

## Research Article

# The Bitcoin Industry and the Principle of Subsidiarity

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**Received:** 20 December 2022; **Accepted:** 15 November 2023; **Available online:** 20 December 2023

**Abstract:** This article evaluates the Bitcoin Industry from the point of view of the principle of subsidiarity. Bitcoin is the first successful cryptocurrency because of its algorithm, distributed-ledger technology, use of anonymity, and cross-border nature. Anonymity and cross-border nature avoid control of monetary authorities. Bitcoin's market share and market capitalization are the biggest among cryptocurrencies. But what is Bitcoin? Is it a currency, a payment system, a speculative asset, a commodity, a tax haven, an asset suitable for money laundering, all together controlled by "miners," or simply a computer file? According to the principle of subsidiarity, all forms of collectivism are contrary to the formation of a harmonious society, and private initiatives should not be taken away by a higher power. On the other hand, individuals or groups of people cannot be equated with sovereign states or global institutions. Bitcoin enthusiasts are libertarians who glorify technology, despising any ethical or social control. They support an erroneous idea of subsidiarity that argues that subsidiarity is a matter of devolution of power or smallness of scale in favor of individual freedom and a utilitarian common good.

**Keywords:** Bitcoin, Subsidiarity, Financial regulation.

## 1. Introduction

During the last years of the 2010s, there was much talk about fintechs (companies providing financial services based on technological tools) and all the theme variants, such as bigtechs, insurtechs, and regtechs. But, at the beginning of the 2020's decade, the crypto-market was the most exciting topic in the financial market.

It is said that the first fintech was launched in the UK in 2005, and the first successful cryptoasset was Bitcoin, created in 2008. The 2008 Financial Crisis boosted both fintech and the crypto-market. In the 2008 crisis, central banks adopted massive interventions that poured trillions of dollars into the financial market (this continues in 2022). The idea was to avoid the recession that happened in 1929's crises and to solidify the financial system. The ongoing interventions devalue their currencies around the world, opening a significant search for stable currencies or investments that do not suffer from the prevailing distrust of governments. Bitcoin has become a cult proxy, which is unusual for something that could be considered a currency nowadays.

The crypto-market is the market for cryptoassets, which can be a private token or an investment, security, or cryptocurrency. Today there are thousands of cryptoassets with a capitalization of over US\$ 1 trillion. The European Banking Authority (2019) defines a cryptoasset as a private asset recorded on some form of a digital distributed ledger secured with cryptography that is neither issued nor guaranteed by a central bank or public authority and that can be used as a means of exchange and for investments purpose or to access a good or service.

Cryptocurrencies are a type of cryptoasset designed to perform the roles of currency (medium of exchange, store of value, and unit of account). It was Bitcoin that initiated the cryptocurrency industry. Nowadays, we

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DOI: <https://doi.org/10.37256/ujfe.2220232286>

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have many price quotes for different cryptocurrencies besides Bitcoin, such as Ethereum, Monero, Tether, and Dogecoin. But while Bitcoin has been worth around \$23,000 from January 2019 to November 2022, Ethereum, which is in second place, has been worth around \$1,300. This is not a question of level since their prices do not have initial bases, Bitcoin and Ethereum have the same market (global market), and both argue that they are not subject to any state determination.

The monetary systems, typically controlled by the central banks, are usually based on fiat currencies that are not backed by physical assets and rely on the ability of monetary authorities to ensure the currency's stability. These monetary authorities are under political and social scrutiny. Cryptocurrencies are neither issued nor guaranteed by a central bank. But this does not mean that the monetary authority does not affect cryptocurrency markets and prices. Auer and Claessens (2021) analyzed the impact of monetary authorities on cryptocurrency prices and concluded that the market responds most strongly to news events regarding the legal status of cryptocurrencies. It is regularly observed, for instance, that news related to Anti-Money Laundering (AML) or Know-Your-Customer (KYC) regulations has adverse impacts on cryptocurrency prices.

Among the cryptocurrencies, Bitcoin, despite not being a stablecoin (a digital currency pegged or linked to the price of another asset or pool of assets), dominates the market. Sometimes, it seems that the global adoption of Bitcoin is inevitable. Bitcoin was worth \$0.10 in 2010, but in November 2021, its price reached more than \$ 67,000. Notwithstanding, it could be \$ 0.10 again at some time in the future since Bitcoin has no underlying cashflows or real-world application, its technology can be overcome by other cryptocurrencies, and it can suffer government intervention.

