

# OPTIONS

## FUTURES

## November Options Review

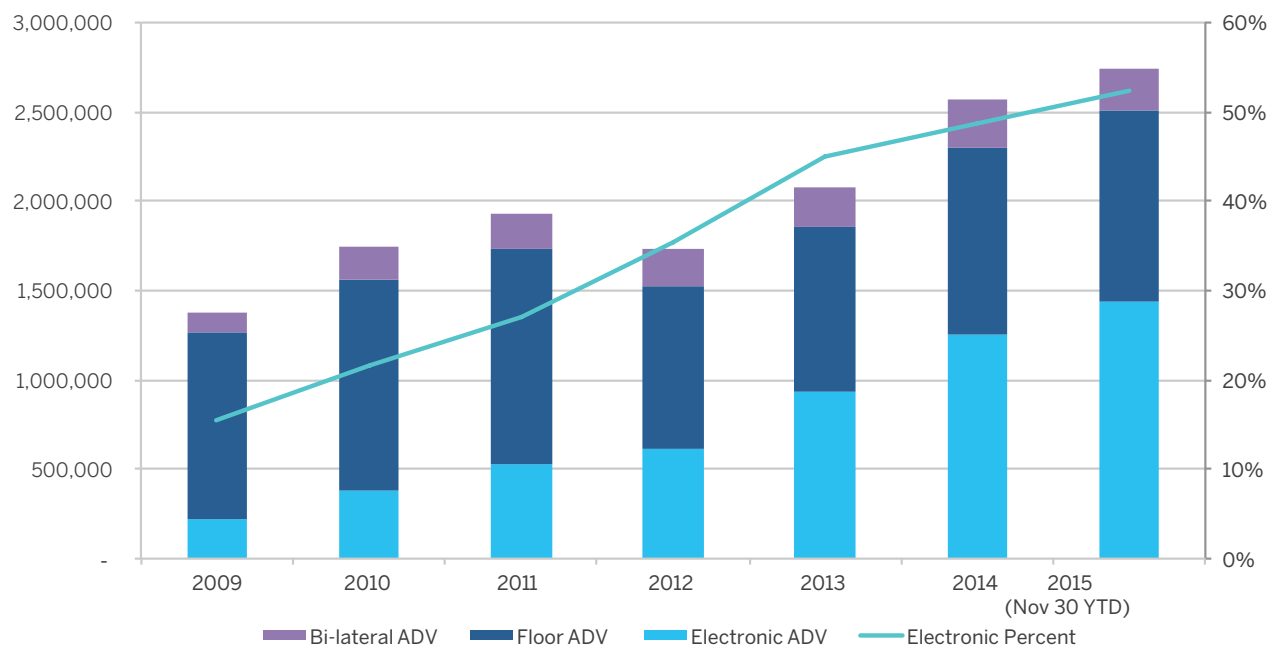
2.6 Million Options Traded Daily, +17% YoY

Offering increased flexibility (strike, duration, exercise style) and precision, options on futures allow market participants to better customize their risk management strategies to their specific needs. Plus, with 52% of options traded electronically, these products are more accessible than ever.

### NOVEMBER STATS

Asset Class	Electronic ADV (% Change YOY)	All Venue ADV (% Change YoY)	Month-End Open Interest
Total Options	1,370,208 (+15%)	2,611,989 (+17%)	51,308,252
Interest Rates	554,492 (+34%)	1,506,735 (+38%)	35,894,320
Equity Index	457,185 (+12%)	501,144 (+10%)	3,941,042
Energy	125,185 (+6%)	285,475 (-12%)	6,916,110
Agriculture	137,566 (-2%)	210,786 (-9%)	2,687,624
FX	70,178 (-11%)	72,726 (-13%)	774,966
Metals	25,601 (-29%)	25,123 (-37%)	1,094,190

### Options ADV by Venue



YOUR BEST RISK MANAGEMENT SOLUTIONS  
START WITH BETTER OPTIONS

 **CME Group**

## INTEREST RATES OPTIONS

Nearly \$1 trillion notional traded daily in CME Interest Rate options; Do you know all of your options across the yield curve?

