SOLIDUS LABS

Part One: Insider Trading
JUNE 2023

The 2023 Crypto Market Manipulation Report

Part One:

Insider Trading

www.soliduslabs.com

Introduction

The crypto industry is in the midst of a reckoning. Centralized exchanges (CEXs) are facing sweeping enforcement efforts and crises of investor confidence; decentralized exchanges (DEXs) are facing novel exploits and market abuse. But as other market participants' ongoing push to create more secure trading venues and resilient ETFs reflects, crypto's promise has never been more broadly accepted.

While cryptocurrencies do hold immense promise, the markets on which they trade today are rife with manipulation – some types known, and others new. On NFT marketplaces, for example, wash trading is common. And on DEXs, smart contract scammers, token price manipulators, and insider traders are far too prevalent. These problems must be solved to ensure investor confidence.

We developed this report series with that goal in mind: to help our clients – among them regulators, financial institutions, CEXs and DEXs – understand, investigate, and prevent novel forms of crypto market manipulation.

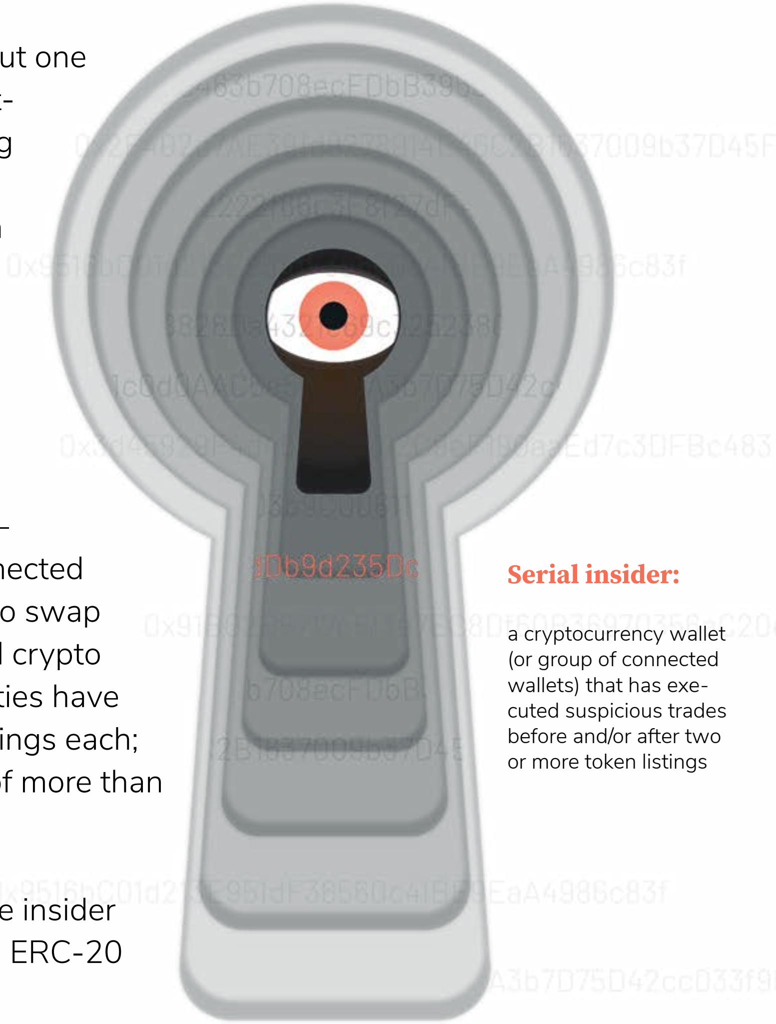
Sunlight is the best disinfectant; a common understanding of the problems we face will make crypto markets fairer for everybody.

56% of Crypto Token Listings Since 2021 Show Evidence of Insider Trading

Cryptocurrency insider trading is a clear problem, but one with a solution. Solidus' crypto market integrity platform HALO has detected evidence of insider trading via DEXs (decentralized exchanges) connected to 56% of all ERC-20 token listing announcements on a number of major crypto exchanges since January 2021.[1] Altogether, HALO has flagged more than 100 suspected insiders that have engaged in over 400 insider trading events.

