

Subject: File No. SR-NYSEArca-2021-031

From: SAM AHN

This is my 18^h comment on bitcoin. All my writings on bitcoin, including this, are about intrinsic value. My previous comments can be found at these links:

Link 1: <https://www.sec.gov/comments/sr-cboebzx-2018-040/srcboebzx2018040-4206251-172835.htm>
Link 2: <https://www.sec.gov/comments/sr-nysearca-2017-139/nysearca2017139-4221685-172898.htm>
Link 3: <https://www.sec.gov/comments/sr-cboebzx-2018-001/cboebzx2018001-4226785-172988.htm>
Link 4: <https://www.sec.gov/comments/sr-nysearca-2018-02/nysearca201802-4240462-173003.pdf>
Link 5: <https://www.sec.gov/comments/sr-cboebzx-2018-040/srcboebzx2018040-4274529-173133.pdf>
Link 6: <https://www.sec.gov/comments/sr-cboebzx-2018-040/srcboebzx2018040-4530331-176071.pdf>
Link 7: <https://www.sec.gov/comments/sr-cboebzx-2018-001/cboebzx2018001-4581773-176242.pdf>
Link 8: <https://www.sec.gov/comments/sr-cboebzx-2019-004/srcboebzx2019004-4934624-178449.pdf>
Link 9: <https://www.sec.gov/comments/sr-cboebzx-2019-004/srcboebzx2019004-5180412-183546.pdf>
Link 10: <https://www.sec.gov/comments/sr-cboebzx-2019-004/srcboebzx2019004-5318047-183890.pdf>
Link 11: <https://www.sec.gov/comments/sr-nysearca-2019-01/srnysearca201901-5524009-185228.pdf>
Link 12: <https://www.sec.gov/comments/sr-nysearca-2019-01/srnysearca201901-5706832-185947.pdf>
Link 13: <https://www.sec.gov/comments/sr-nysearca-2019-01/srnysearca201901-5717064-186027.pdf>
Link 14: <https://www.sec.gov/comments/sr-nysearca-2019-39/srnysearca201939-5810618-187451.pdf>
Link 15: <https://www.sec.gov/comments/sr-cboebzx-2021-019/srcboebzx2021019-8652267-231475.pdf>
Link 16: <https://www.sec.gov/comments/sr-cboebzx-2021-024/srcboebzx2021024-8664058-235363.pdf>
Link 17: <https://www.sec.gov/comments/sr-cboebzx-2021-029/srcboebzx2021029-8732324-237081.pdf>

What triggered this writing is Quote 1 below, which is in Page 6 of Link 18:

Link 18: <https://www.sec.gov/rules/sro/nysearca/2021/34-91771.pdf>

(Quote 1) The Bitcoin network allows people to exchange **tokens of value**, called bitcoin, which are recorded on a public transaction ledger known as the Blockchain. Bitcoin can be **used to pay for goods and services**, or it can be **converted to fiat currencies**, such as the U.S. dollar, at rates determined on bitcoin trading platforms or in individual end-user-to-end-user transactions under a barter system.

A choice question about bitcoin

What is said in Quote 1 is important in this time of our history because we are waiting for a clear answer to Quote 2 below, which is in the article at Link 19:

Link 19: <https://www.fool.com/investing/2021/01/26/president-bidens-financial-team-will-clarify-bitco/>

(Quote 2) Governments around the world are trying to figure out **whether bitcoin is a currency**, a tradable commodity, a security on par with stocks and options, or a brand-new asset class of its own.

It is said at Link 19 above that Secretary of the Treasury, Chairman of the SEC and Chairman of the CFTC are cooperating to give us their answer to Quote 2 above. While we (at least I, if not we) are still waiting for it. Answers are arriving from other places., e. g. from Goldman Sachs, but there is no readable explanation. I ignore them and want to give a partial answer – for the red phrase of Quote 2 above, with a lengthy explanation.

Quote 1 above insinuates a good probability of bitcoin being a currency now or becoming one in the future. The red phrases of Quote 1 above are all properties of currencies.

