



ProMaSta – With You, For You

Business Presentation

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Pluridisciplinarity in one person



My name is Elsa. I ...

... am the founder of ProMaSta

... have a MSc in Mathematical Statistics

... have a PhD in Economics

... am a fully qualified actuary of the Swiss Association of Actuaries

... have published in peer reviewed journals

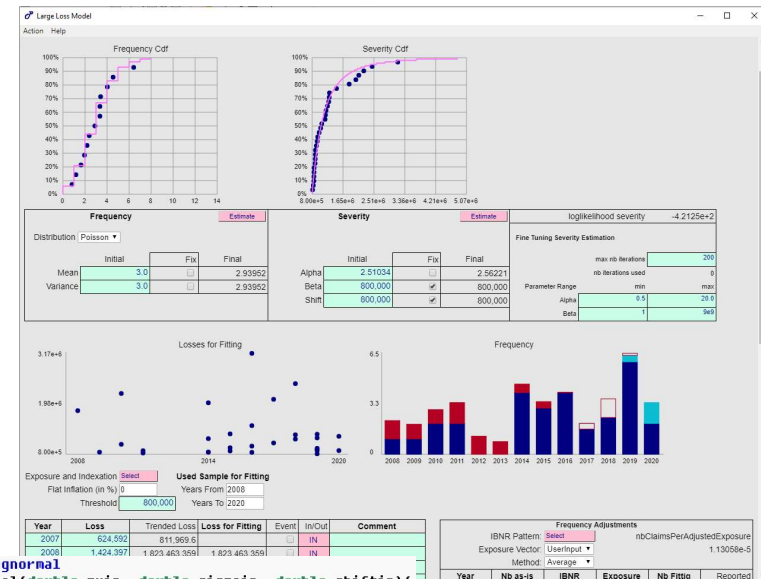
... have programming experience



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What can I do for you

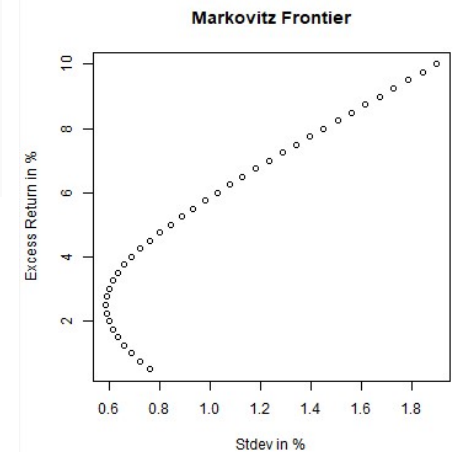
- Reinsurance renewal support
- Developer support
- Insurance-linked securities
- Research collaboration
- Trainings
- Support with SST & ORSA
- Portfolio optimization
- Responsible actuary for companies in Switzerland



```
//Body of class Lognormal
Lognormal::Lognormal(double muin, double signain, double shiftin){
    m_Mu = muin;
    m_Sigma = signain;
    m_Shift = shiftin;
}

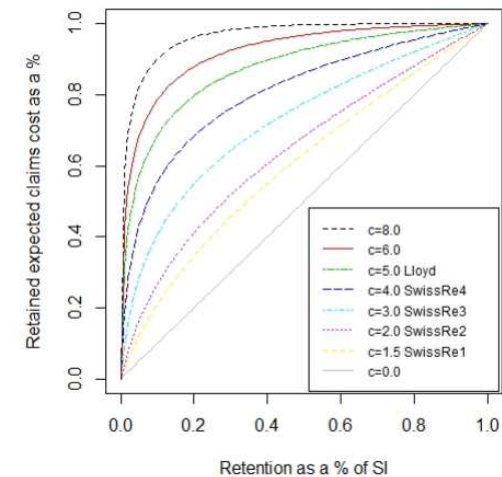
double Lognormal::mu() const {
    return m_Mu;
}

double Lognormal::sigma() const {
    return m_Sigma;
}
```



Why choose me

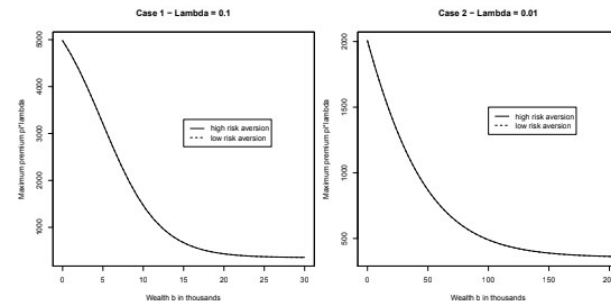
- ✓ Interdisciplinarity
 - Statistician, actuary, economist and programmer in one person
- ✓ Personal service
 - I am personally in charge
- ✓ Customization
 - Get a solution tailored to your needs
- ✓ Our rates are competitive
 - No expensive office spaces
 - Pay for what you need



