Post Musings

BITCOIN V. AURORACOIN

In early June, Bitcoin had a $10.166 billion market capitalization. With the world population at 7.15 billion, that means a per capita value per Bitcoin of $1.42.

Auroracoin, the cryptocurrency for Iceland, has a $2.09 million market capitalization. Iceland's population is 330,000, so the per capita value of Auroracoin was $6.33. If Bitcoin merely were to have the same valuation characteristic as Auroracoin, it would appreciate 4.46x.

Any government can ban a cryptocurrency, as Iceland did with Bitcoin. As far as we can tell, though, that ban did not have any meaningful impact, since within a very short period of time Auroracoin was created. The only way to control cryptocurrencies is to control every computer in the country. Russia tried to control photocopy machines and that did not seem to work out too well.

Some of my Russian relatives informed me that in the Soviet Era, if you needed access to a copy machine for some purpose, you had to be selected as reliable enough to be entrusted. There were few copy machines available, for reasons that should be self-evident, so it was a big deal to have access to one. In spite of these efforts to control the copy machines, there was a black market for novels and other books that came from the West that were basically photocopied books. They would circulate and, though the authorities tried to stop it, they ultimately failed. However, if they caught you with one, you could be thrown in prison or a labor camp. In extremis, they could kill you, throw you in the insane asylum. Many suffered the latter fate.

Q: *When it was illegal for Americans to own gold, was anyone tried or imprisoned for doing so?*

A: In 1933, President Roosevelt restricted the ownership of gold, and that lasted until the end, or virtually the end, of the Nixon Administration. You could always get gold. You just could not trade gold in bullion form. It was perfectly acceptable to buy artwork that might have gold on it. Buying gold goblets was perfectly acceptable. You could own gold jewelry. It was acceptable to buy gold coins for numismatic collection purposes. You could buy Krugerrands (South African gold coins) and Canadian maple leaf gold coins. You could buy U.S. gold dollars, which they had stopped minting, but you could still buy them. They traded, however, at a premium to the actual gold value for a time.

In 1970s, there was high inflation, yet you could not trade bullion, so people started melting down jewelry to create bullion. Jewelry became very expensive. Plus, it was impossible to regulate the restriction of gold ownership; the government basically would have had to periodically search every home. I'm not aware of any cases in which a person was arrested for owning gold bullion. The government ended up lifting the restriction.

The government set the gold price at roughly $35 an ounce, but the real gold price, set by the market, was much higher. The government felt it had to back the currency with gold, but at the prevailing world market rate, it could not buy sufficient gold to back the currency, so the U.S. had to go off the gold standard. What the government wanted to do was to depreciate the dollar so it would stimulate U.S. exports. Of course, every other country had more or less the same idea so the strategy did not work very well.

Restrictions on gold were not the only early policies of the New Deal. The government felt high unemployment was caused by too much competition, so production was regulated. The National Recovery Administration was created to regulate the hours that businesses could operate, even retail establishments. They said a store cannot be opened more than X hours a day. If a store was open fewer hours, however, it became obvious after a while, that the policy did not increase employment; it decreased employment. It took some time for that consequence to become clear to the various policy makers who lived in the realm of theory but did not exist in the realm of practice.

Even in 1940, on the eve of the Second World War, the U.S. had a very high unemployment rate, and 90% of U.S. farms had no access to electrical power. Some might say the government ameliorated the worst of the Depression, and that might even be true. The Depression, however, did not end until the war came.

What happened then is a very interesting story. The war brought full employment, but all the great economists of the era predicted that when the war ended and 14 million mobilized soldiers came home, there would be huge unemployment, because so many could not be absorbed in the economy. Plus the government would be buying fewer goods and services. Thus, a depression would occur. Even famous economists like Paul Samuelson in 1945–1946 predicted that the war's end would restore depression conditions to the U.S. Reality did not work out that way. Another example of living in the realm of theory instead of practice.

