



# Trends in ETD Trading Annual Review – 2023

31 January 2024



# Presenters

## Presenter:

**Will Acworth**, Senior Vice President, FIA

## Guest Speaker:

**Joe Nehorai**, Managing Director, Global Co Head, Futures and Options,  
Goldman Sachs

## Data Analyst:

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# Agenda

## Overview

- Another Record in Quarterly and Annual Volume
- India's Booming Market for Equity Index Options

## Equities

- Surge in Zero Day Options Trading
- Open Interest Builds in Total Return Futures

## Rates

- US Treasury Futures and Options
- STIRS – US, EU and Brazil

## Commodities

- Crude Oil – Brent Overtakes WTI, TTF Recovers from Ukraine Shock
- Metals – Nickel Recovery at LME, Iron Ore Attracts Funds, Battery Metals at CME
- Agriculture – China, US, Rest of World

## Crypto


- Coinbase Gains Traction with Retail

## Appendix

- Exchange Rankings

# Methodology

- FIA collects data on volume and open interest from 90 exchanges and clearinghouses around the world.
- Two exchanges added in 2023: Guangzhou Futures Exchange and Uruguay Futures Exchange
- Volume is measured in terms of the number of futures and options contracts traded and/or cleared per month
- Open interest is measured in terms of the number of contracts outstanding at the end of the month
- FIA publishes a monthly summary on its website and distributes the summary to FIA members
- For more information, contact [data@fia.org](mailto:data@fia.org)



## December 2023 Highlights

*This month's data on futures and options trading is accessible in two formats: a spreadsheet accessible through the link below and a set of interactive visualizations called the **FIA ETD Tracker**. The ETD Tracker consists of interactive visualizations on the FIA website that allow users to view data on volume and open interest, with filters based on year and month, region and jurisdiction, asset group and type of product. The ETD Tracker also includes visualizations that rank exchanges by total volume in the latest month and year to date as well as open interest in the latest month. Click here to access the **ETD Tracker**.*

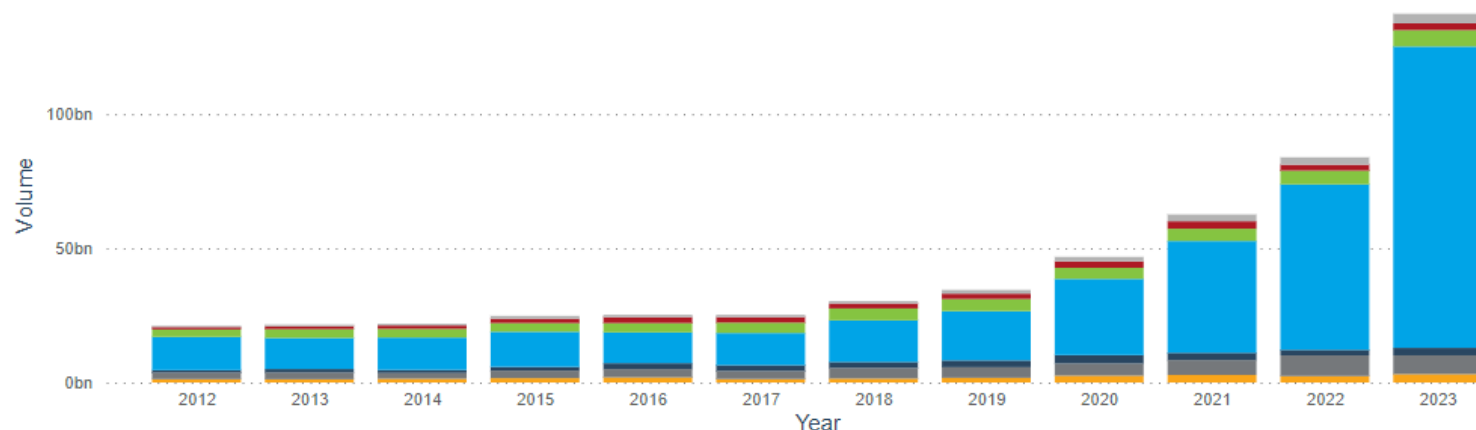
Worldwide volume of exchange-traded derivatives reached 15.17 billion contracts in December, the highest level ever recorded. This was up 8.4% from November 2023 and up 79.7% from December 2022.

Options continue to gain in popularity. Global trading of options reached 12.92 billion contracts in December, up by more than 114% from last year, with most of that trading taking place in the Asia-Pacific region. Global trading of futures reached 2.24 billion contracts in December, down 7.2% from the same month last year.

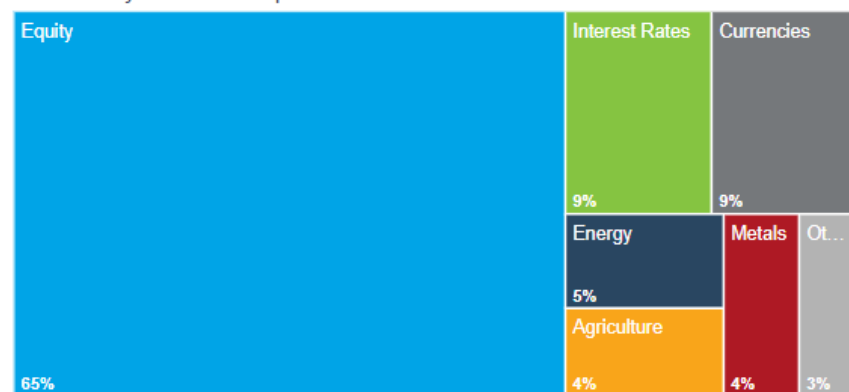
# ETD Tracker – FIA’s Data Visualization Tool

Volume by Year

Asset Group Agriculture Currencies Energy Equity Interest Rates Metals Other



Volume by Asset Group



Asset Group	Subcategory	Volume
Equity	Equity Index Products	230,783,278,301
Equity	Individual Security Products	89,267,614,754
Equity	Exchange Traded Products (ETP/ETF/ETN)	29,264,767,719
Currencies	USD vs Asia Pacific	28,633,476,471
Interest Rates	STIRS	24,959,386,914
Interest Rates	Medium Term (2-10 years)	17,845,938,887
Currencies	USD vs Europe, Middle East & Africa	10,643,932,660
Metals	Steel	7,205,369,123
Energy	Brent	6,699,479,573
Currencies	USD vs Americas	6,364,637,935
Energy	Natural Gas	4,672,143,456
Interest Rates	Long Term (>10 years)	4,516,121,872
Agriculture	Soy Meal	4,113,227,473
Totals		535,394,682,499

The ETD Tracker consists of interactive visualizations on FIA's website that allow users to view monthly data on volume and open interest in the global futures and options markets, with filters based on year and month, region and jurisdiction, asset group and type of product. The ETD Tracker also includes visualizations that rank exchanges by total volume in the latest month and year to date as well as open interest in the latest month. The visualizations are powered by FIA Tech, an independent vendor of technology solutions for the exchange-traded derivatives industry.

[ETD Tracker | FIA](#)

<https://www.fia.org/fia/etd-tracker>

POWERED BY  
**FIA TECH**



# Overview – Global Volume and Open Interest in 2023

Type	Jan-Dec 2023 Volume	Change vs. Last Year	Dec 2023 Open Interest	Change vs. Last Year
Options	108,196,348,020	98.4%	955,067,661	17.8%
Futures	29,096,552,118	-0.7%	297,823,429	8.2%
Total	137,292,900,138	63.7%	1,252,891,090	15.4%

Region	Jan-Dec 2023 Volume	Change vs. Last Year	Dec 2023 Open Interest	Change vs. Last Year
Asia-Pacific	103,476,363,176	104.4%	123,044,459	17.2%
North America	17,852,469,949	6.2%	648,680,307	6.8%
Latin America	8,637,494,326	0.2%	205,556,052	57.4%
Europe	4,929,571,844	2.6%	242,362,755	17.7%
Other	2,397,000,843	-19.5%	33,247,517	-9.2%
Total	137,292,900,138	63.7%	1,252,891,090	15.4%

Note: Other consists of Greece, Israel, South Africa and Turkey

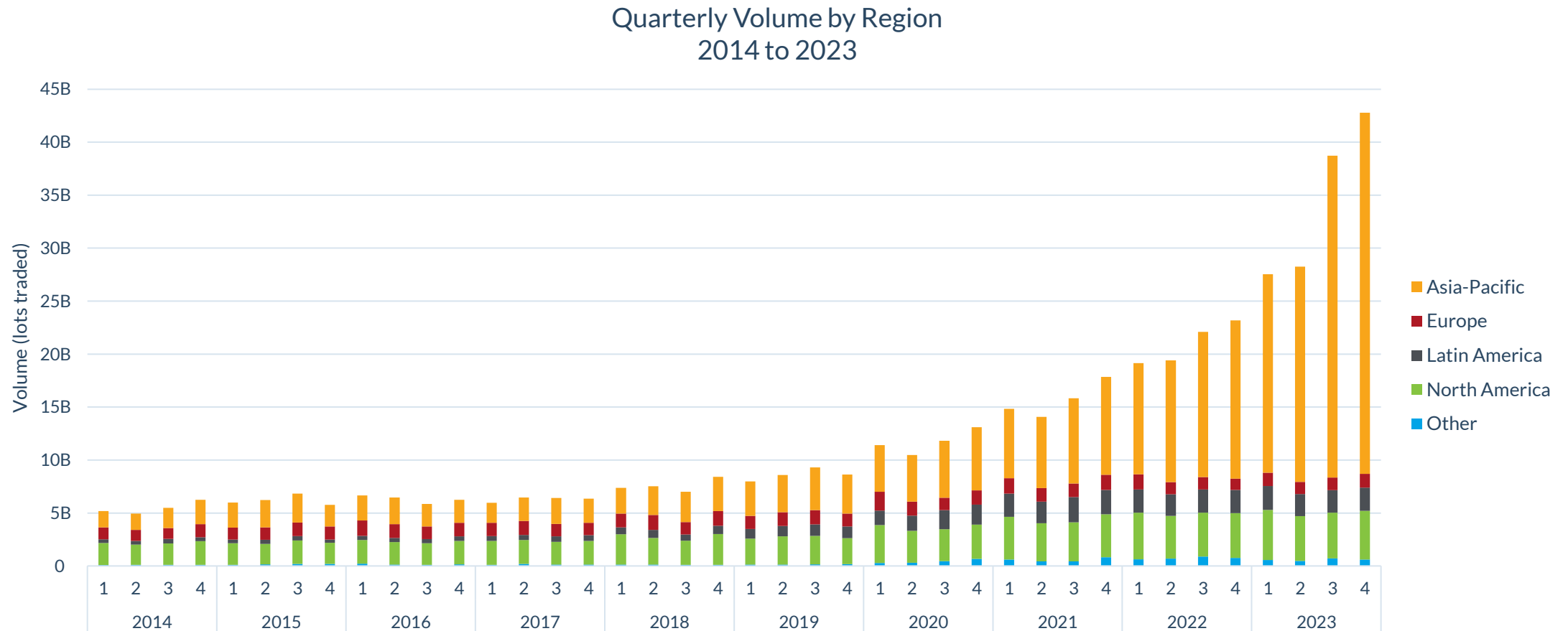
# Overview – Global Volume and Open Interest in 2023

Category	Jan-Dec 2023 Volume	Change vs. Last Year	Dec 2023 Open Interest	Change vs. Last Year
Equity	112,138,464,341	82.0%	832,726,497	8.5%
Currencies	7,014,881,828	-8.6%	50,044,176	19.2%
Interest Rates	6,115,837,422	18.8%	217,564,730	46.1%
Other	3,574,399,009	29.7%	27,578,964	13.8%
Energy	3,116,556,022	30.2%	27,061,118	16.2%
Agriculture	2,759,559,323	34.3%	77,290,691	21.6%
Metals	2,573,202,193	17.3%	20,624,914	27.5%
Total	137,292,900,138	63.7%	1,252,891,090	15.4%

Note: Other includes futures and options based on chemicals, plastics, cryptocurrencies, emissions, freight, volatility, weather

# Overview – Another Quarter of Record Volume

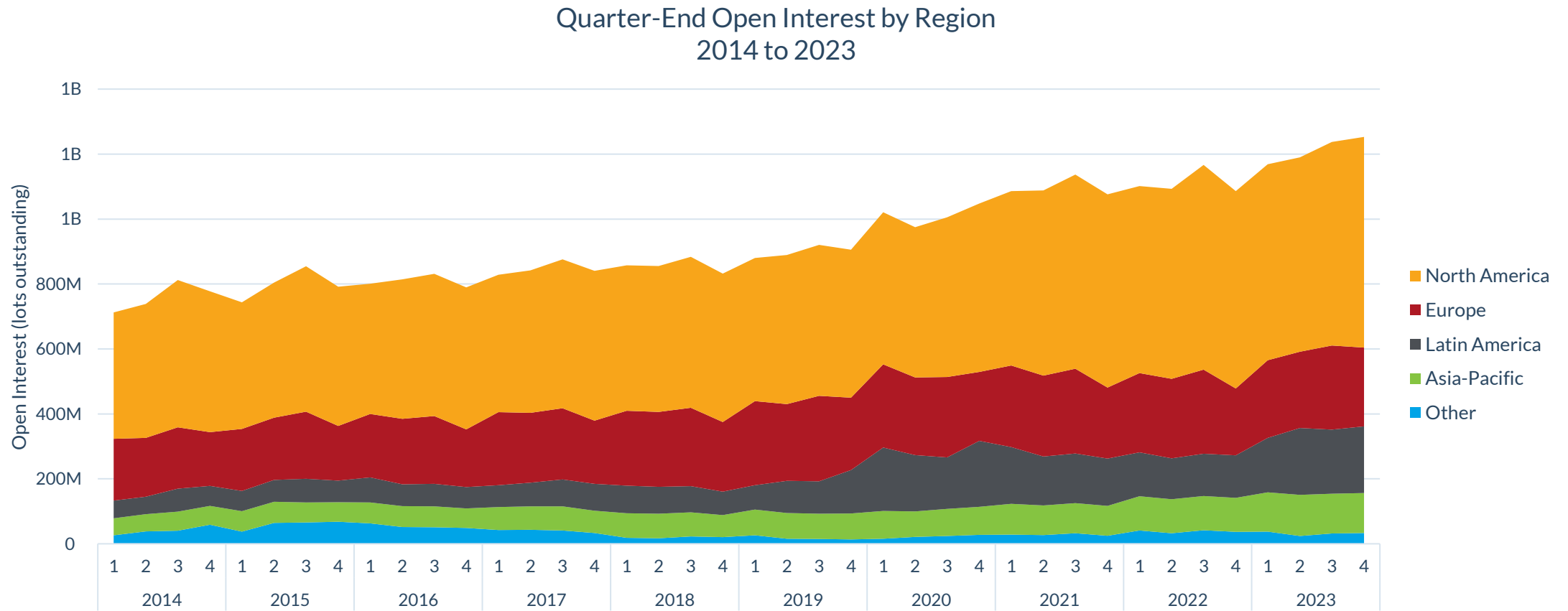
Global volume in Q4 2023 was 42.78 billion contracts, up 496% from the same quarter five years ago





