

## **On Cryptocurrencies**

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Cryptocurrencies have been around for a few years now, with many of them being attractive options for investments. Bitcoin, for example, has returned over 16,000% in value since its inception. Other coins are similarly lucrative. Whilst this is so, we must take some time to analyse the function of cryptocurrencies and exactly how they behave. Especially with the claim that cryptocurrencies will be able to replace conventional, fiat currencies, we must be careful in understanding their worth in this function.

### **Conventional Currency, Cryptocurrency and the Blockchain**

To begin, let us take some time to define money. Conventionally, money has no intrinsic value, rather it represents a promise by issuing authorities that they will be able to provide a material replacement for the money of equivalent value. Historically, this was gold, the most recent of which was the Bretton Woods system where the US Dollar was convertible to gold. This was replaced by the type of currency we are familiar with, the fiat currency. Fiat currencies work similarly, in that their value is tied to the ability of the issuing authorities, usually central banks, to be able and willing to guarantee their value, usually either through liquidation of reserves, greater exploitation of natural resources or some other way in which the economy for that country holds.

Cryptocurrencies are a little different. Their existence is derived from decentralised ledgers that are encrypted using cryptography such that they are immensely secure for online transactions. These ledgers contain a certain list of transactions, each one having its own unique code. These ledgers are encrypted by finding certain codes or numbers which will return a defined outcome once plugged in to a function containing all of the codes of the transactions within that ledger. These ledgers are also chronological, with later transactions within future ledgers connected to previous ledgers in a continuous chain.

This is termed a “blockchain” which is a chronological series of blocks (ledgers). These blocks can be created by anyone and is indeed a decentralised process that anyone can participate in. The dependency of the unique code for a block on all previous blocks in the chain means these codes are extremely difficult to find and, thus, the content of blocks cannot be easily duped. This is because someone who creates a fraudulent block would need to find a specific code that satisfies the transactions in that block coupled with all previous blocks. Moreover, they also need to create all future blocks and unique codes as their fraudulent block will alter all later codes. Functionally, this is impossible as many other people will also participate in creating and securing blocks, thus creating an alternate true chain of blocks faster than the fraudulent one. By convention, the longer blockchain is always trusted over any other. Hence, the blockchain technology is immensely secure.

The process of finding these specific codes for individual blocks are done through complex computer calculations. These are done by individuals with massive amounts of computational work done by computers. For their efforts, a specified amount of cryptocurrency is created and credited to these individuals. Because a large effort is expended to generate this new amount of cryptocurrency, this process is called mining, as in mining for gold. The value of transactions in these ledgers can be represented in units of any fiat currency, but they can also be represented as a unique entity entirely, with their own name and value. Hence, a cryptocurrency is born. These are then traded in a market, very much like foreign exchange markets trading fiat currencies.

## Origin of Value Represented by Cryptocurrency

A simple question we can ask is where does the value come from? For a fiat currency, the value it represents is tied to the central bank of a country. This comes directly from the enactments by a country's government enabling the existence of the currency and the utilisation of the currency within the local economy through debt created in the currency in the forms of loans and from taxes that can only be paid in that country's currency. This is the direct reason why a currency can have value.

This value is retained through confidence within the currency. The confidence within a fiat currency is the confidence of holders of that fiat currency on the ability of the equivalent central bank, and by extension the country itself, to pay its debtors. This confidence is material in nature, in that the economic handling of the country is tied to material conditions, including solid resources that can be liquidated to boost the economy during times of recession to abstract human resources that be used to grow the economy. This means fiat currencies are subject to inflation. As the productive capacity and economic growth of a nation improves, the confidence in a fiat currency improves. This can increase the value for that currency thus allowing for more goods to be bought with a smaller amount of it, with the opposite being true as well. The central authority issuing the currency, however, can choose to devalue its currency to increase trade competitiveness as well.

External confidence and internal confidence on a currency can be disproportionate though, as if the material needs of a populace is fulfilled through the currency, its relative value against external currencies become immaterial. It is only when certain needs can only be made to exist through imports does the internal confidence wither for a fiat currency, or when external debt repayments become more expensive due to relative devaluation. Regardless, we can see that the value of the fiat currency is intrinsically tied to local material conditions and productive capacity rather than the naively held notion of supply and demand for the currency itself.

