

# PillarOne Dynamic Reinsurance Analysis

## Balloon Insurance



Munich Re – Solvency Consulting



# PODRA Balloon Insurance

## Your Objectives

- The Balloon Insurance, currently not reinsured at all, asks for your support in the development of a reinsurance structure.
- A significant reduction of risk by using reinsurance is aimed for. The reinsurance cost should be used at high efficiency.
- A PODRA Analysis is implemented commonly.
- Status: Sample calculations for a Excess of Loss concept do already exist. The corresponding risk figures are known.
- **Objective:** develop a reinsurance proposal to present to the client
- During the case study sample calculations for further reinsurance concepts can be evaluated!
- Please estimate reinsurance premiums and provisions when needed.

# PODRA Balloon Insurance Status

- Modeling / structuring of the portfolio ✓
- Data requirements and calibration ✓
- PODRA Gross calculation ✓
- Sample calculation Excess of Loss structure ✓
  
- Reinsurance structure proposal

# PODRA Balloon Insurance Modeling

- Motor Third Party Liability (Premium: € 10 m)
  - Attritional Loss
  - Large Loss
- Property (Premium: € 5 m)
  - Attritional Loss
  - Large Loss
  - Cat Loss

# PODRA Balloon Insurance

## Data requirements and calibration

		MTPL	Prop
Gross premium		10.0	5.0
loss threshold $x_0$		0.3	0.2
<b>Attritional loss (<math>\leq x_0</math>)</b>			
loss ratio distribution		LogNorm	LogNorm
	$\mu$	70.0%	40.0%
	$\sigma$	15.0%	10.0%
<b>Large loss (<math>&gt; x_0</math>)</b>			
frequency distribution		Poisson	Poisson
	$\lambda$	3.0	4.0
severity distribution		Pareto	Pareto
	$\alpha$	2.5	2.1
	Limit	100.0	20.0
<b>Cat loss</b>			
$x_0$			0.5
frequency distribution			Poisson
	$\lambda$		1.1
severity distribution			PML curve
	Limit		50.0

# PODRA Balloon Insurance Reinsurance and Pricing



Result slides exist for

- Gross calculation
- Excess of Loss structure
- Quota Share structure

Pricing

- No quotation tools available
- Your experience and your intuition is required!