INTELLIGENCE ON BUSINESS, TECHNOLOGY AND REGULATION IN THE CLEARED DERIVATIVES INDUSTRY 3.2023

FIA MARKET VOICE

New Directions

LAST YEAR FEATURED RISING INTEREST RATES, COMMODITY MARKET VOLATILITY, AND CRYPTO DISRUPTION... SO WHAT DOES 2023 HOLD FOR GLOBAL CLEARED DERIVATIVES MARKETS?

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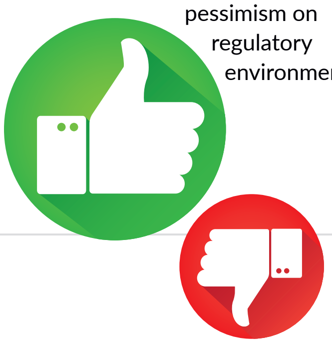

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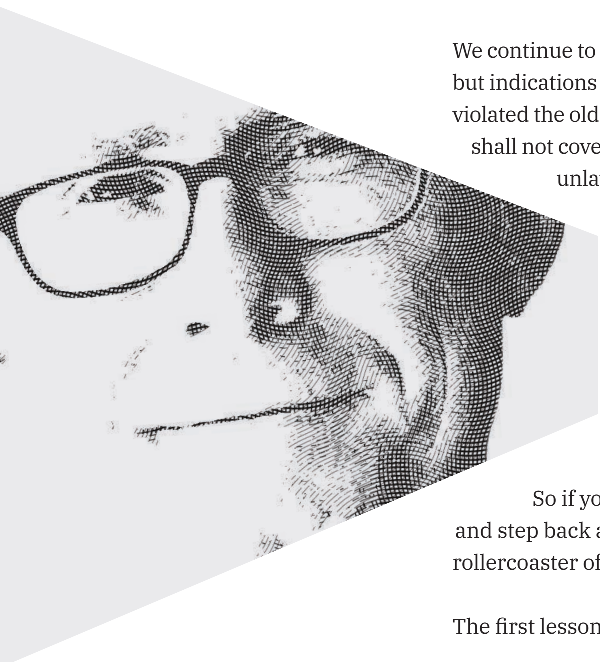
BY WALT LUKKEN, PRESIDENT AND CEO OF FIA

Lessons Learned from 2022, and Issues to Watch in Global Derivatives Markets



Much happened in our markets across 2022. But even a few months into the New Year, the collapse of FTX seems to still dominate conversation.

We continue to learn the details about this scandal, but indications are that FTX likely failed because it violated the oldest commandment in markets: Thou shall not covet customer funds. However, FTX's unlawful use of customer money should not completely overshadow the groundbreaking ideas it was proposing to disrupt finance.

Direct access to exchanges, auto-liquidation, real-time margining—these ideas are not going away.

So if you put aside the daily FTX drama and step back a bit, what can we learn from the rollercoaster of events over the last year?

The first lesson is that systems matter.

It turns out that the traditional way of doing business in our futures markets would have likely prevented this sort of fraud. Today's market structure is a result of years of lessons and adjustments based on past failings. Last decade's MF Global and Peregrine scandals led to improved margining, daily electronic bank confirmations, and other customer funds protections.

Is it inefficient to do independent verifications on customer accounts? Hell yeah, but it protects the sanctity of customer money and the integrity of the system.

When independent checks are bypassed, conflicts of interest inevitably arise and risk may be further concentrated, as we saw in FTX and its many inter-related affiliates. FIA noted these very concerns in our CFTC response to the FTX application and in my written testimony to the US Congress.

The second lesson is that risk management requires *management*.

FTX's new model replaced intermediaries with algorithms that automatically liquidated positions when customer money ran out. But what if the market is illiquid or disorderly? What if traders reverse-engineer the algorithm and trade ahead of or even cause such liquidations? What if the liquidation of large positions causes a cascade of liquidations in a distressed market?

Every seasoned risk manager says the same thing: each crisis is different, and you must preserve flexibility and judgment. That is not to say that there isn't a role for models, algorithms, and prescriptive rules. But rigid over-reliance on humans' ability to code or model every possible scenario is fantasy.

The debate around FTX is certainly an important one. Our industry must make sure we're looking at the big picture, however. That will ensure we improve, and build even better markets going forward.

And speaking of building better markets, here are some areas of focus for the industry as we move forward.

CYBER SECURITY WAKEUP

We've talked about it for years, and the day finally came. As this article went to press, our industry was still dealing with the aftermath of a cyber security event at a critical software provider that disrupted global exchange traded derivatives markets. As firms return to normal operations, this issue may prove to be the "stone in the pond" moment that ripples through the industry and changes our approach to third-party critical systems.

One of the positives to emerge from this episode, however, has been the industry's collective response. Vendors, firms, clients, exchanges and CCPs all recognized the need for a collaborative approach to finding a solution to the problem.

Furthermore, while one of the takeaways from the FTX collapse was that it revealed a degree of ignorance or naivety about how markets really function, the cyberattack on ION showed that those institutions with the most experienced staff were able to respond best. Manual processing of trades may be old fashioned and unglamorous. But this know-how helped many firms avoid a far bigger crisis.

Market participants will no doubt be shoring up their cyber protections. Regulators are also likely to take more interest in how markets are protecting themselves from these occurrences.

CRYPTO REGULATION COMETH

Another obvious issue to watch is the evolution of crypto regulation after the dramatic failure of FTX. In Europe, the much-debated Markets in Crypto-Assets (MiCA) Regulation comes into force in the first half of 2023, and the UK has also proposed sweeping regulations for crypto markets. Regulators appear to be taking a two-pronged approach – one to make sure that regulation is appropriate for this emerging asset class and activity. The other is to make sure that their respective markets remain competitive and they don't miss out on the opportunities presented by digital assets.

Meanwhile, the US Congress went back to the drawing board on its bi-partisan crypto legislation and is very likely to introduce its own structure for crypto regulation in the coming months.

Additionally, the new Republican majority launched a new arm of the powerful Financial Services Committee, with a dedicated subcommittee on digital assets and financial technology.

TO INTERMEDIATE OR NOT

There was so much attention on the implosion of FTX last year that many overlooked the broader market structure evolution raised by FTX's disintermediated market model. Some traditional exchanges have taken note and either bought or started their own clearing broker to create a "full stack" approach to their operations.

The potential gains in efficiency come with a serious price, however, as we witnessed with the FTX crisis. Lost in this approach is the compartmentalization of risk that comes with an independent intermediary. Natural conflicts of interest arise, particularly for organizations with self-regulatory authorities.

FIA knows the importance of reducing operational frictions and settlement times and is a big supporter of these market efficiencies. But the industry must engage honestly about the trade-offs that come with certain efficiencies that shortcut existing protections for the system.

COMMODITIES AND SUSTAINABILITY

There was a lot more than FTX to think about last year. Global supply chains were already strained by COVID-19 before Russia's aggression in Ukraine upended physical commodity markets in 2022. Throw in global pressure to move to a carbon free world and we are in for a wild ride in the commodities markets over the long run. Many economists are predicting another "supercycle" for commodities in 2023.

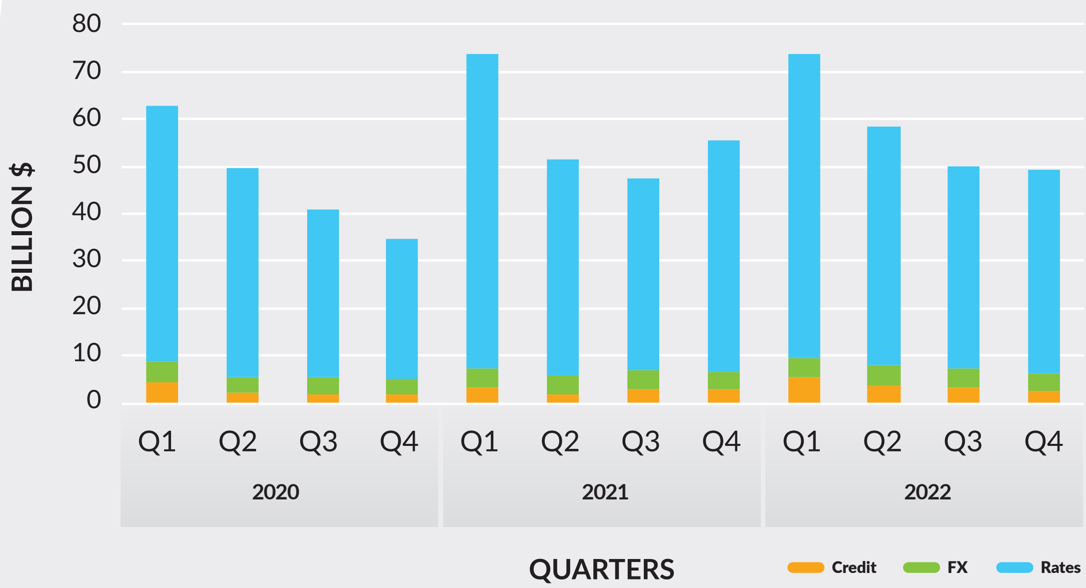
Undoubtedly, we should expect markets to do what markets do: Discover prices. But sometimes prices discovered on our markets cause hardships among citizens and angst among politicians. The responses for policy makers to the price jumps in European gas markets show how seriously politicians are taking such developments.

FIA's mission is to ensure markets are orderly and reflecting supply and demand. Efforts to artificially influence prices, like price caps, cause market distortions and supply disruptions.

In 2023 FIA will continue to make this a priority and I expect the interplay between commodity markets, sustainability and the real economy to remain a key issue in 2023 and beyond. MV

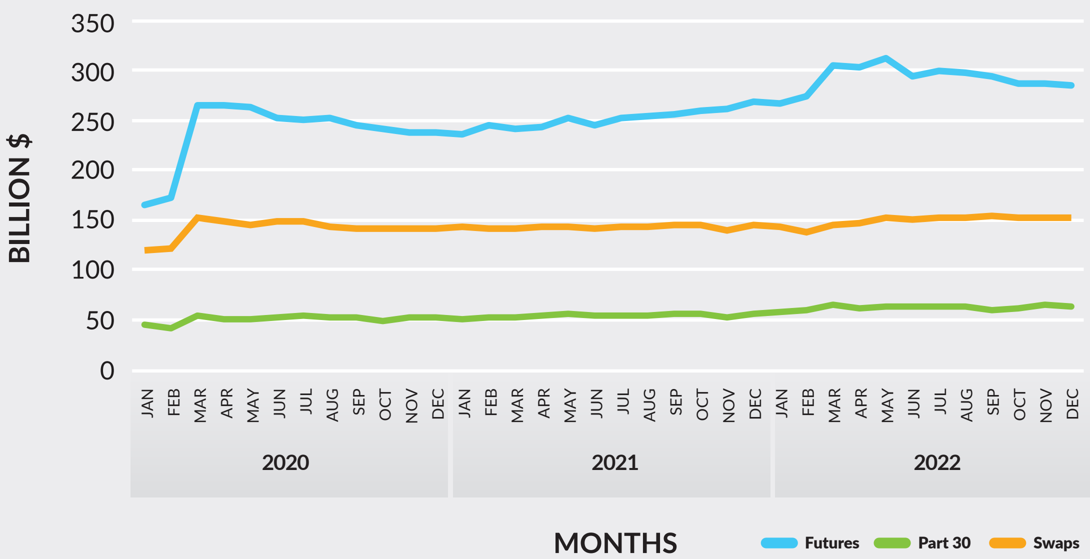
Data

SEF Volume by Quarter



Source: FIA SEF Tracker

Customer Funds at U.S. FCMs



Source: FIA FCM Tracker

Top 14 SEFs

Ranked by latest quarterly trading volume, in billions of dollars of notional value

