

Subject: File No. SR-NYSEArca-2019-39

From: SAM AHN

This is my 14th 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>

The purpose of this one is to criticize the thoughts guessed supporting Quote 1 below of this proposal at Link 14 hereunder:

Link 14: <https://www.sec.gov/rules/sro/nysearca/2019/34-86195.pdf>

(Quote 1) The Bitcoin Network does not rely on either **governmental authorities (1)** or **financial institutions (2)** to **create (3)**, **transmit (4)** or **determine the value of Bitcoin (5)**. Rather, Bitcoin is created and allocated by the Bitcoin Network protocol through a “mining” process subject to **a strict issuance schedule. (6)** The value of Bitcoin is determined by **the supply of and demand for Bitcoin (7)** on Bitcoin exchanges (and in private end-user-to-end-user transactions), as well as **the number of merchants that accept them. (8)**

I cannot find any wording error in Quote 1 above, but there are eight issues to discuss, in connection with **obscurity** around money and bitcoin.

Mentioning ‘government’ (1) looks insinuating that bitcoin is money. Insertion of ‘financial institutions’ (2) looks presuming that the Fed is a private entity. Use of ‘create’ (3) can be read as saying that issuance of paper currency is addition of nominal value to the economy. The word ‘transmit’ (4) gives an impression that the Fed controls money supply. The underlined phrase (5) may mean that the Fed determines value of the USD. The wording (6) looks asserting that control of bitcoin supply secures the value of bitcoin. The supply and demand theory of (7) ends up camouflaging the real cause of bitcoin bubble. The underlined (8) is not the best description of what really happens when somebody buys something with bitcoin.

Issue 1: Obscurity

The applicants of this proposal compared bitcoin with fiat currencies by mentioning government. Such a comparison looks arguing that bitcoin is money. They are not alone with this thought. The FTC at Link 15 below seems agreeing.

Link 15 (FTC): <https://www.consumer.ftc.gov/articles/what-know-about-cryptocurrency#Investing%20in%20Cryptocurrency>

Another expression smacking the same, in the same document at Link 14 above, is Quote 2 below. It is a part of Note 55 at the bottom of Page 28:

(Quote 2) FinCEN has prosecuted entities that omit to register with it as a Money Services Business (“MSB”) or fail to comply with its regulations aggressively.

In the same Note 55, however, provided is Link 16 below, at which the FinCEN says something quite contrary to Quote 2 above.

Link 16 (FinCEN): <https://www.fincen.gov/sites/default/files/shared/FIN-2013-G001.pdf>

Quote 3 therein says that bitcoin is not a currency.

(Quote 3) In contrast to real currency, “virtual” currency is a medium of exchange that operates like a currency in some environments, but does not have all the attributes of real currency.

Obscurity continues, and we still don’t know whether the applicants of bitcoin-based ETF’s believe that bitcoin is money – or not money. I presented a way to end this obscurity at Link 5 above and below, but it seems that I have failed to help anybody with it.

Link 5: <https://www.sec.gov/comments/sr-cboebzx-2018-040/srcboebzx2018040-4274529-173133.pdf>

Issue 2: The notion that the Fed is a private entity

The underlined (2) of Quote 1 above looks presuming that the Fed is not a government agency but a private entity. This notion is prevailing in the bitcoin world, but nothing is more wrong than that. There are numerous reasons against said notion, but I want to enumerate less than ten of them – in order to end this task before the end of this opportunity for comments.

Reason 1: Doubters of the Fed often assert this because they found the Fed in the white pages of a phone book. But a dot gov site at Link 17 below says contrarily.

Link 17: <https://www.usa.gov/federal-agencies/federal-reserve-system>

Customarily in the US, government agencies are listed in the blue pages of a phone book. But everybody has the freedom to list differently, intentionally or by mistake, in this free country. A phone book cannot make the Fed a private entity.

Reason 2: At Link 18 below is 2018 Annual Report of the Fed.

Link 18: <https://www.federalreserve.gov/publications/files/2018-annual-report.pdf>

Stated in Page 5 (one of the 8 pages preceding the page numbered 1) is that the annual report was being addressed to the Speaker of the House of Representatives, pursuant to Section 10 of Federal Reserve Act.

Reason 3: Stated in Page 9 (the page numbered 1) of Link 18 above is that the Board of Governors consists of seven members appointed by the President of the United States.

