

We saw that what happened to Eos's dPoS is exactly what was predicted:

- Level 1 bribery: block producers pay back part of the block rewards to voters. A market forms among block producers, approaching a point where ~100% of the rewards are distributed back to holders.
- Level 2 bribery: lazy holders give coins to a custodian, custodian handles voting instead of holders. Block producer pays part of the block reward back to the custodian, custodian takes a cut, passes on the rest to holders. Another market forms, now among custodian-voters, with a similar outcome as above.
- Level 3 bribery: custodian-voters are also block producers. They form cartels with other custodian-voter-block producers and agree to vote on each other for various percentages of the block reward they reap.

On each level, validation ends up in the hands of a few large entities.

Casper PoS moves beyond the problems on Level 1 and Level 3 by not relying on the model of N

block producers and voting. But I suspect something similar to Level 2 can happen in Casper PoS:

Lazy holders give coins to a custodian (Coinbase, Binance, [Bitcoin Suisse](#), etc), custodian handles validation instead of holders. Lazy holders get the validator rewards, custodian takes a cut. A market forms among custodian-validators, approaching a point where ~100% of the rewards are distributed back to holders. For efficiency and reputational reasons, the number of the successful custodian-validators will be quite low.

Casper-FFG tries to counter this centralization incentive with a sliding penalty scale (the more stake you control, the greater your effective penalty will be when your setup fails, because penalties grow with malfunctioning total stake). However, with experienced industry participants such as mentioned above, we can assume they will build a resilient and fairly decentralized staking grid – they'll need to protect their reputation and their customer's funds. But coins, validator choices, and what software they run (!) will still be under their control. I acknowledge this penalty mechanic will reduce centralization to some degree, but I assume it will be a partial deterrent at best.

(Or worse, in an extreme case, a custodian-validator (or a cartel of these) can gain control of  $<1/3$  of the stake and issue credible threats of thwarting the chain. I haven't explored this scenario more deeply, but may be worthy to keep in mind.)

So, in Casper, what will prevent validation from ending up in the hands of a few large entities?