

LCH

Trading with confidence: Default risk in digital asset derivatives markets

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LSEG

A photograph of a person with a large green backpack climbing a snowy mountain slope. The person is wearing dark clothing and is seen from behind, moving up the incline. The background shows a clear sky and the snow-covered terrain.

Introduction

The recent US\$19 billion crypto market's liquidation, in October 2025, shows to some extent the market's resiliency and strength. We argue that it also exposed its fragilities, with Bitcoin losing more than 10% in the process.¹ Volatility and crashes are nothing new in finance, but it is critical to avoid pro-cyclical behaviour i.e. mechanisms (automated or otherwise) that add to the immediate volatility and stress. This is what "forced liquidations" induce in the market – another layer of liquidity stress precisely at the wrong time.

Digital asset derivatives promise a more open, efficient financial system. However, industry shocks highlight, (such as that in 2021) fragilities. To realise their full potential, digital asset derivatives marketplaces could benefit from adopting the principles that have long supported traditional finance (TradFi): transparent, and robust default waterfalls.

This is what drove the partnership between GFO-X and LCH SA, formed four years ago. TradFi has faced innovation, disruption and crisis before. Applying battle-tested expertise for risk management enhances investor confidence and eventually adoption in digital asset derivatives. The combination brings best-of-breed technology and expertise to institutional digital asset derivatives investors: a trading venue engineered for digital asset derivatives, and risk management expertise from a leading TradFi clearing house whose members cover a large part of the capital market participants.

A period of technological disruption

Investing in digital asset derivatives can still be highly turbulent: high potential but developing market infrastructure. Particularly for derivatives, where the main risk is counterparty risk, stringent membership criteria is critical. However, the strongest support comes from a robust risk management framework, i.e. a rigorous margining system that requires participants to cover their losses as they occur.

Many digital asset derivatives trading venues have adopted an IM/VM mechanism (initial margin/variation margin), similar to that applied in TradFi a long time ago. It is the last safety element in the chain – a clear risk waterfall – that seems to be missing.

¹Binance campaign triggered October crypto collapse, says OKX CEO
Record \$19bn crypto crash exposes dark side of leverage boom – DL News

When risk management fails

The fragility of crypto markets risk management became clear during the US\$19 billion liquidation event in October 2025 – the biggest in crypto assets history. In just 24 hours, US\$19.1 billion in leveraged positions vanished, and the market dropped by 10%.¹ There was limited visibility into those transactions, and it would be helpful to understand whether any available “best execution” data can illustrate how prices were determined. Further, the liquidations appear to have played a role in the broader market movement, and understanding their contribution could provide useful context around the slide.

When volatility spikes, liquidity can quickly dry up, and uncoordinated automated liquidations across multiple exchanges can exacerbate the situation. If liquidity disappears to the point where losing positions cannot be liquidated, or margin amounts are insufficient, you are on your own. Exchanges do not have any “skin in the game” – participation in the overall losses. Losses are covered by a default process, but this is dependent on the liquidity of the platform itself.

A market without the usual safety nets

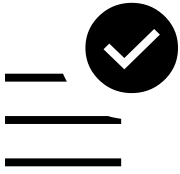
Unlike TradFi, the crypto assets world can lack the structured ecosystem of brokers, clearing members and regulated exchanges. In most cases, investors connect directly to trading venues without intermediaries. This direct access can make the system look more efficient, but it also reduces oversight, transparency, and in the end, resiliency.

Crypto assets platforms/operators combine multiple roles – trading, execution, margining, settlement and default fund management – all under one roof. In TradFi, these are regulated entities, most often separate, each with its own risk management process, and all held to the same standards. The all-in-one model can make it more challenging to manage risk across different products and venues and offers limited clarity on whether firms assess risk in a coherent and consistent way. It also enables extreme arbitrary leverage – sometimes 50 or even 100 times² far beyond anything seen in traditional markets. By contrast, institutional products in TradFi tie leverage to margin requirements, ensuring a more balanced approach.