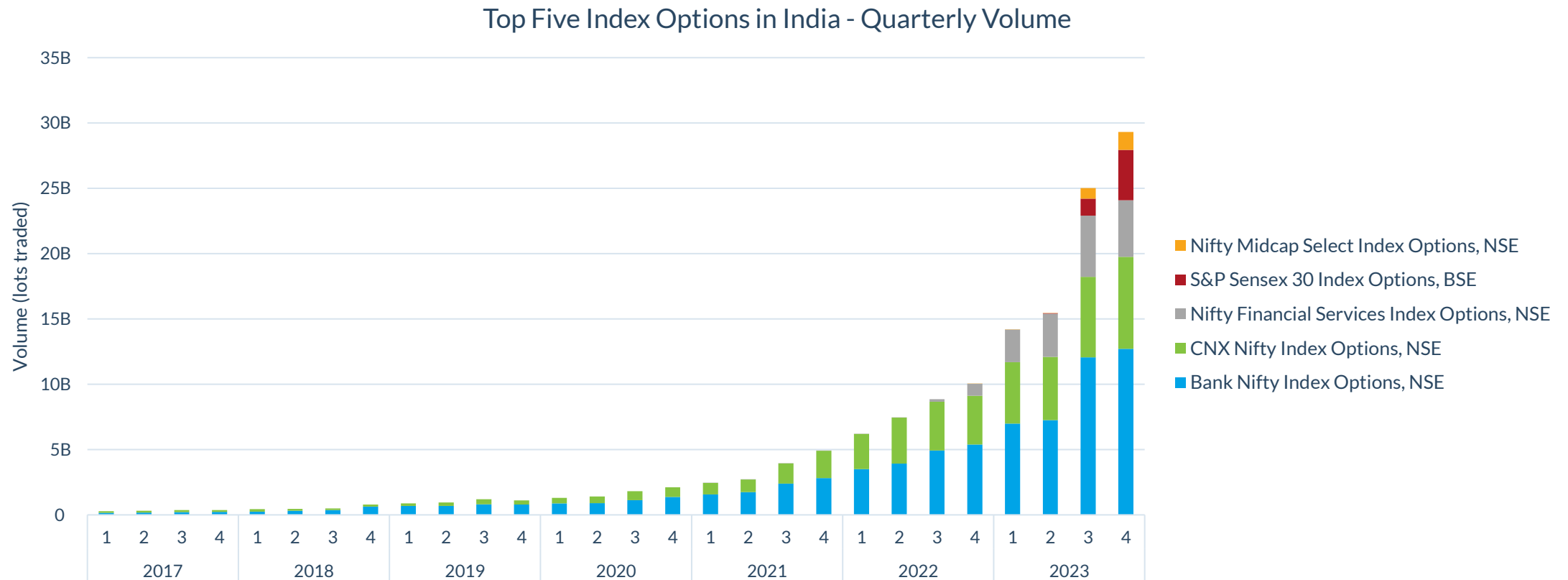
# Open Interest Rises to Another Record

Global OI at end of 2023 was 1.25 billion contracts, up 51% from the same quarter five years ago



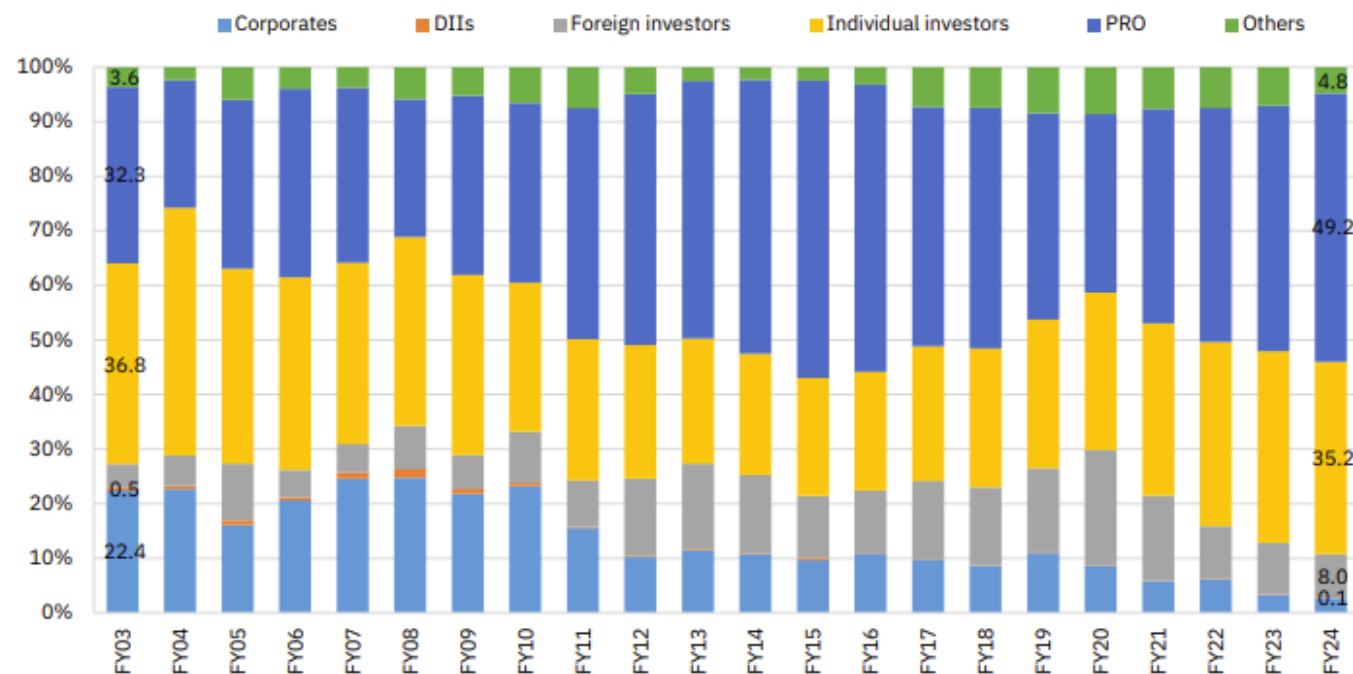
# What Is Driving the Growth in Trading Volume?

In 2023, more than 84 billion equity index options traded on India's NSE and BSE. That was more than twice the total traded in the previous year, and more than 61% of all futures and options traded on exchanges worldwide.



# India's Equity Index Options Market: Dominated by Proprietary Traders and Retail

**Figure 166: Trends in share of client participation in Index Options (premium turnover) at NSE (%)**



Source: NSE EPR.

Notes: 1. DIIs: Domestic Institutional Investors include Banks, Mutual Funds, Insurance Companies, NBFCs, Domestic VC Funds, AIFs, PMS clients etc., Foreign investors: Foreign Institutional Investors include FPIs, FDIs, Foreign VC Funds, OCB and Foreign Nationals etc., Prop traders: Proprietary Traders, Individual investors: individual domestic investors, NRIs, sole proprietorship firms and HUFs, Others: Partnership Firms/LLP, Trust / Society, Depository Receipts and Statutory Bodies, etc. Figures in brackets indicate negative numbers.

2. Data for FY24 is as of December 31st, 2023.

3. Above data represents share in gross premium turnover i.e., buy-side premium turnover + sell-side premium turnover.

## NSE Market Pulse:

- One third of the turnover in index options comes from individuals.
- One half comes from proprietary traders.
- Share of turnover from foreign institutional investors has declined to 8%

Source: NSE Market Pulse December 2023. Note: fiscal year starts in March.

# Equity Index – Top Contracts by Volume – Part One

Rank	Contract and Exchange	2023 Volume	Change vs. 2022	Dec 2023 Open Interest	Change vs. 2022
1	Bank Nifty Index Options, National Stock Exchange of India	39,031,865,343	119.5%	4,918,343	75.2%
2	CNX Nifty Index Options, National Stock Exchange of India	22,749,767,588	66.4%	5,049,083	16.7%
3	Nifty Financial Services Index Options, National Stock Exchange of India	14,837,992,075	1226.6%	953,785	127.9%
4	S&P Sensex 30 Index Options, BSE <sup>1</sup>	5,165,192,588	n/a	27,304	n/a
5	Mini Ibovespa Index (WIN) Futures, B3	3,833,531,615	-6.4%	940,779	-5.1%
6	Nifty Midcap Select Index Options, National Stock Exchange of India <sup>2</sup>	2,219,675,683	5675078.2%	762,906	n/a
7	SPDR S&P 500 ETF Options *	2,134,567,143	15.2%	25,081,342	22.0%
8	Powershares QQQ ETF Options *	841,434,421	25.3%	11,965,054	8.7%
9	S&P 500 Index (SPX) Options, Cboe Options Exchange	729,346,246	30.6%	20,821,531	17.5%
10	E-mini S&P 500 Futures, Chicago Mercantile Exchange	452,701,954	-10.2%	2,210,568	9.7%
11	Kospi 200 Options, Korea Exchange	448,080,320	-14.3%	1,859,995	-15.5%
12	iShares Russell 2000 ETF Options *	281,990,854	34.0%	12,972,005	72.2%
13	S&P Bankex Index Options, BSE <sup>1</sup>	276,359,216	n/a	129,743	n/a
14	Micro E-mini Nasdaq 100 Index Futures, Chicago Mercantile Exchange	273,085,353	-25.2%	84,325	26.7%
15	Euro Stoxx 50 Index (OESX) Options, Eurex	252,670,167	2.4%	27,685,588	-5.1%

# Equity Index – Top Contracts by Volume – Part Two

Rank	Contract and Exchange	2023 Volume	Change vs. 2022	Dec 2023 Open Interest	Change vs. 2022
16	Nikkei 225 Mini Futures, Osaka Exchange	250,485,863	-9.1%	389,315	-8.0%
17	Micro E-mini S&P 500 Index Futures, Chicago Mercantile Exchange	248,272,150	-27.8%	126,922	9.1%
18	Euro Stoxx 50 Index (FESX) Futures, Eurex	245,759,267	-13.9%	2,557,226	-33.3%
19	Kospi 200 Weekly Options, Korea Exchange	240,757,040	-3.2%	31,243	-59.5%
20	E-mini S&P 500 Options, Chicago Mercantile Exchange	216,714,442	46.3%	2,254,688	30.1%
21	Taiax (TXO) Options, Taiwan Futures Exchange	176,273,126	-12.2%	426,590	17.2%
22	E-mini Nasdaq 100 Futures, Chicago Mercantile Exchange	166,975,397	-5.6%	284,624	17.8%
23	FTSE China A50 Index Futures, Singapore Exchange	88,569,512	-14.0%	933,790	16.2%
24	iShares MSCI Emerging Markets ETF Options *	74,676,183	43.9%	7,846,815	19.7%
25	Euro Stoxx Banks Futures, Eurex	71,140,765	-13.9%	872,925	-27.2%
26	Kospi 200 Monday Weekly Options, Korea Exchange <sup>3</sup>	65,071,298	n/a	85,906	n/a
27	Kospi 200 Futures, Korea Exchange	63,693,515	-14.3%	343,922	-6.0%
28	SET50 Futures, Thailand Futures Exchange	62,142,760	13.5%	549,607	-2.4%
29	BIST 30 Index Futures, Borsa Istanbul	60,389,786	-32.0%	245,474	-23.9%
30	Mini Taiax (MTX) Futures, Taiwan Futures Exchange	59,148,669	-26.2%	58,407	9.8%

# Equity Index Futures – Ranked by Value of Trading

Equity index futures ranked by average daily trading volume in 2023, with volume measured in terms of the dollar value of trading.

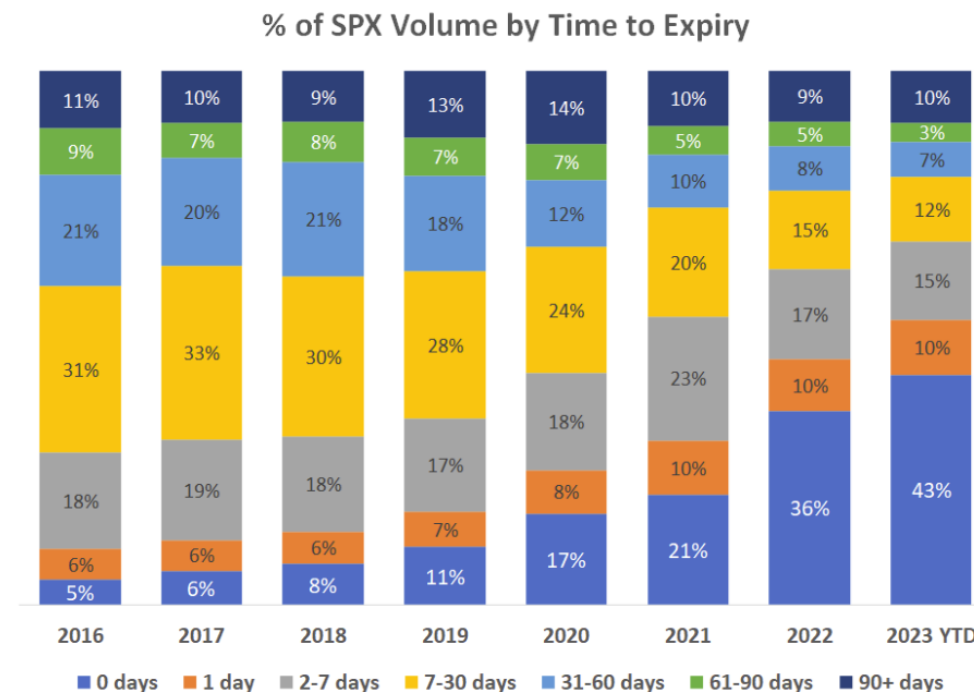
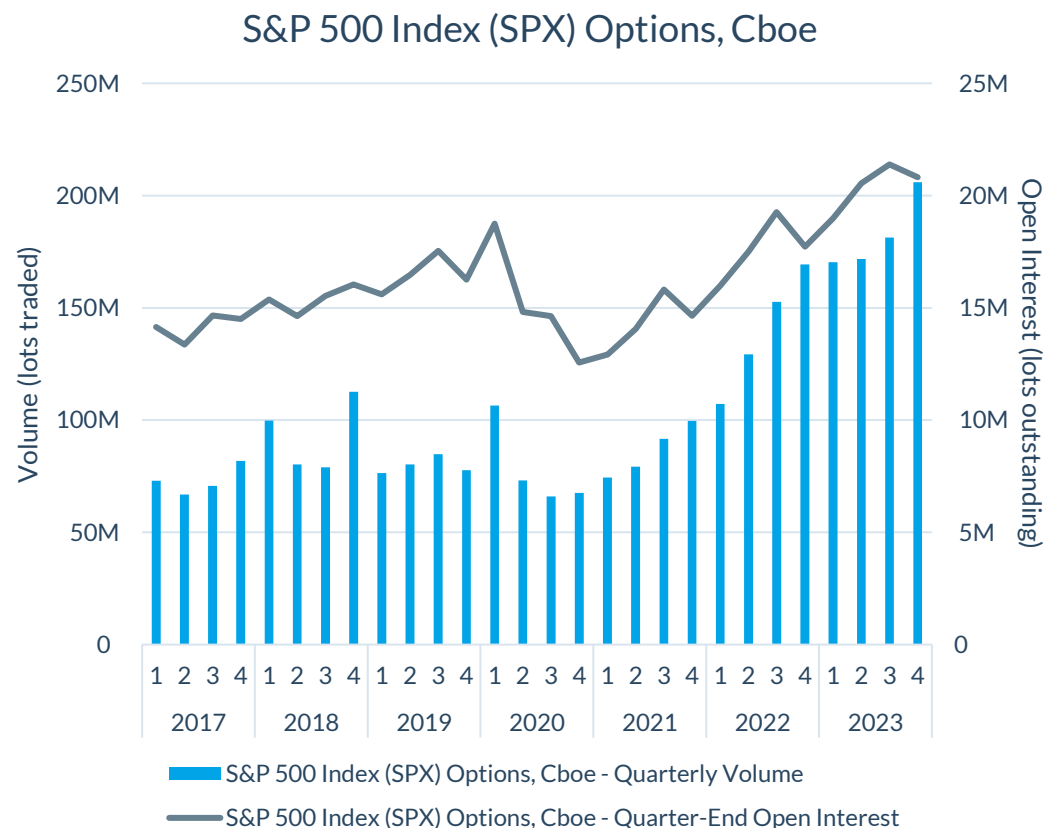
Equity Index Futures	Sector	\$MM 2023 TADV	Size of One Contract in US\$	YoY Chg
S&P 500 E-mini Futures	CME	388,043	235,443	-6%
Nasdaq 100 E-mini Futures	CME	189,867	330,965	6%
Mini Bovespa Futures	B3	71,481	5,340	1%
Euro Stoxx 50 Futures	EUREX	44,702	49,406	2%
Nasdaq 100 Micro Futures	CME	31,052	33,097	-16%
DJIA Mini Futures	CME	28,672	185,554	-14%
Dax Futures	EUREX	27,686	457,602	3%
S&P 500 Micro Futures	CME	21,281	23,544	-24%
Russell 2000 E-mini Futures	CME	21,116	98,491	-7%
Nikkei 225 Mini Futures	OSE	20,566	22,983	-5%

Source: Bloomberg and Goldman Sachs FICC and Equities, Futures Strats Group  
Past performance not indicative of future results

# SPX Options – Rise of Zero Day to Expiration Options

Volume in SPX options hit a record in Q4, December open interest up 18% vs year ago.