It is very hard for regulators of an economy to achieve the result they want because you can never really get the information needed to make these decisions. The Soviet Union during the Stalinist era, for example, had a series of five-year plans in which the government controlled production levels: the number of tractors, white shirts, blue shirts, etc. This method of controlling production ignored consumer preferences which, in any event, would have been difficult to determine by a highly centralized government. The necessary information must come from people, but the motivation to report such information was not there.

For instance, is the manufacture of tractors good or bad? Do they break down or do they not? If they break down, is the breakdown due to factory defects or because the people who work the tractors don't know how to handle them? Your career and perhaps your life would depend on the answer to that question. Under Stalin's reign, they had an expression called "wrecking." If you were found to be wrecking the economy you were sabotaging the economy and you could be killed for that, or thrown in a labor camp, or be subjected to even more gruesome consequences.

In the best of circumstances, it is hard to get objective information. Even if people think they are providing unbiased information, at the end of the day, it is an opinion, which might be right or wrong. There is no mechanism to correct it, and it is a big problem. Every time you try to get an outcome in a system as complex as the economy, you create the opportunity for unintended consequences. Sometimes you get inflation, sometimes you get deflation.

Mathematically, it should not be a problem. If all prices went up 10%, we'd just move the decimal point. The problem is that inflation is not uniform. In an inflationary economy, some people's income goes up fiftyfold; for others, income does rise at all but expenses do. It is the same problem with deflation; its effects are also non-uniform. When the government tries to enact some corrective policy, it is very hard to know how every participant in the economy will react to it and the results can be bizarre.

Q: *Do you anticipate Bitcoin having practical transaction use as a medium of exchange for the purchase of goods and services, in addition to its function as a store of value?*

A: In my opinion, while it would be very good if Bitcoin were adopted as a transactional currency, that outcome is not essential for its success. That's my opinion, and it could be wrong.

I do believe that it's not a good idea to allow governments to manipulate currencies, because the results are disastrous every time. In post-World War II Germany, cigarettes were a store of value, because they were accepted as such. You could buy virtually anything with cigarettes. However, the non-uniformity of a currency (apart from paper) is a not a trivial problem. Throughout history, it has been a significant issue. In colonial Virginia, they used leaves of tobacco. In colonial Massachusetts, the Wampanoag Tribe's wampum was made legal tender at the rate of six white beads or three purple beads per penny. Unfortunately, the supply of beads was limited. It was hard for prices to rise in the sense that the bead, as an instrumentality, was not divisible.[1] In other societies, seashells have been used, as have copper, bronze, silver, and gold.

The challenge is to find a type of money of which the supply is relatively constant. Supply controls the value. But all the forms of money that were employed historically were either reproducible or could be counterfeited. It is not commonly known that in the 19th century, bank notes were legal tender. There were thousands of banks in the United States and you could present a bank note as legal tender and vendors, landlords, or whomever would have to accept it.

The problem was that it difficult to know if the bank could cover the note or even if the notes were counterfeit or not. Counterfeiting was a problem in addition to the question of the bank's solvency. People began to refuse to accept the bank notes. This problem became so severe that at some point the government decided to have a monopoly on currency so that the only acceptable legal tender would be government issued.

For the first perhaps 60 or so years, the government was pretty faithful in keeping the supply of currency stable. By the end of the 19th century, though, the Democratic Party campaigned against that stability, which sparked a big debate between what was called the hard money side and the inflation side. Some felt that the government should inflate the currency to allow borrowers to repay their debt with inflated dollars.

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[1]Barry Eichengreen, *Exorbitant Privilege: The Rise and Fall of the Dollar and the Future of the International Monetary System* (New York: Oxford University Press, 2011), 9-10

It is hard to believe that in the United States, a politician would use the promise of inflation in a campaign for office. But that was a platform of William Jennings Bryan in the 1896 presidential election. He almost won the election. In one of the most famous speeches in American history, he said, “you shall not crucify mankind upon a cross of gold."[2] Bryan eventually became United States Secretary of State. He was a distinguished person.