Reason 4: Stated in Page 333 (numbered 325) of Link 18 above is that the Board of Governors' financial statements were audited by the accounting firm KPMG in accordance with a part of Government Auditing Standards.

Reason 5: Stated in Page 403 (numbered 395) Link 18 above is that the Federal Banking Agency Audit Act authorizes the Government Accountability Office (GAO) to audit certain aspects of Federal Reserve System operations. Said law is at Link 19 below, and it is all about government agencies including the FDIC.

Link 19: <https://www.govinfo.gov/content/pkg/STATUTE-92/pdf/STATUTE-92-Pg391.pdf>

Reason 6: Stated in Page 105 (numbered 97) of Link 18 above is that dividends paid to the member banks in 2018 was just 999 million dollars, while remittance to US Treasury was as much as 65,319 million dollars. With respect to this income sharing alone, the Fed is more than 98% governmental and less than 2% private. And this limitation to the shareholders' share is based on the law. Stipulated in Link 20 below is that the shareholders are entitled to only 6 percent per annum of the face value of their shares.

Link 20: <https://www.federalreserve.gov/aboutthefed/section5.htm>

Reason 7: Federal Reserve Act is the main stem of the bylaws of each Federal Reserve Bank. Bylaws of each FRB is much shorter than that of a commercial bank, because one simple reference to the Act works like writing thousands of words.

Reason 8: All national banks are required to be stockholders of the Fed, under Section 2 of Federal Reserve Act at Link 21 below. A private entity cannot possess this kind of power.

Link 21: <https://www.federalreserve.gov/aboutthefed/section2.htm>

Reason 9: The Chairman of the Board is required to appear before the Congress twice a year, under Section 2b of Federal Reserve Act at Link 22 below:

Link 22: <https://www.federalreserve.gov/aboutthefed/section2b.htm>

Issue 3: Creation of an asset vs creation of liquidity

The underlined (3) of Quote 1 above can be read as saying that issuance of a paper currency is nominal addition of net asset to the economy. This way of thought is not rare, and a typical example of it can be found in outdated explanations of seigniorage, holding that the difference between the face value of money and the cost of issuing it is seigniorage income. Underlying this way of explanation is the thought that issuance of money is addition of a new asset to the economy.

The bitcoin whitepaper at Link 23 below reveals the same thought on seigniorage, as appearing in Quote 4 below.

Link 23: <https://bitcoin.org/bitcoin.pdf>

(Quote 4) By convention, the first transaction in a block is a special transaction that starts a new coin owned by the creator of the block. This adds an incentive for nodes to support the network, and provides a way to initially distribute coins into circulation, since there is no central authority to issue them.

Quote 4 above is in between two positions through which this thought flows. The first position is seigniorage explanation in the textbooks, and the third is the word 'create' (3) in Quote 1 above. The thought flowing through these three positions are that issuance of a paper currency is (nominal) addition of a new asset to the economy.

Fortunately, a little better explanation about seigniorage is seen at Link 24 below:

Link 24 (ECB): <https://www.ecb.europa.eu/explainers/tell-me/html/seigniorage.en.html>

(Quote 5) ... your bank usually needs to borrow money from the central bank or it pays by handing over some of its assets. The central bank earns interest on the money it lends or receives a return on the assets it acquires – and this is called seigniorage income.

The short statement of Quote 5 above illustrates – clumsily -- the exchange process of two debt instruments. The underlined 'assets' are interest-bearing debt instruments, while the paper currencies flowing in the opposite direction are non-interest-bearing debt instruments. The difference of interest on the underlined 'assets' are thus considered seigniorage income.

As said at Link 4 above and hereunder, issuing money is creation of an asset and a liability at the same time, adding no net asset to the economy. As no nominal value is added to the economy while no real value is created, there is no discrepancy between nominal value and real value. This is why money is not empty.

Link 4: <https://www.sec.gov/comments/sr-nysearca-2018-02/nysearca201802-4240462-173003.pdf>

I mathematically illustrated this at Link 10 above and hereunder.

Link 10: <https://www.sec.gov/comments/sr-cboebzx-2019-004/srcboebzx2019004-5318047-183890.pdf>

Bitcoin is fundamentally different from money because a successful mining of new bitcoins adds nominal value to the economy while no real value is created. Bitcoin is empty because of the discrepancy bitcoin its nominal value and real value.

