

OPTIONS

FUTURES

August Options Review

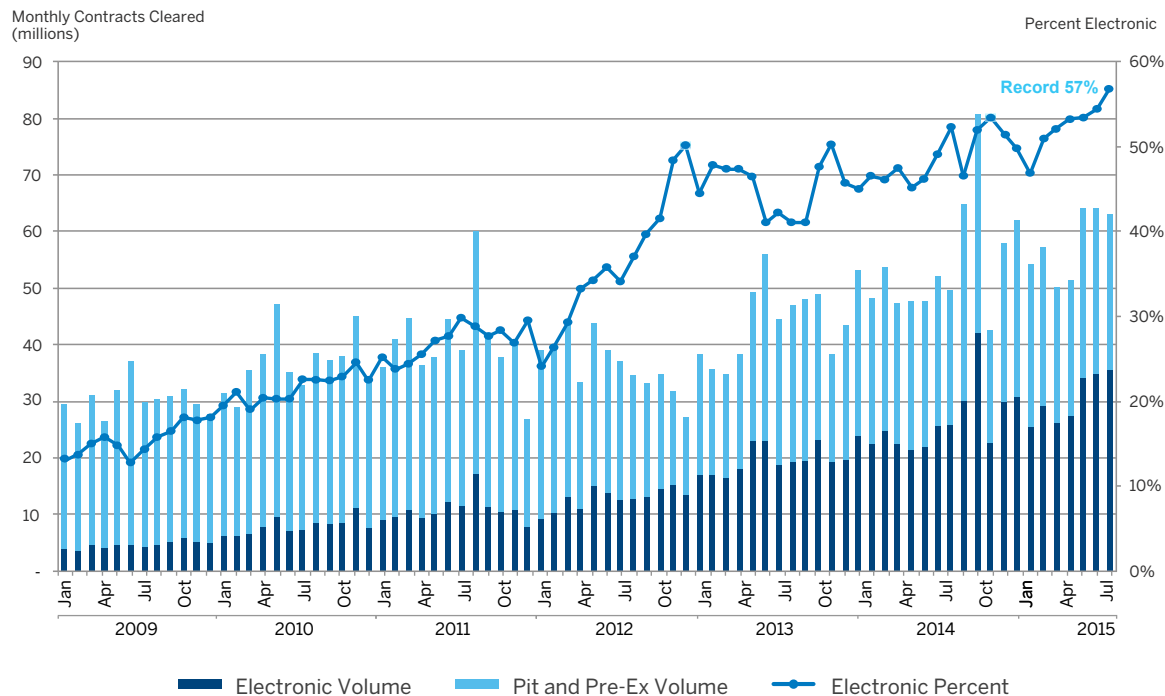
Options on Futures Surge on Heightened Volatility

The growth of options on futures in recent years is largely a testament to advances in electrification, access, and education around the flexibility and benefits that options can bring to a user's portfolio – capital efficient risk management, yield enhancement, and expressions on volatility. With a record 57% of options traded electronically in August, these products are more accessible than ever.

AUGUST STATS

Asset Class	ADV (% Change YOY)	Month-End OI (% Change YoY)	Percent Traded Electronic (Change YoY)
Total Options	3,002,328 (+27%)	52,064,404 (+4%)	57% (+5) **RECORD**
Interest Rates	1,553,367 (+19%)	32,960,214 (+5%)	37% (+1)
Equity Index	774,679 (+46%)	4,763,478 (+18%)	91% (+0)
Energy	299,336 (+39%)	8,631,631 (+2%)	50% (+13) **RECORD**
Agriculture	255,796 (+14%)	3,304,552 (-10%)	61% (+1)
FX	82,510 (+26%)	848,344 (+3%)	97% (+6)
Metals	36,640 (+28%)	1,556,185 (-9%)	70% (+7)

Options on Futures Monthly Volume By Venue



INTEREST RATES OPTIONS

Whether you trade on the floor or on the screen, CME Group Interest Rate options give you direct access to an array of products and an ever-expanding pool of liquidity — all in a streamlined and regulated marketplace. With the addition of Weekly Treasury options, the expansion of short dated Eurodollar Mid-Curve options and long-dated (Green) Eurodollar options, CME Group has significantly broadened the range of Interest Rate option opportunities.