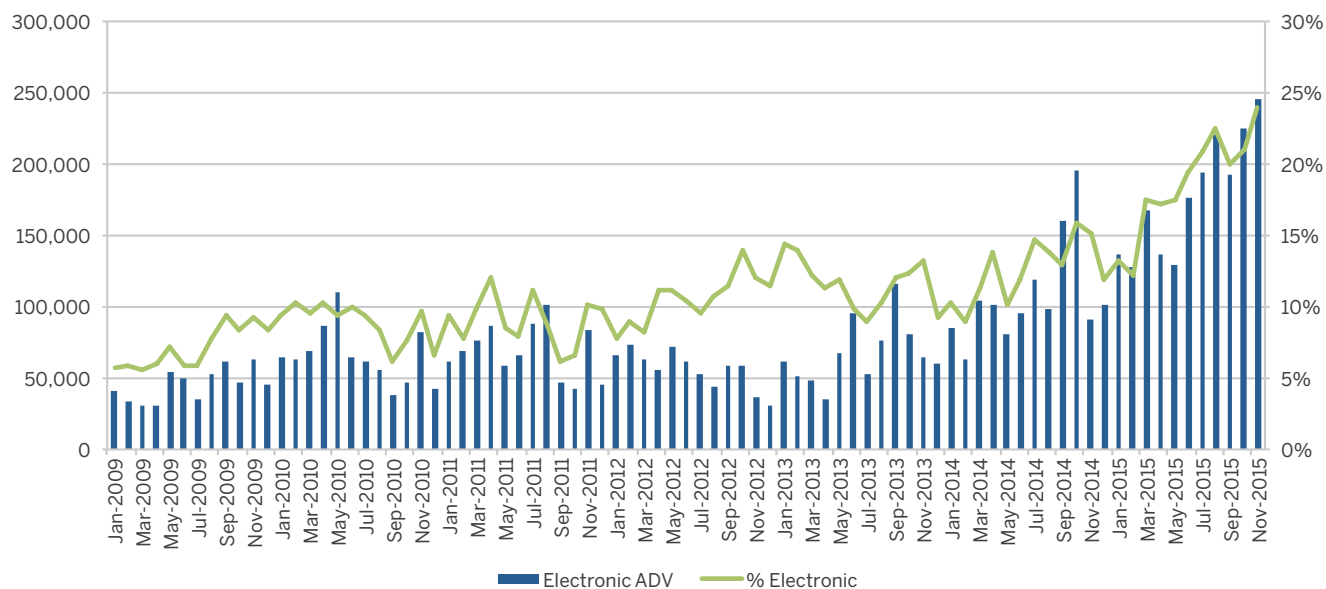
### November Highlights

- Eurodollar options
  - Electronic Eurodollar options growth on CME Globex continues with a record 24% of traded electronically in November 2015. Electronic ADV was a record 246K contracts per day, +169% YoY
  - Open interest of 33 million contracts across serials, quarterlies and Mid-Curves, with 59% held in Puts
- Treasury options: 65% of Treasury options were traded electronically
- Fed Fund options: 1,345 contracts traded per day, +914% YoY
  - YTD, Fed Fund options trading is up 1,313% YoY, with open interest of 72,588 contracts

