

Risk Management of a Pension Fund through Reinsurance

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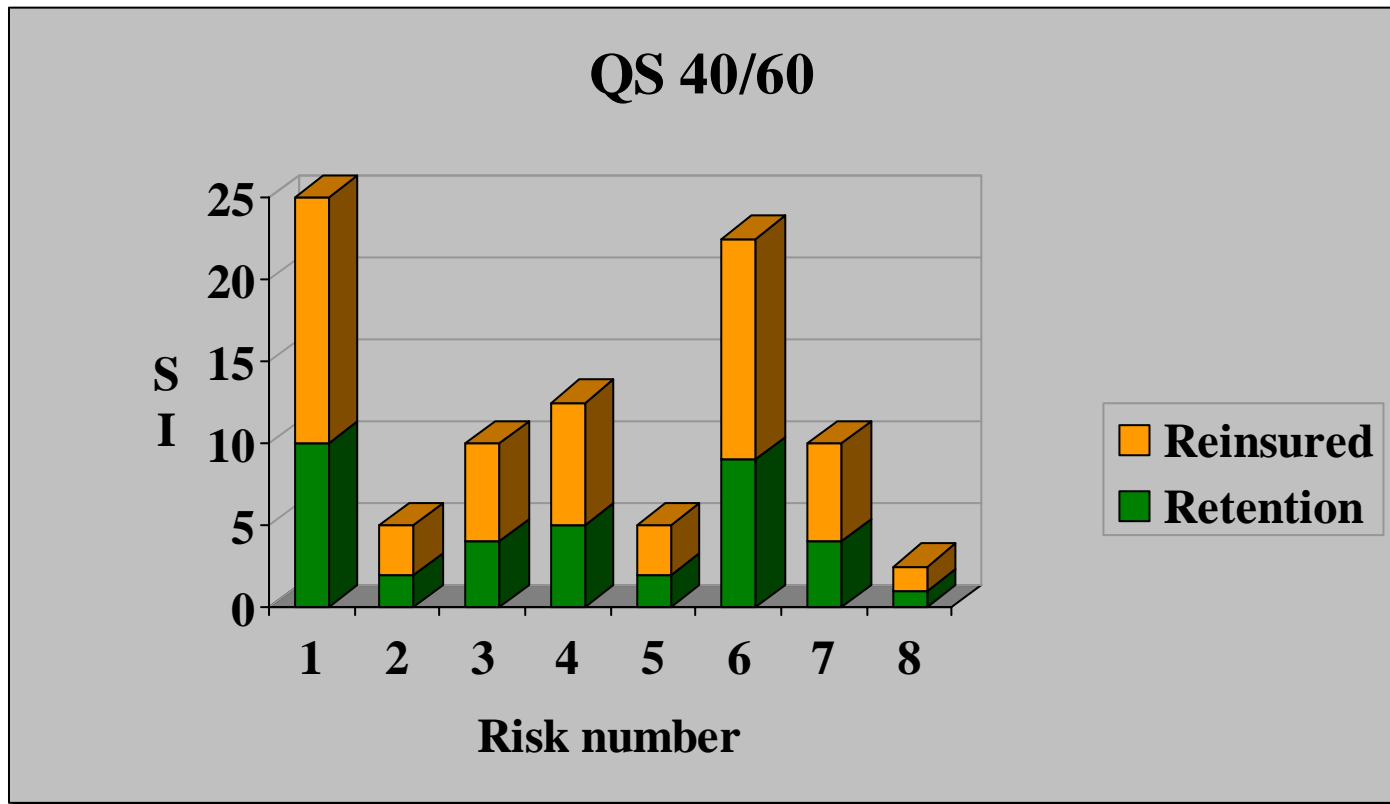
Reinsurance

- **What ?**
 - Insurance of insurance companies
- **Why ?**
 - Protection of the solvency
 - Reduce the volatility of the result
 - Reduce the required minimum solvency margin
 - Technical support
 - Financing

