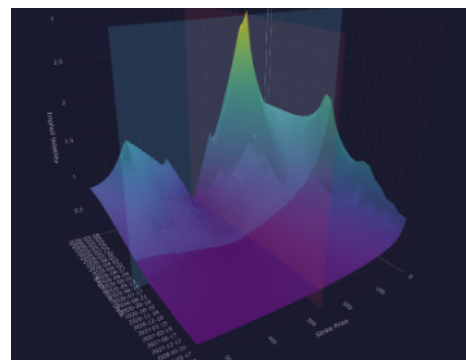


Theoretical Option Pricer

On-Demand Theoretical Pricing Powered by Cboe

The Theoretical Option Pricer brings the power of **Cboe's Options Analytics' Model Fitted Theos (MFTs)** to an on-demand service for valuing both actual and hypothetical options.

Generated in real time and supported by stored volatility surface parameters, MFTs deliver consistent, high-quality analytics across **standard listed and FLEX instruments**.



Theoretical Option Pricer

MFT ▪ Vol Interpolation

- **FLEX, listed, and hypothetical options** pricing coverage for the OPRA universe
- **Real-time and as-of-point-in-time** contract pricing for pre- and post-trade pricing and risk assessment
- **Cboe Hanweck volatility surface** models
- **Customizable model inputs** including underlying price, dividends, rates, and alternative underlying surface proxy

Option Calculator

Black-Scholes ▪ Binomial CRR

- **Industry-standard pricing models** support price and implied volatility & greeks calculations
- **Real-time and as-of-point-in-time** analysis available
- Underlying price, dividends, and rate assumptions can source from Cboe Hanweck data or from client inputs for full control over modeling assumptions

Key Features



Volatility surfaces are constructed from a multi-model framework with real-time parameter calibration—including SABR, Merton Jump-Diffusion, and Mixture Models—to capture the full complexity of market dynamics. Detailed methodology documentation available upon request.



Price one or multiple contracts in a single request for a given underlier, including non-executed and hypothetical structures.



Delivered as a RESTful API endpoint that integrates seamlessly into existing workflows and systems with minimal development overhead.



Historical analysis is available dating back to March 2022.



Use Cases for Theoretical Pricing

- **ETF Issuers**
Cost benefit and mark to model analysis to support evaluation of custom FLEX versus listed options, including modeling of return, theta, and volatility exposure where public quotes are unavailable.
- **Market Makers and Liquidity Providers**
Real time theoretical pricing to support FLEX option quoting, delta hedging, and volatility surface calibration in active trading environments.
- **Institutional Asset Managers**
Custom hedge evaluation and performance attribution to assess FLEX strategies against listed alternatives, including strategy backtesting and risk and return analysis.
- **Broker Dealers and Prime Brokers**
Structured product pricing and client advisory to support risk transfer pricing, product structuring, and institutional guidance on FLEX execution.
- **Hedge Funds**
Volatility strategy research and Greeks generation, with custom implied volatility surfaces supporting model driven strategies such as volatility trading, dispersion, and skew positioning.
- **Exchanges and Clearing Houses**
Risk margining and stress testing supported by theoretical pricing models, enabling fair value reporting and robust margin frameworks for FLEX contracts.

One Request, Complete Analytics

Each response delivers the following data points for every contract priced:

\$ Theo Price	σ Implied Volatility	q Forward Dividends	r_f Risk-free Rate	r_b Borrow Rate
Δ Delta	Γ Gamma	ρ Rho	v Vega	θ Theta

Contact Us: To learn more about this enterprise-grade solution, contact RMADDataSales@cboe.com

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