

The future of money: How cryptocurrencies with real backing will become the ultimate disruptive technology

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The world has been plagued by endless fluctuating exchange rates between countries and persistent and highly variable rates of inflation ever since the major countries of the world began to erode the gold standard during the twentieth century as a direct result of having to finance major wars.

Transactions costs, using cash, credit or debit cards, check or wire transfers, are all unnecessarily high. These problems have undermined saving, investment, and trade – all of which have reduced GDP growth, employment and real wage growth.

The solution is to move to a world of privately created money with real backing, such as a basket of commodities, or one or more metals, such as gold, silver or aluminum – which would be exchanged in digital form through the use of blockchains. The innovative blockchain software technology enabled the creation of cryptocurrencies, such as Bitcoin and Ethereum.

The use of the blockchain solves the problem of double spending and, through the use of encryption, protects financial privacy while verifying the transaction in close to real time. The actual transaction cost can be negligible, and national borders are irrelevant. The problem with existing cryptocurrencies is that, even though the developers have found mechanisms to limit the total amount of currency issued, there is no benchmark or real basis for actual value and hence the prices have fluctuated very wildly. In contrast, even though the U.S. dollar, like all major currencies, is what is

called a fiat currency with no specific backing (i.e., the U.S. gold reserves are only a tiny fraction of the total money supply), but the government does have the ability to acquire resources through taxation. That is, the value of the U.S. dollar is based on the correct belief that the government has sufficient coercive power to tax real assets.

Private parties could move to the use of gold, aluminum or other commodities as a benchmark and backing for money without government permission. Prices for all other commodities, goods and services could be listed in troy ounces of gold, pounds or kilos of aluminum rather than US dollars, euros, U.K. pound sterling, Japanese yen, or any other central bank-issued fiat money. Nobel Laureate, F. A. Hayek, in his classic, “Denationalization of money – the argument refined,” published in 1974, clearly explained why it was preferable and practical to have non-government issued money, with competitive suppliers. There is no more reason for the government to have a monopoly on money than there is for government to have a monopoly on the production of toasters. Historically, many private parties minted gold, silver and copper coins, which were fully interchangeable with government-minted coins of the same weight. The only need for government to be involved with the production and quantity of money is to designate what is legal tender for the payment of taxes and government payments to others. If the dollar is defined for U.S. government purposes as, for instance, 1/1000 of a troy ounce of gold or one kilo of aluminum, it matters not as to who minted the coins or supplied the metal as long as it meets the defined standard. The technical hurdles for implementing Hayek’s concept for private money no longer exist as result of the Internet and blockchain.

Gold, for many good reasons, has served as the most commonly used commodity standard for money. Ever since being adopted by the U.K. in 1821, as well as by Germany, France and the U.S. in the 1870s, gold has served the global economy well. It became, in essence, the world currency, thereby eliminating the chaos of multiple fluctuating foreign exchange rates. Goods and services, all around the world, were denominated in gold. And given the cost of mining new gold, persistent inflation did not occur. This was an economic golden age in which the world economy grew rapidly.

There are many arguments for going back to gold; but for several practical reasons, it is very difficult. The dollar’s peg to gold at \$35 per ounce was officially (and abruptly) abandoned in 1971, and in 1976 the U.S. dollar officially became a fiat currency. But even after the 3,000 percent rise of gold versus the dollar in the 46 years that followed, the money supplies of all nations vastly exceed

their gold supplies, even at the current price for gold. It is unpalatable, politically, for central banks to now re-peg their currencies to gold at whatever high rate is feasible and give up the power to control their money supply. The re-adoption of a global gold standard would also restrict governments from running large and persistent deficits.

In theory, there is no reason why private parties cannot issue gold coins. There are many private minters who currently do. The problem arises if these gold sellers call their coins money, because it then falls under government regulation, and the U.S. Treasury has been aggressive in shutting down private issuers of gold money (both coin and digital gold money). It should be noted that under Section 8 of the Constitution, Congress has the power to coin money; however, it does not specify that only Congress should have this power.

The U.S. government places a capital gains tax on any gain in the price of gold coins and bullion versus the U.S. dollar, even when the fall of the dollar is solely due to inflation. The price of gold has also been much more volatile than aluminum and a number of other commodities over the past thirty years. The volatility is due to the fact that the price of gold is very much influenced by world events and the actions of governments – such as gold sales and purchases – who own a major share (18 percent) of the outstanding world stock of gold. Relatively small sales or purchases of gold by governments can greatly affect the price of gold, since, like all commodities, it trades at the margin.