RANK	SEF	Credit	Y/Y	FX	Y/Y	Rates	Y/Y	Total	Y/Y
1	TRADEWEB	545.03	39.1%			14033.68	-21.7%	14578.71	-20.4%
2	TULLETT PREBON	179.32	-37.3%	1116.90	-1.3%	8466.13	16.5%	9762.3	12.4%
3	NEX			242.32	15.5%	9405.03	-24.6%	9647.3	-24.0%
4	TRADITION	8.30	-52.2%	694.82	-10.7%	4010.15	58.0%	4713.3	41.4%
5	BLOOMBERG	1921.02	-6.3%	178.85	-16.0%	2568.05	-23.2%	4667.9	-16.7%
6	BGC	34.98	-28.7%	818.44	6.3%	2327.0	2.6%	3180.3	3.0%
7	IGDL					962.9	3.5%	962.97	3.5%
8	DEALERWEB					699.8	-63.0%	699.78	-63.0%
9	GFI GROUP	45.98	-22.5%	360.63	-14.4%	215.4	119.2%	621.98	7.4%
10	REFINITIV			140.59	1.2%			140.59	1.2%
11	LATAM			9.09	139.9%	78.01	-20.3%	87.11	-14.3%
12	CBOE			53.47	12.4%			53.47	12.4%
13	360T			13.99	49.7%			13.99	49.7%
14	SWAPEX			0.77	-29.7%			0.77	-29.7%
	GRAND TOTAL	**2734.62**	**-4.2%**	**3629.88**	**-2.5%**	**42766.04**	**-12.4%**	**49130.54**	**-11.3%**

Source: FIA SEF Tracker *Numbers are in USD billions

Top 15 FCMs in the U.S.

Ranked by total customer funds* at the end of the most recent month

RANK	FCM	Futures	Y/Y Change	Part 30	Y/Y Change	Swaps	Y/Y Change	Total	Y/Y Change
1	JP MORGAN SECURITIES LLC	41.83	-17.6%	8.13	3.7%	21.93	18.9%	71.89	-6.7%
2	GOLDMAN SACHS & CO LLC	36.67	3.8%	13.41	33.6%	18.70	20.6%	68.78	13.0%
3	MORGAN STANLEY & CO LLC	27.27	13.4%	9.63	20.3%	26.06	-0.3%	62.98	8.2%
4	CITIGROUP GLOBAL MARKETS INC	17.22	-10.5%	5.27	-11.3%	32.56	3.2%	55.05	-3.0%
5	BOFA SECURITIES INC	26.36	19.7%	5.49	17.9%	16.73	24.7%	48.59	21.2%
6	BARCLAYS CAPITAL INC	14.91	71.1%	4.29	48.0%	14.25	18.7%	33.44	41.6%
7	SG AMERICAS SECURITIES LLC	18.66	17.1%	7.83	3.2%	1.63	-8.2%	28.12	11.2%
8	WELLS FARGO SECURITIES LLC	5.90	9.5%	.63	46.2%	13.45	-4.9%	19.98	0.1%
9	MIZUHO SECURITIES USA LLC	12.40	12.8%	1.12	10.4%	-	-100.0%	13.48	12.6%
10	BNP PARIBAS SECURITIES CORP	7.48	39.2%	1.25	195.1%	2.56	44.8%	11.29	49.2%
11	ADM INVESTOR SERVICES INC	8.65	22.6%	.55	12.3%	-		9.20	21.9%
12	UBS SECURITIES LLC	5.83	-2.1%	1,97	30.8%	1.28	24.9%	9.08	7.0%
13	INTERACTIVE BROKERS LLC	7.84	-0.6%	.78	57.1%	-		8.62	2.8%
14	RBC CAPITAL MARKETS LLC	4.59	15.3%	.50	110.8%	1.80	62.8%	6.90	29.5%
15	HSBC SECURITIES USA INC	4.45	31.0%	.20	39.4%	1.95	21.4%	6.60	28.2%
	GRAND TOTAL	**284.50**	**6.2%**	**63.12**	**11.3%**	**152.91**	**4.7%**	**500.51**	**6.4%**

Note: Customer funds data include only the amounts that FCMs are required to hold in segregated accounts. Proprietary funds deposited in customer segregated accounts are not included.
Note: Futures represents customer funds held for futures and options traded in the U.S. Part 30 represents customer funds held for trading outside the U.S. Swaps represents customer funds held for cleared swaps. Ranked by total customer funds at the end of December 2022. *Numbers are in USD billions.

FEATURE

ETD TRADING VOLUME SMASHES RECORDS IN 2022

Options and the Asia-Pacific region prove to be engines of growth for global derivatives markets

BY WILL ACWORTH

In 2022, trading volume in global exchange-traded derivatives set a record for the fourth year in a row. More than 84.8 billion futures and options were traded in 2022, up 34% from the previous year.

India's extraordinarily large equity options market drove much of the increase, with volume on the National Stock Exchange of India more than doubling to a staggering 38.1 billion contracts in 2022.

North America also saw healthy growth, especially in the interest rate and equity index sectors. With the Federal Reserve boosting interest rates seven times to combat inflation, trading activity took off in Treasury futures and options, especially at the short end of the curve. Equity index futures also saw strong interest from institutional investors managing exposures to volatility in the stock market, while retail investors continued to flood into equity options and micro-sized futures.

European markets saw a 11.9% decline in volume and a 5.8% decline in open interest, driven largely by a collapse in trading volume on the Moscow Exchange and punishing levels of volatility in the energy markets. The interest rate sector, however, saw a big pickup in trading activity, with shifts in monetary policy driving both volume and open interest higher on Eurex and ICE Futures Europe, the two largest exchanges in the region.

At a high level, options volume saw significantly higher growth last year than futures volume. Specifically, global options volume was up 63.7% over the prior year while futures volume was effectively flat. When it comes to open interest, however, futures accounted for nearly all the growth.

For additional insights and visualizations, please visit **FIA.org/data**.

Global Futures and Options Volume by Region

Based on the number of contracts traded and/or cleared at 86 exchanges worldwide.

REGION	Volume	Y/Y Change	Open Interest	Y/Y Change
ASIA-PACIFIC	50,634,253,866	*65.7%*	104,975,311	*14.1%*
NORTH AMERICA	16,807,149,751	*9.3%*	607,576,745	*2.2%*
LATIN AMERICA	8,624,373,629	*-3.0%*	130,579,901	*-10.1%*
EUROPE	4,802,600,636	*-11.9%*	205,920,731	*-5.8%*
OTHER	2,979,319,590	*29.1%*	36,611,587	*45.2%*
GRAND TOTAL	**83,847,697,472**	*34.0%*	**1,085,664,275**	*0.9%*

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

Top 20 Equity Index Futures and Options

RANK	CONTRACT	Jan-Dec 2022 Vol	Y/Y Change	2022 December OI	Y/Y Change
1	BANK NIFTY INDEX OPTIONS, NATIONAL STOCK EXCHANGE OF INDIA	17,779,731,636	108.3%	2,806,510	93.3%
2	CNX NIFTY INDEX OPTIONS, NATIONAL STOCK EXCHANGE OF INDIA	13,672,844,647	148.7%	4,326,649	50.7%
3	MINI IBOVESPA INDEX (WIN) FUTURES, B3	4,095,005,435	-11.4%	991,512	43.7%
4	SPDR S&P 500 ETF OPTIONS *	1,839,648,935	60.4%	20,556,004	24.0%
5	NIFTY FINANCIAL SERVICES INDEX OPTIONS, NATIONAL STOCK EXCHANGE OF INDIA	1,118,457,216	15472.4%	418,484	177978.3%
6	POWERSHARES QQQ ETF OPTIONS *	671,075,221	92.2%	11,008,855	34.1%
7	S&P 500 INDEX (SPX) OPTIONS, CBOE OPTIONS EXCHANGE	558,418,890	62.0%	17,719,339	21.1%
8	S&P SENSEX INDEX (BSX) OPTIONS, BSE	526,191,077	-14.4%	1,241	164.0%
9	KOSPI 200 OPTIONS, KOREA EXCHANGE	523,026,110	-2.3%	2,202,362	7.6%
10	E-MINI S&P 500 FUTURES, CHICAGO MERCANTILE EXCHANGE	503,953,011	24.9%	2,014,429	-12.5%
11	MICRO E-MINI NASDAQ 100 INDEX FUTURES, CHICAGO MERCANTILE EXCHANGE	364,950,140	52.6%	66,540	16.0%
12	MICRO E-MINI S&P 500 INDEX FUTURES, CHICAGO MERCANTILE EXCHANGE	343,974,047	57.4%	116,334	21.2%
13	EURO STOXX 50 INDEX FUTURES, EUREX	285,374,104	27.5%	3,836,722	43.3%
14	NIKKEI 225 MINI FUTURES, OSAKA EXCHANGE	275,463,005	23.0%	423,184	27.7%
15	KOSPI 200 WEEKLY OPTIONS, KOREA EXCHANGE	248,700,237	32.3%	77,062	66.6%
16	EURO STOXX 50 INDEX OPTIONS, EUREX	246,750,813	8.7%	29,177,580	-0.1%
17	ISHARES RUSSELL 2000 ETF OPTIONS *	210,568,718	21.7%	7,533,046	12.4%
18	TAIEX (TXO) OPTIONS, TAIWAN FUTURES EXCHANGE	200,743,525	1.7%	363,908	-0.3%
19	INDIA 50 INDEX OPTIONS, INDIA INTERNATIONAL EXCHANGE	182,583,048	9.5%	370	-34.5%
20	E-MINI NASDAQ 100 FUTURES, CHICAGO MERCANTILE EXCHANGE	176,874,262	26.0%	241,661	15.6%

* Traded on multiple U.S. options exchanges
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.

NSE's impressive 120.9% growth rate over 2021 as an exchange was driven by the longer-term trend of a **large retail investing cohort** participating in ETD markets, including via its popular **Nifty equity index options** products.

