

FIA 2016 VOLUME SURVEY

Global Futures and Options Volume Rises 1.7% to Record Level



Global futures and options volume rose to a record level in 2016, but beneath the headline number there was considerable variation. Futures volume grew for the fifth year in a row but options volume sunk to its lowest level since 2007. Trading activity was up in North America, Europe and Latin America but down in Asia-Pacific. There was strong growth in commodity futures and options and interest rate volume hit its highest level since 2007, but the equity sector continued its downward trend.

By Will Acworth

THE TOTAL NUMBER of futures and options traded on exchanges worldwide reached 25.22 billion contracts in 2016. Although that was only 1.7% higher than the previous year, the increase in the number of contracts traded was enough to set a new annual record for the derivatives exchange industry. The previous high was set in 2011, when total volume reached 24.98 billion.

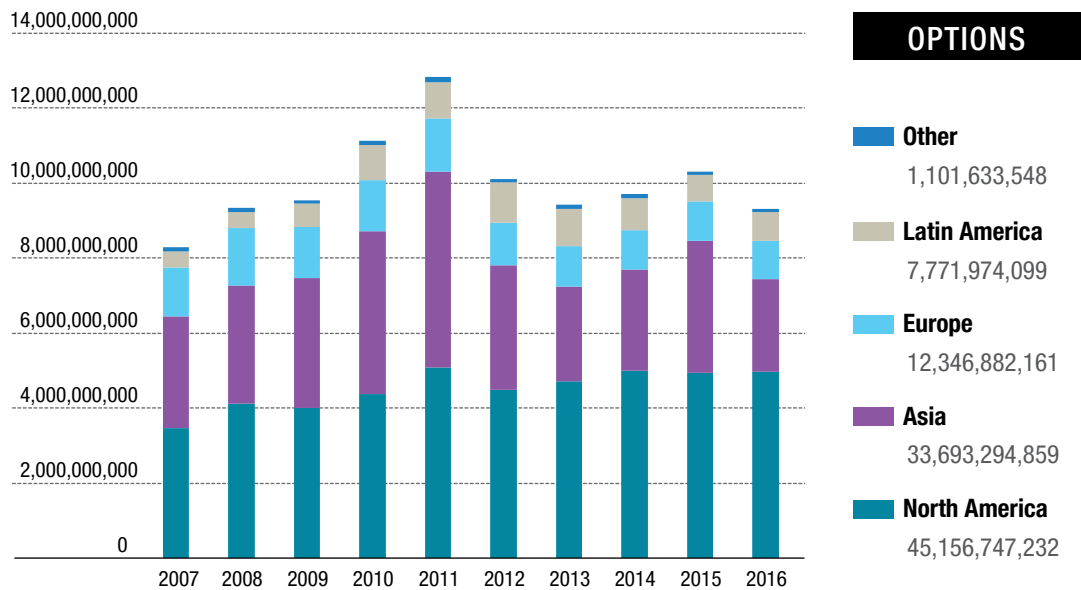
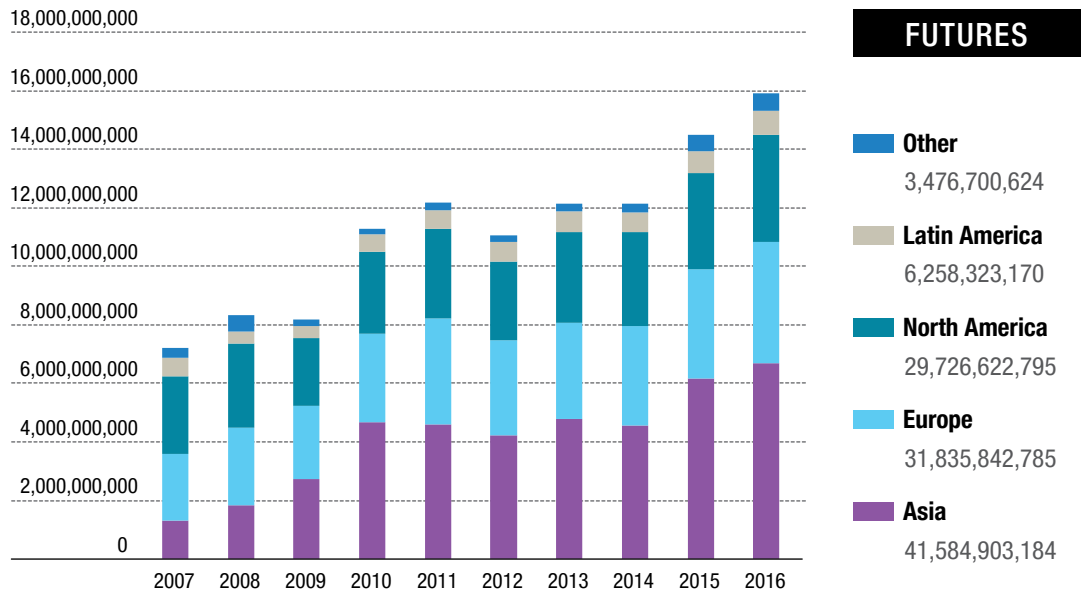
The regional breakdown of this year's trading activity followed a very different pattern from 2015, when exchanges in Asia-Pacific were the main engine of growth. In 2016, trading activity on North American exchanges was up 4.8% to 8.59 billion contracts, Europe was up 8.0% to 5.18 billion, and Latin America was up 11.3% to 1.62 billion. In fact, both North America and Europe set records in terms of the total amount of trading in those regions. In contrast, volume in Asia-Pacific fell 5.3% to 9.18 billion. Asia-Pacific still accounts for more volume than any other region, but its share of the global total fell from 39% to 36%.