Whether bitcoin is money

My partial answer to the question in Quote 2 above: Bitcoin is not a currency now and can never be a currency in the future, for the following reasons:

First, it is usually said that a currency has three functions: a medium of exchange, a unit of account, and a store of value. When something is called a currency, it is capable of all three functions at the same time smoothly.

Bitcoin can never be a good medium of exchange and a good unit of account at the same time. As the number of bitcoins is limited to about 21 million while the volume of goods and services is open to growth, all bitcoins cannot continue supporting all the transactions – without splitting one Satoshi into multiple pieces. That a fraction of a Satoshi is being exchanged for a certain item that used to be exchanged for one Satoshi means upvaluation of bitcoin, failing stability of bitcoin's value. Something without a stable value cannot be a good unit of account.

Second, there are at least two more (seldom told) functions of money: an object of lending and an asset of ultimate liquidity. We do not hear these functions often just because they are seldom mentioned. Once heard, these two functions are self-explanatory. Bitcoin is too risky to lend or borrow. Bitcoin can never be more liquid than a fiat currency.

Third, something can perform all five functions in the preceding two paragraphs only if it has **intrinsic value** and people believe it. Not only absence of intrinsic value but also disbelief in it causes problems to operation of a fiat money. Now, many people including economists do not believe in intrinsic value of fiat currencies. The disbelief creates problems such as this outbreak of bitcoin. We hear bitcoin-caused suicide news again. Confusion will be their epitaphs.

The phrase “**tokens of value**” in Quote 1 reveals this applicants' urge to find some value in bitcoin. We all know that the value in bitcoin, if any, is not intrinsic value. If intrinsic value is absent in US Dollar, too, bitcoin could somehow obtain a certain value in a similar way USD obtains its value. This thought keeps bitcoin from perishing. Therefore, finding intrinsic value in US Dollar is important for proving my answer underlined above in this page. If our money has intrinsic value, bitcoin, which has no intrinsic value, is not money.

The syllogism

We are not well-informed about intrinsic value of fiat currencies, but the most important fact I wanted to present with all my writings at Link 1 through Link 17 above was that every fiat currency has its intrinsic value, soundness of which depending upon trustworthiness of the issuer. We can find this fact through a simple syllogism:

(Argument 1)
(Major premise) Every debt instrument has intrinsic value, soundness of which depending on trustworthiness of the issuer.
(Minor premise) **Every fiat currency is a debt instrument.**
(Conclusion) Every fiat currency has intrinsic value, sound of which depending on trustworthiness of the issuer.

The major premise in Argument 1 above is globally agreed upon, but there are challenges to the minor premise in it, e. g. by a new school of economics called Modern Monetary Theory, or MMT.

Whether currency is a debt instrument

Stephanie Kelton's [The Deficit Myth](#) (March 2021, paperback, ISBN 978-1-5417-3619-1) has this on its Page 235:

(Quote 3) We are no longer on a gold standard, and yet much of our political discourse is still in that outmoded way of thinking. We see it every time a reporter asks a politician. Where will you find the money to do that? It's long past time we came to grips with what it means to be the issuer of a sovereign fiat currency. For the currency issuer, money is no object. Literally or figuratively. It doesn't exist in some scarce physical form – like gold – that the government needs to “find” in order to spend. It is **conjured into existence** from a computer keyboard each time the Federal Reserve carries out an authorized payment on behalf of the Treasury.