Top 40 Derivatives Exchanges Worldwide

Ranked by the number of futures and options traded annually

RANK	EXCHANGE	Jan-Dec 2022 Volume	Y/Y Change	Dec 2022 Open Interest	Y/Y Change
1	NATIONAL STOCK EXCHANGE OF INDIA	38,113,511,047	120.9%	23,377,444	28.8%
2	B3	8,313,793,640	-5.0%	126,072,344	-10.0%
3	CME GROUP	5,846,331,689	18.3%	97,144,344	3.9%
4	CBOE GLOBAL MARKETS*	3,476,174,099	12.3%	303,662	-3.2%
5	INTERCONTINENTAL EXCHANGE*	3,435,073,009	3.5%	69,151,194	-2.2%
6	NASDAQ*	3,147,540,772	-4.4%	5,046,700	-12.5%
7	BORSA ISTANBUL	2,726,889,885	31.0%	19,828,000	15.6%
8	ZHENGZHOU COMMODITY EXCHANGE	2,397,600,933	-7.1%	13,470,162	66.7%
9	DALIAN COMMODITY EXCHANGE	2,275,200,779	-3.8%	12,239,768	8.9%
10	KOREA EXCHANGE	2,058,222,218	-9.8%	9,832,877	-11.3%
11	EUREX	1,955,730,332	14.8%	121,451,258	-2.6%
12	SHANGHAI FUTURES EXCHANGE	1,943,444,607	-20.5%	8,689,721	5.2%
13	BSE	1,609,192,944	0.1%	1,369,562	24.3%
14	MIAMI INTERNATIONAL HOLDINGS*	1,302,642,100	-2.9%	60,089	-32.3%
15	MOSCOW EXCHANGE	1,268,386,020	-39.6%	12,644,790	13.2%
16	TMX GROUP*	760,910,069	24.1%	13,290,700	18.1%
17	HONG KONG EXCHANGES & CLEARING	454,672,540	5.0%	12,327,658	2.1%
18	JAPAN EXCHANGE GROUP	392,159,116	17.5%	3,392,921	19.1%
19	TAIWAN FUTURES EXCHANGE	384,468,497	-2.0%	952,888	-11.3%
20	MATBA ROFEX	299,732,436	131.4%	2,733,281	-38.0%
21	SINGAPORE EXCHANGE	260,176,758	12.1%	4,533,959	1.6%
22	MULTI COMMODITY EXCHANGE OF INDIA	218,219,746	23.4%	418,940	27.7%
23	JSE SECURITIES EXCHANGE	204,862,753	16.7%	15,867,443	127.6%
24	ASX	201,684,582	1.2%	8,449,405	-2.9%
25	EURONEXT	178,657,275	-5.5%	18,785,754	-17.4%
26	CHINA FINANCIAL FUTURES EXCHANGE	151,861,780	24.4%	1,293,449	18.1%
27	THAILAND FUTURES EXCHANGE	136,447,698	1.0%	3,985,710	5.4%
28	TOKYO FINANCIAL EXCHANGE	105,444,518	55.6%	1,380,752	6.0%
29	TEL-AVIV STOCK EXCHANGE	39,047,865	0.5%	585,872	-25.9%
30	MEFF	33,076,950	-0.2%	6,550,708	-1.0%
31	METROPOLITAN STOCK EXCHANGE OF INDIA	21,437,601	42.8%	165,950	265.1%
32	EEX GROUP	19,271,228	35.9%	9,109,660	25.2%
33	MALAYSIA DERIVATIVES EXCHANGE	19,105,019	3.7%	234,490	-7.6%
34	FAIRX	17,761,070	2983.6%	16,778	16032.7%
35	WARSAW STOCK EXCHANGE	15,594,315	30.1%	330,138	-18.8%
36	BMV GROUP	9,938,240	26.3%	1,704,207	107.7%
37	BUDAPEST STOCK EXCHANGE	9,213,045	14.1%	310,401	-62.1%
38	ATHENS DERIVATIVES EXCHANGE	8,519,087	-28.2%	330,272	9.5%
39	NORTH AMERICAN DERIVATIVE EXCHANGE	8,408,500	-16.0%		
40	DUBAI GOLD & COMMODITIES EXCHANGE	8,239,546	16.4%	127,947	8.5%

*Open interest for these exchanges does not include equity options cleared by the OCC.

BY THE NUMBERS

$106.0 TRILLION USD

Estimated notional value of **CME's 3 month SOFR futures contracts** traded in calendar 2022, **up 1,117%** over 2021.

Notional value estimate defined as the sum for the year of daily volume times daily notional value (based on daily settlement) times daily local currency adjustment versus USD (based on daily last FX price published by Bloomberg). Source: Bloomberg, Liquidnet

Top 20 Interest Rate Futures and Options

RANK	CONTRACT	Jan-Dec 2022 Vol	Y/Y Change	2022 December OI	Y/Y Change
1	ONE-DAY INTERBANK DEPOSIT (DI1) FUTURES, B3	656,637,806	0.4%	27,623,125	-1.4%
2	10 YEAR TREASURY NOTE FUTURES, CHICAGO BOARD OF TRADE	462,598,970	-1.5%	3,834,230	-1.5%
3	3 MONTH SOFR FUTURES, CHICAGO MERCANTILE EXCHANGE	418,851,540	1127.7%	8,109,481	400.1%
4	EURODOLLAR FUTURES, CHICAGO MERCANTILE EXCHANGE	394,589,787	-35.4%	6,016,935	-46.5%
5	5 YEAR TREASURY NOTE FUTURES, CHICAGO BOARD OF TRADE	326,810,568	15.9%	4,220,610	12.2%
6	3 MONTH EURIBOR FUTURES, ICE FUTURES EUROPE	282,744,713	51.4%	3,835,822	-4.5%
7	EURO-BUND FUTURES, EUREX	216,253,462	6.7%	1,222,384	-1.7%
8	2 YEAR TREASURY NOTE FUTURES, CHICAGO BOARD OF TRADE	169,859,549	47.1%	2,232,089	13.9%
9	10 YEAR TREASURY NOTE OPTIONS, CHICAGO BOARD OF TRADE	164,562,163	3.1%	2,634,157	25.2%
10	EURO-BOBL FUTURES, EUREX	158,390,078	27.0%	1,544,325	13.2%
11	EURODOLLAR OPTIONS, CHICAGO MERCANTILE EXCHANGE	143,316,865	123.8%	10,055,360	-46.0%
12	EURO-SCHATZ FUTURES, EUREX	142,374,584	66.4%	1,697,853	35.3%
13	LEDES BOND FUTURES, MATBA ROFEX	123,600,000	677.3%	0	n/a
14	IBOXX HIGH YIELD CORPORATE BOND ETF OPTIONS *	119,923,498	92.3%	6,274,742	13.4%
15	3 MONTH SOFR OPTIONS, CHICAGO MERCANTILE EXCHANGE	110,381,998	1232392.2%	20,478,201	780616.8%
16	30 YEAR TREASURY BOND FUTURES, CHICAGO BOARD OF TRADE	97,395,496	-14.1%	1,195,400	-0.3%
17	ULTRA 10 YEAR TREASURY NOTE FUTURES, CHICAGO BOARD OF TRADE	95,651,184	2.0%	1,416,049	3.5%
18	AVERAGE ONE-DAY INTERBANK DEPOSIT RATE INDEX (IDI) OPTIONS, B3	90,766,883	-36.3%	19,203,303	-55.9%
19	FEDERAL FUNDS FUTURES, CHICAGO BOARD OF TRADE	83,830,540	205.1%	1,563,528	14.2%
20	3 MONTH SONIA, ICE FUTURES EUROPE	71,446,563	111.9%	1,282,065	-40.1%

* Traded on multiple U.S. options exchanges

Disclaimer: The data in this report were collected from exchanges, clearinghouses and swap execution facilities. The data are subject to revision 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.

Top 20 Commodity Futures and Options

RANK	CONTRACT	Jan-Dec 2022 Vol	Y/Y Change	2022 December OI	Y/Y Change
1	PTA (TA) FUTURES, ZHENGZHOU COMMODITY EXCHANGE	535,825,528	-3.1%	3,115,973	59.5%
2	STEEL REBAR FUTURES, SHANGHAI FUTURES EXCHANGE	525,178,157	-19.9%	2,759,241	8.1%
3	METHANOL (MA) FUTURES, ZHENGZHOU COMMODITY EXCHANGE	395,548,508	-4.8%	1,905,678	41.2%
4	SODA ASH (SA) FUTURES, ZHENGZHOU COMMODITY EXCHANGE	330,712,822	58.8%	1,066,602	109.5%
5	SOYBEAN MEAL FUTURES, DALIAN COMMODITY EXCHANGE	325,094,536	-9.8%	2,017,632	-8.9%
6	POLYVINYL CHLORIDE (PVC) FUTURES, DALIAN COMMODITY EXCHANGE	283,661,324	59.9%	1,351,418	109.3%
7	RBD PALM OLEIN FUTURES, DALIAN COMMODITY EXCHANGE	241,582,846	6.6%	687,780	13.1%
8	BRENT CRUDE OIL FUTURES, ICE FUTURES EUROPE	235,372,047	-3.4%	1,854,666	-12.2%
9	FLAT GLASS (FG) FUTURES, ZHENGZHOU COMMODITY EXCHANGE	224,504,068	8.2%	1,098,546	168.3%
10	IRON ORE FUTURES, DALIAN COMMODITY EXCHANGE	221,120,805	26.8%	1,313,299	22.3%
11	FUEL OIL FUTURES, SHANGHAI FUTURES EXCHANGE	210,455,099	-24.0%	439,547	-10.9%
12	WTI LIGHT SWEET CRUDE OIL (CL) FUTURES, NEW YORK MERCANTILE EXCHANGE	205,997,830	-17.0%	1,440,725	-22.8%
13	SILVER FUTURES, SHANGHAI FUTURES EXCHANGE	188,771,497	-18.4%	962,606	44.5%
14	SOYBEAN OIL FUTURES, DALIAN COMMODITY EXCHANGE	183,506,353	-20.0%	635,525	-20.8%
15	POLYPROPYLENE FUTURES, DALIAN COMMODITY EXCHANGE	171,146,563	-18.0%	791,912	28.9%
16	BITUMEN FUTURES, SHANGHAI FUTURES EXCHANGE	162,578,252	15.7%	732,824	8.0%
17	RAPESEED MEAL (RM) FUTURES, ZHENGZHOU COMMODITY EXCHANGE	144,878,671	-46.1%	725,021	21.5%
18	HOT ROLLED COIL FUTURES, SHANGHAI FUTURES EXCHANGE	142,061,100	-35.6%	1,064,481	4.8%
19	LINEAR LOW DENSITY POLYETHYLENE (LLDPE) FUTURES, DALIAN COMMODITY EXCHANGE	136,474,119	-1.7%	672,744	19.1%
20	CORN FUTURES, DALIAN COMMODITY EXCHANGE	134,357,515	-29.0%	1,517,438	3.6%

Disclaimer: The data in this report were collected from exchanges, clearinghouses and swap execution facilities. The data are subject to revision and may contain errors or omissions.

FIA ETD TRACKER

At the end of 2022, the FIA ETD Tracker was launched. The ETD Tracker consists of interactive visualizations that allow users to view monthly data on volume and open interest. The visualizations include filters based on data, region and jurisdiction as well as asset group and type of product, which allows users to focus on particular segments of the global exchange-traded derivatives markets.

MORE ONLINE
Explore the tool at
FIA.org/etd-tracker

2022 – A Year in Review

KEY WORK FROM FIA ON BEHALF OF OUR MEMBERS LAST YEAR SPANNED A WIDE VARIETY OF WORKSTREAMS AND GEOGRAPHIES

We seem to say this a lot lately, but the last year was full of extraordinary challenges. Chief concerns in global derivatives markets this time around included Russia's invasion of Ukraine that disrupted global commodity markets, a sudden and alarming increase in inflation, and the collapse of FTX that has prompted an urgent call for oversight of crypto markets.

As our industry rose to face these new challenges in 2022, the past year also reinforced long-standing truths about the strength of our markets. Namely: that when uncertainty is all around us, risk management and price discovery are more important than ever.

These functions are at the core of cleared derivatives markets, and are foundational concepts that drive FIA in our work. Our member firms each play an integral role in markets that are helping the world rise to present challenges, and to build a better future.

Derivatives contracts were quite literally created to help manage future risks. Price discovery in our markets helps allocate capital efficiently across the global economy. So, it should be no surprise that when the global economy faces serious pain, our markets are a key part of the response. This is as true today as it was back in 2007, or even 1987.

FIA's job is to make sure that policy makers understand the valuable role derivatives markets play – even if the price signals sent by these markets can be unpleasant.

As the past few years have shown us, there is no way of knowing what the future will hold. However, FIA stands firm in defense of our markets. We take great pride in supporting all types of market participants – exchanges, CCPs, intermediaries, technology providers, law firms and end-users – because it takes all of us, working together, to ensure our markets work as they should.

Thank you, to all FIA members, for your continued support of this mission.

Walt L. Lukken

Walt Lukken, FIA President and CEO

COMMODITIES

The price discovery and risk-management functions of cleared derivatives markets have been featured prominently as supply shocks have disrupted global commodity markets. This has been true around the globe, from the EU to the UK and from America to Asia.

