

# **18<sup>th</sup> Indian Fellowship Seminar**

## **Case Study: G5 – Data Quality**

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## Case Study – Description

Consulting actuary to a **medium sized insurance company that has grown rapidly in recent years, who is responsible for providing an actuarial certificate confirming the adequacy of the claims reserves**, which is included in the published Report & Accounts.

**Incurred claim** projections give reserves consistent with those the company wishes to book.

Issues over data Quality over past 2-3 years

Rumors in the market about suppressing case reserves to improve results

Two months ago the company's founder resigned as CEO “to spend more time with his family”.

Staff turnover in the claims department is abnormally high

## Steps already taken

Already concerned with the company who have assured in writing that the data are accurate.

Have spoken to the auditors who have also confirmed in writing that they are happy with the data.

Certificate is required by the end of the week, but concerns are not completely addressed ?

## Indian Context of the Case Study

- Currently the Reserve reported are: URR (UPR + Premium Deficiency Reserve) and IBNR
- The Data Quality and Reserves reported have to be certified by the Appointed Actuary only. There is no other certificate required for reserves.
- As per the IBNR manual issued by the regulator, it is mandatory to calculate IBNR reserves using Paid Claims and not Incurred. Incurred Claim projections can be used as a cross check
- Appointed Actuary is responsible for preparing and certifying the IBNR Report, including Form A, Form B-1 and Form B-2.
- This IBNR report includes a detailed section on Data Quality, where AA has to comment on Data Quality, observed growth in premium, claim settlement
- Also, AA is responsible for preparing Financial Condition Report every year, which analyzes the adequacy of premium, reserves, and capital

## Some Interesting Facts

The primary reason why 871 insurers failed in United States:

- \* inadequate pricing / reserves

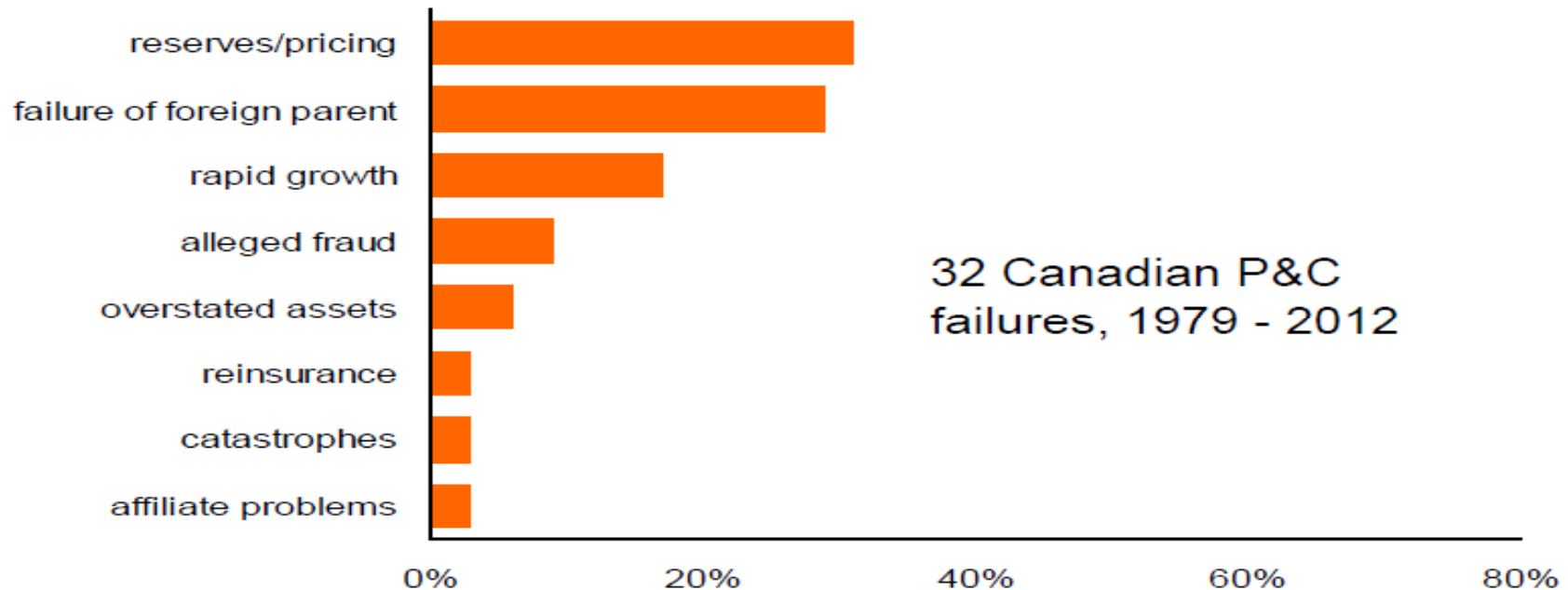
The primary reason why 140 insurers failed in Europe:

