provides Capacity.

  Through Proportional Treaties.

- Gives Protection

  Through Non Proportional Covers.

- Provides stability to results.

  Balancing good years with bad years.

TYPES OF REINSURANCE

- PROPORTIONAL
- NON PROPORTIONAL

Methods of Reinsurance

PROPORTIONAL

- Facultative
  (single risk)
- Treaty
  (multiple risks)
  - ✓ Quota Share.
  - ✓ Surplus
  - ✓ Fac. / Obligatory.
  - ✓ Open Covers

NON PROPORTIONAL

- Facultative
  (single risk)
- Treaty (Contracts)
  (multiple risks)
  - ✓ Risk XOL.
  - ✓ Catastrophe XOL.
  - ✓ Stop Loss XOL

Proportional Reinsurance

PROPORTIONAL / REINSURANCE

Proportional Reinsurance means that sums insured (= liability), premiums and losses are divided up between direct insurer & reinsurer according to respective share of the risk (i.e. Proportional)

- OPERATION / CESSION
- POLICY WRITTEN BASIS
- RISKS ATTACHMENT BASIS

OBLIGATORY REINSURANCE

Means treaty, automatic reinsurance of a whole portfolio and in most cases obligatory means obligatory for both sides, cedant and reinsurer.

EXAMPLE

- QUOTA SHARE TREATY

A Quota share treaty provides that the ceding insurer cedes and the reinsurer accepts a proportional interest in all the risks subject to a maximum rupees / dollars per risk limitation.

- QUOTA SHARE TREATY IS BEST SUITED FOR:

New ceding companies entering into a new class of business or a new area. This would be the best to get reinsurers to participate in portfolio with unknown experience and limited spread.

Uses of a Quota Share Treaty

- Simple Form of reinsurance to operate and for administration and accounts.
- Works like a partnership.
- Useful for a new company or for a new class of business, where the results of business are unpredictable.
- Useful for reciprocal exchange.
- Useful for classes of business where it is difficult to define "a single risk" viz. Crop / Hail insurance.
- Also useful for long tail business: liability, Motor/TPL.

Disadvantages of a Quota Share treaty

- Inflexible method of RI.
- Since a fixed percentage of premium on each and every risk is ceded, the outflow of Premium is huge.
- Fails to reduce incurred claims ratio on the retained account.
- Capacity offered is limited.

SURPLUS TREATY

- A surplus treaty is an agreement whereby the ceding company is bound to cede and the reinsurer is bound to accept the surplus liability over the ceding company's retention.
- In contrast to the quota share treaty, the surplus treaty is characterized by the fact that the reinsurer does not participate in all risks written by the direct insurer, but only in certain risks, namely those that exceed the direct company's retention.
- A surplus treaty thus allows the ceding company to reinsure under the treaty any part of the risk, for example, the surplus, which it is not retaining for its own account.

Comparison

Quota Share

- Cession is made on every risk
- There can not be 100% retention of the risk. (if the company has a QS treaty).
- If it is a Variable QS treaty & retention is reduced, the cession to the treaty is increased. (Table of retention)
- Basic commission is higher than the Surplus Treaty
- Most suitable method to give enough capacity for rapid growth in the formation stage of a Company.
- Can be arranged by way of fixed or VQS.

Surplus

- Cession is made on risks, which are surplus to the line of retention,(Fixed amount).
- Risks below the line of retention are retained for 100%. (if the company has no QS treaty).
- If, depending on the hazard of the risk, if retention (line) is reduced, the cession is also reduced.(Table of retention)
- Basic commission is lower than the QS treaty.
- Most suitable method to give required capacity in grown up stage of Company.
- Can be arranged in a series of Surplus Treaties, FSP, SSP, TSP. Etc.

PROPORTIONAL REINSURANCE

DETERMINATION OF COMPANY'S RETENTION

EXERCISE - I

RULE
Maximum retention per risk should be around 1.0% to 5.0% of total Net Premium Income of cedent's portfolio.
COMPANY NET PREMIUM
INCOME OF FIRE PORTFOLIO

Figures Rs. In Mlns

YEAR	NET PREMIUM (100%)
2011	380.65
2012	409.51
2013	450.25
2014	518.50
2015	569.50

For 2010 recommended range of retention as per above calculation :
(a) Minimum scale 1.0% of net premium Rs. 569.50 Mln.
i.e. Rs. 569.50 Mln. X 1.0% = 5.7 Mln.
(b) Maximum scale 5.0% of net premium Rs. 569.50 Mln
i.e. Rs. 569.50 Mln. X 5.0% = 28.5 Mln.

- ***EXERCISE - II***

As per other Reinsurance experts.

"Maximum Retention per risk and per loss should not be more than 2.5% - 10% capital and free reserves".

Company's Capital (2015) Rs. 200.00 Mln

Free Reserves (2015) Rs. 100.00 Mln

Total Net Assets (2015) Rs. 300.00 Mln

2.5% of Rs. 300.00 Mln = Rs. 7.50 Mln

10% of Rs. 300.00 Mln = Rs. 30.00 Mln

SUMMARY

Rs. Min

- EXERCISE I BASED ON NET PREMIUM 5.70 / 28.50
- EXERCISE II BASED ON NET ASSETS OF 7.50 / 30.00
- Retention could be placed anywhere between the above

  However, it may be influenced by the following:
- Underwriting performance of business portfolio.
- Balance of portfolio i.e. Homogenous exposure and good spread of risks.