For cryptocurrencies, this is unclear. There is no entity that promises to exchange an amount of a cryptocurrency with any commodity of an equivalent value or guarantee its value. What drives the value for a cryptocurrency is the confidence of currency holders on the currency itself holding value despite of there being no equivalent guarantee. Usually, this is driven by an interest to profit off of speculation. Hence, the value of the cryptocurrency is derived from a belief that its value will eventually increase enough for investors to sell. This, coupled with the scarcity of the currency, especially with Bitcoin that gradually decreases the number of Bitcoins awarded to miners such that there can only be 21 million Bitcoins in existence, allows a value to be associated to a cryptocurrency. However, we must remember that there is nothing backing this currency. How, then, did the value of so many cryptocurrencies skyrocket and how do they change so easily?

With nothing backing cryptocurrencies, their trading in exchange markets is hugely influential to the value of the currency itself. Moreover, the mood about the currency, especially driven by hugely wealthy capitalists influence their value too. If big billionaires express interest in a cryptocurrency, buying a significant stake in it, the value of the cryptocurrency can blow up. Investor confidence is a domino, of course. As big investors express confidence, smaller investors get on the bandwagon as well. This drives the value even higher. The aggregate ownership of a cryptocurrency and mutual trading then becomes an artificial gauge of demand (thus, value) which is how these currencies manage to keep their value. This is true for big names such as Bitcoin and Ether, the former also benefitting from scarcity due to the aforementioned maximum limit on its number.

Smaller coins, especially new ones, may experience an initial boom in value followed by a devastating crash. This most recently can be seen through Squidcoin, the cryptocurrency made in honour of the popular south Korean show Squid Game. Squidcoin went from over USD 2380 to effectively zero as the coin's creators abandoned it and made away with the money others invested in the coin, again believing in speculation to drive its value up eventually. As an aside, this in and of itself is a depressing consequence of capitalism that a show critiquing capitalism itself was made into a manifestation of capitalist excess.

### **Cryptocurrency and Inflation**

Moving to analyse cryptocurrencies, we must be thorough in our consideration of it both being a currency and being a commodity. For it being a currency, cryptocurrencies are not superior to fiat currencies for multiple reasons. Whilst we can imagine, and we do see in a limited capacity, systems where personal transactions between individuals, groups or businesses can occur using cryptocurrencies, this introduces an extra level of uncertainty, that the currency itself will hold its value. Utilising conventional fiat currencies carries the same risk, however because it is backed by a central bank, the likelihood of the fiat currency losing value is relatively lower than a cryptocurrency.

Of course, the exception is inflation, where the value of a fiat currency will decrease.

Cryptocurrencies are said to be resistant to inflation as they are not tied to any nation, thus are not subject to the loss of value due to any country's economy faltering. How inflation will affect the value of cryptocurrencies is unclear. Projecting what is most likely to happen, though, we can surmise that higher inflation rates will increase the cost of commodities even in terms of cryptocurrencies, thus causing their local value to drop.

Inflation can be thought of as a decrease in supply of a commodity, which drives up its price. Usually, this is due to a lack of productive capacity in a nation that can be used to create the necessary commodities. Actually, productive capacity can be high but if it is controlled by private hands, they can be manipulated to drive up these prices as well. This makes a country depend on excessive borrowing or printing more money to pay for the supply of these commodities, either by importing or subsidising the spending of its people. The latter can be direct through cash handouts or indirect through healthcare or spending to curb social ills.

Taking on greater debt decreases confidence in its currency, causing the currency value to drop. Printing more money, on the other hand, increases the supply of a currency causing the same value drop. This seems like an oversupply of money as this expenditure does not strengthen the economy of a nation, rather the country is in the same level of development as it was before, just now with a lot more money printed or borrowed. An increase in external debt can also feed into printing more money to service this debt, again not increasing productive capacity but increasing the amount of money in the economy. Hence, the value of this money decreases again.

A secondary currency independent of the economy may be a workaround, as that currency will keep a steady value rather than the decreasing value of a fiat currency. However, if the productive capacity problem is not addressed, this inflation will still cause local problems. If local commodity supply is disrupted, say due to external factors such as embargoes or internal factors such as private factory shut-downs, this may increase the cost of goods locally, independent of currency. Whilst the value of the cryptocurrency may be steady due to a steady supply, the demand has increased due to greater commodity costs. Of course, the effect is larger for fiat currencies as central banks can increase the supply of the fiat currency which will increase inflation. This does not exist for cryptocurrencies, particularly cryptocurrencies that have a maximum limit of amount.

