Nice post, Schizo - well written!

I agree with the basis of your principal-agent analysis for PoS networks. It is clear that if Celestia wishes to remain competitive amongst other DA layers launching soon (EigenDA, Polygon Avail), Celestia will indeed need to reach functional escape velocity. Obviously EigenDA & Avail have different token-economic issues to worry about (or lack there of).

Celestia could potentially subsidize initial demand for the network to bootstrap usage, perhaps via TIA grants or something similar. I agree that DA layers will become cost competitive and stakers are economically incentivized to stick around for the long-term only if ample demand for the DA layer, or token, remains. Ultimately, what will make a rollup or any party seeking DA choose Celestia over competitors will be the economics at play. In order to better align long term use of the DA layer, TIA could perhaps be offered to incentivize use depending on quantifiable metrics (# of PayForData txns , etc.)

Therefore, perhaps redirecting a % of the community pool to certain roll ups, decentralized sequencer projects, or any other entities seeking DA would be an idea at least worth discussing.

On the topic of value accrual back to TIA stakers to ensure security, I believe there are plans to implement an EIP-1559 like burn feature which would help a bit with balancing out network inflation. Unaware if there is a thread related to this already, but one idea for how the mechanism could work here is to burn a portion of the fee for all PayForData type txns

, depending on the data size (Or x% amount on all txns). However, it wouldn't be surprised if the cosmic-giga-brained Celestia team already has a much more intricate & thoughtful mechanism in mind.

Alas, through some

burn mechanism related to DA usage, TIA stakers are then more aligned with Celestia "being long DA".

Overall, great post - and feel free to poke holes in my thinking and tell me where i am being redacted.