CFTC

COMMODITY FUTURES TRADING COMMISSION

Global Markets Advisory Committee Meeting June 4, 2024

Commissioner
Caroline D. Pham

Commissioner
Summer K. Mersinger

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Opening Remarks

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COMMODITY FUTURES TRADING COMMISSION

Recommendation from the GMAC Global Market Structure Subcommittee

The Impact of the US Bank Capital Proposals on End-Users that Rely on Cleared Derivatives Markets

Report and Recommendations Prepared by the CFTC GMAC Global Market Structure Subcommittee

June 4, 2024

Background on the Pending Bank Capital Proposals

- July 27, 2023, the Federal Reserve, the Office of the Comptroller of the Currency, and the Federal Deposit Insurance Corporation proposed the Basel III endgame proposal
- Separately, the Federal Reserve also requested comment on a proposal that would make significant adjustments to the calculation of the US global systemically important bank holding companies (GSIB) surcharge.
- These proposed rules represent a comprehensive rewrite of the regulatory capital standards that the biggest US banks are subject to, and will impact every activity that these US banks engage in.
- Focusing on client cleared derivatives markets, specifically:
    - the Basel III endgame proposal would significantly raise the capital requirements for US banks that offer client's access to futures, options and cleared OTC swaps; and
    - the GSIB Surcharge proposal would significantly raise the capital requirements for US banks that offer client's access to cleared OTC swaps.

Estimated increase in capital requirements for derivatives transactions included in the US bank capital proposals

Capital Requirement Attributable to Six US GSIBs' Client Clearing Activity as of June 30, 2023[1]

	Capital Requirement Expressed in Dollars (billions)	Percentage Increase in Capital Requirement
Current U.S. Standardized Approach	$8.96	N/A
Net Increase from Endgame Proposal	$2.01	22.4%
Net Increase from Surcharge Proposal	$5.20	58.1%
Total Net Increase from Proposals	$7.21	80.5%

[1] *The FIA/ISDA data collection and analysis for this quantitative impact study (QIS) was conducted by the GARP Benchmarking Initiative (GBI)®, a division of the Global Association of Risk Professionals® (GARP). GARP®, a nonpartisan, non-profit corporation, is the world's leading professional association for risk managers, dedicated to the advancement of the profession through education, research, and the promotion of best practices. GARP does not lobby, take advocacy positions, or engage in any advocacy related to the data it collects and analyzes.

The Report Focuses on How the Proposed US Bank Capital Rules Will:

- reduce the capacity of US banks to offer client's access to derivatives markets;
- reduce liquidity in derivatives markets;
- increase the costs of hedging for end-users and, as a result, increase costs for their customers;
- disproportionately harm smaller end-users and non-public companies;
- increase systemic risk;
- create an unlevel playing field for market participants, including across jurisdictions.

The Report Focuses on End Users that Rely on Derivatives Markets to Hedge Risk

- The report highlights excerpts from the formal comment letters filed by the users of derivatives markets highlighting concerns about the proposals, including agriculture, energy, insurance, pension funds, and others.
- The report also features excerpts from exchanges and clearinghouses that provide the foundation of the well-functioning and highly regulated US derivatives markets.
- The report also builds on the foundational work of the prior GMAC meetings to highlight the impact the pending bank capital proposals will have on the CFTC regulated markets and market participants.
  - Examples
    - In the November 2023 GMAC meeting, Jeremy Wodakow, the chief revenue officer of Cypress Creek Renewables, raised concerns that the pending bank capital rules “significantly raises the cost for banks to provide hedging services and funding to their clients, such as Cypress Creek, which will create additional headwinds to developing renewable energy projects.”
    - In the March 2024 GMAC meeting, Reggie Griffith, global chief compliance officer, Louis Dreyfus Co., and Dan Gallagher, director, commodity sales and trading, Basin Electric Power Cooperative (on behalf of the National Association of Rural Electric Cooperatives), raised significant concerns about the potential unintended consequences of the bank capital proposals on the futures markets and end-users that rely on them. These include concerns related to the ability to access futures and derivatives markets through bank FCMs as well as the increased costs for hedging and, ultimately, increased costs for consumers of agricultural and energy.

Recommendations Contained in the Report to Amend the Bank Capital Proposals to Promote Client Clearing

- Federal Reserve Board Chairman Jerome Powell has stated that global regulators "have a responsibility to ensure that bank capital standards and other policies do not unnecessarily discourage central clearing."

- CFTC Chairman Behnam has publicly said "we want to incentivize clearing; we want to focus on understanding the benefits of it and not creating unnecessary costs that disincentive clearing."

- To accomplish this, and not disincentivize clearing, the report recommends that the pending bank capital proposals should be amended in the following ways.
    - The Federal Reserve's GSIB Surcharge Proposal should be amended to:
        - remove the clearing member guarantee of client performance to a clearinghouse in a client cleared transaction in the agency clearing model from the Complexity and Interconnectedness indicators.
    - The US Bank Regulator's Basel III Endgame Proposal should be amended to:
        - exempt client cleared derivatives from the CVA capital framework;
        - avoid unduly penalizing client clearing services in the operational risk framework
        - ensure highly-rated privately owned companies, pensions and mutual funds, are not unfairly harmed because the new proposed rules deem them riskier than their public counterparts;
        - revise SA-CCR to permit netting certain STM and CTM transactions;
        - withdraw the proposal's changes that would prohibit the decomposition of nonlinear instruments on indices within SA-CCR.

Issues on the Horizon for GMAC to Consider – Treasury Clearing

- The report highlights that the bank capital proposals cannot be considered in a vacuum.
- While outside of the CFTC’s jurisdiction, the SEC recently adopted final rules that will require most market participants to clear repos they enter into on US Treasury securities as well as certain cash purchases and sales of Treasury securities.
- The implementation of these new clearing mandates will take place around the same time that the US bank capital requirements are expected to be implemented, with interrelated repercussions for market participants whose activities span across the derivatives and securities markets.
- Capacity and cross margining under the capital rules needs to be examined.

Report Recommendations for CFTC Action

- Continue engaging with the relevant US bank regulators about the pending proposals and the impact they will have on the markets that fall under the CFTC jurisdiction;
- Conduct an independent study of the proposals to better understand the impact of the proposals, should they be adopted in their current form, on the users of derivatives markets; and
- Organize a roundtable with US bank regulators focused on derivatives markets.

Appendix - Broad Sampling of Public Comment Letters Highlighting Concerns w/the US Bank Capital Proposals

Agriculture
- Agriculture Joint Trade Association Letter
- The National Grain and Feed Association (NGFA)
- The National Council of Farmer Cooperatives (NCFC)

Energy
- Energy Joint Trade Association Letter
- The American Public Power Association and National Rural Electric Cooperative Association
- The American Council on Renewable Energy
- The National Public Gas Agency
- Huntsville Utilities
- Memphis Light, Gas and Water Division (MLGW)
- Community Choice Aggregators (CCAs)
- Arena Energy, LLC

General End-Users
- Coalition for Derivatives End-Users
- Business Roundtable

Risk Management Advisors
- AEGIS Hedging Solutions

Manufacturing
- The National Association of Manufacturers
- Kaiser Aluminum Corporation

Insurance
- The American Council of Life Insurers (ACLI)

Pension Funds and Investment Management
- The California Public Employees' Retirement System (CalPERS)
- The State of Wisconsin Investment Board (SWIB) and the Ohio Public Employees Retirement System (OPERS)
- BlackRock
- The American Benefits Council
- The Investment Association (IA)
- The Dutch Federation of Pension Funds

Exchanges and Clearinghouses
- The World Federation of Exchanges (WFE)
- The Global Association of Central Counterparties (CCP Global)
- CME Group
- Intercontinental Exchange (ICE)
- The Options Clearing Corporation (OCC)
- Cboe Global Markets
- The London Stock Exchange Group (LSEG)
- Nodal Clear
- The Depository Trust & Clearing Corporation