What caused this reversal of regional trends? The answer emerges quite clearly if we split the volume by product types and look at futures and options separately. Trading of futures has been growing steadily in all regions and hit a record of 15.89 billion contracts in 2016. In contrast, options trading has been declining since 2011. In 2016, the total number of options contracts traded on exchanges was 9.33 billion, down 9.6% from the previous year and down 27.3% from 2011. In fact, the 9.33 billion options traded in 2016 was the lowest annual amount since 2007.

BY REGION

Ten Year Volume Trends for Global Futures and Options

The number of futures contracts traded globally reached nearly 16 billion contracts in 2016, more than double what was traded 10 years ago. In contrast, options volume has risen only 12.3% over the same 10-year period.



The downtrend in options trading was especially pronounced in Asia-Pacific. The total number of options contracts traded on exchanges in that region fell 29.6% in 2016 to 2.48 billion, the lowest level for that region in 10 years. But the downtrend was not limited to that region. Options volume in North America and Europe has been essentially unchanged over the past several years, and both of those two regions are well below the peaks they set in 2011.

Clearly the futures side of the exchange-traded derivatives industry is doing better than the options side. The main reason is that options volume is more heavily weighted to equities, which has been in a downtrend since 2011. Options based on equity indices and individual equities accounted for 83.4% of all options volume in 2016. From 2007 to 2011, these products grew rapidly, but since then they have been in decline, and the level of volume in 2016 was roughly the same as it was in 2007. Futures volume on the other hand is more diversified in terms of categories and has benefitted from strong growth in other sectors of the market such as commodities and currencies.

CATEGORIES

Given this difference between the two types of products, it makes sense to look the category-level trends separately. Let's start with futures. If we look at the volume trends for futures in each of the seven categories, two trends quickly become clear. First, in 2016 trading of interest rate futures rose 7.2% to 2.89 billion contracts. That was not a record, but it was the highest amount of trading since 2007, when 3.08 billion interest rate futures changed hands.

Second, the trading of futures on three types of physical commodities has been growing very rapidly for the past 10 years. From 2007 to 2016, the number of contracts traded in the agricultural, energy and non-precious metals categories rose from 1.16 billion to 5.77 billion.

Meanwhile the equity index and individual equity categories were trending downward. Equity index futures fell 5.9% to 2.67 billion, and individual equity futures fell 12.6% to 1.23 billion. But unlike

the options side of the industry, these products accounted for only 24.5% of total futures volume in 2016. As a result, the lack of growth in that sector was more than offset by the growth in futures on interest rates and commodities.

Now let's look at what happened with options. As mentioned above, the two categories in the equity sector were both down. Equity index options

volume fell 19.2% to 4.45 billion, roughly the same level as 2013. Individual equity options volume declined 5.9% to 3.33 billion, the lowest level in more than 10 years. Other types of options were more actively traded in 2016, however. The number of currency options traded on exchanges jumped 39.1% to 655.3 million contracts, interest rate options rose 11.5% to 632.5 million contracts, the highest since 2011, and options

on agricultural commodities, energy and non-precious metals all increased. But these gains were not enough to offset the decline in the equity sector.

In 2016,
interest rate
futures rose
7.2%

EXCHANGES

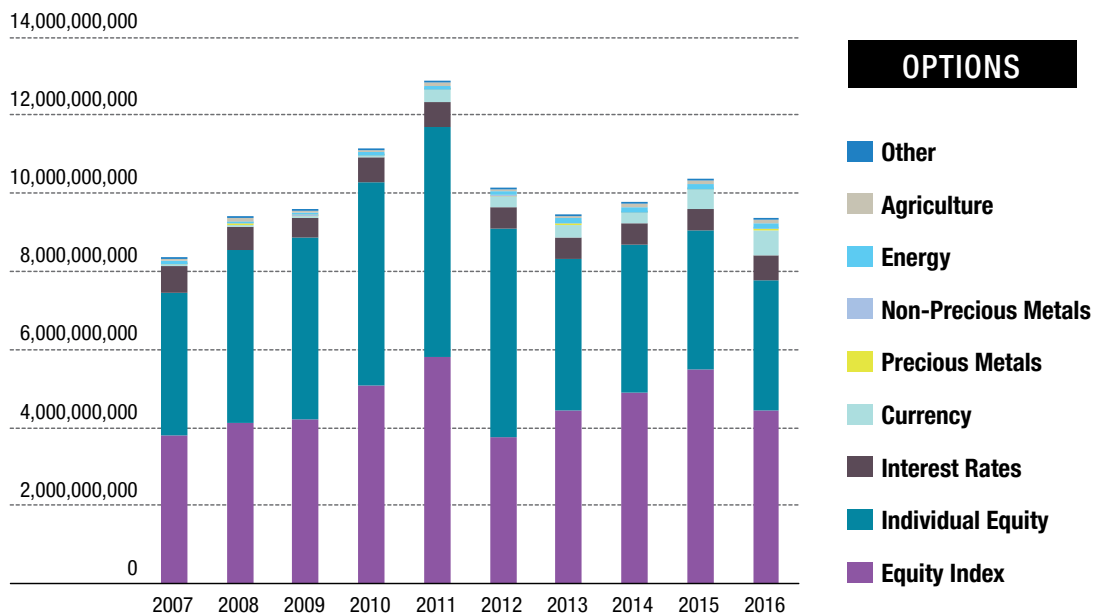
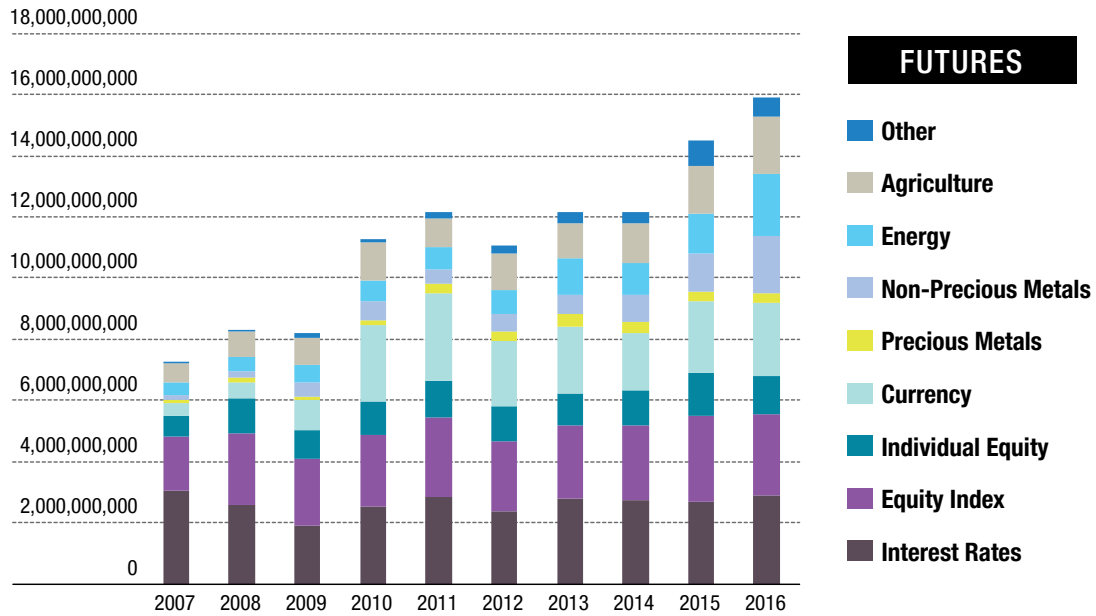
Turning to the exchange-centric perspective on trading volumes, let's look at which exchanges were up and which were down. Total volume at CME Group, the largest exchange in the world by trading volume, rose to 3.94 billion contracts, up 11.6% from the previous year. Many of its flagship contracts had substantial jumps in trading activity. Eurodollar futures rose 11.6% to 654.9 million contracts, E-mini S&P 500 futures rose 10.0% to 472.7 million, 10-year Treasury note futures increased 6.8% to 350.8 million, WTI crude oil futures jumped 36.9% to 276.8 million contracts, and Henry Hub natural gas futures surged 19.2% to 97.5 million.

