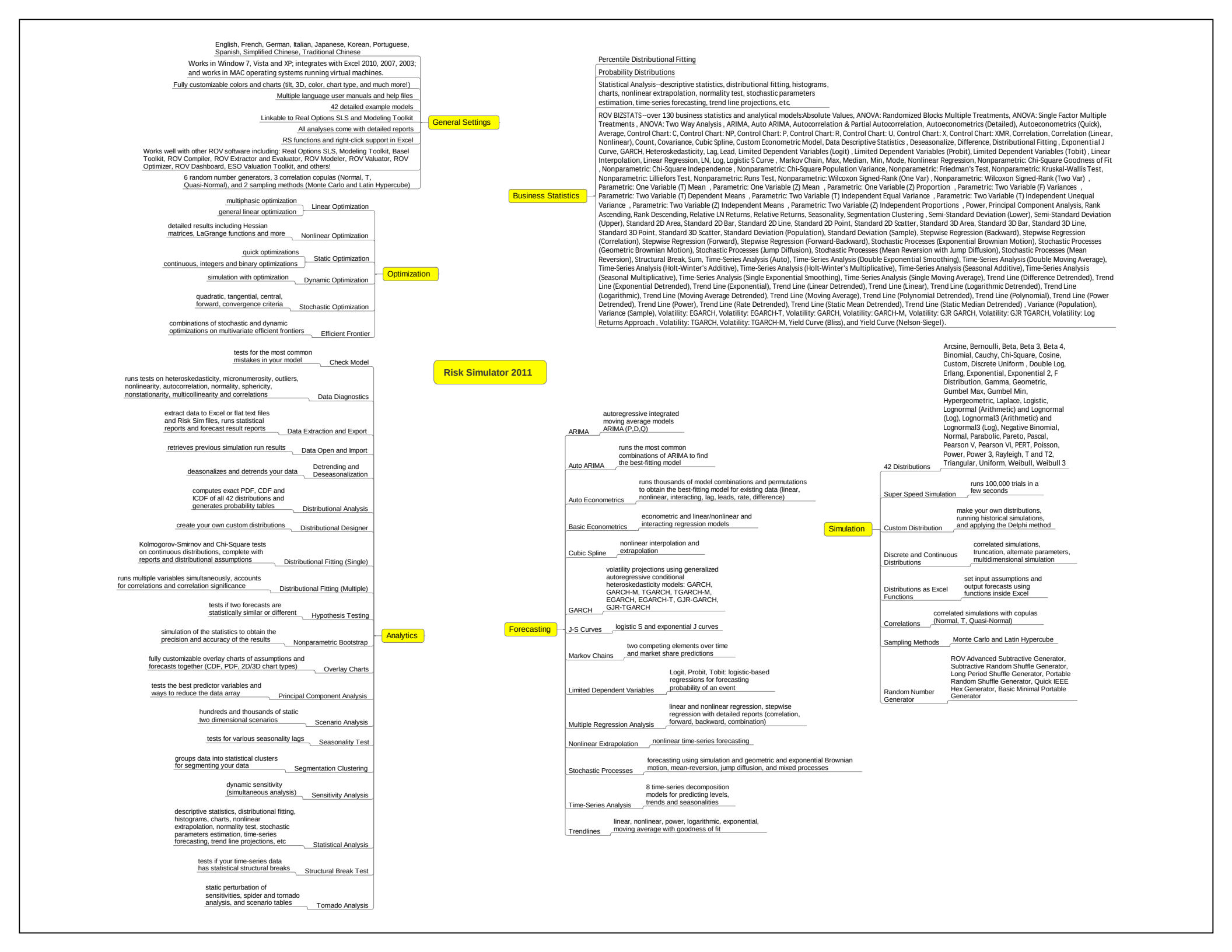
Risk Simulator 2011
General Settings
English, French, German, Italian, Japanese, Korean, Portuguese, Spanish, Simplified Chinese, Traditional Chinese
Works in Window 7, Vista and XP; integrates with Excel 2010, 2007, 2003; and works in MAC operating systems running virtual machines.
Fully customizable colors and charts (tilt, 3D, color, chart type, and much more!)
Multiple language user manuals and help files
42 detailed example models
Linkable to Real Options SLS and Modeling Toolkit
All analyses come with detailed reports
RS functions and right-click support in Excel
Works well with other ROV software including: Real Options SLS, Modeling Toolkit, Basel Toolkit, ROV Compiler, ROV Extractor and Evaluator, ROV Modeler, ROV Valuator, ROV Optimizer, ROV Dashboard, ESO Valuation Toolkit, and others!
