



MIAX Futures™ Financial
Risk Management
September 2024

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Central counterparties (“CCPs”) are an integral component of the infrastructure of listed futures markets, providing resiliency and sound risk management by becoming the buyer to every seller and the seller to every buyer for the contracts they clear. MIAX Futures, continuously operating since 1881 (then as the Minneapolis Chamber of Commerce) and registered with the Commodity Futures Trading Commission (“CFTC”) as a DCO, maintains rigorous clearing membership requirements, appropriately robust margin resources, and mutualized guaranty fund resources adequate to cover a simultaneous default of the two clearing members presenting the largest credit risk to MIAX Futures.

MIAX Futures operates the world’s largest market for hard red spring wheat futures and options and is uniquely positioned as a CCP to provide best-in-class risk management and resiliency for hard red spring wheat and other asset classes. MIAX Futures also provides clearing services for crypto-related futures and options on futures listed on the Bitnomial Exchange, the first designated contract market authorized by the CFTC to list margined and deliverable digital asset futures and options.

Clearing member requirements are the foundation of sound financial risk management at MIAX Futures.

- Initial \$500,000 security deposit requirement (60% of which required to be in cash; 40% of which may be in US treasuries);
- Application fee, audited annual financial statements, most recent quarterly financial statement;
- Members must maintain written risk management policies and procedures;
- MIAX Futures may impose enhanced capital and/or margin requirements and may prohibit an increase in positions or require a reduction in positions if it deems necessary to manage member risk;
- Customer funds are segregated consistent with CFTC regulation 1.20, as amended;
- Disciplinary actions, up to and including suspension of membership privileges, if members do not meet ongoing requirements; and
- Members must be separately approved to clear Bitnomial products.

Margin and Security Deposit Requirements are Set Quantitatively and Routinely Tested to Help Ensure the Sufficiency of Financial Resources.

Margin

MIAX Futures requires members to post collateral based on their open positions in each contract using risk-based margin methodologies and models intended to account for credit risk posed by potential market fluctuations.

MIAX Futures collects initial margin on a gross basis for each member customer account equal to the aggregate of the initial margin that would be required for each individual customer within that account if each individual customer were a member.

Open positions are marked to market twice daily, once during the intra-day variation cycle and once during the end-of-day settlement cycle. MIAX Futures also has the authority to increase margin requirements for an individual member if necessary.

MIAX Futures applies a margin surcharge for firms trading Bitnomial contracts on open delivery month positions in the days leading up to delivery.

Security Deposits

All new members are required to post a security deposit of \$500,000 (60% of which must be satisfied in cash; 40% of which may be satisfied in US Treasuries).

Ongoing security deposit requirements are based on current and historical open positions, concentration of positions, daily volume, financial statement reviews, and other metrics on a rolling quarter. Security deposit reviews are conducted at least twice per month to confirm the amount held as a deposit is appropriate given the risk factors identified in the review.

MIAX Futures has the discretion to increase security deposit requirements for firms trading Bitnomial Products.

While MIAX Futures maintains one default waterfall, it maintains two separate tranches for MIAX Futures Products and Bitnomial Products.

Margin levels are established to cover 99% of the expected price movement for a given product within a historical period.

MIAX Futures maintains financial resources sufficient to cover the simultaneous default of the two clearing members presenting the largest aggregate credit exposure to MIAX Futures.

The amount of resources held in the guaranty fund are regularly tested using extreme but plausible scenarios and regularly backtested to ensure historical coverage. The minimum security deposit is \$500,000. Members authorized to trade Bitnomial Products must post an additional security deposit to the Guaranty Fund that will be available for use in the event of a default of a member trading Bitnomial Products.

Security deposits must be met in cash or short term US Treasury bills.