The uptick in the Eurodollar market is especially noteworthy because of its size and importance to the industry. Eurodollar futures volume, which declined from 2014 to 2015, rebounded to 654.9 million contracts in 2016, an increase of 11.6%. Eurodollar options, which have exploded in popularity in recent years, jumped 49.9% in 2016 to 168.3 million and mid-curve Eurodollar options, which

BY CATEGORY

Ten Year Volume Trends for Global Futures and Options

Over the last 10 years, the main drivers of growth on derivatives exchanges have been in the commodity and currency categories.



are based on long-dated Eurodollar futures, rose 7.0% to 140.5 million. On a combined basis, volume across the entire Eurodollar complex reached 963.7 million contracts in 2016. That was an increase of 133.2 million contracts from the previous year, which was equivalent to a growth rate of 16%.

The National Stock Exchange of India, number two on our list, travelled in the opposite direction. Total volume on this exchange fell 30.1% to 2.12 billion, mostly due to a collapse in its equity index products. The CNX Nifty index options, its most actively traded contract, sank 59.5% to 715.3 million, and the CNX Nifty index futures plunged 62.3% to 48.6 million contracts. Single stock futures fell 32.9% to 172.7 million, and single stock options declined 15.0% to 88.8 million.

Intercontinental Exchange, number three on our list, had essentially the same amount of trading in 2016 as it had in the previous year. Trading activity on its futures exchange in London was boosted by higher trading of its Brent crude oil futures and short term interest rate products, but trading activity in its equity options business in the U.S. was down 5.6%.

Rounding out the top five were Moscow Exchange, up 17.5% to 1.95 billion contracts, and Eurex, up 3.3% to 1.73 billion contracts. The fact that the Russian exchange is now larger than Eurex based on the number of contracts traded may come as a surprise to many people in the market, given that Eurex has been the largest exchange in Europe for many years. And it should be noted that many of the Russian exchange's most heavily traded contracts are much smaller than their equivalents in Western Europe or the U.S. But there is no question that the two exchanges have been on very different trend lines in recent years. Since 2011, Moscow Exchange's volume has risen by 77%, while Eurex' volume has decreased by 15.4%.

One example of that growth is the Brent oil futures contract traded on MOEX. Its price tracks the Brent oil futures traded in London on ICE Futures Europe, but the contract size is based on just 10

barrels, compared to 1,000 for the ICE contract. That makes the contract more accessible to retail traders, but somewhat less suitable for corporate entities looking to hedge price risk. This is reflected in the open interest data. At year-end 2016, open interest for the MOEX Brent crude oil contract was approximately 450,000 contracts, while open interest in the ICE Brent crude oil futures was more than four times that amount at 2.18 million contracts.

Another example of the Russian exchange's growth is its currency contracts, and especially its U.S. dollar/Russian ruble futures. This is by far the exchange's most actively traded contract, and it has become an important international benchmark for pricing the Russian currency. In 2016, more than 860.1 million of these futures traded on MOEX, down 4.8% from the previous year but more than double the total number traded in 2013. The growth of this contract prompted the Emerging Markets Traders Association in mid-2016 to recommend the MOEX benchmark as the main reference rate for ruble derivatives in the over-the-counter foreign exchange market, and CME Group now uses this

benchmark for its ruble-denominated currency futures.

Meanwhile at Eurex, the growth trends in the benchmark products were mixed. Euro Stoxx 50 stock index futures rose 9.5% to 374.5 million contracts, but Euro Stoxx 50 index options declined 4.5% to 286.3 million. Euro bund futures increased 5.4% to 186.7 million, but Euro Bund options fell 23.1% to 34.9 million.

