GROUP LIFE INSURANCE

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Fundamentals of any Pricing

Know Your **PRODUCT**

Know Your **CONSUMER**

Know Your **MARKET**

Add up **VARIABLE COSTS**

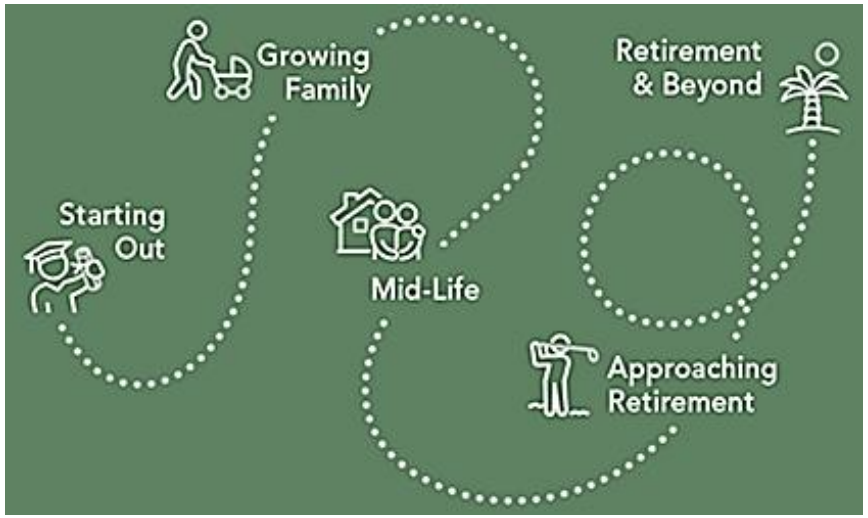
Add up **PROFIT MARGIN**

Add up **FIXED COSTS**

Life insurance basic needs…

- ✓ Securing coverage early when **young and healthy** offers **long-term financial benefits**
- ✓ Evaluate to fit **specific needs** & optimum **life cover**
- ✓ Changing **life stages** & **obligations** necessitate re-evaluating insurance needs.
- ✓ Multiple life stages create different needs for **income replacement**, **debt coverage**, or **estate planning**.
- ✓ Even into **retirement**, life insurance offers benefits like final expenses and legacy planning.

Young adults to retirees,
life insurance is a wise decision at every juncture!



Individual

- Life insurance policy for **an individual** under **single policy**
- Contract between insurance company and the **individual**
- Claim in the event of **death of the individual**
- Premium paid by the **individual**
- **Specific exclusions** for a **customized** life insurance cover

Group

- Life insurance policy for a **group of people under a single policy**.
- Contract between insurance company and **Corporate Company**
- Claim in the event of **death of an employee**
- Premium paid by the **Employer**
- **Fewer exclusions** for **basic life cover** e.g. suicide in the 1st year

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Group Life Products

Group TERM LIFE Insurance

- **Employer employee** relationship
  - ✓ Employment benefits
  - ✓ Employee retention tool
  - ✓ Attraction for hiring by the HR
  - ✓ Chances of 'Anti-selection' are low

Group CREDIT LIFE Insurance

- **Creditor & Debtor** relationship
  - ✓ Groups of loan borrowers
  - ✓ Safeguarding the financial interest of the lender/creditor/Bank
  - ✓ Decreasing Sum insured as the loan installments get paid off
  - ✓ Requires close monitoring and UW vigilance

Who is the ‘consumer’, the insured?

- ❑ Most businesses provide their workers or employees
- ❑ Often a key component in employee benefit packages
- ❑ Creditors cover their loan borrowers

- ✓ **Employer-employees**
- ✓ **NBFCs**
- ✓ **NGOs**
- ✓ **Professional groups**
- ✓ **Borrowers**
- ✓ **MFIs**
- ✓ **Banks**

What is the employer's/creditor's gain?

- ***Attract and Retain Top Talent***: Employee well-being & financial security
- ***Boost Employee Morale:*** Employees likely to be engaged & productive
- ***Cost Savings:*** Competitive premiums, can offset employee benefits
- ***Wellness & Value add-ons:*** Promoting healthy lifestyle, health check ups
- ***Risk transfer :*** Financial security towards loan payments

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What is the product to be priced?

Aspect	Group Life	Individual Life
Contract owner	Employer/Master Policy Holder	The Individual
Status	Linked to Employment status	Regardless of employment status
Process	Simple enrollment	Lengthy application process
Premium	Employer	The Individual
Cost	Economical due to group rates	Vary based on factors Age, health adversity
Coverage	To a group of an Organization	To an individual for personal cover
Sum Assured	Fixed/Salary based/Uniform for all	Based on individual financial needs
Medical UW	No detailed medical underwriting	Detailed Med UW and rates based on health
Customization	Limited options	Extensive customization to tailored coverage
Suitability	Suitable as a basic coverage	Suitable for customized protection
Term	Annually renewable	Long Term

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Profiling before pricing

- ✓ **Insurable Interest :**
  - *Insurance **incidental**, No express purpose of obtaining insurance*
  - *Fit enough to **work full-time.***
  - ***Pre employment health screenings***
  - *Less anti-selection **one cannot choose the SA***
  - ***Compulsory plan** good spread of mortality risk.*
- ✓ **Avoid anti-selection:**
  - ***Unhealthy employees** would choose higher SA*
  - ***Part timers** or **Contractual workers***
  - ***Absent from work** due to sickness for long periods*
  - ***Retirees / Pensioners / Trustees***

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Are Riders added?