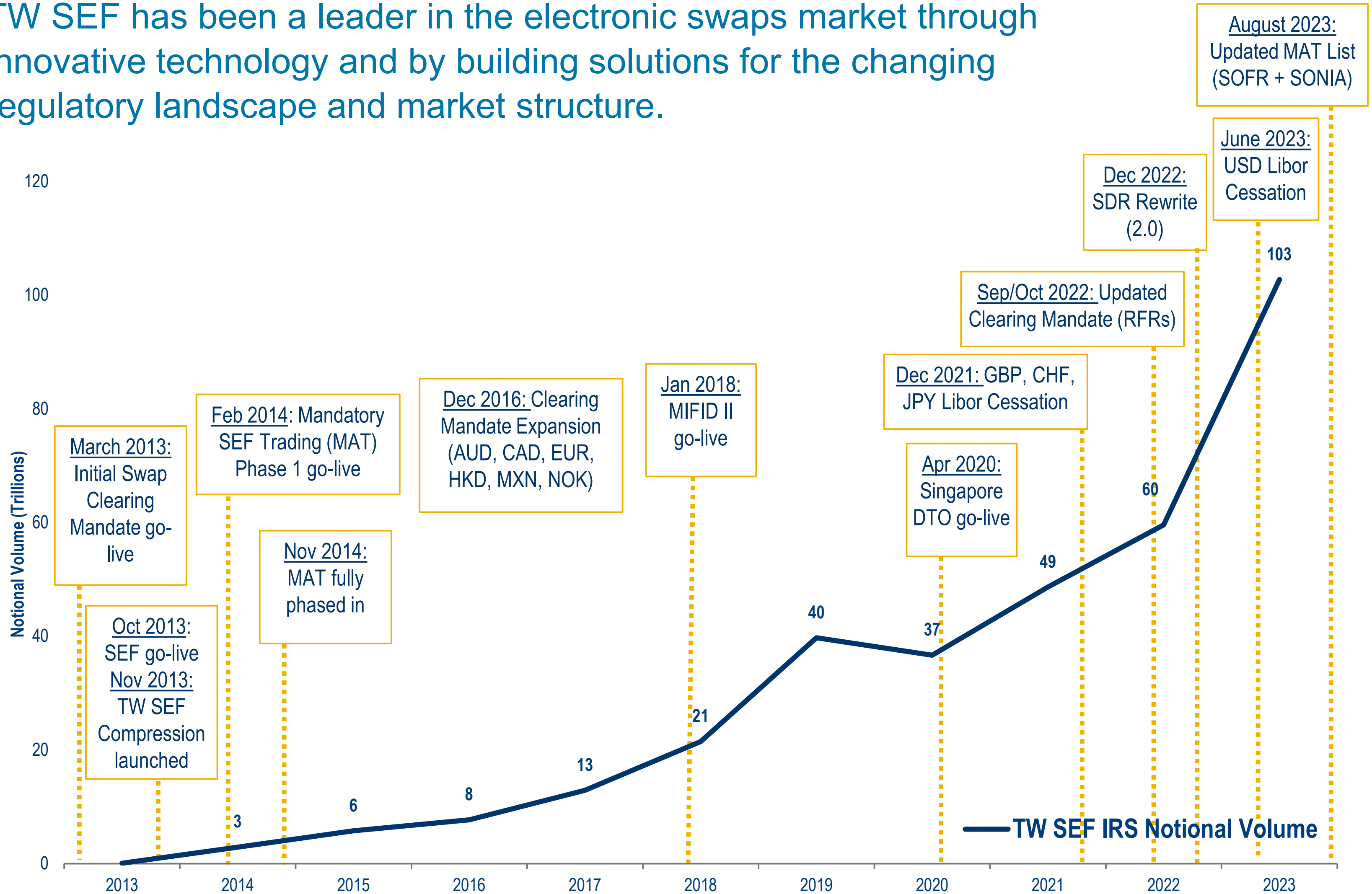
CFTC

COMMODITY FUTURES TRADING COMMISSION

PANEL: Swap Execution Facilities

TW SEF Growth in an Evolving Regulatory Landscape

TW SEF has been a leader in the electronic swaps market through innovative technology and by building solutions for the changing regulatory landscape and market structure.



Global Trading Mandates

Global Trading mandates below across the 3 main regimes:

- When TW put forward the updated MAT list in 2023, we took the DTO from the FCA to align the SONIA trading mandates

There are also some key differences between how the global trading mandates work:

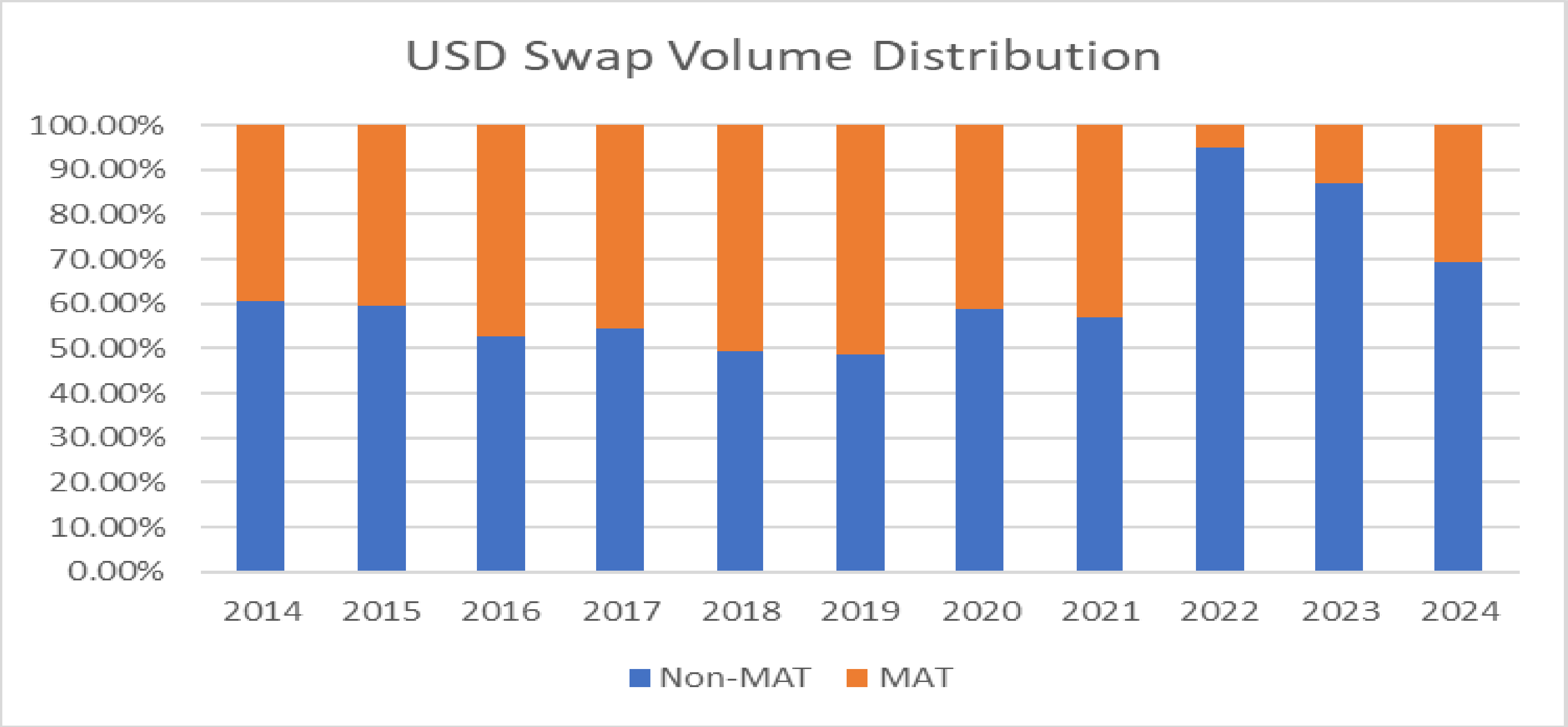
- SEF/MAT
  - If below block size you need to send an RFQ to 3 dealers
  - If above block size, can we be traded off venue but needs to be processed on SEF
- MTF/DTO
  - No concept of block size and there is no minimum dealer requirement. If a swap is DTO, the given swaps needs to be traded/processes on MTF

	US/CFTC	UK/FCA	EU/ESMA
SOFR (USD)	2-7, 10, 12, 15, 20, 30Y		
	(Spot T+2 & next 2 IMM dates- Par Rate and MACs*)		
SONIA OIS (GBP)	1-10, 12, 15, 20, 25, 30Y	1-10, 12, 15, 20, 25, 30Y	
	(Spot T+0 & next 2 IMM dates)	(Spot T+0 & next 2 IMM dates)	
Euro vs 6M Euribor (Euro)	2-7, 10, 15, 20, 30Y	2-10, 12, 15, 20, 30Y	2-10, 12, 15, 20, 30Y
	(Spot T+2)	(Spot T+2)	(Spot T+2)
Euro vs 3m Euribor (Euro)	2-7, 10, 15, 20, 30Y	2-7, 10, 15, 20, 30Y	2-7, 10, 15, 20, 30Y
	(Spot T+2)	(Spot T+2)	(Spot T+2)
	*MACs include the 1y tenor		

MAT/Non-MAT Volume Distribution

Notional traded in new risk USD Swaps and the distribution between MAT/Required and Non-MAT/ permitted transactions

The significant shift in 2022/2023 was due to the $Libor Cessation and lack of a trading mandate in SOFR



