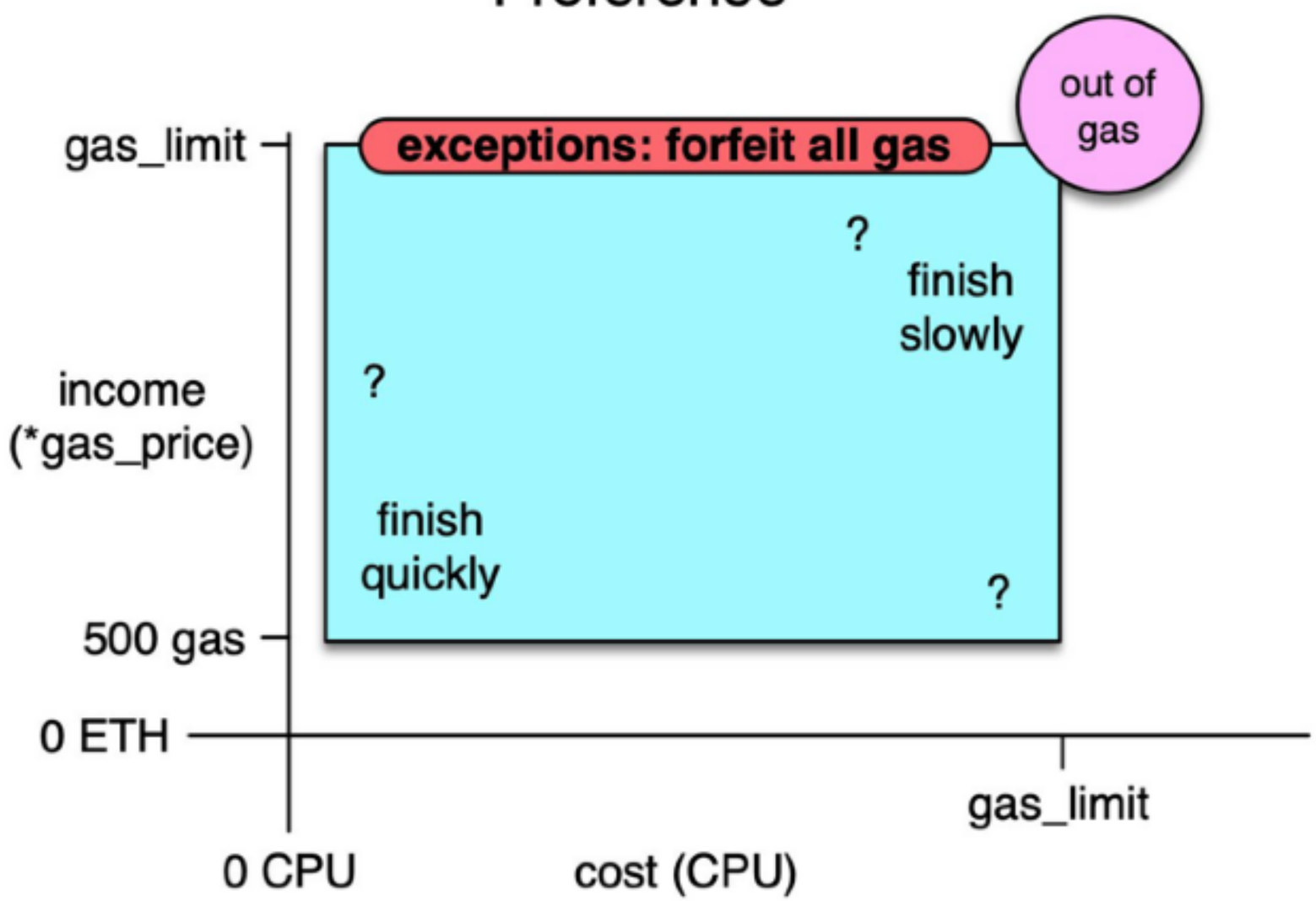
Transaction Priority

Why prioritize txns? At low volumes, the only constraint is a lack of txns to work with, so miners won't prioritize, they'll just want to avoid unprofitable txns. At higher volumes, one of the following constraints or costs will start to matter:

- block size limit (in bytes)
- per-block gasLimit
- time to send the block over the network
- time for other miners to verify the block
- CPU time spent verifying (competing with mining, or costing $)

The miner must choose which txns to evaluate at all, based on expectations of CPU cost and gas reward. They may have some clever static-analysis that allows them to estimate CPU cost before actually running the script. Once run, they'll know the exact reward for that block.


Miner Transaction Preference
gas_limit
exceptions: forfeit all gas
out of gas
?
finish slowly
?
income (*gas_price)
finish quickly
?
500 gas
0 ETH
gas_limit
0 CPU
cost (CPU)