- **Accidental death cover (ADB)**
- **Critical illness (CI)**
- **Total Permanent Disability (TPD)**
- **Partial Permanent Disability (PPD)**
- **Temporary Total Disability (TTD)**
- **Med-ex (Due to Accident)**
- **Repatriation (Repat)**
- **Funeral Expenses(FE)**
- **Daily hospital allowance (HCB)**
- **Terminal illness (TI)**

It is extremely vital to understand the **SPECIFIC DEFINITION** of the attached rider & price

CI
- ***Standalone*** additional Or
- ***Accelerated*** (prepay) base life cover

Disabilities
- **Accident / accident & sickness**
- **Own** Occupation/ **Any** Occupation
- **TTD** % of SA , weekly salary, no. of weeks

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Implication of ‘Workmen Compensation Act’

- ✓ In some countries, the local Workmen Compensation Law sets **minimum compensation requirements** different from the International Scale which need to be **factored in pricing**
- ✓ Workmen Compensation Laws in Kuwait, for example, provides the below minimum requirements:

Death due to accident whilst on duty.	The salary of 1500 days **OR** An amount of KD. 10,000. — Whichever is greater.
Permanent Total Disability due to accident whilst on duty.	The salary of 2000 days **OR** An amount of KD.13,333.335. — Whichever is greater.
Permanent Partial Disability due to accident whilst on duty.	A percentage of the salary of 2000 days **OR** A percentage of the amount of KD.13,333.335 — whichever is greater.
Total Temporary Disability due to accident whilst on duty.	100% of the salary during the first six months and 50% thereafter until the date of recovery **OR** The date the percentage of Disability is finally Determined by the Governmental Medical Committee.
NOTE : One day's salary = Monthly Salary ÷ 26 days	

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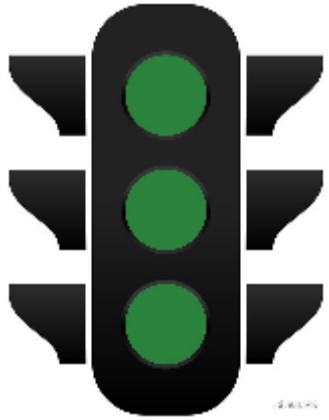
What is the Free Cover Limit (FCL) ?

Sum assured level granted ***without medical UW*** , a **significant cost** & **time saving feature**

- FCL involves assessing various factors :
  - **size** of the employee group
  - **nature** of their employment/ company's industry
  - **average level of benefits** among the employees.
  - historical **claims data**.



- Small groups have a ***lower FCL***, decision of insurance coverage is influenced by highly paid employees, possibly in poorer health. The smaller the group, the more there is **anti-selection**

- **High FCL** common in **developed markets**

- Although difficult to determine in practice, FCL could be set at the point where the **cost of asking for evidence of insurability is less than the overall increase in mortality rates**.

Are dependents covered?

- **Spouse & children** lower sum assured than employee
- Almost always voluntary, **greater level of anti-selection**
- Spouses should be asked Declaration of Good Health **(DOGH) or** Medical Questionnaire **(MQ)**
- Children **automatically covered** until age 19
- Rates should generally be **more conservative** than those for employees.
- During pricing, dependents benefits **should be considered separately**

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Quality Check before pricing!

- ✓ Data **AUTHENTICITY**
- ✓ Data **RELIABILITY**
- ✓ Data **COMPREHENSIBILITY**
- ✓ Data **COMPLETENESS**
- ✓ Data **ACCURACY**
- ✓ Data **CLARITY**

Multi-factor impact on pricing…





- **Age**
- **Gender**
- **Health Status**
- **Group Size**
- **Industry Class**
- Type of **Product**
- **Dependents /Riders**

- **Sum Assured**
- **Currency**
- **Territory/** country
- No. of **Locations**
- Historical **Claims**
- **New** or **Renewal**
- **FCL**

The list of factors is **always illustrative** ….. **Not exhaustive**…. Each **risk is Unique**….

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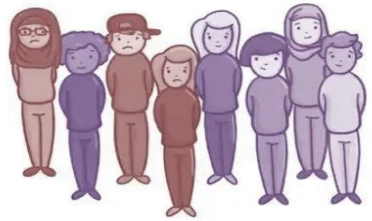
Group Mortality Vs Other Mortalities…

$$\text{CRUDE MORTALITY RATE} = \frac{\text{n° of DEATHS in a set TIMESPAN}}{\text{n° of PEOPLE in the POPULATION}}$$

MORTALITY RATES
(FREQUENCY of DEATHS)

MORBIDITY RATES
(FREQUENCY of DISEASE)



- ❑ **Mortality tables** to determine premium rates → **POPULATION mortality**
- ❑ **Regulated mortality rates/ standard tables :**
  - -IALM/LIC in ***India***
  - -TD 99 table ***Tunisia*** → **INDIVIDUAL mortality**
  - *-Financial Regulatory Authority (FRA)* ***1st*** ***Egyptian*** *mortality tables October 2023.*
- ❑ **Regular Monitoring of mortality to update tool** → **GROUP mortality**

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Post Pandemic Mortality

- Until 2020, the situation was **fairly benign**
- Life expectancy had been **ticking up gently for many years**
  - ✓ improvements in **medical science**
  - ✓ Better **living standards**
- Beginning to **plateau**
  - ✓ **fast-food** consumption
  - ✓ **sedentary lifestyles**
- This all changed with the **arrival of COVID-19**
  - ✓ **New source of mortality**
  - ✓ **No historical data /** plenty of unknowns
- Subsequently, there is a **very different set of influences** which group life insurers must consider when determining mortality and pricing