### November Stats

Option Product	Ticker (CME Globex)	Electronic ADV (% Change YoY)	All Venue ADV (% Change YoY)	% Puts
<b>Eurodollars (Quarterly, Serial, Mid-curves)</b>	GE, GE0-GE5	246,041 (+169%)	1,031,324 (+70%)	62%
<b>10-Year Note</b>	OZN	147,673 (-30%)	236,964 (-23%)	53%
<b>5-Year Note</b>	OZF	57,191 (+46%)	99,279 (+44%)	63%
<b>U.S. Treasury Bond</b>	OZB	41,940 (+59%)	53,743 (+48%)	46%
<b>2-Year Note</b>	OZT	4,454 (-41%)	8,769 (-24%)	75%
<b>Weekly Treasury Options</b>	ZN1-5, FV1-5, ZB1-5	57,154 (+50%)	75,149 (+32%)	56%
<b>Ultra T-Bond</b>	OUB	52 (-68%)	174 (-19%)	80%
<b>30 Day Fed Funds</b>	OZQ	0	1,345 (+914%)	99%

### Eurodollar Options Electronic ADV



### CME Direct for Interest Rate Options

The deadline to migrate from EOS Trader to CME Direct has been extended to December 12 – Contact the [CME Direct Team](#) to migrate today. 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](http://cmegroup.com/direct)

## EQUITY INDEX OPTIONS

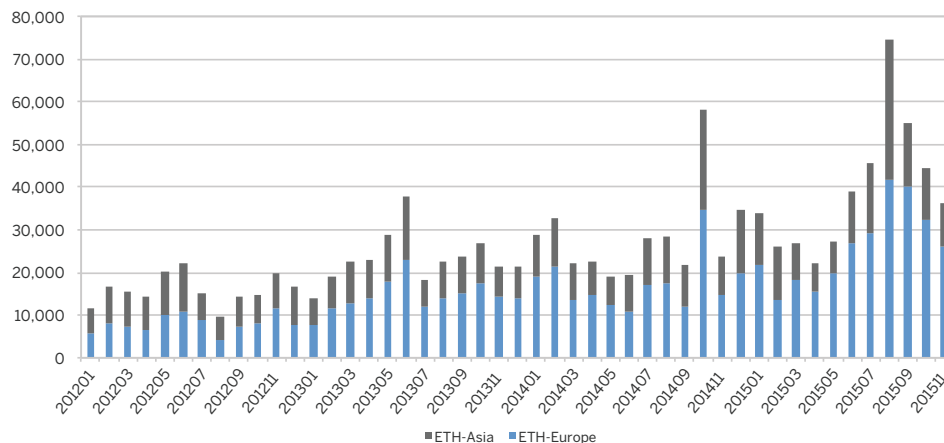
With nearly 560,000 contracts traded daily in 2015, CME Group Equity Index options on futures offer around-the-clock liquidity, market depth, and extensive product choice on the world's benchmark indices to suit a variety of trading strategies.

Option Product	Ticker (CME Globex)	ADV (% Change YoY)	% Electronic	% Puts
E-mini S&P 500	ES	287,166 (+11%)	100%	63%
E-mini S&P 500 Weeklies	EW1, EW2, EW4	130,191 (+44%)	100%	66%
E-mini S&P 500 End-of-Month	EW	32,845 (-38%)	100%	67%
S&P 500	SP	42,302 (-3%)	0%	57%
S&P 500 Weeklies	EV1, EV2, EV4	6,637 (+31%)	0%	77%
S&P 500 End-of-Month	EV	5,028 (+10%)	0%	73%
E-mini NASDAQ 100	NQ	5,784 (-23%)	100%	58%
E-mini NASDAQ 100 Weeklies	QN1, QN2, QN4	1,952 (+105%)	100%	50%
E-mini Dow (\$5)	YM	595 (-4%)	100%	61%

### Thirty market makers support E-mini options 23 hours per day on CME Globex

- Clients can capitalize on actionable liquidity whenever news happens with over 36,000 contracts per day trading outside of US trading hours (See chart below).