Issue 4: Money supply, the waning concept

The word 'transmit' (4) of Quote 1 above sounds like the Fed controls money supply. Some textbooks of economics hold that the Fed controls money supply in order to change interest rates. There are two errors in this thought. First, the Fed does not need to change quantity of money supply in order to change interest rate. Second, the Fed is unable to control money supply.

About the first error: the presumption that the Fed needs to change money supply in order to change interest rate

Today, the prime rate changes promptly after the Fed's announcement of new Fed rate. . There is no temporal room for quantity of money supply to intervene in this process. There are old theories that can be comfortably abandoned for this simple reason. For example, the IS-LM Model is one of them.

(Insertion 1) IS-LM Model and Investment Multiplier

The logic behind the LM curve is that the central banks controls money supply. This is not applicable any more for the reason in the preceding paragraph, and there are two fundamental errors in the IS-LM Model.

First, LM curve is drawn on the logic that higher yield calls for more money supply and higher interest rate. It means x-axis is the independent variable and y-axis is the dependent variable. On the same quadrant of the same plane, IS curve is drawn with its independent variable (interest rate) on y-axis and dependent variable (yield) on x-axis. Independent variable of each curve is the opposite to each other. Drawing these two curves this way is illogical.

In words, it is like saying this: (according to the LM curve) more yield calls for more money supply, which results in higher interest, (and according to the IS curve) which calls for less investment, which calls for less yield. This a typical fallacy of reduction to absurdity.

Second, IS curve is drawn on the logic that yield is a function of investment and marginal propensity to save. This logic is based on Keynes's investment multiplier, which was also born dead for the following reasons:

Reason (1): Investment multiplier k equals $1/(1-s)$, where s stands for marginal propensity to save, according to Chapter 10 of Keynes's General Theory. Additional yield is expected to be additional investment times k . The first problem here is that the term 'investment' means one thing during formation of the multiplier and means another thing during application of the multiplier. The first investment is in the same amount of the previous period's saving. The second one is in the amount of the current period's input.

For example, suppose a computer maker manufactured 10,000 new style computers and sold 9,500 of them. During formation of the investment multiplier, Keynes meant by 'investment' the remaining 500 computers in this story. The same amount will be calculated as "saving" of somebody within same economy. During application of the investment multiplier, however, Keynes meant by 'investment' the first input cost of 10,000 computers. As the core term 'investment' can mean two different things in the same theory, the whole theory was born dead.

Reason (2): In fact, yield is the sum of input and producer profit. As the theory of investment multiplier missed out producer profit, the whole theory is crippled. Suppose a producer employs 100 unemployed persons and let them produce no value. The labor input is new income for the workers, but the producer profit is negative the same amount. Total additional income for the whole economy becomes zero. In actual explanation of the multiplier in his General Theory, Keynes said to mean that additional income for the whole economy in this case was the input cost multiplied by the investment multiplier. The core term 'investment' meant two different things in one theory. For this reason alone, the whole theory of investment multiplier theory was born dead.

The formulation part in Chapter 10 of General Theory was difficult to understand in detail. Mathematically, it meant "In an economy where marginal propensity to save is 10 percent, they need 100 million units of new income in order to have 10 million units of new saving." But Keynes interpreted his own math to "As saving equals investment, 10 million units of new investment in this economy will make 100 million units of new income."

Hansen and Samuelson believed Keynes's conclusion in the preceding paragraph, without understanding details of the mathematical reasoning. They formulated an "easier" model and we all learned investment multiplier with their model.

The Hansen-Samuelson Model, however, did not make it any better. When we have followed the Model step by step, for many steps, we suddenly hit an amazing fact that the amount of money did not increase at all while income was continually multiplying. Rather, the quantity of money supply dwindles gradually. This happens because we assume, during the process of understanding it, that the same money flows from hand to hand, to the next hand, and so on.

If money supply does not increase while income multiplies, the model should be a scenario of a long time. Hansen and Samuelson were saying with their investment multiplier model like this: "A farmer will earn many times of his yearly income by working for many years."

About the second error: the presumption that the Fed is able to control money supply.

The Fed is not able to control the money supply, and there is a confession as such at Like 25 hereunder:

Link 25: https://www.federalreserve.gov/faqs/money_12845.htm

The Fed cannot control money supply because it issues money passively in response to the market's demand, in exchange for the value that the ones who request for money brings. If a commercial bank or the central government brings value to the Fed asking for money, the Fed issues equitable quantity of money in exchange for said value.

