



# RISK-LAB ▶

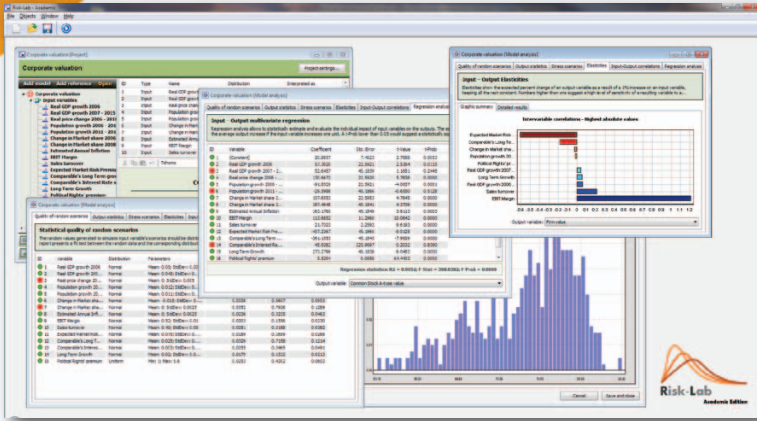
Portable Monte-Carlo Simulation

Financial Analysis | Operations Research | Valuation | Marketing | Forecasting

# Risk

## ► An integrated environment for risk analysis

Risk measurement and control have become indispensable tasks for any modern organization. **Risk-Lab** offers business analysts and students an integrated environment in which they can design, calibrate, execute and analyze Monte-Carlo simulations for any model developed in MS Excel®. Being a portable application, Risk-Lab is always ready to work in any PC connected to the web.

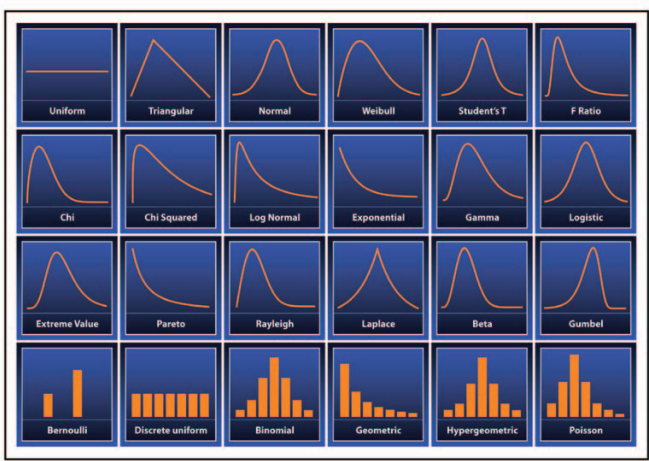


**Risk-Lab** is a stand-alone application that includes a wide range of risk analysis tools and visualization procedures, such as:

- Monte-Carlo Simulations with any number of assumptions and results.
- Elasticity analysis
- Multivariate regressions
- Best-fit of historical data to statistical distributions
- Histograms and confidence intervals
- Visualization of multivariate copulas

## ► Modeling assumptions

**Risk-Lab** contains an extensive library of probability distributions that make it possible to conveniently model the uncertainty levels of a business model variables. The user can configure the assumptions manually or, if data is available, let the system do it automatically through a best-fit process.

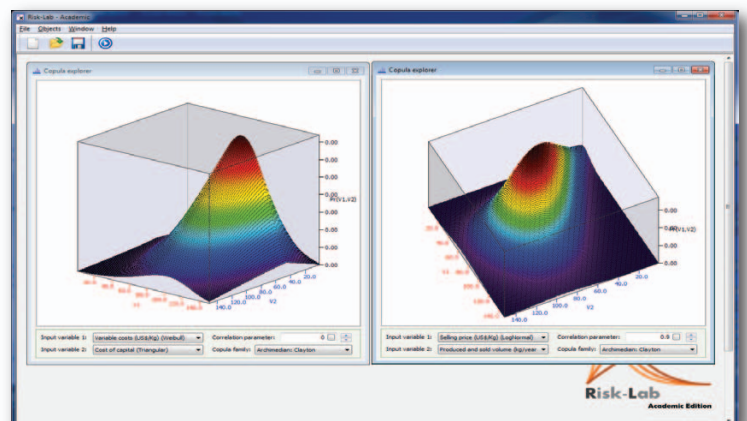
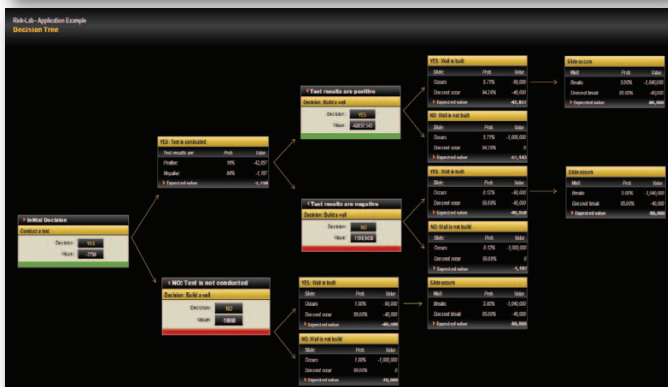


“**Risk-Lab** allows us to perform risk analysis for our investment portfolios in record time.”

Banco de la Nación, Perú

## ► A visual experience

Results presentation in **Risk-Lab** has been configured to allow a quick interpretation and selection of indicators for decision-making. In addition, the system has interactive tools and execution mode specially designed to facilitate a clear explanation of the underlying techniques to a non-expert audience.



# ▶ The right decision-making tools

**Risk-Lab** provides objective answers to key questions of business risk analysis, such as: which uncertain variables have more impact on the results? What is possible range of fluctuation for the results under unforeseen stress scenarios? Or what is the probability that the results will be below a certain acceptable threshold for the company?