In the event all or a portion of a non-defaulting member's security deposit is used to cover losses resulting from a member default under its Rules, the

resulting deficiency in security deposit is required to be replenished within two hours notice or, if the wire transfer service is not open at the time of notice, within one hour of the opening of business on the next business day. Members are required to replenish their security deposit to the previously required level. A member is only liable for replenishing the full amount of its security deposit one time during a Cooling Off Period (as described below) regardless of any additional defaults that may occur during that period.

MIAX Futures maintains a meaningful amount of skin in the game (over 10% of total guaranty fund resources) to ensure MIAX Futures incentives are properly aligned with sound risk management, along with a mutualized pool of member resources to ensure clearing members retain incentive to participate in MIAX Futures' risk management processes.

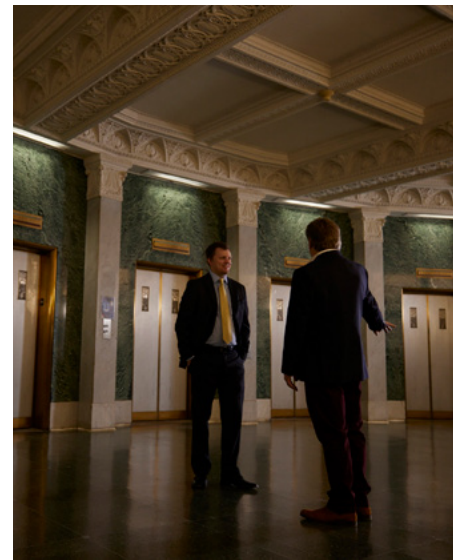
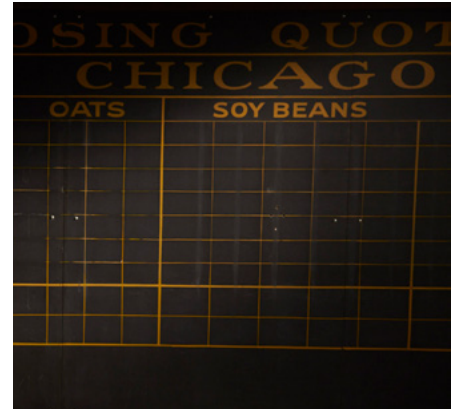
Bitnomial Products

Though MIAX Futures maintains one Guaranty Fund for MIAX Futures Products and Bitnomial Products, there are two separate and distinct tranches of default waterfall processes depending on the nature of the default. If a member approved only for Bitnomial Products defaults, MIAX Futures would isolate the loss to the Bitnomial Products tranche.

MIAX Futures reserves \$2,000,000 of its total \$6,000,000 of skin in the game resources to the Bitnomial Products tranche.

MIAX Futures maintains several additional credit risk management safeguards and tools to help mitigate risk in the markets for which it clears. These include:

- maintenance of working capital that could be drawn upon as an additional financial resource to be used before any member assessments in the event the guaranty fund is depleted and a loss remains;
- committed and readily available lines of credit that could provide immediate liquidity if needed to help manage a member default;
- evaluation of the sufficiency of MIAX Futures' financial resources on a daily basis through stress testing and the daily evaluation of stress test assumptions and parameters;
- rigorous backtesting of its margin methodology to help ensure that margins are set at an appropriate level;
- daily evaluation of the sufficiency of margin by comparing margin levels with the daily price movement for each contract;
- sensitivity analysis of margin models;
- validation of MIAX Futures' risk management model and its underlying assumptions on an annual basis by an independent validator with no connection to the development or maintenance of the model; and
- right to take actions it deems necessary to ensure the safety, security, and financial well-being of its members and their customers.