Record 22% of Eurodollar Options Traded Electronically

- Electronic ADV was up 124% YoY, to 220,971 contracts per day (22% electronic vs. 14% electronic in July 2014)
- Mid-curve options represented 50% of the Eurodollar volume
 - › 52% of Mid-curve volume was done in Puts
 - › 1-Year Mid-curve options accounted for 42% of total mid-curve options volume
 - › 2-Year Mid-curve options accounted for 36% of total mid-curve options volume
 - › 3-Year Mid-curve options accounted for 18% of total mid-curve options volume
- Total Eurodollar Open interest stands at 29.8 million contracts at the end of August, +7% YoY
 - › 59% of open interest is held in Puts

Weekly Treasury Options

- Weekly Treasury options traded 115,795 contracts per day, +61% YoY
 - › Weekly 10-Year: 82,489, +60% YoY
 - › Weekly 5-Year: 19,600 ADV, +219% YoY
 - › Weekly 30-Year: 13,191 ADV, -8% YoY
- 243,764 contracts traded on August 7, around August Unemployment report

Treasury Options Traded Daily

- 10-Year note options: 283,989 ADV, -19% YoY (46% Puts)
- U.S. Treasury Bond: 81,975 ADV, +36% YoY (46% Puts)
- 5-Year note options: 76,287 ADV, -29% YoY (56% Puts)
- 2-Year note options: 9,329 ADV, +32% YoY (56% Puts)
- Ultra T-Bond options: 475 ADV, +69% YoY (74% Puts)

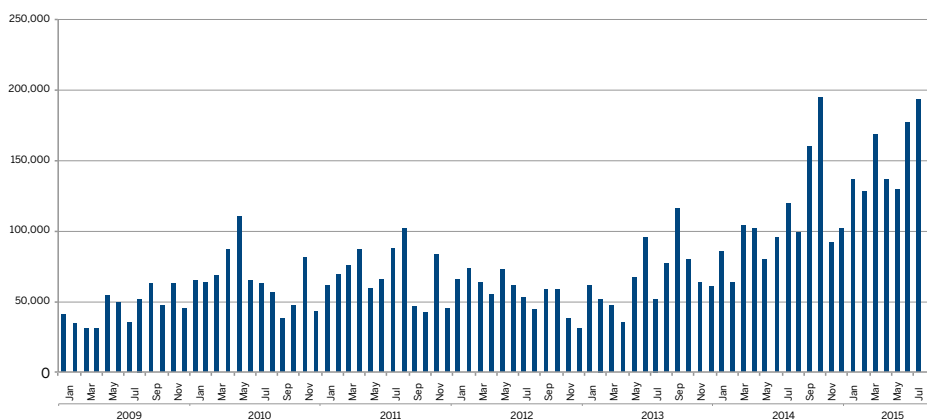
64% of Treasury Options Traded on CME Globex

- 2-Year: 60% | Up from 58% in Aug 2014
- 5-Year: 64% | Up from 54% in Aug 2014
- 10-Year: 60% | Down from 61% from Aug 2014
- 30-Year: 72% | Down from 76% in Aug 2014

Fed Fund Options

- Fed Fund options averaged 1,074 contracts per day in Aug, +1130% YoY
- Puts account for 81% of Fed Funds options volume
- YTD ADV is 1,352 contracts per day, up nearly 1500% YoY

Eurodollar Options Electronic Average Daily Volume



CME Direct for Interest Rates

CME Direct is an integrated environment that provides access to all CME Group futures and options markets within the front end-system. With EOS trader being commissioned on October 30, 2015, user must begin migration to CME Direct to ensure seamless access to CME Group markets.

CME Direct offers:

- Rapid order entry and trading across multiple accounts.
- View advanced options analytics through an integration with QuikStrike.
- A customizable market activity feed displays RFQ and trade activity in real time.

cmegroup.com/direct

EQUITY INDEX OPTIONS

With over 554,000 contracts traded daily in 2015, CME Group Equity Index options on futures provide you with flexible, liquid tools to manage global equity exposure and pursue opportunities represented by the world's leading indexes, all from one marketplace. On the floor or on the screen, large-cap to small-cap, short-term weekly, end-of-month to quarterly expirations, our extensive selection of products provides the choices you need to execute a variety of trading strategies.