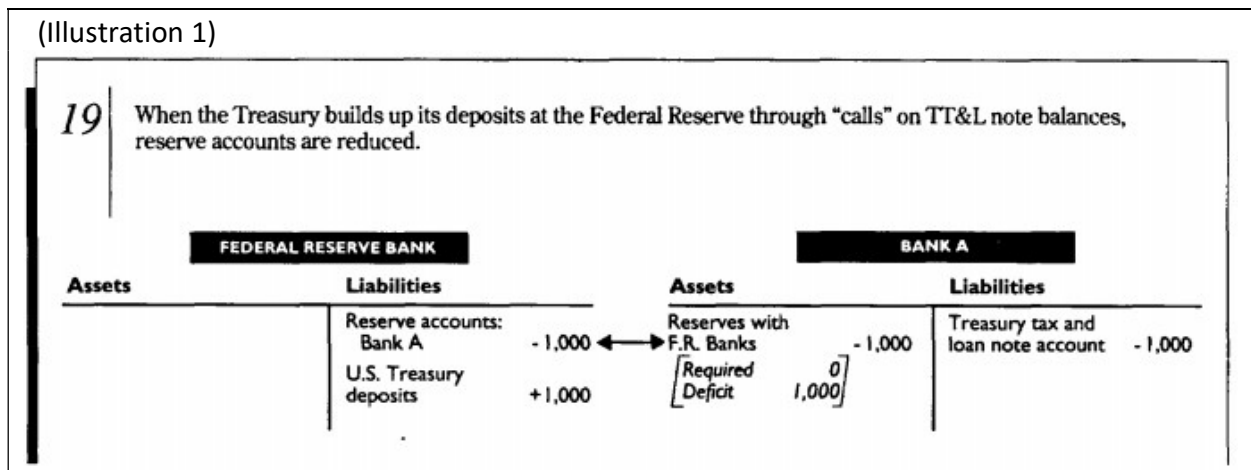
The Fed does not carry out payments on behalf of the Treasury. The Treasury has an account with the Fed, out of which the Treasury itself make payments. US Treasury's funds cannot be “**conjured into existence.**” Instead, there is a solid procedure of the government's deficit spending: (1) getting the budget approved by the Congress, (2) getting the new debt ceiling approved by the Congress, (3) issuing new Treasury debt instruments, (4) depositing the proceeds with FRB, and (5) spending.

We have recently experienced a few cases of government shutdown between the procedures (1) and (2) in the preceding paragraph. If a reporter asked where a politician would find the money, like the underlined part of Quote 3 above, the reporter should have wondered how the politician could get the budget for the project. What the author of Quote 3 meant by “**conjured into existence**” corresponds to Procedures (3) and (4).

I want to dig into the details of Procedures (3) and (4), to find the reason why the author had to use the phrase “conjured into existence.” Procedure (4) is illustrated in the Fed’s booklet Modern Money Mechanics at Link 20 below, and it is not difficult to infer Procedure (3) from it.

Link 20: https://upload.wikimedia.org/wikipedia/commons/4/4a/Modern_Money_Mechanics.pdf

At the top of its Page 19, there are shown two T-accounts:



This is about a commercial bank’s TT&L (Treasury Tax and Loan) service. According to the illustration, US Treasury uses some chosen commercial banks to deposit tax collections and proceeds from selling Treasury debt instruments, before gathering all the funds, obtained such a way, in the Treasury account with FRB.

The left side T-account tells that FRB’s debt to a commercial bank decreases and FRB’s debt to the Treasury increases in the same amount. The arrow sign means decrease in the commercial bank’s deposit with FRB is treated the commercial bank’s asset.

The right-side T-account tells that the commercial bank’s deposit asset decreases while its liability to the Treasury decreases at the same time. This is Procedure (4) in the paragraph right underneath Quote 3 above.

So far, now new money has been created in this procedure, because people pay tax and buy Treasury debt instruments with what they already have. Money is simply gone from people to the government.