Almost half of all SPX options traded in 2023 expired the same day, versus less than 25% two years ago.

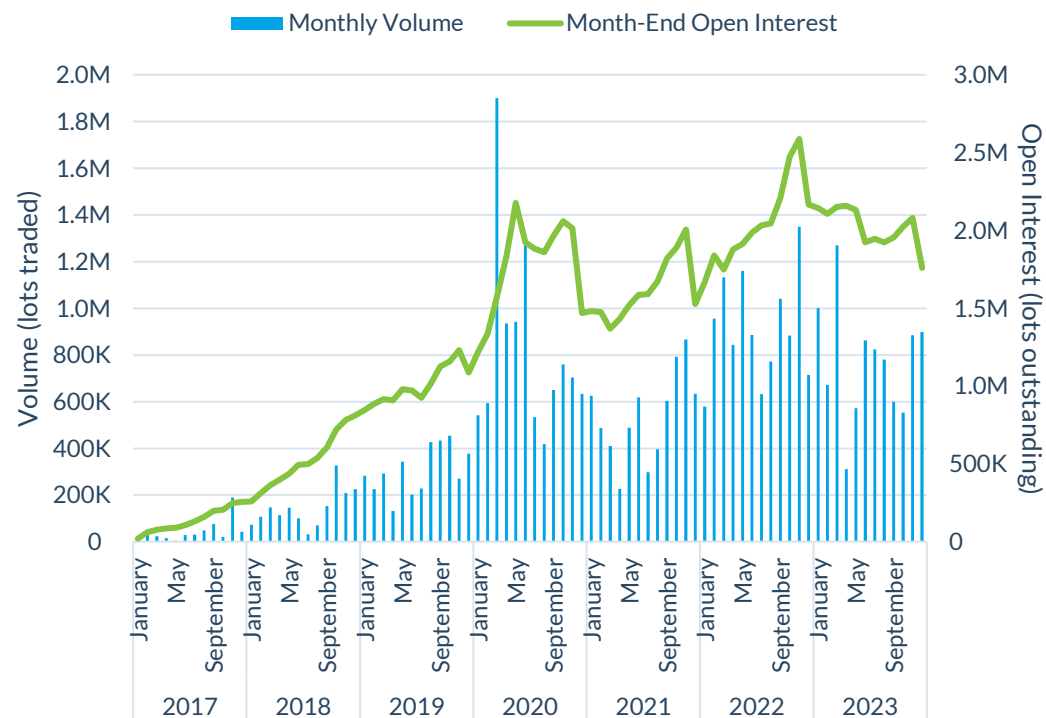


Source: [Volatility Insights: Evaluating the Market Impact of SPX ODTE Options \(cboe.com\)](#)

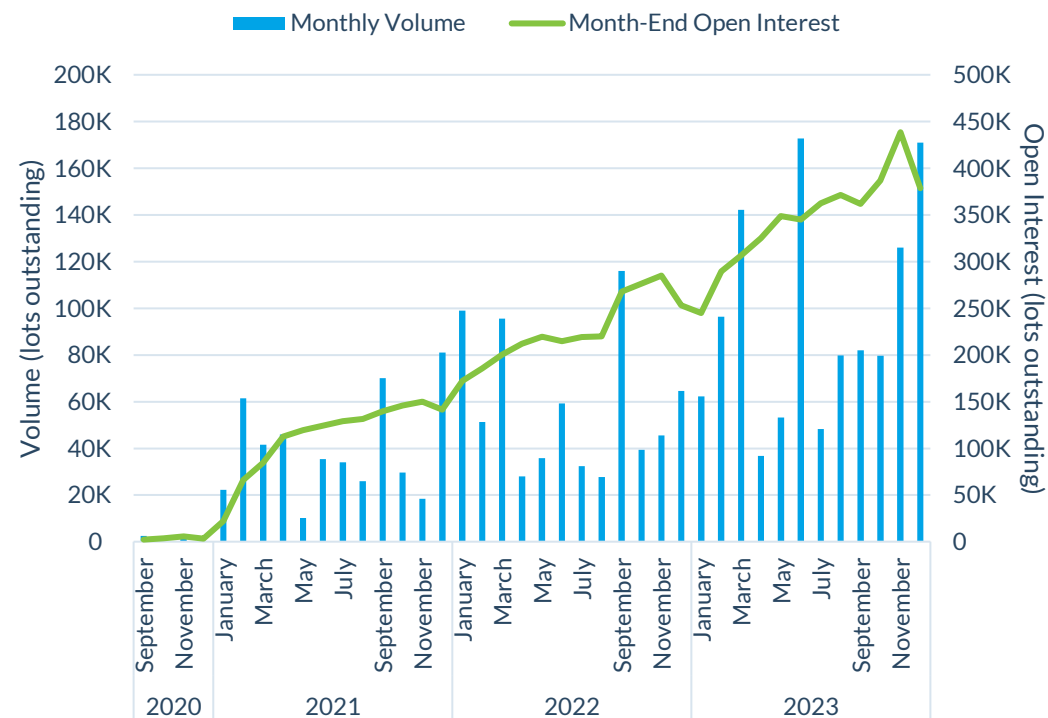
# Total Return Futures: Inflows from Equity Swap Markets

The implementation of uncleared margin requirements on bilateral OTC trades has encouraged banks and fund managers to shift to futures designed to match the returns on equity swaps.

Euro Stoxx 50 Index Total Return Futures,  
Eurex



Adjusted Interest Rate S&P 500 Total Return  
Futures, CME





# Interest Rates – Top Bond Contracts by Volume

Rank	Contract and Exchange	2023 Volume	Change vs. 2022	Dec 2023 Open Interest	Change vs. 2022
1	10 Year Treasury Note Futures, Chicago Board of Trade	498,258,217	7.7%	4,610,253	20.2%
2	5 Year Treasury Note Futures, Chicago Board of Trade	389,403,706	19.2%	5,808,699	37.6%
3	Euro-Bund (FGBL) Futures, Eurex	221,867,540	2.6%	1,088,347	-11.0%
4	2 Year Treasury Note Futures, Chicago Board of Trade	203,664,150	19.9%	3,770,486	68.9%
5	Euro-Bobl (FGBM) Futures, Eurex	178,320,158	12.6%	1,226,202	-20.6%
6	10 Year Treasury Note Options, Chicago Board of Trade	177,085,547	7.6%	2,189,100	-16.9%
7	Euro-Schatz (FGBS) Futures, Eurex	157,732,186	10.8%	1,600,663	-5.7%
8	Ultra 10 Year Treasury Note Futures, Chicago Board of Trade	125,569,436	31.3%	2,065,913	45.9%
9	30 Year Treasury Bond Futures, Chicago Board of Trade	111,513,523	14.5%	1,411,655	18.1%
10	Ultra Treasury Bond Futures, Chicago Board of Trade	77,859,288	29.9%	1,652,314	16.9%
11	5 Year Treasury Note Options, Chicago Board of Trade	68,983,941	14.0%	835,202	-5.3%
12	Long Gilt Futures, ICE Futures Europe	55,441,947	-12.3%	517,491	32.8%
13	Euro-OAT (FOAT) Futures, Eurex	50,966,458	-4.8%	376,941	-19.9%
14	Euro-BTP (FBTP) Futures, Eurex	49,707,832	17.1%	316,356	-29.2%
15	10 Year Treasury Bond Futures, ASX 24	49,625,785	3.6%	1,046,655	12.0%

# Interest Rates – Top Bond Contracts in APAC

Rank	Contract and Exchange	2023 Volume	Change vs. 2022	Dec 2023 Open Interest	Change vs. 2022
1	10 Year Treasury Bond Futures, ASX 24	49,625,785	3.6%	1,046,655	12.0%
2	3 Year Treasury Bond Futures, ASX 24	47,365,051	13.4%	693,733	2.8%
3	3 Year Treasury Bond Futures, Korea Exchange	39,338,741	3.1%	367,124	20.4%
4	10 Year Treasury Bond Futures, China Financial Futures Exchange	19,030,472	-4.8%	205,045	25.8%
5	10 Year Treasury Bond Futures, Korea Exchange	17,181,429	7.8%	172,924	21.9%
6	5 Year Treasury Bond Futures, China Financial Futures Exchange	13,992,946	20.0%	118,543	26.8%
7	10 Year Japan Government Bond Futures, Osaka Exchange	9,562,331	18.3%	191,850	48.1%
8	2 Year Treasury Bond Futures, China Financial Futures Exchange	9,427,333	31.6%	71,532	62.5%
9	30 Year Treasury Bond Futures, China Financial Futures Exchange <sup>1</sup>	3,223,132	n/a	48,512	n/a
10	Government of India Security Futures, National Stock Exchange of India	1,592,668	12.1%	21,144	-40.7%
11	91-day Government of India (GOI) Treasury Bill Futures, BSE	624,606	-67.9%	18,986	-5.5%
12	Mini Japanese Government Bond Futures, Singapore Exchange	543,891	-21.0%	12,743	10.8%
13	5 Year Treasury Bond Futures, ASX 24	316,808	-33.8%	25,374	23.9%
14	20 Year Treasury Bond Futures, ASX 24	185,356	-13.1%	17,204	3.2%

<sup>1</sup> CFFEX began trading 30 Year Treasury Bond futures in April 2023

# Interest Rate Futures – Ranked by Value of Trading

Interest rate futures ranked by average daily trading volume in 2023, with volume measured in terms of the dollar value of trading.

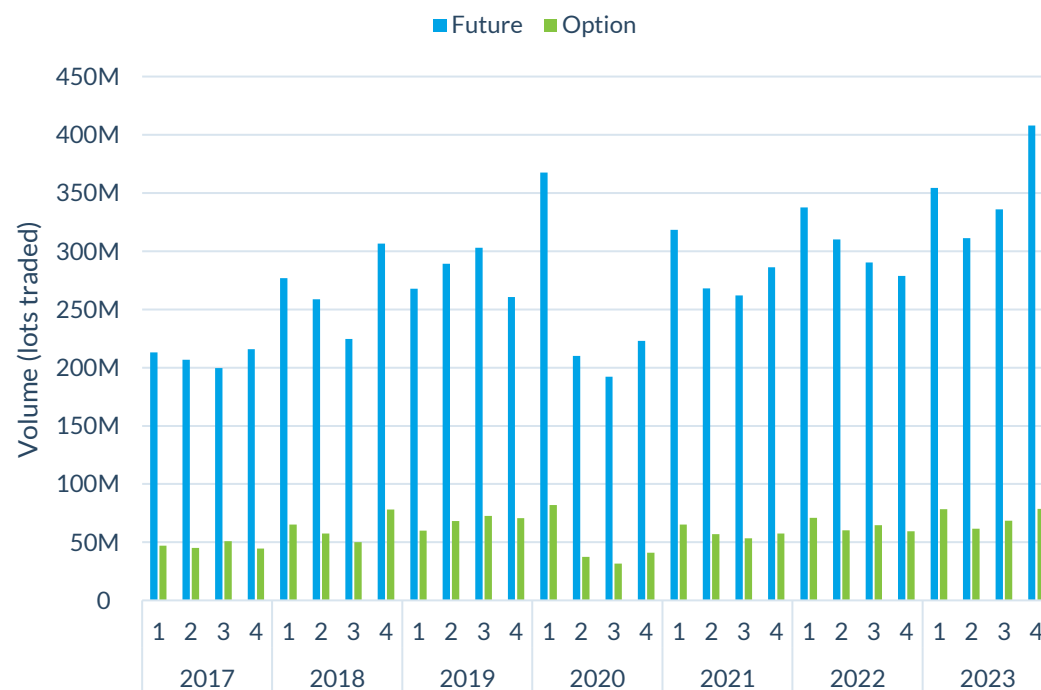
Interest Rate Futures	Exchange	\$MM 2023 TADV	\$MM/bp DV01 Equiv	YoY Chg
3 Mo Sofr Futures	CME	805,933	80.6	93%
3 Mo Euribor Futures	IFEU	315,979	31.6	9%
US 10 Yr Note Futures	CBOT	198,509	128.3	8%
Fed Fund Futures	CME	183,426	18.3	32%
US 2 Year Note Futures	CBOT	162,282	30.0	20%
US 5 Year Note Futures	CBOT	155,141	64.1	19%
3 Month Sonia Futures	IFEU	121,253	12.1	38%
Euro-Bund Futures	EUREX	94,354	100.3	7%
Euro-Bobl Futures	EUREX	75,834	40.6	17%
Euro-Schatz Futures	EUREX	67,080	12.8	15%

Source: Bloomberg and Goldman Sachs FICC and Equities, Futures Strats Group  
Past performance not indicative of future results

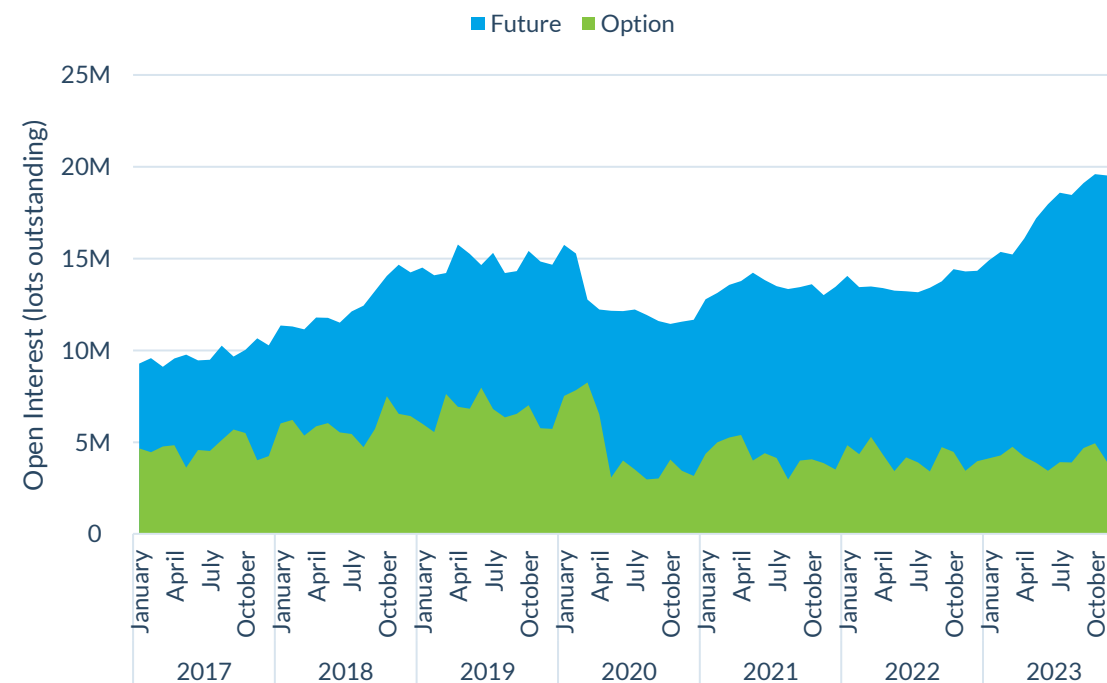
# US Treasury Futures– Surge in Volume and OI

Total volume in Treasury futures reached 1.4 billion contracts in 2023, up 16% from 2022 and 42% from 2020. Open interest hit a record 21.4 million futures in November and ended the year at 19.3 million, up 35% from 2022.