E-mini S&P 500 Options

- E-mini S&P 500 options complex: 700,900 ADV, +48% YoY
 - › Quarterly & Serial E-mini S&P 500 options: 431,580 ADV, +50% YoY
 - › Weekly E-mini S&P 500 options: 207,767 ADV, +59% YoY
 - › End-of-Month E-mini S&P 500 options: 61,553 ADV, +8% YoY
 - › Open Interest in Weekly E-mini S&P 500 options spiked to over 1 million contracts on Aug 27
- Spreads comprised 40% of E-mini option volume in August

S&P 500 Options

- S&P 500 options: 65,613 ADV, +49% YoY
 - › Weekly S&P 500 options: 6,225 ADV, +6% YoY
 - › S&P 500 End-of-Month options: 6,111 ADV, +42% YoY

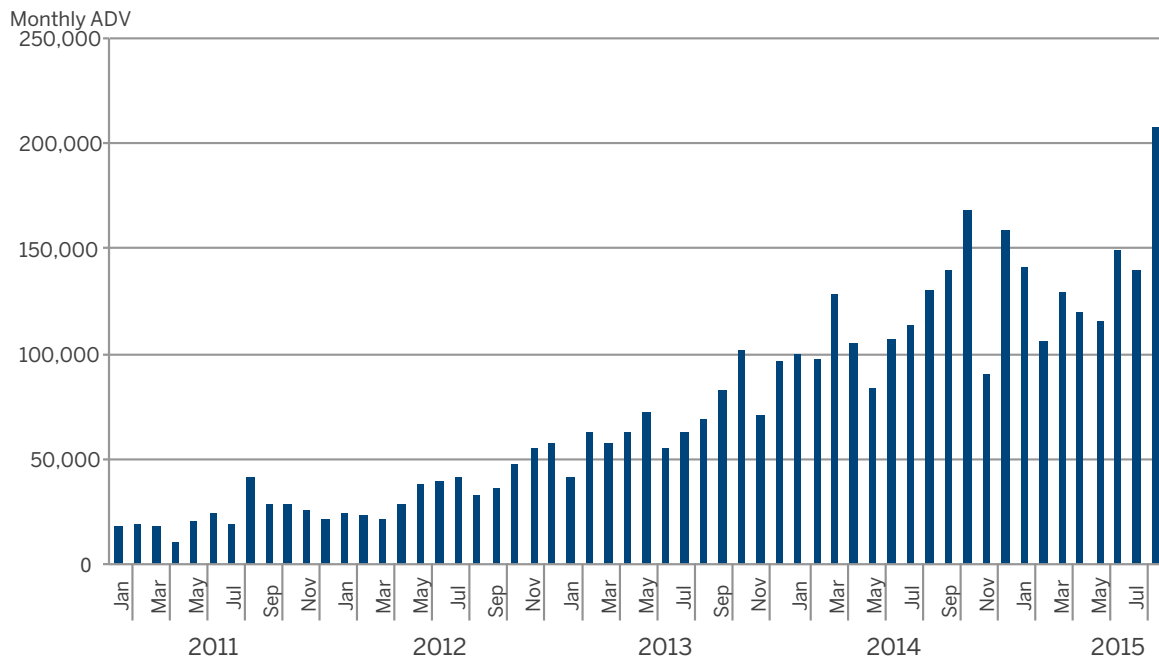
E-mini NASDAQ-100

- E-mini NASDAQ-100 options: 7,218 ADV, -22% YoY
 - › Weekly E-mini NASDAQ-100 options: 1,157 ADV, -16% YoY

August Trading Trends

- Equity Index options: 67% Puts
 - › E-mini S&P 500 options: 66% Puts
 - › Weekly E-mini S&P 500 options: 69% Puts
 - › End-of-Month E-mini S&P 500 options: 70% Puts
 - › S&P 500 options: 67% Puts
 - › E-mini NASDAQ-100 options: 69% Puts

Record Weekly E-mini S&P 500 Options



ENERGY OPTIONS

CME Group offers around-the-clock access to the world's benchmark options products among Crude Oil, Natural Gas, and Refined Products. Our diverse options product slate provides the liquidity and open interest that traders need, with the flexibility to buy and sell American-Style, European-Style, Average Price, Calendar Spread, Short-Term, and Futures Strip options on three trading venues.