MIAX Futures Products Only Member Default



Defaulting member excess funds, security deposit, and margin
Full amount of MIAX Futures skin in the game (\$6,000,000)
Security Deposits of non-defaulting members authorized to trade MIAX Futures Products only
MIAX Futures working capital reserves
Security Deposits of non-defaulting members authorized to trade only Bitnomial Products

Bitnomial Products Only Member Default



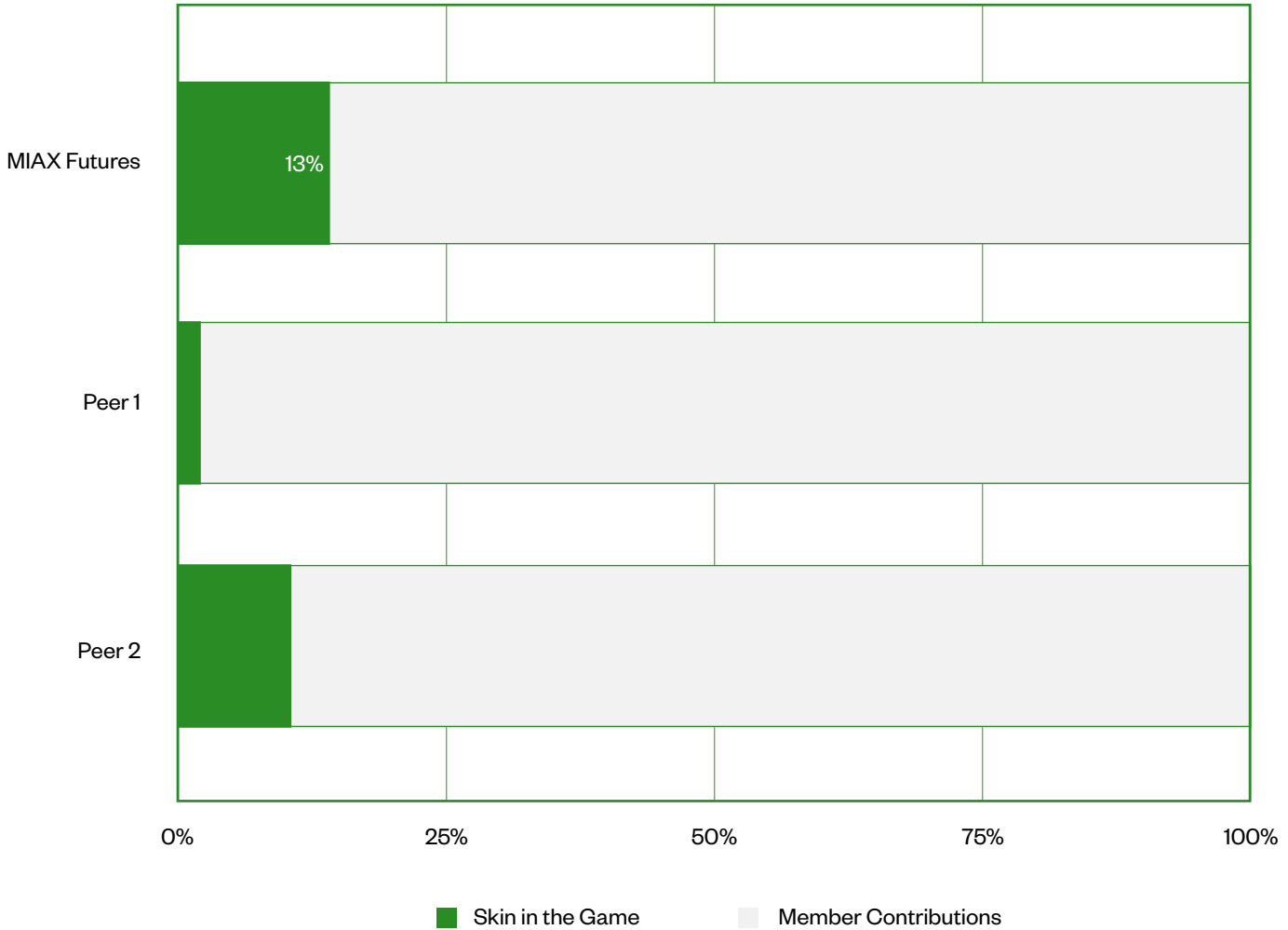
Defaulting member excess funds, security deposit, and margin
MIAX Futures skin in the game funds dedicated to the Bitnomial Products tranche (\$2,000,000)
Security Deposits of non-defaulting members authorized to trade Bitnomial Products only
MIAX Futures remaining skin in the game (\$4,000,000)
Security deposits of non-defaulting members authorized to trade only MIAX Futures Products
MIAX Futures working capital reserves