US Treasury Futures and Options on Futures  
Quarterly Volume



US Treasury Futures and Options on Futures  
Month-End Open Interest

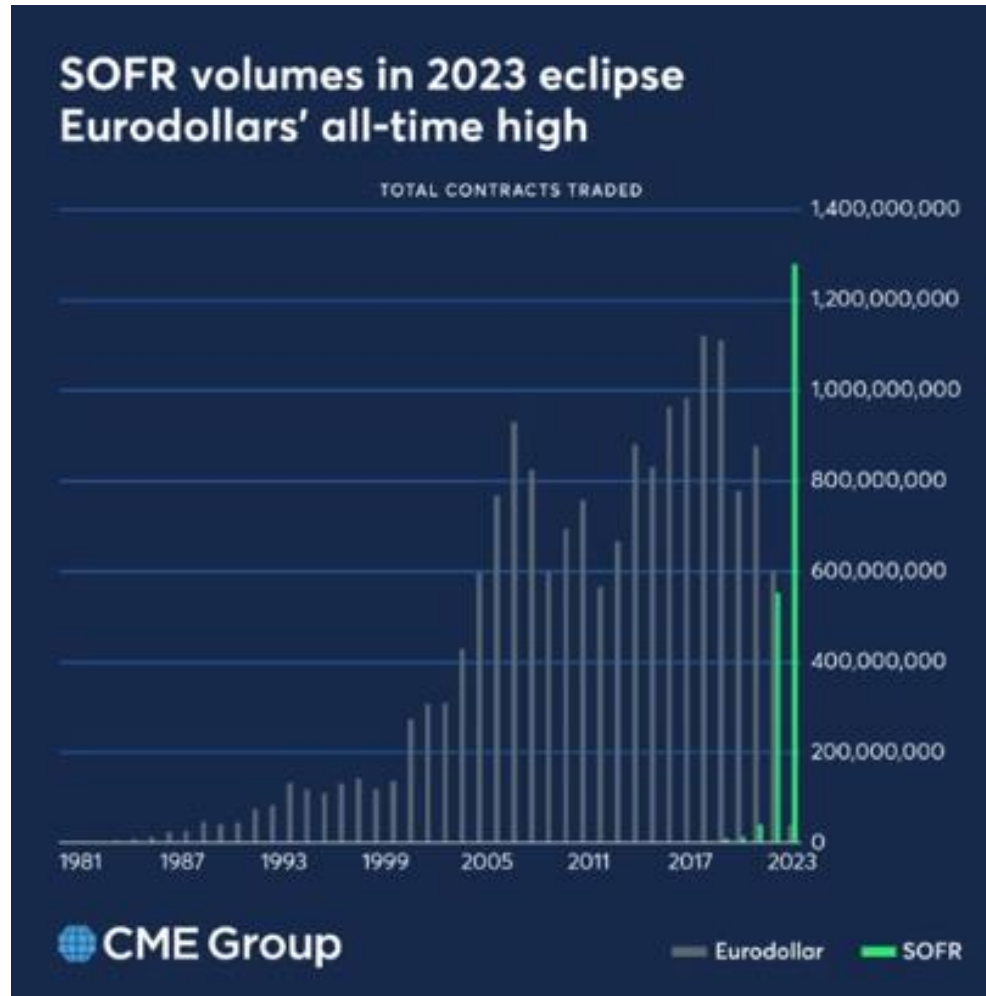


# Interest Rates – Top STIR Contracts by Volume

Rank	Contract and Exchange	Notional Size	2023 Volume	Change vs. 2022	Dec 2023 Open Interest	Change vs. 2022
1	One-Day Interbank Deposit (DI1) Futures, B3	BRL 100,000	866,528,849	32.0%	35,916,813	30.0%
2	3 Month SOFR Futures, Chicago Mercantile Exchange	USD 1,000,000	809,156,568	93.2%	9,813,996	21.0%
3	3 Month SOFR Options, Chicago Mercantile Exchange	USD 1,000,000	431,589,091	291.0%	34,425,020	68.1%
4	3 Month Euribor Futures, ICE Futures Europe	EUR 1,000,000	297,154,269	5.1%	4,580,198	19.4%
5	Average One-Day Interbank Deposit Rate Index (IDI) Options, B3	BRL 100,000	292,208,871	221.9%	68,349,795	255.9%
6	Federal Funds Futures, Chicago Board of Trade	USD 5,000,000	110,495,840	31.8%	1,639,549	4.9%
7	3 Month SONIA Futures, ICE Futures Europe	GBP 1,000,000	97,904,566	37.0%	1,677,286	30.8%
8	3 Month Euribor Options, ICE Futures Europe	EUR 1,000,000	52,259,994	-16.4%	8,215,846	-8.1%
9	1 Month SOFR Futures, Chicago Mercantile Exchange	USD 1,000,000	39,716,486	71.6%	1,059,050	40.3%
10	90 Day Bank Bill Futures, ASX 24	AUD 1,000,000	34,668,533	41.1%	1,156,465	30.8%
11	3 Month Canadian Bankers Acceptance (BAX) Futures, Montreal Exchange	CAD 1,000,000	18,242,053	6.1%	401,466	-36.0%
12	3 Month SONIA Options, ICE Futures Europe	GBP 1,000,000	16,035,669	-0.3%	2,034,363	170.3%
13	3 Month Euribor 1 Year Mid Curve Options, ICE Futures Europe	EUR 1,000,000	9,585,050	-34.1%	835,693	21.8%
14	3 Month CORRA (CRA) Futures, Montreal Exchange	CAD 1,000,000	8,351,833	1996.5%	577,382	1381.0%
15	3 Month Swiss Average Rate Overnight Futures, ICE Futures Europe	CHF 1,000,000	5,929,015	96.7%	205,570	18.4%

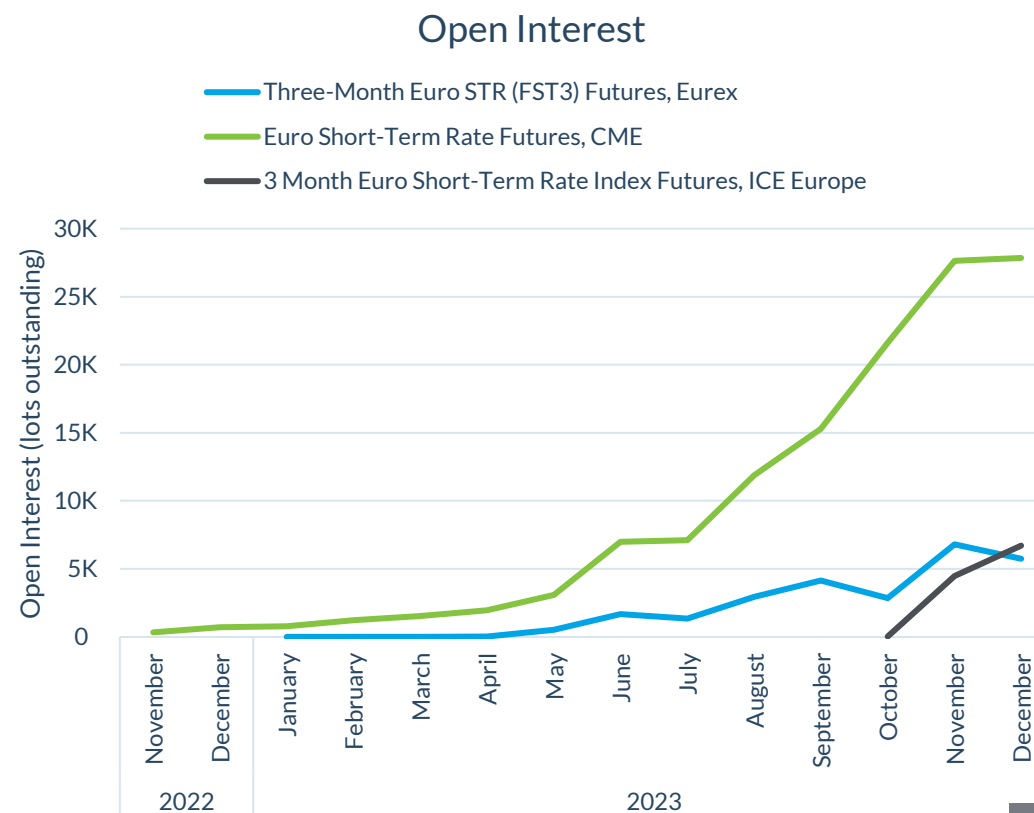
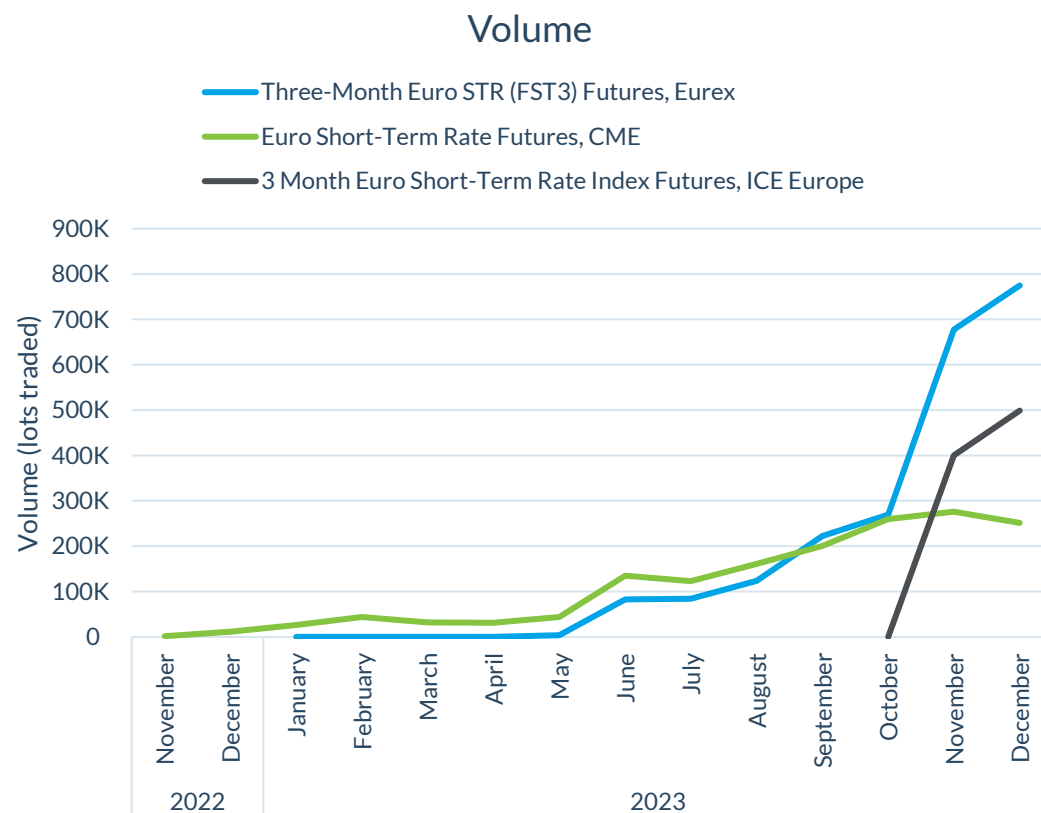
# SOFR Futures: Surpassing Peak Eurodollars

More than 1.28 billion SOFR futures and options traded on CME in 2023, surpassing the highest volume ever recorded for Eurodollar futures and options. Open interest also set a record, reaching 60.4 million contracts on December 12, including 48.3 million options and 12.1 million futures.



# STIRS: Three-Way Battle for ESTR

CME, Eurex and ICE Futures Europe are competing for a share of the market for futures on the Euro Short Term Rate, the European risk-free rate that is being adopted in cash and swap markets.



# STIRS: Insights into Interest Rate Expectations

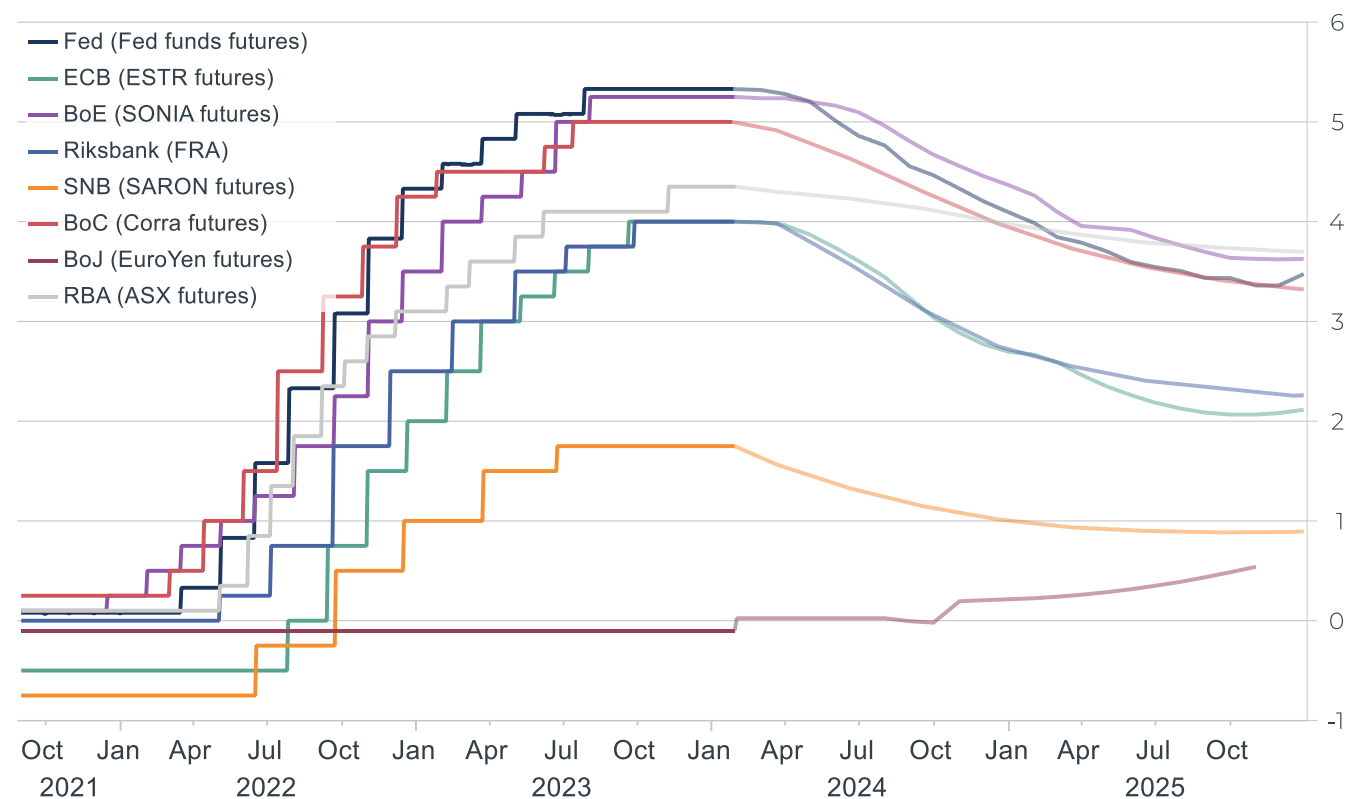
## Price Discovery

This chart shows market expectations for the direction of interest rates set by eight major central banks, as implied by interest rate futures markets at year-end 2023. The chart reveals that most of these central banks are expected to reduce policy rates over the next 12 months, but there are differences in both the timing and size of the expected cuts.