Retention

- No Reinsurance without Retention.
- Retention will be per risk.
- On SI / PML basis.
- Minimum PML % may be specified.
- Flat or Top and Graded down basis. Table of limit should be attached.

CAPACITY OF TREATY

- QUOTA SHARE
- SPECIFIED LIMIT (say) **Rs. 100 million**
- REINSURED RETENTION 10% Rs. 10 million
- REINSURER'S LIMIT 90% Rs. 90 million
- **TOTAL** **100%** **Rs. 100 million**
- EPI RS. 50 million
- PREMIUM EXPOSURE RATIO = PREMIUM / REINSURERS LIABILITY

  50 MLN / 100 MLN

  01 / 02

NOTE:

REINSURERS LOOK FAVOURABLE WHERE PREMIUM EXPOSURE RATIO IS BALANCED IN THIS CASE IT IS VERY HEALTHY.

TECHNICALLY THEY CALL IT AS BALANCING OF TREATY.

CESSION TO TREATY

Example:

Risk with a sum insured of Rs. 100 million
Premium Rs. 2 million
Loss of Rs. 10 million

Without Reinsurance			With 90% Quota Share	
	Direct Ins.	R / I	Direct Ins.	R / I
Sum Insured	100 Mln.	-	10 Mln.	90 Mln.
Premium	2 Mln.	-	0.2 Mln.	1.8 Mln.
Loss	10 Mln.	-	01 Mln.	09 Mln.

CAPACITY OF TREATY

- SURPLUS TREATY
- SPECIFIED LIMIT (say) Rs. 100 million

- REINSURED RETENTION – (one line) Rs. 10 million
- REINSURER'S LIMIT – (Nine lines) Rs. 90 million

- EPI RS. 25 million
- PREMIUM EXPOSURE RATIO = PREMIUM / REINSURERS LIABILITY

  25 MLN / 100 MLN
  01 / 04

NOTE:
REINSURERS LOOK FAVOURABLE WHERE PREMIUM EXPOSURE RATIO IS BALANCED. IN THIS CASE IT IS AVERAGE (Satisfactory).

TECHNICALLY THEY CALL IT AS BALANCING OF TREATY

SURPLUS

EXAMPLE:

Direct Insurer's retention		10,000,000
Surplus of 09 lines	= treaty capacity	90,000,000
(underwriting capacity	= 100,000,000)	

Direct insurer writes a risk for sum insured of	80,000,000
at premium rate of 1%	800,000

	Retention (Direct Insurer)	**1st Surplus (Re-insurer)**
Liability	10,000,000 (12.5%)	70,000,000 (87.5%)
Premium	100,000	700,000
Total Loss	10,000,000	70,000,000
Partial Loss		
(20,000,000)	2,500,000	17,500,000

PML (Probable Maximum Loss)

- Determines the loss potential to the insurer on any one risk.
- The amount of reinsurance the insurer must buy
  - Influence on Net Premium Written
  - Influence on Insurers cost
- Criteria for evaluating / balancing portfolios

Single Risk – First class construction

- If distance between two buildings (open space) is of 15 meters.
- No opposite openings.
- Other building has external walls of brick, stones or concrete and roof with slates, tiles, concrete or cement sheeting.

OR

- The two adjacent buildings are separated by perfect party wall.
- Wall made up of bricks, stones or concrete of at least 21 cm, thickness and extending 37 cm above the roof of both sides.
- Entirely without opening.
- Roof must be of concrete

Practical Exercise – Risk cession

Treaty Program (Rs.)

Quota Share: Max. Limit 2 mln. SI / PML - min.50%.

Retention 50%. Reinsurers 50%

1st Surplus: 4 lines. Limit 8 mln. SI / PML - min.50%.

2nd Surplus: 4 lines. Limit 8 mln. SI / PML - min.50%.

Example 1

- Risk Sum Insured 25 million
- PML 60%
- Premium 1.0 million
- Claim 10.0 million

Example 2

- Risk Sum Insured 50 million
- PML 40%
- Premium 3.0 million
- Claim 15.0 million

Solution – Example 1

- Sum Insured 25 mln (Figures in Rupees)
- PML @ 60% of 25mln = 15 mln

Cession(Rs. Mln.)		PML	Premium	Claims
Retention	6.5%	1.0	0.065	0.65
Q. Share	6.5%	1.0	0.065	0.65
Total	**13%**	**2.0**	**0.130**	**1.30**
1 surp.	53%	8.0	0.530	5.30
2 surp.	34%	5.0	0.340	3.40
Total	**100%**	**15.0**	**1.000**	**10.00**

Solution – Example 2

- Sum insured 50 mln. (Figures in Rs.)
- PML is assessed at 40% of 50 mln = 20 mln

- Cession is allowed to treaties at min PML 50%. Therefore cession to be done only on min PML amount of 25 mln.

