



# Kalotay Analytics

**FIXED INCOME** INNOVATION, PRECISION & PERFORMANCE

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**Standard Formula-based Measures:**

Price/yield conversions for standard daycounts  
 Accrued interest for the standard daycounts  
 Modified duration, convexity, DV01  
 Modified duration and convexity to worst  
 Cashflows

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**OAS-based Valuation and Risk Measures:**

Option Adjusted Spread (OAS)  
 Fair value given OAS  
 I-spread, G-spread and Z-spread  
 Effective duration convexity, DV01  
 Bullet bond value  
 Option value  
 Spread duration  
 Key rate durations  
 Vega  
 Expected cash flows  
 Average life

Kalotay Analytics deliver dynamic valuation SDKs and risk-measurement tools including standard price/yield calculations, OAS-based valuation and scenario analysis.

## Comprehensive Fixed Income Coverage

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### **BondOAS™ Fixed Rate Taxable Bonds**

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|---------------------------|---|
| + Agencies                | - Callable (American, European, Bermudan) |
| + Corporate               | - Puttable                                |
| + Treasuries              | - Sinking Fund                            |
| + Foreign Sovereigns      | - Amortizing                              |
| + Foreign Corporates      | - Pay-in-kind                             |
| + Certificates of Deposit | - Stepped Coupon                          |

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### **MuniOAS™ Fixed Rate Tax-Exempt Munis**

- Patent-pending “tax-neutral” OAS valuation of tax-exempt municipal bonds capturing the tax effect on discounts. (Add-on to BondOAS)
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|----------------|---|
| + OIDs         | + After-tax measures including Holder’s Basis, OID and Tax Flow |
| + Callable     | + Conversion of callable muni curve to par option-less curve    |
| + Pre-refunded |   |

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### **FloatVal™ Floating Rate Bonds**

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|------------------------------------|--|
| + Floaters                         | + Percentage of LIBOR                              |
| + Capped, Range & Inverse Floaters | + Flip Note (fixed — floating or floating — fixed) |
| + Range Accrual                    | + Callable Zero                                    |

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### **TipsVal™ Inflation-Indexed Bonds**

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|---|---|
| + US Treasury Inflation-Protected Securities (TIPS) |   |
| + UK Inflation-Linked Gilt (ILG)                    | - Fixed Coupon  |
| + Australian Treasury Indexed Bonds                 | - Deflation Protection  |
| + Canadian Real Return Bond (RRB)                   | - Inflation-adjusted Principal (Redemption Floor, Interest Floor) |
| + French OATi and OAT€                              |   |
| + German Bund Index and BO Index Bonds              |   |
| + Italian BTPE                                      |   |
| + Japanese JGBi                                     |   |
| + Swedish Index-Linked Treasury Bonds               |   |

*continued*

### **CleanMBS™ Mortgage-Backed Securities**

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Patented recursive lattice-based MBS valuation and pre-payment modeling

- + Agency and non-Agency pass-thrus
- + Interest-only (IOs) and Principal-only (POs)
- Calibrated to current TBA prices and mortgage rates
- Realistic interest rate volatility effect
- Burnout' handled automatically
- Refinancing option treated as a call option0 in a bond
- Full spectrum of refinancing behavior options

### **DasVal™ Credit Default Spreads**

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- + Credit Default Swaps
  - Hazard Rate Curve
  - Hazard Rate
  - CDS Fair Value
  - CDS Spread
- + Fixed Coupon Bullets
  - Spread Duration & CDS-spread Duration
  - Partial Durations
  - Bond Expected Cashflow
  - Expected Principal & Interest Cashflow
  - Default-adjusted Yields

### **ConvertVal™ Convertible Bonds**

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- + Plain vanilla convertible bonds with optional calls or puts
- + Preferred stock with optional calls or puts

### **FuturesVal™ Bond-Bill Futures & Options**

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- + Non-callable Fixed Coupon Bond Futures
- + Non-callable Bills
  - 7 currencies
- Forward Value
- Cheapest-to-deliver Probability

## About Kalotay Analytics

For more than twenty-five years, Kalotay Analytics has been at the core of the world's most sophisticated fixed income valuation systems. From real-time pricing of bond ETF's to instantaneous MBS portfolio analysis for risk managers, Kalotay's patented technology performs computationally intensive calculations with the precision and speed demanded by today's markets.