Source: MacroBond Financial AB

## The end of the hiking cycle has come

Central banks' policy rates and market-implied rate trajectories



MACROBOND

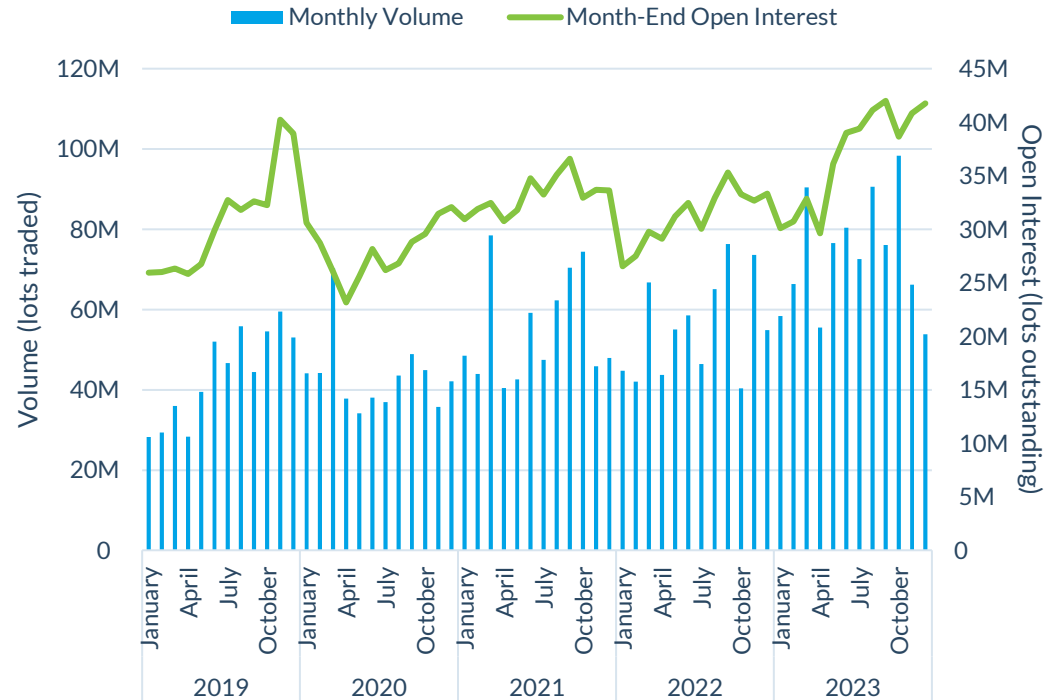




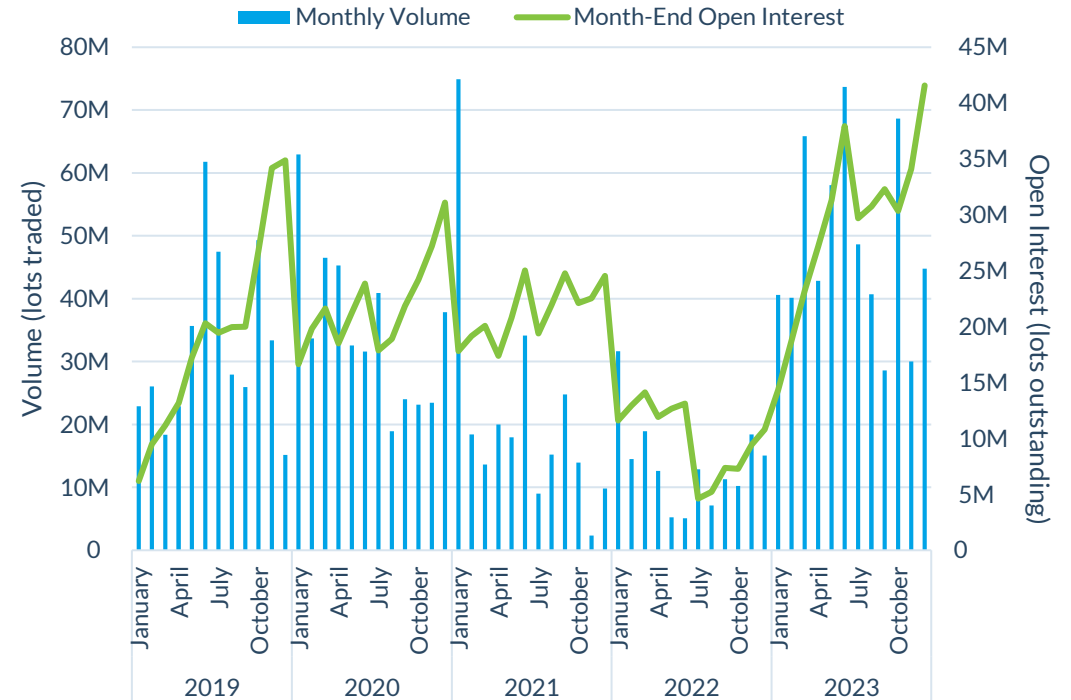
# STIRS: Record Volume and Open Interest in Brazil

Trading volume in DI futures reached 866 million contracts in 2023, up 32% from 2022. Open interest in the IDI options rose to a record 68.3 million contracts at year-end.

## One-Day Interbank Deposit Rate (DI1) Futures



## One-Day Interbank Deposit Rate (IDI) Options



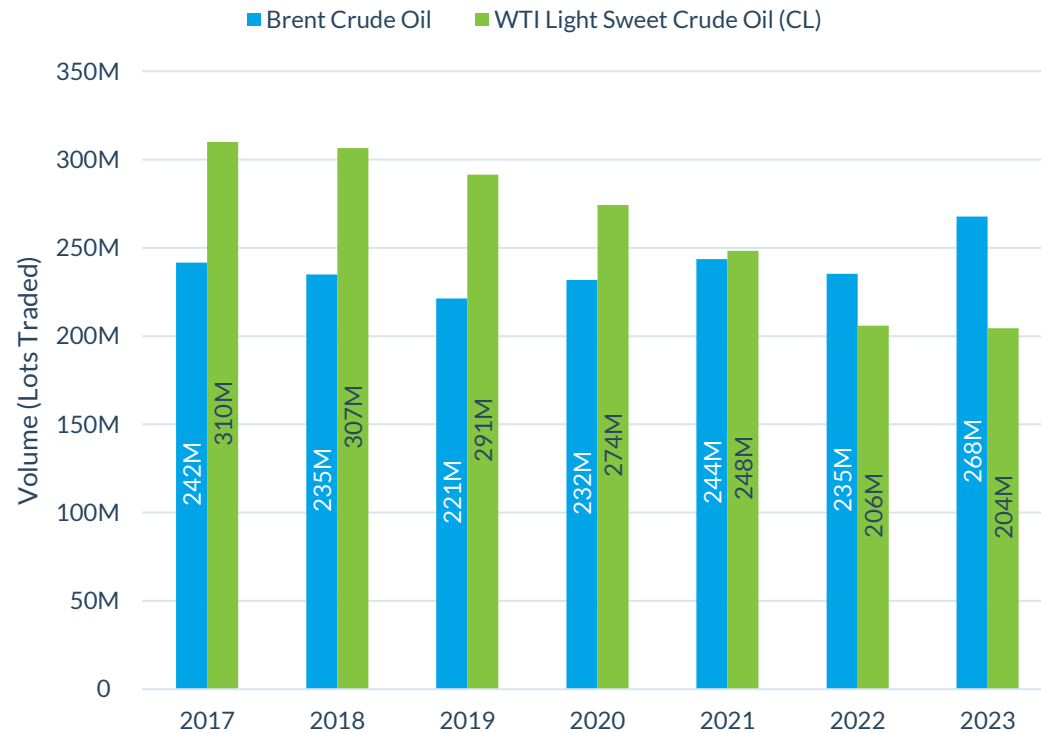
# Energy – Top Contracts by Volume

Rank	Contract and Exchange	Size	2023 Volume	Change vs. 2022	Dec 2023 Open Interest	Change vs. 2022
1	Henry Hub Natural Gas Futures, Moscow Exchange	100 MMBTU	322,560,201	848.2%	826,336	207.4%
2	Brent Crude Oil Futures, ICE Futures Europe	1,000 Barrels	267,727,695	13.7%	2,035,248	9.7%
3	Fuel Oil Futures, Shanghai Futures Exchange	10 Metric Tons	252,884,063	20.2%	554,403	26.1%
4	Crude Oil Options, Multi Commodity Exchange of India	100 Barrels	218,147,350	218.4%	100,341	222.7%
5	WTI Light Sweet Crude Oil (CL) Futures, New York Mercantile Exch.	1,000 Barrels	204,473,362	-0.7%	1,581,928	9.8%
6	Bitumen Futures, Shanghai Futures Exchange	10 Metric Tons	106,990,118	-34.2%	555,929	-24.1%
7	Henry Hub Natural Gas (LD1) Futures, ICE Futures US	2,500 MMBTU	103,523,447	-5.5%	6,667,222	11.4%
8	Henry Hub Natural Gas (NG) Futures, New York Mercantile Exchange	10,000 MMBTU	102,109,201	18.9%	1,389,177	36.7%
9	Natural Gas Options, Multi Commodity Exchange of India	1,250 MMBTU	80,463,497	353.7%	69,103	79.7%
10	Gas Oil Futures, ICE Futures Europe	100 Metric Tons	74,050,482	19.9%	665,987	36.4%
11	Brent Oil Futures, Moscow Exchange	10 Barrels	73,167,737	-17.4%	373,670	310.1%
12	Dutch TTF Gas Futures, ICE Endex	1 MW/Day	59,218,600	50.6%	1,507,656	69.3%
13	WTI Light Sweet Crude Oil Futures, ICE Futures Europe	1,000 Barrels	57,740,452	25.2%	634,475	72.5%
14	Liquefied Petroleum Gas Futures, Dalian Commodity Exchange	20 Metric Tons	52,669,021	18.4%	135,300	-3.8%
15	Low Sulfur Fuel Oil Futures, Shanghai International Energy Exchange	10 Metric Tons	51,611,671	26.4%	147,691	52.6%

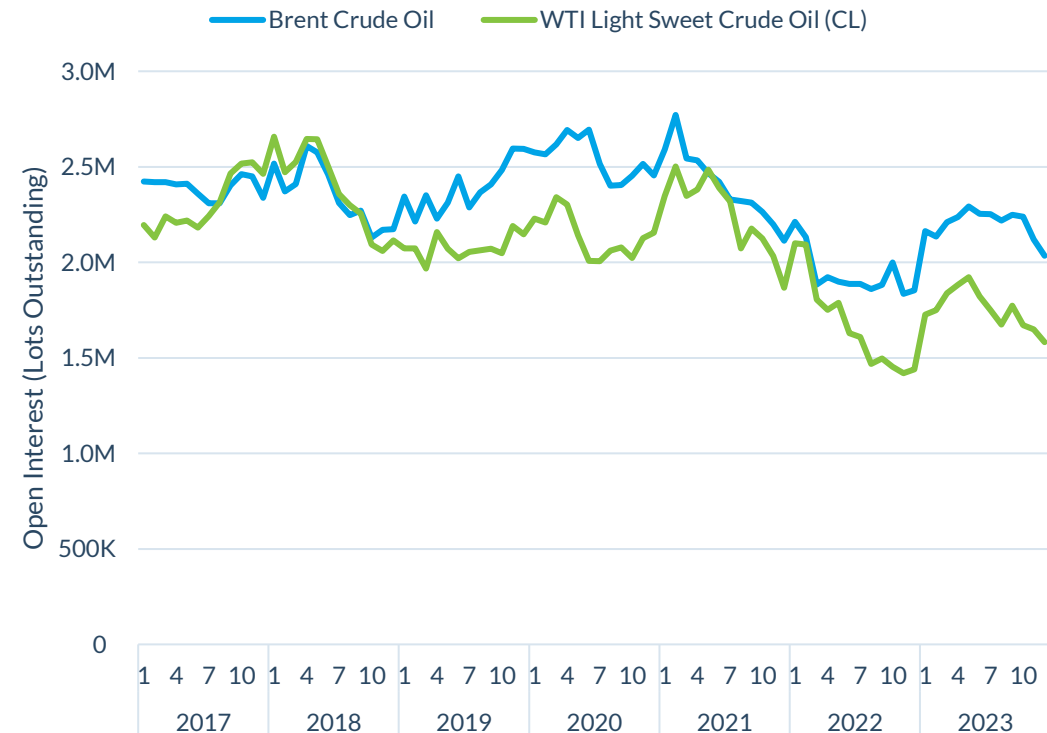
# Crude Oil: ICE Brent Overtakes Nymex WTI

The increasing use of Brent as a benchmark for pricing global shipments of crude oil, combined with record US exports of crude oil, helped boost volume in ICE's Brent futures to a record 268 million contracts in 2023.

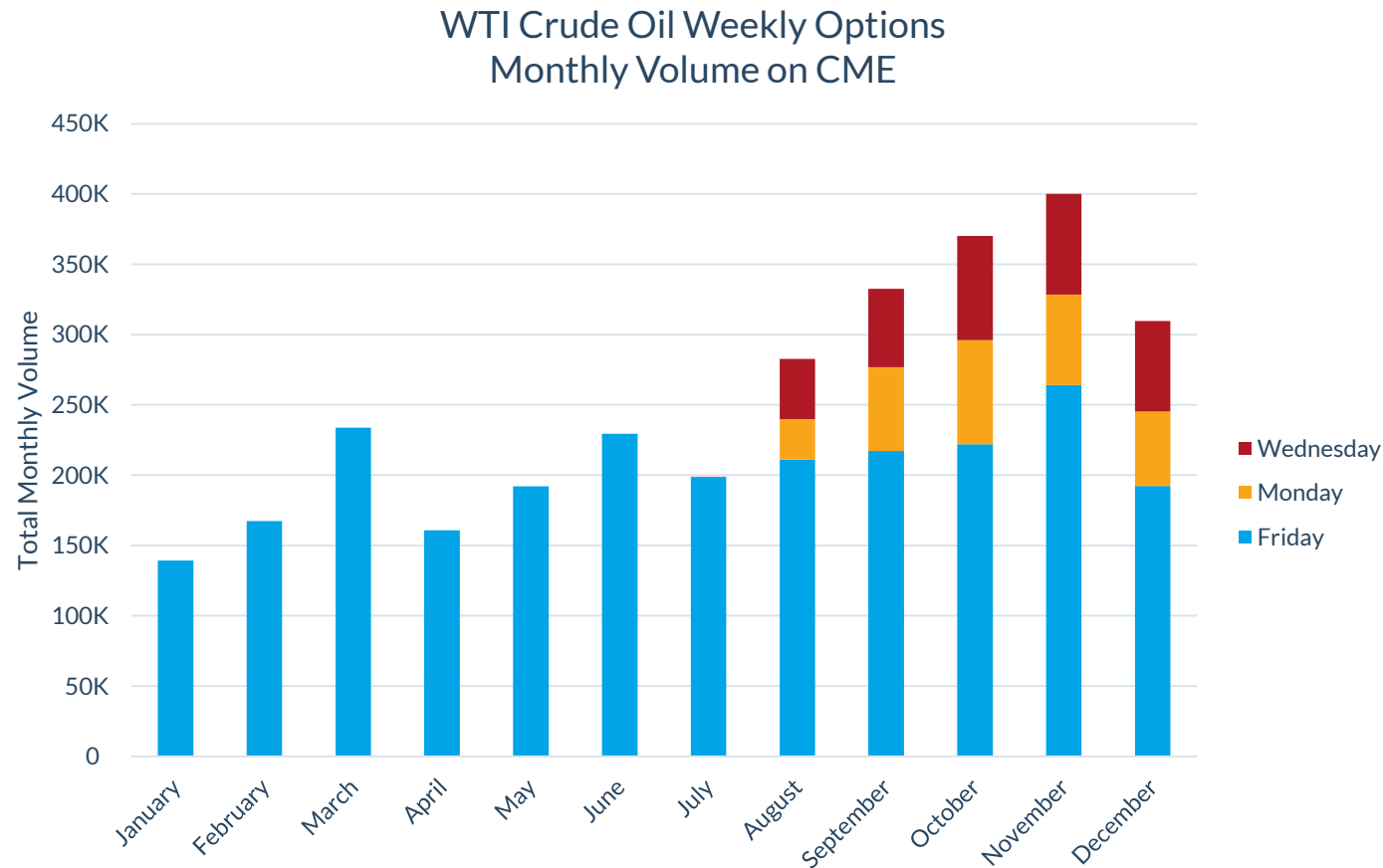
Annual Volume in ICE Brent Crude Oil Futures and Nymex WTI Crude Oil Futures



Open Interest in ICE Brent Crude Oil Futures and Nymex WTI Crude Oil Futures



# Weekly Oil Options: More Expirations => Higher Volume

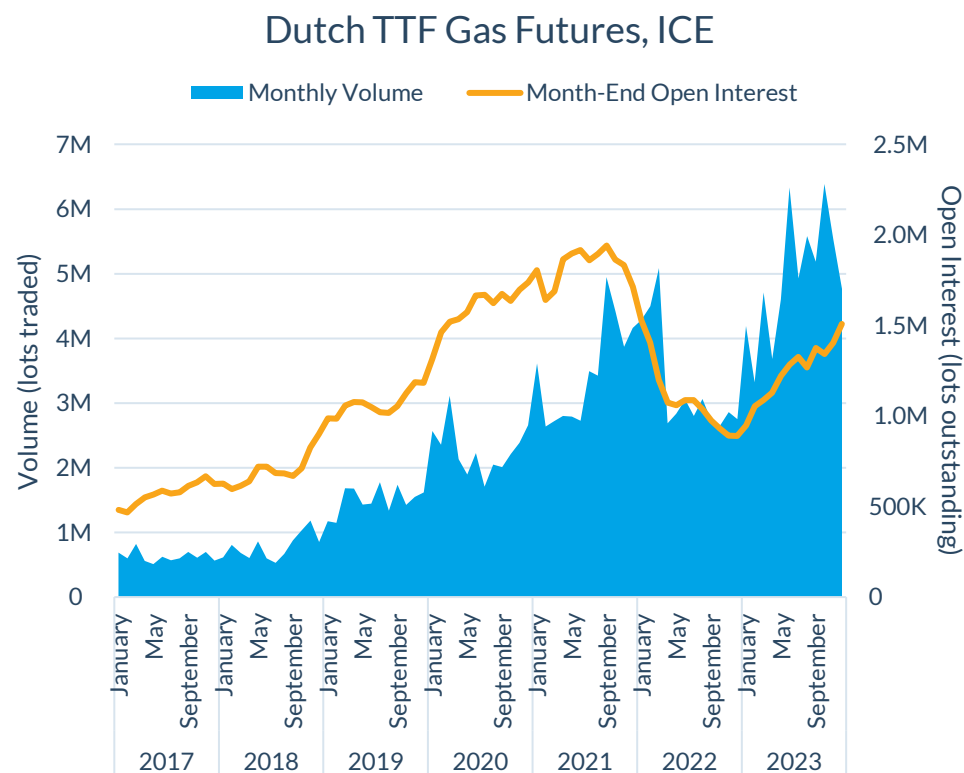


The addition of Monday and Wednesday expirations at the end of July has led to a notable increase in trading activity.

