

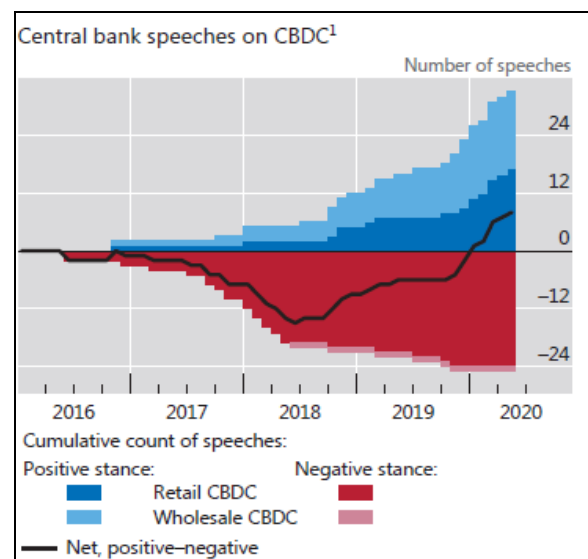
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The Geopolitics of Central Bank Digital Currencies (CBDC): Part I

There has been a surge in interest in digital currencies among the world's central banks. The triggering event was probably Facebook's (FB, USD, 264.28) unveiling of the [LIBRA project in June 2019](#). Digital currencies of various stripes have been around for some time; bitcoin (BTC, USD, 49,989.80), introduced in 2009, is one of the oldest. For the most part, central banks have not felt threatened by bitcoin because the cryptocurrency fails to meet the standards of a currency (which we will discuss in greater detail below). First, it is [difficult to use in transactions](#). Because bitcoin does not have a central repository for executing transactions, it relies on "miners" who receive bitcoins for verifying the accounts in a transaction. Miners earn the right to execute the verification by cracking puzzles that use [large and growing amounts of electricity](#). In fact, the [energy consumption](#) has reached the point where [China has halted mining in Inner Mongolia](#), an area of cheap electricity. In addition, the price volatility of bitcoin makes it difficult to use as a store of value. If bitcoin were your only currency, you would be facing rapid changes in prices and, for the most part, persistent deflation. Finally, it may not be safe; [the blockchain is vulnerable to being corrupted](#) and its impermanent nature could lead to governments ending its existence.

However, when Facebook entered the cryptocurrency realm, central banks took notice. Not only could the tech firm have

the resources to manage a payment system, it has a widely adopted platform in place. Therefore, interest began to grow among central banks who wanted to determine if they should begin offering a digital form of currency.



(Source: [BIS](#))

This chart shows central bank speeches on the topic of CBDC. They started in earnest after 2016; initially, the tone was negative, but it has steadily turned more positive beginning in 2018 and went net positive early last year.

Another factor that has fostered the interest in CBDC is the pandemic. Social distancing and the goal of reducing virus transmission encouraged cashless payments which were not always available, especially to the less affluent. In addition, the distribution of fiscal aid was hampered by the lack of financial services among the same groups. It is thought that a digital currency may have helped resolve these two issues.

So, why is CBDC a geopolitical topic? It is estimated [that around 80% of the world's central banks are considering and investigating the introduction of CBDC](#). As we will detail in this report, central banks will have choices in how they structure their CBDC. But these digital currencies won't exist in a vacuum; firms and individual countries will likely use these currencies as well, so there will be an international impact to their issuances.

Part I of this series is an examination of what money is. Part II will begin with a discussion of the current state of money and show how CBDC can act as money in multiple ways. We will also examine how the digital currency's structure could have significant effects on financial systems, fiscal policy, privacy, and data collection. Part III will analyze the geopolitics of the introduction of CBDC, and Part IV will discuss potential market ramifications.

The Metaphysics of Money

In economics instruction, most money and banking textbooks define money as 1) a medium of exchange, 2) a unit of account, or 3) a store of value. But, this definition is something of an intellectual “sleight of hand.” The textbook definition describes what money *does*, not what money *is*. It's a bit like defining a hammer by saying it is something that drives nails or pries stuck nails, or that a potato is something mashed, baked, or French fried. Both describe what a hammer or a potato is used for, but neither captures the essence of what the item is. By focusing on what money does, economists avoid the uncomfortable reality that money is a social construct. While money does all the things described above, it is much more than that. Money can symbolize power; the pursuit of it can become all-consuming and the New Testament warns about its allure.¹

The definition used in money and banking textbooks is useful in economics because it prevails itself to numerical analysis. We can use mathematics to measure things. But by neglecting the broader implications of money, it's more likely that economists (and policymakers at central banks) will tend to underestimate the political and social effects of their decisions. Accordingly, the movement to introduce CBDC is fraught with risks that will likely be underappreciated by the central banks.