The deduction on the right side (liabilities side) of Bank A (the negative 1,000 at the far-right corner of above illustration) can be possible only when there sits positive number of 1,000 or more. Said positive number comes from Procedure (3) of the paragraph right underneath Quote 3 above: issuing new Treasury debt instruments. That procedure can be briefly illustrated like this:

(Illustration 2) Before the two T-Accounts at the top of Page 19 of Modern Money Mechanics					
Bank A			US Dept of the Treasury		
Reserves with FRB	+ 1,000	Treasury loan note account	+ 1,000	Deposits with Bank A	+ 1,000
				Tax revenue	+ 650
				New debt	+ 350

Illustration 2 shows what happens to Bank A and US Treasury when the Treasury collect tax and sell bonds and deposits the proceeds with Bank A. Bank A's asset increase and liability increases. These asset and liability get made zero by Illustration 1 above. For a better view, I revise Illustration 1 into Illustration 3 below, this time adding what happens to US Treasury, Look at Bank A in the middle. Compare it Bank A at the left of Illustration 2 above. Everything is made zero, when the two illustrations are combined.

(Illustration 3) Revision of Illustration 1, to include US Treasury						
FRB		Bank A		US Treasury		
(blank)	Bank A	- 1,000	FRB	US Treasury	Bank A	- 1,000
	US Treasury	+ 1,000	- 1,000	- 1,000	FRB	+ 1,000
						(blank)

Now, those red expressions in US Treasury accounts in above two illustrations are what remains with US Treasury. Asset is their account with FRB. The balance is 1,000, as shown in illustration 3 above. Tax revenue is 650 and new debt is 350, as seen in Illustration 2. This split into 650 and 350 is my arbitrary assumption, made for exempling purpose only.

As shown, the Treasury can spend more than tax collection only through new debts. Then, why does this author call this solid process “conjuring” by computer keystrokes? Does MMT have debt monetization in mind? To clear it up, it would be helpful if we find something the author of The Deficit Myth talked about government debt.

There is a good passage in Page 36 of The Deficit Myth:

(Quote 4) Then why does the government need to borrow? The answer is, it doesn't. It chooses to offer people a different kind of governmental money, one that pays a bit of interest. In other words, US Treasuries are just interest-bearing dollars. To buy some of those interest-bearing dollars from the government, you first need the government's currency. We might call the former “yellow dollars” and the latter “green dollars.” For more than a hundred years, the government has chosen to sell US Treasuries in an amount equal to its deficit spending. So, if the government spends \$5 trillion but only taxes \$4 trillion away, it will sell \$1 trillion worth of US Treasuries. What we call government borrowing is nothing more than Uncle Sam allowing people to transform green dollars into interest-bearing yellow dollars.

Now we find her logic. The red amounts in Illustration 2 above can happen only when somebody paid for either tax obligation or purchase of Treasury debt. Where is that money coming from? As only the government can create money, it should have been from the

government anyway. The government may have **conjured** it into existence – in the thought of the author of The Deficit Myth.

However, there is a serious problem with this thought. The government provides the currency, but it does not do it with its own will. Illustrations 1 through 3 showed the case of the Congress's will. Note that the Fed was providing the funds passively in response to the Congress's will. The Congress made the tax law. The Congress approved the budget and debt ceiling.

Now, back to the question: Where the funds, specifically the New debt part in the amount of 350, came from?

Example 1: US person B bought a house for 600k with a loan of 500k. This 500k is a fresh new money the banking system provided in response to B's decision. Seller of the house is another US person, named S. He paid off the house mortgage in the amount of 200k on sale of the house. This 200k is reduction of so-called "money supply." Net increase of money supply is 300k, which is said increase of 500k minus said decrease of 200k. B's down-payment of 100k moved from B to S, reducing B's funds by 100k and increasing S's funds by the same 100k. As a result of these transactions, S has 400k more cash and B has 100k less cash than before. Now, S can buy Treasury bonds shown in Illustration 2 above.

Again, the Fed's role is passive. B's lending bank LB scooped up 500k from its deposit with FRB and gave it to B. Said account is called a reserve account, and it is not counted as money while it is there. By moving from FRB to the hands of B, it became money that is counted as a part of M2, the most important count of money supply.

Nothing is being "**conjured into**" something. The money increased for B's house purchase is not created out of thin air, but in exchange for incumbrance to B's new house in the form of lien. The 200k decreased by S's house sale is in exchange for release of lien on his house sold. Nothing is created out of thin air.