### Equity Index Options ADV During non-U.S. Trading Hours

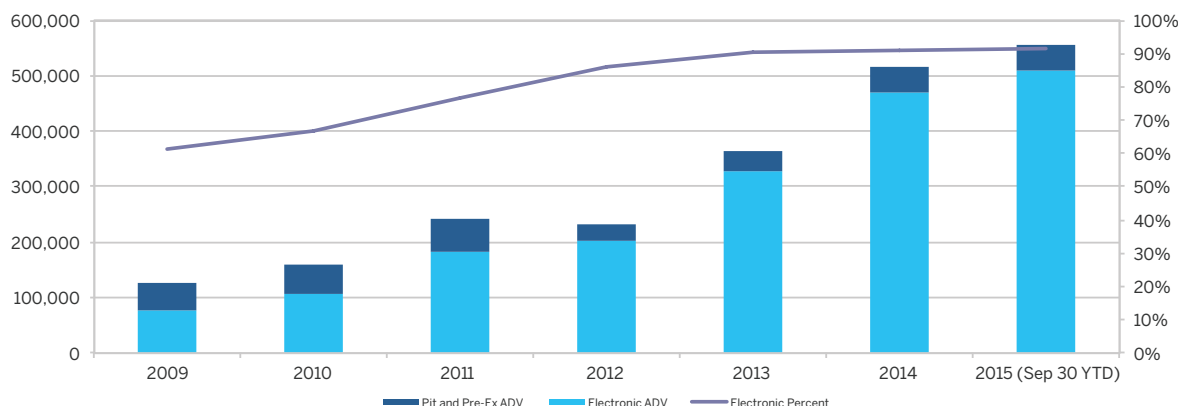


### 28 percent market share\* cannot be ignored

- CME options on S&P 500 futures have a five-year compound annual growth rate of 42 percent and maintain 28 percent market share versus CBOE cash options.
- 2015 ADV of nearly 560,000 is on pace to be an all-time record.

\* Notionally-adjusted market share

### Equity Index Options: Yearly ADV Growth



## ENERGY OPTIONS

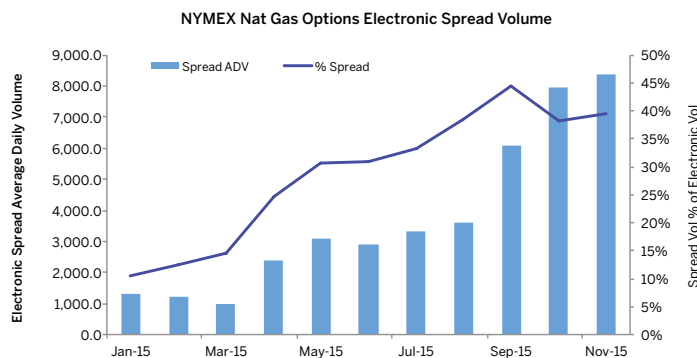
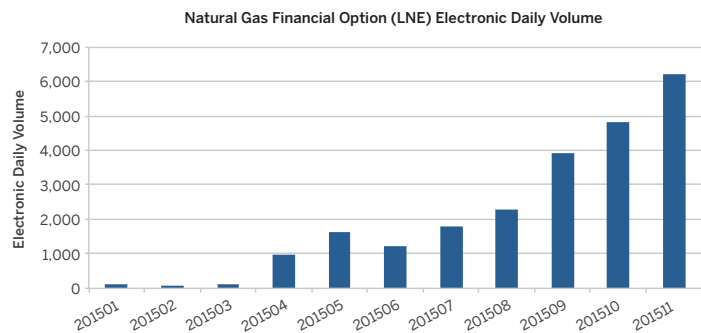
The most extensive and liquid energy option marketplace, delivered with the freedom to choose the venue and trading software that best suits your needs.