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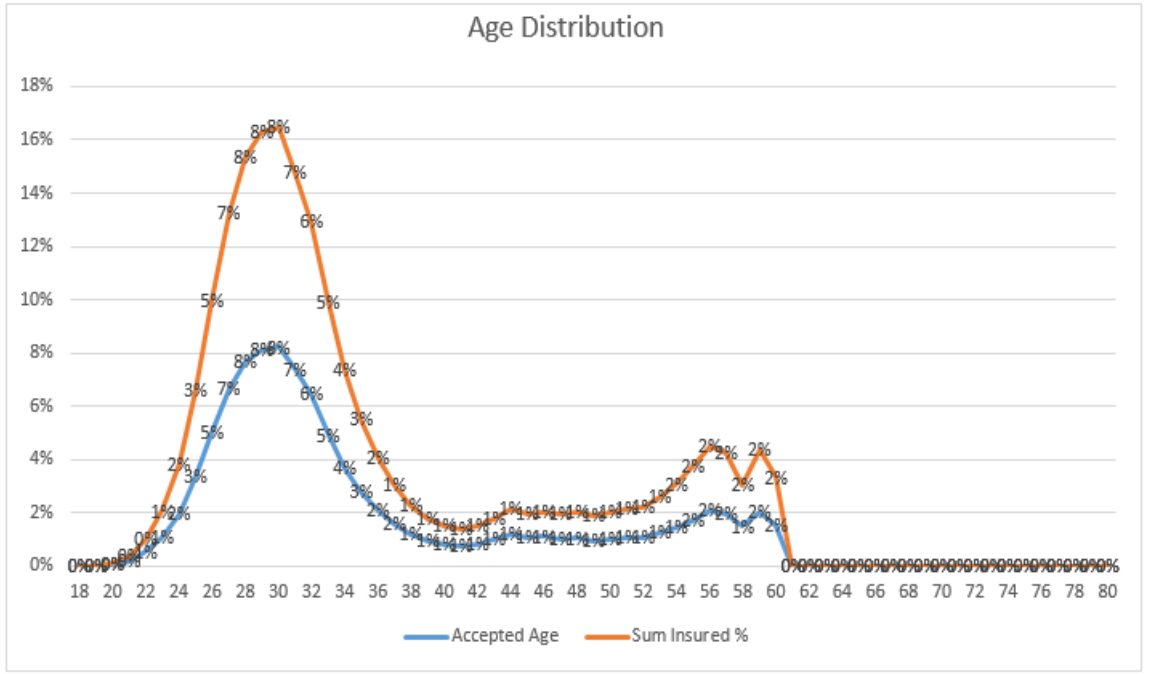
Age & Gender

AGE

- Using only **average of ages** to determine rate is inappropriate as mortality increases exponentially.
- Pricing tool has to have a fairly precise **distribution of ages**, providing basic understanding of
  - **Distribution of sum insured & ages** &
  - **Portfolio mix** which assists in decision-making.
- Member census
  a) **Detailed member DOBs**
  b) **Only the year of birth** is sufficient
  c) **Age bands of members** and particularly for new-born dependents, if cover is provided.
- Pricing tool subtracts the YOB from the current year & further adjustment as to policy effective date, especially **when base table is on an age-nearest basis**



GENDER

- **Females** reflected with an **age setback** on male rates
- Some pricing tools **compute discounts** based on proportion of females

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Occupation & Industry Class

Social status is an important determinant of expected mortality levels

Class	Occupation	Examples
1	Professional	Accountants, Electronic Engineers
	Managerial / Technical/Intermediate	Proprietors and managers- sales production, works and maintenance managers
	Skilled Non- Manual	Clerks and cashiers
2	Skilled Manual	Drivers of goods vehicle, metal working, production fitters
3	Partly skilled	Storekeepers, Warehousemen, machine tool operators
4	Unskilled	Construction labourers, cleaners

- **Industry Class 1 – White Collar (E.g. : Bank employees)**
- **Industry Class 2 – White and Blue Collar (E.g. : Construction employees)**
- **Industry Class 3 – Blue Collar (E.g. : Heavy vehicle drivers)**

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Locations

- Differences in location **impact on expected mortality.**
  - Variations in access to health care
  - Education levels
  - Income levels
  - Pollution levels
  - Socio economical status (e.g. disease prevalence etc.)
- **Mortality dispersion** & **Risk accumulation**
  - Engineering sites
  - Bank branches
  - Hotel locations etc.
- Deciding **Loss Event limits**
- Vital Assessment of **Risk accumulation**

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Group Size

- Generally, the **larger the group**, the **lower the premium** per employee.
  - larger groups spread the risk across more employees
  - reduces the likelihood of claims
  - allows insurance companies to offer lower premiums.
- For example, if a company has 100 employees, the premium per employee is likely to be lower than if the same company had only ten employees.

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Health & Lifestyle

- **Health status** of employees affects group life insurance premiums
- **Pre-existing** / **Chronic** illnesses pose Higher risk and accordingly Higher premiums
- Employees in **good health** are **Lower risk** and hence attract Lower premiums.
- Employers encourage their employees to adopt **healthier lifestyles** & offer **wellness programs** to reduce probability of health issues and chronic illnesses
- **Lifestyle**:

  An employee who is a smoker or consumes alcohol : High risk as smoking / alcohol consumption are at a higher risk of developing health problems of lungs, liver, neurological etc.

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Product benefits

- **Product: Group term / Group Credit**
- **Basic Cover or inclusive of Riders**

Accidental Death Benefit

Disabilities (PTD, PPD, TTD)

Accidental Medical Expenses

Critical Illness

Terminal Illness

Hospital Daily Cash

- **Sum Assured:**

Flat Sum Assured

Salary Based / Multiples of Salary

Outstanding Loan balance

Employee Grade based

- **FCL: High or Low Value**
- **Dependants : Spouse, Children etc.**

Systematic Pricing approach

- Technical pricing is critical & below components affect the risk….
  - **I. Underwriting information**
  - **II. Scope of cover**
  - **III. Exposure assessment**

- Input information **during a pricing exercise :**
  - **RISK DETAILS**
  - **EXPOSURE DATA**
  - **CLAIMS EXPERIENCE**

STEP 1

STEP 2

STEP 3

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Estimating Claim Costs

Pricing tool **estimates mortality** that a **particular group** is **expected to experience**

- ❑ The **Greater the Uncertainty** of estimate, the greater is the **security margin**.
  - ✓ *In markets with **no available group mortality statistics**, estimating claims cost is a challenge.*
  - ✓ **Risk of misestimation**, failure to appropriately set the mortality rate
  - ✓ **Trend risk**, failure to **make adjustments** for developing patterns in the group's mortality (*aging, group size etc.*)
- ❑ One can always **revise pricing for each year** of developing experience since
  - ✓ normally cover is issued for one-year renewable and
  - ✓ without rate guarantees.

