Financial Toolbox Release Notes

Contents

Summary by Version

This table provides quick access to what's new in each version. For clarification, see "About Release Notes" on page 1.

Version (Release)	New Features and Changes	Version Compatibility Considerations	Fixed Bugs and Known Problems	Related Documentation at Web Site
Latest Version V3.3 (R2007b)	Yes Details	No	Bug Reports	Printable Release Notes: PDF Current product documentation
V3.2 (R2007a)	Yes Details	No	Bug Reports Includes fixes	No
V3.1 (R2006b)	Yes Details	No	Bug Reports	No
V3.0 (R2006a)	Yes Details	No	Bug Reports	No
V2.5 (R14SP3)	Yes Details	No	Bug Reports	No

About Release Notes

Use release notes when upgrading to a newer version to learn about new features and changes, and the potential impact on your existing files and practices. Release notes are also beneficial if you use or support multiple versions.

If you are not upgrading from the most recent previous version, review release notes for all interim versions, not just for the version you are installing. For example, when upgrading from V1.0 to V1.2, review the New Features and Changes, Version Compatibility Considerations, and Bug Reports for V1.1 and V1.2.

New Features and Changes

These include

- New functionality

- Changes to existing functionality

- Changes to system requirements (complete system requirements for the current version are at the MathWorks Web site)

- Any version compatibility considerations associated with each new feature or change

Version Compatibility Considerations

When a new feature or change introduces a reported incompatibility with the previous version, its description includes a **Compatibility Considerations** subsection that details the impact. For a list of all new features and changes that have reported compatibility impact, see the "Compatibility Summary for Financial Toolbox" on page 15.

Compatibility issues that are reported after the product has been released are added to Bug Reports at the MathWorks Web site. Because bug fixes can sometimes result in incompatibilities, also review fixed bugs in Bug Reports for any compatibility impact.

Fixed Bugs and Known Problems

MathWorks Bug Reports is a user-searchable database of known problems, workarounds, and fixes. The MathWorks updates the Bug Reports database as new problems and resolutions become known, so check it as needed for the latest information.

Access Bug Reports at the MathWorks Web site using your MathWorks Account. If you are not logged in to your MathWorks Account when you link to Bug Reports, you are prompted to log in or create an account. You then can view bug fixes and known problems for R14SP2 and more recent releases.

The Bug Reports database was introduced for R14SP2 and does not include information for prior releases. You can access a list of bug fixes made in prior versions via the links in the summary table.

Related Documentation at Web Site

Printable Release Notes (PDF). You can print release notes from the PDF version, located at the MathWorks Web site. The PDF version does not support links to other documents or to the Web site, such as to Bug Reports. Use the browser-based version of release notes for access to all information.

Product Documentation. At the MathWorks Web site, you can access complete product documentation for the current version and some previous versions, as noted in the summary table.

Version 3.3 (R2007b) Financial Toolbox

This table summarizes new features in Version 3.3 (R2007b).

New Features and Changes	Version Compatibility Considerations	Fixed Bugs and Known Problems	Related Documentation at Web Site
Yes Details below	No	Bug Reports	Printable Release Notes: PDF Current product documentation

New features and changes introduced in this version are:

- "ISMA Support for 30/360 Basis as a Variant of 30/360E with Annual Compounding" on page 4

- "createholidays Function Added for Different Trading Calendars" on page 6

- "Diagonal Covariance Matrix Support Added for Multivariate Normal Regression" on page 6

- "arith2geom and geom2arith Functions Added for Portfolio Analysis" on page 7

ISMA Support for 30/360 Basis as a Variant of 30/360E with Annual Compounding

The following functions now support day count conventions for the basis argument to support 30/360 International Securities Market Association (ISMA) convention as a variant of 30/360E with annual compounding:

