OFR BRIEF SERIES
OFFICE OF FINANCIAL RESEARCH

25-01 | May 8, 2025

Lessons From Trade Cancellation at the LME in March 2022

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In March 2022, nickel prices on the London Metal Exchange (LME) nearly quadrupled in just three trading days. This price rise threatened to put several clearing members into default and exhaust the default fund of its central counterparty (CCP). The LME responded in an unprecedented fashion by canceling eight hours of nickel market trades. Though challenged in court, its authority to do so was ultimately upheld. This brief highlights key lessons that can be learned more broadly for CCP risk management.

In March 2022, nickel prices on the London Metal Exchange (LME) nearly quadrupled in three trading days. The price surge forced the clearinghouse associated with the exchange, LME Clear, to issue large margin calls. The size of these calls threatened to put 12 of its 45 clearing members into default and exhaust its default fund. The LME responded by suspending trade and canceling eight hours of trades in nickel contracts. Trade cancellation by exchanges is rare, and the sheer volume of trades voided by the LME was unprecedented. Nevertheless, the United Kingdom's High Court upheld its authority to do so when market participants challenged this in court.

The response of the LME Group to the stress in the nickel market was as noteworthy as the stress itself. Central counterparties (CCPs), like LME Clear, are third parties that guarantee contract performance to both buyer and seller should either fail. They do so by requiring clearing members to provide collateral and mutualized resources that can be used to cover losses in the event of default. CCPs have a "playbook" of procedures they plan to undertake to resolve distress, with rules for allocating losses. The predictability of these procedures is important, particularly because of the rise in cleared product volumes due to derivatives clearing mandates. During nickel market stress in March 2022, however, LME Clear did not follow the playbook because the LME, an exchange, intervened to void trades.

A recent OFR Working Paper details the events of the LME stress episode. In doing so, it sheds light on the economics of trade cancellation as a potential tool in resolving distress at CCPs. This OFR Brief describes three lessons from the LME case that are broadly relevant for CCP risk management.

Lesson 1: Poorly managed client trading activity can threaten financial stability

Central clearing is a two-tiered system comprised of clearing members and their clients. CCPs directly screen

and monitor clearing members for their ongoing creditworthiness. Clearing members are then permitted to clear trades on their own account or, additionally, clear trades on behalf of clients. When doing so, clearing members are responsible for any margin their clients fail to post, so they have reason to screen their clients. In general, clearing members tend to be large, well-resourced institutions and may include, for example, the global systemically important banks (G-SIBs). Clients like hedge funds or commodity producers tend to be smaller and may be more likely to default. Defaults may result from counterparty credit risk, when clients cannot cover obligations because they are poorly managed, or, as in the case of LME, wrong-way risk when these clients face sudden large losses on derivatives positions that overwhelm their available liquid resources.

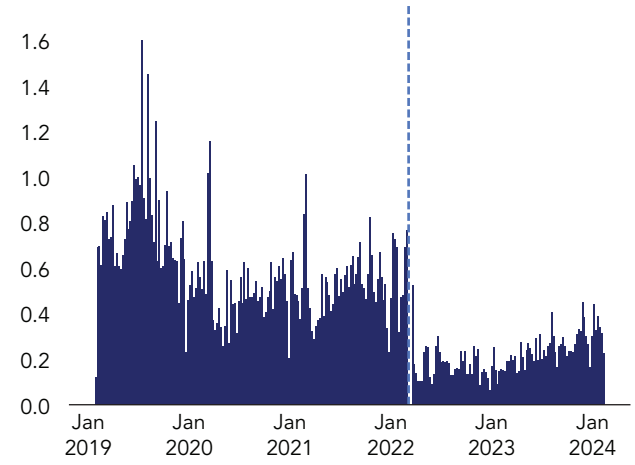
The episode of extreme stress at the LME was prompted by clients' trading activity rather than clearing members themselves. Nickel faced upward price pressure after Russia invaded Ukraine in February 2022 because of concerns that sanctions on Russia could restrict the global supply of nickel. However, the upward price movements were exacerbated by large nickel short positions held by market participants, including the Tsingshan Holding Group (THG), a large metal manufacturer. About 80% of THG's short position had been placed in the uncleared OTC market and had not been reported to LME Clear. The CCP, therefore, did not appreciate the extent of margining demands THG faced as a result of upward price movements.

The spike in nickel prices during March 3-8 (see **Figure 1a**) came from the large liquidity demands placed on nickel shorts like THG. Some demands came from calls for initial margin made by LME Clear because of rising volatility in nickel prices. Some came from variation margin calls due to the rising nickel price, both in the cleared and uncleared market. With depleted liquid resources, nickel shorts would have to go long nickel to avoid continued margin calls, which had the perverse effect of furthering the rise in prices. Moreover, other traders may have opportunistically bought nickel to raise the price, figuring they could sell it back to the shorts at elevated prices.