On the other hand, some of the exchange's more narrowly targeted contracts attracted significant interest. For example, the futures on the Euro Stoxx Banks index, which tracks the 10 European banks in the Euro Stoxx index, jumped 76.5% to 42.7 million, while the options on this sector index shot up 154.0% to 27.7 million. The expansion of its interest rate complex to include futures on Italian and French government debt is also paying dividends. The trading volume in its Euro BTP futures and

On a combined
basis, volume
across the
entire Eurodollar
complex reached
963.7
million
contracts
in 2016.

Euro OAT futures have been rising steadily over the last three years and reached 28.3 million and 29.0 million contracts in 2016, respectively.

Looking at the rest of the exchange table, the Chinese exchanges stand out because of the size of their markets but also because of their contrasting fortunes. The trading of financial futures shrank to just a fraction of its former size, mainly due to the government's efforts to crack down on excessive speculation in the stock market. The China Financial Futures Exchange, the only exchange in mainland China that offers financial futures, suffered a 95% decline in its volume, which fell from 321.6 million contracts in 2015 to just 18.3 million in 2016. The trading of commodity futures, on the other hand, continues to rise rapidly. Trading on the Shanghai Futures Exchange rose 60.0% to 1.68 billion contracts, making it the sixth largest exchange in the world, while trading on the Dalian Commodity Exchange rose 37.7% to 1.54 billion contracts, eighth in the world.

Two other exchanges worth noting are BATS and CBOE, which in September announced an agreement to merge. The number of derivatives contracts traded on the two exchanges reached 1.63 billion in 2016, and the combined entity would rank as the seventh largest derivatives exchange in the world, right above Nasdaq.

Four smaller exchanges that had exceptional growth in 2016 were Argentina's Rosario Futures Exchange, Turkey's Borsa Istanbul, the Thailand Futures Exchange, and the Dubai Gold and Commodities Exchange. Trading activity at Rofex soared 53.5% to 113.4 million, mainly due to an explosion in the trading of its U.S. dollar futures. Borsa Istanbul's volume reached 107.3 million, up 20.7% from the previous year, with strong growth across a range of contracts. The Thailand Futures Exchange surged 43.3% to 69.6 million contracts, thanks to a boom in the number of single stock futures traded on the exchange. DGCX jumped 35.6% to 19.7 million due to increased trading in its currency contracts.

FIVE YEAR PERSPECTIVE

Earlier in this article we noted that 2011 marked a peak for options volume, and that options trading since then has been trending downward. One of the main reasons for this was the sharp decline in options trading on several Asian exchanges. Korea Exchange, for example, traded 3.93 billion contracts in 2011, which at that time made it the largest exchange in the world, and its Kospi stock index options were a big part of that success. By

2016, the exchange's volume had fallen to 693.0 million. Another example was MCX-SX, now the Metropolitan Stock Exchange of India.

That exchange's volume went from 850.0 million in 2011 to just 46.8 million in 2016. Some Asian exchanges grew over this time period, notably Japan Exchange and Taiwan Futures Exchange. But Asian exchanges overall fell from 9.83 billion in 2011 to 9.18 billion in 2016, a decline of 6.6%. In absolute terms, the number of contracts traded fell by 645.2 million, which is roughly equivalent to the amount of trading on the New York Mercantile Exchange.

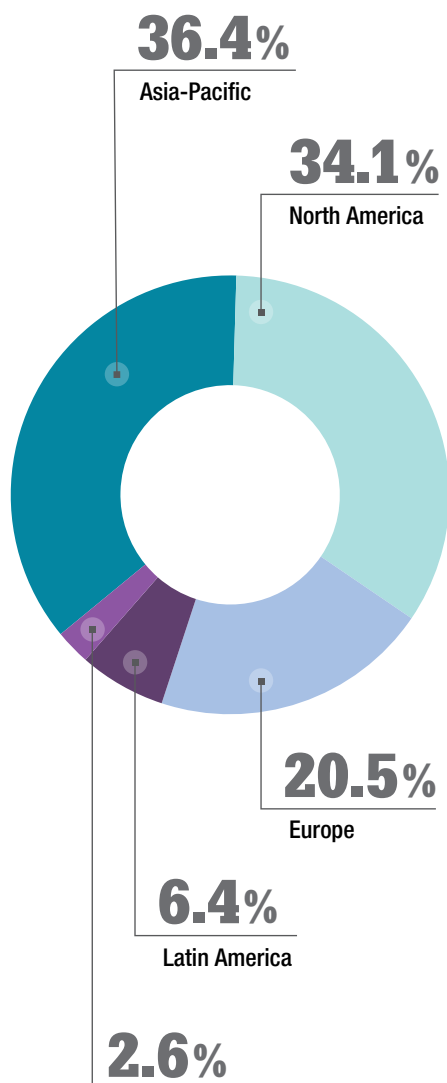
Contrast that with the growth trend in North America. Over the same five-year period, CME Group volume rose 16.2% to 3.94 billion. In absolute terms, the number of contracts traded on CME increased by 548.6 million. ICE Futures U.S., although much smaller, grew from 107.3 million to 370.2 million, an increase of 245% or 262.9 million contracts. North America as a whole grew from 8.19 billion in 2011 to 8.59 billion, an increase of 4.9% or 403.4 million.

It should be noted, however, that all of that growth came from the futures side of the industry. Total trading of options on securities exchanges such as CBOE, NYSE and Nasdaq went from 4.56 billion in 2011 to 4.06 billion in 2016, a decline of 10.9%. In absolute terms, the decline was 499.5 million contracts. As noted above, this reflects the decline of trading activity in the equity sector in recent years. ■

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Global Futures and Options



Data based on the number of contracts traded and/or cleared at 76 exchanges worldwide compiled by FIA. All data as of Dec. 31, 2016.

NOTES: GLOBAL FUTURES AND OPTIONS

*Other consists of exchanges in Greece, Israel, South Africa and Turkey.