## Cryptocurrency and Speculation

So, we see inflation affecting both fiat currencies and cryptocurrency, though lesser for the latter. This, however, is not the only problem with cryptocurrencies. Their value being completely tied to speculation, cryptocurrencies are subject to much larger boom-bust cycles. This is true for even large cryptocurrencies such as Bitcoin. The fluctuating value of these currencies, of course, is a double-edged sword. On the one hand, huge boom periods allow for greater profiteering, allowing for much better returns than any other form of investment.

On the other hand, frequent bust periods can cause huge losses, especially for those without enough cash-flow to wait until the next boom period. Of course, those with enough capital find bust periods desirable too. Profits from trading cryptocurrency can only be made if there are high points to sell held cryptocurrencies and low points to buy crypto. This, of course, is the same within other capital markets, hence the absolute value of a cryptocurrency at any time is not relevant, only the variations in value do. This is why even large dips in value are desirable, as these become the time to buy large shares of cryptocurrencies. Even if the value doesn't climb to previous levels, any increase in value would be profitable.

This is where we must begin critiquing cryptocurrencies as they are treated as a commodity. Far more than they are used for financial transactions, cryptocurrencies are used for investment. People are far more likely to buy and sell cryptocurrencies in a market rather than using them to buy and sell other commodities. This, of course, is tied to the large boom and bust cycles as explained previously.

With nothing backing it, all of the value of a cryptocurrency is superficial due to pure speculation. Analysing this, we must be clear that no real value exists in these currencies. For a commodity with a use-value (an actual, material need for the commodity, like bread for sustenance or chairs to sit on), value is created from the transformation of raw materials to the commodity in question. The cost of the raw materials is smaller compared to the necessary selling price of the commodity (less overheads) and this difference is generated through the input of labour (generalised as an average of the necessary labour-time). This is what we can term "real value".

Coming back to cryptocurrencies, they have no use-value. Of course, this is justified by cryptocurrency proponents as these are supposed to behave as money, not as material goods. However, we saw before how they don't really work as currency due to nothing of real value backing them in the first place (like the resources of a country through the central bank). So, these currencies have no inherent value nor do they have indirect real value. Their only value comes from speculation, akin to the inflationary profiteering we saw with the commodity earlier. This was as a pure profiteering response to customer demand. In crypto terms, the value is generated simply because people believe that there is a value. This belief comes only from a hope to see the value increase to a point at which they can sell their stock for huge profits. It is a circular relationship.

For real value, a product must have a use-value. For this to be generated, the product be transformed in a meaningful way from raw materials. The input of labour would be the generator of this value. With crypto, what we have is either earned crypto from mining or held crypto that has appreciated in value. Earned crypto is not created through the input of labour. Abstracting labour to include that which is necessary for the utilisation of computer power, the actual output is not cryptocurrency, rather it is a special code that secures a block in a blockchain. So, the actual product is securing the blockchain, which is rewarded with some new amount of cryptocurrency. Hence, a product of value is rewarded with a token that has no inherent or backed value.

Held crypto that increases in value did not appreciate in value through transformation into a more useful commodity, nor did it increase in value due to increased confidence within a central bank to potentially replace it with a commodity of equal value. The increase is purely due to speculation, that is a belief that the value will increase in the future. This belief draws in more investors, artificially boosting confidence, thus increasing its value even more. Materially, nothing has changed except of course a depletion of resources in sustaining the blockchain, a net negative.

### **Cryptocurrency, Capital Stagnation and Capitalist Manipulation**

Simply put, the world was not made a better place with this increase in value. It is simply capital generating capital directly rather than moving through the economy to generate material value. This disrupts the utility of capital, which is necessary to facilitate transactions. Either money or commodities to be bartered need to change hands, each fulfilling either person's material needs. Locking away capital in a market, any capital market, really, but especially crypto markets, disrupts this flow of money.