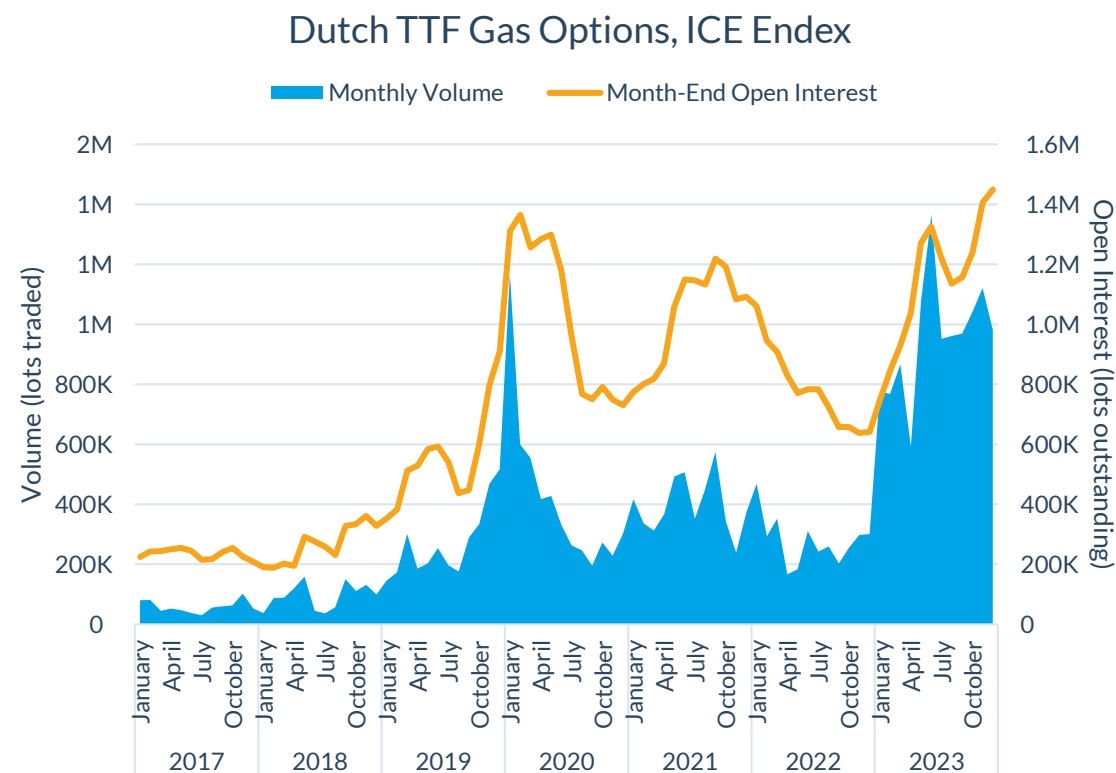
Over the last four months, roughly one third of the volume in CME's weekly crude oil options was in the Monday and Wednesday contracts.

# EU Natural Gas: TTF Trading Recovers from Ukraine Shock

Futures: Q4 volume reaches a record high of 16.7 million contracts, open interest climbs above 1.5 million at year-end



Options: Annual volume reaches record 11.5 million contracts; open interest climbs to record 1.4 million at year-end



# Industrial Metals – Top Contracts by Volume – Part 1

Rank	Contract and Exchange	Size	2023 Volume	YOY Change	Dec 2023 OI	YOY Change
1	Steel Rebar Futures, Shanghai Futures Exchange	10 Metric Tons	502,039,529	-4.4%	2,475,870	-10.3%
2	Iron Ore Futures, Dalian Commodity Exchange	100 Metric Tons	198,957,516	-10.0%	927,074	-29.4%
3	Hot Rolled Coil Futures, Shanghai Futures Exchange	10 Metric Tons	151,521,192	6.7%	1,254,818	17.9%
4	Iron Ore Options, Dalian Commodity Exchange	100 Metric Tons	97,362,136	133.4%	562,628	37.9%
5	Aluminum Futures, Shanghai Futures Exchange	25 Metric Tons	76,540,221	-23.4%	507,288	47.3%
6	Ferrosilicon (SF) Futures, Zhengzhou Commodity Exchange	5 Metric Tons	68,686,436	-0.3%	513,954	29.8%
7	Nickel Futures, Shanghai Futures Exchange	1 Metric Ton	65,415,198	25.6%	239,375	70.8%
8	Silicon Manganese (SM) Futures, Zhengzhou Commodity Exchange	5 Metric Tons	59,233,330	34.2%	495,872	43.4%
9	Steel Rebar Options, Shanghai Futures Exchange <sup>1</sup>	10 Metric Tons	58,347,337	23649.5%	277,322	325.6%
10	Aluminium Futures, London Metal Exchange	25 Metric Tons	57,691,693	10.8%	800,739	57.0%
11	Zinc Futures, Shanghai Futures Exchange	5 Metric Tons	54,857,681	-19.7%	170,780	3.0%
12	Stainless Steel Futures, Shanghai Futures Exchange	5 Metric Tons	43,178,557	19.6%	218,649	92.3%
13	Tin Futures, Shanghai Futures Exchange	1 Metric Ton	39,444,206	32.8%	58,560	-36.6%
14	Copper Futures, Shanghai Futures Exchange	5 Metric Tons	38,816,257	-16.5%	389,352	-2.0%
15	Iron Ore 62% Futures, Singapore Exchange	100 Metric Tons	36,944,327	47.3%	1,054,742	19.0%

<sup>1</sup> Began trading in December 2022   <sup>2</sup> Began trading in July 2023   <sup>3</sup> Began trading in June 2023

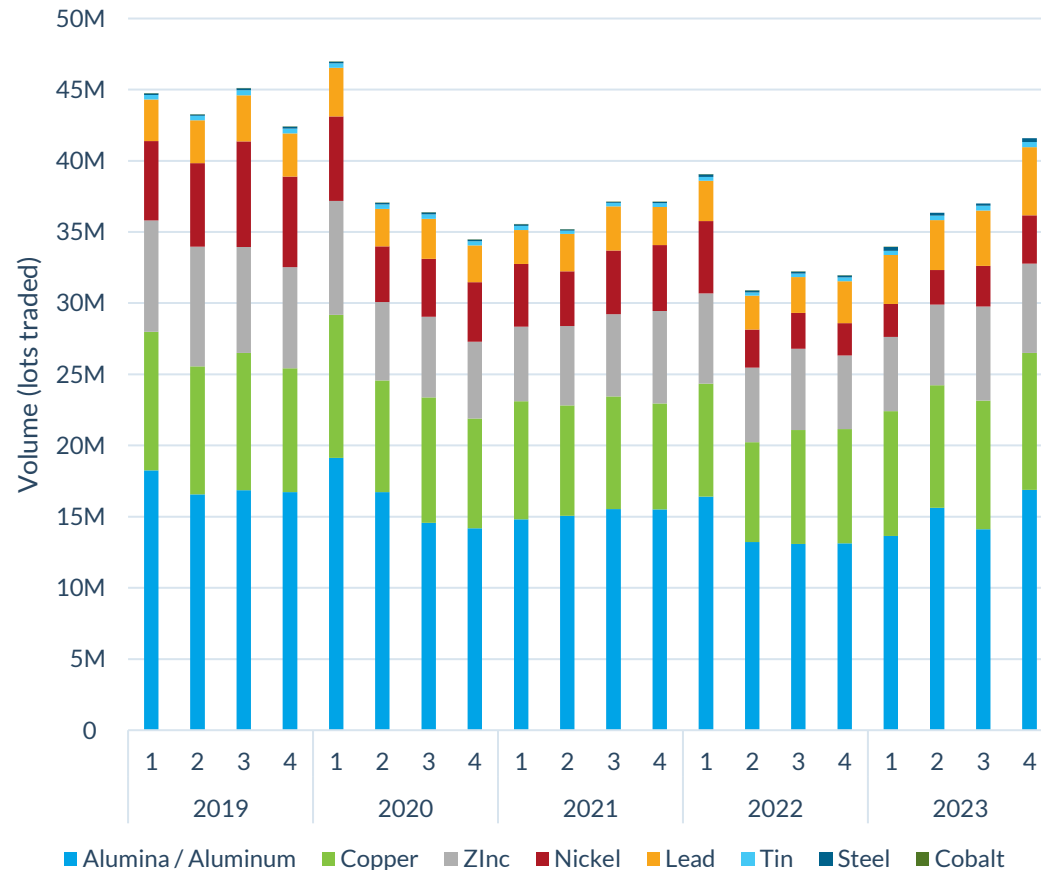
# Industrial Metals – Top Contracts by Volume – Part 2

Rank	Contract and Exchange	Size	2023 Volume	YOY Change	Dec 2023 OI	YOY Change
16	Lithium Carbonate Futures, Guangzhou Futures Exchange <sup>2</sup>	1 Metric Ton	35,251,492	n/a	275,608	n/a
17	Copper Grade A Futures, London Metal Exchange	25 Metric Tons	33,883,556	15.3%	334,957	67.9%
18	Copper (HG) Futures, Commodity Exchange (COMEX)	25,000 Pounds	25,697,758	19.3%	193,721	19.9%
19	Aluminium Options, Shanghai Futures Exchange	25 Metric Tons	24,908,803	118.6%	92,548	136.9%
20	Special High Grade Zinc Futures, London Metal Exchange	25 Metric Tons	22,919,206	7.4%	244,023	42.2%
21	Zinc Options, Shanghai Futures Exchange	5 Metric Tons	21,725,967	161.3%	32,871	80.8%
22	Industrial Silicon Futures, Guangzhou Futures Exchange <sup>1</sup>	5 Metric Tons	21,576,596	12032.9%	107,464	1023.6%
23	Copper Options, Shanghai Futures Exchange	5 Metric Tons	20,605,099	70.1%	72,290	83.8%
24	Lead Futures, Shanghai Futures Exchange	5 Metric Tons	20,029,393	-0.1%	89,459	-38.8%
25	Standard Lead Futures, London Metal Exchange	25 Metric Tons	15,151,467	47.4%	161,970	70.8%
26	Aluminum Oxide Futures, Shanghai Futures Exchange <sup>3</sup>	20 Metric Tons	13,679,753	n/a	121,737	n/a
27	Primary Nickel Futures, London Metal Exchange	6 Metric Tons	10,357,664	-14.4%	200,095	58.3%
28	Iron Ore 62% Options on Futures, Singapore Exchange	100 Metric Tons	6,892,741	30.3%	768,614	19.5%
29	Bonded Copper Futures, Shanghai International Energy Exchange	5 Metric Tons	5,798,963	4.5%	37,088	60.7%
30	Industrial Silicon Options, Guangzhou Futures Exchange <sup>1</sup>	5 Metric Tons	4,158,993	26222.7%	51,005	804.8%

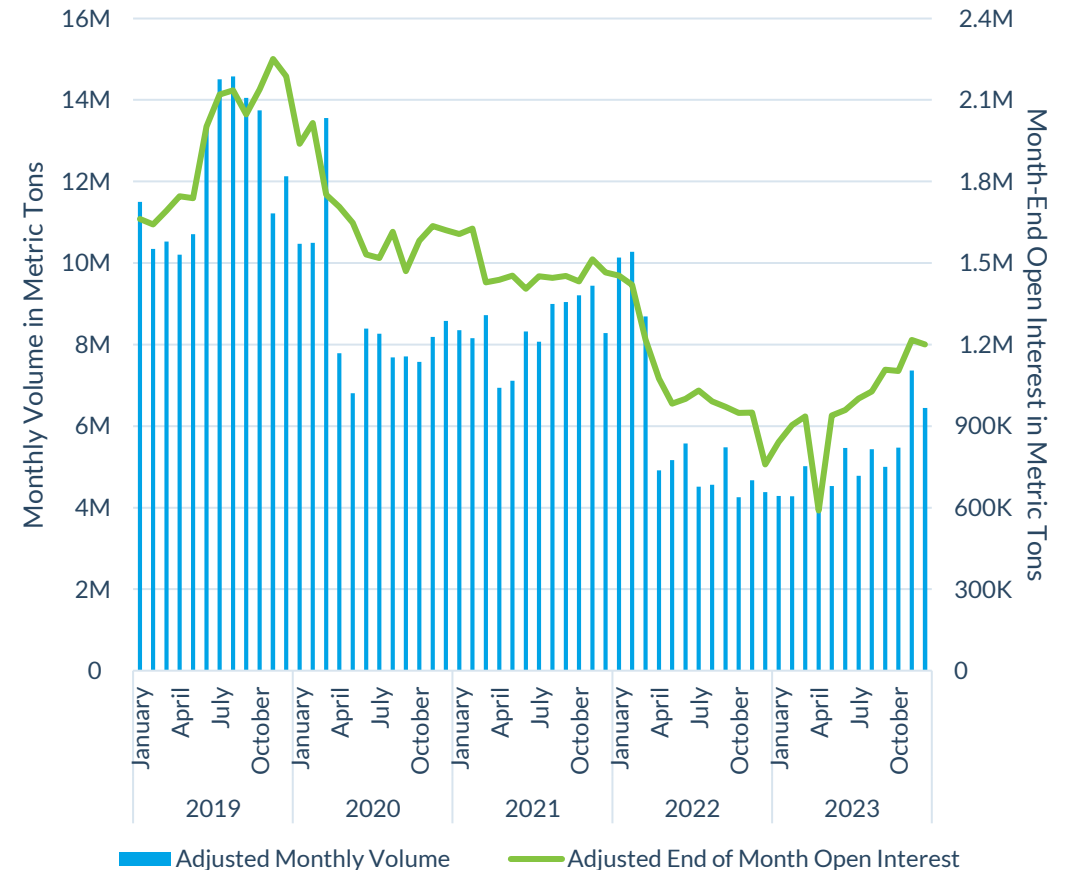
<sup>1</sup> Began trading in December 2022   <sup>2</sup> Began trading in July 2023   <sup>3</sup> Began trading in June 2023

