

MBS Analytics Calculation with SAP Market Risk Analyzer

Differentiated Sensitivity Analysis

Minimize your risk with COMPIRICUS' solution that provides the following
MBS/ABS/Callable analytics based on a given Option Adjusted Spread (OAS):
Weighted Average Life (WAL) • Option Adjusted Yield • Option Adjusted Duration

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Motivation

SAP's Market Risk Analyzer (MRA) calculates several key figures for fixed income securities, including yield, duration and convexity. These key global analytic figures are widely used in the SAP TRM/FAM community to control and manage investors' fixed income portfolios.

Utilizing the current "unadjusted" results for Mortgage Backed Securities (MBS) and other fixed income instruments with embedded repayment options (such as callable bonds) would lead to misleading conclusions. The reason is that the cost of the embedded option (such as the prepayments for MBS/ABS or investors' short call for the callable) is not properly considered in the calculation. In order to make the bonds with and without embedded call options comparable, the yield, duration and convexity all need to be adjusted by the cost of the embedded option.

Solution

COMPIRICUS developed a solution that provides the following MBS/ABS/Callable analytics based on a given Option Adjusted Spread (OAS):

- Weighted Average Life (WAL)
- Option Adjusted Yield
- Option Adjusted Duration
- Option Adjusted Convexity

Our approach was to use as much of the existing, sophisticated MRA functionality as possible. Therefore, the solution is based on SAP's standard Single Value Analysis report and uses the configuration possibilities SAP is offering.

The cost of the embedded option as an interim result is calculated by means of an iteration approach determining the Zero-Volatility Spread and bringing it into the equation.

All results are presented in SAP's Single Value Analysis Report.

About COMPIRICUS

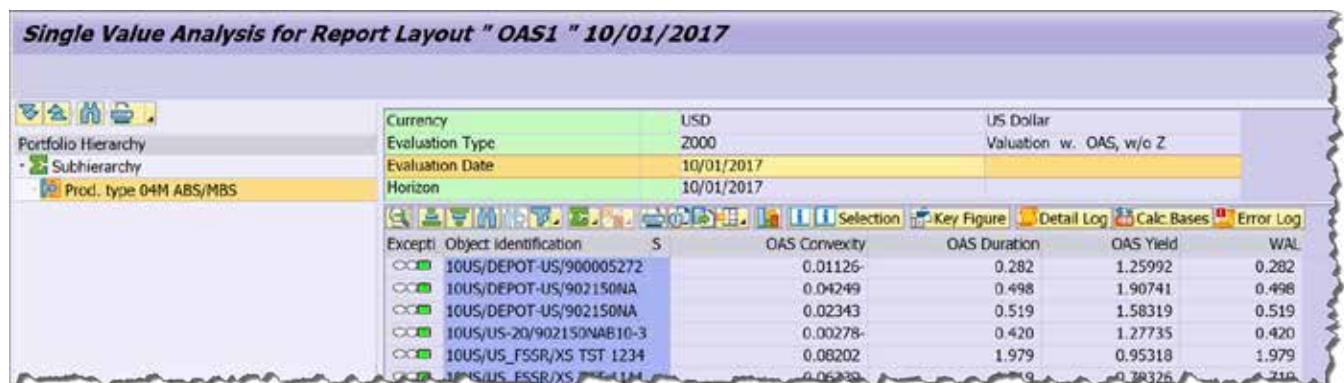
COMPIRICUS is a German-US consulting company and software provider. We focus on asset, risk and treasury management topics, especially on corporate treasury, investment accounting, statutory reporting and investment controlling & forecast with SAP FAM (Financial Asset Management) or TRM (Treasury and Risk Management) respectively.

We would be happy to answer any questions. Simply call us or send an e-mail to:

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Object Identification	OAS Convexity	OAS Duration	OAS Yield	WAL
10US/DEPOT-US/900005272	0.01126	0.282	1.25992	0.282
10US/DEPOT-US/902150NA	0.04249	0.498	1.90741	0.498
10US/DEPOT-US/902150NA	0.02343	0.519	1.58319	0.519
10US/US-20/902150NAB10-3	0.00278	0.420	1.27735	0.420
10US/US_FSSR/XS TST 1234	0.08202	1.979	0.95318	1.979
10US/US_FSSR/XS	0.06230	1.979	0.78326	1.979