Example 2: Foreign person J in Japan exported 20 cars to a US dealer D for 800k. D sold all the cars promptly for 850k. The buyers of the 20 cars did not pay down any money. They all bought on loans. The 850k is fresh new money, and 50k of them increased cash balance of D and the remaining 800k increased cash balance of J, who could not find what to do with it. J can buy US Treasury bonds shown in Illustration 2 above.

Again, the Fed's role is passive. Nothing is being "**conjured into**" something. The 850k newly created money was not created out of thin air, but in exchange for incumbrance to the buyers, in the form of liens, partly on the cars and partly on the persons. Nothing is created out of thin air.

Illustration 4 below shows how new money supply is created by sale of a house by S to B in Example 1 on Page 6. The far-right column changes to M2 count.

(Illustration 4) Changes in monetary counts from sale of S's house to B in Example 1			
FRB		Bank LB (Lender to B)	
Bank LB	- 500	Reserves with FRB	- 500
		Loan receivable	+ 500
BANK DB (Keeper of B's money)			
Bank DB	- 100	Reserves with FRB	- 100
		Deposits Received	- 100
BANK DS (Keeper of S's money)			
Bank DS	+ 400	Reserves with FRB	+ 400
		Deposits Received	+ 400
BANK LS (Lender to S)			
		Loan receivable	- 200
Bank LS	+ 200	Reserves with FRB	+ 200
Change in total reserve	Zero	Change in total M2	+ 300

In Illustration 4, we can clearly see that a commercial bank's deposit asset is FRB's deposit debt and an ordinary person's deposit money is a commercial bank's deposit debt. The final debtor is FRB, and money is a debt instrument.

With this detailing, the Fed can now revise the most virulent part of MMM at Link 20 on Page 4. Said part is in Page 2 of it, reading:

(Quote 5) Money is such a routine part of everyday living that its existence and acceptance ordinarily are taken for granted. A user may sense that money must come into being either automatically as a result of economic activity or as an outgrowth of some government operation. But just how this happens all too often **remains a mystery**.

Borrowing is **not a mystery**, and the borrowing process of clearly shown by Illustration 4.

Example 3. Suppose the **red 350** in Illustration 2 (at the top of Page 5) was sale of Treasury bonds to a commercial bank, named Bank X. Then, new money (that is included in M2 count) would be created when the Treasury spends the funds.

For example, the Treasury paid 350 to a construction company. It puts the Treasury check in its bank, named Bank Y. Then, the increase in Bank Y's liability will be added to M2 count.

(Illustration 5) Example 3

Step 1: Bank X buys Treasury bonds.

	FRB		US Treasury		Bank X
(blank)	US Treasury + 350		FRB + 350		Treasury bonds + 350
	Bank X - 350				FRB - 350

Step 2: The Treasury spends it. Bank Y keeps the recipient's money.

	FRB		US Treasury		Bank Y
(blank)	US Treasury - 350		FRB - 350		Deposit Received + 350
	Bank Y + 350				FRB + 350

Changes	Zero	Change in M2 Count	+ 350
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We see FRB’s deposit debt (Bank Y + 350) is Bank Y’s deposit asset, and Bank Y’s deposit debt is the construction company’s money. Again, money is a debt instrument. Note that what remains with US Treasury is the new debt of 350. As this started with the Treasury’s issuance of new bonds, the final debtor at the end of this debtor-creditor chain is US Treasury.

Example 4. Debt monetization. QE during the recent decade included something resulting in the same as debt monetization, but the process was not a typical debt monetization. As MMT may have meant debt monetization when saying “conjured into existence” as in Quote 3 on Page 3 of this comment, I would like to show, with another illustration, what a real debt monetization may entail.

Suppose the Treasury issued its bonds in the amount of 200 and FRB buys it directly. Then, the Treasury spends it right away, issuing a check to a military supplier, who deposits the check with its bank named Bank M. Then, Bank M will deposit the same check in its reserve account in FRB. The nature of this case is FRB’s participation in Treasury debt bidding. By doing so, FRB can help keeping Treasury interest low. For this specific debt, the Treasury will end up with zero interest, because any interest on it, earned by FRB, will be paid back to the Treasury under present rules and practices.