# LME: Trading Volume Recovers from Nickel Crisis

LME Metal Futures and Options Quarterly Volume



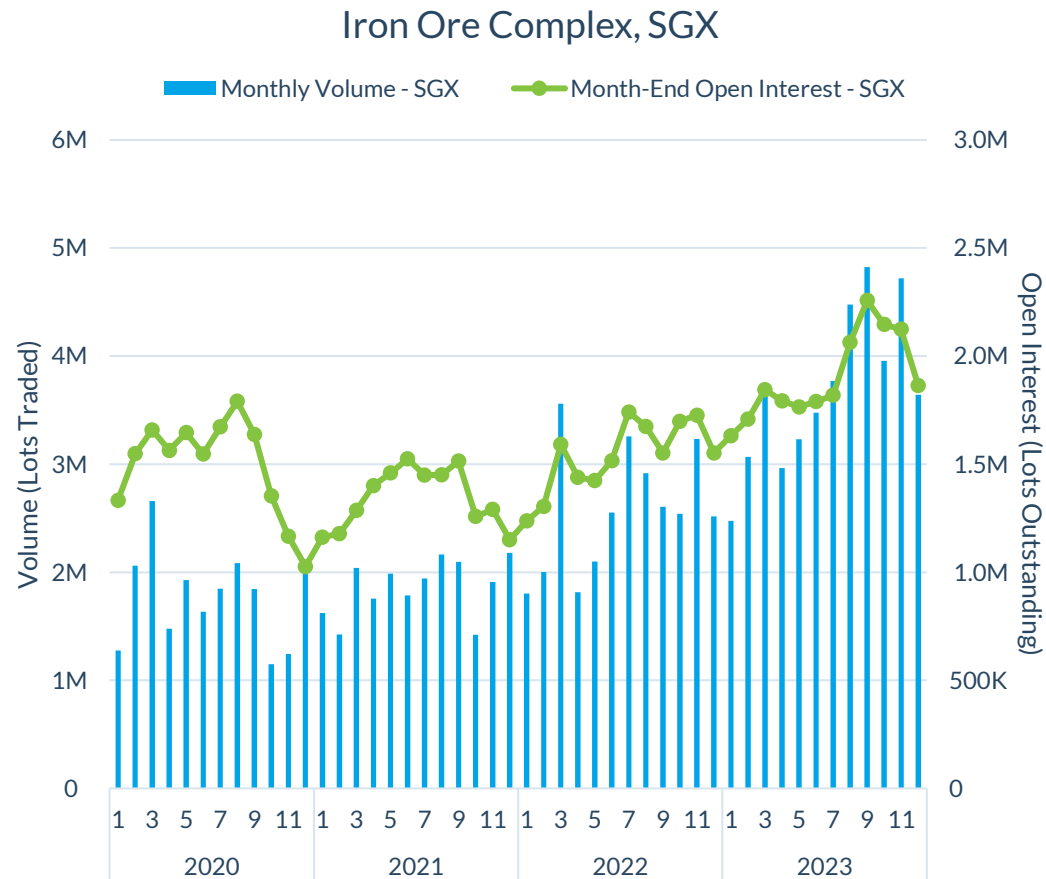
LME Nickel Futures Volume and Open Interest



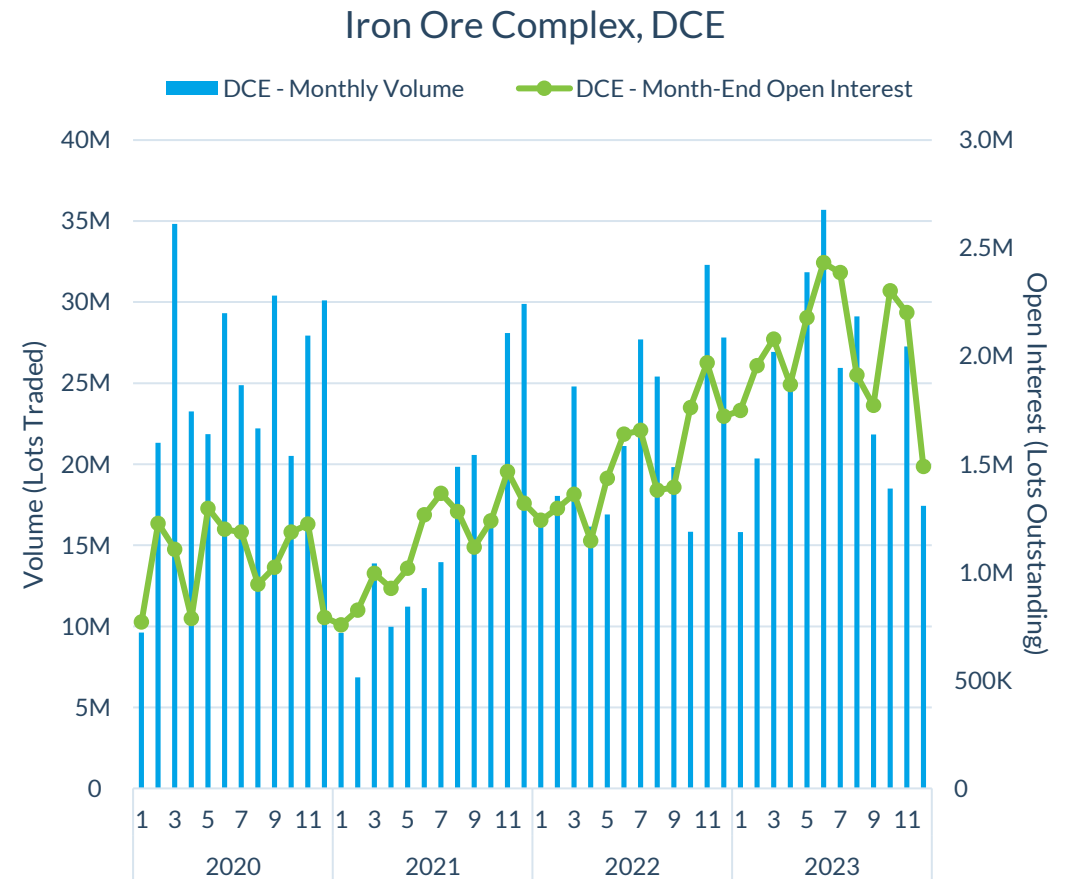


# Iron Ore: Tale of Two Markets

SGX activity boosted by increased fund participation

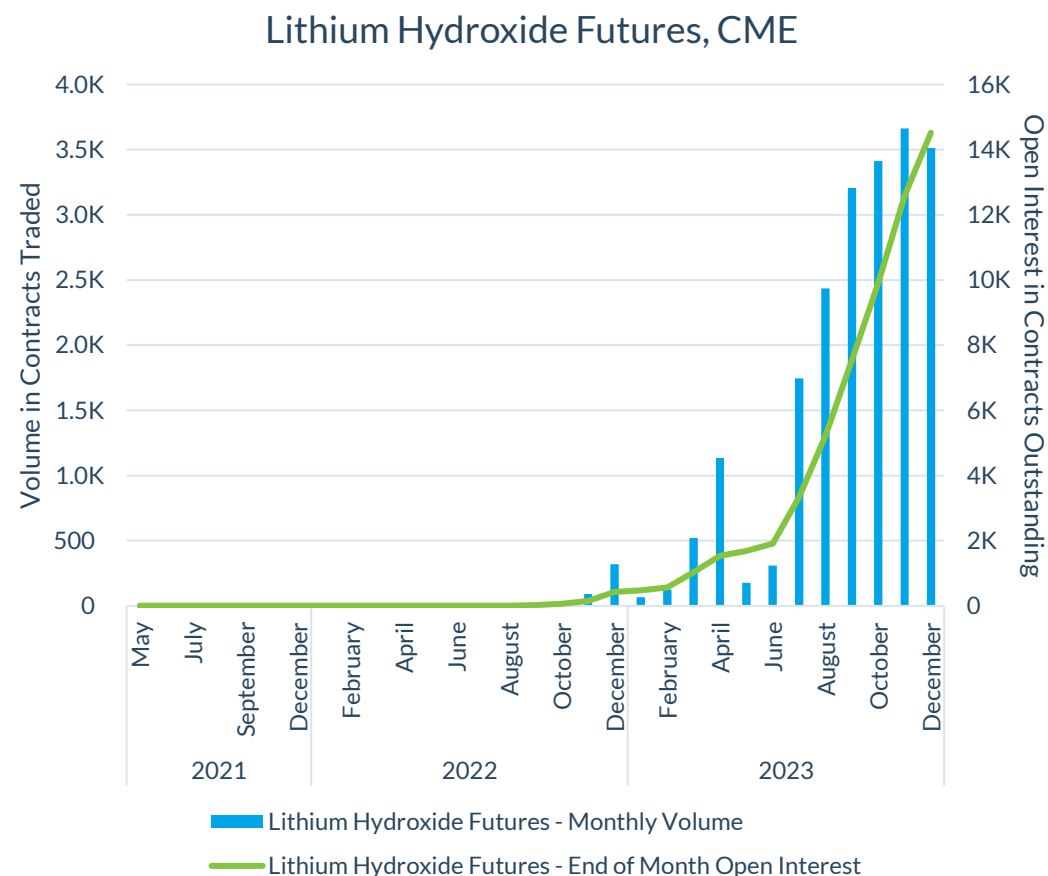
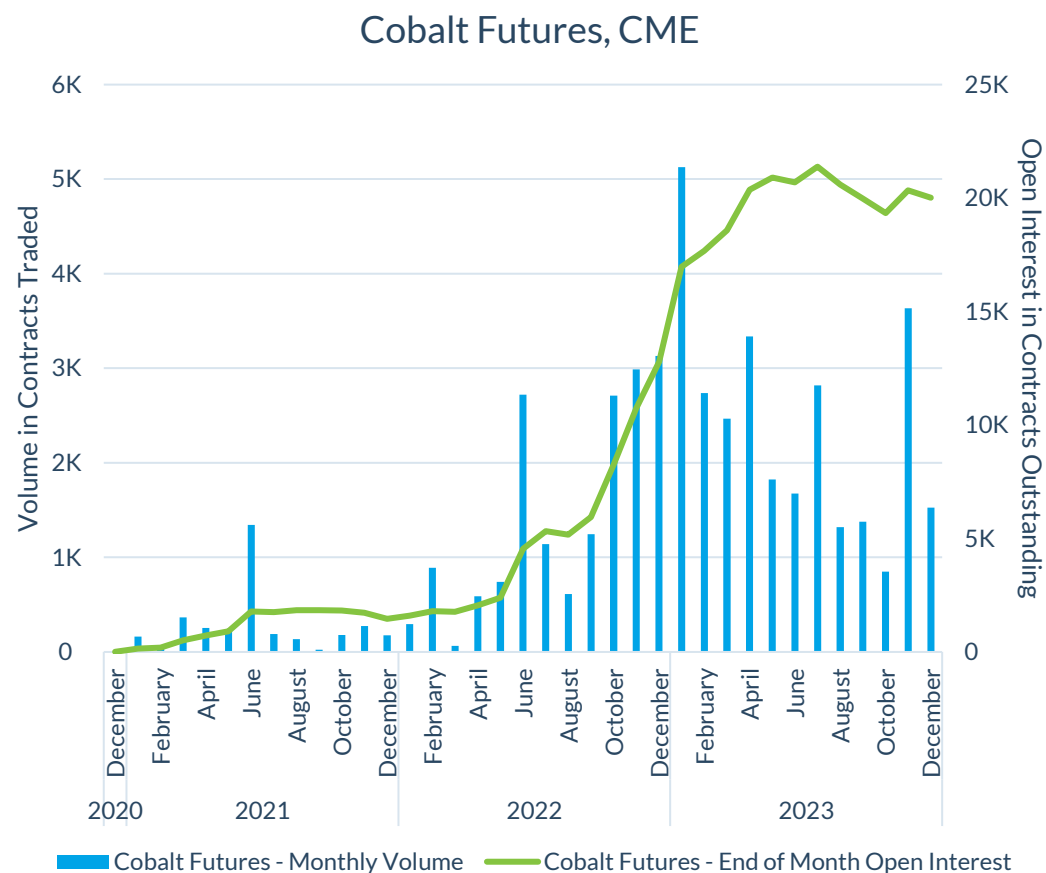


More than 95% of DCE volume comes from local sources



# Battery Metals: Early Days

Demand for EV batteries sparks interest in risk management, but trading activity still very small



# Top Contracts in Agriculture – China

Rank	Contract and Exchange	Size	2023 Volume	YOY Change	Dec 2023 OI	YOY Change
1	Soybean Meal Futures, Dalian Commodity Exchange		354,530,779	9.1%	2,612,235	29.5%
2	Rapeseed Meal (RM) Futures, Zhengzhou Commodity Exchange		230,593,113	59.2%	1,111,050	53.2%
3	RBD Palm Olein Futures, Dalian Commodity Exchange		214,926,469	-11.0%	545,180	-20.7%
4	Soybean Oil Futures, Dalian Commodity Exchange		203,940,313	11.1%	862,680	35.7%
5	White Sugar (SR) Futures, Zhengzhou Commodity Exchange		188,624,633	106.5%	758,103	-15.3%
6	Rapeseed Oil (OI) Futures, Zhengzhou Commodity Exchange		185,663,459	96.6%	528,155	64.2%
7	Cotton No. 1 (CF) Futures, Zhengzhou Commodity Exchange		165,411,304	28.9%	1,068,714	-7.2%
8	Corn Futures, Dalian Commodity Exchange		162,627,023	21.0%	1,440,650	-5.1%
9	Woodpulp Futures, Shanghai Futures Exchange		125,804,767	55.0%	312,446	36.3%
10	Natural Rubber Futures, Shanghai Futures Exchange		86,769,150	9.0%	227,845	-26.0%
11	Soybean Meal Options, Dalian Commodity Exchange		58,463,989	9.5%	350,910	13.5%
12	Corn Starch Futures, Dalian Commodity Exchange		54,758,333	18.5%	299,073	17.0%
13	RBD Palm Olein Options, Dalian Commodity Exchange		48,355,696	81.0%	141,756	49.2%
14	White Sugar (SR) Options, Zhengzhou Commodity Exchange		47,922,433	133.7%	273,195	48.1%
15	Cotton No. 1 (CF) Options, Zhengzhou Commodity Exchange		45,252,947	156.1%	460,072	118.8%

# Top Contracts in Agriculture – US

Rank	Contract and Exchange	Size	2023 Volume	YOY Change	Dec 2023 OI	YOY Change
1	Corn Futures, Chicago Board of Trade		83,094,753	6.7%	1,307,001	7.5%
2	Soybean Futures, Chicago Board of Trade		62,411,706	20.7%	627,579	6.3%
3	Sugar #11 Futures, ICE Futures U.S.		38,460,293	17.4%	829,579	-12.3%
4	Soybean Oil Futures, Chicago Board of Trade		37,543,921	24.9%	488,027	30.1%
5	Soybean Meal Futures, Chicago Board of Trade		37,195,352	32.4%	426,765	6.5%
6	Chicago Soft Red Winter Wheat Futures, Chicago Board of Trade		30,926,174	19.2%	359,935	7.8%
7	Corn Options, Chicago Board of Trade		30,795,674	2.5%	811,002	-7.6%
8	Soybean Options, Chicago Board of Trade		18,283,254	9.3%	504,691	33.2%
9	Live Cattle Futures, Chicago Mercantile Exchange		16,349,335	15.5%	268,031	-18.4%
10	Cocoa Futures, ICE Futures U.S.		13,884,354	5.0%	311,133	12.4%
11	Lean Hog Futures, Chicago Mercantile Exchange		12,792,589	12.1%	190,551	1.6%
12	KC Hard Red Winter Wheat Futures, Chicago Board of Trade		12,464,172	20.2%	208,914	36.9%
13	Coffee C Futures, ICE Futures U.S.		11,705,910	12.3%	222,945	20.5%
14	Cotton #2 Futures, ICE Futures U.S.		9,479,163	13.0%	195,107	-0.4%
15	Canola Futures, ICE Futures U.S.		8,872,587	44.3%	229,942	2.9%