Bloomberg (2017) argued that Bitcoin is only valuable to anyone because of the underlying value as a medium of exchange for lawbreakers. This kind of argument is well-founded as Bitcoin has no underlying cash flows and no real-world application; what underpins its price is just the inflows. The business model of cryptocurrencies is prone to use in illegal transactions, like money laundering, evasion of capital, and payment to illicit goods and services in different crimes. Jonathan (2022) argued that criminals scored \$14 billion in cryptocurrency in 2021, marking an all-time high and a 79% increase from the previous year.

There is clear ethics in the development and use of digital currencies. Principles such as anonymity and freedom from government control are non-negotiable. Such ethics is similar to the development of the so-called deep web or dark web. It readily forms an ideology related to libertarianism.

Such an ideological system that underlies cryptocurrencies is fueled by government and bank corruption, unsound fiscal policies by national treasuries, and financial manipulations by central banks. Such things are hard to prove but are commonplace. Advocates of the Bitcoin business model can rightly argue that widespread corruption and fraud are carried out within the traditional financial system and often by the same authorities who should look after the financial system. It must be highlighted, however, that access to Bitcoin is open to the wealthy beneficiaries of the traditional system to execute their financial transactions and crimes.

## 2. The Bitcoin Industry and Its Definitional Issues

Nobody knows who created Bitcoin in November 2008, presented in a paper titled "Bitcoin: A Peer-to-Peer Electronic Cash System," uploaded in the domain name.org. One person or persons behind the name Satoshi Nakamoto created it and described it in that paper.

Nakamoto defined Bitcoin simply as electronic cash that would allow online payments directly without going through a financial institution. Bitcoin industry advocates add that Bitcoin solves the inefficiencies of traditional payment systems, which have expensive transaction fees, widespread fraud, and slow money transfers.

Without institutional oversight, Bitcoin relies on peer-to-peer software and encryption. A public ledger records all bitcoin transactions, and copies are held on servers worldwide, known as nodes. Every transaction is publicly broadcast and shared from node to node. Every ten minutes or so, these transactions are collected together by the so-called miners into a group of transactions called a block and added permanently to the Blockchain. A blockchain is a distributed ledger technology (DLT) that has the following characteristics: immutability (data written to the database cannot be changed or deleted), decentralization (no single point of control), anonymity (the identity of data senders and receivers is unknown), and chronology (every transaction is time-stamped and can be traced back).

Blockchain provides universally verifiable proofs for the existence or absence of a transaction in the distributed database, using hash functions (used for organizing and linking data together) and digital signatures (a cryptographic scheme that guarantees authenticity and non-repudiation). The block's hash is a unique value that identifies the block and its contents. The block has the previous block's hash that contributes to the "chain"

part of the blockchain to try to make it impossible for someone to tamper with the blockchain's data because their copy of the chain would then conflict with all other users.

There needs to be some mechanism that establishes trust between the parties. Bitcoin uses Proof-of-work, a cryptographic puzzle that must be solved. The so-called miners bundle extensive collections of transactions together into blocks by completing the cryptographic calculation. The first miner to solve it is rewarded with the Bitcoin block reward.

The Bitcoin block reward has two components: new bitcoins and transaction fees. The protocols govern the first one to halve it every four years in order to guarantee the supply determined of bitcoins in circulation. In November 2022<sup>1</sup>, the Bitcoin block reward comprised 6.25 newly generated coins in addition to transaction fees. These fees, the second component, can fluctuate due to multiple factors. Miners usually filter the transactions according to the fee determined by the user. They prioritize transactions with higher fees. In November 2022, the average fee per block was around 0.10 bitcoins, something like US\$ 1,700. The user adds fees to stimulate the miners to confirm the transaction. If the user does not include the fee in his transaction, it will take longer, maybe hours, to ensure the transaction.

Nakamoto configured the Bitcoin Network to add a decreasing number of bitcoins over time, trying to emulate precious metals such as gold. It is said that by the year 2140, a total of 21 million bitcoins will have been generated, and the process of adding bitcoins will stop. In April 2022, we reached the point that there are 19 million bitcoins already mined (more than 90% issued), then until 2140, we have less than two million bitcoins remaining.