This is the same mechanism in other capital markets as well but made even worse as those markets are still somewhat representative (though minimally) of real value (as derived from the sale of products within a company). Without a tie to any real value, we risk moving away from capital circulating within an economy. Money circulation is important for the maintenance of the economy as only through this circulation does money held by one person be available for another to use. Disruptions to this circulation drives down salaries, benefits tied to work, conditions of worker accommodation and the growth of businesses. This effect also disproportionately affects small businesses and low-wage earners.

There are added dangers in this form of profit-generation. Firstly, whilst the value of the cryptocurrency may be artificial, since people are using real money to buy it that they earned, the profit generated is not valueless so long as cashing-out crypto into a fiat currency is allowed. Disregarding wealthy capitalists with their surplus wealth in crypto and, thus, not having to worry about losing their material needs, we can have people pushed into investing most of their life-savings in cryptocurrencies and then losing them during a bust period when they are forced to sell their stock due to not having enough cash-flow.

Moreover, this boom-bust cycles are manipulated by large investors who hold significantly large amounts of cryptocurrencies. When the value is sufficiently high, they will sell most of their portfolio which causes a flood of free crypto in the market that drives its value down. This causes a domino effect where other investors cash-out as well, driving the value even further down. At a sufficiently low value, these large investors will re-buy their original share or more of cryptocurrency at a much lower price, thus making a profit as their original selling price was so much higher. As we can see, the value of crypto does not even depend on natural confidence, rather is artificially manipulated by large investors.

This means the crypto market is analogous to other capital markets, where those with initial accumulated capital are largely the only ones who benefit in making large sums of profit, whilst smaller investors are necessarily cut off. Imagining units of stock or cryptocurrency being finite, the only way to sustainably generate profits from it would be to engage in trade to accumulate it, that is depriving it away from small investors in a mechanism that needs to be continuous. The aforementioned large-scale selling in boom periods and wholesale buying in bust period is such a mechanism. In between these periods, crypto values are kept artificially high yet not too high to not be attainable through a combination of hoarding and limited trade.

With this in mind, we can see that cryptocurrency is not the paragon of alternative finance for the masses, rather is heavily biased towards benefiting the ultra-rich, the same as other capital markets but further expanded into a realm of imagined value. Capital markets, either company stocks, commodity stocks or foreign exchange, all have the same feature of impoverishing the underclass to enrich the wealthy but they at least have some tenuous connection to real value, respectively value of products sold, value of commodities or value backed by central banks. Cryptocurrency is an empty shell of promise that in no way signifies whatever form of real value.

This is dangerous, as more capital is tied away in these markets, the underclass are deprived of money circulation, lose money due to lack of cash-flow and are themselves manipulated directly by capital owners. This, of course, is a larger problem within capitalism, that is capitalist realism where this perverted system is what is normal and cannot be changed. The underclass are indoctrinated to that they also can derive large profits from these markets when, in reality, the chances of them to do so successfully is miniscule compared to large capital owners. Through this indoctrination, the rich get the poor to participate in a system, that will continue to oppress them in hopes of a future where they themselves will become the oppressors.

### **Cryptocurrency and Productive Capacity Expansion**

Going a little further on inflation, we saw how productive capacity becomes the main driver. In fact, the productive capacity problem cannot be addressed through the replacement of fiat currency by cryptocurrency. How does the productive capacity of a country be increased? Largely, it is through government projects. Whilst the private sector does play a role in this through private businesses, the profiteering, wage suppression and subjugation of workers rife within them especially through the extraction of surplus capital make them quite vulnerable to the machinations of the capitalists who own them.

Imagine a period of economic recession. Speeding up the economy will need liquidity of capital to ensure money circulation is kept up to such a time production and trade can climb back to previous levels. The need to keep private profits will keep capitalists away from liquidating their capital for this cause. In fact, most of the time, it is governments that utilise capital, either through liquidation of reserves or creating new money, to stimulate the economy. In fact, the capitalist economy relies on this kind of bail out. With government money stimulating the economy, money circulation will be increased such that people can engage in trade. This allows private organisations to be able to operate (sell products and pay for overheads).

Not having this mechanism is dangerous as private entities behave in a self-preservatory manner. They will not liquidate capital to keep the economy going as that is an expenditure to preserve not only themselves but mostly other people's businesses as well. Another thing to consider is whether private entities have enough capital to liquidate to do this in the first place, or whether they have enough collateral to borrow for this reason. If business prospects in a certain country are not viable, private entities will either close or move elsewhere. Those that do are usually large enough to move elsewhere without the additional debt taken. This further drives down the economy as production and productive capacity lowers.