- \* inadequate pricing / reserves

The primary reason why 159 insurers failed in Asia:

- \* inadequate pricing / reserves

### *Cause of failure*



Source: Study of P&C insurance industry by PACICC, June'12

# Examples from History

## Profile of Maplex General Insurance Company

<b>Nationality</b>	Canadian
<b>Jurisdiction of incorporation and licensing</b>	Province of Ontario
<b>Date incorporated</b>	December 1955
<b>Date of winding-up order</b>	March 1995
<b>Years of operation</b>	40
<b>Ownership structure</b>	Not widely-held
<b>Major lines of business</b>	Property, Auto, Liability, Boiler and Machinery
<b>Group member</b>	Subsidiary of Transit Financial Holdings Inc.

### Main causes of insolvency

- Deficient loss reserving and inadequate underwriting
- Management and corporate governance deficiencies
- Rapid growth in particular lines of business

### Contributing causes of insolvency

- Fraud
- Softening of the insurance cycle
- Increased interest rate volatility

## Considerations in Decision

- ✓ Regulations, Guidelines and PCS
- ✓ Implications of Unjustified Certification
- ✓ Time Constraints
- ✓ Reasons for Data Issues
- ✓ Impact on Major Stakeholders
- ✓ Other reserves/areas impacted by Data Quality Issues

# Responsibilities of Actuary certifying IBNR reserves

- ✓ All General Insurers registered in India in accordance with **Section 3 of the Insurance Act, 1938** need to furnish the **statement of IBNR Reserves** certified by Appointed Actuary or a Consulting Actuary, as per **Schedule II-B of IRDA (Asset, Liability and Solvency Margin), Regulation-2000**.
- ✓ **IRDA (Assets, Liabilities and Solvency Margin of Insurers) Regulations, 2000 relating to valuation of liabilities for General Insurance Business** require that reserve for claim incurred but not reported (IBNR) shall be determined using actuarial principles and also shall be certified by insurer's appointed actuary.
- ✓ In the past, it was observed that there was no means of knowing whether the certification was supported by adequate data analysis, the methodology followed in the estimation and what factors were taken into account in the estimate of reserves.
- ✓ In the absence of such information it was not possible to assess the appropriateness of the estimation of the reserves for IBNR claims. It therefore, became necessary to issue suitable guidelines in this respect which shall be followed by the General Insurers and their Appointed Actuary to enable meaningful review of such estimates by the Authority.
- ✓ So IRDA issued a **Circular No.08/IRDA/ACTL/IBNR/2005-06 dated 6.5.2005**, providing guidelines on estimation of IBNR claims provision under general insurance business.
- ✓ This was followed by issuance of **IBNR manual by IRDA on 22<sup>nd</sup> May'2008**, to provide as guide for estimation of provisions for IBNR and IBNER claims in general insurance business in India.



## Responsibilities of Actuary certifying IBNR reserves (cont.)

- ✓ The actuary has to certify that **the amount of IBNR Reserves is True and Fair**
- ✓ **Forms are: IBNR-A; IBNR-B-1; and IBNR-B-2**
- ✓ According to IRDA **Circular No.08/IRDA/ACTL/IBNR/2005-06 dated 6.5.2005**, the actuary should not put forward or certify any figures, which lack credibility, with serious reservations
- ✓ The Actuary should **certify that he has checked the data** to the best of his ability and is satisfied that they are consistent, reliable and complete and that the assumptions underlying the method used for estimation of IBNR are valid.
- ✓ The IBNR report should be signed with date by the Appointed Actuary. The Appointed Actuary should also secure a **certificate from the Principal Officer** stating the fullness and accuracy of every policy and claim furnished to the actuary, and attach it to his report
- ✓ The same IBNR Reserves flow into **Form HG Statement of Liabilities - IRDA (Asset, Liabilities and Solvency Margin) Regulations-2000**, and **Form KG of IRDA- (Asset, Liabilities and Solvency Margin) Regulations-2000** which depicts the calculation of Solvency Margin.