ONE
GLOBAL
FORCE

Tradition SEF

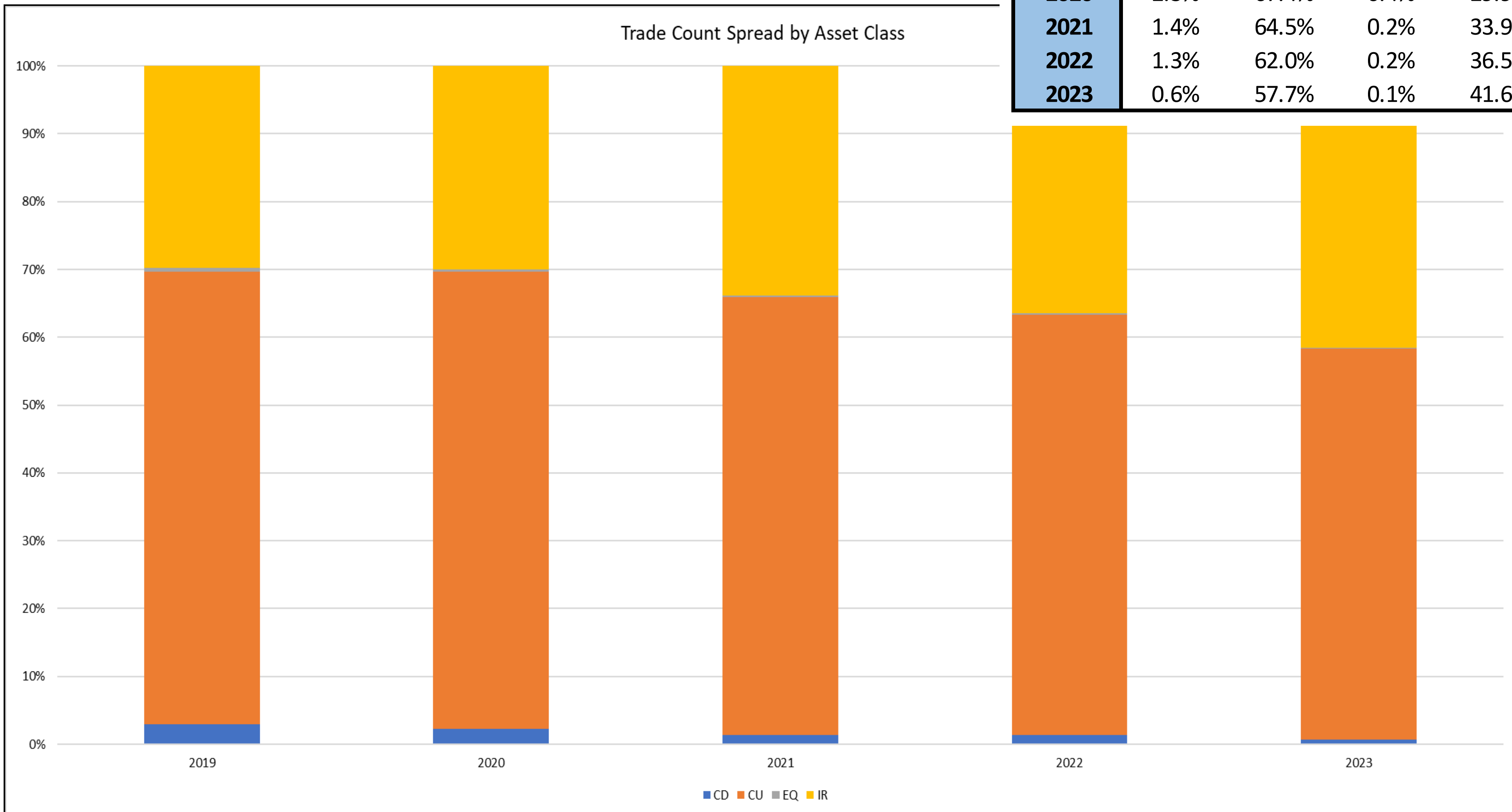
Global Markets Advisory Committee

PANEL : Swap Execution Facilities

June 4, 2024

Historical Volumes

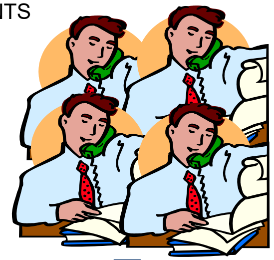
	CD	CU	EQ	IR
2019	2.9%	66.8%	0.5%	29.8%
2020	2.3%	67.4%	0.4%	29.9%
2021	1.4%	64.5%	0.2%	33.9%
2022	1.3%	62.0%	0.2%	36.5%
2023	0.6%	57.7%	0.1%	41.6%



Operating Structure of an "IDB" SEF

MAT | Non-MAT

CLIENTS



Direct Access
MAT SWAPS

Overseas Regulated Venues and/or U.S. Based NFA IB's

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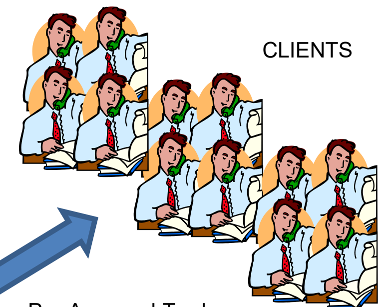


Pre-Arranged Trades
NON-MAT SWAPS

Swap Execution Facility

MAT Swaps

- Trade Execution Mandate
- Execution via RFQ/CLOB
- Liquidity on Venue
- Price Discovery on Venue

- Execution on Venue
- Reporting to SDR
- Transmission to Clearing

NON-MAT Swaps

- No Trade Execution Mandate
- Execution : Flexible Models
- Liquidity off Venue
- Price Discovery off Venue
- Pre-Arranged Trades (non-block)

- Execution on Venue
- Reporting to SDR
- Transmission to Clearing

REPORTING

CLEARING

Swaps subject to the clearing requirement of Section 2(h)(1) of the CEA be executed either on a designated contract market (''DCM'') or on a SEF, unless no DCM or SEF made the swap ''available for trading'' (MAT).

- Fn88 & US Person nexus capture all Non-MAT Swaps
- U.S. "equivalence" requirements rule out most overseas venues
- BREXIT has resulted in "unnecessary" ON-SEF Execution

- Overseas platform activity subject to US SEF Execution despite limited number of U.S Persons involvement
- SEF's equate to administrative trade processing vehicles
- SEF's are not Trading Venues for Non-MAT Swaps

Regulatory Comparison by Entity Type

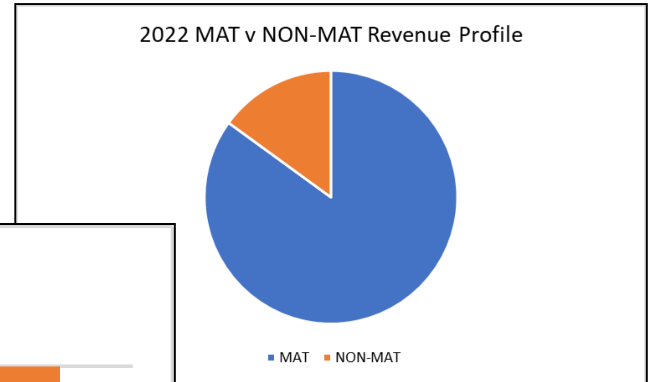
Entity Type	Entity Housed In	Regulator	SRO	Can swaps be "executed"	Prescriptive Execution Mandates
SEF	Stand-alone entity	CFTC	yes	yes	yes
MTF	Authorized Broker Firm	UK / EUR	no	yes	no
OTF	Authorized Broker Firm	UK / EUR	no	yes	no
ATS	FINRA Registered BD	SEC / FINRA	no	yes	no
Swap IB	Swap Introducing Broker	NFA	no	no	no
SB Swap Broker	Broker Dealer	SEC / FINRA	no	yes	no
ECM / EBOT	Swap Introducing Broker	CFTC	no	yes	no

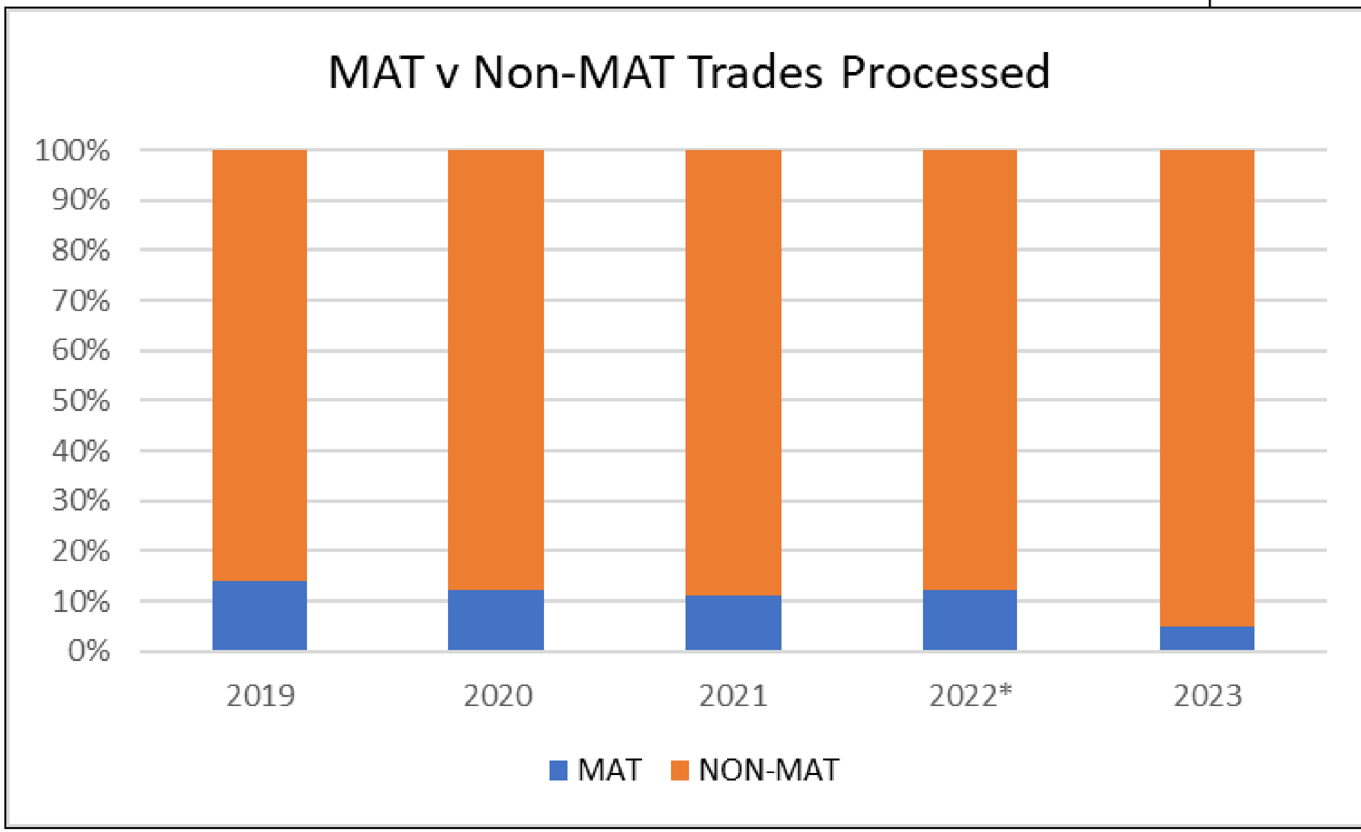
The Dodd-Frank Act creates a new type of regulated marketplace: ''Swap execution facilities'' (''SEFs'') [.....] to require, among other things, **that swaps subject to the clearing requirement** of Section 2(h)(1) of the CEA be executed either on a designated contract market (''DCM'') or on a SEF**, unless no DCM or SEF made the swap ''available for trading**''.