MIAX Futures Products + Bitnomial Products Member Default



Defaulting member excess funds, security deposit, and margin
Full amount of MIAX Futures skin in the game (\$6,000,000)
Security deposits of non-defaulting members authorized to trade MIAX Futures Products and Bitnomial Products, proportionally by product tranche. If the loss in one tranche exceeds the resources available for that tranche, MIAX Futures will apply the remaining security deposits of the other tranche.
MIAX Futures working capital reserves

Percentage of Total Financial Resources for a Member Default that is Skin in the Game or Member Contributions



MIAX Futures skin in the game resources are approximately 13% of total financial resources for a member default, a higher percentage than its peer futures market CCPs.

Recovery Plan

MIAX Futures' Recovery and Orderly Wind-Down Plan (Recovery Plan), reviewed and approved by the Risk Committee and provided to the CFTC, assesses the effectiveness of a full range of options for a recovery of MIAX Futures in the rare event that a clearing member default or operational loss could exhaust the firm's financial resources. This Recovery Plan identifies scenarios that could prevent MIAX Futures from providing its critical operations. In the event of a member default that exhausts financial resources available for a default, it also:

- Permits MIAX Futures to levy an assessment against members and seek voluntary contributions in certain circumstances.
- Permits MIAX Futures to implement variation margin gains haircutting in limited circumstances.
- Solely to be invoked as a last resort, permits MIAX Futures to implement a partial tear-up of contracts.

Recovery Plan Principles

As a subpart-C derivatives clearing organization, MIAX Futures is required to maintain a Recovery and Orderly Wind-Down Plan (Recovery Plan) that addresses extreme circumstances that could threaten the CCP's viability and financial strength. By maintaining a Recovery Plan that describes MIAX Futures' critical services, identifies scenarios that could lead to credit losses or liquidity shortfalls, and establishes tools to help manage and mitigate such losses or shortfalls, MIAX Futures is positioned to meet its settlement obligations timely and continue to contribute to the stability of the futures markets it serves and the broader US financial system.

Assessments

Losses remaining after applying the financial resources in the default waterfall for either tranche of the guaranty fund will be assessed to members authorized to trade in the tranche in which the loss remains in direct proportion to the members' total security deposit requirement for that tranche.