Figure 1. LME 3M Nickel Price and Trade Volume, 2020 - 2023

Figure 1a. Daily Price

Figure 1b. Weekly Trade Volume



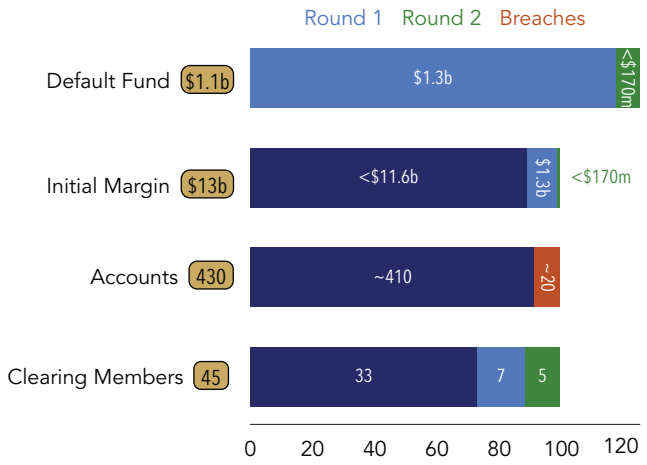
Sources: Bloomberg; Oliver Wyman 2023; Author's analysis

The consequences of trading activity among just a handful of clients nevertheless threatened to bring about systemic consequences. The variation margin calls implied by the rise in prices were so large that clients could not pay them. Moreover, even clearing members meant to act as a backstop could not pay them. The CCP would have to dip into the pre-funded resources that it set aside to cover losses from defaults, and even these funds would not be enough. In the scenario analysis performed by LME Clear while the crisis was unfolding, 12 of their 45 clearing members would have defaulted had LME Clear proceeded with their usual margining practices, and default losses

would have exceeded the default fund by ~$400m (see **Figure 2**).

Some features of the nickel price spike in March 2022 were specific to the LME, but the important role played by client trading is consistent with historical examples of distress in centrally cleared markets. This was the case at the Paris clearinghouse Caisse de Liquidation des Affaires en Marchandises (CLAM) when it collapsed in 1974 due to upheaval in the market for sugar futures. It was also the case at the New Zealand CCP, the International Commodities Clearing House, in 1989 when a client caused stress by taking a large short position in government bond futures contracts.

Figure 2. Hypothetical Default Scenario at LME Clear, 08 March 2022



Sources: ClarusFT; Author's analysis

Lesson 2: Trade cancellation can ease liquidity demands but comes with consequences

The LME Group aimed to resolve the market stress of March 2022 without putting clearing members into default. Doing so required that the nickel shorts receive help meeting their margin obligations. Such efforts were broad-based; they relied on interventions by several market actors including the LME Group. The actions were also multi-faceted. Various strategies helped source liquid resources, reduce margin obligations, and extend payment deadlines. Though unprecedented, trade cancellation was one such action easing demands on the liquid resources of the nickel shorts.

More specifically, in the early hours of March 8, LME Clear delayed margin calls, which gave members more time to source liquidity. Later that day, the LME suspended trading, which ensured that margin demands would not further deteriorate while members sourced liquidity. During the following week, JP Morgan and other creditors set up an emergency credit facility to fund THG. THG also obtained a commodity swap, providing nickel that could be delivered against its short future positions at LME Clear and, therefore, helping to mitigate the size of its remaining margin obligations.

LME's announcement that it would void nickel trades from the morning of March 8 similarly served to ease margin demands on nickel shorts. Prices of nickel had spiked in the early hours of March 8. Under LME Clear's standard margining practices, this meant large intraday variation margin calls for nickel shorts. When these trades were voided, the prevailing price declined, reducing these margin obligations.

Trade cancellation, however, was not beneficial for all market participants. It eliminated $1.3 billion of profit and loss between parties. Hedge funds like Elliott and Jane Street were among those who lost out. They had reached agreements to sell nickel at elevated prices in the early hours of March 8. After the trade cancellation, though, they could no longer fetch such high prices for nickel sales.

More generally, trade cancellation runs in tension with a primary function of CCPs, which is to help ensure contract performance. By assuring that financial products will behave as expected, CCPs enable disparate market participants, who may not know or trust each other, to trade derivatives more easily. The March 2022 episode at the LME demonstrates how trade cancellation may reduce confidence in the cleared derivatives market. After the events, U.S. G-SIBs marked down the credit rating of accounts with LME Clear (see **Figure 3**). Moreover, market participants reduced nickel trading on the LME even after the market was re-opened (see **Figure 1b**). Generally, when activity moves from cleared market segments to uncleared

venues, where it cannot be monitored or managed, it poses additional risk to the financial system.