Minimize misestimation risk by identifying and reflecting various **rating factors** + **mortality trends**

+

adjust mortality for various rating factors, e.g. occupation, geographical location etc.

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Computing the Total Expected Claim Costs

- Once a base group mortality table is developed, pricing tool computes the **expected individual claim's cost** by taking the **product** of the **sum insured** and the **adjusted mortality rate**. (*refer table*)
- The **total expected claim cost** is the **sum of the individual expected claim costs**

Total Claim Cost Rate = Total Expected Claim Cost / Total Sum Insured

Summation occurs over **all participating members,** individual expected claim rate will be a **function of age, gender, class, geographical location**.

Gender	Age Last Birthday	Sum Insured	Base Rate Per Mille	Class Adjustment	Class Adjusted Rate	Expected Claim Cost
Male	43	200,000	2.4453	125%	3.0566	611.33
Female	28	100,000	1.0256	150%	1.5383	153.83
Male	25	200,000	1.0256	125%	1.2819	256.39
Female	30	200,000	1.0463	125%	1.3078	261.56
Male	43	100,000	2.4453	150%	3.6680	366.80
Male	59	500,000	11.2608	100%	11.2608	5,630.40
Female	42	500,000	1.7631	100%	1.7631	881.55
		1,800,000	4.3125		4.5344	8,161.85

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Foreign Exchange

- **Impact of foreign exchange rate:**
  - ✓ Ongoing **Geo-political** situation e.g.
    - ✓ Russia Ukraine conflict
    - ✓ Beirut Blast
    - ✓ Turkey earthquake
  - ✓ Currency **fluctuation or devaluation**
- Revisions in **Expected Premium Income**
- **Multicurrency policies**
- **Revaluation of renewals** basis
  - ✓ Geography/ geopolitical instability
  - ✓ ULR calculations
  - ✓ Non-Viability of Business

Preliminary Risk Details

- ❑ **Type of scheme**
- ❑ **Territory/Country**
- ❑ **Insured Activities**
- ❑ **No. of locations**
- ❑ **Sum Assured Currency**
- ❑ **Direct/Broker**
- ❑ **Data date**
- ❑ **Period**
- ❑ **Sum Assured Basis**
- ❑ **Age Basis**
- ❑ **Max & Min Ages Entry & Exit**
- ❑ **Type of reinsurance arrangement**
- ❑ **Foreign exchange rate**

Risk Details Input

Input all risk details and benefits

Underwriter	Tanuja Gore
Type of Scheme	Group Term Life
Territory	Saudi Arabia
Original Insured	ABC Bank
Insured Activities	Banks
Website	abc.com
# of Location	20+
Sum Insured Currency	Local
Cedant	Cedant
Channel	Direct
Date of Data As At	08/12/2024
Renewal Period (from)	01/01/2025
Renewal Period (till)	31/12/2025

Sum Insured Basis	Lump Sum
Age Based	Individual
Entry Age	18
Expiry Age	70
Expiry Age of Riders	70

Type of Reinsurance	QS
Quota Share %	20%
Max Retention	
Max Sum Insured per life	1,000,000

Risk Currency:	SAR
Exchange Rate to SAR:	1
Number of Insured	8,907

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Loadings

- **EXPENSE MARGINS :**
  Expense ratio is calculated by **dividing the expenses** (acquisition, UW, servicing) **by the net premiums earned**.
  Key piece of the combined ratio, standard for **measuring efficiency & profitability**

- **Return on capital Margins:**
  It is a way to **measure the profitability** of a business.
  Compares a **company's profits** with the **value of the assets** used to produce them

- **Profit Margins :**
  A measure expressed as a **percentage of how much money** a company is making on its products/services after subtracting all direct and indirect costs involved.

- **Brokerage :** Percentage of gross premium

- **Local VAT , Regulatory Fee ,** if applicable , E.g. KSA
  Brokerage and RI commission will be subject to 15% VAT
  SAMA fee as a % of gross premium (currently fixed at 0.5%)

- **RI Commissions :** The commission paid by the reinsurer to the ceding company on reinsurance agreements as compensation to place the business with the reinsurer and to cover the ceding company's acquisition expenses.

Exposure Data and Members List

Benefits	Percentage of the Basic Sum Insured		
DAC	Percentage	100%	
TI	Percentage	100%	
ADB (Additional to DAC)	Percentage	100%	
TPD-A	Percentage	0%	
TPD-S	Percentage	0%	
PPD-A	Percentage	0%	
PPD-S	Percentage	0%	
WC	Percentage	0%	
CI	Percentage	100%	
	Limits		
	SI	Weeks	%
TTD-A	Lump Sum	52	1%
TTD-S	Lump Sum	52	1%
	Benefit Amount		
Medex (Due to Accident)	100,000		
Repatriation			

- **Product benefits:**
  - Base cover
  - Riders
- **Member Details:**
  - Age/DOB
  - Gender
  - Sum Assured
  - Industry Class

		Individual		Industry	Sum Insured
Members #	Gender	Date of Birth	Age	Industry Class	Lump Sum
1	M	08/08/1961	60	1	500,000
2	M	11/05/1973	48	1	200,000
3	M	12/02/1977	44	1	100,000
4	M	31/01/1969	52	1	800,000
5	M	10/01/1975	46	1	100,000
6	M	16/07/1976	45	1	500,000
7	M	01/01/1964	57	1	200,000
8	M	01/12/1976	44	1	100,000
9	M	02/01/1980	41	1	800,000
10	M	26/03/1975	46	1	100,000
11	M	12/01/1980	41	1	1,000,000
12	M	02/07/1973	48	1	500,000
13	M	10/09/1977	44	1	900,000
14	M	09/06/1978	43	1	100,000
15	M	10/01/1981	40	1	500,000
16	M	10/10/1983	37	1	600,000
17	M	05/09/1977	44	1	400,000
18	M	05/01/1978	43	1	200,000
19	M	20/10/1977	43	1	100,000
20	F	15/08/1975	43	1	500,000