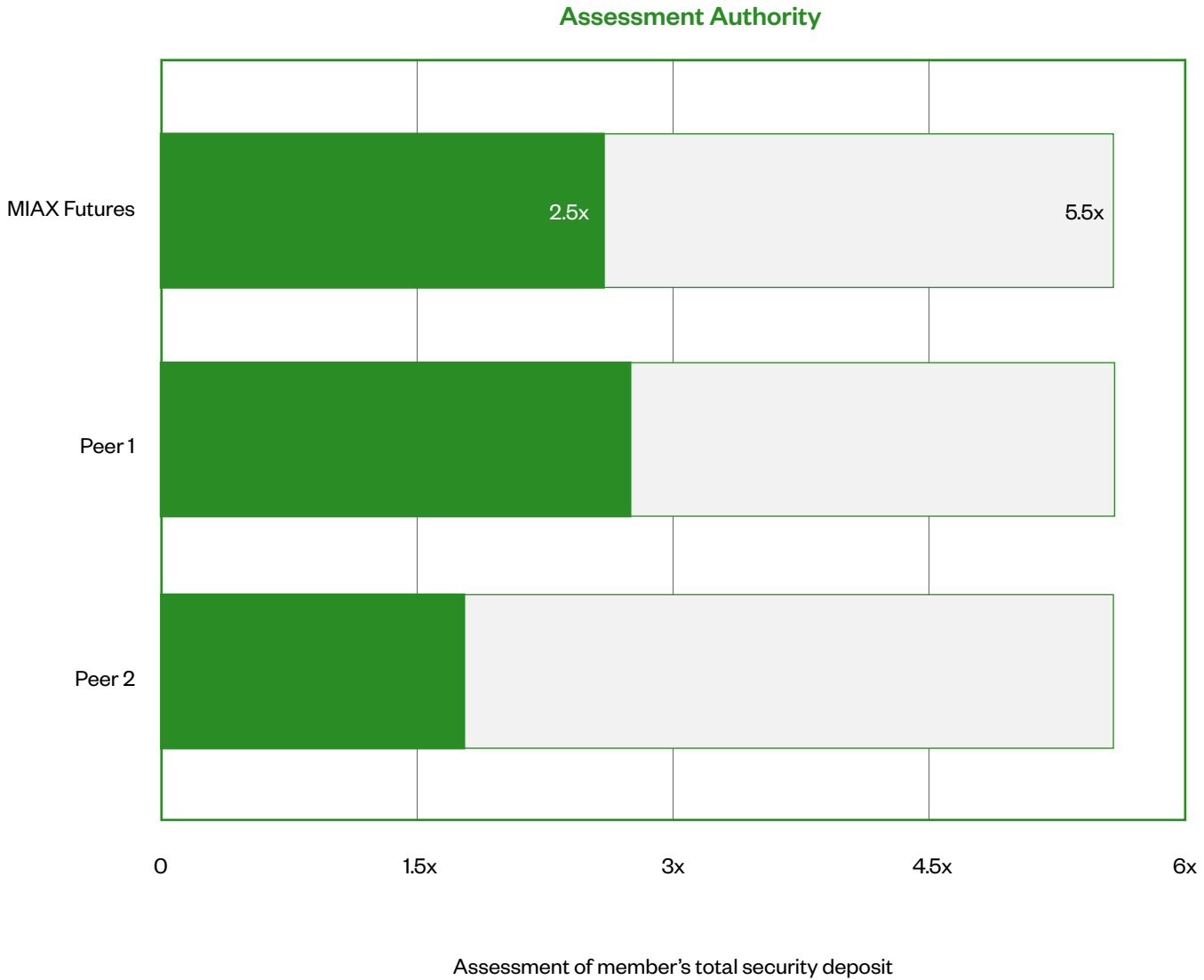
If the loss in one tranche exceeds the assessments to members in that tranche, the remaining loss would be assessed to members in the other tranche.

Each member is subject to an assessment up to 2.5 times the member's total security deposit at the time of the default for one default and up to 5.5 times the member's total security deposit for multiple defaults within a pre-defined period.

Voluntary Contributions

MIAX Futures may seek voluntary contributions from members at any point after a member default that exceeds the total financial resources available from the defaulting member or a liquidity shortfall.

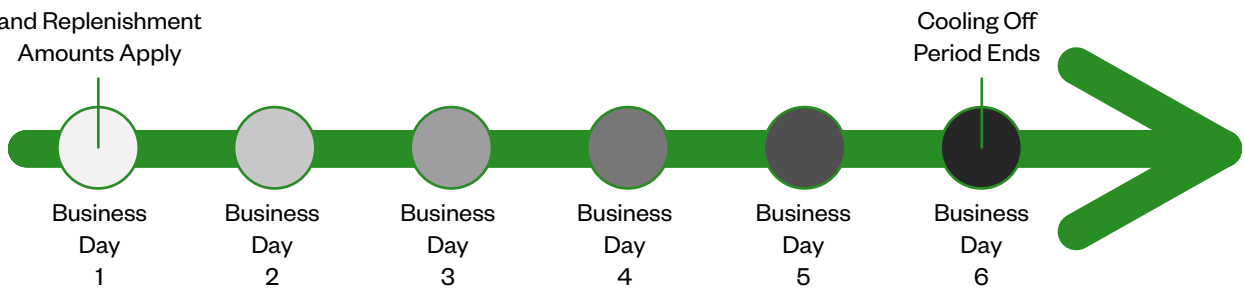
Any voluntary contributions made by members will not relieve members of their obligations under MIAX Futures rules, including obligations to replenish their security deposits or meet assessments when required.