Figure 3. Bank Risk Assessments of LME Clear and Other CCPs, 2016-2023

Figure 3a. Implied 1-Year Default Probabilities

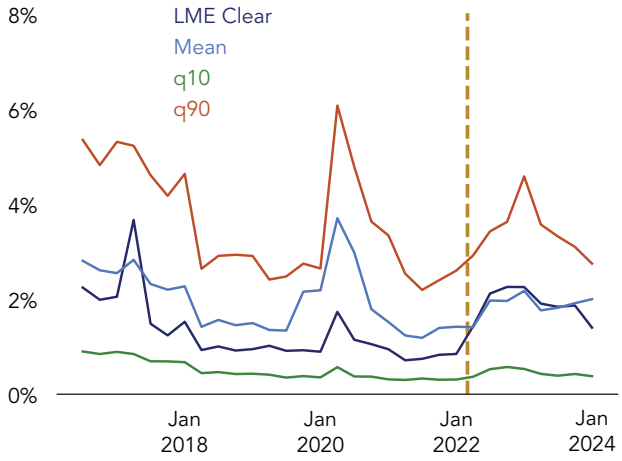
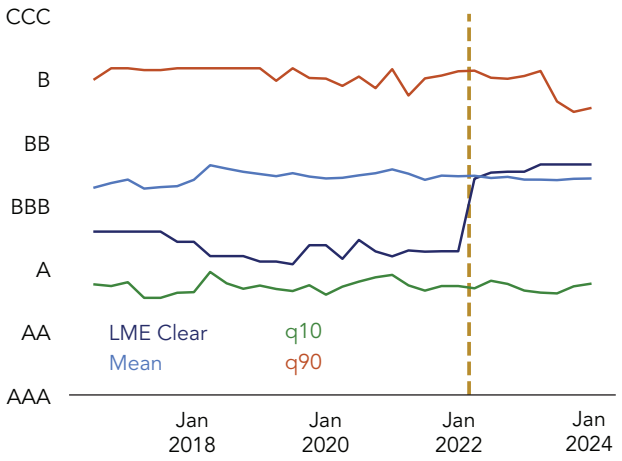


Figure 3b. Credit Ratings



Notes: This figure plots implied 1-year default probabilities and credit ratings for various CCPs in the FR Y-14Q data. Each CCP is assigned the average default probability or credit rating across all reporting institutions in the data. The result for LME Clear is plotted together with the mean, q10, and q90 in the population of all CCPs.

Sources: ClarusFT; Author's analysis

Lesson 3: CCP procedures for allocating large losses remain untested and potentially unreliable

CCPs manage default risk by requiring clearing members to set aside resources in the form of initial margin and default fund contributions. If a clearing member cannot make good on its or its clients' variation margin obligations, the CCP can use these pre-funded resources to cover losses. Initial margins and default funds are calibrated in size to be sufficient to cover default losses in most extreme scenarios. It is, therefore, uncommon to see circumstances in which CCPs exhaust these resources and reach the "end of the waterfall."

The case of LME is noteworthy because it was a rare instance in which clearing member default threatened the CCP with losses that would have exhausted its funds. It is also noteworthy because, by voiding trades, the LME prevented members from defaulting and allowed LME Clear to avoid turning to margin accounts to cover losses. In short, in a rare case when the provisions of the default waterfall could have been applied, the LME Group avoided using them. This raises the question of how any CCP might behave in such extreme circumstances. Can they be expected to follow the course of action outlined by the default waterfall?

In ruling on lawsuits against the LME, the UK High Court upheld the LME's authority to void trades. This ruling was based on the exchange's rulebook, which grants it a broad license to cancel trades, even if the application was much broader than market participants had anticipated. The ruling permitted the exchange to cancel trades even after they had been cleared. It affirmed that exchanges have broad latitude to interpret what constitutes "market disorder" when implementing their rulebook. This decision clarified the power of exchanges to cancel trades. However, if CCPs can rely on exchanges to use trade cancellation powers during stress events, it will be less clear that they will follow the default waterfall in those circumstances.

To be sure, various factors may mitigate the force of the UK High Court's ruling. Jurisdictions outside the UK could rule differently. Exchanges could amend their

rulebooks such that they no longer have such broad cancellation authorities. In the case of the March 2022 nickel trades, LME itself, the exchange, and LME Clear, the CCP, share common ownership. Where this is not true, canceling trades could be more difficult.

Still, the ruling raises questions about trade cancellation's potential adverse or unintended consequences. Some of the funds in the default waterfall are called "skin-in-the-game" and are put up by the owners of the CCP themselves. The threat of losing these funds incentivizes the CCP to conduct risk management and ensure that no stress episode rises to the level that triggers the default waterfall. If a CCP can always avoid turning to the default waterfall even in extreme stress scenarios, e.g., by canceling trades, it never stands to lose the capital that gives it skin in the game. However, this means that it may not have the proper incentives to conduct essential risk-management activities, e.g., monitoring the positions of smaller clients.

Conclusion

The central clearing of derivatives has grown since the financial crisis of 2007-2009, largely due to the mandates and incentives put in place by regulators to encourage its use. In principle, central clearing of derivatives can help make these markets less complex, more transparent, and more reliable. However, central clearing is not a panacea for the usual hazards of derivatives trading, such as counterparty credit risk or wrong-way risk. CCPs must be adequately incentivized (1) to prevent stress episodes from emerging by, for example, adequately monitoring concentrated positions and (2) to ensure contract performance to the greatest extent possible during periods of stress. The nickel market stress at the LME in March 2022 demonstrates that while trade cancellation may help exchanges manage episodes of market stress, its availability may compromise the vital functions to be performed by CCPs in today's markets.

Works Cited

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Endnotes

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