Historical Claims

DETAILED CLAIMS EXPERIENCE

Each claim individually & experience in details.info may not always be available

Past claims list							
		Gross		Retention	Ceded Share		
No.	Date of Loss	Paid	O/S	Incurred	Incurred	Date reported	Cause of Claims
1	01/05/2018	500,000		50,000	450,000	01/07/2018	Death
2	02/05/2018	200,000		20,000	180,000	02/10/2018	Covid-19
3	02/05/2019	100,000		10,000	90,000	02/07/2019	Death
4	02/05/2019	100,000		10,000	90,000	02/05/2020	Others
5	03/05/2019	900,000		90,000	810,000	02/05/2020	Death
6	04/05/2019	100,000		10,000	90,000	07/07/2020	Death

SUMMARIZED CLAIMS EXPERIENCE

If there is no detailed information available; the summary is utilized

Past Exposure Data			Claims Experience	
Year	Sum Insured/OS Loan	No. of lives	Incurred Claims	No.of Claims
2016				
2017				
2018	3,300,000,000	6,000	2,750,000	5
2019	4,500,000,000	7,500	2,000,000	2
2020	5,200,000,000	8,000	2,000,000	8

Estimations in a Pricing Tool

A. **IBNR Calculation**

B. **Benefits & Exposure Calculation**

C. **Age Distribution Chart**

D. **Pricing Selection**

A. IBNR :

Incurred but not reported based on historical claims

A. **Chain Ladder Method (frequency only)**

B. **Frequency & Severity**

C. **Claims/ SI**

D. **Claims Experience and IBNR Output**

Frequency estimated from the 3 methods as below:

a) Chain Ladder Method

b) Simple Average Frequency

c) Lag-adjusted Frequency

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Estimations in a Pricing Tool

B. Benefits and Exposure Calculation :

- ✓ Calculates the **rates according to the benefits** that the scheme covers
- ✓ The rates computation is referred to the **mortality and morbidity rates** that varies by **different country and class.**
- ✓ The mortality and morbidity table are extracted from **study and research** by recognized society **updated from time to time.**

C . Age Distribution Chart :

- ✓ Age distribution chart provides basic understanding of the **distribution of sum insured and the ages** and the relationship between them.
- ✓ Helps to understand the portfolio mix, which assists in decision-making.

D. Pricing Selection

- ✓ **Exposure Method** : Based on **corresponding sum insured & benefits**, rates are calculated based on the mortality and morbidity rates of the selected country.
- ✓ **Burning Cost Method/ Experience Method :** Provides BC for all respective years, average BC for multiple years, as wells as min & max BC of the scheme by analyzing claims experience and the assumed IBNR .
- ✓ Final burning cost based on **credibility of each year's claims experience.**

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Pricing Selection : Experience Vs Exposure

Experience Rating

- Setting premium by *group's* ***past experience***,
- The ***larger the group,*** *the* ***more claims*** *it has****,*** *the* ***more credible*** *will be its* ***past experience.***
- Adjusts the premium based *on group's* ***actual claims*** experience ***before inception*** of cover.

Experience Rating

- ***group's actual past claims experience***
- ***before the term of insurance***
- ***past experience indicator of future experience***

Exposure Rating

- ***group's current mortality indication***
- ***Useful in virgin schemes***
- ***Data quality impacts the risk evaluation***

Exposure Rating

- Setting premium by *group's* ***current exposure***
  - Factors such as group size, demography, ages, genders, occupation class, sum assureds etc.
- Adjusts the premium based *on group's presented* ***exposure risk***

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Severity

Severity refers to the **cost of a claim**. A **high-severity claim** is more expensive than an average claim, and a **low-severity claim** is less expensive than the average claim.
Average costs of claims are estimated based on **historical data.**

- The following aspects of the member data are used to calculate severity :
  1. The **number of incurred deaths** in a group
  2. The **incurred claims amount** from claims experience
  3. The **incurred severity** is calculated by **dividing input 2 by input 1.**
  4. The **weighted average severity** for **different years** are calculated.
  5. The **average sum insured** for the **current exposure** is computed.
  6. Finally, UW selects the severity based on **input 4 and 5**.

	1	2	3
Year	No.of Incurred Death	Incurred Claims	Incurred Severity
2016	-	-	-
2017	-	-	-
2018	5	2,475,000	495,000
2019	2	1,800,000	900,000
2020	8	1,800,000	225,000

	4				5	6
	Weighted Average Historical Severity					
5 years	4 years	3 years	2 years		Average SI	Selected Severity
						-
						-
		495,000	495,000			495,000
	610,714	610,714	610,714			900,000
405,000	405,000	405,000	360,000		369,000	369,000

Based on Average Claim Cost, claims above the average will represent the high severity and vice versa.

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Claims/ SI

Compute IBNR based on **historical claims** and **sum insured (ratio of claims over sum insured)**

- The following aspects of the member data are used :

1. The **incurred claims**
2. The **sum insured for historical years**
3. This is the computation of ratio of **claims/ Sum Insured** for **each year**
4. The **average ratio** of claims/ SI for **multiple years** is tabulated
5. The **lag-adjusted** claims/SI is computed **based on the lag of reported months**
6. UW selects the final claims/ SI for each year based on judgement.

