One argument often brought up by single-cryptocurrency maximalists is that if creating new cryptocurrencies becomes legitimate, then it will be possible to print new cryptocurrencies into existence at near-zero cost, causing cryptocurrency as a whole to hyperinflate and lose value. To prevent this possibility, the argument goes, we must establish a very strong norm that the currently dominant cryptocurrency is the only legitimate cryptocurrency, putting it in a fundamentally different reference class from all others - "there is bitcoin, and there are shitcoins". However, there are now thousands of cryptocurrencies, and it is clear that cryptocurrency as a whole has not lost all value. But why not?

Theoretically, there is an infinite number of possible equilibria of which cryptocurrencies maintain a nonzero value: just Bitcoin maintains value, just Bitcoin Cash maintains value, just Bitcoin and Ethereum, just IOTA, just those in the current top 1000 on coinmarketcap where the sha256 of the listed name is a prime number, etc. But there are also equilibria where the set of cryptocurrencies with nonzero value is not fixed, and new cryptocurrencies can join. However, if just about any cryptocurrency can join the club, then everyone will be able to issue new cryptocurrencies, driving the price of all of them to zero. Is there some equilbrium in the middle, one that comes closer to explaining our present situation?

The answer is yes. Consider a scenario where there is a set of "entrepreneurs" (ie. coin creators), and entrepreneurs can expend capital to create a "signal" associated with their coin. Expending $M of capital creates a signal of strength M * R(), where R() is a random distribution with mean 1. The equilibrium is simple: a cryptocurrency with signal strength M is valued at an initial market cap of M * k, where k decreases as the total market cap of all cryptocurrencies as a portion of global wealth increases (additionally, we need k > 1 where there are no cryptocurrencies, and k < 1 where cryptocurrencies make up 100% of all global wealth).

The total market cap of all cryptocurrencies at any point in time is at the point where k is slightly above 1, so being an entrepreneur is in expectation slightly profitable. If world GDP increases, say, 3% per year, then one could imagine that existing cryptocurrencies on average increase 2% per year and every year some new cryptocurrencies appear with total initial value on average equal to 1% of the value of the existing cryptocurrencies. This is a totally long-term-stable situation; the market share of cryptocurrencies as assets remains long-run constant.

Now we can ask, what is the signaling that entrepreneurs are expending capital on? Theoretically, it could be anything. Even if each cryptocurrency developer signals by building sand pyramids in Egypt, and people want to purchase the cryptocurrency with the most impressive-looking pyramids, the model still works. However, in practice human beings want at least the pretense of not doing something completely ridiculous, and there are informational obstacles to people learning about cryptocurrencies, so the signaling activity comes in two primary forms: (i) technical development, and (ii) marketing, with marketing taking up an increasing share (including social media marketing, public billboards, as well as expenses such as paying up to $1-15 million dollar listing fees to major exchanges). In order to enter the club of cryptocurrencies that benefit from the "store of value" position, an entrepreneur need only do enough tech development and do enough marketing to build up a community to be seen as worthy.

This shows how even a free-entry market of issuance of intrinsically useless digital assets does not necessarily

need to lead to all of the assets dropping to zero in the long run, if a separating equilibrium based on signaling expenditure emerges (and I would claim there's a good chance that this is in part what's happening now). Issuing new currencies is nearly free, but issuing new currencies that people care about

requires an increasing amount of "marketing as proof of work"

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The alternative story for cryptocurrency valuation, and one that feels less spooky to friends of classical economics, is the one I describe here: cryptocurrencies are like corporations, where their valuations represent the expected future discounted sum of coins burned from transaction fees. Currently, very few blockchains satisfy this property; although Bitcoin's fees have at one point reached $20 million per day, corresponding to a quite reasonable-looking 'P/E ratio" of ~30, and Ethereum has reached about a fifth of that (though fees on both chains have dropped now, to ~$200k/day for BTC and ETH), fees can only be viewed as revenue

; the fees are paid directly to miners, which to the blockchain are security expenditure

; there is no profit

left over.

In pure proof of stake, even if no coins are burned, a weaker version of the model still exists: a coin is a tool

that you can use, with some further effort, to get a share of transaction fees; it is like a virtual mining pick. As long as the effort is less than the reward, the tool takes its share of the difference as its value.

Theoretically, a cryptocurrency world where cryptocurrencies are primarily valued as shares of future burned transaction fees, or as tools that can be used to access transaction fee revenues, is a much healthier one; putting aside outright scamming or tricking people, the only way to earn money is to build (or, by holding tokens, financially support) a blockchain that people actually use.

Given that P/E ratios less than 100 are demonstrably within reach (compare: in 2009 the S&P had a ratio of over 120), getting to this state is quite possible. And in fact, even in the current environment it should be the case that coins that get a large amount of actual usage get an advantage over coins that do not. The reason is simple: suppose that all cryptocurrencies are going up an average of 2% annually, but then one of these cryptocurrencies burns 0.5% of its coins annually from transaction fees. That cryptocurrency will go up an average of 2.5% annually, and so in a portfolio theory model it will be more attractive to hold larger quantities of it. Hence, in the long run we do expect the best stores of value to be things that are useful for other reasons first, and stores of value second

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That said, it is worth noting that in the current market, where cryptocurrencies rise and fall by over 10x annually, the difference between 2% and 2.5% expected annual growth is virtually impossible to see; hence, it may take some time for an equilibrium different from the current signaling equilibrium to emerge.