# Top Contracts in Agriculture – Rest of World

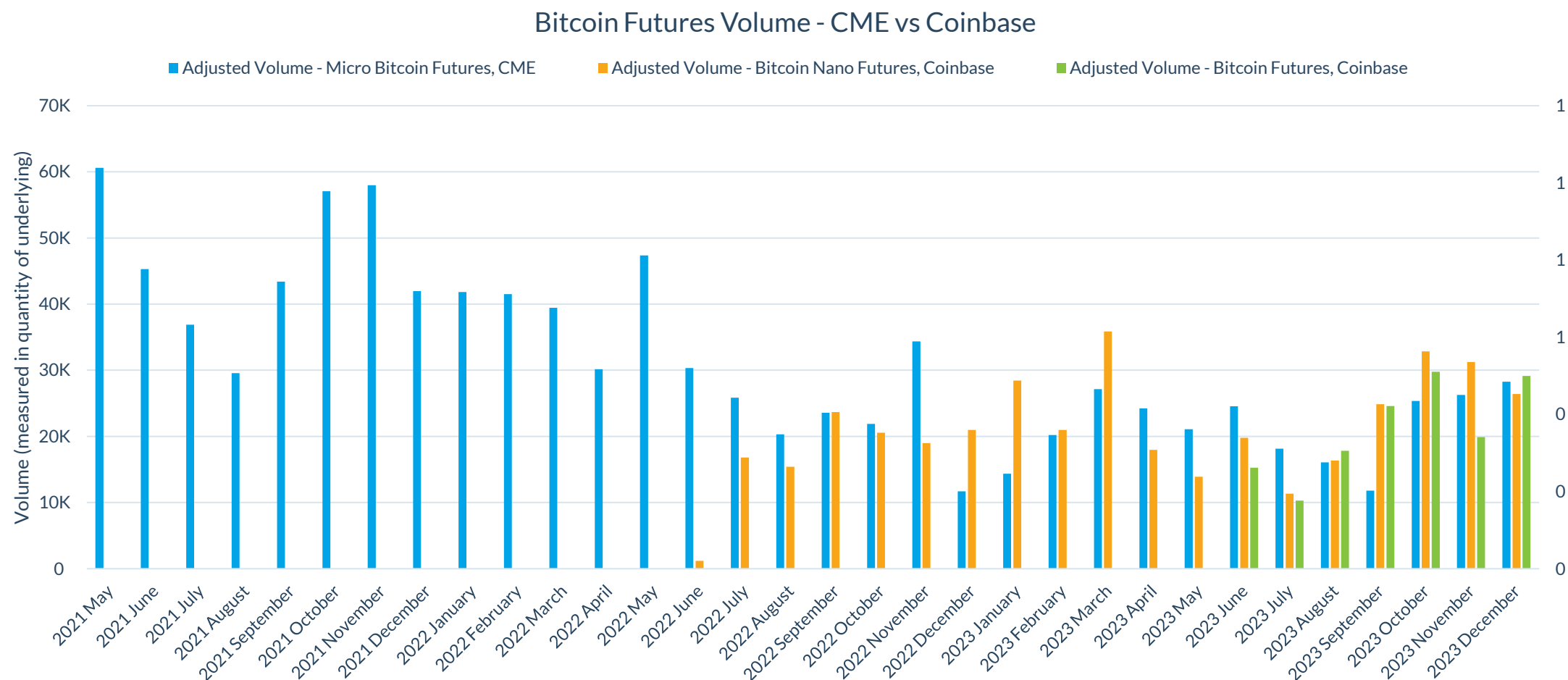
Rank	Contract and Exchange	Size	2023 Volume	YOY Change	Dec 2023 OI	YOY Change
1	Milling Wheat Futures, Euronext Derivatives Market	50 Tonnes	16,606,498	16.2%	479,843	26.8%
2	Crude Palm Oil (FCPO) Futures, Malaysia Derivatives Exchange	25 Metric Tons	14,819,444	-8.6%	214,704	7.2%
3	Cocoa Futures, ICE Futures Europe	10 Tonnes	7,465,580	13.3%	364,833	26.7%
4	Robusta Coffee 10 Tonne Futures, ICE Futures Europe	10 Tonnes	5,035,813	27.3%	100,893	13.2%
5	Rapeseed Futures, Euronext Derivatives Market	50 Tonnes	3,891,821	39.1%	116,506	-1.0%
6	Corn Cash-Settled (CCM) Futures, B3	27 Metric Tons	3,577,322	-2.5%	101,515	4.6%
7	White Sugar Futures, ICE Futures Europe	50 Tonnes	3,295,796	29.4%	77,184	-13.6%
8	SICOM TSR20 Rubber Futures, Singapore Exchange	5 Metric Tonnes	2,577,404	37.7%	72,141	31.4%
9	Cocoa Options, ICE Futures Europe	10 Tonnes	2,320,778	98.9%	578,004	185.2%
10	Guar Seed 10 MT Futures, National Commodity & Derivatives Exch.	10 Metric Tons	2,040,067	8.9%	17,359	26.8%
11	Robusta Coffee 10 Tonne Options, ICE Futures Europe	10 Tonnes	1,838,116	80.1%	132,334	100.1%
12	Milling Wheat Options, Euronext Derivatives Market	50 Tonnes	1,794,185	-23.9%	177,868	-29.4%
13	White Maize 100 Ton (WMAZ) Futures, JSE Securities Exchange	100 Tons	1,072,246	14.3%	23,809	2.9%
14	Corn Cash-Settled (CCM) Options, B3	27 Metric Tons	888,707	17.3%	135,418	8.3%
15	Guar Gum 5 MT Futures, National Commodity & Derivatives Exch.	5 Metric Tons	883,898	-2.1%	12,049	22.6%

# Bitcoin Futures: CME Has Top Market Share Overall, Coinbase Makes Headway with Retail

Exchange	Contract	Size	Measured by Number of Contracts		Measured by Underlying Quantity			
			2023 Volume	Dec 2023 Open Interest	2023 Volume	YoY Change	Dec 2023 Open Interest	YoY Change
CME	Bitcoin	5 bitcoin	2,802,721	22,691	14,013,605	4.0%	113,455	43.7%
FairX	Bitcoin Nano	0.01 bitcoin	27,993,640	21,132	279,936	138.1%	211	145.5%
CME	Micro Bitcoin	0.1 bitcoin	2,574,752	17,437	257,475	-30.1%	1,744	51.0%
ICE Singapore	Bakkt Bitcoin (USD) Monthly	1 bitcoin	221,131	6	221,131	-32.2%	6	-96.9%
FairX	Bitcoin	1 bitcoin	146,710	104	146,710	N/A	104	N/A
Eurex	FTSE Bitcoin (USD) Index	1 bitcoin	66,509	9	66,509	N/A	9	N/A
APEX	Bitcoin	0.05 bitcoin	943,008	1,064	47,150	26.9%	53	-61.5%
APEX	Bitcoin Perpetual	0.05 bitcoin	606,007	708	30,300	-13.4%	35	-71.4%
Eurex	FTSE Bitcoin (EUR) Index	1 bitcoin	2,044	1	2,044	N/A	1	N/A
Bitnomial	Bitcoin US Dollar	1 bitcoin	1,169	157	1,169	63.7%	157	3825.0%
FTX	cBitcoin Day Ahead Swap	0.01 bitcoin	93,306	53	933	-74.2%	1	-81.9%
ICE US	Bakkt Bitcoin (USD) Monthly	1 bitcoin	554	-	554	-97.0%	-	-100.0%
MATba ROFEX	Bitcoin	0.1 bitcoin	3,798	188	380	N/A	19	N/A
Eurex	Bitcoin ETN	1 bitcoin	302	-	302	-92.3%	-	-100.0%
Bitnomial	Bitcoin US Dollar Deci	0.1 bitcoin	1,170	-	117	154.3%	-	-100.0%
FTX	cBitcoin	0.1 bitcoin	290	-	29	-94.3%	-	-100.0%

Note: FairX was acquired by Coinbase in January 2022 and rebranded as Coinbase Derivatives Exchange.

# Bitcoin Futures: Micros vs Nanos



Note: Contract volume adjusted by multiplying the number of contracts traded by the amount of bitcoin underlying each contract.



# Thank you for joining us today!

## Upcoming Webinar:



**Trust But Verify**  
10:00 – 11:00 AM ET



**MNPI and Physical Commodities Markets**  
10:00 – 11:00 AM ET





# Appendix

# Exchange Ranking – Part One

Rank	Exchange	Jan-Dec 2023 Volume	YoY % Change	Dec 2023 Open Interest	YoY % Change
1	<b>National Stock Exchange of India</b>	<b>84,817,136,379</b>	<b>122.5%</b>	<b>36,247,772</b>	<b>55.1%</b>
	National Stock Exchange of India	84,807,400,658	122.5%	36,002,960	54.0%
	NSE International Exchange <sup>2</sup>	9,735,721	n/a	244,812	n/a
2	<b>B3</b>	<b>8,314,951,631</b>	<b>0.0%</b>	<b>203,552,906</b>	<b>61.5%</b>
3	<b>CME Group</b>	<b>6,099,488,339</b>	<b>4.3%</b>	<b>105,040,548</b>	<b>8.1%</b>
	Chicago Mercantile Exchange	3,209,300,188	-1.6%	59,573,736	2.0%
	Chicago Board of Trade	2,211,191,467	13.7%	30,599,260	21.1%
	New York Mercantile Exchange	536,342,083	4.3%	12,904,391	9.5%
	Commodity Exchange (COMEX)	142,654,601	14.2%	1,963,161	17.8%
4	<b>BSE</b>	<b>5,873,771,364</b>	<b>265.0%</b>	<b>762,450</b>	<b>-44.3%</b>
	BSE	5,826,602,581	311.2%	761,778	-44.3%
	India International Exchange	47,168,783	-75.5%	672	-34.1%
5	<b>Cboe Global Markets</b>	<b>3,708,455,548</b>	<b>6.7%</b>	<b>343,822</b>	<b>13.2%</b>
	Cboe Options Exchange <sup>1</sup>	2,024,298,392	19.1%	n/a	n/a
	Cboe EDGX Options Exchange <sup>1</sup>	630,097,327	9.8%	n/a	n/a
	Cboe BZX Options Exchange <sup>1</sup>	550,606,231	-25.7%	n/a	n/a
	Cboe C2 Options Exchange <sup>1</sup>	448,428,060	10.1%	n/a	n/a
	Cboe Futures Exchange	54,978,566	0.4%	343,417	13.1%
	Cboe Europe Derivative Exchange	46,971	57.8%	405	426.0%
	ErisX <sup>3</sup>	1	-100.0%	-	n/a

<sup>1</sup> US equity options are cleared through the Options Clearing Corp. Exchange, <sup>2</sup> NSE International Exchange began trading in July 2023. <sup>3</sup> ErisX was acquired by Cboe in May 2022.

# Exchange Ranking – Part Two

Rank	Exchange	Jan-Sep 2023 Volume	YoY % Change	Sep 2023 Open Interest	YoY % Change
<b>6</b>	<b>Intercontinental Exchange</b>	<b>3,656,460,603</b>	<b>6.4%</b>	<b>81,708,385</b>	<b>18.2%</b>
	NYSE Arca <sup>1</sup>	1,229,015,809	3.1%	n/a	n/a
	ICE Futures Europe	1,187,841,122	10.9%	37,092,511	18.4%
	NYSE Amex <sup>1</sup>	745,956,812	3.5%	n/a	n/a
	ICE Futures U.S.	407,931,374	3.6%	40,940,201	15.3%
	ICE Endex	81,119,764	52.2%	3,638,061	58.8%
	ICE Futures Abu Dhabi	2,330,141	71.3%	35,589	-12.3%
	ICE Futures Singapore	2,265,581	-18.1%	2,023	-39.7%
<b>7</b>	<b>Zhengzhou Commodity Exchange</b>	<b>3,532,952,087</b>	<b>47.4%</b>	<b>13,541,868</b>	<b>0.5%</b>
<b>8</b>	<b>Nasdaq</b>	<b>3,203,620,030</b>	<b>1.8%</b>	<b>4,454,125</b>	<b>-11.7%</b>
	Nasdaq PHLX <sup>1</sup>	1,144,092,199	2.4%	n/a	n/a
	Nasdaq Options Market <sup>1</sup>	622,562,417	-18.6%	n/a	n/a
	Nasdaq ISE <sup>1</sup>	597,258,932	8.2%	n/a	n/a
	Nasdaq BX Options <sup>1</sup>	331,245,641	21.7%	n/a	n/a
	Nasdaq GEMX <sup>1</sup>	245,525,725	12.6%	n/a	n/a
	Nasdaq MRX <sup>1</sup>	196,973,399	28.8%	n/a	n/a
	Nasdaq Exchanges Nordic Markets	65,732,123	-7.1%	4,360,748	-11.9%
	Nasdaq Commodities	229,594	-20.3%	93,377	-2.8%

# Exchange Ranking – Part Three

Rank	Exchange	Jan-Dec 2023 Volume	YoY % Change	Dec 2023 Open Interest	YoY % Change
9	Dalian Commodity Exchange	2,508,333,822	10.2%	13,435,769	9.8%
10	Shanghai Futures Exchange	2,226,957,843	14.6%	9,809,038	12.9%
	Shanghai Futures Exchange	2,060,693,705	13.0%	9,302,434	10.5%
	Shanghai International Energy Exchange	166,264,138	38.4%	506,604	84.8%
11	Borsa Istanbul	2,085,602,517	-23.5%	15,330,084	-22.7%
12	Korea Exchange	2,038,379,367	-1.0%	11,133,459	13.2%
13	Eurex	1,915,115,895	-2.1%	115,347,073	-5.0%
14	Miami International Holdings	1,589,908,527	22.1%	63,238	5.2%
	MIAX Options <sup>1</sup>	647,128,959	47.7%	n/a	n/a
	MIAX Pearl <sup>1</sup>	634,027,436	15.5%	n/a	n/a
	MIAX Emerald <sup>1</sup>	305,857,301	-2.1%	n/a	n/a
	Minneapolis Grain Exchange	2,894,831	-12.1%	63,238	5.2%
15	Moscow Exchange	1,304,127,469	2.8%	46,606,582	268.6%
16	TMX Group	865,382,847	13.7%	15,600,945	17.4%
	Boston Options Exchange <sup>1</sup>	693,138,435	13.5%	n/a	n/a
	Montreal Exchange	172,244,412	14.5%	15,600,945	17.4%
17	Hong Kong Exchanges and Clearing	480,360,531	5.6%	14,095,729	14.3%
	Hong Kong Exchanges and Clearing	331,466,384	3.4%	11,844,968	8.3%
	London Metal Exchange	148,894,147	11.0%	2,250,761	62.0%

# Exchange Ranking – Part Four

Rank	Exchange	Jan-Dec 2023 Volume	YoY Change	Dec 2023 Open Interest	YoY Change
18	Multi Commodity Exchange of India	443,704,088	103.3%	592,046	41.3%
19	Japan Exchange Group	394,038,990	0.5%	3,395,946	0.1%
	Osaka Exchange	392,173,920	0.6%	3,346,923	0.2%
	Tokyo Commodity Exchange	1,865,070	-25.2%	49,023	-5.3%
20	Taiwan Futures Exchange	324,644,847	-15.6%	1,135,213	19.1%
21	MATba ROFEX	311,211,933	3.8%	1,030,627	-62.3%
	MATba ROFEX	311,201,997	3.8%	1,025,337	-62.5%
	Uruguay Futures Exchange	9,936	163.6%	5,290	138.1%
22	JSE Securities Exchange	261,189,473	27.5%	16,708,041	5.3%
23	Singapore Exchange	243,139,241	-6.5%	4,637,735	2.3%
24	ASX	223,741,637	10.9%	9,224,619	9.2%
	ASX 24	153,812,929	13.6%	3,702,918	13.6%
	ASX	69,928,708	5.5%	5,521,701	6.4%
25	China Financial Futures Exchange	168,340,048	10.9%	1,852,728	43.2%
26	Euronext	157,863,443	-11.6%	19,416,146	3.4%
	Euronext Derivatives Market	132,621,496	-12.5%	14,839,119	2.8%
	Borsa Italiana (IDEM)	25,241,947	-6.8%	4,577,027	5.3%
27	Thailand Futures Exchange	129,491,241	-5.0%	2,684,517	-32.6%

**FIA**

The image features the letters 'FIA' in a bold, sans-serif font. The 'F' is dark grey. The 'I' is dark grey with a green and yellow-green geometric shape overlapping its right side. The 'A' is composed of two overlapping blue shapes. The background is a white canvas with large, overlapping geometric shapes in light green, light blue, and light grey, creating a modern, abstract design.