FMR3000 Service Pack 1.7.5h

Introduction

In July 2002 FMR Consulting has officially released FMR3000 Service Pack 1.7.5h. The main features provided by this Service Pack are:

- Eurobonds Accrual Calculation can be customized;
- Gross and net accrual calculation for Zero Coupon Bonds;
- Foreign bonds taxation;
- Redemption Price for Zero Coupon Bond;
- BOT Issue price;
- Automatic functionality added at FMRZ02CurveGen() to support ON and TN rates missing;
- Upgrade Worksheets TedSpread Analysis, SwapPresent Value, CCT Analysis and Asset Swap Analysis.
- New methodology to extrapolate discount factor curve

Note: FMR3000 Version 1.7.5 now supports Office XP.
At the moment, bonds with irregular payment frequencies (interest and/or redemptions) and broken coupon bonds are not supported. On the other hand, bonds with irregular first coupons (long or short) are supported.

1. Eurobonds Accrual:

It is possible to customize the time base convention for Eurobond accrual computations through the Database Manager, selecting the bond that has to be modified and defining values for the following fields: 'Accrued Type', '+1' and 'Decimals'.
You can force the use of these fields by means of FMR2.INI file. Adding the keys

use_eu_db_accr_type=1

in the [database] section, will cause accrual computations for Eurobonds to use the customized values. Otherwise, if the key value is null, or the key is missing, accrual computations will not be affected, even if the Database manager has been modified.

2. Capital Accrual Computation for Zero Coupon Bonds

FMRC00AccrIntZC function has been added to compute capital accrual computations for Zero Coupon Bonds.
The meaning of the *Net* parameter becomes:

net = -2 gross accrual with capital gain taxation
net = -1 gross accrual without capital gain taxation
net = 1 net accrual without capital gain taxation
net = 2 net accrual with capital gain taxation
net = 3 net accrual without capital gain taxation (sigma mode)
net = 4 net accrual with capital gain taxation (sigma mode)

3. Foreign bonds taxation

Foreign bonds taxation is supported according to the Italian fiscal regulation. It isn't jet supported the Capital Gain taxation and the 'disagio' at issue.

4. Redemption Price per Zero Coupon Bonds

It is now possible to set the redemption price of Zero Coupon Bonds to a value greater then 100, inserting this value in the Redemption price field of the Database Manager.

5. BOT Issue price

By means of the *Varg1* function argument (value is 23) the BOT Issue price can be forced. For example *Varg1* = 23.09875 means that the issue price is 98.75.

6. FMRZ02CurveGen() function

The function that makes use of market rates to produce Money Market Term Structures has been modified to correctly support when overnight (ON) or tom-next (TN) rates are missing, if the settlement date is within 2 business days and the rates haven't passed.
If the user doesn't pass one of the two rates, the system automatically uses the other. If both are missing, the first deposit rate will be used. The discount factors are determined with log/linear interpolation mode to compute values at times not matching the curve pillars.

NOTE. This means that if TN=ON but the references dates are different (for example, trading date is Friday), the curves obtained by including or leaving out one of the two rates will be slightly different.

The function interface hasn't been modified: therefore, Excel worksheets and code do not need to be modified to benefit from the new functionality.

7. TedSpread Analysis and Swap Present Value Sheets

The TedSpread Analysis Worksheet has been modified to correctly support the Stub rate hedging.
The Swap Present Value Worksheet has been modified to support the correct evaluation of the CMS Contract, considering the convexity adjustment given by the Linear Swap Rate Model (see A. Pelsser "Efficient Methods for Valuing Interest Rate Derivatives", Springer 2000).

8. New methodology used to extrapolate discount factor curve

The methodology used to extrapolate discount factor curve is changed with respect the 175 version of the library. The two methodology are explained in the following.
Set D_N the last point available on the discount factor curve; D_X the discount factor to extrapolate, with $X > N$; T_i the time in years of the generic discount factor D_i;

Version 175:

$$D_X = (D_N)^{\frac{T_X}{T_N}}$$

Version 175h:

$$D_X = D_N \left(\frac{D_N}{D_{N-1}} \right)^{\frac{T_X - T_N}{T_N - T_{N-1}}}$$

Note for Reuters Users:
The CCT Analysis worksheet has been upgraded with the published data on the TTSS page.

How to install

To receive the Service Pack 1.7.5h and the new worksheets mail to helpdesk@fmrcons.com, simply clicking on the apposite link in the Support/Download section of the FMR Consulting Internet site.

Note for Office XP users:

From the Excel Menu, select Tools/Macro/Security set Security Level to medium.
In the tab Trusted Sources select both of the checkboxes and press OK.
Close Excel and load FMR3000