Even the standard definition tends to have underlying ideological ramifications. The three definitions of money all carry their own narrative origin stories belying their ideological dimensions. These ideologies will likely affect the decisions in issuing and structuring CBDC.

Money as a medium of exchange: In money and banking, this is the most basic of the definitions of money. The origin narrative for this aspect of money is that money is essentially a technology used to overcome the inherent problems of barter. Barter requires a buyer of a good to find a seller who wants something the buyer possesses and is willing to trade. Relying on barter clearly drives up transaction costs and complicates items that are not simultaneously transacted. In other words, not only must two parties be willing to swap goods, but they must be willing to do so at the same time. If one party will need that good in the future but not at present, either the transaction is delayed or one party must hold the traded good as inventory, effectively increasing the cost of the trade.

Money resolves this problem. By universal agreement that there is a good that acts as an intermediary in transactions, the inefficiencies of barter are resolved. The Classical economists generally held that

¹ Matthew 6:24

money was primarily a medium of exchange and assumed that some commodity would assume the role of money. Even Marx accepted money as a medium of exchange, although he noted that the most effective commodity for the function of money was one that had the least value as a commodity.² Hence, gold, which has limited uses as a commodity, was uniquely suited as a medium of exchange.

The origin narrative for money as a medium of exchange is that money springs spontaneously from markets and the desire to transact. It didn't need governments to facilitate the creation of money. In theory, the use of the "money commodity" would be regulated by the intrinsic value of the commodity used as money. If that commodity was more useful as a consumption good than its use as money, the supply would be constrained to the point where the money value would equalize and the good would return to its money form. In practice, as Marx noted, society settled on a good that had little practical value which made it perfect for money.

If money's function is as a medium of exchange, then increasing its supply will simply lead to higher prices. Hume detailed this idea in the "price-specie-flow mechanism," where he showed that a country engaged in mercantilist trade policy to accumulate specie [would simply end up with higher prices](#). Supporters of limited government tend to adopt the idea that money is primarily a medium of exchange; this can be described as the theory of commodity money. Unfortunately, this evolution of money as a replacement for barter has not been established

² Marx, Karl. (1977). *Capital: A Critique of Political Economy, Vol. 1* (translated by Ben Fowkes). New York, NY: Vintage Books (originally published 1867), p.166.

anthropologically. In other words, there is nothing in history to suggest that the medium of exchange origin narrative is indeed factual.³ As the last decade showed, the mere increase in money supply does not necessarily bring higher price levels.

Money as a unit of account: Diametrically opposed to money as a commodity is the definition of money as a unit of account. On its face, this definition appears innocuous. But, in reality, the unit of account function suggests that money is defined by government "fiat" and has no intrinsic value other than what the state says it has. Essentially, money is defined by the state; the state uses its powers of enforcement to define its currency as legal tender and accepts it for the payment of taxes.⁴ Keynes generally adopted this position on money; the most recent iteration is expressed in Modern Monetary Theory.⁵ This theory, called "chartalism," essentially argues that money is what the state says it is.

National identity is reflected in currency. Most currencies have the likeness of revered national leaders or special national places printed on them.⁶ National treasuries are able to acquire seigniorage by creating money from things that have more value than the item used to designate money. There is no doubt that there is a connection of the state to money; it's obvious when you

³ Humphrey, Caroline. (2011). "Barter and Economic Disintegration," *Man*, 20, No. 1, p.48.

See also: Graeber, David. (2011). *Debt: The First 5,000 Years*. New York, NY: Melville House, p.23.

⁴ The primary source of this theory comes from: Knapp, Georg Friedrich. (1924). *The State Theory of Money*. London, England: Macmillan & Company.

⁵ See our earlier series on Modern Monetary Theory: [Part I](#), [Part II](#), [Part III](#), and [Part IV](#).