### Most Active NYMEX Options

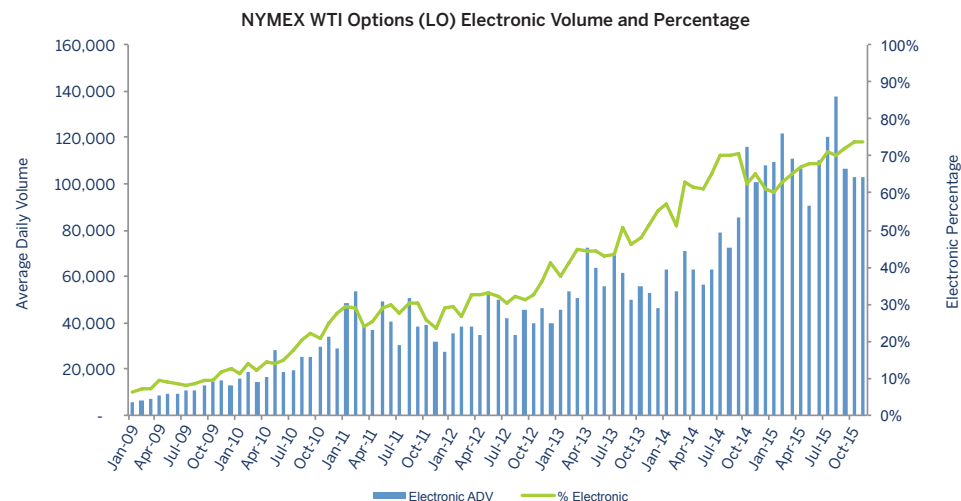
Option Product	Symbol	Settlement	ADV	Open Interest (as of 11/30/15)
WTI Crude Oil	LO	Physical	138,834	2,354,324
WTI 1 Month CSO	7A	Financial	7,509	336,924
WTI 1 Month CSO	WA	Physical	7,026	201,125
WTI Crude Oil European Options	LC	Financial	2,934	92,917
WTI-Brent Spread Option	BV	Financial	1,298	20,750
WTI Average Price Options	AO	Financial	1,197	404,068
WTI Crude Weekly Options	LO1-LO5	Physical	479	1,641
Natural Gas European Options	LN	Financial	100,821	2,799,812
Natural Gas Options	ON	Physical	16,019	153,606
Natural Gas Daily Options	KD	Financial	1,299	0
Natural Gas 1 Month CSO	G4	Financial	1,060	22,600
NY Harbor ULSD	OH	Physical	1,965	37,152
RBOB Gasoline	OB	Physical	1,135	12,065

### Record Screen Trading in Natural Gas Options

- Electronic ADV of Financial Natural Gas option (LN) is up over 1,700% in 2015, and has seen record volume in 5 consecutive months. November ADV was 6,213 contracts per day
- A record 18% of Natural Gas options traded electronically, compared to just 11% in November 2014
- A record 8,396 electronic spreads were executed per day in Natural Gas in November



### Record 74% of WTI options traded electronically



## 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.

### November Overview

- 210,786 Agricultural options traded per day, -9% YoY (YTD ADV = 260K, +11% YoY)
- 65% of Grain and Oilseed options were executed electronically in November, 67% in Livestock, 38% in Dairy
- ADV during Asia hours was up 8% in November vs Nov 2014

Option Product	Nov ADV	YoY % Change	% Elec	% Puts
Corn	68,706	-19%	65%	57%
Soybean	51,436	-25%	75%	56%
SRW Wheat	22,594	+10%	67%	51%
Live Cattle	21,355	+62%	56%	52%
Lean Hogs	15,059	+58%	79%	55%
Soybean Meal	12,315	-26%	62%	58%
Soybean Oil	9,604	+20%	38%	41%
KC HRW Wheat	1,934	+274%	27%	58%
Feeder Cattle	1,608	+3%	87%	61%
Class III Milk	933	-44%	51%	50%

