Comprehensive Multi-Asset Coverage

FINCAD® Analytics Suite

COMMODITY

Options

Asian
Average strike
Double average
Deferred strike (forward start)
Barriers (knock in/out)
- Single & double

Binary
- Single barrier
- Digital

Multi-asset
- Baskets
- Cliquets

Chooser
Compound
Lookback
Power & quotient
Spread
Vanilla
Swaps, swaptions
Variance Swaps
- Conditional
- Corridor
- Capped/floored

Volatility swaps
Variance Options

Forwards/Futures

CONVERTIBLE BONDS

Functions output fair value, probability of conversion, and full risk statistics
Coupon step-up/down/ rollercoaster
Amortizing/accreting/odd coupon
Adjustments for the dilution effect of conversion
Cash flow tables
Cash payments on conversion
Conversion caps
Convertibles with callable/puttable features
Fixed or varying exchange ratios
Implied spread calculations
Implied volatility calculations
Repo spread (borrowing cost)
Soft calls

CREDIT

Asset swaps
Collateralized Debt Obligation (CDO) & indices|
- CDO Tranches (synthetic & standard)
- CDO Tranche cash flows
- CDO Tranche Linked Notes
- CDS index options
- CDS on indices
- First loss CDS and CDO tranches
- Base correlation mapping
- Bespoke tranche pricing & risk
- Calibration of base correlation

Credit Default Swaps (CDS)
- Options
- Cash flows
- ABS CDS

Loan Credit Default Swaps
Constant Maturity Default Swaps (CMDS)
Credit Index Basis Adjustments
Basket CDS
- Cash flows and options
- 1st-to-default, nth-to-default, n-out-of-m to default, all-to-default
- Supports binary payoffs

Cash flow CDOs
- Simulate waterfall
- Notes can have the same or different payment frequencies

Credit linked notes
- Fixed or floating
- Par rates and spreads

Rating sensitive notes
Recovery rate swap
Default probability estimation from
- Bond yield spreads
- Swap spreads
- Equities (using Merton's model)
- Transition matrices default

Hazard rate curve
Credit spread options & forwards
Total return swaps-user-defined payment schedules on underlying

FIXED INCOME

Money market instruments
- Discount securities
- Interest at maturity
- Forward rate agreements

Non-callable bond coverage (fixed rate)
- Coupon step-up/down/ rollercoaster
- Amortizing/accreting
- Zero coupon

Non-callable bond coverage (floating rate)
- Vanilla & user-defined
- Amortizing/accreting
- Compounding or averaging
- In-arrears

Callable/Puttable bonds
- Yield to worst
- Calculate call or put option price
- Option Adjusted Spread analysis (OAS)

Bond forwards, futures, & options
Bond portfolios
- Credit exposure
- Credit Value Adjustment

CMS structures
- Vanilla & user-defined swaps & bonds
- Amortizing/accreting

Jurisdictional specific bonds
- Fixed or floating structures
- 35 countries

Government and corporate bonds
Term structure models
Credit spread analysis
Repos
Brazilian coverage–including amortizing FRNs
Credit contingent interest rate swap
Cheapest-To-Deliver bond futures analysis
Flexible FRNs
Treasury lock
Trigger swap - Permanent & Periodic

VALUE-AT-RISK

Calculate component VaR
Calculate linear VaR from mapped cash flows
Calculate volatility and correlation matrices
Map cash flows to pre-defined risk points
Rebase volatility and correlation data to a different currency

EQUITY

Options

Asian
Average strike
Double average
Deferred strike (forward start)
Barriers (knock in/out):
- Single & double
- Binary spread

Binary
- Single barrier
- Digital
- Napoleon

Multi-asset
- Baskets
- Cliquets

Chooser
Compound
Lookback
Power & quotient
Spread
Employee stock options
Vanilla
Index
Portfolio
Warrants

Forwards/Futures

Comprehensive Multi-Asset Coverage

FINCAD® Analytics Suite

FOREIGN EXCHANGE

Options

Asian
Average strike
Double average
Deferred strike (forward start)
Barriers (knock in/out):
- Single & double Binary

Binary spread
- Digital
- Single barrier

Multi-asset
- Baskets
- Cliquets
- Napoleon

Vanilla
Lookback
Spread
Variance
Swaps
- Conditional
- Corridor
- Capped/floored

Forwards

INFLATION

Cash flow generation
Generic inflation bond functions
Emerging market inflation curves
Inflation swaps: year-on-year, zero coupon
Inflation indexed bonds:
- Australia, Brazil, Canada, France, Germany, Italy, Japan, South Africa, Sweden, Turkey, UK, USA

Par rates

MORTGAGE-BACKED SECURITIES

Accrual bonds
CMOs
Fixed-rate passthroughs or pools
Implied prepayment speed given price and yield/ z-spread
IO/PO bonds
PAC bonds & companion PACs
Prepayment analysis
Prepayment utilities
Price given yield/z-spread and prepayment vector
Pro-rata bonds
Sequential bonds
Spread analysis
TAC bonds & companion TACs
Utilities for creating prepayment vectors (PSA, ABS, CPR <-> SMM)
Yield analysis
Yield/z-spread given price and prepayment vector

MUNICIPAL

Basis swaps (eg. SIFMA vs. LIBOR)
SIFMA swap curves (using swap rates or basis factors)
Caps/floors with averaging features (SIFMA Caps)
Cash flow calculations
Fixed vs. floating swaps (eg. SIFMA vs. Fixed)
Percentage of LIBOR swaps
Serial bond pools
Serial callable bond pools
Swaptions
Variable rate debt
Amortizing Municipal Swaps

INTEREST RATE

Accrual swaps
Asset swaps–vanilla & cross-currency
Caps/Floors
- Vanilla
- Digital
- User-defined
- Averaging

Swaps
- Vanilla/amortizing swaps
- Percentage of LIBOR swaps
- Credit Exposure
- Credit Value Adjustment (CVA)
- Brazilian

Swaptions
- In-arrears swaps
- OIS/EONIA swaps
- Basis swaps, swaptions
- Zero coupon swaps
- Credit Contingent Interest Rate

Swaption styles
- European
- Bermudan

Forward Rate Notes (FRNs)
Capped floater swaps (call/put)
CMS/CMT swaps, swaptions
Term structure models
Inverse floater swaps (call/put)
Compounding swaps
Par swap analysis
Term structure calibration
Volatility bootstrapping (caps and floors)

UTILITIES

Date generation/adjustment/ flexible weekend DEF
IMM date compliance/upfront payments for CDS
- Greeks & risk sensitivities
- Implied volatility
- Credit loss distribution calculations
- DV01

Interpolation
Implied calculations
- Volatility, strike, rates, etc.
- Goal seek on any parameter

Risk measures: Greeks
Cash flow functions & calculations
Ability to:
- implement single rates or curves
- take in discreet dividends or yield

Graph the volatility surface (smile, skew)
Dividend to yield conversion
Conversion factors
Yield to maturity
Discount margin
Volatility bootstrapping
Base correlation mapping
Command Line Licensing
Table merge/sort/cleanup
Any parameter implied from price
Holiday List data
Nested error validation

CURVE BUILDING METHODS

Swap curves
Bond
SIFMA
OIS
Dual Libor-OIS
Separate discount and forward curves