Cession(Rs. Mln.)		PML	Premium	Claims
Retention	4%	1.0	0.12	0.60
Q. Share	4%	1.0	0.12	0.60
SubTotal	**8%**	**2.0**	**0.24**	**1.20**
1 surp.	32%	8.0	0.96	4.80
2 surp.	32%	8.0	0.96	4.80
SubTotal	**72%**	**18.0***	**2.16**	**10.80 (SI = 36mln)**
Fact.	28%	7.0*	0.84	4.20 * Usually placed on sum insured basis. SI= 14mln.
Total	100%	25.0	3.00	15.00

Commission

- An agreed fixed % of Premium, or on sliding scale depending upon loss ratio, paid by the Reinsurer to the Reinsured.
- Consideration to meet actual net acquisition cost, excluding salaries of staff.
- Influencing factors:

1. Type of Treaty.
2. Class of business.
3. Country.
4. Results.

- Uniform to all participants.
- May differ for reciprocity.

Sliding scale of commission.

Rate of commission 25%	if the loss ratio is	65%	or more
Rate of commission 26%	if the loss ratio is	63%	but less than 65%
Rate of commission 27%	if the loss ratio is	61%	but less than 63%
Rate of commission 28%	if the loss ratio is	59%	but less than 61%
Rate of commission 29%	if the loss ratio is	57%	but less than 59%
Rate of commission 30%	if the loss ratio is	55%	but less than 57%
Rate of commission 31%	if the loss ratio is	53%	but less than 55%
Rate of commission 32%	if the loss ratio is	51%	but less than 53%
Rate of commission 33%	if the loss ratio is	49%	but less than 51%
Rate of commission 34%	if the loss ratio is	47%	but less than 49%
Rate of commission 35%	if the loss ratio is	45%	but less than 47%
Rate of commission 36%	if the loss ratio is	less than 45%	

Loss participation clause

“If the loss ratio of this treaty in any calendar year exceed 100% the reinsured shall bear 20% of the amount which loss ratio exceeds 100%. “

- Incurred losses / earned premiums = loss ratio%
- PKR 100 million/PKR 80 million = 125%
- 25% of earned premium 80 million = 20 million
- Reinsured will bear 20% of 20 million =2 million.

- (This is also known as negative commission clause)

Important Ratios

Rs. In mlns.

Claim Ratio: Claims / Premiums X100= %

450 / 1,000 X 100= 45%

Expense Ratio: Com.+Adm.Exp/ Premiums X 100= %

250 / 1,000 X 100=25%

Combined Ratio: Claims Ratio + Expense Ratio

70% 45% + 25%

Treaty Pricing Calculation

• Ceded reinsurance premium		**100%**
• Margin of basic losses	- 35%	
• Margin for extraordinary losses	- 15%	
• Margin of Catastrophe losses	- 10%	
Total losses	**60%**	
Fluctuation loading	2%	
Admin cost loading	5%	
Technically justified commission	33%	**100%**

Proportional Reinsurance Treaty Slip

- Ceding Co. (ABC Insurance Ltd. Karachi)
- Type of Treaty: (QS/Surplus etc.)
- Period: continuous contract subject to 3 months PNOC on 31/12 any year
- Scope of business: Fire and allied perils written by Reinsured.
- Exclusions: As original or as listed here.
- Territorial Scope: Pakistan
- Retention: 20% Q. Sh. Rs. 100mln., Or Surplus Rs. 10 mln SI / PML min. 50%.
- 100% Treaty Limit: 80% Q Sh Rs. 100 mln SI / PML min 50%
- No. of Lines: 9 Surplus.
- Commission: Flat rate or on sliding scale
- Profit Commission: 25% (7.5% Reinsurer's expenses. Losses C/F till extinction)
- Accounts: Quaterly
- Premium Reserves: Nil
- Loss Reserves: Nil
- Portfolios withdrawal: Premium 35%, & O/S Losses 90%.
- Cash Loss Limit: Rs. 20 mln. for 100% loss to treaty.
- EPI: Rs.50 mln Q Sh. Surplus Rs. 40 mln
- Brokerage: 2.5%
- Statistics /Information regarding the portfolio: As seen by Reinsurer, 30 November 2010.
- Leader: XY Reinsurer 25%
- Reinsurer Share : Following reinsurer's share.
- Termination of Treaty: Clean cut basis / Run off basis