# Implications on the Actuary of unjustified certification

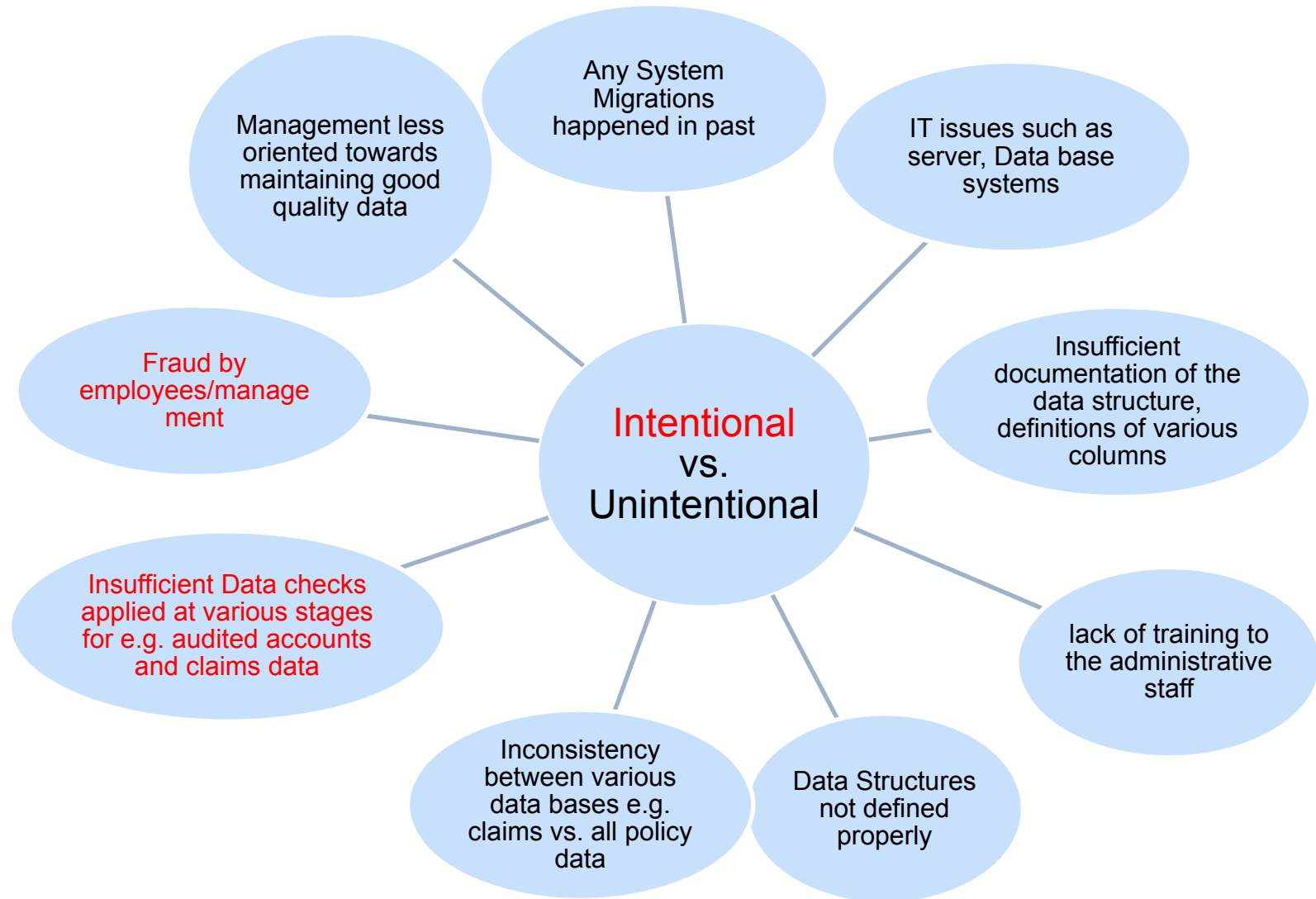
According to **PCS**, adopted by the Council under Section 19(2) (i) of the **Actuaries Act- 2006**...

a material breach of the PCS or of a Guidance Note classified as Practice Standard or of the Act and Rules and Regulations made there under or Other Guidance, is of itself a ground for complaint under the disciplinary procedures and would amount to strong prima facie evidence of misconduct.