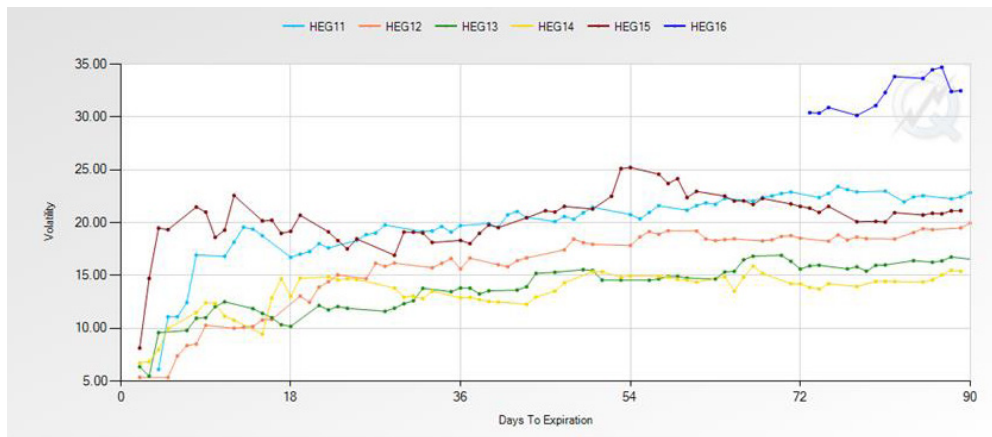
### Live Cattle Market

- Live Cattle Options ADV of 21,355 was second best month to date.
  - Implied February Live Cattle & Lean Hog volatility at elevated levels
  - Lean Hog Options up 58% YoY, February Futures down 23% since October 1st
  - Live Cattle Options up 62% YoY, February Futures down 11% since November 1st

### South American Short-Dated New Crop Options Now Trading

- Have registered volume on 6 trading days since launch with 72 contracts of open interest held at month-end
- New contract based on the May CBOT Soybean futures contract reflecting the South American harvest
- Provides producers in South America a more cost effective way to hedge grain prices timed to their crop cycle
- Provides global grain traders and customers additional trading and arbitrage opportunities
- Learn more at [cmegroup.com/sdnc](http://cmegroup.com/sdnc)

### Live Cattle ATM Volatility



## FX OPTIONS

Access the largest regulated Forex marketplace in the world, with more than \$10 billion in daily FX Options liquidity. That's why our market was voted "Best FX Options Platform" at the Profit & Loss Readers' Choice Awards and why nearly all market participants choose to execute their Options electronically with CME Group.

### November Overview

- CME FX Options ADV of 72,726, -13% YoY, +27% YTD YoY
- 97% of FX options traded electronically, compared to 93% in September 2014
- Open Interest stands at 774,966 contracts

Option Product	Symbol	ADV	YoY % MTD	% Elec	% Puts	Open Interest (as of 11/30/15)
EUR/USD	6E	43,383	8%	98%	53%	377,167
JPY/USD	6J	9,628	-45%	91%	55%	134,676
GBP/USD	6B	8,234	-25%	94%	55%	92,342
AUD/USD	6A	5,586	-26%	98%	53%	86,148
CAD/USD	6C	4,330	-16%	99%	46%	58,380
CHF/USD	6S	1,245	-17%	97%	64%	24,757
MXN/USD	6M	61	-45%	65%	24%	1,496

### Weekly FX American-Style Options

- FX Weekly Options can be used to hedge risk around specific market events, such as Fed updates, employment reports, and other economic events.
- 14,614 weekly options traded daily, -11% YoY, +17% YTD YoY
- EUR weekly: 8,403 ADV, +7% YoY
- GBP weekly: 1,733 ADV, -46% YoY
- JPY weekly: 1,686 ADV, -30% YoY
- CAD weekly: 1,327 ADV, +9% YoY
- AUD weekly: 1,238 ADV, -3% YoY
- CHF weekly: 226 ADV, -37% YoY