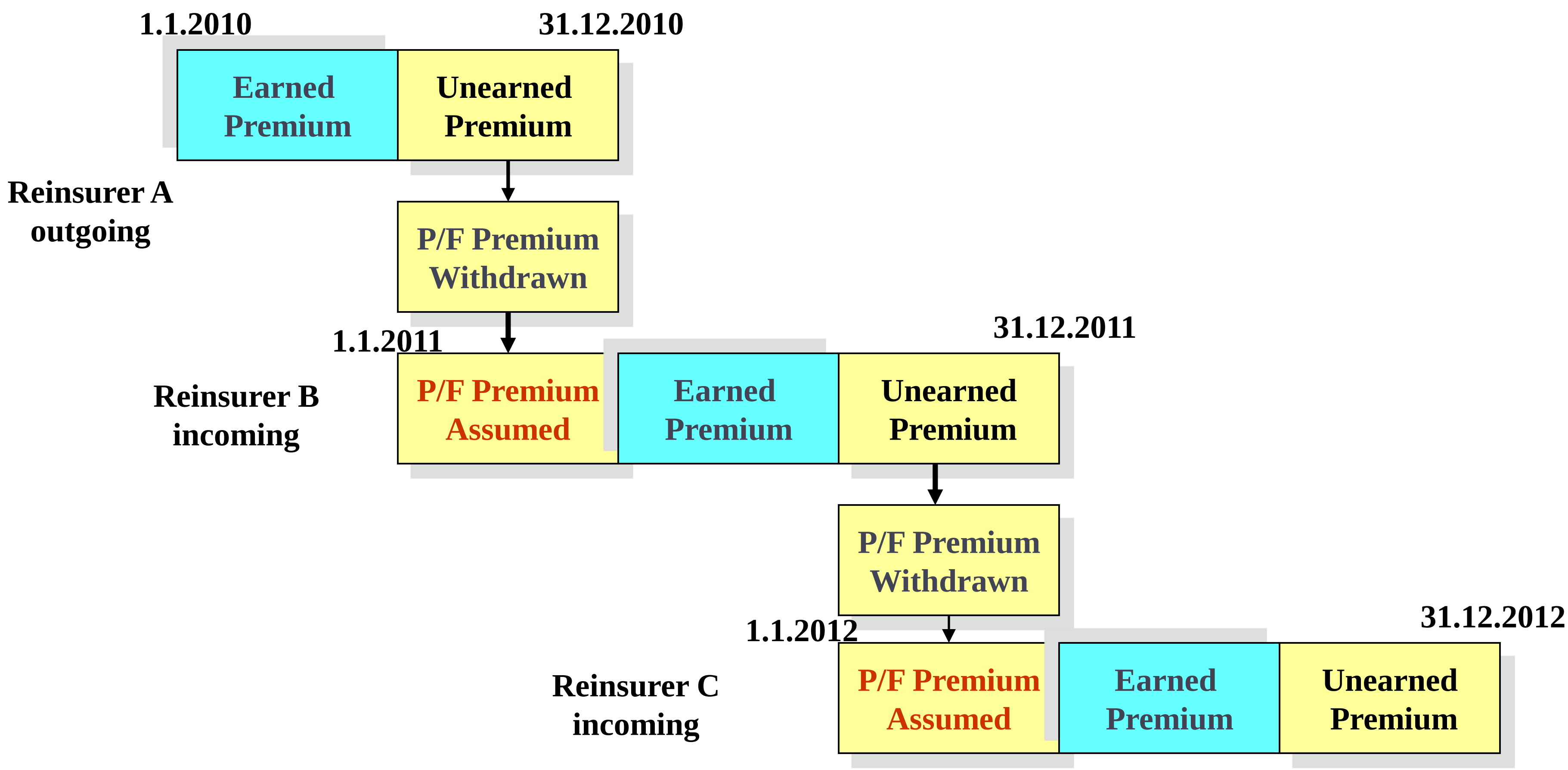
P/F Premium Transfer

35% to 40% of written premium is taken as P/F Premium	
Written Premium 2010	20,000,000
P/F Premium withdrawal @ 40%	8,000,000
P/F Premium entry 2011	8,000,000

P/F P Withdrawal for 2010 for ABC Re.'s 5% share would be 400,000
P/F P Entry for 2011 for ABC Re.'s 10% share would be 800,000.