50% of Energy Options Traded Electronically for First Time

- Energy options traded 299,336 contracts per day, +39% YoY
- Electronic ADV increased 86% YoY to 149,332 contracts per day
- 50% of volume traded electronically on CME Globex, up from 37% in Aug 2014
- Open interest in Energy options increased 2% YoY to 8.6 million at month-end

Crude Oil Options: Records Abound

- Crude Oil options traded 228,600 lots per day, +78% YoY.
- WTI options (LO): Record 198,257 contracts traded daily, +91% YoY
 - › 69% of the LO contract traded electronically on CME Globex, with record electronic ADV of 137,786
 - › Single Day Electronic Record: 306,371 LO options traded electronically on 8/31
 - › WTI 1 Month CSO (Physical): 14,082 ADV, +68% YoY
 - › WTI 1 Month CSO (Financial): 10,425 ADV, +115% YoY
 - › Weekly crude oil options (LO1-LO5) traded 890 lots per day, +11% YoY

Brent Options with Futures-Style Margining Coming October 12

- Futures-style margined options premium is not paid until exercise or expiration
- Margining style matches the prevailing Brent market convention

- Fee waiver through December 2016 (Pending all necessary regulatory approvals)
- Further capital efficiencies for customers who trade energy products on NYMEX

Natural Gas Options

- Natural Gas European Options (LN) had record activity on screen for the third month in a row, with 2,285 lots per day on CME Globex
- 33% of on screen natural gas options traded as spreads via RFQ
- Daily Natural Gas options (KD): 820 ADV, +1% YoY
- Over 14% of Natural Gas options were executed on CME Globex

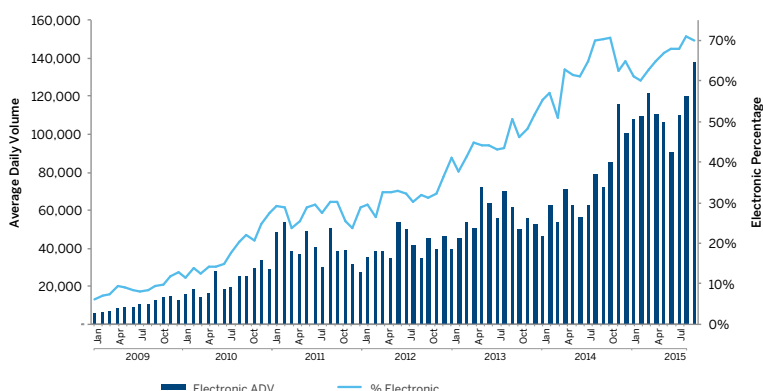
Refined Product Options

- ULSD Physical option (OH): 2,265 ADV, -35% YoY
- RBOB option: 1,704 ADV, +22% YoY
- 14% of Refined Product options were executed on CME Globex

Record Energy Options on CME Direct

- CME Direct offers superior Energy options execution functionality
- Participation continues to grow with Record Globex energy option volume through CME Direct in August
- Learn more at cmegroup.com/direct

NYMEX WTI Options (LO) Electronic Volume and Percentage



AGRICULTURE OPTIONS

CME Group's diverse selection of Agricultural Options offers market participants the flexibility they need for effective risk management, as well as the ability to execute volatility strategies or event-driven trades. Our portfolio of Grain, Oilseed, Livestock, and Dairy products provides an array of opportunities from outright and spread options, including Calendar and Intercommodity Spread Options, to short-term alternatives such as Weekly and Short-Dated New Crop Options.

August Overview – Ag Options Up for Twelfth Consecutive Month

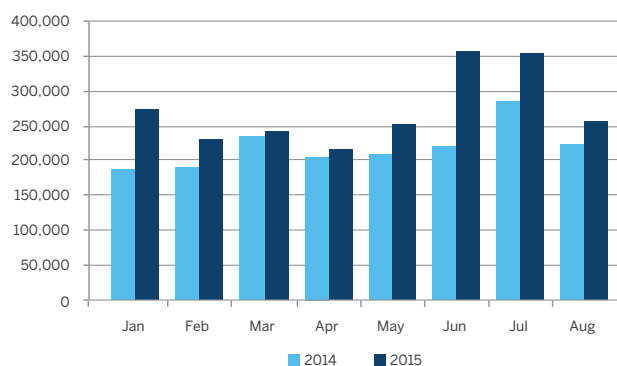
- 255,796 Agricultural options traded per day, +14% YoY
- 60% of Grain/Oilseed options were executed electronically in August, 71 % in Livestock

Option Product	June ADV	ADV % Change YoY	% Puts
Corn	103,277	+42%	47%
Soybean	72,260	+6%	52%
SRW Wheat	20,466	-6%	54%
Live Cattle	13,644	-24%	53%
Lean Hogs	10,270	-15%	54%
Soybean Meal	9,581	+3%	62%
Soybean Oil	9,196	+15%	47%
Feeder Cattle	1,782	+6%	58%
KC HRW Wheat	1,063	+340%	44%
Class III Milk	960	-28%	53%

