FINANCE • BITCOIN

What would two of the world's most famous economists think about Bitcoin?

BY **SHAWN TULLY**

August 6, 2021 7:00 PM EDT

It was a fabled debate between two 20th-century giants of monetary economics. The issue: Whether "challenger currencies" could ever displace standard, government-backed currencies as the world's payment medium of choice. And although the invention of Bitcoin was decades away, the two sages could have been talking about whether the cryptocurrency could ever rise to become coin of the realm, or even a contender.

At one podium was Friedrich Hayek, the Austrian-British titan who championed classic liberalism. Across this imaginary stage stood Milton Friedman, a fellow apostle of free markets. The standoff between the usually like-minded pair centered on whether competing currencies, floated by private issuers, would create a more stable monetary system. When they faced off in the mid-to-late 1970s, the dollar regime was the most unhinged it had been at any time since World War II. The Arab oil embargo had sent prices for gasoline, airline tickets, and home heating on a tear. To counter the shock, the Federal Reserve was flooding the markets with easy money that undermined purchasing power for virtually everything else. The consumer price index, which had traditionally risen at a smooth and modest pace, roared at an annual rate that reached 14%.

Hayek taught at the University of Chicago from 1950 to 1962, years that overlapped Friedman's long tenure there, and the two economists knew each other well. But the pair didn't debate face-to-face. Hayek made his case in a series of speeches and papers in the mid-to-late 1970s, and in his 1976 book *The Denationalization of Money*. They reportedly matched their dueling theories at industry events in the 1970s and 1980s. Friedman's first public criticism of Hayek's ideas apparently appeared in his writing with fellow economist Anna Schwartz in the 1980s.

Politicians, academics, and folks on the street fretted that the system was broken. The Fed was pursuing the opposite of its old "sound money" policies by eroding the value of U.S. dollars faster than America's workers would earn them. Hayek contended that central banks would keep overinflating the money supply in tough times to give economies a quick, artificial high, stoking more of the kind of inflation the U.S. was witnessing at the time. The solution, he argued, was for private monies issued by banks or other companies to battle for customers with sovereign currencies in an open marketplace. The one or even several contenders that did the best job maintaining steady purchasing power for consumers and businesses would win by attracting the most users.

If the Fed kept issuing dollars that bought less and less, privately managed newcomers would supplant the wobbly greenback. The "let the best currency win" concept would halt reckless monetary policies, either by forcing central banks to reform, or by opening the way for new, more stable currencies to take charge.

Milton Friedman-Friedrich Hayek-Economists-Bitcoin

Milton Friedman (left) and Friedrich Hayek, two of the most prominent economists of the 20th century.

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Friedman had no objections to letting freedom ring by allowing rival currencies to vie for supremacy. But he believed Hayek was wrong and that the challengers would fail. For Friedman, people and companies indeed care about purchasing power. But they place a far higher value on using the same currency as their neighbors and trading partners. Consumers and businesses, he said, prefer doing everything in one currency. Even if an alternative, what we'll call XYZ-coin, is more stable than the dollar, Americans would rather use only dollars than keep trading back and forth between XYZ-coin and the greenback. Hence, owing to their overwhelmingly widespread acceptance, the reigning, incumbent monies enjoy a huge edge that would block the invaders from gaining a foothold.

For Bitcoin fans, Hayek's stance makes him a godfather of the largest cryptocurrency**.** In a 2012 study of the virtual currencies, the European Central Bank stated that "the roots of Bitcoin can be found in the Austrian school of economics," of which Hayek was a leading voice. Google "Hayek and Bitcoin," and you'll see sundry posts by bloggers and academics that refer to Hayek by such titles as "the prophet of cryptocurrencies" and citing 1980s TV interviews that show the elderly economist "predicting Bitcoin". Indeed, this camp believes that the market will eventually trend to the most stable, reliable money that can't be corrupted by central banks, and that's Bitcoin.

Many Bitcoin fans think it has a great future as a store of value, but not as a currency. Michael Saylor, the MicroStrategy CEO who's renowned for parking and I personally believe that will be Bitcoin." Bitcoin will gain traction as a superior currency, says Cameron Winklevoss of Bitcoin exchange Gemini, "because of all the money printing and people looking at what's going on and [saying], 'Wait a second, where are all these trillions coming from, they're actually just being printed. What does that mean for other dollars that I'm holding?'"