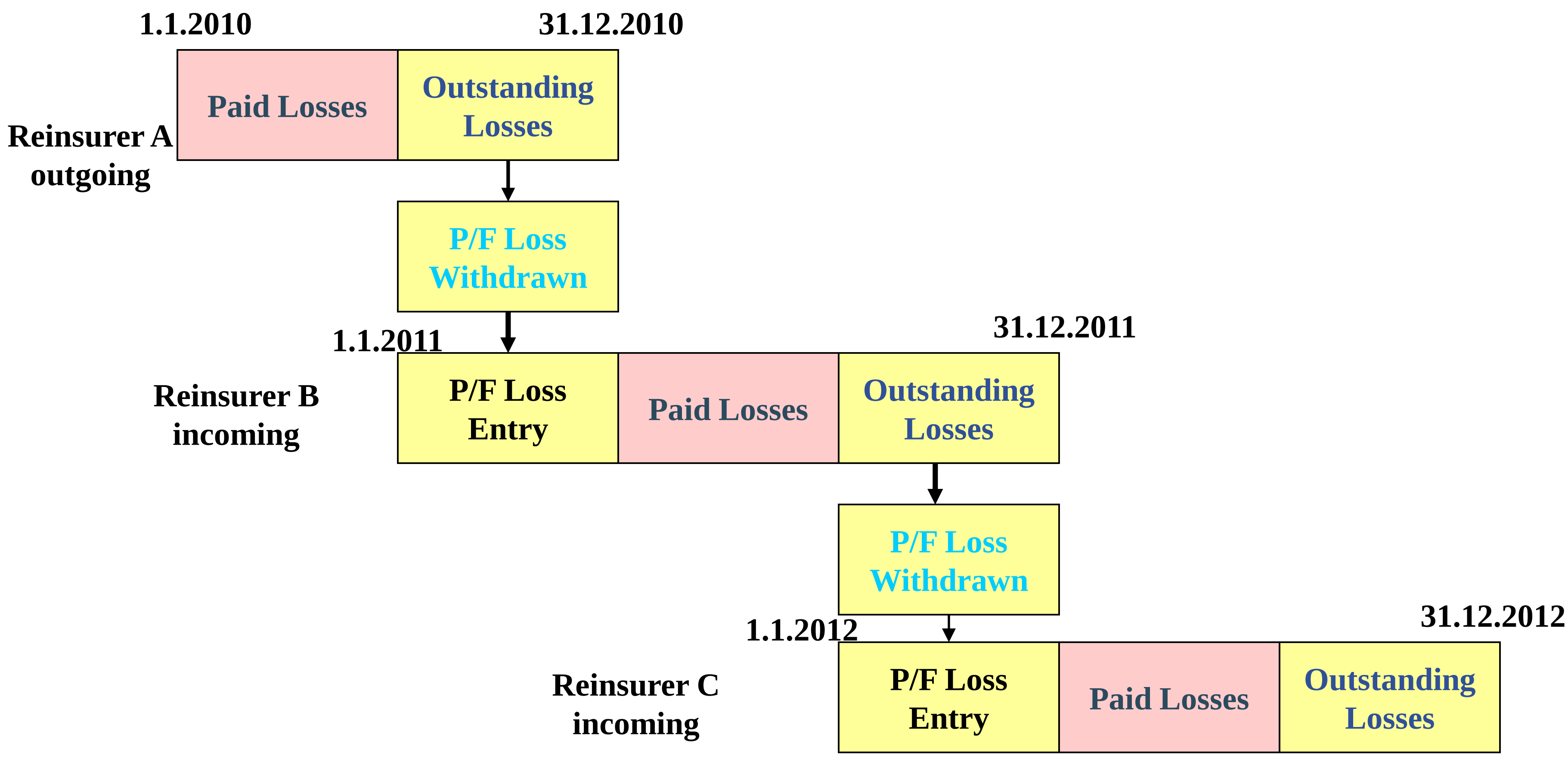
Portfolio Premiums

- This means at the cancellation of the treaty, the unearned premiums existing at the end of the treaty are withdrawn by Ceding Company from outgoing reinsurers and credited to the incoming reinsurers.



Portfolio Losses

- This means, on cancellation of the treaty, the outstanding losses existing at the end of the treaty year are withdrawn by the Ceding Company and credit is given to the incoming reinsurers.



Portfolio Losses

- P/F Losses are usually calculated at 90% of estimated O/S losses hence may not be accurate. Final payment to the insured may be lesser or greater than original estimate.
- Outgoing reinsurer loses potential investment income and/or vice-versa.
- Underlying principle is to reduce administrative cost.

Combined Treaties Q. Sh. / Surplus - Distribution of Risks

SI	QS Ret.	QS Cess.	4 line FSP	4 line SSP	Facultative
300,000	150,000	150,000	0	0	0
500,000	250,000	250,000	0	0	0
1,000,000	500,000	500,000	0	0	0
4,000,000	500,000	500,000	3,000,000	0	0
5,000,000	500,000	500,000	4,000,000	0	0
9,000,000	500,000	500,000	4,000,000	4,000,000	0
10,000,000	500,000	500,000	4,000,000	4,000,000	1,000,000
12,000,000	500,000	500,000	4,000,000	4,000,000	3,000,000
15,000,000	250,000	250,000	2,000,000	2,000,000	10,500,000

1. QS maximum limit 1,000,000 SI / PML & retention 50%
2. 1st Surplus of 4 lines with maximum limit of 4,000,000 SI/ PML
3. 2nd Surplus of 4 lines with maximum limit of 4,000,000 SI / PML

Open Cover

- This is a pure capacity treaty.
- No lines.
- Limit of the treaty will be expressed in amounts only.
- Mostly used for Marine Cargo Business.
- Difficult to get support, as usually an imbalanced treaty.

FACULTATIVE REINSURANCE

In facultative form, a reinsurance transaction carries the discretionary characteristic, which is similar to that of direct insurance.

For ceding company or reinsurer there is no such obligation either to cede or to accept business, respectively. The ceding company provides necessary information about the risk to be ceded and the reinsurer on the other end has the option whether to accept or to refuse the risk offered. Similarly, the cedent (i.e direct insurer) has the freedom to cede a risk or to keep it for his own account.

Uses / Advantages of Facultative Reinsurance

- In case of a small portfolio, where Treaty method is unattractive to reinsurers.
- Where risk is outside the scope of the Treaty - e.g. excluded class or outside the Geographic Scope of the Treaty.
- Where Sum Insured exceeds the Treaty Limit.
- Expertise and capacity of big reinsurance can be used.
- Where the nature of risk is hazardous and may have potentially destabilising effect to the Treaty.
- Where the Company wishes to increase its gross acceptance capacity in order to retain or acquire lead role on Co-insurance.
- Where the Company wishes to increase its Net Account by offering business exchange for inward facultative reinsurance.
- Where requirement of insurance is for peculiar and short period risks such as Exhibitions

DISADVANTAGES

- Full disclosure of the material facts.
- Delay in seeking support.
- High administrative costs in negotiation and administration.
- Lower rates of commission.
- No Profit Commission.
- Risk of overlooking the renewal placement.
- Negotiation procedure to be adopted at each renewal.
- Insurer cannot commit to his insured until and unless the reinsurers' acceptance pertaining to the amount in excess of his retention and the obligatory capacity of his treaties, has been received.