Hence, we can see a centralised entity with access to a country's resources and that can be relied on to represent future value of a nation is necessary to regulate an economy sustained by a capitalist mode of production. Particularly, we have seen this in the mechanism to release funds during economic recession. The need for this mechanism is the need to be able to create money when needed. This is not possible with cryptocurrencies as most cryptocurrencies have a maximum

amount limit and because they are so decentralised, no one entity outside of the system that creates these tokens can create more of them, as the only way to create new crypto is by mining.

A complete monetary revolution, then, cannot be achieved by cryptocurrency in a global capitalist market. This is particularly relevant for countries in the third-world who have to undergo greater phases of development to build their productive capacity to maximise employment, establish a measure of self-reliance and generally improve the lives of their people. This is made even more difficult in the 21<sup>st</sup> century due to imperialism manifesting in the form of the globalised supply chain where corporations from the global north set-up manufacturing facilities in the global south to take advantage of lower wages, capital costs and operational costs.

In practice, this causes local capitalists to oppress workers to minimise costs in an effort to ensure the products they offer to the global north corporations are “competitively” priced. This minimises the distribution of the generated value amongst the people in these countries, thus making it difficult for any welfare schemes to be implemented depending on tax money. Local private firms that operate within one country independent of foreign corporations similarly take part in minimising their costs, thus contribute to this lack of money circulation as well. Moreover, the prices of many goods and services are maximised such that wage growth does not correspond with the growth in living costs.

To move away from this stranglehold, an expenditure by the government of the nation is needed to generate greater value to flow through the economy. This is done mostly through expanding infrastructure, such as ports, trains, roads and internet coverage, which can enable the unlocking of resources from which value can be generated. Without this expenditure, it would be nigh on impossible to for a country to develop (under a capitalist mode of production). It is for this reason that liquidity of capital is necessary through the creation of new money. As we have seen before, the very nature of cryptocurrency is such that this money creation is impossible.

If we abstract this even further, to move away from a capitalist mode of production, a socialist government will need to rely this form of money creation to establish alternative businesses and establish corporations controlled by the people competing against private entities initially to wrest away control of the economy from them. Of course, we can imagine an alternative way to seize the means of production, through increased taxation or taking over machinery, factories and land from capitalists by force. Both of these are doomed to fail, the former due to the influence of capitalists moving legislation against increased cost of production and the latter due to machinations of capital owners to sabotage these means of production coupled with international sanctions that will be imparted onto a country by global capitalist organisations.

Hence, we can see that a high adoption of cryptocurrencies will make the transition to a socialist system impossible by disempowering the utilisation of fiat currency to build collectively owned productive capacity whilst cryptocurrency cannot be used in this way.

### **Cryptocurrency in a Secondary Currency Market**

Is there a way, then, that we can imagine a system where both fiat currency and cryptocurrency can exist simultaneously? There are fundamental issues to this as well. One such system is when the central bank of a nation holds reserves of cryptocurrency. In this model, a fiat currency necessarily exists to balance economic growth and recession whilst cryptocurrency is held in reserve, as foreign fiat currencies are usually held. The problem with this model again is that cryptocurrencies are not backed by anything real and they are not backed by any central authority representing an ability to guarantee value.

This means the value of any country's reserves will be subject to great fluctuations of value, and this may also disproportionately affect certain countries more than others (smaller countries with a relatively large share of cryptocurrency to their total reserves may be affected more). More dangerously, the country's reserves being so vulnerable allows capitalists with large shares of cryptocurrency to be able to exact greater control on a country by artificially increasing or decreasing the value of these currencies through hoarding and large-scale selling.

Lastly, if we imagine countries legitimising cryptocurrency as valuable reserves, they themselves can become large holders of crypto in an effort to maximise control over it. This means countries with large capital can use cryptocurrencies to control smaller countries by influencing their values as the example with the capitalists. This is because cryptocurrencies act as a finite common resource whose value is directly influenced through global actions. What more, the stabilisation of these cryptocurrencies itself destroys the notion of a cryptocurrency in the first place. If certain countries have large enough reserves of the cryptocurrency, they in turn become the controllers of value, thus rendering cryptocurrencies as pseudo-fiat currencies controlled not by individual central banks, rather a cabal of a few, wealthy central banks for their own advantage.