However, **Fn88** states that "a facility would be required to register as a SEF if it operates in a manner that meets the SEF definition **even though it only executes or trades swaps that are <u>not subject</u> to the trade execution mandate**".

Facility: A person or group of persons that provides a physical or electronic facility or system in which multiple participants have the ability to execute or trade agreements, contracts, or transactions by accepting bids and offers made by other participants in the facility or system. **(Multiple-to-multiple Ref : CFTC Letter No. 21-19)**

Comparison : MAT v Non-MAT





Tradition

Bloomberg SEF

Observations – 10 Years On

Adam Lister
Interest Rate Swaps Electronic Trading Product Manager
Bloomberg SEF LLC

CFTC Global Markets Advisory Committee
June 4th, 2023

MAT v non-MAT CDS BSEF Activity

Source Bloomberg SEF LLC

Observations – 10 Years of SEF

- Market Structure - MAT Trading in IRS/CDS
- MAT Listing Process
- Anonymous Orderbook Trading
- Currency Expansion / Non-US Liquidity Constraints
- Swap v Future “Invoice Spreads” Challenge
- Conclusion

End

COMMODITY FUTURES TRADING COMMISSION

Recommendation from the GMAC Technical Issues Subcommittee

SUMMARY OF ISSUE

Following the global implementation of margin requirements for non-cleared derivatives, margin call and settlement volumes have grown exponentially, raising the necessity for efficient collateral and liquidity management practices, especially during times of market volatility.

The importance of streamlining variation margin (VM) practices is recognized by market participants through the increased use of standards and solutions and by the global regulatory community which has recommended areas for improvement of VM processes.

BACKGROUND

Prompted by periods of market volatility including and following the global pandemic, the Basel Committee on Banking Supervision (BCBS), the BIS Committee on Payments and Market Infrastructures (CPMI), and the International Organization of Securities Commissions (IOSCO) published an assessment and consultative report entitled a *Review of Margining Practices* in October 2021 and in September 2022

They proposed further international work to consider ways to foster market participants' preparedness for high margin call and settlement volume during market volatility events by streamlining VM processes in non-centrally cleared markets.

In January 2024, BCBS and IOSCO published conclusions and recommendations produced by its Working Group on Margin Requirements (WGMR) with respect to *Streamlining VM processes and IM responsiveness of margin models in non-centrally cleared markets*. https://www.bis.org/bcbs/publ/d569.pdf

These recommendations are informed by the committee's knowledge and research of these processes and by the consultative responses from, and outreach to, market participants.

RECOMMENDATION

The Technical Issues Subcommittee requests the GMAC adopt its recommendation for the CFTC to support and facilitate industry implementation of the BCBS-IOSCO recommendations for streamlining of variation margin practices.

Rationale

During the outreach process of the BCBS-IOSCO data gathering, there were no material issues related to VM processes in non-centrally cleared derivatives markets identified.

However, localized issues were identified, and it was assessed that similar future disruptions could be mitigated with automation, streamlined workflows and the implementation of industry data standards.

BCBS-IOSCO Recommendation 1:

Generally, as **dealer banks and other market intermediaries** conduct their regular due diligence and establish the boundaries that will govern their trading relationship, they **should address the operational and legal challenges that could potentially inhibit a seamless exchange of margin and collateral calls during a period of stress**.

Rationale

Using online negotiation tools and digital output solutions can reduce the costs of legal documentation negotiations, streamline the onboarding process and improve time to onboarding.

Digital documentation output can automate input to relevant systems, reducing collateral management disputes and respective operational risks.

BCBS-IOSCO Recommendation 2:

With the intent to mitigate liquidity issues and a subsequent “dash for cash” during periods of stress, **firms should consider providing flexibility in bilaterally agreed acceptable collateral**, from within the set of permissible collateral types per the WGMR Framework and national regulations and doing so with appropriate haircuts.

Rationale (part 1)

In times of market volatility, having VM eligible collateral constraints within eligible collateral schedules, such as only cash or cash and government securities can increase operational risk and liquidity constraints.

Although there are potential pricing, operational, risk management, and counterparty’s capital considerations, counterparties should entertain a broad list of eligible collateral and ensure streamlined operational capabilities for delivery and return.

BCBS-IOSCO Recommendation 2:

With the intent to mitigate liquidity issues and a subsequent "dash for cash" during periods of stress, **firms should consider providing flexibility in bilaterally agreed acceptable collateral**…

Rationale (part 2)

Rule amendments and clarifications can enable use of a more diverse pool of collateral within the WGMR parameters:

- The CFTC proposed amendments to harmonize cross-border use of government-only money market funds by eliminating the fund restriction on asset transfer via securities lending and repurchase agreements. On November 6, 2023, the GMAC recommended that the CFTC finalize this rule proposal.
- On March 6, 2024, the GMAC adopted a recommendation that the CFTC clarify that US Treasury exchange-traded funds qualify as eligible collateral.

BCBS-IOSCO Recommendation 3:

Firms should consider the advantages of standardisation and automation of their non-centrally cleared margin processes to reduce frictions and the possibility of operational delays or failures. Depending on the firm's trading profile, these improvements may facilitate collateral utilisation within firms, especially in stress periods.

Rationale (part 1)

Firms that have unique processes for calculating, sending, receiving, and affirming margin calls and settling and reporting collateral create operational friction and rising overhead costs and resources.

Implementing Suggested Operational Practices, such as those published and maintained by the International Swaps and Derivatives Association (ISDA) and its members and automating workflows will reduce these challenges, mitigating disputes.

For instance, streamlining margin calls with required fields across counterparties will help ensure any discrepancies between counterparties can be easily reconciled and resolved.

BCBS-IOSCO Recommendation 3:

Firms should consider the advantages of standardisation and automation of their non-centrally cleared margin processes…

Rationale (part 2)

Using mutually-developed, open-source data standards to represent eligible collateral, the terms and operational functions of legal agreements, and margin call and cash collateral processes can reduce operational friction, improve collateral optimization, and expedite processing within and between counterparties, vendors and infrastructure providers.

For example, members of the International Capital Markets Association (ICMA), International Securities Lending Association (ISLA), and ISDA have collaboratively built eligible collateral representation in digital form with the Common Domain Model.

- By digitally representing collateral in a uniform way across multiple products and systems, data transfer issues related to collateral sourcing and collateral management among repo, securities lending, and OTC derivatives systems along with vendors and infrastructure providers can be decreased.

BCBS-IOSCO Recommendation 4:

Firms should consider whether the utilisation of third-party services would be helpful in their efforts to improve non-centrally cleared VM processes, weighing their own firms' capabilities and the need for proper risk management of outsourced services

Rationale

Firms that do not have the scale or infrastructure to build in-house operations and processes should research and analyze infrastructure providers with robust technological offerings and streamlined operations for collateral management calculations, margin call messaging, collateral optimization, and portfolio reconciliation.

Firms should encourage their providers to align with industry Suggested Operational Practices and leverage common data standards to promote consistency, accuracy, and interoperability.