**Disciplinary Action  
against the Actuary**

# Some of the reasons for Data Issues



# Impact on Major Stakeholders

If claim reserves are inappropriate

## Policy holders

- PH interests/coverage will be impacted :  
Long tail business vs. Short tail
- Risk of total loss of coverage
- Might create an imbalance in the market

## Lenders

- Default - interest payments, loan repayment
- Fall in company's bond prices

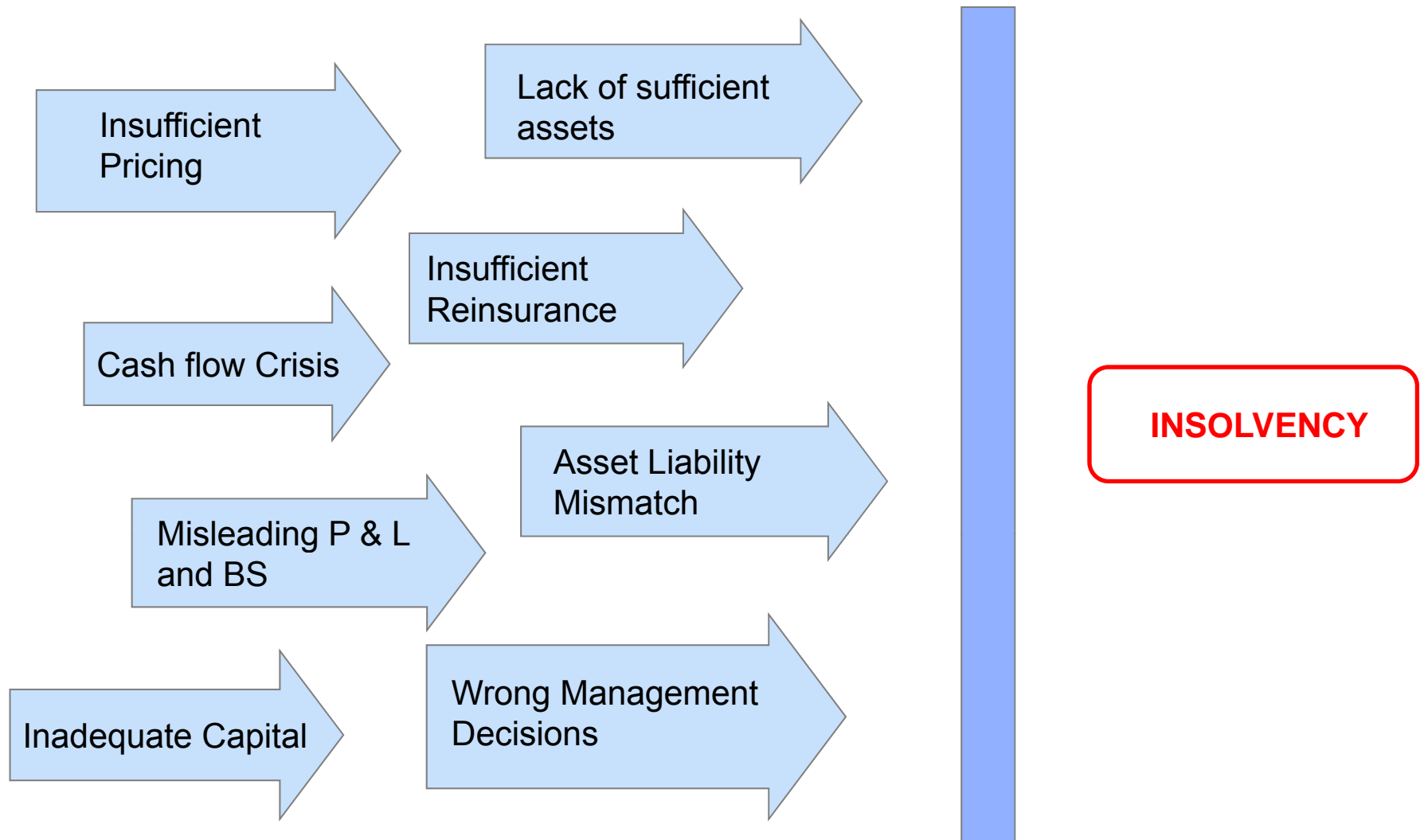
## Shareholders/Management

- Under-estimation of risks;  
leading to inadequate required capital estimation
- Incorrect financial statements
- Profits/growth will be misappropriated
- This may also lead to insolvency
- Reputation risk
- Regulatory penalty or actions
- Inappropriate impact on share prices; could be unreasonably high or low
- Unaffordable amount of Dividends might be distributed

