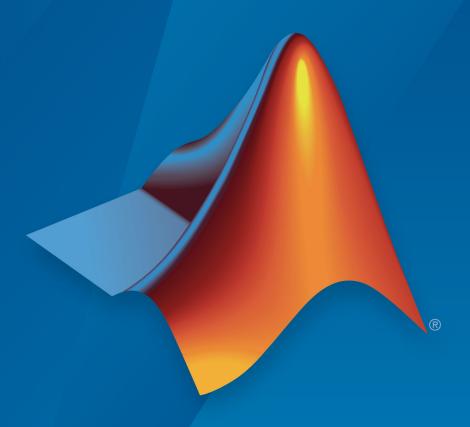
Risk Management Toolbox[™] Release Notes



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Risk Management Toolbox[™] Release Notes

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R2017b

Version: 1.2

New Features

Bug Fixes

Corporate Credit Risk: Compute regulatory capital and value-at-risk using an asymptotic single risk factor (ASRF) model

The asrf function provides an ASRF model for credit risk analysis. asrf accepts the risk characteristics of a portfolio of credit-sensitive instruments as input and computes the necessary capital using an ASRF model.

Corporate Credit Risk: Perform credit portfolio simulation with random loss given default (LGD)

Support is provided for specifying random LGD (loss given default) for creditDefaultCopula and creditMigrationCopula objects. You can now specify the LGD input argument as a NumCounterparties-by-2 matrix, where the first column contains the LGD mean values and the second column contains the LGD standard deviations. In this case, LGD values are drawn randomly from a beta distribution with the parameters provided for the defaulting counterparty.

Market Risk: Backtest expected shortfall models

The following tools support expected shortfall (ES) backtesting for table-based tests for the unconditional Acerbi-Szekely test.

- esbacktest
- summary
- runtests
- unconditionalNormal
- · unconditionalT

The following tools support expected shortfall (ES) backtesting for distribution tests for normal and t distributions.

- esbacktestbysim
- summary
- runtests
- conditional
- unconditional

- · quantile
- simulate

Consumer Credit Risk: Specify weights in credit scorecards using Binning Explorer

Specify weights in a credit scorecard when using the Binning Explorer app. For more information on defining weights for a creditscorecard object, see the optional namevalue pair argument WeightsVar for creditscorecard.

creditCopula object renamed

The creditCopula object is renamed to the creditDefaultCopula object.

Object Name	What Happens When You Use This Object	Use This Object Instead	Compatibility Considerations
creditCopu la	Errors	creditDefaultCopula	Replace all instances of creditCopula object with creditDefaultCopula object using creditDefaultCopula.
			Note The CounterpartyLosses property of the creditCopula object is removed in the creditDefaultCopula object. To obtain counterparty losses, use the getScenarios function.

R2017a

Version: 2.5

New Features

Bug Fixes

Corporate Credit Risk: Estimate the probability of credit rating migration based on multifactor copula model

The following tools support corporate credit portfolio analysis for credit migration simulation using a creditMigrationCopula object for copula-based simulations:

- creditMigrationCopula
- · simulate
- portfolioRisk
- riskContribution
- · confidenceBands
- · getScenarios

Corporate Credit Risk: Quantify credit concentration risk by Herfindahl index and other concentration measures

The concentrationIndices function supports the following concentration indices:

- CR Concentration ratio
- Deciles Deciles of the portfolio weights distribution
- · Gini Gini coefficient
- HH Herfindahl-Hirschman index
- HK Hannah-Kay index
- HT Hall-Tideman index
- TE Theil entropy index

Corporate Credit Risk: Model corporate default risk using Merton model

The mertonmodel and mertonByTimeSeries functions estimate the default probability using Merton's model.

creditCopula object renamed

The creditCopula object is renamed to the creditDefaultCopula object.

Object Name	What Happens When You Use This Object	Use This Object Instead	Compatibility Considerations
creditCopu la	Warns	creditDefaultCopula	Replace all instances of creditCopula object with creditDefaultCopula object using the creditDefaultCopula constructor.
			Note The CounterpartyLosses property of creditCopula object is removed in the creditDefaultCopula object. To obtain counterparty losses, use the getScenarios function.

R2016b

Version: 2.4

New Features

Consumer Credit Risk: Binning Explorer for Credit Scorecards

Binning Explorer is an app for developing and modifying binning assignments for a creditscorecard object. For more information, see Binning Explorer.

Corporate Credit Risk: Copula-based simulation framework

The following tools support corporate credit portfolio analysis using a creditCopula object for copula-based simulations:

- creditCopula Creates a creditCopula object.
- simulate Simulates credit defaults using a creditCopula object.
- portfolioRisk Generates portfolio-level risk measurements for a creditCopula object.
- confidenceBands Generates confidence interval bands for a creditCopula object.
- riskContribution Generates risk contributions for each counterparty in the creditCopula object.

Market Risk: Value-at-Risk Backtesting Tools

Value-at-risk (VaR) is an important measure of financial risk. VaR is an estimate of how much value a portfolio can lose in a given time period with a given confidence level. VaR backtesting tools assess the accuracy of VaR models. The following VaR backtesting tools are supported:

- varbacktest Creates a varbacktest object using portfolio outcomes data and corresponding value-at-risk (VaR) data.
- bin Binomial test.
- cc Christoffersen's conditional coverage mixed test.
- cci Christoffersen's conditional coverage independence test.
- pof Kupiec's proportion of failures test.
- tbf Haas's time between exceptions independence test.
- · tbfi Haas's mixed time between exceptions (independence and frequency) test.
- t1 Traffic light test.

- tuff Kupiec's time until the first failure test.
- summary Summary report on the given varbacktest data.
- runtests Runs all tests and reports the final test results.