New bitcoins are added to the Bitcoin Network through the process called Bitcoin mining. It involves people or companies using powerful computers to solve sophisticated mathematical problems. The one who solves receives a set number of bitcoins determined by the Network. Such Bitcoin mining is under criticism because it requires a large amount of electricity generation to run the computers. Some regions and China banned or limited Bitcoin mining.

Then, there are three main ways people get Bitcoins: 1) Someone buys bitcoins using fiat currency; 2) A seller lets people pay him with bitcoins; or 3) Mining. When getting bitcoins, a person should store them in a so-called wallet. In truth, there is no such thing as bitcoins or wallets. It is only an agreement in the Bitcoin Network about who controls those computer files called bitcoins. You do not have bitcoins. You can only hold them with the permission of that agreement.

A Bitcoin wallet is software that runs on a computer or other electronic devices. Who controls the wallet controls the bitcoins. The wallets represent the control of the "private key," which gives access to the bitcoins. The private key, which is a long alphanumeric string, is what allows someone to control bitcoins. Such a key is also linked to a "public address" in the Bitcoin Network. This "public address" is like an email. It allows you to receive bitcoins from others. Someone must keep his private key secret, but anyone can see his public address.

There are different wallets: brain wallets, online wallets, hardware wallets, and paper wallets. They have different levels of security to avoid hackers and thefts. It is argued that the most likely way a person can lose her bitcoins is by trusting private keys to a third party, such as an online wallet or Bitcoin exchange.

Anyone can propose changes in the technical protocols that run the Bitcoin Network. It is said that proposals are evaluated by a team of core developers who maintain the Bitcoin software. It is argued that Nakamoto withdrew from such a team in 2010. Nowadays, Wladimir van der Laan, from MIT, is the leader of the team, which includes some research organizations. Before van der Laan, the leader was Gavin Andersen, designated by the so-called Nakamoto and left the team in 2016. Nobody knows much about such core developers.

## **2.1 Bitcoin Definitional Issue**

What is Bitcoin? Is it a currency, a payment system, a speculative asset, a commodity, a tax haven, or all this together in a technological system controlled by "miners"? It is regularly considered in the financial market that the answer to that question depends on the investor's portfolio, and the answer will determine what government agency oversees Bitcoin.

When currency was a commodity like cattle, animal skins, or salt, such money was a social convention. With fiat currency backed by no physical assets relying only on the ability of monetary authorities to ensure currency stability, the need for a social convention is even more evident. Money is defined when people are willing to use it. It performs the following functions: a unit of account (it serves as a standard measure of values

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<sup>1</sup> For real time Bitcoin prices and Blockchain statistics see <https://bitbo.io/>

for goods and services), a medium of exchange (an item accepted for the payment of goods, services, and debts), and a store of value (a way to store wealth to transfer purchasing power from the present to the future). The people's willingness to use such a currency and these three functions depend on the stability of the currency.

Fiat currency is backed by the country's economic conditions and by the stability provided by the monetary authorities. Bitcoin is not endorsed by physical assets, nor has a country or financial authorities to support or control it. The supply of Bitcoin is different from the currencies of the past and fiat currency. It is exogenous. It does not depend on human investments or the economic conditions of society. Cryptographic protocols fix it, and it has a known fixed number to be reached in the future.

Kristoufek (2013) argued that since Bitcoin has no underlying asset, speculation and trend-chasing dominate the Bitcoin price. Claeys and Demertzis (2021) pointed out that the potential of private currencies or cryptocurrencies to credibly challenge fiat currencies cannot only be based on the intelligence of their algorithms. Price stability is a public good that cannot be served by algorithms or by private players operating for profit, especially when the people most need it, in times of crisis.

Volatility has been a characteristic of Bitcoin price. As Smith (2021) argued, Bitcoin will not become the dominant currency as long as it remains highly volatile. And for it to become less volatile will probably require it to become inflationary — that is, for its price to go down over time. This point of view is very interesting since it says that to Bitcoin be what Nakamoto planned, it must have another development model.

Then, it is understandable that for the Internal Revenue Service (IRS) in the US, Bitcoin is not a currency. It considers cryptocurrency holdings to be “property” for tax purposes<sup>2</sup>. Bitcoin is an asset like stocks or gold.