Serial insider trading makes up the majority of this suspicious activity. Solidus has flagged 51 entities – individual cryptocurrency wallets, or groups of connected wallets – that have used decentralized exchanges to swap Ether, Tether, or USD Coin to buy soon-to-be-listed crypto tokens on two or more occasions. Ten of these entities have traded just before and after more than 10 token listings each; the three most prolific insiders have traded ahead of more than 25 listings apiece.

The table below summarizes Solidus' analysis of the insider trading events surrounding these major exchanges' ERC-20 token listing announcements.



Serial insider:

a cryptocurrency wallet (or group of connected wallets) that has executed suspicious trades before and/or after two or more token listings

Distinct insiders	105
Distinct one-time insiders	54
Distinct serial insiders (≥2 listings)	51
Distinct serial insiders (>10 listings)	10
Distinct serial insiders (>25 listings)	3
Average of insiders per listing with insider activity	3.14

234

ERC-20 token listing announcements

131

ERC-20 token listings with insider activity

56%

of listings impacted by insider trading

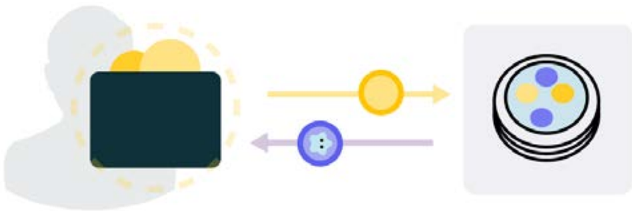
411

Number of distinct insider trades

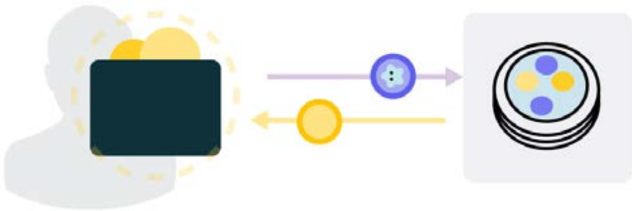
1. DEX-Based Crypto Insider - an entity that uses a cryptocurrency wallet (or group of connected wallets) to execute on-chain purchases of a token just before its listing is announced by a centralized exchange – and on-chain sales of that same token shortly after that listing announcement

On-chain insider trading schemes

The vast majority of the suspicious trading patterns flagged by Solidus HALO as part of this research involved the following process:



1. A cryptocurrency wallet bought the token using a decentralized exchange days or hours before its listing was announced by a centralized exchange/crypto platform



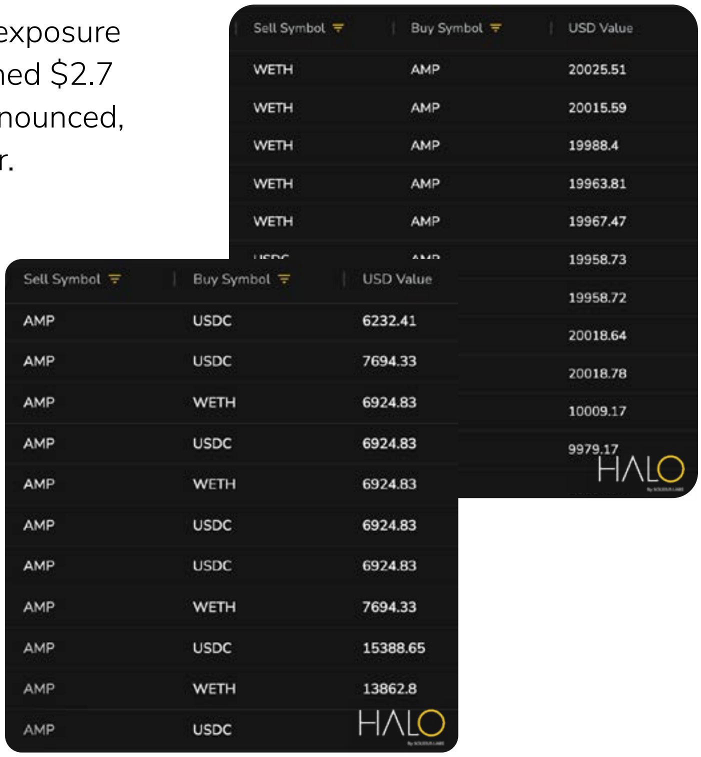
2. The wallet sold the token using a DEX shortly after.