### Block threshold reduction

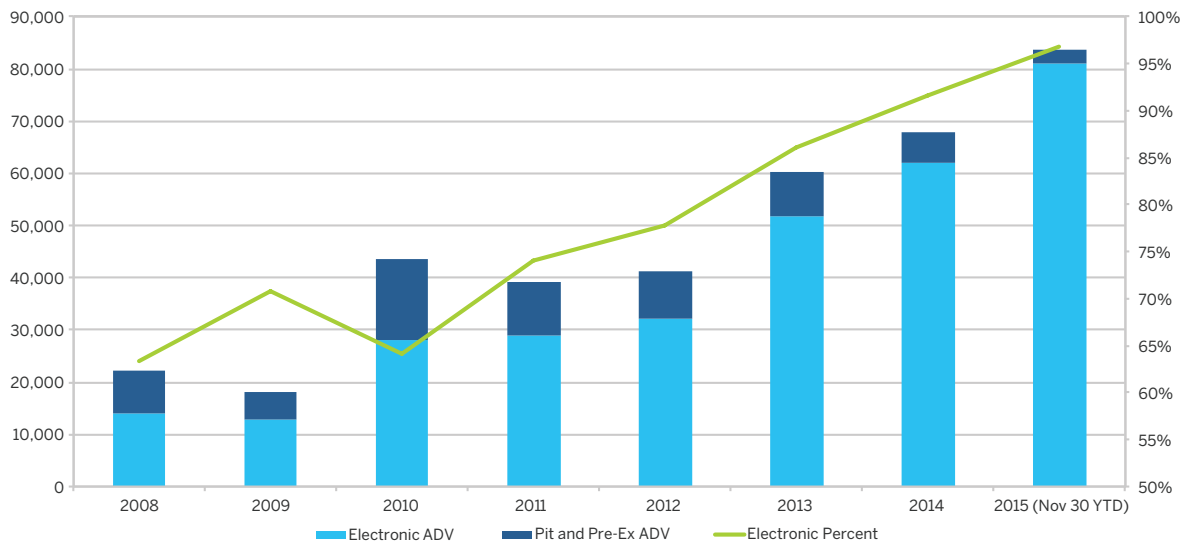
Reduced block thresholds allow for more flexibility:

- From 50 lots to 10 lots in 30 FX futures
- From 50 lots to 20 lots in 10 companion FX Options
- From an award-winning Clearing House and FX Options platform
- Now, submit your blocks directly into ClearPort with your smartclick log in

### Are you a Broker?

- We have a number of initiatives to grow your business. Contact us today at [fxteam@cmegroup.com](mailto:fxteam@cmegroup.com).

FX Options on Futures - Yearly ADV Growth



## METALS OPTIONS

Get nearly 24-hour access to solid opportunities with the suite of COMEX and NYMEX metals options at CME Group, the world's most liquid metals marketplace. Increase your flexibility and trade your choice of Short-Term Gold or monthly Gold, Silver, Platinum, Palladium, Iron Ore, and Copper options on CME Globex and CME ClearPort.

### November Overview

- Metals options: 35,123 ADV, -37% YoY
- 73% of Metals options traded electronically on CME Globex, compared to 65% in Nov 2014
- Total open interest in Metal options was 1,094,190 at month-end