Should we consider Bitcoin like Gold? Nakamoto tried to emulate gold when creating Bitcoin, like Nick Szabo when he started Bit Gold before Nakamoto. IRS seems to recognize that in its approach to Bitcoin. Gold is a global commodity that Bitcoin tries to follow. Like Gold, Bitcoin is tough to steal and fake. Like Gold, Bitcoin cannot be manufactured. Like Gold, there is a limited amount of Bitcoin. Like Gold, Bitcoin is an alternative to fiat currencies. Like Gold, Bitcoin is an alternative to investment when investors distrust assets, stocks, or governments.

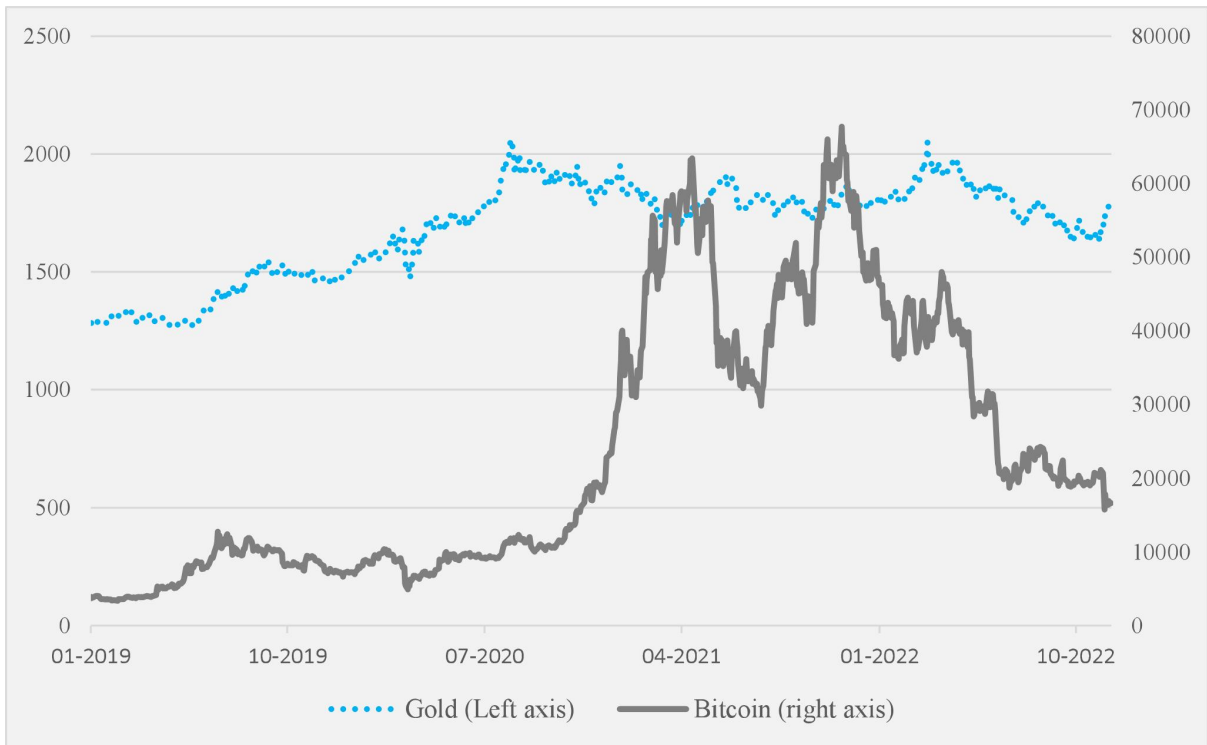
But Gold is highly regulated. One generally would need registered dealers and brokers to be able to purchase Gold. Gold has much more applications besides being an alternative to fiat currencies. Gold is valuable as a material for consumer goods, such as jewelry, and has specialized applications in dentistry and electronics. Because of that, the gold demand is much more diverse than that of Bitcoin. Gold depends on human investment to raise its stock, while Bitcoin stock is pre-determined by its cryptographic protocols.

Gold provides a hedge against losses in fiat currencies and stocks. In contrast, Bitcoin has been recognized since 2020 as a speculative investment. Brokers consider Gold and Bitcoin for different financial goals and investors. Gold is recommended for risk-averse investors, who choose the conservation of capital over the potential for a higher return, while Bitcoin is for risk-lover investors, who choose the opposite.