### **Cryptocurrency and Taxation**

Within the capitalist mode of production, an important aspect of governmental income generation is through collection of taxes. This is inherently unsustainable, of course, not due to any inherent problem with tax collection, rather because the private hoarding of capital produces political power distortions such that those with greater capital can push for legislations to keep reducing the amount of tax they have to pay. However, both in sustaining the capitalist mode of production and transitioning away from this to a socialist mode of production, taxation is of paramount importance, though for different reasons explained below.

To sustain the capitalist mode of production, taxation is important to ensure a capitalist government has enough money to spend on necessary amenities such as public roads, schools and healthcare. This is necessary as these amenities are usually not profitable and will not be focused on by private entities. Even if they are, the implementation of them will be profit-driven such that they will generally be of lesser quality for low-income groups. Generally speaking, this is unsustainable and will result in a deterioration of money circulation and spell the end of the capitalist mode of production even sooner than normal.

With potentially a lot of capital going into crypto markets, it becomes imperative, then, to introduce a form of taxation to be put on transactions in these markets to derive tax monies from the income generated. Taxing cryptocurrencies are slightly problematic due to their decentralised nature. How does one decide which tax jurisdiction applies? Whilst we may say it is simple enough to use the jurisdiction of the residence of the person benefiting from this transaction, this is easily worked-around especially by wealthy capitalists through setting-up dummy companies in tax havens such as the Cayman Islands through which these transactions can be done. The fact that the whole world essentially can access one market at any time, the tax codes to be drawn-up become complex to ascertain. However, it is not impossible, especially if the proper identification of the flow of this money is done so that each individual benefiting from these transactions can be properly taxed. Of course, this should be part of a larger movement to introduce general capital gains taxes to ensure other capital markets are similarly taxed.

In fact, taxation may represent the beginning of the end of cryptocurrencies, at least as a form of commodity being traded in speculative markets. Taxation usually is tied to the improvement of

either quality of life through the generation of goods and services or expansion of the means of production. Essentially, taxation extracts an amount of value generated into the state to be spent on essential necessities. Cryptocurrencies are not tied to any real value, which without taxation means little as people who hold on to their portfolios generally do so without an expectation to cash out soon. What little cash-outs occurs can be done through the reserves of crypto markets.

However, paying taxes to central banks means crypto needs to be exchanged for fiat currencies. This means a depletion of the reserves of market platforms, thus increasing the level of risk in holding and trading cryptocurrencies. This may impact in other forms of investment being more attractive in comparison, especially commodity and security investments which are tied to tangible value. This is especially due to the flow of capital from crypto market platforms to governments, essentially reversing the exchange of real value (fiat currency) for imaginary value (cryptocurrency) between the platform and the people. In fact, a greater governmental scrutiny on cryptocurrencies may also impact in them being unattractive due to the inability to bypass governmental oversight and actions, as many cryptocurrencies were originally used for criminal purposes in the first place.

For a socialist government, in the manoeuvring away from the capitalist mode of production, the creation of new money through deficit spending to establish new means of production to compete against and eventually replace capitalist organisations needs a future period of time to remove this new money through taxation. Essentially, it is as if future capital was borrowed to increase the present productive capacity which then has to be destroyed to ensure inflation does not catch up to economic growth when an acceptable level of development is achieved. With this need, taxation of cryptocurrencies will have the same problems as above.

### **Cryptocurrency and Decentralisation**

A lot of the time, groups of socialists talk about cryptocurrencies in a positive light as they are deemed to be decentralised and just this fact alone makes them good. This is an incredibly naïve view for two reasons; one, cryptocurrencies are not truly decentralised and two, decentralisation for decentralisation's sake is not always good.

Cryptocurrencies are not decentralised. In fact, they are highly centralised and, even worse, are far away from the control of common people. Bitcoins, for example, can only be created through the Bitcoin system. Otherwise, any number of Bitcoins can be created at any time, thus destroying their value. This is necessarily the same for other cryptocurrencies. The only thing that has been decentralised is the work to sustain the system, work that is, again, reciprocated with tokens of imaginary value.