**Other Includes contracts based on commodity indices, credit, fertilizer, freight, housing, inflation, lumber, plastics and weather.

Total Volume

CATEGORY	JAN-DEC 2016	JAN-DEC 2015	% CHANGE
Futures	15,892,045,190	14,478,033,502	9.8%
Options	9,327,881,127	10,322,835,773	-9.6%
TOTAL	25,219,926,317	24,800,869,275	1.7%

By Region

REGION	JAN-DEC 2016	JAN-DEC 2015	% CHANGE
Asia-Pacific	9,180,674,887	9,697,245,237	-5.3%
North America	8,589,865,508	8,198,938,400	4.8%
Europe	5,180,068,421	4,795,837,387	8.0%
Latin America	1,615,293,377	1,450,744,978	11.3%
Other *	654,024,124	658,103,273	-0.6%
TOTAL	25,219,926,317	24,800,869,275	1.7%

By Category

REGION	JAN-DEC 2016	JAN-DEC 2015	% CHANGE
Equity Index	7,117,487,070	8,339,604,232	-14.7%
Individual Equity	4,557,878,357	4,944,753,556	-7.8%
Interest Rates	3,514,907,620	3,251,058,673	8.1%
Currency	3,077,836,847	2,797,204,200	10.0%
Energy	2,214,163,491	1,410,908,886	56.9%
Agriculture	1,931,906,582	1,639,673,085	17.8%
Non-Precious Metals	1,877,347,155	1,280,935,517	46.6%
Other **	616,262,160	820,045,791	-24.9%
Precious Metals	312,137,035	316,685,335	-1.4%
TOTAL	25,219,926,317	24,800,869,275	1.7%

Agriculture

CONTRACT	JAN-DEC 2016	JAN-DEC 2015	% CHANGE
1 Soybean Meal Futures, Dalian Commodity Exchange	388,949,970	289,496,780	34.4%
2 Rapeseed Meal (RM) Futures, Zhengzhou Commodity Exchange	246,267,758	261,487,209	-5.8%
3 RBD Palm Olein Futures, Dalian Commodity Exchange	139,157,899	111,515,010	24.8%
4 Corn Futures, Dalian Commodity Exchange	122,362,964	42,090,235	190.7%
5 White Sugar (SR) Futures, Zhengzhou Commodity Exchange	117,293,884	187,323,456	-37.4%
6 Rubber Futures, Shanghai Futures Exchange	97,371,256	83,067,547	17.2%
7 Soybean Oil Futures, Dalian Commodity Exchange	94,761,814	92,504,264	2.4%
8 Corn Futures, Chicago Board of Trade	85,625,219	83,094,271	3.0%
9 Cotton No. 1 (CF) Futures, Zhengzhou Commodity Exchange	80,530,129	22,613,311	256.1%
10 Corn Starch Futures, Dalian Commodity Exchange	67,445,264	27,053,680	149.3%
11 Soybean Futures, Chicago Board of Trade	61,730,753	54,095,051	14.1%
12 Sugar #11 Futures, ICE Futures U.S.	33,115,334	34,394,482	-3.7%
13 No. 1 Soybean Futures, Dalian Commodity Exchange	32,570,158	18,810,903	73.1%
14 Chicago Soft Red Winter Wheat Futures, Chicago Board of Trade	31,059,726	31,100,598	-0.1%
15 Soybean Oil Futures, Chicago Board of Trade	29,429,298	28,897,275	1.8%
16 Rapeseed Oil (OI) Futures, Zhengzhou Commodity Exchange	27,312,246	7,780,455	251.0%
17 Soybean Meal Futures, Chicago Board of Trade	25,953,938	24,315,276	6.7%
18 Corn Options, Chicago Board of Trade	22,794,484	24,150,182	-5.6%
19 Egg Futures, Dalian Commodity Exchange	22,474,739	14,718,738	52.7%
20 Soybean Options, Chicago Board of Trade	20,109,648	18,663,389	7.7%

Energy

CONTRACT	JAN-DEC 2016	JAN-DEC 2015	% CHANGE
1 Brent Oil Futures, Moscow Exchange	435,468,923	111,415,185	290.9%
2 WTI Light Sweet Crude Oil (CL) Futures, New York Mercantile Exchange	276,768,438	202,202,392	36.9%
3 Brent Crude Oil Futures, ICE Futures Europe	210,561,053	183,853,174	14.5%
4 Bitumen Futures, Shanghai Futures Exchange	186,814,247	32,397,823	476.6%
5 Henry Hub Natural Gas (NG) Futures, New York Mercantile Exchange	97,480,591	81,772,492	19.2%
6 Crude Oil Mini Futures, Multi Commodity Exchange of India	67,401,974	46,296,623	45.6%
7 Gas Oil Futures, ICE Futures Europe	66,158,348	63,239,874	4.6%
8 Crude Oil Futures, Multi Commodity Exchange of India	53,256,420	47,788,400	11.4%
9 Coke Futures, Dalian Commodity Exchange	50,461,050	15,662,329	222.2%
10 Thermal Coal (ZC) Futures, Zhengzhou Commodity Exchange ²	50,299,868	980,710	5028.9%
11 WTI Light Sweet Crude Oil Futures, ICE Futures Europe	47,289,665	39,802,954	18.8%
12 U.S. Oil Fund ETF Options *	46,948,980	53,478,669	-12.2%
13 Crude Oil (LO) Options, New York Mercantile Exchange	45,879,991	39,627,070	15.8%
14 RBOB Gasoline Physical (RB) Futures, New York Mercantile Exchange	45,428,663	40,302,099	12.7%
15 Hard Coking Coal Futures, Dalian Commodity Exchange	41,077,427	15,706,560	161.5%
16 NY Harbor ULSD (HO) Futures, New York Mercantile Exchange	39,389,349	36,947,020	6.6%
17 Brent Crude Oil Last Day Financial (BZ) Futures, New York Mercantile Exchange	23,713,109	26,251,078	-9.7%
18 Natural Gas (European) (LN) Options, New York Mercantile Exchange	23,520,044	19,594,491	20.0%
19 Brent Crude Oil Options, ICE Futures Europe	16,152,414	13,594,212	18.8%
20 Natural Gas Futures, Multi Commodity Exchange of India	15,355,328	13,501,292	13.7%