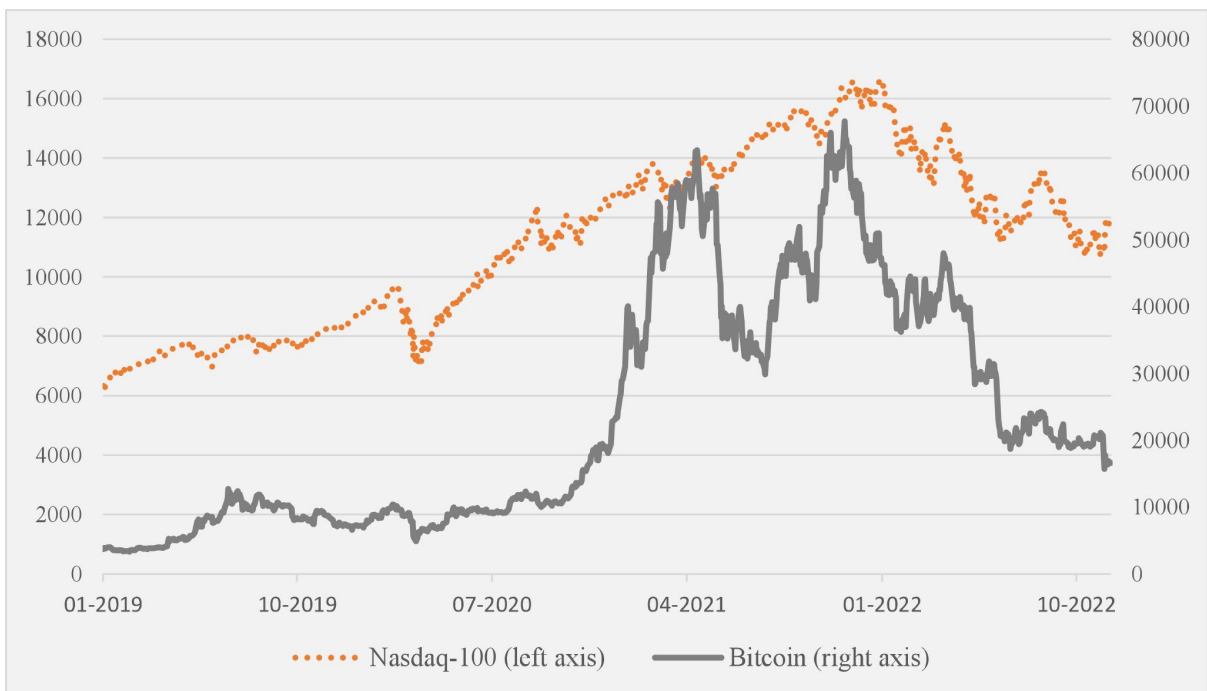
We can take advantage of the global recession caused by the Covid-19 pandemic and the Ukrainian War, which brought economic sanctions with global effects, to observe if the prices of Gold and Bitcoin behaved similarly during periods of financial difficulties. Besides Figure 1, with Gold and Bitcoin prices, I present Figure 2 comparing Bitcoin with the Nasdaq-100 index, which includes 100 of the largest domestic and international non-financial companies, focusing on technologically innovative companies like Apple, Google, Intel, and Tesla. It is regularly said that Bitcoin prices follow technology company stocks.

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<sup>2</sup> IRS (2022).



**Figure 1.** Gold vs. Bitcoin, from January 1st, 2019, to November 18th, 2022 (Bloomberg Terminal, tickers XAU Curncy, and XBTUSD Curncy)



**Figure 2.** Nasdaq-100 vs. Bitcoin, from January 1st, 2019, to November 18th, 2022 (Bloomberg Terminal, tickers NDX index, and XBTUSD Curncy)

The Covid-19 pandemic began on March 11, 2020, and the Ukrainian War began on February 24<sup>th</sup>, 2022. Gold reached its highest level on August 6<sup>th</sup>, 2020; after that, it remained higher. In contrast, Bitcoin reached its highest price only on November 9<sup>th</sup>, 2021, after high volatility in 2020. Like Bitcoin, the highest point in the Nasdaq-100 index occurred in November 2021. The correlation between Bitcoin and Gold in the period considered is only 0,57, while the Nasdaq-100 index correlates 0,88 with Bitcoin. In November 2022, however, after the crises with the crypto exchange FTX, even Nasdaq-100 seemed to decouple from Bitcoin.