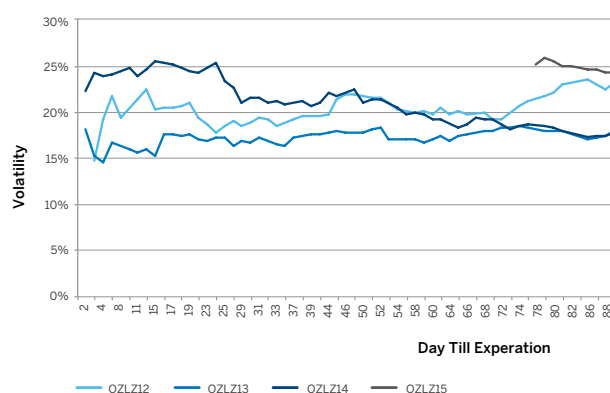
Non-Standard Options Continue to Shine

- Short-Dated New Crop (SDNC) options traded 9,507 contracts per day in Aug, +26% YoY
 - › SDNC Corn options: 5,564 ADV
 - › SDNC Soybean options: 3,943 ADV
 - › End of month OI up 224% (14,391) for 2016 New Crop
- Weekly Ag options traded 1,724 contracts per day, +48% YoY
- Wheat Calendar Spread options traded 904 contract per day, +146% YoY

Agricultural Options YoY ADV Comparison



Soybean Oil – Historical December Implied Volatility



FX OPTIONS

Trade FX options in the world's premier FX marketplace. CME Group's flexible products on major and emerging-market currencies provide greater capital efficiency, security, and unparalleled opportunity for managing FX exposure. That includes 31 FX options based on 22 currencies, offering enhanced trading versatility and the security of one of the world's largest central counterparty (CCP) clearinghouses to mitigate counterparty risk.

CME FX Options Up for Twelfth Consecutive Month

- CME FX Options ADV of 82,510 which is +26% vs. August 2014
- 97% of FX options traded electronically on CME Globex
- Open Interest increased 3% YoY to 848,344 contracts

EUR and JPY Options Lead the Way

- EUR/USD options traded 45,179 contracts per day, +56% YoY
- PY/USD options: 14,472 ADV, +22% YoY
- GBP/USD options: 9,149 ADV, -24% YoY
- CAD/USD options: 7,393 ADV, +25% YoY
- AUD/USD options: 5,698 ADV, +17% YoY
- CHF/USD options: 701 ADV, -59% YoY

Weekly FX American-Style Options

- 13,584 weekly options traded daily, +15% YoY
- EUR weekly: 8,932 ADV, +135% YoY

- AUD weekly: 1,008 ADV, +4% YoY
- CAD weekly: 2,227 ADV, +54% YoY
- JPY weekly: 2,424 ADV, +23% YoY
- GBP weekly: 1,334 ADV, -55% YoY
- CHF weekly: 73 ADV, -49% YoY