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BREAK

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COMMODITY FUTURES TRADING COMMISSION

PRESENTATION: Global Commodity Markets

CME Group Update

Commodities Markets Overview
June 4, 2024

Derek L. Sammann

Senior Managing Director, Global Head of Commodities, Options & International Markets

CME Group

Disclaimer

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Statements in this document that are not historical facts are forward-looking statements. These statements are not guarantees of future performance and involve risks, uncertainties and assumptions that are difficult to predict. Therefore, actual outcomes and results may differ materially from what is expressed or implied in any forward-looking statements. We want to caution you not to place undue reliance on any forward-looking statements. We undertake no obligation to publicly update any forward-looking statements, whether as a result of new information, future events or otherwise. Among the factors that might affect our performance are increasing competition by foreign and domestic entities, including increased competition from new entrants into our markets and consolidation of existing entities; our ability to keep pace with rapid technological developments, including our ability to complete the development, implementation and maintenance of the enhanced functionality required by our customers while maintaining reliability and ensuring that such technology is not vulnerable to security risks; our ability to continue introducing competitive new products and services on a timely, cost-effective basis, including through our electronic trading capabilities, and our ability to maintain the competitiveness of our existing products and services; our ability to adjust our fixed costs and expenses if our revenues decline; our ability to maintain existing customers at substantially similar trading levels, develop strategic relationships and attract new customers; our ability to expand and globally offer our products and services; changes in regulations, including the impact of any changes in laws or government policies with respect to our products or services or our industry, such as any changes to regulations and policies that require increased financial and operational resources from us or our customers; the costs associated with protecting our intellectual property rights and our ability to operate our business without violating the intellectual property rights of others; decreases in revenue from our market data as a result of decreased demand or changes to regulations in various jurisdictions; changes in our rate per contract due to shifts in the mix of the products traded, the trading venue and the mix of customers (whether the customer receives member or non-member fees or participates in one of our various incentive programs) and the impact of our tiered pricing structure; the ability of our credit and liquidity risk management practices to adequately protect us from the credit risks of clearing members and other counterparties, and to satisfy the margin and liquidity requirements associated with the BrokerTec matched principal business; the ability of our compliance and risk management programs to effectively monitor and manage our risks, including our ability to prevent errors and misconduct and protect our infrastructure against security breaches and misappropriation of our intellectual property assets; our dependence on third-party providers and exposure to risk through third parties, including risks related to the performance, reliability and security of technology used by our third-party providers and third-party providers that our clients rely on; volatility in commodity, equity and fixed income prices, and price volatility of financial benchmarks and instruments such as interest rates, equity indices, fixed income instruments and foreign exchange rates; economic, social, political and market conditions, including the volatility of the capital and credit markets and the impact of economic conditions on the trading activity of our current and potential customers; our ability to accommodate increases in contract volume and order transaction traffic and to implement enhancements without failure or degradation of the performance of our trading and clearing systems; our ability to execute our growth strategy and maintain our growth effectively; our ability to manage the risks, control the costs and achieve the synergies associated with our strategy for acquisitions, investments and alliances, including those associated with the performance of our joint ventures with S&P Dow Jones (S&P Dow Jones Indices LLC) in index services and in trade processing/post trade services (OSTTRA), our primary business and distribution partners' actions and our partnership with Google Cloud; variances in earnings on cash accounts and collateral that our clearing house holds for its clients; impact of CME Group pricing and incentive changes; impact of aggregation services and internalization on trade flow and volumes; any negative financial impacts from changes to the terms of intellectual property and index rights; our ability to continue to generate funds and/or manage our indebtedness to allow us to continue to invest in our business; industry, channel partner and customer consolidation and/or concentration; decreases in trading and clearing activity; the imposition of a transaction tax or user fee on futures and options transactions and/or repeal of the 60/40 tax treatment of such transactions; increases in effective tax rates, borrowing costs, or changes in tax policy; our ability to maintain our brand and reputation; and the unfavorable resolution of material legal proceedings. For a detailed discussion and additional information concerning these and other factors that might affect our performance, see our other recent periodic filings, including our Annual Report on Form 10-K for the year ended December 31, 2023, as filed with the Securities and Exchange Commission ("SEC") on February 27, 2024, under the caption "Risk Factors".

CME is the Most Diverse Derivatives Exchange with Global Benchmarks Across All Asset Classes

CME's broad set of products are important risk management tools for traders and end-users around the world, including:

Interest Rates
- U.S. Treasuries
- SOFR
- Fed Fund

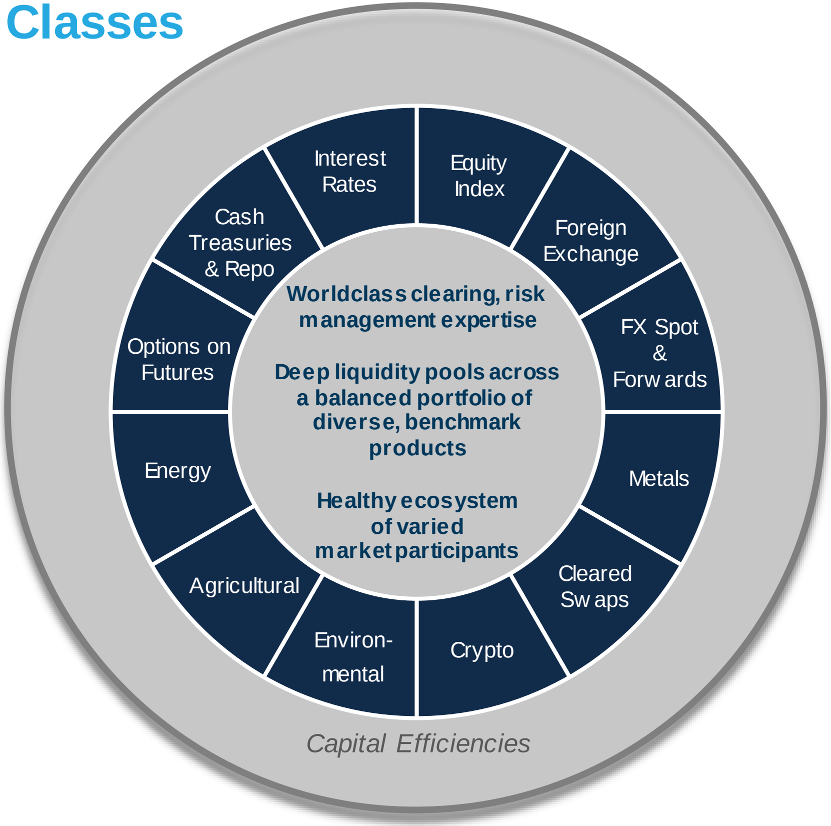
Energy
- WTI Crude Oil
- Henry Hub Natural Gas
- Environmental Products

Equity Index
- S&P 500
- Nasdaq
- Russell

Agricultural
- Corn
- Soybeans
- Wheat

FX
- EUR-USD
- GBP-USD
- USD-JPY

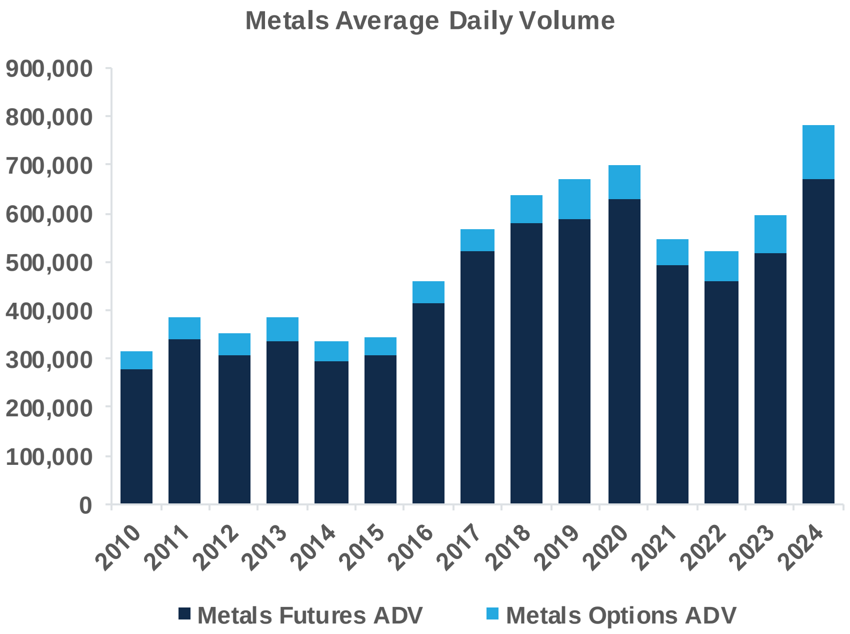
Metals
- Precious (Gold, Silver)
- Industrial/Base (Copper, Aluminum, Lithium, Cobalt)



Metals Markets

A Decade of Strong Growth Across the Metals Portfolio

- Metals Portfolio volume is on pace for a record year with 782,000 contracts traded per day, +31% vs 2023.
- Metals Portfolio volume 10-Yr Cumulative Annual Growth Rate (CAGR) is ~9%.
- CME Group's Metals Portfolio continues to expand and grow in all areas including Precious Metals, Base Metals & Battery Metals.



2024 Data as of 5/27/2024

Copper Futures & Options Market Activity

Copper Futures

On pace for record volume as the price of Copper breaches $5/pound.

- Copper Futures YTD ADV of over 151k contracts (+32% YoY)

Near Record Copper Futures Open Interest (OI)

- Open Interest of f 316k contracts on May 14 is just below the record high from August 2017.
- CFTC Commitment of Traders Report shows Managed Money Net Long position at a 3-year high of 75k contracts.

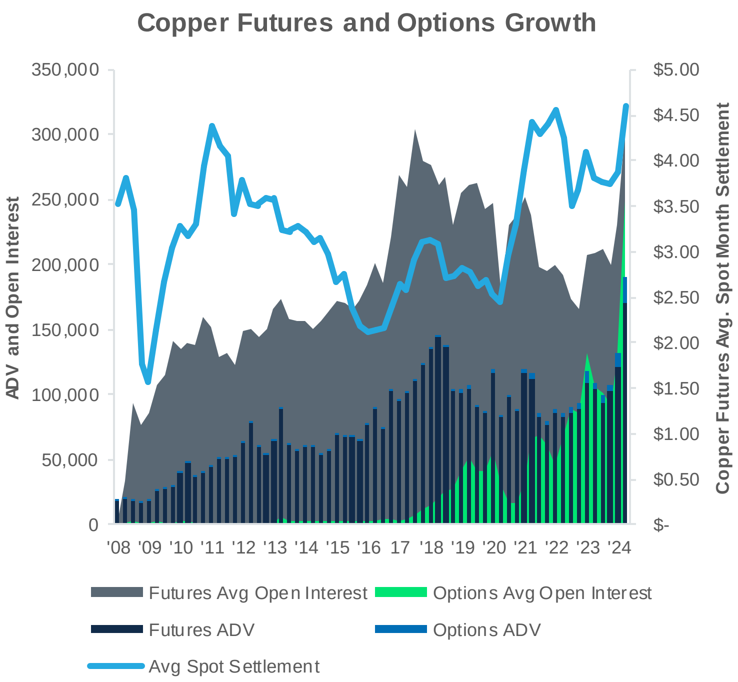
Copper Options

Copper Options volume on pace for record year

- YTD ADV of ~14,000 contracts +94% YoY

Surging Open Interest

- Current Open Interest of 324k contracts, is a record high.
- May 2024 Open Interest of approximately 265,000 contracts is +146% YoY.
- Copper Option OI surpassed Copper Futures for the first time on May 20, 2024.