Procedure for Facultative Placement

- To approach Reinsurers or Broker, with the placing slip.
- Reinsurers may accept, reject, accept conditionally or ask for more information.
- On acceptance, Reinsurers sign & return a copy of slip to the Ceding Company or the Broker.
- Signed lines and closings to be followed by settlement of premium.
- Endorsements may follow.
- Claims advises if any.
- Again individual considerations at renewal. PNOC is not normally given.

Facultative Reinsurance Slip

- Name of Cedant.
- Name of Assured. (full details such as location, occupancy, age, neighbours etc.)
- Perils Covered.
- Period of Cover.
- Sum insured (break-up) & Rates / deductibles.
- Deductions (commission, taxes, charges.)
- Brokerage.
- Past experience.
- Cedant's net retention/ gross retention.

A TYPICAL EXAMPLE OF PAKISTAN MARKET

Class of business	:	Fire, extended to include riot & strike, malicious act explosion & Acts of God (natural perils)
Name of ceding company	:	ABC Insurance Company Limited
Name of original insured	:	Sugar factory limited
	:	Building, Machinery & Stock Rs.1, 500,000,000
	:	Loss of Profits Rs. 500,000,000
		Rs. 2,000,000,000
Location	:	Jhang, Punjab
Period	:	12 months at 01.01.2018
Rate	:	Building, Machinery & Stock : 2 per cent
	:	Loss of Profits : 1.25 per cent
Commission	:	15 per cent
Retention of Ceding Company	:	10 per cent
Cessions to existing Treaties to	:	50 per cent (including compulsory surplus Pakistan Reinsurance Limited)
Percentage to be reinsured	:	40 per cent

This slip is circulated amongst the prospective reinsurers, who, if wish to participate, will initial the slip by writing down their share against their respective names, following "Closing Particulars") giving brief details of the risk accepted by the reinsurer. Normally, "Closings" along with accounts are prepared by the cedent on a monthly or quarterly basis covering all the transactions between him and his reinsurer during that period, and are sent to the reinsurer along with the payments (premium less commission).

<u>Non – Proportional Reinsurance</u>

<u>What is Non Proportional RI?</u>

- Non Proportional RI is basically a method of reinsurance through which the reinsured obtains <u>protection</u> for his portfolio.
- There is <u>no pre-decided fixed proportion</u> 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>

<u>Why is it called "Excess of Loss"?</u>

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 <u>*liability is also fixed*</u>, known as the Cover Limit.

<u>How does it work?</u>

- 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 750,000.</u>
  - 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.
  - Further reinstatements might be at high costs.

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 ?

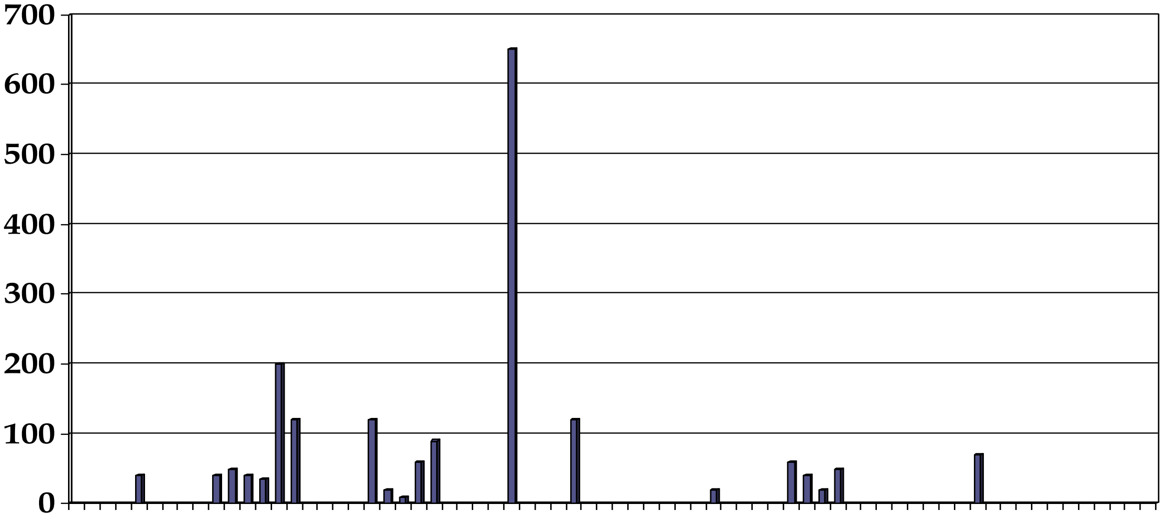
- Risk XOL: which protects the reinsured from large single risk losses, used for any traditional classes of business where a single risk can be defined.