6 random number generators, 3 correlation copulas (Normal, T, Quasi-Normal), and 2 sampling methods (Monte Carlo and Latin Hypercube)
Business Statistics
Percentile Distributional Fitting
Probability Distributions
Statistical Analysis--descriptive statistics, distributional fitting, histograms, charts, nonlinear extrapolation, normality test, stochastic parameters estimation, time-series forecasting, trend line projections, etc
ROV BIZSTATS--over 130 business statistics and analytical models:Absolute Values, ANOVA: Randomized Blocks Multiple Treatments, ANOVA: Single Factor Multiple Treatments , ANOVA: Two Way Analysis , ARIMA, Auto ARIMA, Autocorrelation & Partial Autocorrelation, Autoeconometrics (Detailed), Autoeconometrics (Quick), Average, Control Chart: C, Control Chart: NP, Control Chart: P, Control Chart: R, Control Chart: U, Control Chart: X, Control Chart: XMR, Correlation, Correlation (Linear, Nonlinear), Count, Covariance, Cubic Spline, Custom Econometric Model, Data Descriptive Statistics , Deseasonalize, Difference, Distributional Fitting , Exponential J Curve, GARCH, Heteroskedasticity, Lag, Lead, Limited Dependent Variables (Logit) , Limited Dependent Variables (Probit), Limited Dependent Variables (Tobit) , Linear Interpolation, Linear Regression, LN, Log, Logistic S Curve , Markov Chain, Max, Median, Min, Mode, Nonlinear Regression, Nonparametric: Chi-Square Goodness of Fit , Nonparametric: Chi-Square Independence , Nonparametric: Chi-Square Population Variance, Nonparametric: Friedman's Test, Nonparametric: Kruskal-Wallis Test, Nonparametric: Lilliefors Test, Nonparametric: Runs Test, Nonparametric: Wilcoxon Signed-Rank (One Var) , Nonparametric: Wilcoxon Signed-Rank (Two Var) , Parametric: One Variable (T) Mean , Parametric: One Variable (Z) Mean , Parametric: One Variable (Z) Proportion , Parametric: Two Variable (F) Variances , Parametric: Two Variable (T) Dependent Means , Parametric: Two Variable (T) Independent Equal Variance , Parametric: Two Variable (T) Independent Unequal Variance , Parametric: Two Variable (Z) Independent Means , Parametric: Two Variable (Z) Independent Proportions , Power, Principal Component Analysis, Rank Ascending, Rank Descending, Relative LN Returns, Relative Returns, Seasonality, Segmentation Clustering , Semi-Standard Deviation (Lower), Semi-Standard Deviation (Upper), Standard 2D Area, Standard 2D Bar, Standard 2D Line, Standard 2D Point, Standard 2D Scatter, Standard 3D Area, Standard 3D Bar, Standard 3D Line, Standard 3D Point, Standard 3D Scatter, Standard Deviation (Population), Standard Deviation (Sample), Stepwise Regression (Backward), Stepwise Regression (Correlation), Stepwise Regression (Forward), Stepwise Regression (Forward-Backward), Stochastic Processes (Exponential Brownian Motion), Stochastic Processes (Geometric Brownian Motion), Stochastic Processes (Jump Diffusion), Stochastic Processes (Mean Reversion with Jump Diffusion), Stochastic Processes (Mean Reversion), Structural Break, Sum, Time-Series Analysis (Auto), Time-Series Analysis (Double Exponential Smoothing), Time-Series Analysis (Double Moving Average), Time-Series Analysis (Holt-Winter's Additive), Time-Series Analysis (Holt-Winter's Multiplicative), Time-Series Analysis (Seasonal Additive), Time-Series Analysis (Seasonal Multiplicative), Time-Series Analysis (Single Exponential Smoothing), Time-Series Analysis (Single Moving Average), Trend Line (Difference Detrended), Trend Line (Exponential Detrended), Trend Line (Exponential), Trend Line (Linear Detrended), Trend Line (Linear), Trend Line (Logarithmic Detrended), Trend Line (Logarithmic), Trend Line (Moving Average Detrended), Trend Line (Moving Average), Trend Line (Polynomial Detrended), Trend Line (Polynomial), Trend Line (Power Detrended), Trend Line (Power), Trend Line (Rate Detrended), Trend Line (Static Mean Detrended), Trend Line (Static Median Detrended) , Variance (Population), Variance (Sample), Volatility: EGARCH, Volatility: EGARCH-T, Volatility: GARCH, Volatility: GARCH-M, Volatility: GJR GARCH, Volatility: GJR TGARCH, Volatility: Log Returns Approach , Volatility: TGARCH, Volatility: TGARCH-M, Yield Curve (Bliss), and Yield Curve (Nelson-Siegel).