■ Assessment Authority for One Default
 ■ Assessment Authority for Multiple Defaults in One Cooling Off Period

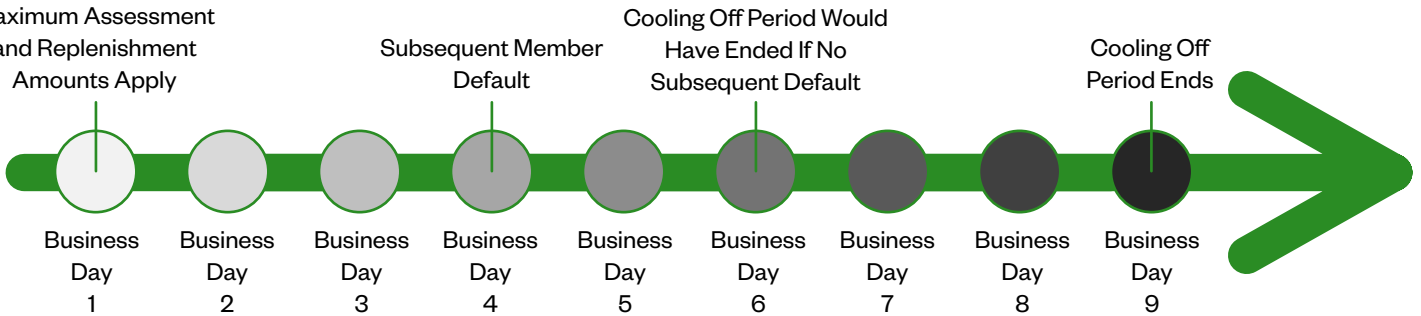
Single Member Default

Member Default; Cooling Off Period Begins and Maximum Assessment and Replenishment Amounts Apply



Multiple Member Default

Member Default; Cooling Off Period Begins and Maximum Assessment and Replenishment Amounts Apply



Variation Margin Gains Haircutting

If financial resources available in the default management waterfall are insufficient to cover losses associated with a member default (“Uncovered Loss”), MIAX Futures’ Board of Directors may approve a modified settlement cycle for all contracts to determine a net portfolio gain or loss for each proprietary and customer portfolio.

The net gain or loss will be determined separately for each member’s (i) proprietary positions and (ii) net positions of its customers. Members shall pay all net losses, plus assessments (if any), by the time required for the relevant settlement cycle. These payments minus the amount of the Uncovered Loss would determine the amount of funds available for MIAX Futures payments in respect of net member gains.

If the sum of members’ net gains exceeds the amount of the members’ net payments plus any Uncovered Loss, MIAX Futures would haircut the amount of the gains for each proprietary position and customer position on a pro rata basis for the current settlement cycle and for each successive cycle over the next two business days to equal the amount of the funds available for payment.

The number of days in which this process is run may be extended by MIAX Futures for up to five total business days.

Partial Tear-Ups

MIAX Futures may issue notice to members following a Uncovered Loss allowing members to voluntarily agree to have one or more proprietary contracts or, with a customer’s consent, one or more of each such customer’s contracts that are opposite a remaining open position of a defaulting member extinguished by MIAX Futures.

MIAX Futures’ Risk Committee may instruct MIAX Futures to extinguish a portion of the remaining open positions of a defaulted member through a partial-tear up of proprietary and customer positions of non-defaulting members or non-defaulting customer positions of the defaulted member. If MIAX Futures pursues a line-by-line tear-up against remaining open positions of the defaulted member, such tear-up would be allocated proportionately to opposite contracts held by non-defaulting members, customers of non-defaulting members, and non-defaulting customers of the defaulted member.

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