But in fact, Bitcoin has found little acceptance for everyday purchases, though it's secured a niche role in transferring funds, notably when privacy is paramount. "If it were true that people are flocking to Bitcoin as a currency, Hayek would be wrong, because he predicted they'd choose the one with the most stable purchasing power," says William Luther, a professor of economics at Florida Atlantic University. "The kind of money Hayek favored was very stable, and Bitcoin is the opposite. It's extremely volatile."

From Friedman's point of view, Bitcoin would stand little chance against the dollar or euro. That's because the money everyone now uses is the least costly, most convenient money to keep using. The exception comes in nations that conduct highly inflationary monetary policies that both destroy purchasing power and cause wildly careening prices. In cases of extreme volatility, said Friedman, customers will buy and sell on the black market using a stable foreign currency, as Venezuelans are now deploying the dollar and euro. They're not buying groceries or paying rent in Bitcoin for the same reason they're shunning the Venezuelan bolivar: The signature cryptocurrency's lurching daily swings, averaging 9% from the low to the high, mean families would never know what their budgets can buy from one day to the next.

Hayek and Friedman strongly disagreed on the future of challenger currencies. But they would share similar views on Bitcoin. Both might well praise the concept as a bold, free market experiment. But neither would like Bitcoin as a leading form of money. Of course, Hayek made his case before U.S. monetary policy returned to a far steadier course in the 1980s and onwards. For Hayek, moving to Bitcoin would be going the wrong way, from a relatively stable currency to a drastically unstable one. For Friedman, Bitcoin would face the handicap plaguing all newcomers: the virtual impossibility of winning widespread acceptance.

But the two legends would also agree that contrary to what its supporters claim, Bitcoin's architecture harbors a fundamental flaw. It ensures that Bitcoin's supply can't adjust to keep purchasing power constant through up and down cycles. Let's examine first, whether Bitcoin could compete with the dollar even if it were the soundest of currencies. And second, how Bitcoin fits with Hayek's and Friedman's take on the qualities that constitute a stalwart money—the strengths needed to keep customers and businesses whole in years to come.

Friedman: Bitcoin fails at the 'network effect'

Friedman posited that Hayek's proposed regime of "concurrent competing currencies" wouldn't work because of what's called the "network effect." The idea is that the popularity of an item depends on the number of people using it. In the case of a currency, the universe of consumers and businesses dealing in dollars or euros represents the size of "the network." According to Friedman, the more people who adopt the dollar, the cheaper and easier it is for them to buy and sell things, and transfer money. "If all my customers and trading partners are using dollars, and all of *their* customers and trading partners also use dollars, I'll save time and money using dollars instead of euros or another currency," says Luther.

If a business or consumer moves to an alternative currency, they will incur costs transferring their money into the dollars that their neighbors or customers are using. Those are extra transaction costs. Buying and selling in a commonly accepted medium of exchange lowers transaction costs versus using a relatively uncommon currency. "There are also 'switching costs,'" says Luther. "If you have a vending machine business and you switch to a new currency, you need to update those machines." Companies would also need to adopt their pricing and accounting systems to make and accept payments in more than one domestic currency.

Friedman argued that single currencies hold a big advantage because they save so much time and money versus a multi-money regime. Transactions and switching costs, he added, are extremely high. Hence, even if the prevailing money is somewhat unstable, folks and companies will still prefer the incumbent currency. He noted that the deutsche mark and Swiss franc held their value a lot better than the U.S. dollar over time, and that U.S. citizens used them when traveling, but that Americans don't use either one stateside because switching back and forth to dollars would be extremely expensive.

By contrast, Hayek contended that people are much more sensitive to fluctuations in the value of a currency than to transaction costs. "Hayek said the costs of switching were minuscule in the absence of legal restrictions," says Luther. "All that matters is which currency is superior." If a nation allowed competing private monies, customers would gravitate to the best ones. They would dump the sovereign notes that keep bouncing around and losing purchasing power, and embrace the new reliables.