Somebody in European Central Bank, while explaining this, used an analogy of breathing at Link 26 hereunder:

Link 26: https://www.ecb.europa.eu/press/key/date/1999/html/sp991115_1.en.html

In this analogy, the breathing lungs correspond to a market or a central government.

(Insertion 2) Passive nature of money supply

There are four different scenarios of money supply. The passive nature of money supply can be understood better when each of the four scenarios is analyzed separately.

Scenario 1: A central bank buys Treasury obligations from a commercial bank. Like in QE, this process increases the commercial bank's reserve account with the central bank. The money in reserve accounts is not included in M2, a money supply count. This process alone is nothing as to money supply.

Scenario 2: A commercial bank lends money to a business, central government or an individual. The business initiates a commercial loan, and the bank passively reacts to loan application. The same goes with loan application by the central government or an individual.

Scenario 3: A business, the central government or an individual makes purchases by paying money. Purchasers pay with money for the purpose of buying goods and services. They do not prepare the funds for the purpose of providing money.

Scenario 4: Interest rate cut entails increase in money supply M2. The purpose of interest rate cut is to influence (often successfully) unemployment and (seldom successfully) inflation. Increase in money supply is a byproduct. This case, too, does not show anything against the passive nature of money supply.

Issue 5: How the value of the USD is determined

The underlined (5) of Quote 1 above looks presuming that the Fed determines the value of USD. If it does, it would do by printing the face value on the paper currencies being issued.

The underlined (5) was compared with the underlined (7) in the text quoted. The author looks saying that the Fed determines the value of the USD while the market determines the value of bitcoin. I will talk about what really determines the value of bitcoin in **Issue 7** below.

It is not easy to find the way how the value of US money is determined. The first thing to understand clearly is the dollar bills in the wallets are debt instruments. Prior to the debt instruments, there is a concept. The relation between a concept and a debt instrument can be understood through a tool like Table 1 hereunder:

(Table 1) the concept of USD + certification of owing = a bearer-note in USD			
Different expressions of money		USD is soaring today.	I have a 20-dollar bill.
Identity of the money		the concept of USD	a bearer-note in USD
Visibility		Invisible	Visible
Functions			
	Unit of account	Yes	No
	Medium of exchange	No	Yes
	Store of value	No	Yes
Determinants of value			
	Initial valuation event	Enactment or the like	Issuance
	Initial value determination	Existing value tied to it (1)	Existing value tied to it (1)
			Amount owed (2)
Causes of change in value	Change in prices of general goods and services (3)		
	Change in production of general goods and services (3a), credibility of the issuer (3b), & change in forex (3c)		

The US money in the statement “USD is soaring today” is different from that in the statement in “I have a 20-dollar bill.” The concept is the content, and the bill is the container. The value of a 20-dollar bill is based on the value of one dollar, which is something like the inverse of prices of

general goods and services. Table 1 above is what I created to show how the value of money forms through interaction of the concept and the instrument.

Self-evident parts of Table 1 above being skipped, those six items numbered requires a little explanation. Before going into it, what needs to be noted is that I did not mention flood of money is a cause of inflation. My strong belief is that flood of money is a result, not a cause, of inflation. From time to time, too much issuance of money causes inflation, but there is something else looking coming along with issuance of money. They are (3a), (3b) and (3c), according to my finding. Closely confused with “uncontrolled printing money” is (3b), and I will talk about it again under **Issue 6** below.

Existing value tied to it (1) is explained from Page 5 of Link 6 above and below, with nine examples.

Link 6: <https://www.sec.gov/comments/sr-cboebzx-2018-040/srcboebzx2018040-4530331-176071.pdf>

Tying a new currency to an existing value is like a process of defining something. This process is not a creation of any asset or liability.

The main purpose of creating Table 1 was to show “Amount owed (2)” in a position in a cell for it alone. The Greyback in Page 5 of Link 6 above eventually failed because the government who owed the money lost the war. When there was hope for victory, the money had value. Later, the value deteriorated along with (3b) in the table.

Change in prices of general goods and services (3) means change in supply of and demand for general goods and services. Under this (3), I listed three causative factors.

Demand is given, and we cannot change. It has always been overage or shortage of production that caused imbalance of supply and demand. Hence (3a). If a government does not understand this well, money of that country will go down with (3b). Actions of other countries will change forex rate (3c) without a reasonable ground, then we may have to pay more or less than necessary, affecting the value of our money.