Global Copper Market Demand Dynamics

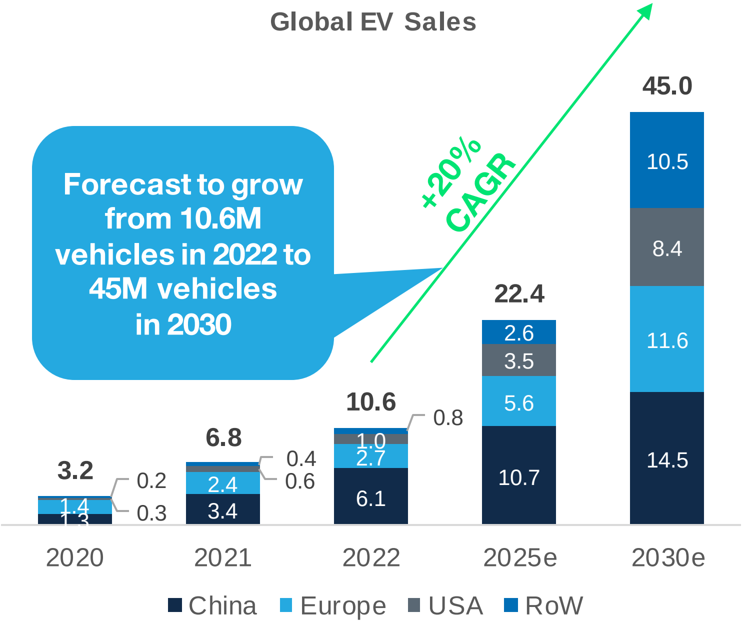
Spot month Copper futures price has risen from $2.11/lb. in March 2020, to an all-time settlement high of $5.1190/lb.

Global Copper Demand

- Global Copper demand is expected to increase by 12.6 million metric tons by 2040 (as per research conducted by CRU Group) from 28.3 million mts 40.9 million mts.

Global Copper Production and Delivery constraints

- Cobre de Panama Copper mine closure (~600k mt per annum)
- Panama Canal drought delaying shipments from South America
- China's top Copper smelters proposed to cut production by 5%-10%.
- Arriving Copper going straight to consumption



Source: IEA, "Global EV Outlook 2023"; BloombergNEF, "Electric Vehicle Outlook 2023".

CME Base Metals Markets Safeguards

In addition to be being regulated by the CFTC, CME Group has multiple measures in place to help maintain orderly markets, including:

- Continuous monitoring of market conditions and proactive communication with clients in times of market stress.
- Clearly defined Dynamic Circuit Breakers (DCBs) prevent the market from moving too far, too fast. Impacted contracts transition into a two-minute pre-open state upon being triggered. In COMEX metals, DCBs upper and lower limit is a 10% move within 1 hour. More information can be found through our FAQ Document (https://www.cmegroup.com/globex/trade-on-cme-globex/frequently-asked-questions-dynamic-circuit-breakers.html).
- COMEX Metals' spot month position limits also protect against market squeezes. They are set basis the deliverable supply of the total inventory of metal available in COMEX approved facilities and are monitored closely by both the Market Regulation division of CME Group and the CFTC.
- Another integral part of the risk management function is margin. Twice daily for futures and options, CME Clearing marks all positions to market and calls clearing members for both settlement variation and initial margin via its regular settlement cycle.
- Additionally, our Clearing House has the ability to assess additional margin for large positions in any market to mitigate concentration risk.

CME Safeguards in Practice in Copper

- On May 14, 2024, the July 24-Sept 24 Copper spread saw an increase in volatility and volume.
- The price increased from under $0.10 per pound to nearly $0.30 per pound in a short period of time.
- As volatility increased, multiple Dynamic Circuit Breakers were triggered and paused the market.
- These small breaks in trading allow participants the ability to assess the markets and allow the markets to reset and normalize.
- At the same time, Margins for the July/Sept spread increased from $500 (May 15) to $1,100 (current).
- As of May 28, the July 24-Sept 24 Copper spread had retraced all its upward price action and is trading near flat.

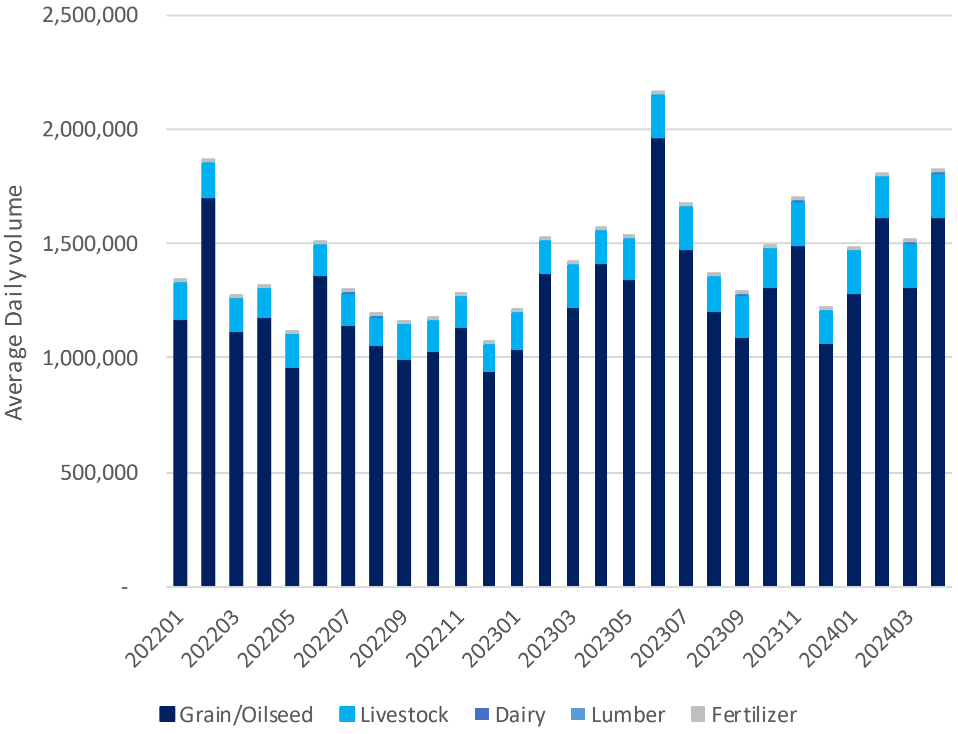
July24-Sept24 Copper Spread from May 14-May 28

Agricultural Markets

CME Group's Diverse Agricultural Suite Spans Key Global Benchmarks

Grain and Oilseed	Livestock	Dairy	Other Products
• Corn • Soybeans • Chicago Wheat • KC Wheat • Soybean Meal • Soybean Oil • Black Sea (Wheat, Corn, Sun oil)	• Live Cattle • Lean Hog • Feeder Cattle • Pork Cutout	• Class III Milk • CS Cheese • Non-Fat Dry Milk • CS Butter • Class IV Milk • Dry Whey • Block Cheese	• Fertilizer • Lumber • Rough Rice • Oats

Record Activity Across the Agriculture Portfolio



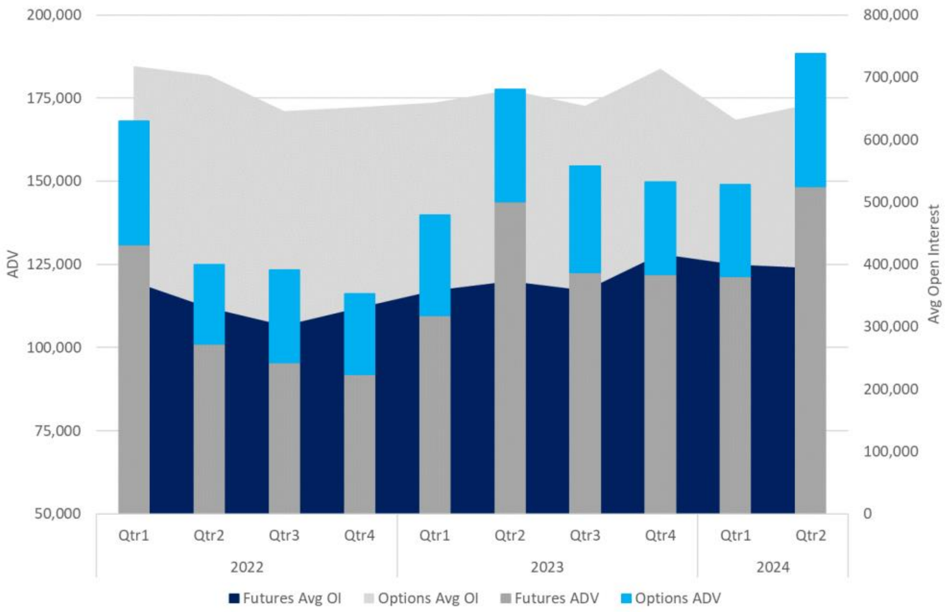
- Agricultural Portfolio delivered a record year in 2023 with ADV of 1.5m
- Record growth in the Agricultural Portfolio has continued into 2024 with over 1.6m contracts traded a day (+15% YTD)
    - Grain & Oilseed Futures ADV 1.2m **+15%** YoY
    - Grain & Oilseed Options ADV 284k **+17%** YoY
    - Livestock Futures ADV 139k **+4%** YoY
    - Livestock Options ADV 45k **+58%** YoY
- The Agricultural product suite continues to expand across key markets with the development of new risk management tools