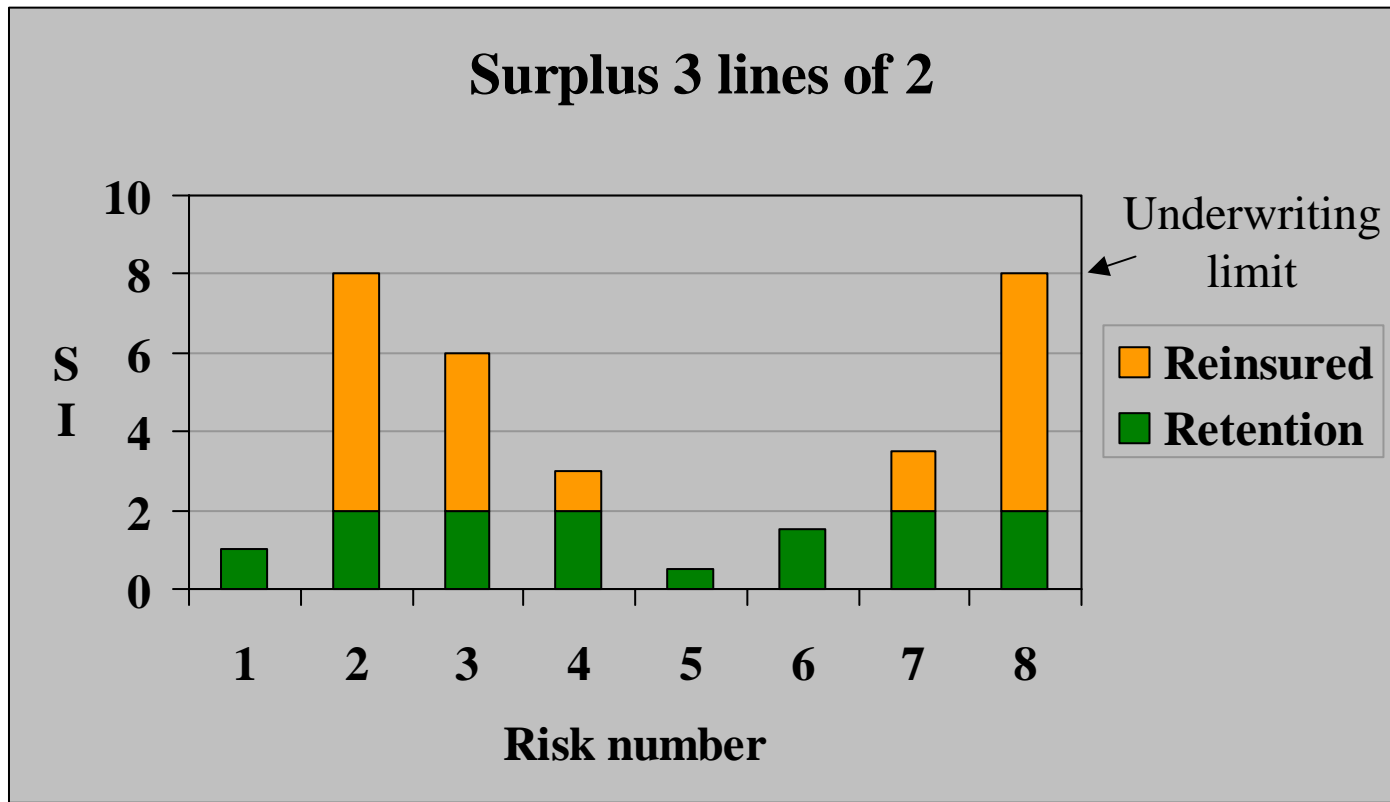
Reinsurance Techniques

- **Proportional reinsurance**
 - Quota Share
 - Surplus
- **Non-proportional reinsurance**
 - Excess of Loss
 - Stop Loss