We published a brief FAQ for regulators in the EU on the valuable role intermediaries play in providing price-discovery and risk-management and a whitepaper about stresses caused by the energy crisis in Europe. We also published an important letter on the disruption a gas price cap would cause to market liquidity and risk management, creating systemic and operational risks. We also held face-to-face forums in Frankfurt, Milan, Brussels and Paris to discuss regulatory and industry developments including the potential negative impacts of market closures, artificial price caps, and other measures.

Elsewhere, FIA resumed its popular Houston commodities forum in 2022 for the first time since 2019 to offer market participants in this energy hub an important venue for networking and education.

We also continued to engage with market participants across the Asia-Pacific region. As in other areas of the world, this key region dealt with volatility across energy, agriculture and metals markets. FIA has also worked with market participants in China on the continued rollout of internationalized commodity contracts in the region.

CLEARING AND TRADING

Outside of the big news-driven issues like the impacts of the war in Ukraine or the collapse of FTX, FIA continued to work on long-term and foundational issues that matter to our members. Our support for open, transparent and competitive derivatives markets is driven by a host of ongoing workstreams, consultations and regulatory initiatives across the trading and clearing lifecycle.

A major FIA initiative was the FIA Exchange Risk Controls Repository that debuted in March. In consultation with member firms, FIA developed a survey that helps provide greater transparency and facilitates risk-control benchmarking for global brokers, clearing firms, trading firms and commercial and institutional traders.

FIA also engaged in a host of work on capital and margin requirements: Banks that provide clearing services for their customers can be significantly affected by changes to capital and margin requirements, and FIA works tirelessly to help regulators understand the risk-reducing effects of clearing and the need for a diverse community of clearing firms. CCP recovery and resolution was also a key area of focus in 2022. FIA continues to consult with regulators on the proper approach to protect market integrity, including contemplating non-default losses. FIA is also working with members and external counsel to produce industry standard disclosures and template contractual clauses to comply with the EU CCP Recovery & Resolution regulations.

OPERATIONS AND TECHNOLOGY

Last year featured significant work from FIA in the areas of operations, execution, regulatory reporting and technology. In 2022, FIA formally launched the Derivatives Market Institute for Standards, Inc.—or DMIST—as an industry standards body focused on improving the efficiency, resilience, and competitiveness of the exchange-traded and cleared derivatives markets and to support ongoing innovation.

The independent body, of which FIA is the founder and sole statutory member, is the result of a multi-year effort to galvanize private sector support for the modernization of our post-trade market infrastructure. FIA helped support DMIST in the release of its first public consultation on a proposed standard on the timeliness of trade give-up and allocation.

Beyond this important standards effort, FIA has also continued its work with key stakeholders from Asia to Europe to the Americas to identify operational risks and potential improvements. This includes, responding to urgent events as they arise, such as our timely publication

MORE ONLINE

For **deeper detail on** FIA's work across 2022, including live links to consultations and resources on the web, **visit FIA.org/2022-year-review** of resources related to Queen Elizabeth II's state funeral or Russia sanctions, as well as longstanding efforts like our annual Disaster Recovery Exercise that was held once again in 2022 and has taken place nearly every year since 2004.

Operations, E-Trading, and Reporting committees and working groups sponsored by FIA have also provided an important venue to explore industry issues and define best practices. These include structural changes to Eurex's Order Transaction Reporting, vendor best practices for exchange risk management and change controls, and the development of a global trader and algo registrations database for global futures exchanges, among other efforts.

FIA has also continued to engage with industry stakeholders around the world on evolving operations processing. For instance, in APAC we have engaged with JPX since 2020 around the introduction of holiday derivatives trading. JPX holiday trading launched in September, and FIA continues to work with industry stakeholders on ongoing risk issues.

FIA also successfully engaged with Eurex to delay the business implementation and launch of the new Next Generation ETD products from summer 2022 to February 2023 due to concerns about industry readiness and to give firms additional time to develop, test and implement the necessary changes. FIA together with Eurex produced a Eurex Next Generation ETD client communication Q&A to aid member communication to end clients.

FIA continues to showcase its leadership in the regulatory reporting space in Europe. In October, FIA successfully advocated for the reporting of third-country non-equivalent futures and options to be reported using the ETD-logic under EMIR Article 9 reporting rules. This change by ESMA, after many years of advocacy, significantly reduces the operational burden for members and improves the accuracy of reported data to regulators.

FIA's job is to make sure that policy makers understand the valuable role derivatives markets play – even if the price signals sent by these markets can be unpleasant.

CROSS-BORDER

FIA continued its significant advocacy efforts in response to the European Commission's clearing review proposals and highlighted the financial, commercial, operational and risk impacts of market fragmentation and measures that could harm the competitiveness of EU clearing members. FIA has worked tirelessly during 2022 to try and inform policy decisions that support a market-driven approach to clearing services in the region. This included formal filings of comments to regulatory consultations, many meetings with EU regulators and policy makers as well as a series of in-person European forums in Frankfurt, Brussels, Paris and Milan.

FIA also continued to focus on UK regulatory developments now that the UK has left the EU and met regularly with UK regulators and policy makers as well as responding to the HM Treasury Future Regulatory Framework review, and Bank of England consultation on the tiering of third country CCPs under UK EMIR 2.2.

In Asia, the landmark Futures and Derivatives Law in China came into force in August. In addition to helping to shape the final legislation through cooperation with local authorities, FIA has offered educational and onboarding resources to help market participants better understand the impact. Also, our APAC staff participated in a UK-China Capital Markets Working Group Meeting in February to help further discussions on issues such as increased market connectivity, netting in the ETD space and the adoption of international standards.

FIA President and CEO Walt Lukken continues to serve on the China Securities Regulatory Commission (CSRC) International Advisory Council, which met in December to discuss the further development of China's capital and derivatives markets. Lukken highlighted the importance of the new Futures and Derivatives Law and the legal and regulatory certainty it will bring for global market participants.

FIA also published its first China close-out netting opinion at the end of 2022, which was made possible by the new Futures and Derivatives Law. This will improve the capital treatment of global clearing firms providing access to Chinese clients to off-shore CCPs and incentivize greater participation of Chinese firms in the global markets.

SUSTAINABILITY

FIA has continued to work with regulators on the urgent issues of sustainable finance and the private-sector response to climate change. This included substantive advocacy work in the EU around proposed changes to the EU Emissions Trading System, as well as a formal response to US regulators about climate-related financial risks. FIA also continued its work as part of the Taskforce on Scaling Voluntary Carbon Markets, a private sector-led initiative working to scale an effective, efficient and functioning voluntary carbon market.

DIGITAL ASSETS

Early in 2022, FIA worked diligently to engage with US regulators after the FTX acquisition of LedgerX and subsequent proposal to the CFTC for a non-intermediated model for our markets. We were consistent in our message – that FIA supports innovation as long as it is responsible and fair, and does not create undue risk for customers, price discovery or market integrity. In the wake of the FTX collapse in November, FIA continued its efforts to reinforce these core values. FIA also continued to engage with regulators and our member firms. We have been active in the EU as the region finalized its landmark Markets in Crypto Assets regulation (MiCA), and we continue to work closely with stakeholders in other jurisdictions including the UK, Singapore, and elsewhere.

DIVERSITY

As the leading trade organization for the derivatives industry, FIA plays an important role in building the pipeline for the future leaders of our industry. Most notably, FIA put its words into action over the last year by naming Goldman Sachs' Alicia Crighton our first female chair in history. FIA also signed on to the Black Talent Charter in the UK and joined the organization in its effort to increase the number of signatories from around 20 to 100 or more over the next three years. Additionally, we began hosting "rising star" networking events as part of our in-person events to provide opportunities for the next generation of talented individuals to make important connections and raise their profile in our industry. FIA also continued its partnership with The Greenwood Project, a non-profit organization that is focused on introducing Black and Latinx students to careers within the financial industry via academic instruction, mentorships and paid summer internships in financial firms.

PRODUCTS AND SERVICES

In support of our mission to promote better understanding of and greater transparency into the global derivatives markets, FIA publishes several types of statistics for our members. In 2022, FIA enhanced our data resources by launching the ETD Tracker. Also in 2022, FIA launched our Exchange Risk Controls Repository. This central repository of exchange-provided risk controls and practices is maintained for the exclusive use of FIA members. Additionally, FIA continues to maintain and offer a range of industry standard legal opinions, guidance documents, template agreements and disclosures including the updated FIA Terms of Business and FIA Indirect Clearing Terms. Also, the FIA CCP Risk Review, offers an online platform that summarizes rules and procedures at CCPs worldwide.

FEATURE

Future-Proofing ETD Markets

BY JEFF REEVES

DMIST looks to find industry consensus on operations issues to support efficiency and innovation

Cleared derivatives markets have gone through a lot in the last three years – from the operational disruptions caused by a global pandemic, to energy supply shocks caused by the war in Ukraine. And through it all, market infrastructure held up well and proved its resilience.

However, insiders admit there have been signs of stress over the past few years that show a need for proactive measures to ensure that markets can rise to the occasion the next time a crisis hits. And those measures begin with the infrastructure underpinning the industry.

"There is no doubt that our markets are resilient and held up well under enormous challenges over the past few years. However, a closer look does point to long-standing bottlenecks in the trading and clearing infrastructure. And as trading volumes continue to rise with each year, it's incumbent upon all of us to ensure we create the best foundation to support this growth," said FIA President and CEO Walt Lukken.

"AN HONEST LOOK AT HOW TO IMPROVE"

According to industry data, record volumes in March 2020 led to 15 times more contracts not allocated on trade date because of bottlenecks in the settlement and clearing process. Similar frictions also emerged in 2022, in the wake of the Russian invasion of Ukraine and related market volatility.

Non-allocated trades and backlogs are bad for everyone in the marketplace. They require firms to allocate extra resources to manual reconciliation precisely when organizations need people elsewhere in a time of stress. They create risk for the brokers who carry the trades as well as additional costs via margin posted on those unsettled trades. And the challenges only snowball as firms looking to dig out from yesterday's trades see their stresses multiply when volatility continues.

"March 2020 was an inflection point. It made us look long and hard at how futures clearing works, and with renewed energy look to remove friction and increase straight-through processing. Getting more trades in the right account at the right time for our clients has so many benefits for all parties involved," said Gary Saunders, global head of prime derivatives services at Barclays, said in a November press release published by FIA.

The settlement risks and operational friction that market participants endure are real. However, the challenge isn't identifying these sources of friction, but rather plotting the way forward – with consensus, clear buy-in and a will to maintain standards for the good of the disparate stakeholders involved.

"Proposing standardized timeframes for the different steps involved in the allocation process is, in our view, a reasonable first measure. We believe that such timeframes are an important first step to identify areas for process improvement and will consequently foster further development of

Scott Andersen, Head of Listed Derivatives and OTC Clearing at Société Générale, speaks at a DMIST roundtable discussion at FIA's Expo Conference in Chicago on 14 November. As part of its mission to win broad support for DMIST, FIA has held several roundtables over the last year from Chicago to London.

standardized IT-based solutions that will mitigate operational risks and increase efficiency across the industry," said Jens Janka, a member of the executive board at Eurex Clearing.

DMIST AND THE 30/30/30 STANDARD

In 2022, FIA formally launched the Derivatives Market Institute for Standards, Inc.—or DMIST—to provide a structure for this important work. An industry-governed standards body, DMIST was built to provide a consensus and collaboration framework for defining, adopting, housing and overseeing common behaviors, workflows, and processes in the trade and clearing lifecycle for the benefit of all sectors of and participants in the exchange traded and cleared derivatives industry.