Top Contracts

Rates

CONTRACT	JAN-DEC 2016	JAN-DEC 2015	% CHANGE
1 Eurodollar Futures, Chicago Mercantile Exchange	654,947,336	586,913,126	11.6%
2 10 Year Treasury Note Futures, Chicago Board of Trade	350,762,158	328,341,066	6.8%
3 One Day Inter-Bank Deposit Futures, Bolsa de Mercadorias & Futuros	302,518,177	309,308,981	-2.2%
4 5 Year Treasury Note Futures, Chicago Board of Trade	201,904,771	190,707,727	5.9%
5 Euro-Bund Futures, Eurex	186,714,728	177,107,346	5.4%
6 Eurodollar Options, Chicago Mercantile Exchange	168,254,035	112,278,366	49.9%
7 3 Month Sterling Futures, ICE Futures Europe	153,940,833	146,337,942	5.2%
8 Eurodollar - Mid-Curve Options, Chicago Mercantile Exchange	140,529,194	131,374,348	7.0%
9 3 Month Euribor Futures, ICE Futures Europe	134,881,365	110,151,762	22.5%
10 Euro-Bobl Futures, Eurex	130,704,593	118,963,514	9.9%
11 10 Year Treasury Note Options, Chicago Board of Trade	98,504,626	97,821,923	0.7%
12 2 Year Treasury Note Futures, Chicago Board of Trade	81,874,197	83,040,660	-1.4%
13 Euro-Schatz Futures, Eurex	73,660,249	70,279,064	4.8%
14 30 Year Treasury Bond Futures, Chicago Board of Trade	70,203,290	71,901,544	-2.4%
15 ID x U.S. Dollar FRA Futures, Bolsa de Mercadorias & Futuros	58,612,981	66,957,541	-12.5%
16 Long Gilt Futures, ICE Futures Europe	53,144,942	47,917,051	10.9%
17 3 Year Treasury Bonds Futures, ASX 24	51,827,874	49,308,108	5.1%
18 IDI Index Options, Bolsa de Mercadorias & Futuros	50,194,640	31,762,121	58.0%
19 10 Year Treasury Bond Futures, ASX 24	40,121,694	31,786,345	26.2%
20 Euro-Bund Options, Eurex	34,904,716	45,385,172	-23.1%

Equity

CONTRACT	JAN-DEC 2016	JAN-DEC 2015	% CHANGE
1 CNX Nifty Options, National Stock Exchange of India	715,273,610	1,765,858,934	-59.5%
2 SPDR S&P 500 ETF Options *	671,661,453	655,942,274	2.4%
3 E-mini S&P 500 Futures, Chicago Mercantile Exchange	472,678,663	429,803,221	10.0%
4 Euro Stoxx 50 Futures, Eurex	374,452,071	341,824,375	9.5%
5 Kospi 200 Options, Korea Exchange	337,007,133	488,009,055	-30.9%
6 Bank Nifty Options, National Stock Exchange of India	319,723,806	127,694,954	150.4%
7 Euro Stoxx 50 Options, Eurex	286,250,081	299,881,600	-4.5%
8 S&P 500 (SPX) Options, Chicago Board Options Exchange	257,953,004	236,532,325	9.1%
9 Nikkei 225 Mini Futures, Japan Exchange	233,940,373	247,159,359	-5.3%
10 RTS Futures, Moscow Exchange	204,593,580	184,124,166	11.1%
11 Taiex (TXO) Options, Taiwan Futures Exchange	167,342,279	191,513,144	-12.6%
12 Bovespa Mini Futures, Bolsa de Mercadorias & Futuros	150,763,004	89,671,637	68.1%
13 Volatility (VIX) Options, Chicago Board Options Exchange	148,246,402	144,440,290	2.6%
14 iShares Russell 2000 ETF Options *	140,662,647	138,135,687	1.8%
15 Powershares QQQ ETF Options *	111,873,109	120,174,871	-6.9%
16 iShares MSCI Emerging Markets ETF Options *	87,941,483	78,473,551	12.1%
17 iPath S&P 500 VIX Short Term Futures ETN Options *	74,118,316	78,187,211	-5.2%
18 FTSE China A50 Futures, Singapore Exchange	70,107,740	95,845,784	-26.9%
19 E-mini Nasdaq 100 Futures, Chicago Mercantile Exchange	65,750,522	67,310,282	-2.3%
20 Volatility (VX) Futures, CBOE Futures Exchange	60,170,725	51,656,362	16.5%

NOTES: TOP CONTRACTS

- * Traded on multiple U.S. options exchanges.
- 1. Began trading in March 2015.
- 2. Began trading in May 2015.