- 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.

- Stop Loss XL: which protects the reinsured from accumulation of losses over a certain period, usually one year (e.g. Crop Insurance).

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 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.

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.

PRACTICAL EXAMPLES
NON PROPORTIONAL REINSURANCE

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

RULES OF THUMB

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

COMPANY'S CAPITAL	2015	RS.200.00 MLN
FREE RESERVES	2015	RS.100.00 MLN
TOTAL NET ASSESTS.		**RS. 300.00 MLN**
10% OF RS. 300.00 MLN. =		RS. 30.00 MLN.
RECEMMENDED RETENTION		RS. 30.00 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.

NET PREMIUM FOR 2015	RS. 400.00 MLN
10% OF RS. 400.00 MLN.	RS.40.00 MLN

RECOMMENDED UP TO	RS. 40.00 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 2015

(AMOUNT IN MLNS.)

CASH ON DEPOSIT A/C WITH BANKS	RS. 150.00
CASH ON CURRENT A/C WITH BANKS	RS. 100.00
CASH IN HAND	RS. 15.00
TOTAL LIQUID ASSETS	**RS.265.00**

RS. 265.00 MLN./5 = RS. 53.00

RECOMENDED UP TO RS. 53.00

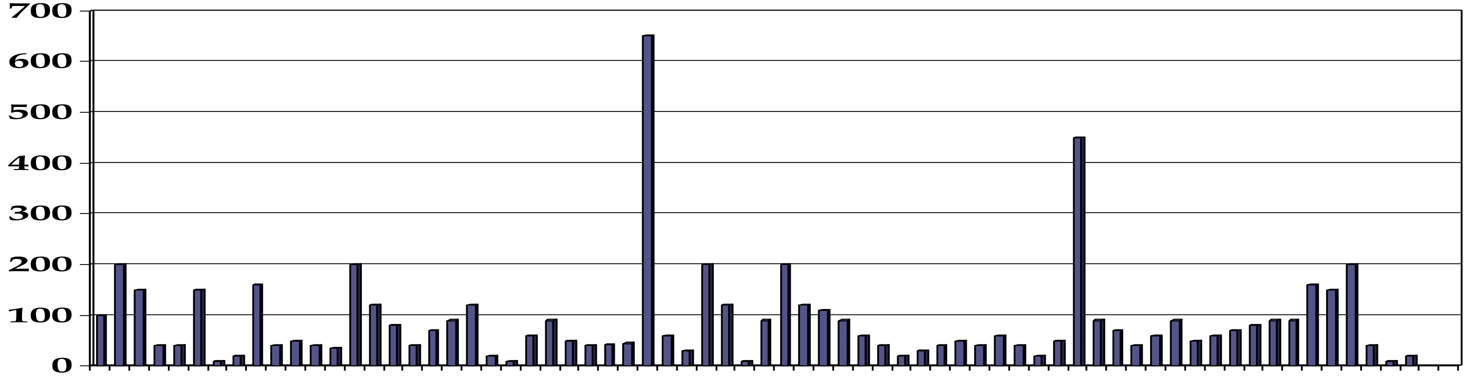
SUMMARY

METHOD	1	30.00 MLN
METHOD	2	40.00 MLN
METHOD	3	53.00 MLN

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

Catastrophe Excess of Loss

- Excess of loss cover protection for **accumulation of of loss out of a single event.** Proportional Reinsurance and Risk XL control the ***vertical*** exposure on individual risks. However the Cat XL protects an insurer from ***horizontal*** 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 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.
- Inuring Risk-XL programme (PML Bust).

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 Losses	ABC Priority	R / I Recoveries
2006			
	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
2006	378.85	5.30	1.39%
2007	433.60	1.04	0.23%
2008	450.75	4.24	0.94%
2009	455.43	2.05	0.45%
2010	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 Min X 0.93% = 5.58 Min x 90% = 5.02 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

EXPOSURE REDUCES FOR HIGHER LAYERS

500 m XS 310 m

3rd Layer

Premium12,500,000

ROL 2.50%
PBP 40 yrs

250 m XS 60 m

2nd Layer

Premium 9,000,000

ROL 3.6%
PBP 28 yrs.

50m XS 10 m

1st Layer

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 1.1.2010 to 31.12.2010
For 20,000,000 Xs 5,000,000 EEL
XL M&D Premium is 2,000,000
Loss to the cover on 30.6.2010 for 10,000,000
Reinstatement Premium is

$$\frac{10,000,000}{20,000,000} \times 2,000,000 = 1,000,000$$

Adjusted Premium on 31.12.2010 2,400,000.
Additional Reinstatement premium 200,000 is payable.

ABC INSURANCE COMPANY LIMITED
MARINE CARGO XL PROGRAMME 2010
RECOVERY OF LOSS UNDER FIRST LAYER

DATE: 01.01. 2010 to 31.12.2010.