- accrfrac

- acrubond

- acrudisc

- bndconvp

- bndconvy

- bnddurp
- bnddury
- bndprice
- bndspread
- bndyield
- cfamounts
- cfdates
- cftimes
- cpncount
- cpndaten
- cpndatenq
- cpndatep
- cpndatepq
- cpndaysn
- cpnpersz
- datemnth
- daysadd
- daysdif
- disc2zero
- discrate
- fvdisc
- fwd2zero
- prbyzero
- prdisc
- prmat
- pyld2zero
- time2date

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- yeardays

- yearfrac

- ylddisc

- yldmat

- zbtprice

- zbtyield

- zero2disc

- zero2fwd

- zero2pyld

createholidays Function Added for Different Trading Calendars

The createholidays function now supports http://www.FinancialCalendar.com trading calendars. This function can be used from the command line or from the Trading Calendars graphical user interface. Using createholidays, you can create holiday.m files, in conjunction with FinancialCalendar.com data, that can be used instead of the standard holidays.m that ships with Financial Toolbox.

Diagonal Covariance Matrix Support Added for Multivariate Normal Regression

The new diagonal covariance matrix estimation feature makes it possible to estimate large-scale factor models by treating the residual errors as being jointly independent. The following functions support CovarFormat, a new input argument:

- ecmlsrmle

- ecmmvnrmle

- ecmmvnrfish

- ecmmvnrobj

- ecmmvnrstd

- `mvnrfish`

- `mvnrmle`

- `mvnrobj`

- `mvnrstd`

arith2geom and geom2arith Functions Added for Portfolio Analysis

Two new functions, `arith2geom` and `geom2arith`, support portfolio analysis.

Version 3.2 (R2007a) Financial Toolbox

This table summarizes new features in Version 3.2 (R2007a).

New Features and Changes	Version Compatibility Considerations	Fixed Bugs and Known Problems	Related Documentation at Web Site
Yes Details below	No	Bug Reports Includes fixes	No

ISMA Support Added

The following functions now support the International Securities Market Association (ISMA) convention for the basis argument:

- accrfrac
- acrubond
- acrudisc
- bndconvp
- bndconvy
- bnddurp
- bnddury
- bndprice
- bndspread
- bndyield
- cfamounts
- cfdates
- cftimes
- cpncount
- cpndaten
- cpndatenq

- cpndatep
- cpndatepq
- cpndaysn
- cpnpersz
- datemnth
- daysadd
- daysdif
- disc2zero
- discrate
- fvdisc
- fwd2zero
- prbyzero
- prdisc
- prmat
- pyld2zero
- time2date
- yeardays
- yearfrac
- ylddisc
- yldmat
- zbtprice
- zbtyield
- zero2disc
- zero2fwd
- zero2pyld

Version 3.1 (R2006b) Financial Toolbox

This table summarizes new features in Version 3.1 (R2006b).

New Features and Changes	Version Compatibility Considerations	Fixed Bugs and Known Problems	Related Documentation at Web Site
Yes Details below	No	Bug Reports	No

New features and changes introduced in this version are:

- "Investment Performance Metrics" on page 10
- "Financial Time Series Tool" on page 10

Investment Performance Metrics

The following new functions are added to compute common investment performance and risk-adjusted metrics:

- sharpe, computes the sharpe ratio.

- inforatio, computes information ratio and tracking error.

- portalpha, computes risk-adjusted alpha and return.

- lpm, computes sample lower partial moments.

- elpm, computes expected lower partial moments.

- maxdrawdown, computes the drop from maximum to minimum return over a period of time.

- emaxdrawdown, computes the returns that are transformed into a linear Brownian motion with drift.

Financial Time Series Tool

Financial Time Series Tool (ftstool) is a new graphical user interface to support working with financial time series FINTS objects. ftstool interoperates with the Financial Time Series Graphical User Interface (ftsgui) and Interactive Charts (chartfts).

Version 3.0 (R2006a) Financial Toolbox

This table summarizes new features in Version 3.0 (R2006a).