⁶ This distinction is what made the euro project so unique. One of the goals of creating the Eurozone was to undermine nationalism, which is thought to be one of the forces that triggered two world wars.

observe the images on currency and at tax time. This definition of money is usually preferred by those who are comfortable with government. Anthropologically, chartalists can point to coinage in the ancient world, where there is evidence of a state issuing fiat currency as early as 600 BC.⁷

Money as a store of value: The original narrative of this form of money is that goldsmiths, who held gold for people for safekeeping, realized that most of the time the gold simply sat on their shelves. Thus, there was the potential for lending out this idle gold and, almost as a form of alchemy, creating additional money. This narrative describes the bank's function in money creation.

A theoretical construct of this idea was developed by Narayana Kocherlakota, the former president of the Federal Reserve Bank of Minneapolis. His seminal paper on money as a form of memory⁸ created a theoretical construct which suggested that memory was a substitute for money. Suppose a laborer helps a landowner plant a crop, with the promise that at harvest the laborer will receive some portion of the crop in payment. If the two parties agree to remember, that memory becomes a form of money and money, then, can be issued as a claim to satisfy the promise.

Money as a store of value is really about money as a form of credit and debt. Alfred Mitchell Innes, a British diplomat, expounded on this theory in a paper titled "[The Credit Theory of Money](#)." In this paper, Innes argued that the ancient practice

⁷ Bjerg, Ole. (2014). *Making Money: The Philosophy of Crisis Capitalism*. Brooklyn, NY: Verso Books. p.101.

⁸ Kocherlakota, Narayana. (1996). "Money is Memory," Federal Reserve Bank of Minneapolis, Research Department Staff Report, p.218.

of using tally sticks as a form of memory for credit and debt was really credit money. Michael Hudson, an economics professor at UMKC, [offered anthropological evidence of this process](#). These promises become money-like when a creditor uses the promise to fulfill an obligation to another party. So, using our earlier example, the laborer could use the promise from the farmer to buy a round at the local bar.

Once money is created from the credit/debt relationship, the quality of the relationship itself becomes a form of "moneyness." This situation becomes obvious in looking at finance. Some debt carries little risk and so the probability of being paid is high; other debt is less secure. This situation creates a [hierarchy of money](#), as noted by Perry Mehrling. This hierarchy is based on the acceptance of the debt by others, using some accepted unit of account, and the likelihood that the debtor is "good" for the debt.

In some respects, the credit theory of money, the idea of money as a store of value, has elements of the prior two theories. History suggests that credit money emerges spontaneously through the actions of the market, suggesting that the state isn't required for the emergence of money. However, specific debt and credit has little use without some unit of account. Knowing that a farmer owes a laborer some amount of wheat only has value to an unrelated party if they specifically need wheat. Simply put, this situation wouldn't overcome the problem of barter. But, if that wheat value is expressed in some form of currency, then it can be easily traded. Essentially, credit money probably emerged from non-simultaneous transactions but would not have developed without the state providing a unit of account.

Before we summarize, there is one other item to discuss. The money as a store of value theory, or credit money, tends to presuppose that the goldsmith referenced above eventually evolves into a bank that acts as a clearinghouse on debt. However, here is where a problem develops—the hierarchy of debt implies that not all debt is of equal value. For credit money to work, some entity must stand behind the debt to equalize them, otherwise they are not tradeable and the problem of barter isn't resolved. Essentially, banks themselves become the standard, or the guarantor, of various forms of debt to make them more easily transferable. The bank becomes the issuer of debt that is acceptable at face value.⁹ Without banks, it is hard to see how credit money would function. Thus, banks are more than mere intermediaries between savers and borrowers. Instead, they are creators of money through lending.

In summary, money is a social construct that expresses itself in primarily three forms—commodity money, state money, and credit money. Neither one of the three is truly complete without elements of the other two. Although the state can demand acceptance of its money through coercion, as we have seen in nations suffering hyperinflation, “dollarization” can occur where state money is generally not used and the money of

another country becomes the effective currency. Commodity money works best when the commodity used has few other uses. When an exchange is not simultaneous, commodity money evolves into credit money. Credit money only works when an institution exists that creates confidence that credit money is equivalent to state or commodity (medium of exchange) money. It should also be noted that commodity and state money exist in both electronic and physical form, while credit money only exists “in the ether.”

This theoretical discussion is designed to show that money has a deep-seated structure and making changes to it, as CBDC would bring, could have significant effects on markets and society.

Part II

Next week, we will discuss the current state of money and, using this analysis, show how CBDC can act as money in multiple ways. Accordingly, we will also examine how the digital currency's structure could have significant effects on financial systems, fiscal policy, privacy, and data collection.

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⁹ Op. cit., Bjerg, pp.126-127

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