The winning challenger, he said, would ensure that a set amount of the new currency will buy the same, or nearly the same basket of goods and services year after year, outclassing the sovereign money that buys less and less. Wrote Hayek, “The chief attraction the issuer of a competitive currency has to offer is the assurance that its price will be kept stable.”

So why weren’t people switching to private currencies in nations imposing profligate monetary policies? For Hayek, it was strictly because local laws banned the rival monies. For Friedman, it mattered little what the regulations said: Except in extreme cases, consumers and companies would find it too costly to adopt a currency that most neighbors and stores weren’t using.

Years later, a case study in Somalia backed Friedman’s position. In 1991, the Somalian government collapsed. At the time, the Somalian shilling was by far the most widely circulated currency. Citizens were free to use any money they wanted. Several local entries competed with the shilling, which rapidly declined in value. Although at least one competitor was more stable, most people kept doing business in shillings. In this open contest, Friedman’s network effect won over Hayek’s conviction that the yearning for steadiness would prevail. Amazingly, U.S. dollars were also available to Somalian citizens, but didn’t drive out the shilling. Even Friedman might have been surprised by the power of the network effect in Somalia.

The flaw in Bitcoin’s design

Friedman and Hayek agreed that establishing consistent, predictable, and modest growth in prices was the holy grail of monetary policy. But early in Friedman’s career, he differed from Hayek on how to achieve that ideal. He maintained that demand to hold money that’s inversely related to “velocity of money,” or pace of transactions, is pretty much constant over time. As a result, he argued, the Fed should increase the money supply at a fixed, preestablished rate.

If the central bank targets 2% inflation, and the economy typically expands at 2%, the best course is to swell the money supply 4%. Then 4% more money each year would be chasing a volume of goods and services expanding at 2%, lifting prices by the 2% goal. “Friedman wanted the Fed to set the growth of money at a constant rate and walk away,” says Luther. “It was called the K-percent rule. K was the fixed rate in money supply growth.”

As Luther points out, the K-rule looks a lot like the Bitcoin model. The cryptocurrency's algorithm caps the number of Bitcoin that can ever be released, and sets a fixed pace for the issuance of new coins. "You could argue that Bitcoin comes close to Friedman's old K-rule," says Luther. But the fact that the supply of Bitcoin is preprogrammed and inflexible constitutes a glaring weakness. Hayek wanted the supply of money to expand and contract to stabilize purchasing power. "Hayek said if you get a surge in money growth that exceeds money demand, it would encourage an unsustainable boom in production that would eventually result in a recession. Companies would be fooled into overproducing and eventually have to scale back at great cost," says Luther.

In the 1980s, Friedman revised his view, moving closer to Hayek. He found that the demand for money varied much more than than he previously thought. As a result, he embraced inflation targeting, and advocated adjusting the monetary spigot depending on economic circumstances. "Friedman said that if you have a collapse in the money supply that exceeds the reduction in money demand, or an increase in money demand that is not met by a commensurate increase in the money supply, a recession will follow," says Luther. "Friedman came to believe like Hayek that the supply of money should move hand in hand with the demand for it."

Bitcoin's design does not provide the flexibility to grow or shrink its supply depending on the economic conditions. The amount of newly issued Bitcoin cannot ebb and flow with demand to hold it—the quality that for Friedman and Hayek was the hallmark of sound monetary policy. The supply of Bitcoin is preset by its algorithm. It does not feature the shock absorbers that Hayek and Friedman deemed essential. "Bitcoin's designed so that it cannot keep purchasing power constant in response to changes in demand," says Luther.

Since its quantity is fixed, only a jump or drop in the the amounts of Bitcoin that individuals and funds purchase will push its price up or down. As Luther puts it, "Bitcoin's specifically designed so that only a demand shock can affect its price."

Let's imagine a world where Bitcoin replaces the dollar. The economy suddenly shifts into overdrive where GDP growth spikes from 2% to 3%. In the Friedman or Hayek models, the Fed could lift the money supply by the one percentage point change in the growth rate. That move would raise the supply of credit to match the increased demand for loans and bond offerings to fund new plants, fabs, and research centers. The inflation rate wouldn't change. But Bitcoin can't increase its supply. In a Bitcoin regime, interest rates would spike as demand for credit outstripped the funds that banks and investors have available to lend. The resulting squeeze would quickly deflate the boom.