This doesn't mean commercial banks are much better. It is true that the banking system is a parasitic entity that needs radical reform. The main problem with banks is creating new money through the creation of debt. This debt, however, is not focused, like for that of a socialist government which uses it to expand productive capacity. This debt may be used for unproductive practices, such as to be treated as income for capitalists who take out loans leveraging their real estate portfolio. Moreover, the cost of servicing these loans causes unnecessary deferments or defaults that, again, is unproductive such that an excess of money exists for the same productive capacity. This is just a restatement of the inflationary process described above.

The solution to this, clearly, is not in the destruction of fiat currency to be replaced by cryptocurrency, it is to refine the utilisation of debt (loans) and socialise banking. What we need to do is ensure spending, especially deficit spending, is made readily available to benefit the masses in such a manner that future value is realised through the spending. For example, we may use the

creation of debt to expand agricultural production. This increases food security and the larger local output decreases the costs of importing food.

Thus, value is realised through savings caused by the initial spending. Socialising the banking sector means eliminating the profit motive of banks and devolving control to the masses. This means the cost of servicing debt can be reduced, minimising defaulting, and unproductive expenditure of debt that benefits only the rich can be eliminated. Whatever loans that are meted out to the masses can be used to improve their lives and grow the economy such that taxation at a later date can eliminate this excess in spending.

Therein is the socialist outlook on banking. We should not also be lulled into thinking any and all forms of decentralisation is good. Decentralisation is a method of organisation; hence it is inherently neither positive nor negative. What determines this is what the decentralisation serves or is used for. For socialists, this is whether or not the masses are empowered through it. As we have seen before, cryptocurrencies in their current form are not tools that devolve power to the underclass. Rather, it expands the power of the elite even more whilst putting more of the underclass in danger of losing their savings.

It needs to be stressed that studying the dismantling of power structures needs to be done with nuance such that it is not superficially done, either resulting in alternative power structures that are similarly oppressive or become sub-divisions of the larger oppressive superstructure.

Decentralisation has to have a distinct purpose and clear methods to achieve this purpose. This is especially true when we consider the coordinated way capital organises itself and the decades of experience it has to withstand threats to it. A superficial decentralisation allows capital to mould itself to take advantage of the new structure to benefit itself.

### **Note on Different Use Cases for Cryptocurrency**

Whilst we have mostly explored the use case for cryptocurrencies as potential replacements of fiat currencies, this is not the only use case for them. Ether, for example, has the primary purpose of facilitating and monetizing the operation of the Ethereum smart contract and decentralized application (dapp) platform. These can be built and run without any downtime, fraud, control or interference from a trusted third party or centralised authority. Ethereum also enables developers to build and run distributed applications.

In this sense, Ether is unlike Bitcoin which does seek to be an alternative medium of exchange and store of value. This use case does mean ether potentially can have a value associated to it, as it is being tied to the execution of an actual function which has a use value. However, Ether the currency is still not backed by a central authority that can liquidate reserves to back its value, which means at any time there can be crashes to Ether's value should something happen to the Ethereum system. This means executing smart contracts and paying through Ether does have an inherent risk of Ether potentially losing value, however this is less pronounced compared to currencies like Bitcoin.

Moreover, Ether is tied still to cryptocurrencies such as Bitcoin as it is used not only for these applications but also are traded as other cryptocurrencies are, majorly deriving its value from speculation. This means the previous critiques of it locking in capital, potentially making a lot of people losing their life-savings and being manipulated by wealthy holders of capital still hold for Ether as they do for other currencies.

Ether also cannot be used for governmental deficit spending, but since it was never supposed to replace fiat currencies, this is a minor point. It seems currencies like Ether are for specific uses,

hence are more in line with a realisation of an economy where fiat currencies and cryptocurrencies exist independently. The interplay between these currencies are more complex as we have to take into consideration how deficit spending and taxation changes the value of these cryptocurrencies which are essentially global values. Generally, it seems that the same problems with these models as we have explored above, with wealthy countries influencing the economies of smaller countries, will hold.