Could Bitcoin be considered a security? Kavuri and Milne (2021) pointed out the Howey test to determine whether an asset is a security. According to the test, an asset is a security if it answers the following four questions affirmatively: 1) Is it an investment? 2) Is there an expectation of profit?; 3) Is there an investment in

a joint enterprise?; 4) Do profits come from a promoter or third party? Bitcoin could answer the first two questions positively, but it is not a joint enterprise, nor does its profits come from a promoter or third party. Cryptocurrencies can be a security, but this is not true for Bitcoin.

It appears more logical to determine that Bitcoin is a commodity. The Commodity Future Trading Commission (CFTC) of the US said just that: “In the United States, Bitcoin is a commodity, and commodity futures trading is required to take place on futures exchanges regulated and supervised by the CFTC.”<sup>3</sup> CFTC, SEC<sup>4</sup>, the European Securities Markets Authority (ESMA),<sup>5</sup> and European Banking Authority (EBA) <sup>6</sup> consider that Bitcoin is not a commodity like gold because it is highly speculative.

Summing up, the best definition of Bitcoin seems to be a speculative commodity or a simple computer file.

However, this debate on whether Bitcoin is a currency, commodity, or security is a debate on the surface of the issue. Bitcoin is a different speculative investment, mainly because with Bitcoin is extremely difficult to apply to Know Your Customer (KYC) and Anti-Money Laundering (AML) regulations. Beneath the surface, Bitcoin has had a solid presence in financial crimes, such as fraud, tax evasion, bribery, money laundering, financing terrorism, and illegal drugs. Then, the definition of Bitcoin must consider using cryptocurrency to carry out financial crimes.

There are three main obstacles to applying regular financial regulations on Bitcoin. First, it is anonymous or pseudonymous. It is called pseudonymous because while the user’s identity remains private, the Bitcoin transactions are considered public by some. Bitcoin may be regarded as pseudonymous by some. Still, it is easy to use privacy/anonymity-enhancing specialized services like mixers and tumblers, which obfuscate the data linking users, be the sender or the recipient of a cryptocurrency. Other cryptocurrencies do not need those mixers, like Monero, but they cannot fully compete with Bitcoin’s market power and acceptance. Second, there is the intrinsically cross-border nature of digital currencies. Third, differently of cash, cryptocurrencies enable digital transactions and e-commerce. The so-called “deep web” uses particular communications protocols that provide greater anonymity and contains its marketplaces.

Foley, Karlson, and Putniņš (2018) estimated that almost half of the Bitcoin transactions involve illegal activities. They argued that since 2016 the proportion of bitcoin activity associated with illegal trade has declined, but the absolute amount has continued to increase. The authors explain such decline by two factors: the growth in mainstream interest in Bitcoin and the emergence of alternative anonymous cryptocurrencies, like Monero and Zcash.

The Silk Road marketplace case, in which the United States government seized more than \$1 billion worth of bitcoin connected to it in 2013, is among the famous instances in which bitcoins support illegal activities. The case is analyzed academically. Hout and Bingham (2013), for example, said that the drug users described Silk Road as “euphoric due to the wide choice of drugs available, relatively easy once navigating the Tor Browser (encryption software) and using ‘Bitcoins’ for transactions, and perceived as safer than negotiating illicit drug markets.”

There are other known legal cases related to Bitcoin, like: SEC vs. Trendon Shavers (2013)<sup>7</sup>; The US vs. Faiella (2014)<sup>8</sup>; The Bitcoin Exchange MtVox case (2014)<sup>9</sup>; Department of Justice in the US vs. Hacking Group “The Community” (2019)<sup>10</sup>; The US Federal Trade Commission vs. Bitcoin Funding Team (2020)<sup>11</sup>; The Case against Binance (2021)<sup>12</sup>; Department of Justice vs. Ilya Lichtenstein and Heather Morgan (2022)<sup>13</sup>; and The FTX and Alameda Case (2022)<sup>14</sup>

Regarding financing terrorism involving bitcoins, the Policy Department for Citizens’ Rights and Constitutional Affairs of the European Union (2018) argued that the borderless, peer-to-peer nature of such currencies offers the prospect for terrorist actors to transfer funds outside the regulated sector and beyond the purview of anti-money laundering and countering the financing of terrorism authorities.

