

THIRD ACTUARIAL PRICING GAME

From January 2017 till June 2017, we organize the **Third Actuarial Pricing Game**, as part of a research project conducted by **Arthur Charpentier**, Université de Rennes 1 (France) & Quantact (Montréal, Canada), with the support of the **ACTINFO** chair of the **Institut Louis Bachelier**, and the **Institut des Actuaire**s, the French Institute of Actuaries.



1. REINSURANCE PRICES

For players willing to play in the market where insurance is provided, here are prices offered by some reinsurance company (* the price is per policy in the portfolio) :

TABLE 1. Reinsurance Prices

| treaty | excess | limit | price* |
|--------|---------|-----------|--------|
| (A) | 10,000 | 100,000 | 4.45 |
| (B) | 20,000 | 100,000 | 3.65 |
| (C) | 10,000 | 200,000 | 5.75 |
| (D) | 20,000 | 200,000 | 4.85 |
| (E) | 10,000 | 1,000,000 | 6.00 |
| (F) | 20,000 | 1,000,000 | 5.00 |
| (G) | 50,000 | 1,000,000 | 3.50 |
| (H) | 100,000 | 1,000,000 | 2.00 |
| (I) | 200,000 | 1,000,000 | 0.50 |

For those reinsurance treaties, if a loss ℓ is claimed, the insurance company will pay

$$\text{indemnity}(\ell) = \max\{\text{limity}, (\ell - \text{excess})_+\}$$

where

$$(\ell - \text{excess})_+ = \begin{cases} \ell - \text{excess}, & \text{if } \ell \geq \text{excess} \\ 0, & \text{if } \ell < \text{excess} \end{cases}$$

Players willing to purchase reinsurance,

(i) please use the following object for the email :

“Actuarial Pricing Game - Reinsurance Market”

(ii) In the email, please mention

“I want to purchase TREATY (A)”

(actually anyone of the 9 proposed treaties),

(iii) please attach your **csv** file with the proposed premiums, **gross of reinsurance**.

For any question, you can send an email either to pricing-game@univ-rennes1.fr or to arthur.charpentier@univ-rennes1.fr, or ask any question on Twitter at [@freakonometrics](https://twitter.com/freakonometrics).