In November DMIST proposed its first formal standard aimed at improving the processing of certain types of transactions in the exchange-traded derivatives markets. The proposed standard applies to the processing of give-ups and allocations. It aims to establish timeframes for completing actions on these transactions, so as to reduce end-of-day bottlenecks and the number of transactions that need manual processing.

The development of this standard is the first step towards achieving a long-term objective of moving the industry closer to real-time processing. Standards published by DMIST will aim to improve the efficiency and resilience of the clearing ecosystem and will be technology- and vendor-agnostic.

DMIST has identified three activities impacting the timeliness of give-ups:

- Clients not providing allocation instructions to their executing brokers in a timely manner
- Executing brokers not alleging the allocated trades to clearing brokers in a timely manner
- Clearing brokers not accepting allocations in a timely manner with corresponding timely booking into client end accounts

DMIST is proposing that each client, executing broker, and clearing broker should submit and process their give-up and allocation messages within 30 minutes of the relevant event that triggers their action.

DMIST believes that this 30/30/30 standard will reduce end-of-day bottlenecks, reduce manual processing, and improve the overall customer experience.

"Operating orderly, efficient and transparent markets has always been a core part of our business and we were pleased to work with our peers in the industry to bring these critical changes forward. The protocol proposed is an important step in further standardizing the post-trade process and will allow new operational efficiencies benefiting all market participants," said Chris Edmonds, chief development officer at Intercontinental Exchange:

The proposed standard is an important milestone, however, industry insiders are quick to point out it is only the beginning of the work that lies ahead. While 30 minutes is definitely an improvement over settlement delays that could last a few days, the ultimate goal is to move to real-time settlement to more fully address the risks, costs and inefficiencies in the trading lifecycle.

"Time is risk, and risk has real costs for everyone in the system. Moving to near real-time settlement is the ultimate goal, but it's important to walk before we run. The 30/30/30 standard is an important first step in what we hope is a multiyear journey for DMIST and the industry to develop consensus-driven standards that will guide the modernization of our market infrastructure and settlement processes that will support many more years of success for our markets," said Don Byron, FIA's head of global industry operations and execution. MV

MORE ONLINE

For more information on participating in DMIST or to learn more about the standard, please visit our website at **FIA.org/DMIST.org**

> And as **trading volumes continue to rise** with each year, it's incumbent upon all of us to **ensure we create the best foundation to support this growth.**
>
> WALT LUKKEN, FIA PRESIDENT AND CEO

FEATURE

A Lasting Legacy

MORE ONLINE
For more on the **2023 inductees** or to view the full list of FIA Hall of Fame members, **visit FIA.org/hall-of-fame**

The newest members of the FIA Hall of Fame helped shape and improve global derivatives markets

The FIA Hall of Fame celebrates individuals in the listed and cleared derivatives industry who have made key contributions to our markets during their careers. FIA established the Hall of Fame in 2005 to commemorate the association's 50th anniversary and to celebrate the men and women who have contributed their time, talent, and passion to building our industry and impacting its members. Inductees come from both the private and public sectors, and are chosen by a distinguished panel comprised of existing FIA Hall of Fame members and global industry executives.

This year, FIA has announced the induction of 12 new members to the FIA Hall of Fame. These distinguished individuals join 175 other honorees in the Hall of Fame, and were selected based on their lifetime contributions to our industry with a focus on demonstrated leadership, innovative and impactful achievement, break-through accomplishment, and industry collaboration, volunteerism and dedication.

Inductees reflect the diverse and inclusive nature of our industry and come from many different parts of the world, with unique backgrounds and experiences. One thing that unites them all, however, is a passionate determination to build strong, healthy, safe, and competitive markets.

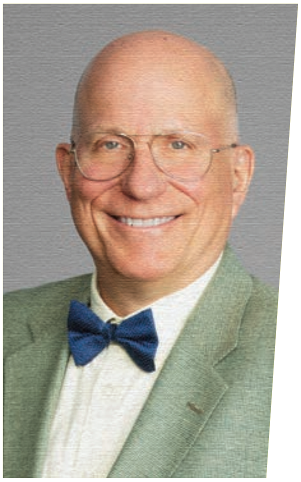
"We established the FIA Hall of Fame to recognize the people who have made exceptional contributions to the growth and development of the futures, options and listed derivatives industry," said President and CEO of FIA Walt Lukken. "This year's inductees represent business leaders, advocates, policymakers, and visionaries who have provided the leadership and support necessary to keep our industry growing. We are grateful for their service and honored to present them with this recognition."

THOMAS CASHMAN

Thomas J. Cashman was a veteran independent floor broker and trader on the Chicago Board of Trade and part of a prominent family that has featured several members working in the city's commodity trading markets. For more than five decades, he filled orders in the Soybean Futures pit of the CBOT and has been a full member of the Chicago Board of Trade for over 60 years. Cashman served on numerous exchange governance committees including the Floor Governors Committee, the CBOT Nominating committee and the CBOT Ethics and Integrity Committee, each as Chairman. He also served on its Board of Directors in the early 1980s, during a period of significant change and growth for the Exchange. Cashman, the son of a Chicago fireman, has also been a longtime advocate for first responders through his charitable work. He served on the Board and as the President of the 100 Club of Illinois, a charity providing for the families of fallen police officers, firefighters and other first responders. In 2019, he received the group's lifetime achievement award.

JOHN DAVIDSON

John P. Davidson has served as chief executive officer at OCC, the world's largest equity derivatives clearing organization, since 2019. He joined OCC in 2017 as president and chief operating officer, where he was responsible for OCC's technology and operations functions. Prior to joining OCC, he served as chief compliance officer at Citigroup, where he led the 2,400 person, 87 country compliance organization. Previously, Davidson served as Citi's Risk Division's chief administrative officer, helping rebuild the risk function during the financial crisis, and subsequently as head of enterprise risk management, where he was responsible for managing Citi's operational risk across businesses and geographies. Prior to Citi, Davidson spent two years as chief business development officer at CME Group, and 12 years at Morgan Stanley as managing director for its Institutional Operations Division. Early in his career, Mr. Davidson worked for 10 years as head of the CME Clearing House, successfully guiding it through the 1987 stock market crash and leading initiatives to enhance its financial safeguards. Among other accomplishments, Davidson was instrumental in developing and implementing the Standardized Portfolio Analysis of Risk (CME SPAN) margining system as well as the Globex Control Center. He began his career in the futures industry in September 1980 with Merrill Lynch Commodities at the Chicago Board of Trade processing account changes and transcribing executed floor orders. Davidson earned an MBA in financial management and international business from the University of Chicago and graduated with highest distinction from the University of Illinois-Urbana with a bachelor's degree in political science.



GARY DEWAAL

Gary DeWaal is senior counsel at Katten Muchin Rosenman, where he is the former chair of the financial markets and regulatory team. He has been a trailblazer for the firm's cryptoassets and blockchain technology practice in addition to his long-standing work in traditional derivatives law. DeWaal's career began at Mudge Rose Guthrie & Alexander, and in 1982 he joined the US Commodity Futures Trading Commission's Division of Enforcement where he departed in 1986 as a senior trial attorney. DeWaal then joined Mocatta Futures as a compliance officer and was quickly promoted to general counsel and eventually served as head of operations and president. The majority of his career was spent as group general counsel of Fimat, later known as Newedge, where DeWaal oversaw the group's legal, compliance, and anti-money laundering functions and was a member of the group's global executive committee. While at Fimat, DeWaal also served multiple terms on FIA's Law and Compliance Division's Executive Committee. DeWaal left Newedge in 2013 and established his own consulting firm. There, he began publishing his popular weekly blog, Bridging the Week, which covered regulatory and legal developments in financial services industry, before ultimately joining Katten in 2014.

DANIEL DRISCOLL

Daniel A. Driscoll is special policy advisor for the National Futures Association, the self-regulatory body for the US derivatives industry. Driscoll provides advice and guidance on regulatory and enforcement matters to NFA's senior management and board of directors. He is also a member of NFA's enterprise risk management committee and a trustee of NFA's employee retirement savings plan.

Driscoll joined NFA as vice president of compliance in September 1982 when NFA began its operations. In February 2000, he was named NFA's executive vice president and chief compliance officer. Driscoll became chief operating officer in January 2003 and assumed his current role as special policy advisor in January 2020. Prior to joining NFA, Driscoll worked for the US Commodity Futures Trading Commission and its predecessor, the Commodity Exchange Authority, in multiple positions including chief accountant and deputy director in the commission's Division of Trading and Markets. He has also served as a member of The Institute for Financial Markets Board of Trustees since IFM's inception in 1989. Driscoll graduated from Aquinas College in 1971 with a bachelor's degree in accounting and a second major in economics, and is a Certified Fraud Examiner.

SCOTT EARLY

Scott Early began his futures industry career as outside litigation counsel for the Chicago Board of Trade before the U.S. Supreme Court in Tamari v. Bache. He subsequently became lead counsel for the CBOT in the various suits arising from the Hunt brothers silver market manipulation. In 1983, Early left his law firm of Moylan & Early to become General Counsel of the CBOT. As such, he was responsible for all legal, regulatory and legislative matters for the CBOT. In September, 1984 through Srptember,1985, he became Executive Officer and General Counsel of the Board of Trade Clearing Corporation. He was also an officer of AMPAC, the CBOT's political action committee. He consulted with members of Congress and their staff regarding pending financial market legislation, wrote Congressional testimony and personally testified before several Congressional Committees regarding pending financial legislation. In 1994, Early returned to the private practice of law as partner in Foley & Lardner where he continued financial market consulting and litigation. He successfully challenged CFTC jurisdiction regarding swap transactions in the Zellner case and recovered 100% of customer funds for his client in the Refco bankruptcy. He became General Counsel for the Kansas City Board of trade and consulted with exchanges from Winnipeg to Argentina. He was elected to America's Best Lawyers (Derivatives) and Chicago Super Lawyers (Commercial Litigation).

GEDON HERTSHTEN

Gedon Hertshten began his career in 1978 as an independent floor trader at the Chicago Board of Trade, and over four decades played a crucial role in the growth and development of the industry both as a trader and as a member of various industry boards and committees. In 1993, Hertshten founded G.H. Financials, a global FCM that services an array of industry participants through its offices in London, Chicago, Hong Kong and India. In 2005, he founded the Hertshten Group, a diversified business group that grew to employ over 800 professionals in nine countries. Hertshten has also been instrumental in expanding the global reach of the listed derivatives industry by recruiting, educating, and training top university graduates in various countries to increase the global talent pool and understanding of listed derivatives markets. In addition to his own businesses, Hertshten remains actively involved in promoting and advocating for the listed derivatives industry on a global scale. He currently serves as a board member of the Tel Aviv Stock Exchange and has previously served on the boards of LIFFE and CME Group.

NICK CAREW HUNT

Nick Carew Hunt was an integral part of London's futures community and the growth of the derivatives industry in both the U.K. and Europe. The long-time Market Secretary of the London International Financial Futures and Options Exchange (LIFFE), Nick led the trading venue through numerous phases of growth and innovation including the Royal Exchange floor creation and the move to electronic futures trading. He was also an integral part of the organization's incorporation into Euronext and later the Intercontinental Exchange, where LIFFE was eventually rebranded as ICE Futures Europe. He also served as a board member of the Futures and Options Association, one of the bodies that merged to create the current global organization that is FIA. Nick passed away unexpectedly in January 2023.

JOHN O'BRIEN SR.