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<sup>3</sup>CFTC (2022)

<sup>4</sup> Idem

<sup>5</sup> ESMA (2022)

<sup>6</sup> EBA (2019)

<sup>7</sup> SEC.(2013)

<sup>8</sup> United States Department of Justice. (2014)

<sup>9</sup> Aaron. (2014)

<sup>10</sup> United States Department of Justice. (2019)

<sup>11</sup> FTC. (2020)

<sup>12</sup> CNBC. (2021)

<sup>13</sup> United States Department of Justice. (2022)

<sup>14</sup> Durden (2022b)



At the end of March 2022<sup>15</sup>, the Committee on Economic and Monetary Affairs (ECON) and the Committee on Civil Liberties (LIBE) of the European Parliament established their position on draft legislation strengthening EU rules against money laundering and terrorist financing using cryptoassets.

### 3. Subsidiarity, Libertarianism, and Bitcoin

There are protestant approaches related to subsidiarity, Weinberger (2014), for instance, considered the Calvinist social theory of sphere sovereignty. But the principle of subsidiarity is eminently a Catholic concept based on Catholic anthropology, which highlights that man is the image of God, is inclined to evil, is endowed with free will, and is a social being. The principle has been relevant in the international debate, especially in Europe, where it is referred to in the Treaty on European Union on several occasions<sup>16</sup>.

The word subsidiarity has its roots in the Latin word *subsidium*, which means help or support. The word in Latin also had military applications, *subsidia* comes from *sub sedeo* (sit below); it refers to reserve troops who supported those in battle in case they needed. In sum, subsidiarity refers to support in favor of a mission or common good.

Aroney (2014) saw its roots in Thomas Aquinas's theological interpretation of Aristotle's political philosophy. For Aquinas, all human communities consist of parts that, in some respects, have an independent operation and, in other respects, participate in the functions of the whole. For Aquinas, one of the hallmarks of a tyrant is to undermine all forms of social solidarity among his subjects, preventing them from joining various associations. Society is neither an aggregate of individuals nor a partnership but a unity of parts to achieve a common good.

Despite having philosophical precursors to the principle of subsidiarity, scholars began their analyses of the principle with the most known Catholic social encyclical, *Rerum Novarum*, by Pope Leo XIII, in 1891. Leo XII argued that: i) man precedes the State and possesses the right of providing for the substance of his body; ii) Private ownership is in accordance with the law of nature; iv) the domestic household is antecedent, as well as in idea as in fact, to the gathering of men into a community, the family must necessarily have rights and duties which are prior to those of the community, and founded more immediately in nature; and v) that is a great and pernicious error the civil government intrusion and control over the family and the household. However, if a family finds itself in exceeding distress and without any prospect of extricating itself, extreme necessity should be met by public aid.

But it was the encyclical *Quadragesimo Anno* by Pope Pius XI of 1931, who defined the principle of subsidiarity in paragraphs 79 and 80, saying that it is gravely wrong to take from individuals what they can accomplish by their initiative and industry and give it to the community, so also it is an injustice, and at the same time, a grave evil and disturbance of the right order to assign to a greater and higher association what lesser and subordinate organizations can do. With the principle of "subsidiary function," the stronger social authority and effectiveness will be the happier and more prosperous the condition of the State.

Brennan (2014) pointed out that, in *Quadragesimo Anno*, the principle of subsidiarity enjoys both negative and positive aspects. Negatively, it is a principle of non-absorption of the lower societies by higher societies, above all by the state. Each subjacent society must perform its proper work. Positively, however, subsidiarity is also the principle that when aid is given to a particular, it is to encourage and strengthen it.

The first part is the most known aspect of the principle. But Brennan (2014) rightfully called attention to the fact that the principle of subsidiarity is not a principle of devolution or smallness of scale but of proper order. Regarding the positive aspect, Zimmermann (2014) stressed that State-based welfare programs could diminish individual autonomy and participation in society through their failure to address individual-specific problems and to make individuals feel entitled to assistance from the state.