Optimization
Linear Optimization
multiphasic optimization
general linear optimization
Nonlinear Optimization
detailed results including Hessian matrices, LaGrange functions and more
Static Optimization
quick optimizations
continuous, integers and binary optimizations
Dynamic Optimization
simulation with optimization
Stochastic Optimization
quadratic, tangential, central, forward, convergence criteria
Efficient Frontier
combinations of stochastic and dynamic optimizations on multivariate efficient frontiers
Analytics
Check Model
tests for the most common mistakes in your model
Data Diagnostics
runs tests on heteroskedasticity, micronumerosity, outliers, nonlinearity, autocorrelation, normality, sphericity, nonstationarity, multicollinearity and correlations
Data Extraction and Export
extract data to Excel or flat text files and Risk Sim files, runs statistical reports and forecast result reports
Data Open and Import
retrieves previous simulation run results
Detrending and Deseasonalization
deasonalizes and detrends your data
Distributional Analysis
computes exact PDF, CDF and ICDF of all 42 distributions and generates probability tables
Distributional Designer
create your own custom distributions
Distributional Fitting (Single)
Kolmogorov-Smirnov and Chi-Square tests on continuous distributions, complete with reports and distributional assumptions
Distributional Fitting (Multiple)
runs multiple variables simultaneously, accounts for correlations and correlation significance
Hypothesis Testing
tests if two forecasts are statistically similar or different
Nonparametric Bootstrap
simulation of the statistics to obtain the precision and accuracy of the results
Overlay Charts
fully customizable overlay charts of assumptions and forecasts together (CDF, PDF, 2D/3D chart types)
Principal Component Analysis
tests the best predictor variables and ways to reduce the data array
Scenario Analysis
hundreds and thousands of static two dimensional scenarios
Seasonality Test
tests for various seasonality lags
Segmentation Clustering
groups data into statistical clusters for segmenting your data
Sensitivity Analysis
dynamic sensitivity (simultaneous analysis)
Statistical Analysis
descriptive statistics, distributional fitting, histograms, charts, nonlinear extrapolation, normality test, stochastic parameters estimation, time-series forecasting, trend line projections, etc
Structural Break Test
tests if your time-series data has statistical structural breaks
Tornado Analysis
static perturbation of sensitivities, spider and tornado analysis, and scenario tables
Forecasting
ARIMA
autoregressive integrated moving average models ARIMA (P,D,Q)
Auto ARIMA
runs the most common combinations of ARIMA to find the best-fitting model
Auto Econometrics
runs thousands of model combinations and permutations to obtain the best-fitting model for existing data (linear, nonlinear, interacting, lag, leads, rate, difference)
Basic Econometrics
econometric and linear/nonlinear and interacting regression models
Cubic Spline
nonlinear interpolation and extrapolation
GARCH
volatility projections using generalized autoregressive conditional heteroskedasticity models: GARCH, GARCH-M, TGARCH, TGARCH-M, EGARCH, EGARCH-T, GJR-GARCH, GJR-TGARCH
J-S Curves
logistic S and exponential J curves
Markov Chains
two competing elements over time and market share predictions
Limited Dependent Variables
Logit, Probit, Tobit: logistic-based regressions for forecasting probability of an event
Multiple Regression Analysis
linear and nonlinear regression, stepwise regression with detailed reports (correlation, forward, backward, combination)
Nonlinear Extrapolation
nonlinear time-series forecasting
Stochastic Processes
forecasting using simulation and geometric and exponential Brownian motion, mean-reversion, jump diffusion, and mixed processes
Time-Series Analysis
8 time-series decomposition models for predicting levels, trends and seasonalities
Trendlines
linear, nonlinear, power, logarithmic, exponential, moving average with goodness of fit
Simulation
42 Distributions
Arcsine, Bernoulli, Beta, Beta 3, Beta 4, Binomial, Cauchy, Chi-Square, Cosine, Custom, Discrete Uniform , Double Log, Erlang, Exponential, Exponential 2, F Distribution, Gamma, Geometric, Gumbel Max, Gumbel Min, Hypergeometric, Laplace, Logistic, Lognormal (Arithmetic) and Lognormal (Log), Lognormal3 (Arithmetic) and Lognormal3 (Log), Negative Binomial, Normal, Parabolic, Pareto, Pascal, Pearson V, Pearson VI, PERT, Poisson, Power, Power 3, Rayleigh, T and T2, Triangular, Uniform, Weibull, Weibull 3
Super Speed Simulation
runs 100,000 trials in a few seconds
Custom Distribution
make your own distributions, running historical simulations, and applying the Delphi method
Discrete and Continuous Distributions
correlated simulations, truncation, alternate parameters, multidimensional simulation
Distributions as Excel Functions
set input assumptions and output forecasts using functions inside Excel
Correlations
correlated simulations with copulas (Normal, T, Quasi-Normal)
Sampling Methods
Monte Carlo and Latin Hypercube
Random Number Generator
ROV Advanced Subtractive Generator, Subtractive Random Shuffle Generator, Long Period Shuffle Generator, Portable Random Shuffle Generator, Quick IEEE Hex Generator, Basic Minimal Portable Generator