In addition, economic shifts would magnify changes in our new currency's price, for the same reason. When consumers and companies compete for Bitcoin-denominated bonds and loans in an expansion, or sell those instruments in a downturn, the rate of Bitcoin issuance doesn't change to cushion the swings. In an expansion, Bitcoin's price could jump sharply because no more Bitcoin would appear, whereas the Fed would have issued additional dollars, restraining the increase. Big swings in Bitcoin's price would raise risks for multinationals by constantly shifting what they're paying in the newly prevailing medium of exchange for semiconductors, appliances, or textiles produced in China, Japan, or Germany.

The volatility problem

Right now, Bitcoin is far too volatile to work as a currency. "Very small changes in its attractiveness relative to other currencies have a huge effect on how much people will want to use it in the future," says Luther. "If we get bad news, people think that fewer people will use it, and the price suddenly tanks." He cites the surge when Elon Musk announced that Tesla had purchased $1.5 billion in Bitcoin, the subsequent drop when Musk declared that the EV-maker would no longer accept it for auto purchases, and the surge when Visa and Mastercard stopped accepting payments for the Pornhub site, forcing users to resort to Bitcoin and other cryptocurrencies.

Today, Bitcoin's volatility is nine times that of the S&P 500 and six times that of gold. Even if it gains much more general acceptance, Bitcoin's price would still careen through higher peaks and deeper valleys than competing currencies—because its design doesn't allow for changes in supply that would smooth those swings.

But even if the supporters are right and Bitcoin becomes more stable over time, it's *still* unlikely to ever succeed as a currency. The reasons are twofold. The first: Its rigid architecture would fail at safeguarding purchasing power, since, as we've discussed above, the amount being issued is totally inflexible. The second: Nations are likely to adopt their own digital currencies. China has already unveiled plans for a digital yuan; the news alone hit Bitcoin's price.

"The U.S. could also create a digital currency," says Luther. "The Fed now issues dollars, and holds digital dollar balances on behalf of banks. It could create a new class called digital dollars that are equivalent to cash and reserve balances.

Customers could convert the digital dollars to cash." People could exchange digital dollars from wallet to wallet like Bitcoin without going through banks, or pay by scanning their iPhones at the checkout counter so that payments go from the consumer's iPhone wallet to a the retailer's digital dollars account. Those payments would happen outside the credit card system and skirt big "interchange" fees. "For Bitcoin, a major danger is that it could be outcompeted by digital currencies issued by central banks," says Luther.

What is Bitcoin's future?

Digital currencies issued by sovereign nations would further limit Bitcoin's future. But Bitcoin has strong potential as a niche medium of exchange for transactions, especially big ones, where privacy is critical. "It's the one thing Bitcoin does exceptionally well that other monies don't," says Luther. Of course, Bitcoin is being deployed in lots of illicit transactions, including payments in ransomware attacks, and governments will attempt to crack down on its secret use. But Bitcoin will be hard to control, and that's another of its pluses. "Governments can do only so many things to discourage its use," says Luther. "It's much harder for governments to stop Bitcoin transactions than to block the use of cash, which they can just stop printing, and which is also used for secret transactions."

How does Luther, who has closely studied the views of the influential monetary economists, think Friedman and Hayek would regard Bitcoin were they working today? "They would applaud its development and relative success as an experiment," he observes. "They'd see it in theory as a useful check on reckless government spending. But they would want a supply mechanism that takes account of changes in demand to hold money, and Bitcoin doesn't have that." Friedman or Hayek would never think Bitcoin could or should replace the dollar as the primary U.S. currency, says Luther. Its best role, they would probably agree, is what it's used for now, keeping transactions private.

Bitcoin casts a giant shadow in the financial world. But as the two great minds might have concluded, its towering image will recede as the world recognizes that its future is strictly niche.

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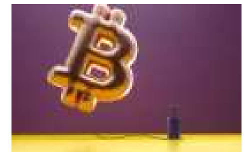

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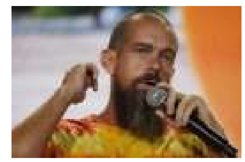

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