

## Twitter Thread by (((Frances \*Cassandra\* Coppola)))■



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**I've concluded that the real problem is that bitcoiners don't understand basic microeconomics. So here's a bit of a primer. 1/**

Scarcity is a function of demand, and it affects price. For any good, if demand exceeds supply, it is scarce. That is true regardless of the absolute number of units of the good available for purchase. 2/

Imagine there are 5m Steinway grand pianos in the world, of which 1m are available for purchase. The world's population is about 8bn. So if everyone in the world wanted a Steinway grand piano, they would by any reasonable definition be extremely scarce. 3/

And because of their scarcity, competition for them would drive up their price. Steinway grand pianos would be very expensive things (as indeed they really are) 4/

Bitcoiners will no doubt have followed this so far, because this is their scarcity economics: there can only be 21m bitcoins, therefore only a tiny fraction of the world population can own bitcoin, therefore bitcoin will be very, very expensive. 5/

But suppose people decide they don't want Steinway grand pianos any more, because they take up a lot of room and modern electronic keyboards can produce pretty much the same effect. 6/

There are still 5m Steinway grand pianos. The supply hasn't changed. But now 4.5 million of them are for sale, because those who own Steinway grand pianos don't want them any more. And no-one is buying them. So supply now vastly exceeds demand. What happens to the price? /7

The price crashes, of course. The absolute number of Steinway grand pianos hasn't changed, but there is now an abundance of them, because no-one wants them. So the market-clearing price falls to the level at which Steinway grand pianos are neither scarce nor abundant. /8

So "scarcity" has nothing to do with the number of available units of a good. 5m Steinway grand pianos can be scarcity or abundance depending on whether people want to hold them. Similarly, 21m bitcoins can be scarcity or abundance depending on whether ppl want to hold them.

In a well-functioning market, there is neither scarcity nor abundance, because market forces always eliminate supply shortages or gluts by adjusting the price. /10

So now we know that limiting the supply of bitcoins to 21m doesn't by itself make them scarce, let's consider 100m x 21m satoshis. /11

It should be obvious that the number of satoshis in existence far exceeds the world population. So in theory, everyone can own at least one satoshi. In absolute number terms, therefore, satoshis are not scarce, unlike bitcoins./12

However, the same market forces apply to satoshis as they do to bitcoins. At some price, supply of satoshis equals demand for them, the market clears and there is neither scarcity nor abundance. /13

This may or may not mean everyone in the world owns satoshi. The market-clearing price may be higher than some people can afford. But this doesn't mean satoshi are scarce. People being priced out of a market does not mean the good is scarce. /14

All else being equal, satoshi being available for sale shd increase overall demand for bitcoin, because it enables people who can't or won't buy whole bitcoin to enter the bitcoin market. So the market-clearing price of bitcoin should rise, at least in the short term. /15

Once all those who want to hold satoshi have bought as much as they want, the market-clearing price of bitcoin would fall back to its long-term level. /16

To summarise, therefore: arbitrary limits on the production of goods doesn't create scarcity. Scarcity is a transient phenomenon that is eliminated through price adjustment in a well-functioning market. In microeconomic terms, therefore, Bitcoin is not scarce and never will be.