Decentralisation, often considered one of crypto assets’ greatest virtues, can also make risk management harder. Without central structures, it can be difficult to mutualise or spread risk effectively – and this can be problematic when markets move fast.

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²<https://www.financemagnates.com/cryptocurrency/lmax-group-launches-100x-leverage-crypto-perps-for-wall-street/>
<https://support.kraken.com/articles/kraken-perps>



LCH also performs periodic “fire drills” to test its default management process in “live” conditions with all its participants.

TradFi’s (not-so) secret weapon: the “default waterfall”

Traditional markets have spent decades perfecting how to manage defaults. If traders fail to meet their obligations, brokers are the first line of defence. The clearing house then steps in, in LCH’s case using a structured auction process to reduce the potential impact on the wider market. This spreads exposure, maintains liquidity and prevents panic selling. Crypto assets traders often comment on the complexities of TradFi governance, but this approach protects the system with multiple layers. LCH also performs periodic “fire drills” to test its default management process in “live” conditions with all its participants.

By contrast, many crypto assets platforms liquidate each instrument one by one, immediately hitting the market. This damages diversification and can quickly drain liquidity. Understanding this difference is key to seeing why cleared markets are more resilient.

One of the leading native crypto derivatives venues, for example, has around US\$200 million in its default fund – a tiny amount compared to the value of its open positions of tens of billions. Furthermore, the default fund is in Bitcoin. This illustrates pro-cyclicality in its purest form: if the market was to lose 30%, the protection cushion would also lose 30%. The claim that participants’ risk is limited as long as liquidation is performed before the default is true but offers an imprudent view of the market risk.

What exactly is a default waterfall?

At the heart of every central counterparty (CCP) sits the “default waterfall” – a clear set of public rules and procedures for using the available resources if a clearing member defaults.



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At LCH DigitalAssetClear, defaulted positions are auctioned and clearing members are obliged to participate. The winning bidder or bidders take on the auctioned position, managing it in a controlled way. Losses are covered first by the defaulting member's collateral, second by the defaulting member's contribution to the default fund, then by the CCP itself, putting its own capital on the line, aligning its interests with the market's stability, and finally, by contributions from other participants.

How crypto markets handle defaults

The native digital asset derivatives platforms described earlier take a completely different approach. When a participant defaults, positions are immediately liquidated on the exchange's order books. If there is not enough liquidity, positions are assigned or unwound in a scramble to cover losses with whatever collateral is left. The term insurance itself implies a discovery process with a third party (the insurance company) when a loss occurs, as opposed to a default waterfall for which liabilities are "set in stone" (and funds are under direct control of the clearing house). In addition, it is unclear whether digital asset derivatives trading venues have "skin in the game" in the attribution of losses.

Why crypto derivatives' risk management falls short for centralised derivatives venues

Several issues can make crypto derivatives' risk management weaker. Rapid, line-by-line liquidations strip away diversification from the defaulting portfolio and worsen liquidity shocks. For coin-margined portfolios, the value of collateral decreases sharply. The same is true of default funds (when they exist), which are sometimes held in volatile assets rather than secured assets, such as cash euros or US dollars: when the market crashes, these funds lose value just when they are needed most. And if a major default occurs, exchanges could face operational disruption, with systems under stress just as panic spreads. Financial risk is compounded by operational risk.

Building a safer future: Integration, segregation, regulation

These problems do not just stem from fragmented liquidity – regulation of crypto markets globally is also fragmented when compared to other asset classes such as FX. The way forward is clear: digital asset derivatives need to move beyond speculation and into a mature, well-regulated risk-framework. On that front, TradFi has deployed effective solutions that work.

That is why LCH DigitalAssetClear has partnered with GFO-X to create a robust trading clearing structure for trading and clearing digital asset derivatives – segregated, regulated and ultimately, resilient. It is about building the next generation of financial infrastructure, where digital and traditional assets coexist safely, transparently and efficiently.

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