John W. O'Brien Sr. set futures brokerage and clearing firm R.J. O'Brien & Associates on a transformative journey to grow and distinguish itself globally, assuming the role of CEO in 1986 and as chairman from 2000–2007. When he took over the company, RJO had $10 million in customer assets. When he passed in 2022, that figure was $8 billion. O'Brien was a principal shareholder and decades-long board member of the firm his grandfather founded in 1914. As a longtime floor broker and highly successful trader, he had a reverence for the firm's clients, RJO employees and the futures industry. Operating with integrity and a keen attention to risk management were guiding principles he instilled. O'Brien had an unwavering focus on building meaningful personal relationships with clients and prospects, travelling far and wide to meet with farmers and ranchers to understand their challenges, and following up meticulously. A visionary, O'Brien positioned the company as a leader that stepped outside the box to grow beyond its agricultural futures roots, and his support ensured RJO was among the first to seriously invest in technology in the early 1990s.

JAMES OLIFF

During his career, James Oliff has been a trader, exchange leader and technology executive. He was a long-time member of the board of CME Group and a leader of its predecessor boards – from 1984 to 2017 – overseeing multiple key transactions and company milestones. As Chairman of the exchange's Strategic Planning Committee, Oliff played a leading role in CME's journey from a member-owned organization to a demutualized exchange, and the nation's first publicly traded marketplace. Oliff helped to guide the exchange's brokers and traders through the critical transition from open outcry to electronic trading as chairman of the Electronic Transition Committee, spearheading the creation and build-out of the Globex Learning Center. He also chaired the CME Clearing House Risk Committee, introducing the clearing of interest rate and credit default swaps, and chaired CME's Professional Responsibilities Committee, leading a program that became a model for exchanges nationwide. In 2018, Oliff was appointed to the board of Intercontinental Exchange's Precious Metals Oversight Committee. He was also a member of Rice Dairy's advisory board from 2017 to 2020. In 2002, he became deputy chairman of derivatives software company FFastFill and from 2017 until 2019 was a founder and non-executive director of risk management technology company KRM22..

ELIZABETH SAM

Elizabeth Sam was a trailblazer in Singapore's rise as a global financial center. In an illustrious career spanning four decades, Sam made a mark with her unique flair and poise in what was a male-dominated international financial industry. She began her journey in the public sector when she joined the Ministry of Finance in 1962 and the Monetary Authority of Singapore upon its establishment in 1971. During this time, she was responsible for the development of the city-state's financial markets, advancing the Asian dollar market as well as the foreign exchange market.

Sam is perhaps best known for her contribution to the growth of the futures market in Singapore. As two-term chair of the Singapore International Monetary Exchange (SIMEX), she was part of the team that successfully pioneered

the Mutual Offset System in 1984, which made the Eurodollar fungible with the contract traded on the then-Chicago Mercantile Exchange. The MOS today, through SGX Group and CME Group, continues to offer investors globally round-the-clock access to trade and clearing on leading derivatives marketplaces in Asia and the US.

During her career in the private sector, Sam was a director of UK-listed Mercantile House Holdings and became the first woman to be appointed to the main board of a major Singapore bank. In 1996, she was awarded the BBM (Public Service Star, Singapore) for her contributions to financial center developments.

CAROLINE SILVER

Caroline Silver has carved a niche as the go-to person for any huge, transformative deals involving stock exchanges. Over her time in banking, she has advised on Intercontinental Exchange's $8.2bn acquisition of NYSE Euronext in 2013 and Hong Kong Exchanges and Clearing's $2.1bn takeover of the London Metal Exchange a year earlier. In August 2020, Silver joined ICE's board of directors and serves as chair of the board of ICE Clear Europe.

With more than 30 years of experience in international investment banking, Silver most recently served as managing director and partner at Moelis & Company from 2009 until January 2020, leading the global financial institutions advisory group. She currently serves as an advisory partner at the firm.

Before joining Moelis, Silver was vice chair of EMEA Investment Banking at Merrill Lynch from 2008 to 2009. Prior to that, she spent 14 years at Morgan Stanley, lastly as global vice chair of Investment Banking in addition to several senior positions including European head of financial institutions and head of restructuring. She started her banking career in London in 1987, working for British merchant bank Morgan Grenfell.

Since 2017, Silver has served as chair of the board of directors of healthcare company PZ Cussons, as well as on the board of directors of BUPA and Tesco. She additionally served as a trustee of The Victoria and Albert Museum after being appointed by the UK prime minister in 2014 and currently serves on the V&A Foundation.

ROSALYN WILTON

Rosalyn Wilton was the first woman to be elected to the Board of any major exchange across Europe and the UK when she was appointed a non-executive director of the London International Financial Futures Exchange (LIFFE) in 1985. She also served as chair of the Eurodollar Options Committee, resulting in the first futures options contract to be brought to the London market. During this time, she was managing director and head of Institutional Financial Futures for Drexel Burnham Lambert in the UK and Europe, working with Richard Sandor, one of the founders of financial futures.

In 1990, Wilton joined Reuters and in 1992, was appointed managing director, Transaction Products with worldwide responsibility for the company's electronic trading businesses. These included Reuters Dealing products and the GLOBEX system, with Wilton leading the much-publicised negotiations with Chicago and Paris futures exchanges who began listing their products on Globex.

In 1996, Wilton was shortlisted for "Business Woman of the Year," after being put forward by Reuters in recognition of the significant impact she had made to the company's revenue and profit contribution and her influence on the advent of electronic trading in the financial markets. In 1998, she was the first woman to be appointed to Reuters' executive committee, making her the most senior woman in the Reuters Group and one of the top 15 executives in the company globally.

In 1999, Wilton left Reuters and continued her career building a financial information and technology company as chief executive and subsequently chair of Ipreo, now part of IHS Markit.

Wilton began her career in 1973 as a money broker, after being awarded a Bachelor of Science degree with honours from the University of London where she read Mathematics and where she is currently deputy chair of the Board of Trustees. MV

STARTUPS PUSH THE INDUSTRY FORWARD

2022 WAS A BUSY YEAR AT THE INTERSECTION OF FINANCIAL TECHNOLOGY AND THE DERIVATIVES INDUSTRY.

BY WILL ACWORTH

By all accounts, 2022 was a year for dealmakers in derivatives markets.

- In May, the London Stock Exchange Group bought MayStreet, a specialist in the business of providing low latency market data, and merged it into Refinitiv, the financial data business that LSEG bought from Thomson Reuters in 2019.
- In June, Trading Technologies, a leading provider of systems for futures trading, announced a partnership with Talos, a technology vendor that provides institutional-grade infrastructure for trading cryptocurrencies.
- In August, Baton Systems, a payments technology startup, extended its collateral management network to the Options Clearing Corporation, the largest equity derivatives clearinghouse in the world.
- That same month, Two Sigma, a quantitative trading firm based in New York, struck a deal with Hivemind, a London-based startup, to buy its software platform as a way to enhance its internal data workflows and machine learning capabilities.
- In November, Intercontinental Exchange, which operates the largest emission allowances market in the world, joined a group of firms that are backing BeZero Carbon, a two year-old startup with a ratings service for the voluntary carbon market.
- In December, Raft Technologies, an Israeli company that uses high-frequency radio waves to reduce the time it takes to transmit data, revealed plans for a new ultra-fast link between London and Tokyo.

Startups are helping drive innovation in the trading and clearing of futures, options and swaps.

What these six developments had in common was the involvement of a fintech startup – a young company founded by entrepreneurs with a focus on financial technology. All six developments highlighted an important trend – startups are helping drive innovation in the trading and clearing of futures, options and swaps.

FIA has a unique perspective on this trend through its Innovators Pavilion, the association's annual Chicago showcase for startups. More than 200 startups have participated in the eight years since the Pavilion's launch at the FIA Expo in 2015. Each of these companies has offered a unique solution for use in the trading and clearing workflow. Collectively they provide a window into the technology trends that are transforming the industry.

There are many other sources of technological innovation, of course. The established vendor community is constantly searching for new ways to apply the latest advances in technology to the trading and clearing workflow. And many large banks and exchanges have set up internal groups to explore uses for artificial intelligence, distributed ledgers, low-code computing, big data, and other innovative forms of technology.

Startups, however, tend to be more agile and more willing to experiment with new technologies and new ways of doing business. Many of them fail, but when they succeed, they challenge established players to adjust, adapt and innovate.

Looking back at FIA's showcase for fintech innovation, seven areas stand out as places where startups are impacting various parts of the derivatives markets ecosystem: data, climate, trading, risk and collateral, operational efficiency, crypto markets and regulatory technology. In each case, the article focuses on specific startups that participated in FIA's Innovator Pavilion as examples of the innovations that are coming into the industry.

DATA

MayStreet was founded in 2012 by two computer science engineers, Patrick Flannery and Michael Lehr. They built software that captured the vast streams of market data flowing out of exchanges down to the level of each packet—the most complete and most accurate way to record every activity taking place on an exchange. This type of data is critically important for many parts of the trading workflow, including the development and back-testing of trading strategies, the surveillance of trading activity, and regulatory reporting.

In 2016, the company participated in the Innovators Pavilion, giving FIA members a first-hand look at its market data capabilities. In 2020, the company received a $21 million investment from the venture capital arm of Credit Suisse's asset management business, and said it would use the funding to expand its business in terms of both geography and asset classes.

Two years later the London Stock Exchange Group decided to buy the company outright. For LSEG, the attraction was not only the chance to take over MayStreet's existing business. More importantly, it could use MayStreet's technological capabilities to modernize the much larger financial data business operated by Refinitiv.

Another example in the data area was Two Sigma's purchase of data analytics software developed by Hivemind. The software was originally developed by a team of data scientists working at Winton Capital, a quantitative hedge fund based in London. In 2018, they set

FIA INNOVATORS
2015-2022

The FIA Innovators are fintech startups that are offering forward-thinking solutions for the global capital markets. A sample of the companies that have passed through the program.

up a separate company to market the software. A year later Hivemind participated in the Innovators Pavilion and won the top Innovator of the Year award at the competition.

The company's key innovation was its approach to collecting and normalizing unstructured data such as text documents, email messages and video files and then applying artificial intelligence to clean up the data so that it can be processed and analyzed. Two Sigma, which prides itself on pushing the frontiers of data science, bought the company's platform to strengthen its own internal data handling capabilities, and in particular the onboarding of unstructured data into the machine learning systems that inform its trading strategies. Two Sigma has more than $60 billion in assets under management and trades more than 300 million shares daily, and its securities arm is one of the top market making firms in the world, providing liquidity to equity, futures, options and ETF markets.

CLIMATE

In the last several years, there has been a surge of interest in the trading of carbon credits. These markets provide a way for companies to offset their carbon emissions by buying credits that represent removals or reductions in greenhouse gases. Several derivatives exchanges such as CME Group, ICE and Nodal Exchange list futures based on these credits, and trading volume has been picking up.

A key challenge, however, is the lack of standardization of these credits and doubts about whether they are genuine. That is where BeZero Carbon steps in. The London-based company has developed a system for rating the quality of carbon offset projects in terms of the likelihood that the credit issued by those projects actually removes or avoids a ton of carbon emissions. Those ratings serve a vital role by helping market participants make better judgements on how these credits should be priced.

BeZero participated in the 2022 Innovators Pavilion and won the competition for Innovator of the Year. That same month the company announced a $50 million round of funding from venture capital funds as well as the venture capital arms of ICE, EDF, the French power company, and Hitachi, the Japanese conglomerate. The diverse nature of the funding round—industrial, financial and venture capital investors—highlights the widespread interest in this new market and its potential value as governments and corporations attempt to reduce their carbon emissions.

TRADING TECHNOLOGY

A few years ago, people said trading could not get any faster. Well, not quite. Fiber optic cable was once seen as the fastest possible way to transmit data, and thousands of miles of cable was installed to provide high-speed connections between financial centers. Then a handful of firms discovered that microwave could give them an edge, and they built networks of microwave towers across the US and Europe to send their trading signals.