### **Note on Blockchain Technology and the Environment**

At this point, we must rightly recognise that blockchain technology is potentially remarkably useful for many applications, especially executing transactions safely and securely. It is only the application of this technology to create cryptocurrencies that have been criticised so far. The digitalisation of capital and transactions, a process already underway in the modern banking system, is simply a tool which can be used for either good or bad. So long as the proletariat are in control of this and are the main beneficiaries of this, the technology itself can be deemed good. For example, day-to-day transactions and the distribution of capital can be made secure through the blockchain without much distortion of private capital. This will, necessarily, mean states need to be proletarian and utilise these means for their benefit.

A potentially major issue we have not discussed, however, is the utilisation of energy in the computer power usage to secure blocks. A recent report from Galaxy Digital showed that the Bitcoin network used around 113.89 terawatt hours (TWh) per year, as much as a small country. This has been disingenuously compared to the global banking industry which consumes more than double this amount, around 263.72 TWh per year. What has not been shown is the total sum of all energy used by the whole cryptocurrency market, in which Bitcoin holds only around 66% of market capitalisation in 2020. Moreover, the banking sector in its entirety serves many more people than cryptocurrencies, in the order of billions compared to hundreds of million. This alone shows the utilisation of energy per capital is much higher for cryptocurrencies compared to the banking sector.

There are a couple of caveats to this though. One, crypto enthusiasts point out that cryptocurrencies use a significant portion of renewable energy. Moreover, intermittency of certain sources does not really matter in the operations of crypto mining, whereas it does in other operations. This means cryptocurrency utilisation potentially uses more renewable energy, which is somewhat corroborated by a Cambridge study showing around 39% renewable energy used. This is quite a high penetration and notably is a conservative estimate, however there are some drawbacks in that estimates are based on self-reported data generally which may skew the findings and the primary source of this renewable energy is hydroelectricity, hardly something which can be deemed green.

Moreover, the consumption of a resource can be justified if the output is of sufficient value. As we have explored previously, cryptocurrencies are not such outputs, hence the justification of any amount of energy usage is null. Additionally, even if renewable energy was primarily used for cryptocurrency operation, this may mean renewable resources are taken away from other, more useful activities, furthering the dependency on fossil fuels. Having said this, there are current improvements underway within many cryptocurrencies to minimise their energy usage. We shall observe to see if there are any such significant improvements

### **Note on Stablecoins**

Finally, whilst we have explored cryptocurrencies that have their own value derived from speculation, there are such entities called stablecoins. These are cryptocurrencies whose value is

tied to certain fiat currencies or precious metals. Most of the time, the value used is that of the US dollar.

Generally, stablecoins are used to keep money invested on an exchange, invest in and divest from different cryptocurrencies without paying high fees to cash out. Additionally, they are used for transactions between businesses using cryptocurrencies and to hold on to cryptocurrencies without the same risk of volatility. However, this assurance of value is unregulated and may not exist, meaning companies that are meant to hold reserves for this value may not actually be holding them. Hence, there is still an inherent risk.

This eliminates the worth of these stablecoins as investment options compared to other more volatile coins, which may be positive in a minor sense, but seeing as how they are used to enable the purchase and selling of these coins, they are ostensibly connected to the same drawbacks through an indirect relation. For transactions, however, they do seem to offer more security than fiat currency, however they also lack the regulatory oversight and assurances fiat currency issuers usually have. This is a balancing act, then, which stablecoins are slightly worse at than their fiat counterpart, especially taking into consideration the amount of work that goes into maintaining their blockchain.

### **Conclusion**

With all of the above in consideration, we must view cryptocurrencies not with the naïve lens of libertarians but with analytical integrity brought forth from honest reflection. Cryptocurrencies are at best wasteful and at worst a huge gift. We must be careful in assessing them but, on balance, they seem much more harmful than otherwise. It is for this then we must deem them invalid. However, we must also necessarily keep the same energy for other capital markets that have the same problems as crypto. A socialisation of the entire system is necessary for any sense to be made from them.

At this point, I must also haste to point out, there is no consent in capitalism. People who view crypto markets as places they can make money for their subsistence must be viewed sympathetically. Sometimes, as a means of survival, there are things we must do to compensate our earnings. Of course, there is a higher chance for them to lose everything and whatever income they make is still invalid, but if this is a way for them to survive, how can we judge them? A classic case of hating the game not the player is necessary as it is the system, not the individual, that needs to be changed.