Trading Trends

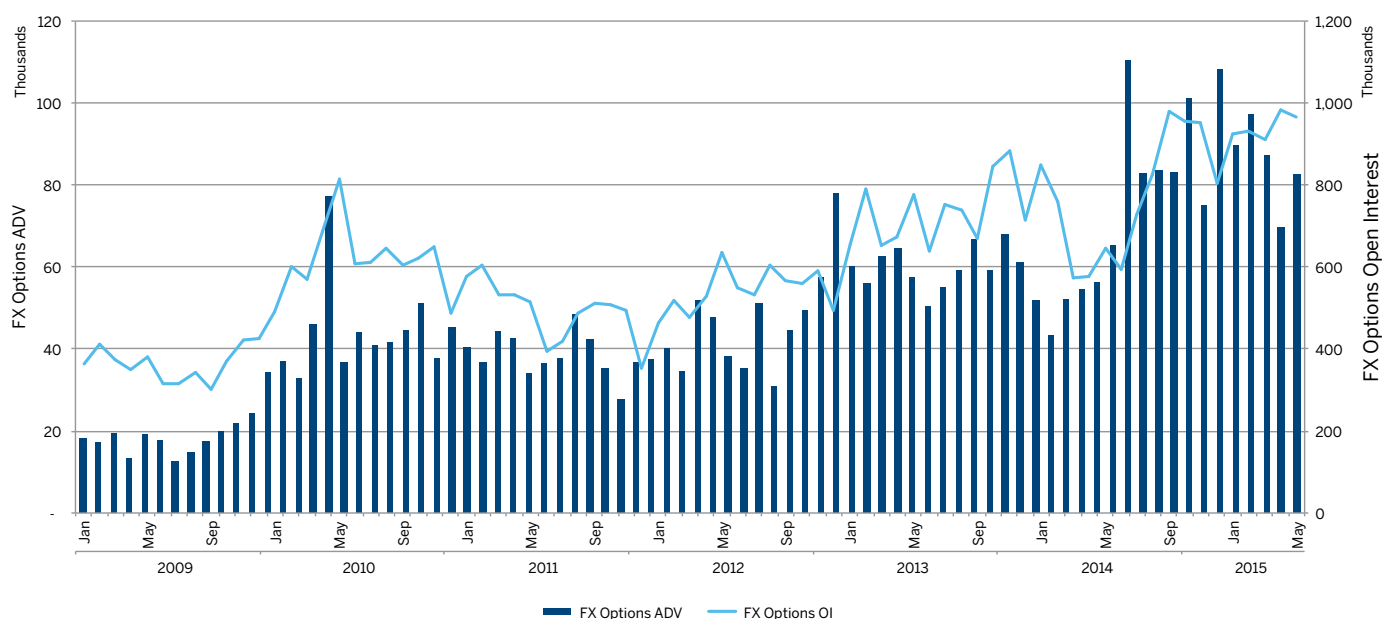
- EUR/USD: 51% Puts
- JPY/USD: 43% Puts
- GBP/USD: 50% Puts
- CAD/USD: 48% Puts
- AUD/USD: 48% Puts
- CHF/USD: 54% Puts



**Voted Best
FX Options
Platform**

Profit & Loss
Readers' Choice Awards

CME FX Options - ADV and Open Interest



METALS OPTIONS

The CME Group COMEX and NYMEX metals options suite gives market participant's access to Short-Term Gold Options as well monthly Gold, Silver, Platinum, Palladium, Iron Ore, and Copper Options. All of our products are traded on three venues — CME Globex, CME ClearPort, and the New York trading floor, allowing for maximum access to liquidity for investors whenever they need it.

Metals Options +28%

- Metals options: 36,640 ADV, +28% YoY
- 70% of Metals options traded electronically on CME Globex, compared to 63% in Aug 2014
- Total open interest in Metal options was 1,556,185 at month-end

- › As of May 1, 2015 CME Group now has a fee waive in place on Copper options for COMEX members as well as a fee reduction for non-members. With these new fees, we are now the most cost-effective clearing venue for your Copper options trading needs. These contracts are listed for trading on CME Globex and the NYMEX trading floor and for submission for clearing through CME ClearPort.

Precious Metals

- Gold options: 31,243 ADV, +45% YoY
 - › Open interest for gold options is split 74:26 (calls vs puts)
- Silver options: 4,893 ADV, -11% YoY
 - › Open interest for Silver options is split 62:38 (calls vs puts)
- Platinum options: 44 ADV, -90% YoY
- Palladium options: 189 ADV, -74% YoY

