What Is Slippage in Crypto?

The gap between the price you clicked and the price you got — what causes it, why the tolerance setting is a trap in both directions, and how it gets weaponised against you.

Alain AI Lab Research · Published July 25, 2026 · 10 min read

Slippage is the difference between the price you expected when you submitted a trade and the price at which it actually executed. You click buy at one number, the confirmation shows another, and the gap between them is money you did not intend to spend. It is not a fee, nobody charges it, and it appears on no statement — which is precisely why it is the most underestimated cost in crypto trading. This report is about the practical side: the settings you control, the mistakes that make it worse, and the fact that on decentralised exchanges your slippage tolerance is a number strangers can read and exploit. For the market conditions that produce it, see what market liquidity is.

AT A GLANCE

WHAT IT IS **Expected price vs executed price**	TWO CAUSES **Price moved, or depth ran out**	NOT THE SAME AS **Price impact, or the spread**
THE DIAL **Slippage tolerance, on DEXs**	SET TOO HIGH **You invite sandwich attacks**	SET TOO LOW **Failed trade, gas still spent**

01

Two different things called slippage

Slippage has two distinct causes, and treating them as one thing is why people misdiagnose it. The first is *timing*: between the moment you submit an order and the moment it executes, the market moved. Someone else traded first, news landed, a large order arrived — and the

price you saw is simply no longer the price on offer. Nothing about your order caused this; you were just late, by milliseconds or by blocks.

The second is *your own size*: your order is larger than the quantity available at the best price, so it consumes what is there and reaches into worse prices to complete. Here you are not a victim of timing but of your own footprint — the market moved because you moved it. This second kind is more properly called price impact, and separating it from timing slippage matters because the remedies are opposite. Timing slippage is reduced by executing faster or in calmer conditions; impact slippage is reduced only by trading smaller, or more patiently.

02

Slippage, impact, and spread are three things

Three costs get blurred together constantly, and untangling them is worth a moment. The *spread* is the standing gap between the best buy and best sell price — a cost you pay simply for choosing to trade now rather than waiting, and it exists before your order does. *Price impact* is how far your own order pushes the price as it consumes available depth — a function purely of your size against the market's thickness, and in principle calculable in advance. *Slippage*, strictly, is the surprise: the gap between what you were quoted and what you got.

The distinction has a practical edge. Price impact is predictable — a good interface will estimate it before you confirm, and if the number is ugly, that is information you have *before* committing. Slippage from timing is not predictable, only bounded. So a trader who understands the difference knows which part of the cost they can plan away and which part they can only cap. Most tools blur the two under one label, so read whether the figure you are shown is an estimate of impact or a limit on total deviation — they are not the same number.

03

The tolerance setting

On decentralised exchanges you are handed an explicit dial: slippage tolerance, expressed as a percentage. It is not a prediction and not a fee — it is an instruction. It tells the contract the worst price you are willing to accept, and if execution would land beyond that limit, the transaction reverts rather than filling.

That makes it a protective boundary, and the correct mental model is a limit rather than a setting to optimise. You are saying: complete this trade only if the outcome remains within this distance of what I was shown. Understood that way, the two failure modes become obvious. Set it too tight and ordinary market movement pushes execution outside your limit, so the trade fails — and on-chain, a failed transaction still consumes gas, so you pay for nothing. Set it too loose and you have authorised a far worse fill than you would ever accept knowingly — which is where the trouble starts.

04

Why a loose setting is dangerous

Here is the part most guides omit. On a public blockchain, your pending transaction is visible before it is confirmed — sitting in the queue, readable by anyone, including the slippage tolerance you set. That number is not private. It is a published statement of the worst price you have agreed to accept.

This enables the *sandwich attack*. An observer sees your pending buy, places their own buy immediately ahead of it, which pushes the price up; your trade then executes at that inflated price, filling anywhere up to the limit you authorised; and they immediately sell into the price your purchase just supported, pocketing the difference. You have not been hacked and nothing has malfunctioned — you simply pre-approved a worse price and someone took the space between. This belongs to a broader category known as maximal extractable value, the profit available to whoever can order transactions within a block, and it is why slippage tolerance is a security setting as much as an execution one. A high tolerance on a thin pair is an open invitation, and the attacker's profit is bounded by exactly the number you chose.