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:

NAME OF VESSEL	MV KOHINOOR
DATE OF LOSS	15TH APRIL 2010
CAUSE OF LOSS	SINKING
100% LOSS	18,400,000
NAME OF INSURED	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 10-07-2010)
FORMULA

$$\frac{\text{LOSS RECOVERY}}{\text{CAPACITY OF 1ST LAYER}} \times \text{MINDEP PREM} \times 100\%$$

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

PART THREE

ADJUMENT OF PREMIUM	(DATE 31-12-2010)
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

$$\frac{\textbf{LOSS RECOVERY}}{\textbf{CAPACITY OF 1ST LAYER}} \times \textbf{ADJUSTED PREMUM FOR 1ST LAYER} \times \textbf{100\%}$$

$$\frac{10,720,000}{16,000,000} \times 700,000 \times 100\% = 469,000$$

SUMMARY

LOSS RECOVERY FIRST LAYER	10,720,000
LESS REINSTATEMENT PREMIUM	(2,412,000) (PART TWO)
	(469,000) (PART THREE)
NET RECOVERY FROM R/I	7,839,000

Non-proportional Reinsurance Slip

- Reinsured: XYZ Insurance Ltd. Karachi.
- Type of Treaty: Excess of Loss Reinsurance.
- Period: 12 months at 1 January 2011
- 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: 1st 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:
- - 1st layer 2%, Rs. 1.80 mln.
- -2nd layer 1%, Rs. 0.80 mln.
- GNPI: Rs. 100 mln
- Brokerage: 15%
- Statistics & Information regarding the portfolio: As seen by reinsurer on 10 December, 2010.
- Leader: JYC Re 30%.

Pro-rata vs. XL – A Comparison

Pro-rata	XL
• Pro-rata sharing of S.I., Premium & Liability • Premium cession is substantial • Significant help in Solvency Margin • Considerable admin.work	• 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	XL
• Commission/P.C. help reduce exp. ratio • No limit on no. & amt. of losses to net & treaty. • Cash flow advantage • Stable Market	• No Commission/ P.C. • XL protects Net a/c exposure for limited amount & number of recoveries • Negative Cashflow • 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.

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 75% (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

- Crop Stop Loss XL Cover (Rs. in mlns)
- 1st Layer 90% Xs 110%
- GNPI 2009 200 mln 2010 280 mln.
- Rate 10%
- Example 1: Loss Recovery
- U/W year 2009: 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 2010: 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.

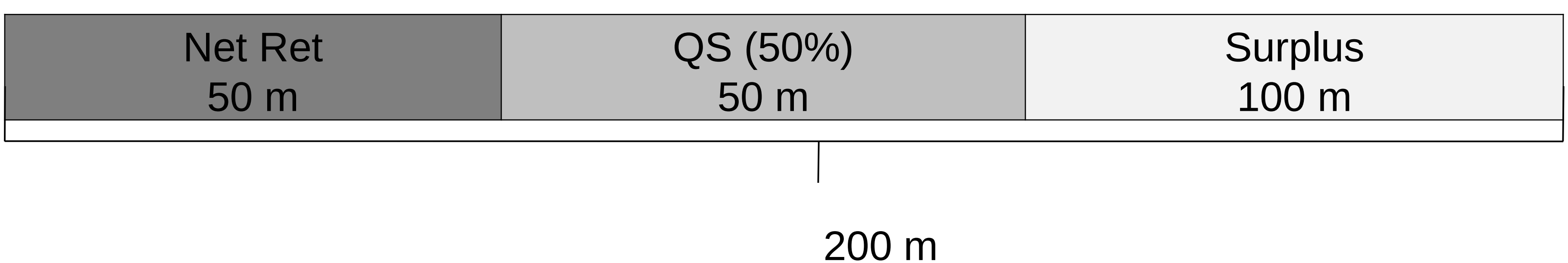
- An example of combined cover with USD 200mln. capacity on proportional basis with net retention of USD 10 mln. is displayed on next slides.

- The non proportional program (Risk XL and Cat Xl) 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



Combined Proportional / Non-proportional Program

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

Risk XL

Limit
40 m

Priority
10 m

Cat XL

Limit
90 m

Priority
10m

Stop Loss XL or Aggregate Ratio XL

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- Reinsured loss 110%= 330, + Reinsurer 10%=30 Total claims 360.

A.M. Best		Fitch		Moody's		Standard & Poor's	
SECURE		SECURE		STRONG		SECURE	
A++,A++	Superior	AAA	Exceptionally strong	Aaa	Exceptional	AAA	Extremely strong
A, A-	Excellent	AA	Very strong	Aa	Excellent	AA	Very strong
B++, B+	Very good	A	Strong	A	Good	A	Strong
		BBB	Good	Baa	Adequate	BBB	Good
VULNERABLE		VULNERABLE		WEAK		VULNERABLE	
B, B-	Fair	BB	Moderately weak	Ba	Questionable	BB	Marginal
C++,C+	Marginal	B	Weak	B	Poor	B	Weak
C, C-	Weak	CCC,CC,C	Very weak	Caa	Very poor	CCC	Very weak
D	Poor	DDD,DD,D	Distressed	Ca	Extremely poor	CC	Extremely weak
E	Under regulatory supervision			C	Lowest	R	Regulatory action
F	In liquidation						
S	Rating suspended						
Within-category modifiers		+,-		1,2,3 (1 high, 3 low)		+,-	


Thank
you!