In some cases, the wallet used a DEX in only one of these steps: To purchase the token before its listing announcement, or to sell it soon after. In rare cases, however, the wallet's owner avoided DEXs altogether, and used the wallet only to transfer the token from one centralized exchange to another. In these three alternative scenarios, the wallet's owner may have been seeking to minimize transaction cost, maximize profits, or avoid triggering centralized exchanges' insider trading detection models

A Serial Insider Case Study

One insider traded ahead of 14 listings using DEXs – and as many as 22 more using CEXs

One trader that HALO flagged used nine separate but connected Ethereum addresses to frontrun 14 token listing announcements on one exchange throughout 2021. These addresses – each of which have direct or indirect exposure to a single consolidation address – spent a combined $2.7 million buying tokens before their listings were announced, only to flip them for a profit of over $300,000 after.



Sell Symbol	Buy Symbol	USD Value
WETH	AMP	20025.51
WETH	AMP	20015.59
WETH	AMP	19988.4
WETH	AMP	19963.81
WETH	AMP	19967.47
		19958.73
		19958.72
		20018.64
		20018.78
		10009.17
		9979.17

Sell Symbol	Buy Symbol	USD Value
AMP	USDC	6232.41
AMP	USDC	7694.33
AMP	WETH	6924.83
AMP	USDC	6924.83
AMP	WETH	6924.83
AMP	USDC	6924.83
AMP	USDC	6924.83
AMP	WETH	7694.33
AMP	USDC	15388.65
AMP	WETH	13862.8
AMP	USDC	

Just 21 hours before the listing of Amp (AMP) on one centralized exchange, for example, one of these addresses began buying AMP on DEXs in increments of $10,000 to $20,000. In total, the address purchased $230,000 worth of AMP in a buying spree completed 12 hours before the listing announcement.

The token's listing was announced the next morning. 24 minutes later, the address began to offload its AMP holdings.

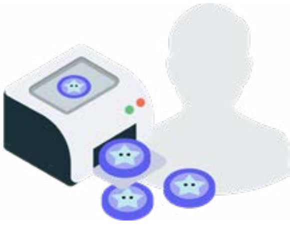
The address collected $307,000 worth of WETH and USDC from its sell-off, which it then converted into USDT. Within three hours, the address had fully exited its position, generating a single-day profit of $77,000.

Four other wallet addresses tied to this insider have on-chain transaction histories that suggest they may have engaged in insider trading using centralized exchanges as well. These four addresses have collectively received 22 different ERC-20 tokens from centralized exchange addresses either just before or just after each of those tokens were listed, only to transfer them to another centralized exchange soon after.

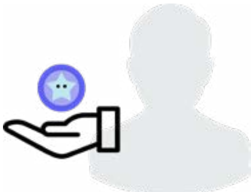
AMP's price and the insider's trading events, as visualized in Solidus HALO

54 additional wallets have traded ahead of just one ERC-20 token listing announcement – potentially indicative of insider trading by token issuers, market makers, or investment firms

Types of crypto market participants whose employees may have access to MNPI:



Token issuers



Market makers working on behalf of token issuers

Investment firms providing capital to token issuers

Crypto trading platforms

Solidus has also identified at least 54 wallets that have engaged in suspicious trading ahead of just one token listing announcement. It's possible that some of these trades were well-timed but otherwise benign. However, these 54 wallets in particular appear to have been created just to trade one soon-to-be-listed token, as their on-chain trading histories consist solely of transactions in which they funded the wallet, bought the token just before its listing, and then sold it and transferred the proceeds moments after.