Method : Claims/ SI

				Simple Average Historical Claims/ SI			
Year	Incurred Claims	Sum Insured	Claims/ SI	4 years	3 years	2 years	Lag-Adjusted Claims/SI
2016	-	-					
2017	-	-					
2018	2,475,000	2,970,000,000	**0.000833**				**0.00083**
2019	1,800,000	4,050,000,000	**0.000444**		**0.00083**	**0.00083**	**0.00044**
2020	1,800,000	4,680,000,000	**0.000385**	**0.00064**	**0.00064**	**0.00064**	**0.00045**

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Claims Experience and IBNR Output

1. The IBNR for each year can be estimated from **frequency and severity method**.
2. The IBNR for each year can also be estimated from **claims/ SI method.**
3. UW selects the **final IBNR** from either of the above methods.
4. This is the estimation of burning cost **before IBNR** and **after IBNR.**

			Method		
Year	Sum Insured/ OS Loan	Incurred Claims	Freq & Sev	Claims/ SI	Selected IBNR
2016	-	-	-	-	-
2017	-	-	-	-	-
2018	2,970,000,000	2,475,000	-	-	-
2019	4,050,000,000	1,800,000	-	-	-
2020	4,680,000,000	1,800,000	509,629	310,749	509,629

Burning Cost	0.3846
Burning Cost with IBNR	0.4935

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Benefits and Exposure Calculation

Rates are calculated according to the benefits offered, the age and industry class input from the exposure data. Rate computation is referred to the mortality and morbidity rates that varies by different country and class. The mortality and morbidity table are extracted from study and research by recognized society and will be updated from time to time.

Members info			Rates							
Members	Ages	Industry Class	DAC Rate	ADB Rate	TPD-A Rate	TPD-S Rate	PPD-A Rate	PPD-S Rate	TTD-A Rate	TTD-S Rate
1	60	1	7.330	0.230	0.058	0.116	0.140	0.100	0.401	1.013
2	48	1	1.870	0.230	0.058	0.116	0.140	0.100	0.401	1.013
3	44	1	1.150	0.230	0.058	0.116	0.140	0.100	0.401	1.013
4	52	1	3.010	0.230	0.058	0.116	0.140	0.100	0.401	1.013
5	46	1	1.470	0.230	0.058	0.116	0.140	0.100	0.401	1.013
6	45	1	1.300	0.230	0.058	0.116	0.140	0.100	0.401	1.013
7	57	1	5.290	0.230	0.058	0.116	0.140	0.100	0.401	1.013
8	44	1	1.150	0.230	0.058	0.116	0.140	0.100	0.401	1.013
9	41	1	0.800	0.230	0.058	0.116	0.140	0.100	0.401	1.013
10	46	1	1.470	0.230	0.058	0.116	0.140	0.100	0.401	1.013
11	41	1	0.800	0.230	0.058	0.116	0.140	0.100	0.401	1.013
12	48	1	1.870	0.230	0.058	0.116	0.140	0.100	0.401	1.013
13	44	1	1.150	0.230	0.058	0.116	0.140	0.100	0.401	1.013
14	43	1	1.020	0.230	0.058	0.116	0.140	0.100	0.401	1.013
15	40	1	0.630	0.230	0.058	0.116	0.140	0.100	0.401	1.013
16	37	1	0.520	0.230	0.058	0.116	0.140	0.100	0.401	1.013
17	44	1	1.150	0.230	0.058	0.116	0.140	0.100	0.401	1.013
18	43	1	1.020	0.230	0.058	0.116	0.140	0.100	0.401	1.013
19	43	1	1.020	0.230	0.058	0.116	0.140	0.100	0.401	1.013
20	43	1	1.020	0.230	0.058	0.116	0.140	0.100	0.401	1.013

- **Mortality Table:**

Mortality table shows the **rate of deaths** occurring in a **defined population** during a **selected time interval**

- **Morbidity Table:**

Morbidity table shows the **rate of disease** occurring in a **defined population** during a **selected time interval**

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Final Pricing Output

- Final rate is a **credibility-weighted rate** between **exposure rate** and **experience rate**.
- **Credibility factor** is used to provide a measure of the relative **predictive value** of the data being reviewed.
  - ✓ **Weight assigned** should generally **increase with the number of exposure bases** and
  - ✓ **decrease with higher levels of variability** in the observed data.
- The selected rate is then loaded up with the specific risk factors if any to reach the **gross rate.**
- The gross rate is further loaded up with **management fees**, **brokerage fee** and **loadings/reinsurance rate** to reach the **combined net rate.**

Exposure Method	Rates					Experience Method
			Original Currency	SAR	USD	
	Credibility Factor	15%				
	Pandemic Charge	0.000	0	0	0	
	Risk Premium Rate	2.537	76,774	76,774	20,473	
2.795	Management Fees & SAMA Fee	21.14%	20,581	20,581	5,488	1.033
	Brokerage	5.0%	4,041	4,041	1,078	
	RI Commission	0.0%	0	0	0	
	VAT	15.0%	606	606	162	
	Gross Premium Rate	3.470	102,002	102,002	27,201	
	Gross Premium	105,012	105,012	105,012	28,003	

Final Rate per mill	3.470
Gross EPI (100%) : SAR	105,012
Gross EPI (100%) : SAR	105,012
Expiry Rate/ Target Rates	1.280
Difference in Rates	(2.190)
Difference in EPI in SAR	-66,276
EPI on Target/Expiry rates	38,736

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Recap of basic formulas

- **Loss Ratio** = Losses / Premium
- **Expense Ratio** = Expenses / Premium
- **Combined Ratio** = (Losses + Expenses) / Premium = LR + ER
- **Underwriting Profit** = 100% – Combined Ratio
- **Example:**

➢ Loss Ratio = 70% *(ratios may be expressed as a % or a decimal; either is correct)*

➢ Expense Ratio = 25%

➢ Combined Ratio = 95% i.e. 95% of premium is used to pay losses & expenses.

➢ Underwriting Profit = 5% i.e.

After paying losses & expenses, the company has 5% of premium left over for profit.

