

I'm making this post because there was considerable discussion on a Twitter thread, but this seemed like a better venue for continuing the discussion. [Twitter thread](#)

Let me start by outlining the benefits of EIP 1559 over the old first price system as I see them:

1. EIP1559 allows for dynamic block size which may increase welfare by increasing capacity when demand is higher and lowering it when demand is lower
2. EIP1559 gives a clear bidding strategy (base fee) in each block.

Now let me outline the disadvantages as I see them (some of these things EIP1559 does better than the old model but still not perfectly):

1. The size of the block is path dependent in 1559, see [ethresear.ch discussion 1](#).
2. The market clearing price is path dependent meaning the allocation may be inefficient in the current slot.
3. The cost to the proposer of censoring transactions is lower under 1559 because the base fee is burned.

Let me reintroduce the Bonding curve mechanism, in terms of how I would implement it.

Instead of setting block size based on an updating rule, the block size is determined by the proposer. The proposer pays for additional block space based on a bonding curve F

. The bonding curve is initialized such that its marginal f

is the marginal cost to the network of having a larger block and the total amount of additional block space purchasable this way is capped. Proceeds from this bonding curve are redistributed (either through burning if it is determined that the cost of larger blocks is borne by the broader ETH community, or to the validator set if it is determined that they primarily bear the cost of larger blocks).

There are no base fees in my ideal model which roughly corresponds to [@vbuterin](#) 1. in the second list in his post according to my understanding. Transactions simply include miner tips so the result is essentially a first price auction for block space, with the caveat that the proposer can purchase additional block space from the bonding curve.

This achieves the benefits of EIP1559 that I discussed above:

1. This obviously allows the block size to increase under load, since the proposer will purchase more block space when there are many high-tip transactions in the pool.
2. There is a clear bidding strategy determined by the marginal $f(s)$

where s

is the amount of block space purchased in the last block.

Now I will discuss how this design improves on the negatives:

1. & 2. Since the proposer chooses block size in each block, based on the transactions it has access to, the block size is not path dependent. In other words, if demand for block space spikes dramatically, from slot to slot, then this mechanism allows block size to immediately rise to accommodate it. Similarly, if demand falls sharply, the result is not an empty block. This is discussed more formally in the posts referenced above.
2. The cost of censoring under 1559 is the miner tip (which does not include the base fee). think of this as $\text{total_fee} - \text{base_fee}$ and this is true regardless of how many transactions are censored. In the AMM model the cost of censoring for the first transaction is $\text{total_fee} - f(s)$ which is similar if you consider that under static load, base_fee eventually converges to $f(s)$; however, when censoring more than one transaction, the marginal cost of censoring is $\text{total_fee} - f(s-n)$ where n is the number of transactions you censor, thus increasing censorship resistance when censoring a large number of transactions.