Chicago SRW Wheat Futures and Options Growth

- **Chicago Wheat Futures and Options** continue to be an effective risk management tool during times of uncertainty

- Futures YTD ADV 132k **+13%** YoY, MTD ADV **+27%** YoY
  - Avg Open Interest in May was 395K **+5%** vs same time last year

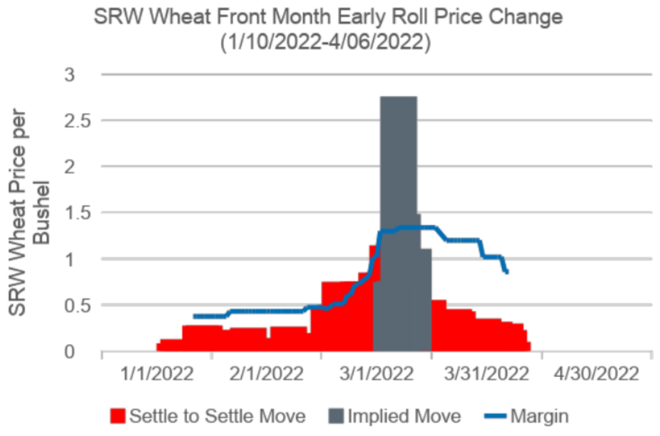
- Options YTD ADV 32k **+5%** YoY, MTD ADV **+22%** YoY
  - May ADV over 47k, on track to be the 2nd highest ADV month on record



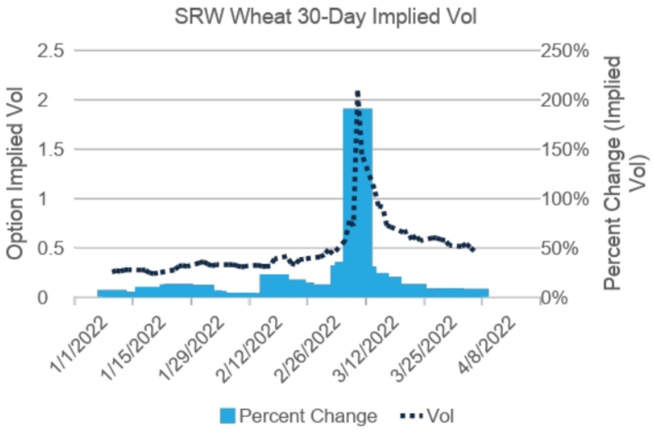
Agricultural Volatility Event: War-Driven Market Impacts

Russia's invasion of Ukraine generated high prices and volatility across key agricultural markets

- Wheat prices increased over 70% from January to March; the largest options-implied wheat daily price move was 26% up on March 3rd (vs. a 7.1% hard limit that day)
- CME increased margins several times ahead of the invasion and during the first few weeks of the war. With expedited approval from the CFTC, CME increased wheat price limits from 50 cents to 85 cents
- CME incorporated a mechanism in Chicago and Kansas City Wheat to allow price limits to increase during future volatile periods without expedited approval

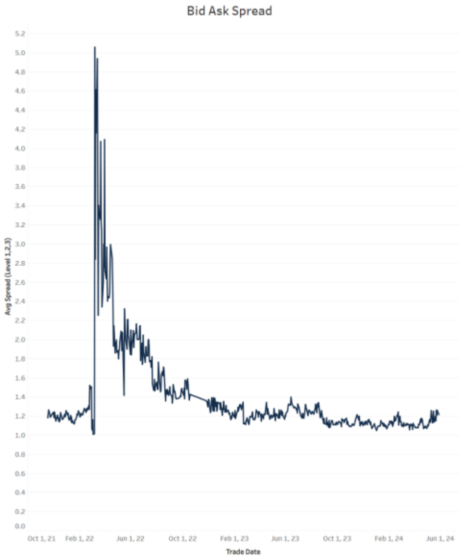


Source: CME



Source: QuikStrike

Chicago Wheat Futures Liquidity Immediately Following the Invasion



- Immediately following Russia's Invasion of Ukraine, the Chicago Wheat market experienced a significant liquidity shock driven by supply concerns
- Front month Bid/Ask spreads widened
- Book Depth at the top 3 levels decreased
- Despite that, the Chicago Wheat market continued to trade in the face of this major event.
- Markets remained orderly, customers remained active, and liquidity reverted to levels seen prior to the invasion

CME Agricultural Markets Safeguards

In addition to be being regulated by the CFTC, CME Group has multiple measures in place to help maintain orderly markets, including:

- Continuous monitoring of market conditions and proactive communication with clients in times of market stress.

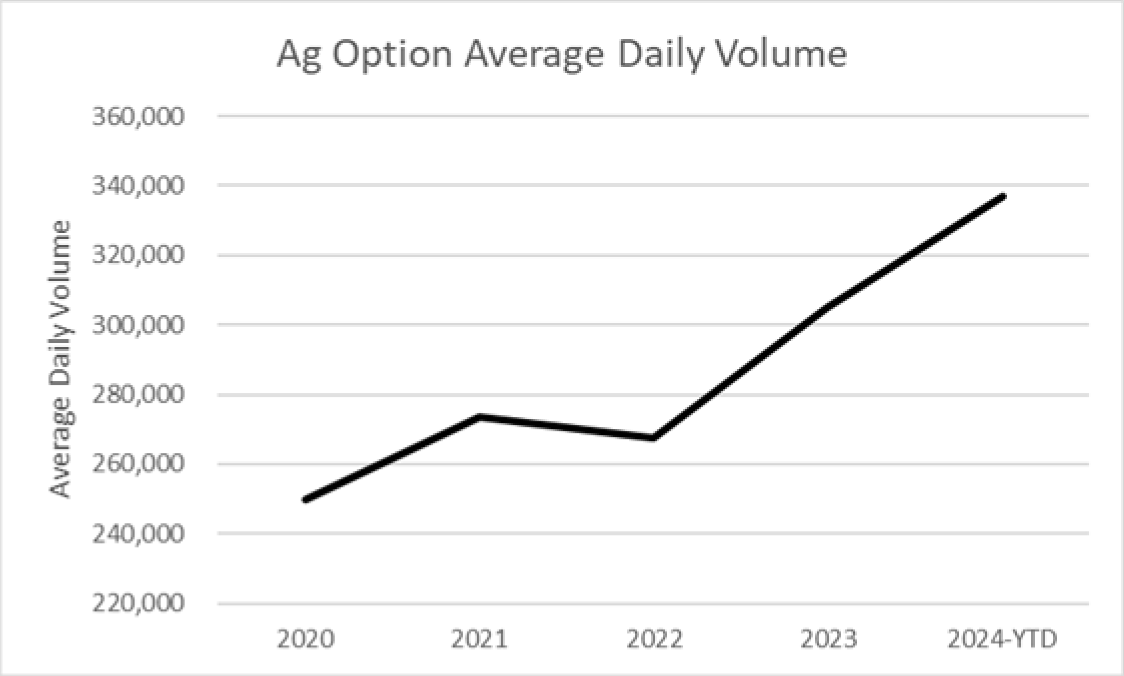
- Clearly defined Price Limits that are established on a bi-annual basis in Grain & Oilseed. Price limits determine how far a futures trading price can move away from the prior day's settlement. A futures contract cannot trade at a price more than the initial price limit above or below the previous day's settlement price. Should one or more contract months within the first five listed non-spot contracts settle at limit, the daily price limits for all contract months shall move to expanded limits the next business day. Price limits are in place for trading on CME Globex and for submission for clearing via CME ClearPort.

- CBOT spot month position limits also protect against market squeezes and outsized speculative positions. They are set based on a percentage of deliverable supply of the respective commodity

- Another integral part of the risk management function is margin. Twice daily for futures and options, CME Clearing marks all positions to market and calls clearing members for both settlement variation and initial margin via its regular settlement cycle.

- Additionally, our Clearing House has the ability to assess additional margin for large positions in any market to mitigate concentration risk.