Now, everything is clear. The value of money is first determined by a law. The Fed prints and issues the certificate of money depending on the value of money already determined by the law. Then, the value of money changes along with prices of goods and services. Later issuance of new money of the same concept means new certification based on new value of money. Issuing money is not a determination of money value. It is a certification of owing.

Issue 6: Strict issuance schedule vs full collateralization.

The underlined (6) of Quote 1 above looks like an assertion that strict issuance schedule guarantees the value of bitcoin. As scarcity alone cannot make any value. While looking for the utility of bitcoin, I found a comment posted just one day before this Release.

Link 27: <https://www.sec.gov/comments/sr-nysearca-2019-01/srnysearca201901-5730373-186267.pdf>

The authors compared various assets being used as store of value by eight attributes to store of value. I made a table according to my reading of the comment. I made it for visibility only, without claim of accuracy.

(Table 2) Order of strength in attributes to stores of value					
Attributes	Gold	Art	Collectible	RE	Bitcoin
Scarcity	5	1	2	3	4
Divisibility	2	5	4	3	1
Portability	2	4	3	5	1
Fungibility	2	5	4	3	1
Liquidity	2	4	5	3	1
Programmability	5	3	4	2	1
Ease of authentication	3	4	5	2	1
Assurance	3	4	5	2	1

Note that those eight attributes are meaningful only when bitcoin's function as store of value has been established. None of the attributes can tell how bitcoin becomes a store of value. The only part, in the comment at Link 26 above, that can be an answer to "what makes bitcoin a store of value?" is Quote 6 below:

(Quote 6) Empirically, millions of people from every region of the world have ascribed value to bitcoin as an asset.

In brief, according to the authors, bitcoin is a store of value because millions of people recognize the value of bitcoin. Then, let us ask, "on what ground do they recognize it?" Then, the answer is: because (1) it is scarce AND (2) it has the utility as a store of value. It is a circular argument, one of logical fallacies.

As this Release does not show any utility of bitcoin, its scarcity alone cannot make any value. Anything times zero is zero.

On another hand, the Fed argues something that protects the value of USD in Page 369 (numbered 361) of Link 18 above and hereunder:

Link 18: <https://www.federalreserve.gov/publications/files/2018-annual-report.pdf>

(Quote 7) Federal Reserve notes are the circulating currency of the United States. These notes, which are identified as issued to a specific Reserve Bank, must be **fully collateralized**. All of the Reserve Banks' assets are eligible to be pledged as collateral.

The way of full collateralization can be seen in Page 357 (numbered 349) of Link 18. The first line of liabilities is Federal Reserve notes outstanding, in the amount of \$1,671,437. The largest asset item is Treasury securities, in the amount 2,302,462. This alone proves that Quote 3 above is correct.

Considering the collateralization in the previous paragraph, the value Federal Reserve debts will be stable as far as the government debts are stable. The government debts will be stable if the government works well. Too much national debt works adversely to soundness of the government. Though US national debt does not look dangerous yet, it will be too late when we feel ailment of USD. I hope the paragraphs from Quote 4 above will shed more light to (3b) of Table 1 under **Issue 5** above.

Now, it is the time to compare bitcoin's security and USD's security. Federal Reserve notes are debt instruments collateralized by the value of US government. The reliability of a fiat money depends upon the government of that country. Bitcoins are not debt instruments. The concept of collateralization is inapplicable to bitcoin. The hallucination of value in the strict control of bitcoin quantity stems from false theories about fiat money, e.g. quantity theory of money.

Issue 7: The real cause of bitcoin price action

The underlined (7) looks asserting that bitcoin price is determined by supply and demand. Now that Quote 1 above is too far from here, I put a copy of hereunder for easier look.

(Quote 1) The Bitcoin Network does not rely on either governmental authorities (1) or financial institutions (2) to create (3), transmit (4) or determine the value of Bitcoin (5). Rather, Bitcoin is created and allocated by the Bitcoin Network protocol through a "mining" process subject to a strict issuance schedule. (6) The value of Bitcoin is determined by the supply of and demand for Bitcoin (7) on Bitcoin exchanges (and in private end-user-to-end-user transactions), as well as the number of merchants that accept them. (8)

Supply of and demand for bitcoin behaves weirdly in comparison to general goods and services. First, bitcoin's price elasticity of supply is zero. No matter how price moves, the quantity of supply will be on the track of strict schedule. This was the theme of **Issue 6** above. Therefore, the price of bitcoin is totally dependent upon demand.