Now Raft Technologies, an Israeli company founded in 2013, is developing another way to speed up trading. The company's key innovation is to use "skywaves" to send data. These are high frequency radio waves that are transmitted in such a way that they bounce off the atmosphere. This approach is faster than sending messages through fiber optic cable, and unlike microwave, it does not require a long string of towers on land, so it is especially well suited for sending data long distances across oceans.

Raft started by building links between London, Chicago and Frankfurt, three financial centers that host major derivatives exchanges. Companies using this network can receive data and send order messages from one center to another in milliseconds. In 2019, the company participated in the Innovators Pavilion and pitched the advantages of its approach to principal trading firms based in Chicago, many of which need ultra-low latency connections for their

TRADING

adroit trading technologies
Capitalise.ai
FARMERS RISK
GX2
OPTIONS AI
QUANTCONNECT
QUANTIACS
SAMURAI
SEVEN Solutions
Tallarium
TOPSTEP TRADER
Tradelegs
VOLA DYNAMICS Analytics for Options Trading
wematch.live

REG TECH

arteria AI
ASCENT REG TECH
FNA
KAIZEN REPORTING
LOGICGATE
PANALYTICS
Tookitaki
W

Onboarding Innovation: Acquisitions of Fintech Startups

The following startups participated in FIA's Innovator Pavilion, an annual event that showcases companies at an early stage of development that are relevant to the trading and clearing of derivatives. In each case, the startup was acquired by another company that saw the value of adding its products or services to its own offerings.

STARTUP	CATEGORY	ACQUIROR	YEAR OF TRANSACTION
AMENITY ANALYTICS	AI	SYMPHONY COMMUNICATIONS	2022
CLOUD9 TECHNOLOGIES	AI	SYMPHONY COMMUNICATIONS	2022
PREDATA	AI	FISCALNOTE	2021
PRATTLE	AI	LIQUIDNET	2019
DRAWBRIDGE LENDING	Crypto	GALAXY DIGITAL	2020
RADAR RELAY	Crypto	BLOCKCAP	2021
CHARTIQ	Data	S&P GLOBAL	2023
MAYSTREET	Data	LONDON STOCK EXCHANGE GROUP	2022
HIVEMIND	Data	TWO SIGMA	2022
BLUE WATER FINANCIAL TECHNOLOGIES	Data	VOXTUR ANALYTICS	2022
TELLUSLABS	Data	INDIGO AG	2018
THE SMALL EXCHANGE	Exchange	CRYPTO.COM	2021
QUANTILE	Margin	LONDON STOCK EXCHANGE GROUP	2021
LMRKTS	Margin	CAPITOLIS	2021
CAPPITECH	RegTech	IHS MARKIT	2021
VIGILANT	RegTech	COMPLYSCI	2021
GREENKEY	RegTech	VOXSMART	2021
METAMAKO	Trading	ARISTA	2018

VENUES & CONTRACTS

24X
AFX
Clouty
Exponential Exchange
FREIGHTWAVES
GMEX GROUP
HALO
MSR INDICES RISK-FIRST INVESTING
PanXchange THE FUTURE OF COMMODITIES
STABLE
STX
tZERO

CLIMATE TECH

BeZero
EMMI
Sylvera

market-making businesses. In 2022, the company added another leg to its network—London to Tokyo—and said the time it takes to send a message from one end to the other is less than 50 milliseconds. Next on its road map—Mumbai and São Paulo, the homes of two of the largest and fastest growing derivatives exchanges in the world.

RISK AND COLLATERAL

A top priority for many firms in the derivatives markets in recent years has been improving the efficiency of their clearing operations and reducing the collateral required by clearinghouses. A handful of startups have sprung up to address this need by combining technology innovation with in-depth understanding of the margining process.

One example is Quantile, a London-based company that uses sophisticated algorithms to optimize the amount of collateral that its clients have to post to cover the risks in their outstanding positions. The need for this type of optimization became obvious when it became mandatory to clear interest rate swaps and other OTC derivatives. Swap dealers realized that they would have to post large amounts of collateral to meet the margin requirements on these positions, and Quantile's optimization software gave them—and their customers—a way to identify offsetting positions and reduce their margin requirements.

Quantile participated in the Innovators Pavilion in 2017, two years after it was founded, and by the end of 2020 its optimization service was reducing billions of dollars of initial margin each month. In early 2021 it attracted a $51 million investment from a private equity firm that saw its growth potential. They were right; in December 2021, LSEG announced an agreement to buy the company outright for £274 million.

It took a year to actually complete the deal, mainly because the UK competition authority launched an investigation to make sure that it would not impede competitors such as TriOptima. In December 2022 the deal closed, and LSEG is now able to offer Quantile's margin optimization service alongside the clearing services offered by its subsidiary LCH, the world's largest clearinghouse for interest rate swaps. As Dan Maguire, head of LCH, explained shortly after the deal was announced, adding Quantile's optimization services gives the group more ways to help banks and other customers manage their capital and margin more efficiently.

A top priority for many firms in the derivatives markets in recent years has been improving the efficiency of their clearing operations and reducing the collateral required by clearinghouses.

Another example in the post-trade space is Baton Systems, a startup that has built a platform for clearing, settling and managing payments between financial institutions – like a "PayPal" for institutions. One of its main use cases is focused on helping derivatives clearing firms manage the margining process more efficiently.

The company's platform has direct, real-time interfaces with several leading clearinghouses and custodians. That allows clearing firms connected to the platform to monitor their margin obligations and collateral flows on an intraday basis. The platform also can connect into a clearing firm's payments systems and enable a firm to send

instructions to custodians for moving cash and securities. The key benefit is that clearing firms can avoid posting more collateral than needed by measuring their margin obligations more precisely on an intraday basis. That is becoming more of a priority as banks look to reduce the amount of capital tied up in the clearing process.

The company participated in the Innovators Pavilion in 2016 and since then it has gradually expanded its platform and its customer base. In 2022, it added two more clearinghouses to its network—LCH SA in Paris and OCC in Chicago—bringing the total number to 11. The company also announced a partnership with BNY Mellon, a big player in the collateral management business, with the goal of helping clients mobilize collateral faster and more efficiently for both their cleared and uncleared derivatives.

OPERATIONAL EFFICIENCY

Another top priority for many firms in the derivatives industry is improving efficiency at every step of the trading lifecycle. The front-end of the process is lightning quick, thanks to years of effort and billions of dollars invested in automation, connectivity and processing speed. The middle and back office functions, however, have not kept up, and this is where a number of startups are targeting their efforts.

One example is Theorem Technologies, a Chicago-based company that focuses on helping fund managers consolidate information about their trading more efficiently. Theorem's software was originally developed by an introducing broker, Thales, that worked with hedge funds and commodity trading advisers. As is often the case in futures markets, they were using multiple clearing brokers, and the differences in how each broker transmitted information made it difficult to get a consolidate view.

Thales built a system to pull together all the relevant information and provide reporting, analytics and other trade processing and administrative functions. The company then realized that it could spin it out as a separate company and market it more broadly. Theorem was launched in 2017 and participated in the Innovators Pavilion that same year.

One particular focus is on matching trade information on an intraday basis. This may sound like a minor issue, but in reality it is a huge challenge for the industry. As trades travel from end-users through the execution process to the exchange and then through the clearing process, they pass through many different systems, and the lack of standardization requires careful review to make sure that all the details match.

Theorem has built a trade matching solution that identifies breaks during the course of the day, allowing for faster reconciliation, more accurate reporting, and more accurate calculations of margin requirements. The company is working with hedge funds and commodity trading advisors and says it is seeing increasing adoption of this solution.

Another example, this time in over-the-counter markets, is Wematch, an Israeli company that has built matching and workflow solutions for dealer to dealer trading. This segment of the derivatives markets still relies heavily on conversations via phone or chat messages. Rather than replacing this model of trading, Wematch has built a platform to bring more automation to the process. In practical terms, that means automating and digitizing the steps that dealers take to find liquidity, negotiate the terms, execute the trade and then manage the lifecycle of those trades over time.

The company was founded in 2016 and quickly attracted support from several banks. J.P. Morgan and Société Générale both chose the company to participate in their incubator programs, which work with early stage companies to help them develop their solutions, and then opted into using the company's platform and financing its growth with equity investments.

The company has grown rapidly, and currently its platform is used

RISKS & OPERATIONS

Baton Payments accelerated
BLUE FIRE AI
CASSINI systems CALCULATE. ANALYZE. REDUCE
CloudMargin
EZOPS
FORMIDIUM
ForwardLane
Riskfuel
theorem TECHNOLOGIES
ZEROBETA

CRYPTO

BITTREX
CHAINALYSIS
credora
FLOATING POINT GROUP
iCOMPLY
kemet
Paradigm
SOLIDUS LABS
TALOS

by 90 institutions. And it appears to be poised for further growth. In late 2021, it announced $28 million of funding from several banks and venture capital funds as well as Deutsche Börse, the parent company of Eurex, Europe's largest derivatives exchange. The company said the additional capital would help expand its offerings and bring on more staff. It also has set its sights on expanding into North America. In fact, Joseph Seroussi, the chief executive officer, moved from the headquarters in Tel Aviv to New York in 2022 to oversee the expansion personally.

INSTITUTIONAL CRYPTO

Perhaps the most exciting—and controversial—area of innovation has been in the cryptocurrency markets. The Innovators Pavilion has had nearly a dozen participants with a crypto-related product or service, and this segment has always attracted a lot of interest from the FIA community.

One simple reason is that traders want to trade, and cryptocurrency markets have offered many opportunities to apply their skills and expertise in a new arena. The cryptocurrency markets are very young, however, and the infrastructure is nowhere near as sophisticated or reliable as what prevails on futures exchanges. This has created a strong demand for institutional-grade platforms and systems, and a number of startups have stepped into the space.

One example is Talos. The company was founded in 2018 with the vision of providing the "building blocks" for institutional trading of digital assets and quickly attracted support from a wide range of venture capital firms and financial institutions. The two founders, Anton Katz and Ethan Feldman, had years of experience building trading systems for banks and asset managers before they started Talos. They drew on that experience in designing the various functions that it supports, which cover the full lifecycle of digital asset trading, from price discovery to execution through to settlement.

The company participated in the Innovators Pavilion in 2021. In May 2022, the company announced a $105 million funding round led by General Atlantic, a large private equity firm with a long track record of investing in financial markets infrastructure. The funding round included investors in both the traditional finance and digital asset spaces, notably BNY Mellon, Citi, DRW and Wells Fargo.

In June, it announced a partnership with Trading Technologies that gives TT's large customer base in the futures industry access to a wider range of crypto markets. Jason Shaffer, an executive vice president at TT, commented that the partnership would help TT's clients "participate in the crypto space with ease and confidence."

There has also been a lot of interest in bringing institutional-grade risk controls and market surveillance tools to the space. The futures industry is heavily regulated, and most cryptocurrency trading takes place in markets that are lightly regulated or not regulated at all. This is another area where startups have taken the lead.

One example is Chainalysis, a provider of compliance and investigative tools. The company was founded in 2014 and has become one of the primary resources for exchanges and law enforcement to track transactions in bitcoin and other crypto currencies. The company participated in the Innovators Pavilion in 2018 and has grown rapidly since then, with more than 750 customers in 70 countries, including more than 100 financial institutions. In May 2022, it raised $170 million from a group of investors led by GIC, Singapore's sovereign wealth fund. That funding round brought the company value to $8.6 billion, a sign of just how much demand there is for tracking flows in the global cryptocurrency markets.

REGTECH

Cryptocurrency markets are not the only markets where compliance is in demand. Ever since the financial crisis of 2008, regulators around the world have put in place an array of reporting requirements for swap dealers and other firms involved in trading OTC derivatives. The goal is to make sure that regulators have more transparency into swaps trading and the risks to participants in those markets. Meeting these requirements is a heavy lift for the affected firms, and accuracy is critically important. Numerous firms have had to pay large fines for missing or inaccurate data.