Metals

CONTRACT	JAN-DEC 2016	JAN-DEC 2015	% CHANGE
1 Steel Rebar Futures, Shanghai Futures Exchange	934,148,409	541,035,860	72.7%
2 Iron Ore Futures, Dalian Commodity Exchange	342,265,309	259,572,085	31.9%
3 Nickel Futures, Shanghai Futures Exchange ¹	100,249,941	63,590,118	57.7%
4 Silver Futures, Shanghai Futures Exchange	86,501,561	144,786,451	-40.3%
5 Zinc Futures, Shanghai Futures Exchange	73,065,922	45,237,435	61.5%
6 Copper Futures, Shanghai Futures Exchange	72,394,915	88,318,558	-18.0%
7 Gold (GC) Futures, Commodity Exchange (COMEX)	57,564,840	41,847,338	37.6%
8 Aluminium Futures, London Metal Exchange	53,073,441	59,880,649	-11.4%
9 SPDR Gold Shares ETF Options *	52,017,471	27,645,328	88.2%
10 Aluminum Futures, Shanghai Futures Exchange	44,391,785	22,900,691	93.8%
11 Hot Rolled Coil Futures, Shanghai Futures Exchange	43,281,751	2,012,366	2050.8%
12 Copper - Grade A Futures, London Metal Exchange	36,947,881	38,557,831	-4.2%
13 Gold Futures, Shanghai Futures Exchange	34,759,523	25,317,200	37.3%
14 Special High Grade Zinc Futures, London Metal Exchange	26,942,407	28,751,185	-6.3%
15 Gold Futures, Moscow Exchange	22,656,213	10,784,533	110.1%
16 Copper (HG) Futures, Commodity Exchange (COMEX)	21,524,547	16,986,055	26.7%
17 Primary Nickel Futures, London Metal Exchange	19,947,714	19,959,729	-0.1%
18 iShares Silver Trust ETF Options *	19,338,469	12,787,060	51.2%
19 Silver (SI) Futures, Commodity Exchange (COMEX)	18,218,740	13,454,406	35.4%
20 Silver MIC Futures, Multi Commodity Exchange of India	14,882,798	17,223,211	-13.6%

Foreign Exchange

CONTRACT	JAN-DEC 2016	JAN-DEC 2015	% CHANGE
1 U.S. Dollar/Russian Ruble Futures, Moscow Exchange	860,140,157	903,374,140	-4.8%
2 U.S. Dollar/Indian Rupee Options, National Stock Exchange of India	351,632,420	216,130,236	62.7%
3 U.S. Dollar/Indian Rupee Futures, National Stock Exchange of India	351,162,981	358,801,689	-2.1%
4 U.S. Dollar/Indian Rupee Futures, BSE	319,413,292	258,083,484	23.8%
5 U.S. Dollar/Indian Rupee Options, BSE	207,386,529	170,311,114	21.8%
6 U.S. Dollar Futures, Rosario Futures Exchange	112,242,365	73,243,271	53.2%
7 Mini U.S. Dollar Futures, Bolsa de Mercadorias & Futuros	92,119,754	38,287,575	140.6%
8 U.S. Dollar Futures, Bolsa de Mercadorias & Futuros	71,281,293	77,490,315	-8.0%
9 U.S. Dollar Futures, Korea Exchange	64,308,611	52,508,299	22.5%
10 Euro FX Futures, Chicago Mercantile Exchange	49,455,909	65,356,062	-24.3%
11 U.S. Dollar/Indian Rupee Futures, Metropolitan Stock Exchange of India	45,178,861	53,568,902	-15.7%
12 Japanese Yen Futures, Chicago Mercantile Exchange	36,588,788	36,180,466	1.1%
13 Turkish Lira/U.S. Dollar Futures, Borsa Istanbul	36,496,794	32,986,013	10.6%
14 Euro/U.S. Dollar Futures, Moscow Exchange	34,882,762	59,826,374	-41.7%
15 U.S. Dollar/Russian Ruble Options, Moscow Exchange	30,184,048	22,379,627	34.9%
16 British Pound Futures, Chicago Mercantile Exchange	29,126,002	24,144,659	20.6%
17 Dollar/Rand Futures, JSE Securities Exchange	26,217,084	24,927,602	5.2%
18 Australian Dollar Futures, Chicago Mercantile Exchange	25,303,506	23,382,408	8.2%
19 Euro/Russian Ruble Futures, Moscow Exchange	23,579,817	17,410,092	35.4%
20 British Pound/Indian Rupee Futures, National Stock Exchange of India	19,809,931	12,977,847	52.6%



Top Exchanges

EXCHANGE	JAN-DEC 2016	JAN-DEC 2015	% CHANGE
1 CME Group	3,942,202,299	3,531,776,304	11.6%
Chicago Mercantile Exchange	1,939,918,103	1,749,610,948	10.9%
Chicago Board of Trade	1,273,757,700	1,196,948,856	6.4%
New York Mercantile Exchange	618,424,303	503,429,700	22.8%
Commodity Exchange (COMEX)	110,102,193	81,786,800	34.6%
2 National Stock Exchange of India	2,119,462,820	3,031,892,784	-30.1%
3 Intercontinental Exchange	2,037,932,884	1,998,960,757	1.9%
ICE Futures Europe	973,858,354	901,659,951	8.0%
NYSE Arca ¹	388,979,129	381,515,438	2.0%
ICE Futures U.S.	370,166,155	365,433,350	1.3%
NYSE Amex ¹	296,493,779	344,463,910	-13.9%
ICE Futures Canada	6,431,546	5,720,023	12.4%
ICE Futures Singapore ²	2,003,921	168,085	1092.2%
4 Moscow Exchange	1,950,145,218	1,659,441,584	17.5%
5 Eurex	1,727,766,695	1,672,648,483	3.3%
6 Shanghai Futures Exchange	1,680,711,841	1,050,494,146	60.0%
7 Nasdaq	1,575,700,250	1,648,958,123	-4.4%
Nasdaq PHLX ¹	582,093,570	623,514,666	-6.6%
International Securities Exchange ¹	457,206,056	482,171,761	-5.2%
Nasdaq Options Market ¹	283,822,637	286,845,485	-1.1%
Nasdaq Exchanges Nordic Markets	91,077,429	99,990,848	-8.9%
International Securities Exchange Gemini ¹	89,189,491	117,616,072	-24.2%
Nasdaq NFX ³	31,950,258	3,523,298	806.8%
Nasdaq Boston ¹	29,872,954	31,496,313	-5.2%
International Securities Exchange Mercury ^{1,4}	6,432,661	n/a	n/a
Nasdaq Commodities	3,530,916	3,013,983	17.2%
Nasdaq NLX	524,278	785,697	-33.3%
8 Dalian Commodity Exchange	1,537,479,768	1,116,323,375	37.7%
9 BM&FBovespa	1,487,305,788	1,358,592,857	9.5%
Bolsa de Mercadorias & Futuros	789,656,598	692,726,202	14.0%
Bolsa de Valores de Sao Paulo	697,649,190	665,866,655	4.8%
10 CBOE Holdings	1,184,553,418	1,173,934,104	0.9%
Chicago Board Options Exchange ¹	1,033,349,820	1,043,031,630	-0.9%
C2 Exchange ¹	91,025,788	79,226,943	14.9%
CBOE Futures Exchange	60,177,810	51,675,531	16.5%
11 Zhengzhou Commodity Exchange	901,297,047	1,070,335,606	-15.8%
12 Korea Exchange	692,990,540	794,935,326	-12.8%
13 BSE India	543,058,508	614,894,523	-11.7%
14 JSE Securities Exchange	479,202,245	488,515,433	-1.9%
15 BATS Exchange¹	448,443,108	397,881,184	12.7%
BATS Exchange ¹	412,034,701	396,415,424	3.9%
EDGX Options Exchange ¹	36,408,407	1,465,760	2383.9%
16 Hong Kong Exchanges and Clearing	344,642,173	359,364,547	-4.1%
Hong Kong Exchanges and Clearing	188,150,672	189,824,363	-0.9%
London Metal Exchange	156,491,501	169,540,184	-7.7%
17 Japan Exchange	337,537,333	361,459,935	-6.6%
18 Miami International Securities Exchange¹	247,112,479	252,605,427	-2.2%
19 Multi Commodity Exchange of India	245,077,515	216,346,961	13.3%