In economics, the factors affecting demand are population, income, taste, expectation, its own price, and prices of related goods and services. Among these, what is not related to utility is expectation. As bitcoin does not have any utility, the only force that drives bitcoin demand is expectation. Then, we need to know what makes people expect bitcoin price increase.

It is obscurity that makes people expect bitcoin price to increase. It is hard to let it be known that bitcoin is not a currency, it has no utility, fiat currencies do have intrinsic value while bitcoin does not, blockchain technology does not depend on bitcoin, and so on.

This obscurity started with the following (*false*) thought:

Fiat currencies are all empty. Governments generate them out of thin air. The fractional reserve system lets the banks proliferate the fiat currencies like rats. Bitcoin is at least limited in its quantity.

This thought is pathological, but central banks do not provide a successful cure like what I provided in **Issue 3** above. In European Central Bank site, it is still said that Euro bills “has no intrinsic value.”

Link 28: https://www.ecb.europa.eu/explainers/tell-me-more/html/what_is_money.en.html

Federal Reserve Bank of St. Louis still supports the thought that “monopoly currencies, such as the U.S. dollar, the euro, and the Swiss franc, have no intrinsic value either.”

Link 29: <https://www.stlouisfed.org/open-vault/2018/april/three-ways-bitcoin-regular-currency>

The falsity of ***the italicized paragraph*** above quickly appears when it is put to a test with the following simple syllogism:

(Insertion 3) A syllogism for intrinsic value of money

- (1) Every debt instrument has intrinsic value.
- (2) Every Federal Reserve note is a debt instrument.
- (3) Every Federal Reserve note has intrinsic value.

Proposition (1) is an undisputable truth. The intrinsic value of a debt instrument is present value of future cash flows.

Proposition (2) is conspicuous and loud here and there. 12 USC 411 is one unmovable evidence of it. Balance sheet of any central bank will show it. The value of a fiat currency fluctuates exactly like the value of an ordinary debt instrument. If the government is not trustworthy, the value (in terms of prices of general goods and services) goes down. If the government is trustworthy, the value does not go up above a certain limit.

But it seems extremely difficult for the society of economics to put Propositions (1) and (2) together and reach Proposition (3).

The intrinsic value of a debt instrument varies according to credibility of the issuer. Likewise, the intrinsic value of Federal Reserve notes will fluctuate according to changes in the credibility of US government. If the government debt increases the current way, the advent of a safer currency can ruin US dollar’s position.

Facebook's Libra is fundamentally different from bitcoin in that Libra does have intrinsic value, if I understood their claims correctly. According to my understanding, Libra is something like the SDR (Special Drawing Rights) grafted to blockchain. Their purpose is reducing card processing fees. As both Libra and bitcoin use blockchain technology, it is crystal clear that we don't need bitcoin to promote blockchain technology.

Angels and devils are from the same village. People treated them the same way because of their village of origin alone. Judging by the technology alone, some people praise both bitcoin and Libra. Other people chastise both. If blockchain technology should be used for transfer of monetary assets, now is the time to dump bitcoin and grab Libra.

If there is something looking like Libra in that it is backed by one or more fiat currency, I would judge its credibility by asking one simple question: Does the issuer support bitcoin or not? I would distrust anybody who supports bitcoin, because that buddy does not know enough about intrinsic value. A well-informed individual cannot support both bitcoin-like and Libra-like cryptocurrencies.

Some central banks are considering blockchain technology for another purpose: prevention of bank account hackings. As they intend use the existing money and rely on blockchain technology for security of ownership, there is no issue of intrinsic value.

Issue 8: What a purchase with bitcoin really means

The merchants who sell their goods and services for bitcoin are in fact purchasing bitcoin. IRS Notice 2014-21 states Quote 8 below with the same idea.

(Quote 8) A-4: The basis of virtual currency that a taxpayer receives as payment for goods or services in Q&A-3 is the fair market value of the virtual currency in U.S. dollars as of the date of receipt. See Publication 551, Basis of Assets, for more information on the computation of basis when property is received for goods or services.

Underlined (8) duplicates underlined (7), thickening this poisonous fog of **obscurity**.