While other nations had a central bank, the United States always opposed the creation of a central bank, because those institutions could also print money. But an important function of central banks is to be a lender of last resort in economic crises. The United States didn’t have it until the Federal Reserve Act in 1913.The country was so opposed to having a central bank that it adopted a decentralized central bank to prevent a concentration of power and called it the Federal Reserve, not the U.S. Central Bank. The system was decentralized into 12 district Banks that, in theory, operate independently. In reality, however, they do not. Nevertheless, the whole idea was to avoid having a central bank because it was felt that sooner or later the government would be tempted to print up money. And throughout history, it’s been a serious problem.

Q: Is the supply of Bitcoin really fixed or is there a way to change the available amount?

A: In theory, the Bitcoin Foundation could say, “I want to increase the ultimate number of Bitcoin from 21 million to 50 million units,” but that would destroy the reason people buy Bitcoin. No one would use Bitcoin if the supply were not fixed and a change like this were allowed. The unique feature of Bitcoin is that through the Blockchain technology, while the identity of the holder is encrypted, each Bitcoin on the planet can be tracked. The Blockchain follows every Bitcoin, where it is and where it came from, so it cannot be double-spent or counterfeit. It would be extraordinarily difficult to counterfeit Bitcoin. And, by design, there will be a fixed supply, which is an enormously attractive feature in a currency.

Q: *The press has noted that many of the Bitcoin miners are located in China. Could the future supply of Bitcoin be concentrated in one particular region? Is that even a concern?*

A: Not for me, because you can always create more miners. It is just a bunch of chips on a motherboard. That’s all it is. There’s nothing proprietary there.

Q: *But if the miners have to vote and if 50% of them vote for a rule change, could that throw off Bitcoin, in which case maybe another digital currency—Ethereum, for example—could become dominant if Bitcoin is ruled by China?*

A: It is not going to be ruled by China. There is no reason to believe that anybody is going to do anything to impact the value of something so lucrative. It is the same kind of logic as saying, well, the Chinese have the atomic bomb so how do we know they are not going to launch an attack against us right now? The reason is because if they were to do that, we would launch an attack against them, and it would wipe out the planet.

[2] *Kazin, Michael (2006). A Godly Hero: The Life of William Jennings Bryan. New York: Alfred A. Knopf.*

They will not try to manipulate the system, because any attempt to do so would lead to disaffection. People would stop using that currency and that would be the end of it. People would use a different currency. You cannot manipulate it even once. It would be like saying, yes, you can launch a few missiles at the United States and destroy the world. It is the same concept: mutually assured destruction. If people see any attempt at manipulation, they will not use it. Why would anybody use a currency that is being manipulated?

Q: *What would happen if miners decided to increase the supply of Bitcoin?*

A: People using Bitcoin use it for one reason and one reason alone: Because the supply is fixed. You want to increase it? Users will not like that. There are 660 cryptocurrencies and, take my word for it, one would say: Don't worry, we will gladly fix the currency.

In theory, within a handful of nanoseconds, everyone could go out and buy Auroracoin. Auroracoin is fixed, too. If somebody wants to do something to Bitcoin, we could all buy Auroracoin. It would not be a problem. Therefore, I do not believe anyone is going to try increasing the supply of Bitcoin. Why destroy your miner franchise? It would quickly disappear into nothingness.

Q: *What do you think is the chance of China making this illegal?*

A: In my estimation, it is not a factor. I have no idea if the Chinese government will make it illegal or not. I have limited knowledge of China, but I would guess that the Chinese government has no knowledge of what it will do. What good would it possibly do for China to make bitcoin illegal?

China wants its currency to depreciate. It is becoming ever more difficult to sell Chinese goods internationally because the currency is too expensive in relation to some other nations' currencies. But China does not want too much capital to leave the country because people with wealth will set up their establishments somewhere else. They do not want that, but they certainly do not want zero leakage of the currency either.

The number of Bitcoins is limited. The population of China is about 1.3 billion. At the moment, there are only 15.6 million Bitcoins, so every Chinese citizen, in theory, could buy one-tenth of a Bitcoin. Given the total amount of Bitcoin that exists right now, Chinese citizens cannot do much to remove currency from the country. Maybe if there were trillions of dollars' worth of bitcoin, more options would be available, but there's not a lot they can do right now.