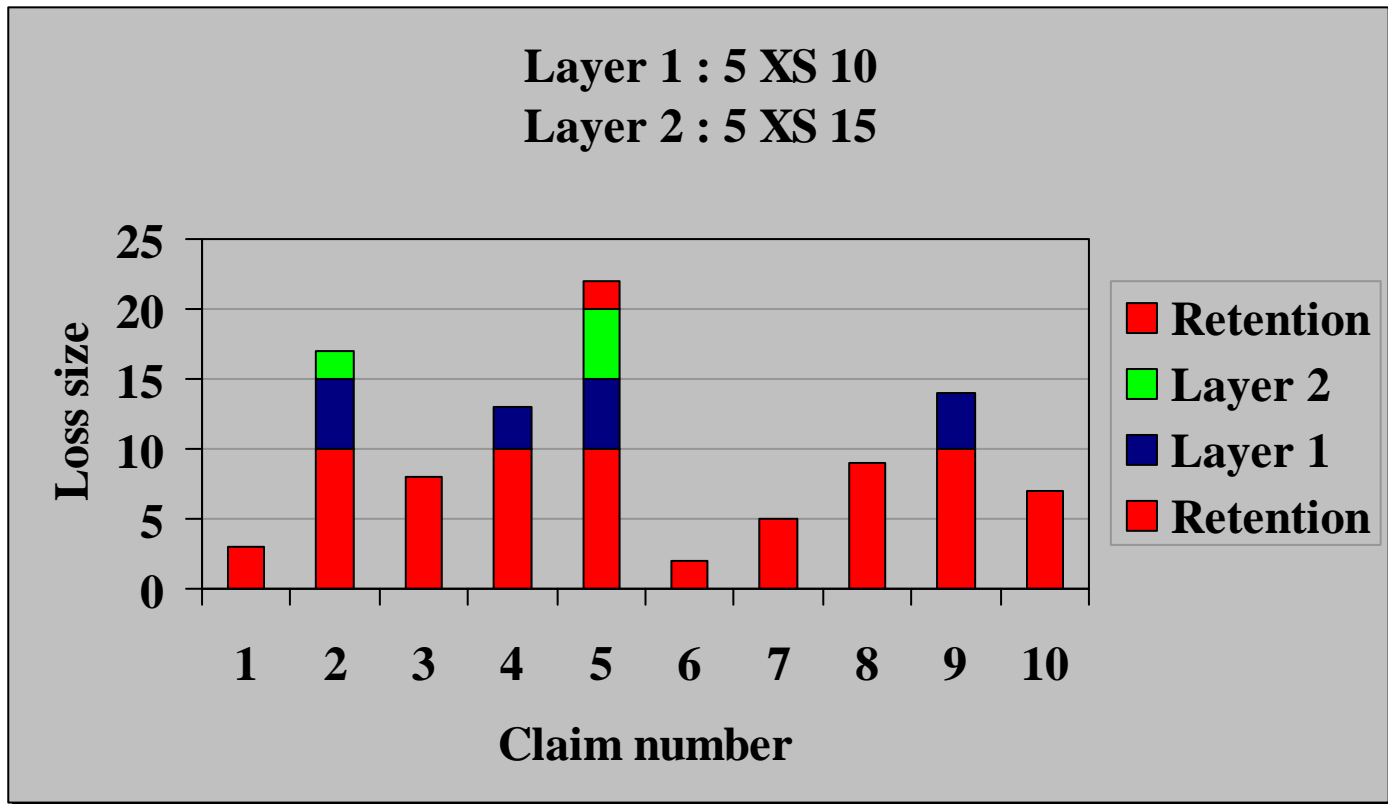
Quota Share



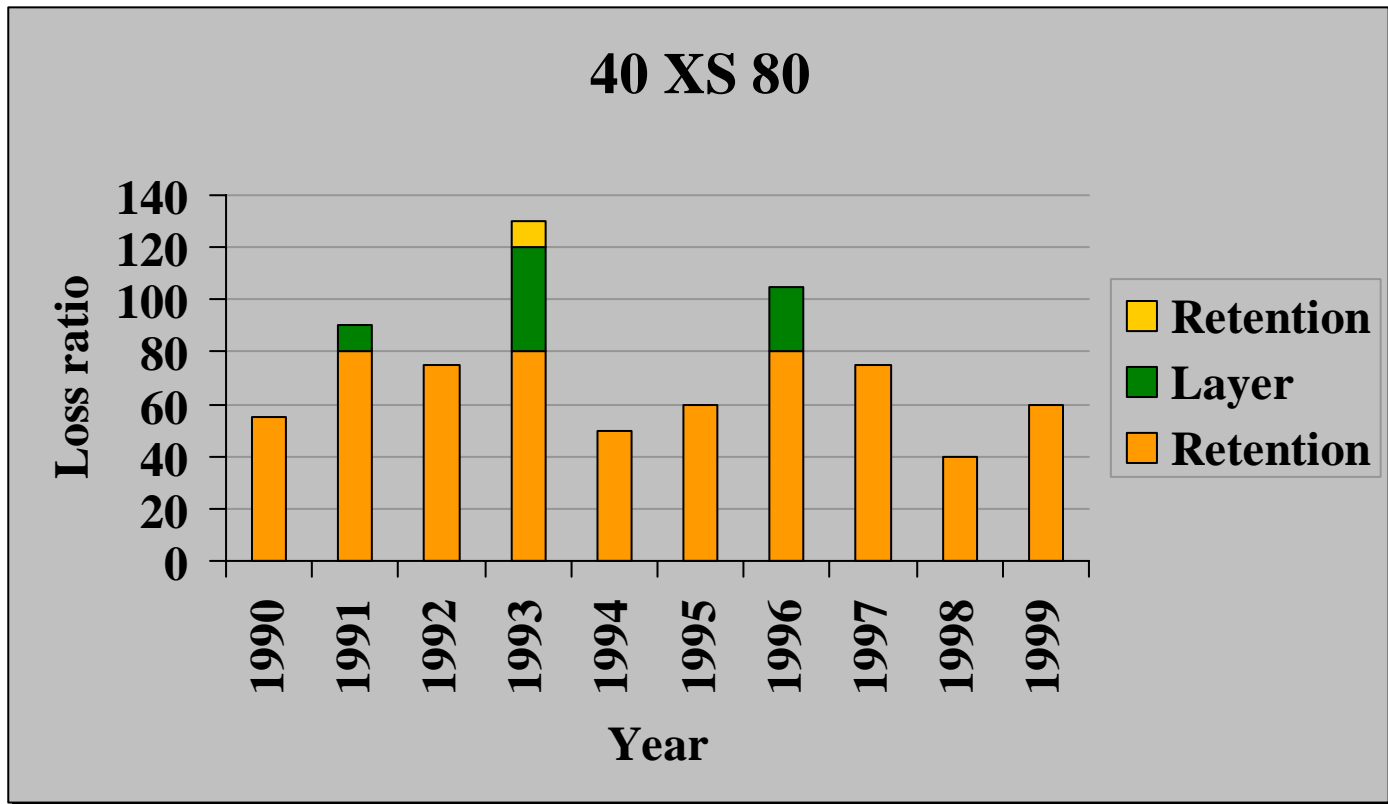
Surplus



Excess of Loss



Stop Loss



Solvency of a Pension Fund

- **Pension funds have to set up a sufficient solvency margin (SM) i.r.o. death and disability risks (RD 14.05.1985, art.8)**

How Can the Solvency Be in Danger ?

- High frequency of normal claims
- Large individual claims
- Accumulation of claims within the same event

- Financial risk ?

Solvency of a Pension Fund

- **available SM:**

Patrimony

- Technical provisions
- Intangible items
- Non-guaranteed debt on the employer

(RD 14.05.1985, art.8bis)

- **Required SM: sum of**

1. $10 \times \min(\max C_i, \text{EUR } 25.000)$
2. Sum of 5 largest C_i
3. 1 ‰ Sum C_i

With a maximum = sum of C_i

C_i = risk capital in death or disability capital

(RD 07.05.2000, art. 5)

How to Reduce the Solvency Margin ?