## Impact on other Reserves

- **Unexpired Risk Reserve = UPR + Premium Deficiency Reserves**
- **Unearned Premium Reserves** : No Impact
- **Premium Deficiency Reserves**: Poor Data Quality will lead to underestimation of future claims, leading to incorrect estimation of the premium sufficiency.
- **Provision for Outstanding claim, where the claims have been denied but where the policyholder has the ability to pursue the claim through legal channels**: If the keeping the data record of such cases is the problem, which will again lead to underestimation of these reserves

## Some other impacts of poor data quality

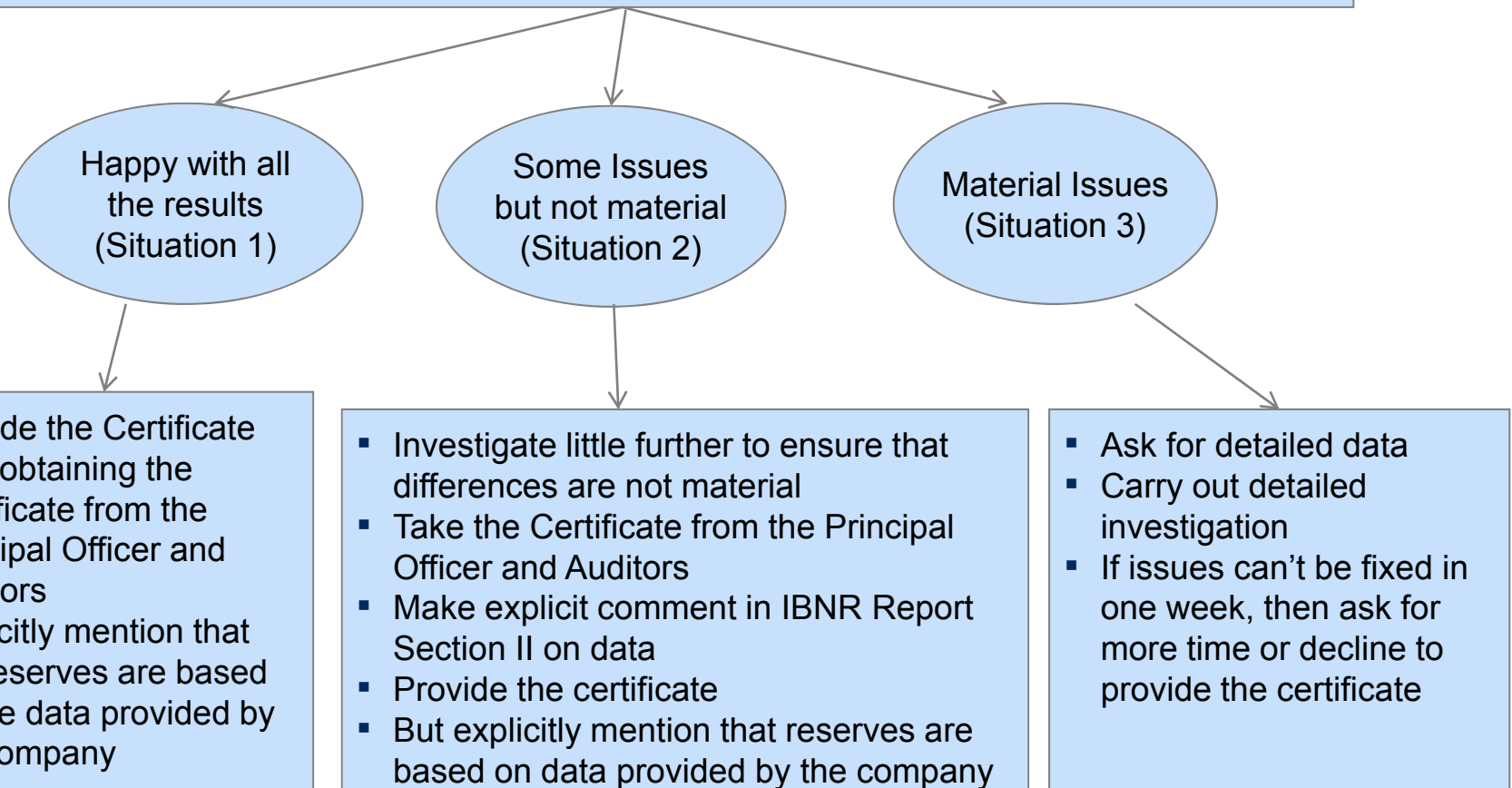


## Proposed Solution

- ✓ Visit all the Regulations/Guidelines/PCS applicable in this scenario.
- ✓ Make decision in light of these, taking all the required actions
- ✓ While making a decision, need to consider for the fact that Certificate is required by the end of this week
- ✓ Also, the decision will depend on the level of discrepancies found initially

# Decision Tree

- Ask for Form A, Form B-1 and Form B-2 of IBNR Report
- Make High level/Consistency checks on Results, taking account of any change in Claim Development pattern given the rapid growth in past years
- Ask for the checks done on Data by the company
- Document all the checks done and their results





# Situation 1

- Provide certificate to the company, by relying on the assurance of the auditors and obtaining a **certificate, both from Principal Officer and Auditors, assuring the data quality.**
- Explicitly mention in the certificate that reserves are based on the data provided by the company
- As per section 3 of Professional Conduct Standards (PCS), adopted under Section 19(2) of the Actuaries Act-2006, stating 'Standards of Advice':

**3.1** *An actuary is expected to use best judgment in formulating advice, **whilst paying proper regard to any relevant professional guidance or other guidance.** He must keep himself abreast with updated professional guidance and adhere to that.*

**3.2** *Many assignments offered to actuaries require considerable knowledge and experience for proper completion. Requisite knowledge includes methodology, relevant legislation and, in respect of work outside India local conditions and any professional code of practice in the country concerned. Actuaries must not give advice, unless:*

- a) satisfied of personal competence in the relevant matters, **or***
- b) **acting in co-operation with, or with the guidance of, someone (not necessarily an actuary) with the requisite knowledge and experience.***

**3.3** *Notwithstanding paragraph 3.2, an actuary may provide advice if the circumstances are such that, having regard to all the relevant factors, it would be contrary to the client's interests to decline to do so. **However, the actuary must make clear to the recipient that, in the absence of the constraining circumstances, the actuary would have recommended referring the matter to someone with the relevant knowledge and experience.***

## Situation 2

- ✓ Further Investigate to ensure that differences are not material
