

# Comprehensive Instrument Coverage

With FINCAD's comprehensive coverage, you can value and manage the risk of your derivatives and fixed income portfolios any way you like, with confidence.



With FINCAD you can access all the calculations and formulas you need to accurately price and manage risk on your portfolio. You can also represent the terms of any deal, so instrument coverage is virtually unlimited.



### Value and run risk

on your entire portfolio, with complete cross-asset coverage.



### Move quickly

on new investment opportunities, with the ability to build any type of trade.



### Adapt to market change,

such as the end of Libor and transition to new Alternative Risk-Free Rates (ARRs).

# ANALYTICS

## Derive Results

- Valuation
- Curves
- Fixings
- Cashflows
- Scenarios
- Curve and surface exposures
- Greeks
- Backtesting
- Stress testing
- Exercise probability

## CVA

- Calculated at trade or portfolio level
- Collateral agreements
- CVA/DVA
- IAS 39, FAS 157, and ASC 820 analytics
- Marginal and incremental CVA
- Unilateral and bilateral CVA

## VaR

- Historical or MC VaR for all trade types
- Unlimited VaR paths and distributions

# PRICING MODELS

## For Assets (FX rate, equity, commodity)

- Bates Model
- Black-76
- Black-Scholes (Lognormal)
- CEV
- Diffusion-extended CGMY
- Discrete Local Volatility
- Double Exponential Jump Diffusion
- Dupire Local Volatility
- Garman-Kohlhagen (FX)
- Heston
- Local Stochastic Volatility
- Merton Jump Diffusion
- Normal Model (Bachelier)
- Shifted Lognormal
- Stochastic Volatility
- Vanna Volga
- Variance-gamma
- Vol surface construction (FX, EQ)

## For Rates/FX

### CURVE BUILDING FUNCTIONALITY:

- Alternative Rates Curves (SOFR, ESTR, TONAR, SARON and more)
- Central Bank Meeting Dates for Rate Jumps
- FX-Implied Discounting Curves
- Global Calibration
- Liquidity Rate Spikes
- Multi-curve framework
- Overnight Rate and Libor Curves

### OPTIONS & STRUCTURED PRODUCTS:

- Bachelier
- Black-Karasinski
- Black Model and Shifted-Black
- Brace Gatarek Musiela (BGM)
- CEV Model
- Libor Market Model (LMM)
- Parametric Volatility Surface
- SABR
- Shifted-SABR
- Single and Multifactor Hull-White (HW)
- SVI Volatility Surface
- Vanna Volga
- Volatility Cube Construction

## Hybrid modeling framework

- Calibrate correlation to trades and market observables
- Combine any models whether assets, rates, credit
- Form joint distribution of all risk factors

## Valuation methods

- Backwards evolution (induction) for price processes
- Binomial trees
- Characteristic function/FFT
- Closed Form
- Monte Carlo (including American Monte Carlo)
- Payoff replication
- PDEs
- Trinomial trees
- Universal Algorithmic Differentiation (UAD)

# PRODUCT TYPES

## Bonds

- Callable Bonds
- Compounding, averaging
- Convertible bonds
- Coupon step-up/ step-down
- Discount bonds
- Domestic (government, agency)
- Eurobonds
- Fixed or Floating rate
- Inflation bonds
- Insured
- Local (government, authority)
- Money markets (FRAs, discount securities, interest at maturity)
- Mortgage-backed Securities (MBS)
- Repos
- Sovereign bonds and sovereign guarantee
- State and municipal
- Supranational

## Interest Rates

- Basis
- Basis Overnight
- Forward Rate Agreement
- IBOR
- Index Swap
- Inflation Derivatives
- Non Deliverable Interest Rate Swaps
- Overnight Index Swaps
- Standard Coupon Inflation Swaps
- Variable Notional Swaps
- Zero Coupon
- Zero Coupon Inflation Indexed Swap

## Credit

- Asset swap
- Basket CDS
- CDS indices
- Collateralized Debt Obligation (CDO)
- Constant maturity CDS
- Credit default swap (CDS)
- Credit default swaption
- Credit linked notes
- Options on CDS indices
- Total return swap

## FX/Equities/Commodities

- Accumulators
- American options
- Asian (underlying, strike)
- Autocallables
- Averaging (arithmetic, geometric)
- Barriers (knock-in/out, single, double, partial windows, soft, etc.)
- Bermudan options
- Best-of and Worst-of basket
- Choosers (vanilla and exotic)
- Cliquets (global and local)
- Commodity futures basket
- Commodity swaps
- Digitals (single and double barrier, no touch)
- Equity linked swaps
- European options
- Forwards and futures
- Forward starting
- FX swaps
- In-arrears futures (overnight)
- In-advance futures (IBOR)
- Interest rate futures options
- Lookbacks (strike, fixed strike, or range)
- Multi-currency basket
- Quantos
- TARN/TARF
- Variance and volatility swaps

“FINCAD provides reliable and accurate independent bond prices and allows us to respond swiftly to market changes.”

**VEGARD ANNWEILER**  
CEO, Nordic Bond Pricing (NBP)

Learn how FINCAD can help your firm stay ahead of the curve.

Simplify your derivatives and fixed income portfolio analysis with easy to access valuation and risk analytics that support and manage exposures, calculate fair values, and size trades appropriately.

**CONTACT US OR BOOK A DEMO at [fincad.com](http://fincad.com)**

**FiNCAD**<sup>®</sup>

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