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Ask the right questions at renewal…

- **Primary objective** is to **retain the group** on **mutually acceptable terms**
  - Was the initial information correct?
  - Is the information still useful?
  - What new information is available?
  - All **details that have changed** within the **previous year**
    - **Additions & Deletions**
    - **Changes in Sum Assured**
  - **New Census** with all relevant information (age, benefits, etc.)
    - **individual employees' health** declaration where necessary
    - **Distribution of benefit levels**
  - Detailed info of all claims that occurred during the previous year
  - Member enrolment trend has been **steady, increasing, or declining**

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Renewal Pricing Analysis

- **Analyze the exposure and claims experience of the group.**
  - **Group Size** : The larger the group, the more analysis required to fine-tune the renewal rate
  - Analysis of **claims experience** should be inclusive of **Paid** + **OS** + **IBNR** reserves
- **How different is the actual experience from the expected mortality experience?**
- **What credibility factors should be assigned to the experience?**
  - May be difficult if there are **catastrophic losses** in the early years, or
  - If there is **evidence of anti-selection.**
- **How should the insurer deal with groups in a loss-making position?**
- **Should it try to recover past losses by including an additional load to the premium?**
  - Doing so may force the group to lapse / move to the competition.
  - The poor experience, for small groups, might just be the result of statistical fluctuations

Vigils at renewals..

- Potential problem relates to **timing**:
  - the claims data is normally not fully available due to **reporting delays**
  - complicates giving the employer adequate notice of **new rates**
  - It is also **difficult to estimate reserve requirements** since the claims data is incomplete.
  - Check delays between the **date of death** and **reporting dates** to adequately set any ***IBNR reserves.***
- *Negation is particularly problematic if the original underwriting was based on **overly optimistic claims assumptions** or **marginal administrative costs**.*
- *Renewal requests may include inclusion of **new benefits , new sum assured definitions , higher FCL** or **additional rider coverage**.*
- The renewal process also permits the insurer to review its internal processes
  - ✓ Insurers modify **group UW guidelines**.
  - ✓ Administrative procedures are efficient.

In the end, quoting for a group renewal is not so different than having to quote on a new group **except**

- **more information is available**
- relationship already exists between the insurer and the original insured.

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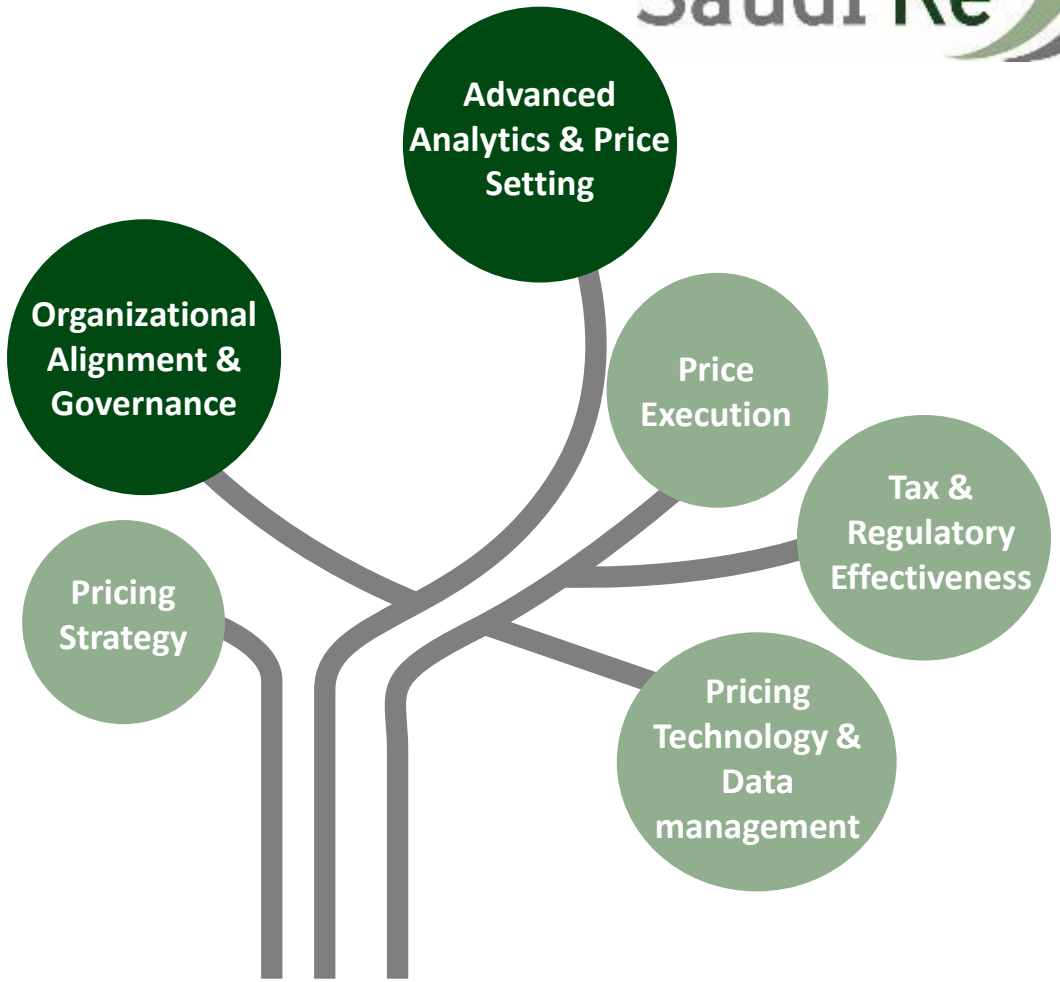
Attaining Pricing Excellence

