I am writing a deep dive on the order flow toxicity on decentralized exchanges such as Uniswap v3. Here is the tl;dr.

To make LPing more profitable, DEXes need to attract a higher volume of non-arbitrage trade. It is particularly important to attract large-volume non-arbitrage traders, think an institutional investor who needs to rebalance. What do they need to come to DEXes? Two things: liquidity and resilience.

Liquidity is crucial because large traders primarily care about their price impacts. The higher the liquidity, the lower the price impact. Uniswap is doing great on liquidity.

What is resilience and why is it important? Large non-arb trades are rarely executed in a single order; instead they are broken down into small orders and executed gradually over time. This is yet another way to minimize price impact costs. For this process to work, the mid-price and liquidity need to recover quickly after an uninformed trade. This is called market resilience. Without it, large traders cannot benefit from order splitting.

And here is one issue with Uniswap as compared to LOB exchanges. With limit order books, both liquidity takers and makers can move the mid-price back to the efficient level. In Uniswap, it is only the takers. But the takers have to pay the swap fee, so they don't have incentives to do it unless the price has deviated by more than the swap fee. This is not good for resilience.

Here are the details with examples:

Part one (describes strategies used by large traders in TradFi), Part two (on resilience of Uniswap v3).

More to come.

What do you think?