Accelerating Use Of Options In Agriculture Markets



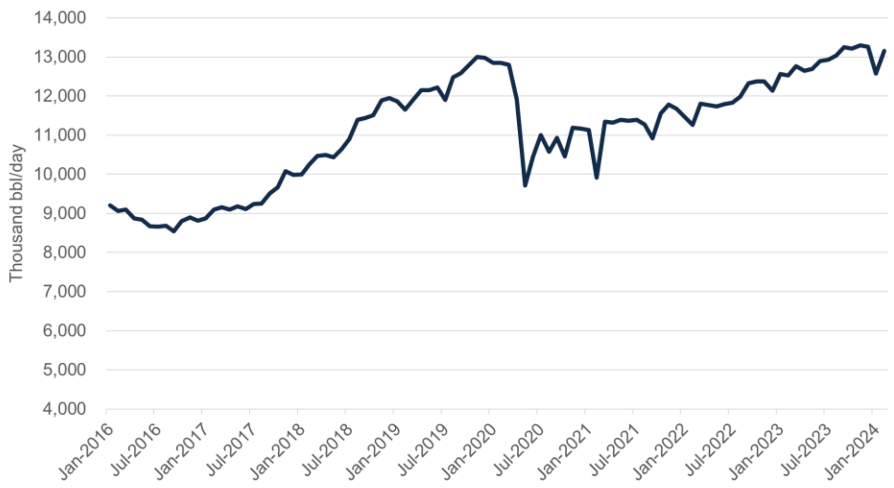
The Use Of Options in Agricultural Markets Has Been a Multi-Year Trend as More Market Participants Add These Flexible Instruments to their Risk Management Toolkit

- *Q1 2024 set a new average daily volume record of 337k*
- *Ag Options Volume has grown an average of 8% since 2020*
- *We've seen strong growth across both Grains & Oilseeds as well as Livestock*
- *All client segments have increased their use of Ag Options leading to a healthy ecosystem of market participants*

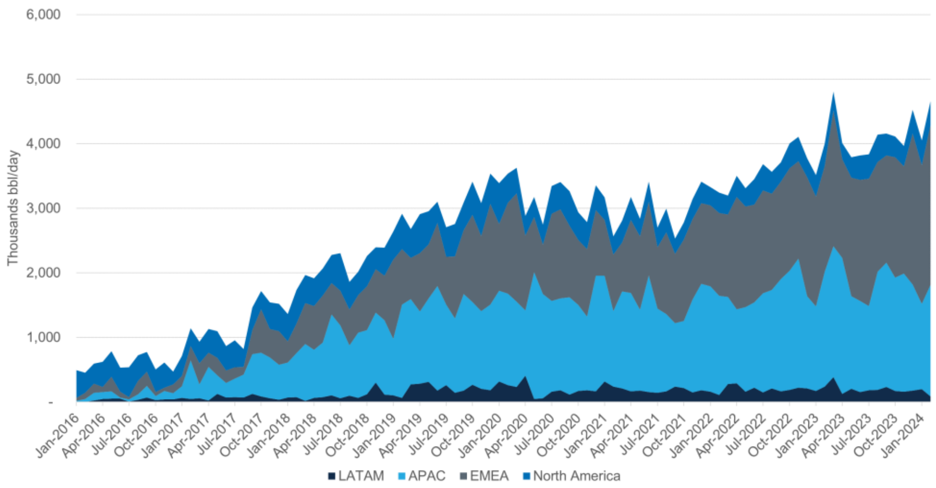
Energy Markets

US Crude Production and Exports

U.S. Crude Oil Production



U.S. Crude Oil Exports by Region

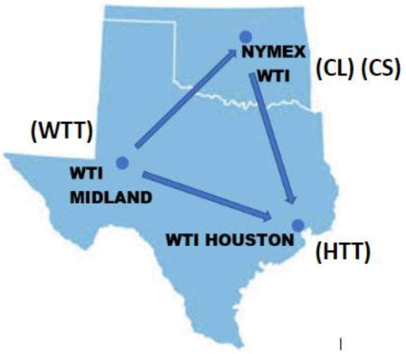


The US is producing and exporting US Crude Oil at record levels, globalizing WTI as a global benchmark as European and Asian market participants increase their exposure to US Crude Oil

Record Activity in U.S. Gulf Coast Trading, OI Exceeding 700,000 Contracts

- WTI Midland has active spot and financial markers on the Gulf Coast (Houston MEH) and in the production area (Midland)
- All Physical and Financial WTI Houston (MEH) and WTI Midland **trade as differentials to NYMEX WTI Futures (CL) at Cushing using the Argus WTI Houston & WTI Midland basis values.**

	WTI Houston (Argus) vs WTI Trade Month Futures	WTI Midland (Argus) vs WTI Trade Month Futures	WTI Light Sweet Crude Oil Futures
Delivery Point	Magellan East Houston (MEH) terminal	Enterprise or Plains Terminal in Midland	Cushing, Oklahoma
NYMEX Code	HTT	WTT	CL
Bloomberg Code	HWT	WOT	CL
Description	**Diff** between WTI Midland in Houston and WTI (CL)	**Diff** between WTI Midland in Midland and WTI (CL)	Light Sweet Crude Oil Deliverable at Cushing OK
Sample Structure	HTTJ4 trades vs April WTI through Mar 25 For Delivery in April		



Options on WTI Crude Oil

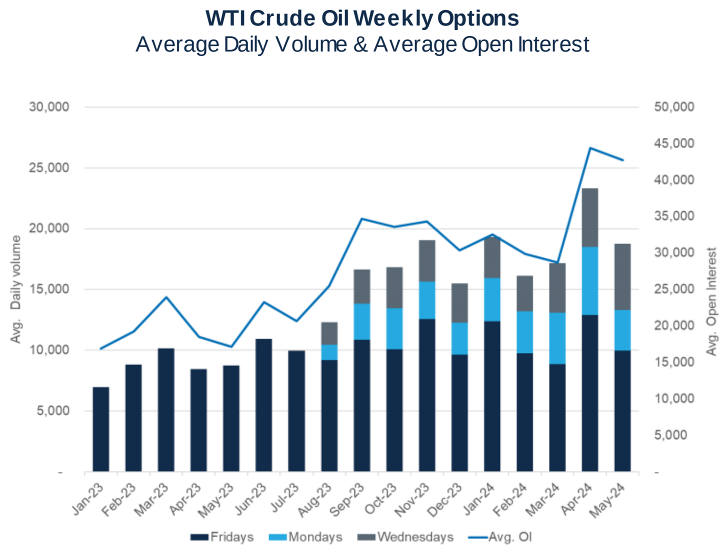
The Record Rise of the Weekly Options Volumes

- Traders can use CME's WTI Weekly options to express their directional views on the market and manage their price related risk on short term events

- Time spread strategies across Monday, Wednesday, and Friday Weekly WTI Options have been one of the fastest growing trade types in 2024

- YTD Ag. Daily Volume is **19K,** up **121%** YoY. Avg. Open Interest is **35.6K**, up **86%** from the same time period

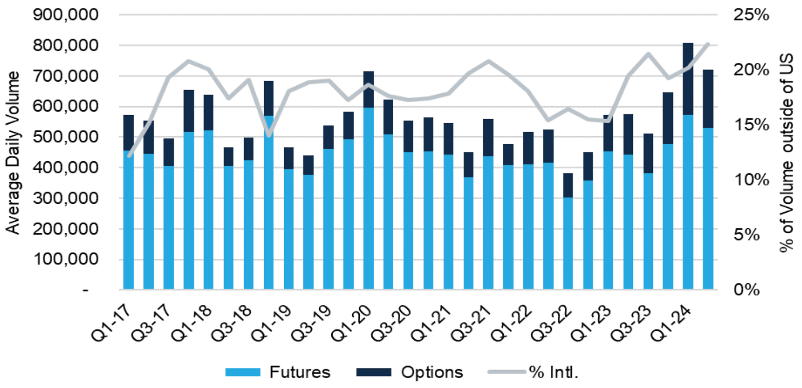
- In 2024, over 6,000 unique traders globally have traded a Crude Oil Weekly Option, up **31%** YoY



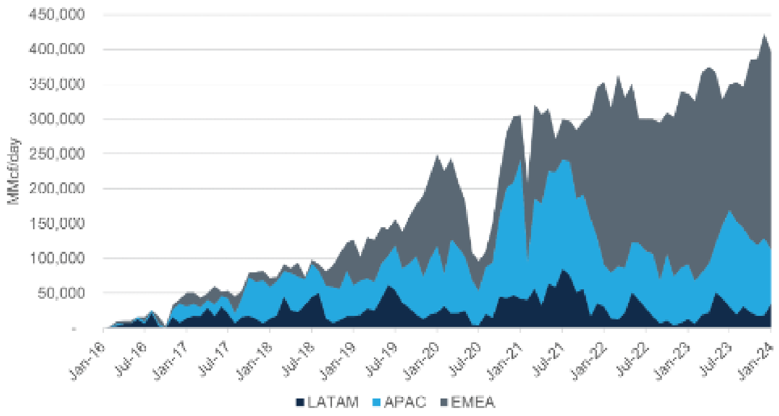
Record US LNG Exports driving Global Adoption of Henry Hub

- Record US LNG exports has led to increased trading in Henry Hub futures and options
- Henry Hub futures and options are off to a record 2024 trading **781k/day** including record participation from non-US based customers
  - YTD, overall futures volume is up **24%** including a record **128k/day** originating outside the US
  - YTD, overall options volume is up **77%** including a record **34k/day** originating outside the US

Henry Hub Natural Gas Global Adoption



U.S. LNG Exports by Destination



CME Group

CFTC

COMMODITY FUTURES TRADING COMMISSION

PRESENTATION: CFTC Office of International Affairs

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COMMODITY FUTURES TRADING COMMISSION

Update from Subcommittees on Future Agenda Items

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Closing Remarks