- **Insurance : SM can be reduced to 0**
- **Guarantee : SM guaranteed by the employer**
- **Reinsurance :**
 - SM can be reduced to 50%
 - SM can be reduced to 0% if
 - Reinsurer EEE and controlled as the insurers, or
 - Under conditions admitted by the OCA/CDV

How to Reduce the Solvency Margin through Reinsurance ?

- **Additional conditions allowing a SM between 0 and 50% (P.33 CDV/OCA)**
 - 10 years of experience
 - Accounts approved without reservations for the last 7 years
 - Minimum free patrimony : maximum of
 1. Amount depending on the premiums
 2. Amount depending on the incurred losses
 3. EUR 25,000,000

Modern Reinsurance Techniques

- **Examples :**
 - Multi-risk stop loss
 - Incorporates the financial risk into the cover
 - Cover ratio protection
 - Protects the pension fund against the cover ratio of the technical provisions being lower than 100%

Multi-Risk Stop Loss

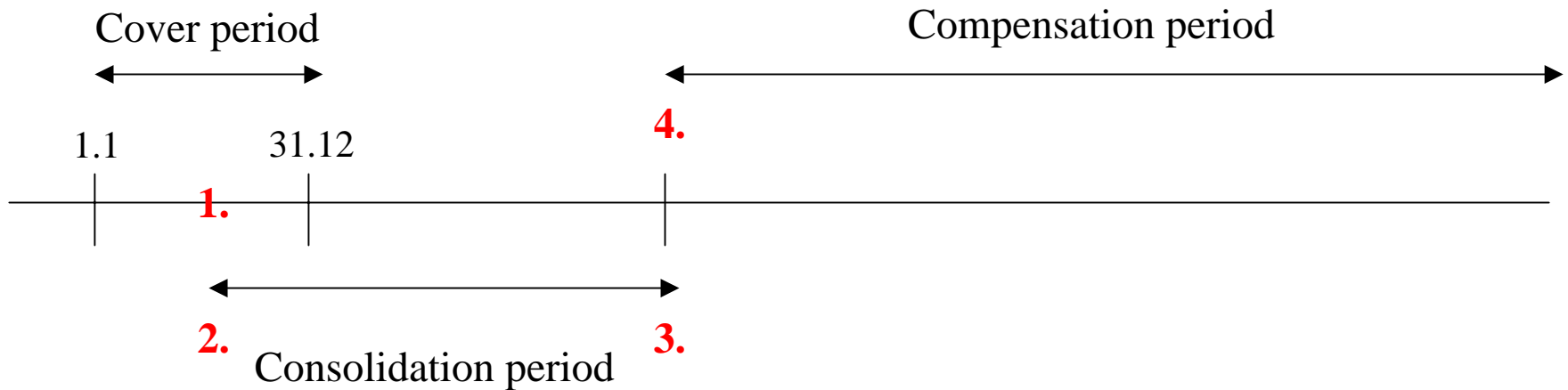
- **Classical stop loss :**

- Reinsurer : $\min(\max(S - P, 0), L - P)$
- S = annual loss : death + disability
- P = priority (=deductible)
- L = limit

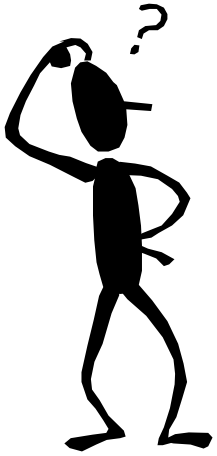
- **Multi-line stop loss**

- $S \Rightarrow S'$
- S' = annual loss/gain : death + disability - financial loss/gain
- Financial loss/gain = value portfolio 1.1
*[(index 31.12 / index 1.1) - 1]

Cover Ratio Protection



- 1. Cover ratio becomes $< 100\%$**
- 2. Debt on reinsurer (P.34 CDV/OCA)**
- 3. Payment by the reinsurer**
- 4. New reinsurance treaty between the PF and the reinsurer**



Any Further Questions ?

- We would be pleased to answer them