By using Monte-Carlo simulations on thousands of plausible scenarios, **Risk-Lab** adds a layer of high-value analysis on any model created using MS Excel®, the numerical package most commonly used by professional analysts.

The use of **Risk-Lab** complements any quantitative study, avoids allocating hours of work to simulate alternate scenarios and dramatically reduces the operational risk and subjectivity of manual experimentation with complex models.

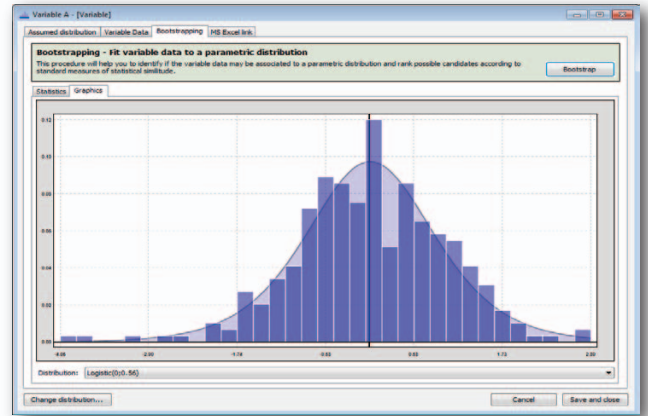


# ▶ More options for advanced users

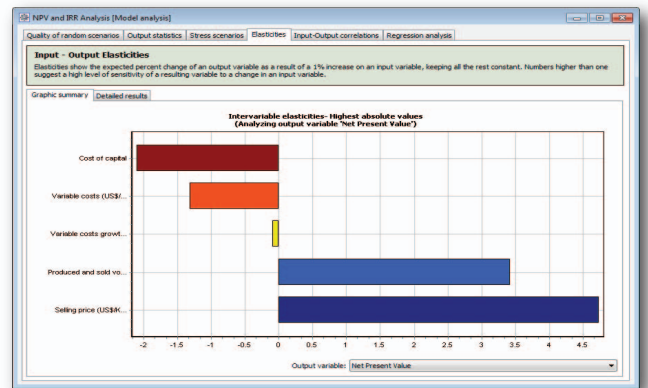
Even though the system is able to operate with a high degree of automation, **Risk-Lab** offers more advanced users the possibility to configure the analysis in high detail and extract partial results that can then be used as inputs for other calculations.

In this sense, the analyst can choose between different types of elliptic and archimedean copulas to perform the simulations, set the random seeds so that the simulation can be easily replicated, simulate spreadsheet cells that include formulas, vary the levels of correlation among variables, manually recalibrate the parameters of any distribution, etc.

Contact us today to request a demonstration at [mail@risk-o.com](mailto:mail@risk-o.com)



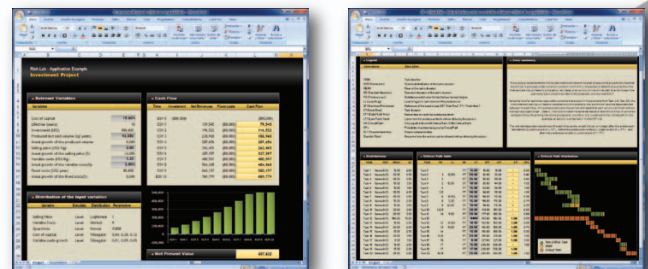
Statistical configuration of an assumption variable



Result variable elasticities to changes in model assumptions

| ID | Variable                     | Coefficient | Std. Error | t-Value | t-Prob |
|----|------------------------------|-------------|------------|---------|--------|
| 1  | (Constant)                   | 20.8857     | 7.4623     | 2.7888  | 0.0053 |
| 2  | Real GDP growth 2006         | 57.3020     | 22.5921    | 2.5364  | 0.0115 |
| 3  | Real GDP growth 2007 - 2...  | 52.6457     | 45.1839    | 1.1651  | 0.2445 |
| 4  | Real price change 2006 - ... | 130.6672    | 22.5920    | 5.7838  | 0.0000 |
| 5  | Population growth 2006 - ... | -91.8329    | 22.5921    | -4.0657 | 0.0001 |
| 6  | Population growth 2011 - ... | -29.5986    | 45.1866    | -0.6550 | 0.5128 |
| 7  | Change in Market share 2...  | 107.6553    | 22.5953    | 4.7645  | 0.0000 |
| 8  | Change in Market share 2...  | 197.4948    | 45.1841    | 4.3709  | 0.0000 |
| 9  | Estimated Annual Inflation   | 163.1760    | 45.1849    | 3.6113  | 0.0003 |
| 10 | EBIT Margin                  | 113.6852    | 11.2950    | 10.0642 | 0.0000 |
| 11 | Sales turnover               | 21.7323     | 2.2992     | 9.6193  | 0.0000 |
| 12 | Expected Market Risk Pre...  | -407.2367   | 45.1860    | -9.0125 | 0.0000 |
| 13 | Comparable's Long Term...    | -361.1553   | 45.1843    | -7.9929 | 0.0000 |
| 14 | Comparable's Interest Ra...  | 45.9282     | 225.9697   | 0.2032  | 0.8390 |
| 15 | Long Term Growth             | 273.2796    | 45.1838    | 6.0482  | 0.0000 |
| 16 | Political Rights' premium    | 5.5294      | 0.0858     | 64.4403 | 0.0000 |

Multivariate regression: model assumptions explaining model results



Risk-Lab applied to firm valuation and critical paths in Gantt charts

# Lab



[www.risk-o.com](http://www.risk-o.com) | [mail@risk-o.com](mailto:mail@risk-o.com) | +1.800.573.7475