Lemma 3.7. Let \bar{V} be the life-time utility of an agent who has no insurance available. \bar{V} satisfies

$$\rho \bar{V}(b) = \sigma \mu + \mu \bar{V}'(b) + \lambda \int_0^b \bar{V}(b-x) + 1 - e^{-\sigma x} dF_X(x) + \lambda \int_b^\infty p(b,x) dF_X(x) - \lambda \bar{V}(b).$$

For exponential claims with mean $1/\theta$ and penalty function $p(b,x) = 1 - \exp(\sigma x)$ life-time utility is



What have I delivered

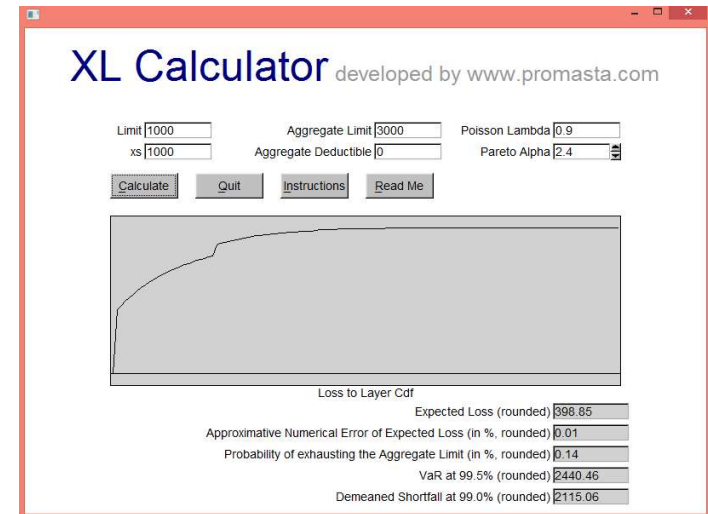
- ✓ Renewal support
- ✓ Developed a reinsurance pricing tool
- ✓ Solvency & SST reports
- ✓ Risk analysis of insurance-linked securities
- ✓ Optimized reporting processes
- ✓ Research in actuarial science, finance and economics
- ✓ Trainings & seminars

```
# Simulate IE1 and IE2
draw_ie <- data.frame(matrix(nrow = N, ncol = 2))
for(i in 1:2){
  model <- paste0("IE", toString(i))
  theta <- (df_parameters["pareto_tail", model]
            * df_parameters["threshold", model]
            / df_parameters["pareto_initial", model])
  draw_ie[,i] <- actuar::rcompound(N,
    model.freq = stats::rpois(df_parameters["freq",model]),
    model.sev = actuar::rpareto2(
      min = df_parameters["threshold",model],
      scale = theta,
      shape = df_parameters["pareto_tail",model])
  )
}
```

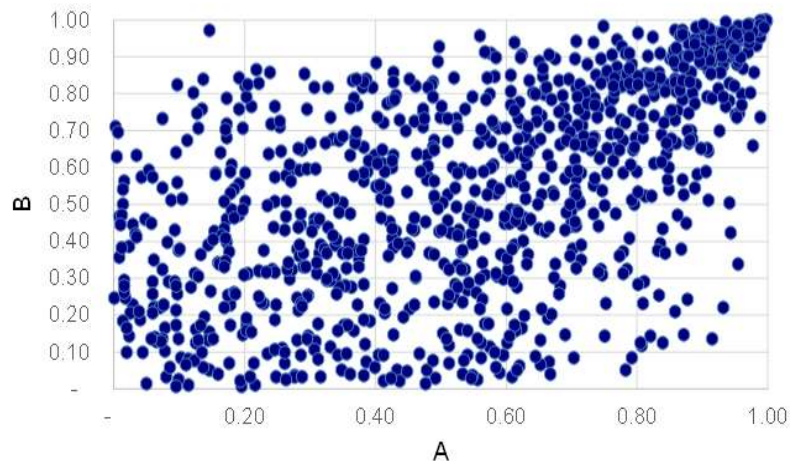


Get to know me!

I happily provide a **free training** on an topic of your choice or meet for a talk over coffee or online



Simulated Events



Contact me for more details:

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