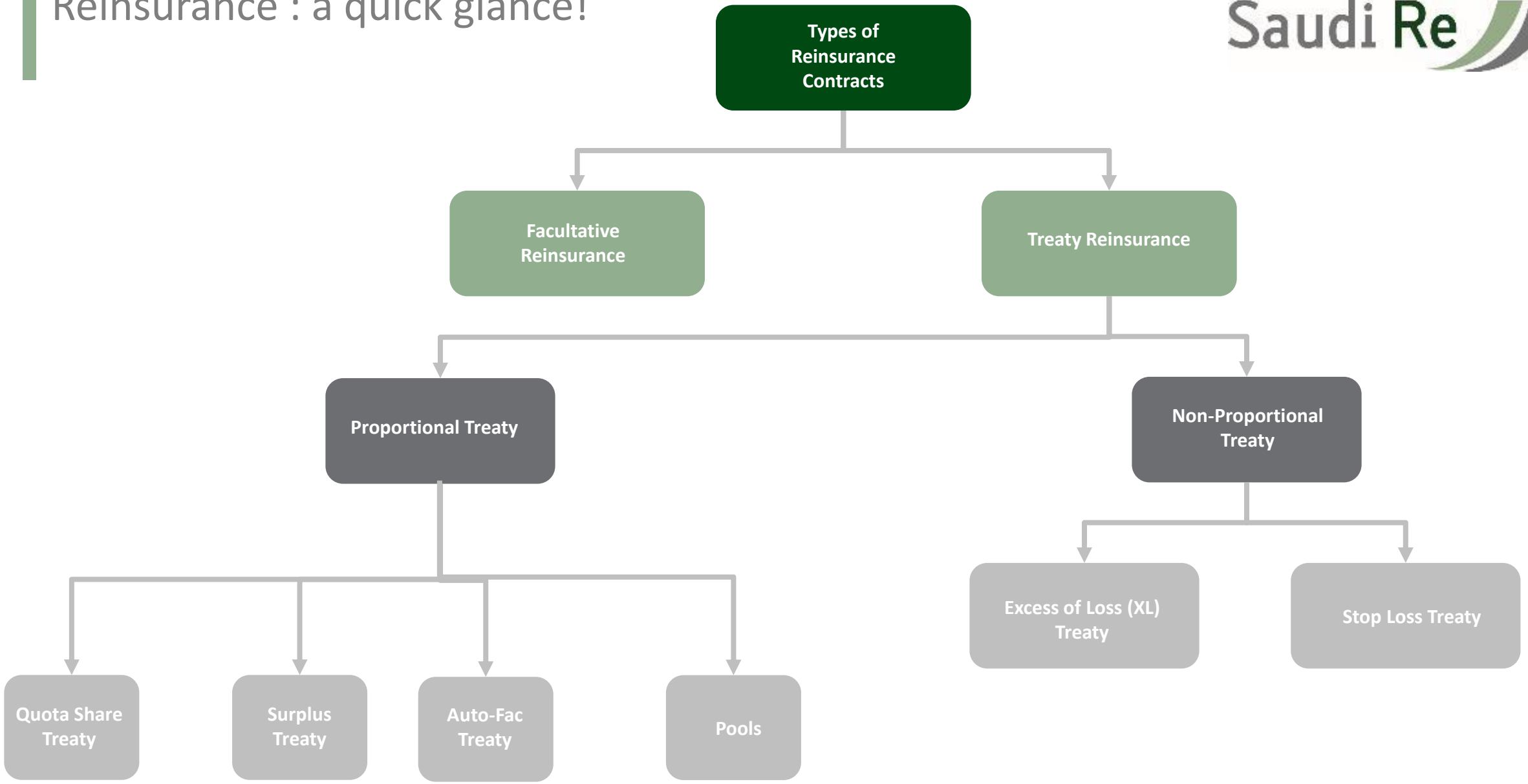
Consequences of Bad Pricing?

- ❑ **Premium too low:**
- ✓ Insufficient to pay claims and expenses
- ✓ Short-term price increases may lead to low renewals and
- ✓ anti-selection threatens financial stability of insurer
- ❑ **Premium too high:**
- ✓ Product unaffordable/seen to provide poor value – reputation risk!
- ✓ Low sales: adverse effect on expense margins and sustainability
- ❑ **Unusable data:**
- ✓ insurance take-up experience may be of limited use for future pricing if based on mispriced product



There is no right or wrong answer ☺

Reinsurance : a quick glance!



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Glossary

DAC: Death due to Any Cause
AD/ADB: Accidental Death/Accidental Death Benefit
PTD (A) : Permanent Total Disability due to Accident
PTD (S) : Permanent Total Disability due to Sickness
PPD (A) : Permanent Partial Disability due to Accident
PPD (S) : Permanent Partial Disability due to Sickness
TTD (A) : Temporary Total Disability due to Accident
TTD (S) : Temporary Total Disability due to Sickness
CI : Critical Illness
TI: Terminal Illness
Med-Ex : Medical Expenses
Repat-Ex : Repatriation Expenses
HCB/DCB: Hospital cash benefit/ Daily Cash benefit
FE : Funeral Expenses
WC: Workmen Compensation
NMQ : Non Medical Questionnaire
MQ: Medical Questionnaire
DOGH : Declaration of Good Health
SA/SI: Sum Assured/ Sum Insured
GTL: Group Term Life
GCL: Group Credit Life
PA: Personal Accident
PWRT: Passive War Risk and Terrorism

FCL: Free Cover Limit
PED: Pre Existing Diseases
OCC: Occupation
DOB: Date of Birth
RCD: Risk Commencement Date
PMPA: Per Mille Per Annum
LR: Loss Ratio
ER: Expense Ratio
CR: Combined Ratio
ULR: Ultimate Loss ratio
UWYR: Underwriting Year
FYR: Financial Year :
QS: Quota Share
S: Surplus

Saudi Re Team:

Life, Medical & IDI : KSA, Middle East, Asia & Africa

Product

Medical and Travel

Treaty (Proportional & XOL)

Inherent Defects Insurance (IDI) for KSA market only

Treaty & FAC

Life
Facultative

Facultative Group Term Life
Facultative Group Credit Life

Life – Treaty
(Proportional , Risk & CAT XOL)

Group Term Life
Individual Term Life
Group Credit Life
Individual Credit Life

Capacity

Line Of Business	UW Capacities	
Life - Per Risk	7.5 SAR Million	2 USD Million
Life - Per Event	33 SAR Million	9 USD Million
Medical XOL	10 SAR Million	2.66 USD Million
Medical & Travel QS	1 SAR Million	0.27 USD Million
IDI	500 SAR Million	133 USD Million

Underwriting capacities per client and per Risk on sum insured or PML basis

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Thank you

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