There are many alternatives to gold, including a variety of commodity baskets, but my favorite is aluminum. As unlikely as it may seem, an aluminum-based money overcomes several of the problems with gold. Like gold, most of the aluminum ever produced is still in use today (more than 90 percent of the gold ever produced and more than 75 percent of the aluminum). These two metals do not disappear with endless recycling and environmental degradation (they do not “rust”), unlike virtually all other metals. A high and growing percentage of aluminum is recycled because approximately 40 percent of the cost of primary aluminum production is energy, yet it is only five percent of the cost of recycled aluminum, so there is a strong incentive for recycling.

In the past, gold had the attraction that a tiny amount was of great value, so it was easy to carry around and useful for high-value coins. This advantage disappears in the digital age, and, in fact, can be a disadvantage. Because of its high value to weight, gold is easily stolen, which makes it costly to store. It is much more difficult to steal a significant value of aluminum because of its low value to

weight. If aluminum becomes widely used as a global monetary standard, issuers of aluminum-backed money would need to demonstrate that they have possession of – or at least ability to procure within a short period of time – the necessary aluminum to fulfill redemptions. Issuers of aluminum money would likely be aluminum producers, banks, other financial institutions and even major owners of aluminum, such as airlines (the planes).

Global standards would need to be established for issuers, and perhaps insurance might be required. Given that aluminum coins would be digital, each one could be traced back to a specific issuer in case of a redemption problem. The risk would be low – one issuer might possibly have a problem, but not all would.

Aluminum is the most versatile and useful of all metals, in that it can be substituted for most other metals at some price, as well as many plastics, wood, etc. Over the last 30 years, aluminum has had far less price volatility than gold and, as noted above, all other major metals and most commodities. Its price volatility should continue to decline as the stock of existing aluminum grows relative to new production of primary aluminum. The cost of producing secondary aluminum will always be less than that of producing primary aluminum because of the energy cost differential. This imposes a natural limit on how much primary producers can charge.

At the moment, the Chinese have more than half the world's primary production capacity; but even so, they cannot “corner” the market because of the huge global stock of secondary aluminum, equal to about 15 times yearly primary output, and there are many aluminum producers in many countries who can ramp up production. Aluminum accounts for about 7 percent of the earth's crust, so no country can obtain a lock on the raw material, most notably bauxite. If the Chinese government decided to adopt aluminum as their official currency backing, others around the world would be wary that they might engage in price manipulation, which they could do to either bankrupt competitors or impose a temporary artificial scarcity. The Chinese would be smart if they let private entrepreneurs create aluminum-backed currencies and then legalize them for domestic use and even for government purposes. This would give them total independence from the U.S. Federal Reserve, which neither China or any other country now has.

The U.S. government benefits from having the dollar as the world reserve currency. It is not only the Chinese who resent this system, but many other countries, such as the Swiss, who have lost some of

their monetary and regulatory independence to the Fed. It is only a matter of time before some countries figure out that they can use the new technologies to regain their monetary freedom. The U.S. and other major governments will not like the competition.

It will be very difficult for them to know who is spending and receiving cryptocurrencies with or without real backing, because of the cost of trying to break the encryption for each largely invisible transaction.

The problem of cryptocurrencies without a real anchor is well recognized, so there will be many attempts to find the most acceptable backing – gold, aluminum, commodity baskets or whatever. (Note: We have already established considerable intellectual property protections for the aluminum-backed cryptocurrency concept and its implementation. Others are working on gold, etc. As always, the market will ultimately determine success.)

The classical gold standard using coins and/or bullion for transactions provided a great deal of financial privacy for the users, particularly if they did not use banks. The new cryptocurrencies have the potential to provide the same level of privacy, because the networks are peer-to-peer, rather than having the money run through a bank or other financial institution.

Governments will, of course, try to ban/monitor/regulate/tax cryptocurrencies, but it is a battle they are likely to ultimately lose in the same way new technologies have been almost fatally disruptive for traditional book stores, video rental shops, film cameras, newspapers, etc. Private cryptocurrencies with real backing are likely to become the ultimate disruptive technology and finally free people from government monetary tyranny.

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