casparschwa:

The equilibrium where everyone maximally plays timing games is not more favorable to any one validator than if everyone follows the protocol specifications honestly

This is only true for small perturbations where timing games don’t cause degradation in consensus. If proposers maximize their expected value and are willing to miss the occasional slot then the game ceases to be zero-sum and morphs into a new game. In this new game the valuable attributes are low latency and low variance–this is where professional staking services excel and is what parts of the community have been warning about.

When people say that decentralized sets of validators (ie: solo validators or Rocket Pool) are matching the performance of more centralized sets, it’s because those professional/centralized sets haven’t leveraged their advantages at all.

I think it’s important to determine whether proposers other than p2p are actively playing timing games. The tone of your post implies that they’re not that common, but if we look at the bid timing data from relays and strip out all but the very first relay to receive the winning block hash there’s a very clear spike between 2000 and 2500 ms. I’ve observed similar data in the flashbots mempool dumpster dataset, and as much as it could be from latency, the consistency around where other research has identified as the peak value time is far too striking for me to call a coincidence.

[

slot-time-distribution-all 2

2600×1300 101 KB

](https://ethresear.ch/uploads/default/original/2X/1/10f8ec3683c0a891b39a831c62d79546c76614fe.png)

Data via: github.com/dataalways/mevboost-data