- ✓ Comment explicitly in IBNR report Section II on Data to be produced at 31<sup>st</sup> March, if any differences are found
- ✓ Obtain the certificate from Principal Officer and Auditors assuring the data quality and then provide the certificate
- ✓ Explicitly state that the reserves are basis the data provided by the company
- ✓ **PCS applicable in Situation 1 is also applicable here.**

### **SAMPLE Section II – The data**

*2.1 If the data is not separately compiled for each class of general insurance business as required by the guidance notes, then please comment on the reasons for variation.*

*2.2 Please comment on the source of data and steps taken to ensure that the data is consistent, reliable, complete and tallies with the audited accounts.*

*2.3 Please comment on the observed trends in the growth of premiums, frequency of loss occurrence, average cost per claim paid and per claim outstanding, speed of emergence of claims and speed of settlement. Please also state how these have been taken into account in the selection of the process of estimation.*

*2.4 Did any individually large claims affect the claims development figures? If so, how are they taken note of in the estimation process?*

## Situation 3

- ✓ Ask for detailed claims data from the company
- ✓ Apply independent data checks for the reasonableness, accuracy and completeness of the data and document all the checks applied
- ✓ Get Form A, Form B-1 and Form B-2 of IBNR report
- ✓ Cross check the reserves using paid claims and incurred claims
- ✓ Check the reserves separately for long tail and short tail business.
- ✓ As the company has grown rapidly, it may not have sufficient data to calculate the IBNR reserves for long tail business
- ✓ Method of estimation of IBNR reserves might need to change, as GI is a dynamic business and development patterns might have changed from previous years with the rapid growth of the company
- ✓ Compare the patterns with the market averages
- ✓ Check if deviations are justified
- ✓ Raise it with the client in case of discrepancies/ inconsistencies.
- ✓ Demand a proper explanation

## Guidelines and Regulations applicable to the Situation 3

According to **IRDA, Appointed Actuary Regulations 2000 Section 7**, following are the powers to appointed actuary or Consulting Actuary (in case of General Insurance Companies):

**7. Powers of Appointed Actuary.**—(1) An appointed actuary shall have access to all information or documents in possession, or under control, of the insurer if such access is necessary for the proper and effective performance of the functions and duties of the appointed actuary.