This is what happens with a real debt monetization.

(Illustration 6)		Example 4 debt monetization	
Step 1: FRB buys Treasury bonds.			
FRB		US Treasury	
Treasury bonds + 200	US Treasury + 200	FRB + 200	Treasury bond + 200

Step 2: The Treasury spends it. Bank Z keeps the recipient's money.			
FRB		US Treasury	Bank Z
US Treasury - 200	Bank Z + 200	FRB - 200	Deposit Received + 200
			FRB + 200

+ 200	+ 200	Zero	+ 200	+ 200	+ 200
"Height of FRB B/S"			Gov. Debt	Reserve	M2

Various illustrations, which I copied from MMM and created in extension to it, shows that creation of money is just change of debtor-creditor relationship. Illustration 6 shows that government debt encumbers government assets. Though US government has larger assets than any other government we have seen, growth of debt cannot go forever – unless one thing continues together.

That is productivity. With productivity growth, we can produce competitively, export our products and services at competitive price, and we can import without losing currency exchange rates. This is the secret why Japan survives with that high government debt.

MMT’s suggestion of “job guarantee” will undermine productivity. If job is guaranteed, who will work diligently? Who will fight in the battlefield? You? Your sons? While other kids squander under job guarantee system?

Money is created this way, not by something like **conjuring** at a computer keyboard. Watch that everything moves in balance all the time. The most notable characteristic of **conjuring** is imbalance – such as from nothing into something.

MMT’s observation of **conjuring** is a delusion.
 Money is a debt instrument.
 The minor premise in my Argument 1 on Page 3 stands.

The two components of a currency's intrinsic value

There can be a question about major premise of the syllogism in Page 3 of this comment. It now reads "Every debt instrument has intrinsic value, soundness of which depending on trustworthiness of the issuer." What if it must be re-written like "Every debt instrument, unless it is a currency, has intrinsic value, soundness of which depending on trustworthiness of the issuer"?

First, an argument that money has no intrinsic value while a promissory note has one does not make any sense. All kinds of intrinsic value are expressed in terms of money. If money has no intrinsic value, nothing in this world can have intrinsic value. Finding intrinsic value of money is not a matter of truth or falsity. It is a matter of how to understand it.

If I write a promissory note to you, e. g. in the amount of just 1,000 dollars, it has its value as far as my trustworthiness is enough to cover that amount. The note has two components: reference to a known value (the amount) and my position as the debtor (my name and signature). The value of the amount depends on the value of US Dollar.

(Argument 2)

As US Dollar is also a debt instrument, it is made up of two components: **reference to a known value** and **the issuer's position as the debtor**. Through RFB, the final debtor to US Dollar is US government, as in Quote 3 above. If trustworthiness of US government is enough to cover all its debts including money issued, then the value of its money is mathematical reciprocal of the current prices of general goods and services. Known value money is referenced to is mathematical reciprocal of general prices.

Call me a dummy but it took me fifty (50) years to find how to say it like Argument 2 above. My comment at Link 6 has "initial valuation" as an element of creating new money. **Reference to a known value** is re-valuation as of a certain point of time. My comment in Link 15 has my draft of revision to Page 3 of Modern Money Mechanics, wherein I explained **how positions are created** during issuance of new money. Argument 2 is a combination and refinement of these two previous comments. If it is still hard to understand how money has its intrinsic value, another explanation is necessary. Truth is unmovable. What may remain is how to understand it.

My comment at Link 8 above was about why bitcoin is nothing. This comment is about why our money is something. With Argument 2, I have achieved the goal of this comment. As US Dollar has quite good intrinsic value, bitcoin has no ground to stand. Before approving any bitcoin EFT, the SEC should let the reality of bitcoin known to the public. The reality that bitcoin can never become a currency.