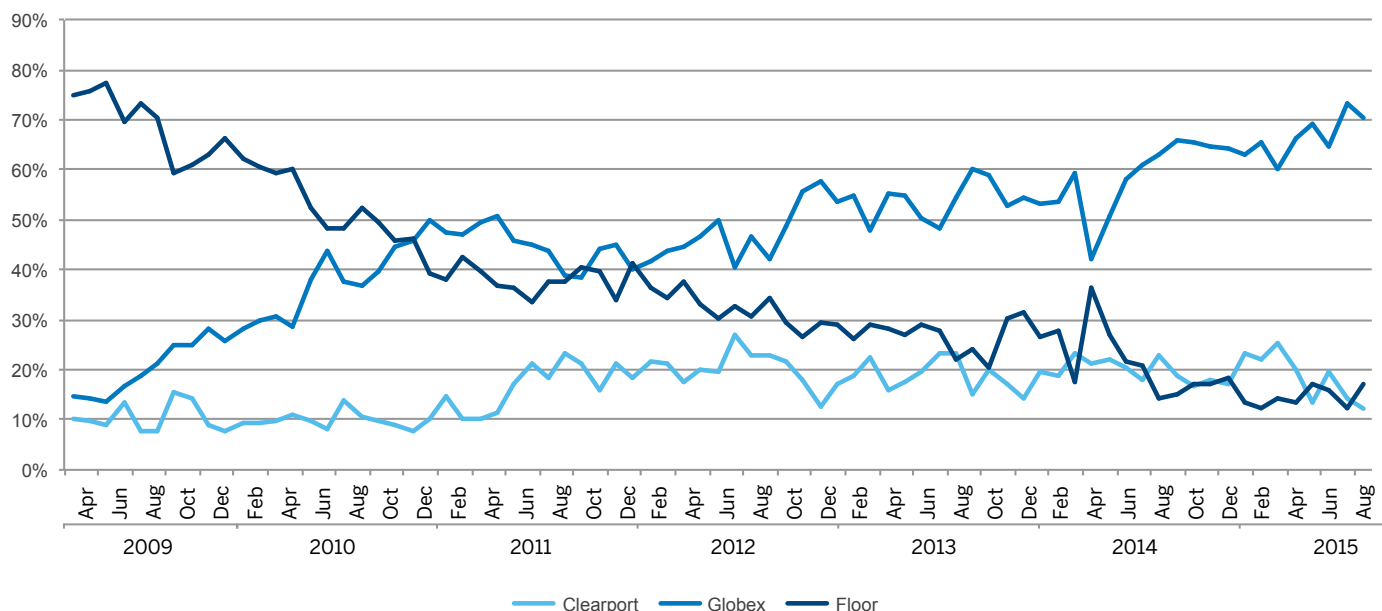
Weekly Metals Options

- Weekly Gold options traded 91 lots per day in Aug, +32% YoY
- Offer greater flexibility to manage the risk associated with government economic data, world events and other market-moving factors, with the added benefit of shorter expirations to gain market exposure at a lower premium.
- Available for Gold, Silver, and Copper options

Ferrous & Base Metals

- Iron Ore options: 80 ADV, +3% YoY
- Copper options: 100 ADV, -12% YoY

Metals Options Volume by Venue



THREE WAYS TO ACCESS

On CME Globex

The recent growth of electronic options markets has led to deeper, more diverse markets with easier entry and exit points, and more streamlined access for execution and clearing.

- 1,451,037 in daily liquidity
- Speed, transparency, access and liquidity of electronically traded markets
- Two-sided markets supported by dedicated market makers
- Request for Quote (RFQ) – Allows participants to get competitive quotes, even during times of low market activity.
- CME Direct's complex options functionality allows you to send Request for Quotes on CME Globex.

On the Floor

- 1,089,877 in daily liquidity
- Quick setup and nearly instant access to liquidity
- Voice brokers and floor traders facilitate price discovery and efficient execution on your behalf

Bilaterally

- 232,925 in daily liquidity
- Control and convenience of privately negotiated trades
- Security and counterparty credit risk mitigation of CME Clearing

OPTIONS TOOLS AND RESOURCES

Options Product Page

Analytic tools, product information, education, research, tools and resources

cmegroup.com/options

QuikStrike Option Pricing & Analysis

Access current and historical volatility (by strike), concise volume and open interest information, delta sheets, options pricing analysis, spread analysis & risk graphs.

cmegroup.com/quikstrike

Equity Index Volatility Surface Reports

View the volatility surface of all E-mini S&P 500 options and all E-mini NASDAQ-100 options currently listed for trading.

cmegroup.com/volsurface

Electronic Options Spotlight

A quarterly snapshot of electronic trends and opportunities

cmegroup.com/electronicoptions

Options on Futures Guide

Introductory guide to options and listing of most actively traded options contracts

cmegroup.com/optionsguide

Tabb Group Report

Options on Futures Primed for Expansion

cmegroup.com/optionsreport

Report Legend

YoY – Unless otherwise specified, YoY compares August 2015 to August 2014

MoM – Compares August 2015 to July 2015

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CME Group

How the world advances

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Futures and options trading is not suitable for all investors, and involves the risk of loss. Futures are a leveraged investment, and because only a percentage of a contract's value is required to trade, it is possible to lose more than the amount of money deposited for a futures position. Therefore, traders should only use funds that they can afford to lose without affecting their lifestyles. And only a portion of those funds should be devoted to any one trade because they cannot expect to profit on every trade. All references to options refer to options on futures.

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