The goal is to make sure that regulators have more transparency into swaps trading and the risks to participants in those markets.

That is where Kaizen Reporting found its niche. The London-based firm was established in 2013 by a former regulator who recognized the need to improve accuracy in regulatory reporting. The firm combines automated testing techniques with regulatory expertise. Initially it focused on European requirements, but today it has the ability to test the accuracy of reports mandated by a wide range of reporting regimes around the world, including the European Union, the U.K., the U.S., Australia, Hong Kong and Singapore.

The company now has more than 140 clients, and demand continues to grow amid two major overhauls of reporting requirements. In the U.S., the Commodity Futures Trading Commission went live with its "rewrite" in December 2022, and in Europe, the European Securities and Markets Authority will go live with its "EMIR Refit" in April 2024. In both cases, the number of fields in the reports—and the kinds of information that must be collected and reported—have changed substantially. That makes the independent testing and validation that Kaizen provides all the more valuable. MV

TAIFEX MADE IN 2022

Trading on the Taiwan Futures Exchange (TAIFEX) continued its upward trajectory with more than 384 million contracts traded in 2022, recording the second highest annual volume and three consecutive years with over 300 million contracts traded. The increased trading in its core products, strong international participation, and the popularity of the Exchange's night session were the major driving forces for the impressive growth.

CYCLICAL VARIANTS IN THE CAPITAL MARKET RAISED UP TRADING NEEDS

Adapting to the needs of hedging against post-COVID supply chain disruptions in the year, TAIFEX launched two futures contracts for both the semiconductor and the shipping/transportation sectors, as well as introduced bi-weekly TAIEX Options (TXO) and Mini-TAIEX (MTX) contracts to strengthen investors' trading strategies execution with enhanced flexibility. Furthermore, trading of the Exchange's core equity index contracts – TXO, MTX and TAIEX Futures (TX) – remained robust.

With over 200 million contracts traded in 2022, TAIFEX's flagship TXO continued to be one of the

TREMENDOUS STRIDES

world's most heavily-traded equity index options, while the TX traded more than 43 million contracts. TX's smaller-sized sibling MTX was one of the TAIFEX's fastest growing products, with volume jumping 12% to nearly 80 million contracts in 2022, and accounting for over one-fifth the overall volume. Meanwhile, TX and MTX were re-granted certification by the U.S. Commodity Futures Trading Commission (CFTC) allowing eligible brokers to offer and sell to U.S. participants.

The Exchange also remains one of the largest overseas market globally trading U.S. equity index futures. Its Nasdaq-100 Futures saw record-breaking yearly volume surging 67.6% to 1.3 million contracts, while the Dow Jones Index Futures grew 12.4%. Together with S&P 500 Futures, FTSE 100 Futures and TOPIX Futures, the one-stop-shopping of TAIFEX foreign product offerings provide investors with opportunities to execute cross-market trading strategies.

FOREIGN INVESTOR PARTICIPATION INCREASED FURTHER ALONGSIDE ENHANCED CLEARING SERVICES AND EXPANDED INTERNATIONAL RECOGNITION

The trading of TAIFEX products would have been less successful without the availability of the night session and active foreign investor participation. In 2022, nearly half a million contracts were traded overnight, equal to 31% of the average daily trading volume of TAIFEX's regular session.

Another equally critical factor to sustain TAIFEX's growth is the participation of international investors, which accounted for 31% of its total volume in 2022, a rise of 11 percentage points over a five year span.

The Exchange also made great strides in enhancing its clearing services. In line with international practices, TAIFEX commenced OTC derivatives clearing services for clearing members' TWD IRS transaction in Q3 to help investors to lower capital requirements and improve capital efficiency. The efforts in clearing business earned recognitions from the U.S. and European regulators. Before end of the year, the CFTC granted a No-Action Relief allowing TAIFEX to clear proprietary swap transactions for U.S. persons or their affiliates, while the European Securities and Markets Authority recognized the Exchange as a Tier 1 third-country central counterparty. These validations reinforce the Exchange's capability of facilitating even greater foreign participation.

Looking ahead, TAIFEX will continue to expand its product and service offerings, such as launching flexible TAIEX futures and options to provide participants with more flexibility in contracts customization, and extending clearing services to USD/TWD NDF and TWD IRS for clearing members' proprietary and client transactions. Leveraging its continuous and strenuous efforts, TAIFEX aims to provide a convenient, accessible and liquid marketplace to help local and overseas investors alike to manage their risks in times of global uncertainty.

FIA-SIFMA Flash Poll Measures Derivatives Markets Sentiment

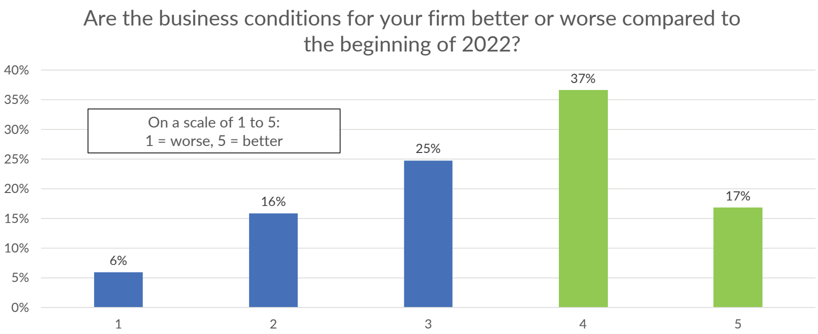
Responses point to optimism about business outlook, pessimism on regulatory environment

BY JEFF REEVES

MORE ONLINE
Full survey results can be found on FIA.org.

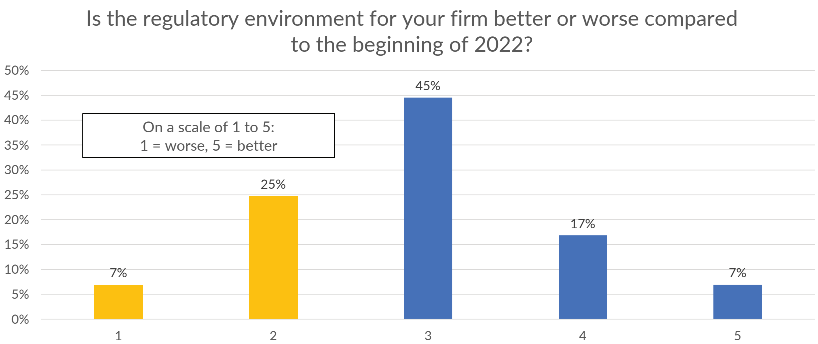
FIA and SIFMA's Asset Management Group conducted a joint poll of their members during January to capture buyside and sell-side views on liquidity, regulation, margin, blockchain and other topics relevant to derivatives markets. The poll garnered more than 100 responses from a curated list of asset managers and brokers actively engaged in the trading and clearing of futures, options and swaps.

Business Conditions: 54% See Positive Outlook



Source: FIA-SIFMA AMG Flash Poll

Regulatory Environment: 32% Say Worse than a Year Ago



Source: FIA-SIFMA AMG Flash Poll

KEY FINDINGS INCLUDE:

Industry optimism: When asked whether the business environment for their firm was better or worse than the beginning of 2022, 54% of respondents said conditions are better than a year ago.

Regulatory pessimism: When asked whether the regulatory environment for their firm was better or worse than the beginning of 2022, 32% of respondents answered it was worse, compared with 23% who said it was better.

Impact of SEC rules: When asked about the large number of regulatory proposals set forth by the US Securities and Exchange Commission across 2021 and 2022, more than half of respondents said the regulations would result in decreased derivatives product offerings. In a separate question, more than half of respondents also said they believe the rules will increase consolidation within the industry.

Liquidity Factors: When asked about ways to boost liquidity in the exchange-traded derivatives markets, the most common responses were "reduction in capital requirements" and "reduction in regulatory cost and uncertainty" . A smaller but still significant number pointed to improvements in the processing of trades, a top priority for operational staff on both the buyside and the sellside.

Volatility: More than half of the respondents said they see increasing use of margin optimization tools in response to the increase in margin requirements set by clearinghouses. Margin requirements typically rise when prices become more volatile, making it more critical for market participants to factor margin costs into their trading decisions.

FIA and SIFMA prepared the survey in advance of its annual Asset Managers Derivatives Forum 2023, which took place 8-10 February in Dana Point, Calif. Full survey results can be found on FIA.org. MV

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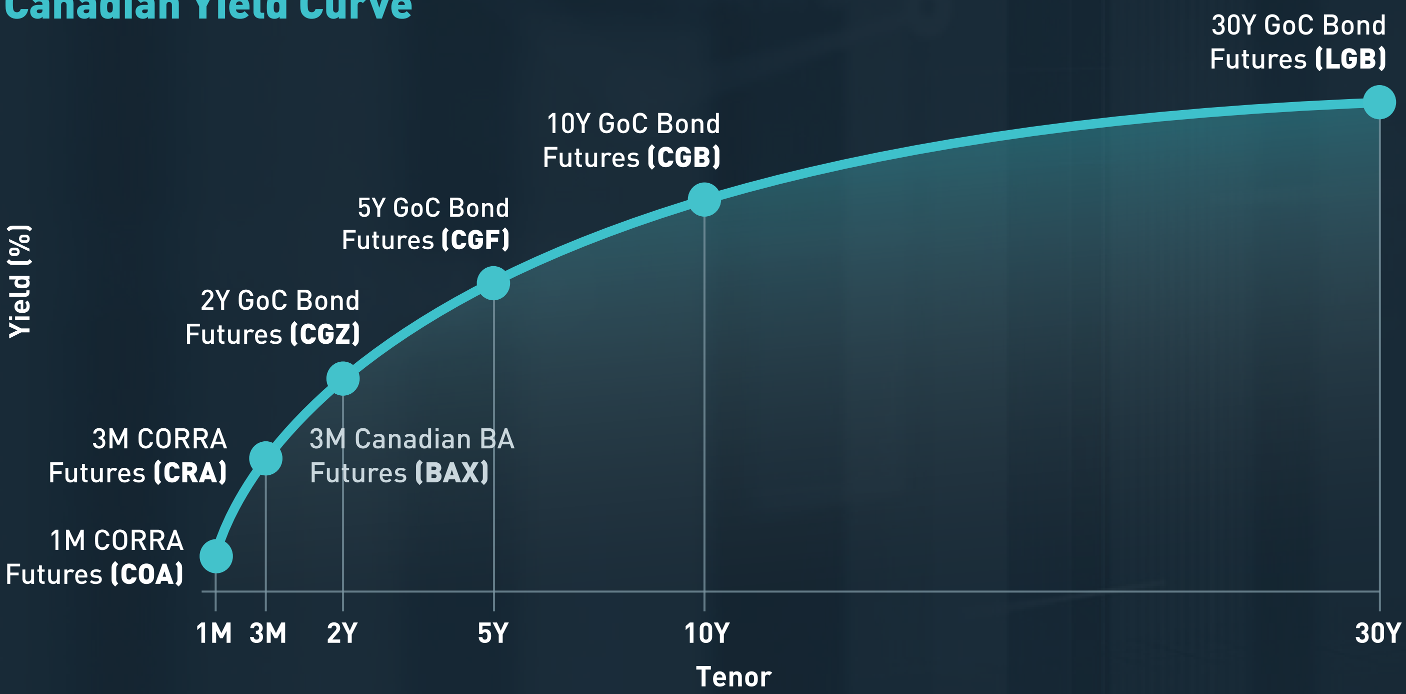

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