Several of these suspicious wallets' owners have also used obfuscation tools and techniques. Some have routed their funds through privacy protocols like Tornado Cash or the Secret Network; others have transferred their proceeds to centralized exchanges that do not enforce know your customer (KYC) policies.

While we cannot rule out the role of luck without further investigation by regulators and law enforcement, it is possible that the owners of many of these cryptocurrency wallets had access to material nonpublic information regarding the listing. The employees of at least four different types of crypto market participants could have access to this MNPI:

- Token issuers
- Market makers working on behalf of token issuers
- Investment firms providing capital to token issuers
- Crypto trading platforms

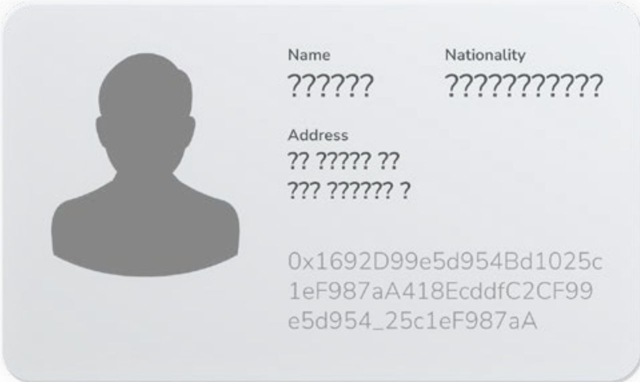
That being said, further analysis would be needed to support the case that these trades were executed by individuals with access to MNPI.

Decentralized exchanges change the game for crypto insiders

The DEX-based approach to insider trading represents a major departure from traditional finance, both in terms of its mechanics and its frequency. In traditional stock markets, insiders have three main ways to profit from material nonpublic information (MNPI): by trading correlated assets under their legal name, by tipping off their friends or relatives, or by selling information to strangers. In crypto, insiders to the token listing process can profit from two additional approaches:

1. Buying a digital asset on a centralized exchange (CEX) on which it is already listed, on the knowledge that it will soon be listed on another CEX

2. Buying a digital asset on a DEX using a pseudonymous cryptocurrency wallet.



Why DEXs?

On DEXs insiders can use pseudonymous cryptocurrency wallets instead of accounts subject to KYC requirements.

Our findings suggest that the pseudonymity of DEX trading, along with the fact that crypto assets are often listed on DEXs and other CEXs well before they are listed on major exchanges, increases the appeal – and therefore frequency – of insider trading in digital assets relative to stock markets. Academic research supports this hypothesis: Researchers at the University of Technology Sydney estimate that stock-based insider trading occurs ahead of just 5% of earnings announcements and 20% of mergers and acquisitions – far lower than the 56% we've observed in our sample of ERC-20 token listing announcements.

For employees at crypto exchanges, token issuers, market makers, or any other market participant with access to MNPI, leaning into the pseudonymity of blockchains may seem like the ideal method to avoid detection. But blockchains aren't just pseudonymous; they're also permanent, public, and traceable. With Solidus DEX-Based Insider Trading Detection tool, exchanges and regulators can hold these rogue traders accountable.

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Enabling Safe Crypto Trading

Solidus Labs is the category-definer for crypto market integrity solutions - trade surveillance, transaction monitoring, and threat intelligence.

Our mission is to enable safe crypto trading throughout the investment journey across all centralized and decentralized markets. As the founder of industry-leading initiatives like the Crypto Market Integrity Coalition and DACOM Summit, and in everything we do, Solidus is deeply committed to ushering in the financial markets of tomorrow.

Crypto exchanges, financial institutionsand regulators globally rely on Solidus HALO — our real-time market integrityplatform — to safeguard their platforms, investors and consumers.

Get in touch to schedule a demo, or learn more:

GET IN TOUCH

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