> *Your slippage tolerance is not a preference. It is a public offer — a signed statement of the worst price you will accept, readable by everyone before your trade confirms. Set it as if someone is reading it, because someone is.*

05

Where slippage bites hardest

Four conditions reliably produce the worst outcomes, and they compound. Thin markets are the first and most obvious: the less depth sitting near the current price, the further your order reaches to fill, so the same trade that is invisible in a major pair can be brutal in a

small one. Volatility is the second — fast markets move more between submission and execution, so timing slippage grows exactly when you are most likely to be trading urgently.

Order size relative to the market is the third, and it is the one most under your control: slippage is not a property of an amount of money but of that amount *relative to available depth*, which is why a sum that trades cleanly in one pair devastates another. The fourth is chain congestion. On-chain, a transaction waits to be included, and the longer it waits the more the price can drift from what you were quoted — so network conditions become an execution cost, a link with no equivalent on a centralised venue where the round trip is measured in milliseconds rather than blocks.

06

Slippage can also be positive

It is worth noting that the gap can fall in your favour. If the price moves in your direction between submission and execution, you fill better than expected — positive slippage. Some venues pass this improvement to you; others quietly keep it, filling you at your quoted price and retaining the difference, which is a meaningful distinction buried in the fine print of how a platform routes orders.

Do not build anything on this. Positive slippage is a pleasant accident, not a strategy, and it is not symmetric in practice: the conditions that produce large negative slippage — thin books, panic, congestion — are systematically more common than their opposite, because when everyone is rushing the same direction the price is far more likely to run away from you than toward you. Treat favourable fills as noise and unfavourable ones as the cost to plan around.

07

Reducing it, practically

Several habits genuinely help. The most effective is to use limit orders where you can — a limit order specifies a price and simply will not fill worse, which eliminates negative slippage entirely at the cost of possibly not filling at all, the trade-off examined in how order books work. The second is to break large orders into smaller pieces so each consumes less depth, the logic behind laddering your orders, accepting more fees in exchange for a better average price.

Beyond that: trade the deepest venue and pair available for the asset rather than the most convenient one; avoid executing into the first minutes of a violent move or a major announcement, when both volatility and congestion peak; check the estimated price impact before confirming and treat an alarming figure as a signal to reduce size rather than a formality to click through; and set tolerance deliberately per trade rather than leaving a default in place across wildly different pairs. On-chain, some routes offer private submission that keeps a transaction out of the public queue until inclusion, which addresses the sandwich problem directly — a mechanism worth understanding if you trade meaningful size on decentralised exchanges.

08

Counting the real cost

The habit that separates disciplined traders from the rest is measuring slippage rather than assuming it. Compare the price you expected with the price you received, on every meaningful trade, and record the difference. That number is a genuine cost of your strategy, and for anyone trading frequently or in size it routinely dwarfs the exchange fees they scrutinise instead — because fees are advertised and slippage is not.

Two consequences follow. First, a strategy that looks profitable before execution costs can be unprofitable after them, and the only way to know is to keep the record. Second, slippage applies on the way out as well as in — it is charged twice on every round trip, and the exit is usually the worse of the two, since you are more likely to be selling in a hurry, into a falling market, when depth has thinned. That asymmetry is the strongest argument for planning exits in advance rather than improvising them, as covered in how to set a take profit. The trade you can enter cheaply is not necessarily one you can leave cheaply, and slippage is where that difference is paid.

“Ye have sown much, and bring in little… and he that earneth wages earneth wages to put it into a bag with holes.”

HAGGAI 1:6

Methodology & Sources

This report explains an execution cost and how to limit it; it contains no slippage, tolerance, fee, or gas figures, and no named venues, tools, or routers — appropriate settings depend entirely on the pair, venue, size, and market conditions, and should be judged per trade. The definitions used are standard: slippage as the difference between expected and executed price; price impact as the movement caused by an order consuming available depth; and the bid-ask spread as the standing cost of immediacy, three quantities that are frequently conflated and are distinguished here deliberately. Slippage tolerance on decentralised exchanges is described as a limit that causes a transaction to revert rather than fill beyond it, with failed on-chain transactions still incurring gas — behaviour that varies by protocol and interface. The sandwich attack is described as a documented category of maximal extractable value in which a public pending transaction and its authorised tolerance are exploited by transaction ordering; no incident, actor, or venue is named. Whether positive slippage is passed to the user varies by venue and routing arrangement. Nothing here is a recommendation regarding any venue, tool, setting, or trade.

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