New Features and Changes	Version Compatibility Considerations	Fixed Bugs and Known Problems	Related Documentation at Web Site
Yes Details below	No	Bug Reports	No

New features and changes introduced in this version are:

- "Financial Time Series Toolbox Incorporated" on page 11

- "Financial Time Series Frequency Conversion Functions Modified" on page 11

- "Continuous Compounding Option Removed from plyd2zero" on page 12

- "New Statistical Functions" on page 12

Financial Time Series Toolbox Incorporated

As of this release the functionality previously available in Financial Time Series Toolbox has been incorporated into Financial Toolbox. Financial Toolbox documentation has been modified to include the documentation previously available in the Financial Time Series User's Guide.

Because use of Financial Time Series Toolbox required the purchase and installation of Financial Toolbox, all customers previously licensed for Financial Time Series Toolbox will continue to have access to it.

Financial Time Series Frequency Conversion Functions Modified

The suite of time series frequency conversion functions (`todaily`, `toweekly`, `tomonthly`, `tosemi`, and `toannual`) has been extensively modified. Consult the function references in the Financial Toolbox User's Guide for specifics.

Continuous Compounding Option Removed from plyd2zero

Continous compounding is no longer available for `pyld2zero`. Compounding for this function is now consistent with compounding for the function `zero2pyld`. An error message is generated if you attempt to use continuous compounding with these functions.

New Statistical Functions

The new functions in Version 3.0 of Financial Toolbox fall into these four categories:

- "Multivariate Normal Regression Without Missing Data" on page 12

- "Multivariate Normal Regression With Missing Data (Expectation Conditional Maximization)" on page 13

- "Least Squares Regression With Missing Data (Expectation Conditional Maximization)" on page 13

- "Financial Model Transformation Function" on page 13

Multivariate Normal Regression Without Missing Data

mvnrfish	Fisher information matrix for multivariate normal or least-squares regression
mvnrmle	Multivariate normal regression (ignore missing data)
mvnrobj	Log-likelihood function for multivariate normal regression without missing data
mvnrstd	Evaluate standard errors for multivariate normal regression model

Multivariate Normal Regression With Missing Data (Expectation Conditional Maximization)

ecmmvnrfish	Fisher information matrix for multivariate normal regression model
ecmmvnrmle	Multivariate normal regression with missing data
ecmmvnrobj	Log-likelihood function for multivariate normal regression with missing data
ecmmvnrstd	Evaluate standard errors for multivariate normal regression model

Least Squares Regression With Missing Data (Expectation Conditional Maximization)

ecmlsrmle	Least-squares regression with missing data
ecmlsrobj	Log-likelihood function for least-squares regression with missing data

Financial Model Transformation Function

convert2sur	Convert a multivariate normal regression model into a seemingly unrelated regression model

Version 2.5 (R14SP3) Financial Toolbox

This table summarizes what's new in Version 2.5 (R14SP3).

New Features and Changes	Version Compatibility Considerations	Fixed Bugs and Known Problems	Related Documentation at Web Site
Yes Details below	No	Bug Reports	No

New Statistical Functions

Version 2.5 introduces a set of financial statistical computation routines that compute values, such as mean and covariance, when there are missing data elements within a larger data set. These routines implement the Expectation Conditional Maximization (ECM) algorithm with various options that depend on the percentage of missing at random (MAR) data within the data set. The table below lists the functions that implement the ECM algorithm in Financial Toolbox.

The following ECM functions have been added at this release.

Expectation Conditional Maximization

ecmnfish	Fisher information matrix
ecmnhess	Hessian of negative log-likelihood function
ecmninit	Initial mean and covariance
ecmnmle	Mean and covariance of incomplete multivariate normal data
ecmnobj	Negative log-likelihood function
ecmnstd	Standard errors for mean and covariance of incomplete data

Compatibility Summary for Financial Toolbox

This table summarizes new features and changes that might cause incompatibilities when you upgrade from an earlier version, or when you use files on multiple versions. Details are provided with the description of the new feature or change.

Version (Release)	New Features and Changes with Version Compatibility Impact
Latest Version V3.3 (R2007b)	None
V3.2 (R2007a)	None
V3.1 (R2006b)	None
V3.0 (R2006a)	None
V2.5 (R14SP3)	None