NOTES: TOP EXCHANGES

- Open Interest for these exchanges attributed to OCC.
- ICE Futures Singapore began trading in November 2015.
- Nasdaq NFX began trading in July 2015.
- International Securities Exchange Mercury began trading in February 2016.
- CurveGlobal began trading in September 2016.

The data in this report were collected from exchanges, clearinghouses and swap execution facilities. The data are subject to revision by the exchanges and may contain errors or omissions. Volume for exchange-traded futures and options is measured by the number of contracts traded on a round-trip basis to avoid double-counting. Open interest for exchange-traded futures and options is measured by the number of contracts outstanding at the end of the month.

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FOR MORE INFORMATION

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EXCHANGE	JAN-DEC 2016	JAN-DEC 2015	% CHANGE
20 ASX	242,625,869	234,181,853	3.6%
ASX 24	140,586,626	127,625,716	10.2%
ASX	102,039,243	106,556,137	-4.2%
21 Taiwan Futures Exchange	241,678,556	264,495,660	-8.6%
22 TMX Group	201,119,409	179,942,000	11.8%
Boston Options Exchange ¹	109,202,724	103,268,442	5.7%
Montreal Exchange	91,916,685	76,673,558	19.9%
23 Singapore Exchange	172,421,585	183,870,944	-6.2%
Singapore Exchange	156,802,499	175,951,393	-10.9%
SGX Asiaclear	15,619,086	7,919,551	97.2%
24 Euronext	126,241,982	135,515,683	-6.8%
25 Rosario Futures Exchange	113,367,851	73,870,916	53.5%
26 Borsa Istanbul	107,253,507	88,880,168	20.7%
27 Thailand Futures Exchange	69,576,164	48,538,899	43.3%
28 London Stock Exchange Group	54,065,044	48,879,243	10.6%
Borsa Italiana	49,023,902	44,372,766	10.5%
Turquoise Derivatives	4,788,620	4,506,477	6.3%
CurveGlobal ⁵	252,522	n/a	n/a
29 Tel-Aviv Stock Exchange	52,097,656	66,054,567	-21.1%
30 Tokyo Financial Exchange	52,086,497	48,986,442	6.3%
31 Metropolitan Stock Exchange of India	46,756,617	57,994,099	-19.4%
32 MEFF	45,354,344	47,819,205	-5.2%
33 Tokyo Commodity Exchange	26,917,289	24,399,068	10.3%
34 The Order Machine	23,788,784	26,015,228	-8.6%
35 National Commodity & Derivatives Exchange	20,339,532	29,545,534	-31.2%
36 Dubai Gold & Commodities Exchange	19,669,786	14,505,316	35.6%
37 China Financial Futures Exchange	18,335,855	321,590,923	-94.3%
38 Athens Derivatives Exchange	15,470,716	14,653,105	5.6%
39 Malaysia Derivatives Exchange	14,226,034	14,060,527	1.2%
40 Mexican Derivatives Exchange	12,940,498	16,987,688	-23.8%
41 OneChicago	12,391,455	11,714,015	5.8%
42 Oslo Stock Exchange	11,440,304	13,718,702	-16.6%
43 North American Derivatives Exchange	8,745,912	5,809,225	50.6%
44 Warsaw Stock Exchange	7,975,137	8,205,097	-2.8%
45 CEE Stock Exchange Group	7,808,435	8,603,499	-9.2%
46 Pakistan Mercantile Exchange	3,481,167	3,890,968	-10.5%
47 Minneapolis Grain Exchange	2,185,098	2,315,186	-5.6%
48 Dubai Mercantile Exchange	1,949,658	1,709,888	14.0%
49 New Zealand Futures Exchange	1,834,170	1,811,241	1.3%
50 Bolsa de Valores de Colombia	1,403,564	1,048,199	33.9%
51 Indonesia Commodity & Derivatives Exchange	558,409	575,896	-3.0%
52 Eris Exchange	474,094	660,462	-28.2%
53 Osaka Dojima Commodity Exchange	447,734	412,875	8.4%
54 Mercado a Termino de Buenos Aires	275,676	245,318	12.4%
55 ELX Futures	0	177	-100.0%

TOP EXCHANGES