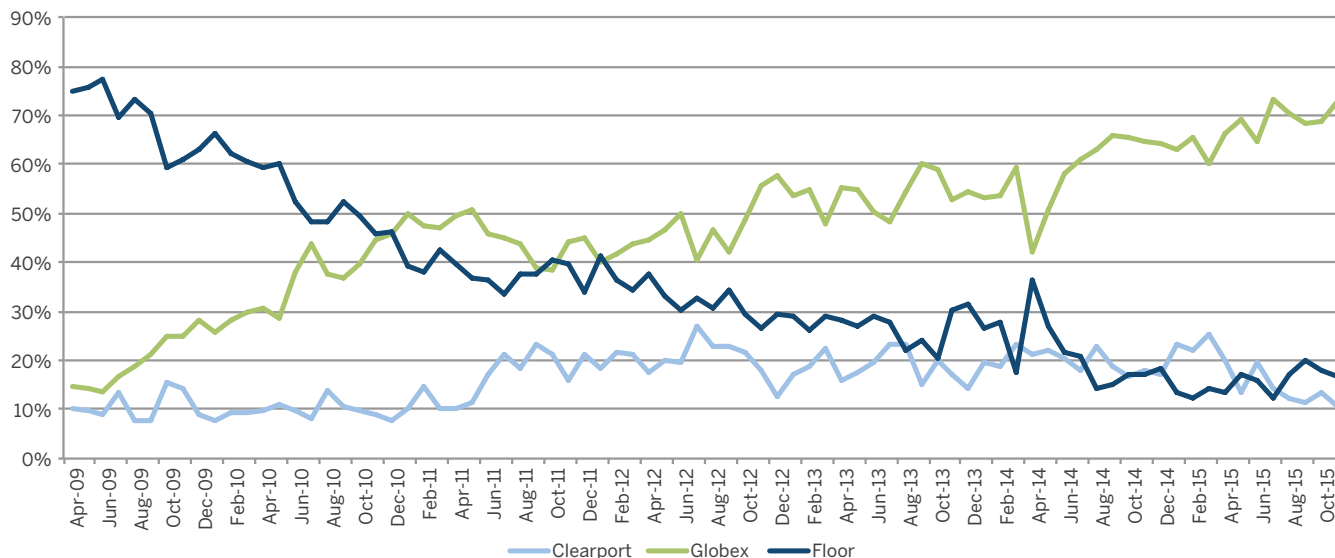
### November Stats

Option Product	Ticker (CME Globex)	ADV (% Change YOY)	% Electronic	% Puts	Open Interest
Gold	OG	30,056 (-32%)	73%	48%	954,826
Silver	SO	4,212 (-60%)	85%	52%	94,670
Copper	HX	224 (+183%)	89%	59%	3,881
Platinum	PO	201 (-51%)	23%	70%	3,482
Palladium	PAO	165 (-33%)	9%	61%	4,474
Iron Ore	ICT	135 (-7%)	0%	46%	32,857
Gold Weeklies	OG1-OG5	124 (+17%)	46%	52%	913

### Copper Options Up 183%

- 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

Metals Options Volume by Venue



### Metals Options Resources

#### Daily Metals Market Report

Subscribe to receive daily reports recapping the previous day's Metals market activity including, volume, open interest, put/call ratios, and most active contract months/strikes.

[cmegroup.com/dailymetals](http://cmegroup.com/dailymetals)

#### Liquidity Alerts

Receive real-time notifications when trades are executed and the market is moving in both Base Metal and Precious Metals Options.

[cmegroup.com/mtliquidityalerts](http://cmegroup.com/mtliquidityalerts)

## 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.

- 1,438,050 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.

### On the Floor

- 1,067,611 in daily liquidity
- Quick setup and nearly instant access to liquidity
- Security and counterparty credit risk mitigation of CME Clearing

### Bilaterally

- 236,159 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](http://cmegroup.com/options)

### QuikStrike Option Pricing & Analysis

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

[cmegroup.com/quikstrike](http://cmegroup.com/quikstrike)

### Request For Quote (RFQ) Functionality

Learn how to replicate the flexibility and price discovery of brokered markets on screen, to instantly get electronic quotes on multi-leg options strategies, or to generate interest on a specific strike when liquidity is low.

[cmegroup.com/rfq](http://cmegroup.com/rfq)

### CME Direct

CME Direct is a highly-configurable trading front end that offers the best solution for Options traders across all CME markets.

[cmegroup.com/direct](http://cmegroup.com/direct)

### Electronic Options Spotlight

A quarterly snapshot of electronic trends and opportunities.

[cmegroup.com/electronicoptions](http://cmegroup.com/electronicoptions)

### Options on Futures Guide

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

[cmegroup.com/optionsguide](http://cmegroup.com/optionsguide)

### Report Legend

**YoY** – Unless otherwise specified, YoY compares November 2015 to November 2014

**MoM** – Compares November 2015 to October 2015

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### Asset Managers

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### Proprietary Trading Firms

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### FCMs/IBs

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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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