(2) The appointed actuary may seek any information for the purpose of sub-regulation (1) of this regulation from any officer or employee of the insurer.

Also, he/she can discuss any matter which is related to the solvency of insurer

**(b) to speak and discuss on any matter, at such meeting,**

- (i) that relates to the actuarial advice given to the directors;
- (ii) that may affect the solvency of the insurer;
- (iii) that may affect the ability of the insurer to meet the reasonable expectations of policyholders; or
- (iv) on which actuarial advice is necessary;

## Guidelines and Regulations applicable to Situation 3(cont.)

**Section 8** of the same Regulations also stated the Duties and Obligations of the actuary, which includes advising on management, product designing, pricing, insurance contract wording, solvency and in case of General Insurers, the duty is to ensure that actuarial principles are followed for calculation of IBNR and other reserves:

(h) in the case of the insurer carrying on general insurance business to ensure, --  
(i) that the rates are fair in respect of those contracts that are governed by the insurer's in-house tariff;  
(ii) that the actuarial principles, in the determination of liabilities, have been used in the calculation of reserves for incurred but not reported claims (IBNR) and other reserves where actuarial advice is sought by the Authority;

# Guidelines and Regulations applicable to Situation 3(cont.)

**IBNR Manual, issued on 22<sup>nd</sup> May 2008**, provides the following guidelines on certifying IBNR reserves calculation:

- ✓ Compile data separately for each accounting class
- ✓ Ensure that audited accounts tally with the primary source of data
- ✓ Ensure the accuracy, reasonability and completeness of the data
- ✓ Organize the data according to year of occurrence of loss, net of reinsurance
- ✓ More preference to Paid claims than Incurred claims, but cross checks can be done
- ✓ Form A, Form B-1 and Form B-2 prescribed for Data Compilation
- ✓ Purpose of these forms is to ensure consistency of data across various insurers
- ✓ Calculate Reserves using either 'Link Ratio' or 'Basic Chain Ladder' method
- ✓ Apply reasonability checks on the results: compare it across years and look for reasons of deviation, if there.
- ✓ Compare results with the market and reason out deviation, if any.

## Situation 3 (cont.)

**If data concerns are serious, or more time is required for data and results validation**

**Refuse to provide the certificate by end of the week and ask for more time**

**Might face consequences w.r.t. client relationship and fees**

### **According to PCS Section 2.3**

*Users of actuarial services, including actuary's firm and colleagues in that firm, are entitled to have absolute confidence in the skill, objectivity and integrity of any member. If work which an actuary considers necessary is precluded by cost or time constraints the actuary should normally either decline to act or qualify the advice given.*

# What can made situation better?

## Financial Condition Report by Actuary

If an actuary had to prepare the financial condition report of the company as part of the company's annual supervisory return, would this have helped in this case?

**YES**

- GI is dynamic business
- Followed Actuarial Practice Standards
- Better understanding of the provisions
- Better understanding of change in claim development pattern
- Thorough Data validations
- Thorough Results validations
- Better understanding of the risks to the company



## Current scenario in India : Preparation of FCR

IRDA released a circular '**Cir No. IRDA/ACTL/CIR/MISC/081 /05/2010**' on **13<sup>th</sup> May'2010**, according to which Appointed Actuaries have to prepare 'Financial Condition Report annually as at Mar'10, which analyzes current block of business for the risk in terms of meeting

- Solvency Requirement
  - profitability
  - Other risks viz. Liquidity, Morbidity, Credit, Expense, Investment return, Asset-Liability Mismatch etc.
- ✓ Builds up early warning signal
  - ✓ Provides the Company's board and Authority to arrive at a comprehensive view of the company.
  - ✓ Analyzes premium, reserves, experience, business growth and reinsurance arrangements
  - ✓ Provides Business Projections
  - ✓ AA comments on both current and future financial condition

On 26<sup>th</sup> December'2010, IAI issued **GUIDANCE NOTE (GN): 31 Financial Condition Assessment Report- General Insurance Companies within the meaning of provisions Insurance Act, 1938)** to guide the Appointed Actuaries in preparing FCR

**Any Questions or Suggestions?**

**Thank you !**