In the real world, however, states and international institutions intervene in the social life of virtually everybody and every association. For instance, we have what is called crony capitalism (a kind of corrupt capitalism characterized by mutually profitable relationships between business leaders and government officials). We have countries that try to follow collectivism in different forms. We have substantial state-welfare programs in virtually every country that shape the decisions of families, individuals, and associations. And we have international institutions interfering with states, companies, families, and the behavior of individuals through financing, social, and political programs.

Regarding international finance, which can affect Bitcoin Industry, we have the Bank for International Settlements (BIS), the Financial Action Task Force (FATF), the World Bank, the International Monetary Fund

<sup>15</sup> European Parliament (2022)

<sup>16</sup> EUR-LEX. (2022).

(IMF), the G-7, the G-20, OECD, and others. Besides, some national institutions like the Federal Reserve in the US and the Chinese Communist Party have a substantial global financial impact.

The renowned Catholic writer Eric Sammons (2015) publish a book in defense of the Bitcoin Industry. To the extent that I know, Sammons is not an economist and has no experience in the financial market or government. Both experiences are much more desirable to relate Bitcoin to political and social issues. But Sammons' book helps us to present some commonly used points in defense of Bitcoin. Sammons (2015) said, for instance:

- Government control of the supply of money makes the value of that money subject to the arbitrary whims and desires of government officials, who are typically concerned with short-term problems (Sammons, 2015, pp. 37-38);
- Many people think money and the State are intrinsically linked, but there is no reason they need to be. Some would argue that it would be better if the State had nothing to do with money (Sammons, 2015, p. 40);
- History shows that when a country wants to go to war with another country and can't afford it through taxes, it creates new money. When it wants to institute a social program and can't get support for raising taxes, it makes new money (Sammons, 2015, p. 46).

Sammons (2015) seems not to see any relevance to the government in its policies, even when deciding to wage war. He seems to want the marginalization of the political activity itself.

Furthermore, he should have considered that having a fixed money supply, like Bitcoin, or having money controlled from outside the state, like the Euro, raises many problems, as the gold standard and European Debt Crises proved. Problems like higher unemployment, much fewer exports, and capital flight. If an algorithm programmed to release currency by mathematical and cryptographic means had to deal with these social and economic problems, it would certainly not change its protocols.

How would Bitcoin enthusiasts answer the problems with the fixed money supply? First, no one should look for academic books or articles to find the answer. Investors rarely look for investment advice in scholarly works. Then, we must try to identify financial influencers to find the answer. This is a challenging task because every country and every branch of investment (stock, bond, derivative, commodity, and crypto-market) has its financial specialists. Second, the suggestions of a financial adviser would depend on his investment portfolio and his job. Any investor should remember that there is no innocent advice in the financial world. Third, it would be important that the financial adviser understood the importance of government for the administration of justice and the financial market itself so that its analysis would be more credible.

Considering the above caveats, Bitcoin enthusiast analysts use not delve into problems related to the fixed money supply.

Here, I will consider a widely read website in the financial market that uses to be released by Bloomberg Terminal (used as a source of information for financial analysts around the world) and which usually aggregates numerous non-academic articles by Bitcoin Industry enthusiasts. It is called Zero Hedge<sup>17</sup>.

In April 2022, Zero Hedge presented an article called "*Central Banks: Who Needs Them? No One*"<sup>18</sup>, originally published by the Mises Institute. In this article, it is said that the "alleged legitimacy of central banks" rests on three goals: 1) price stability; 2) Macroeconomic growth; and 3) countercyclical measures. According to the article, regarding price stability, when central banks interfere in the market process, this "prevents entrepreneurs from capitalizing on high-profit opportunities." However, the article failed to understand that entrepreneurs have higher costs with price instability. And if central banks decide to interfere or not, it is always choosing a side and protecting a kind of entrepreneur. Regarding macroeconomic growth and countercyclical measures, the articles argued that central banks used to lower the cost of borrowing for firms when the current growth level suggests that the economy needs to be stimulated. According to the article, "the easy money policies fuel unsustainable booms that eventually result in misallocation of capital." This is a weak argument by the article since nobody knows when there is a good or bad capital allocation. And again, no stimulation also changes the allocation of capital.

In November 2021, Zero Hedge released the article "Why Bitcoin is the Best Weapon Society has Against Inflation and Wealth Inequality," published originally by Forbes. The article's author, Martin Leo Rivers, argued that "for bitcoin enthusiasts, one of the most compelling things about the cryptocurrency is its ability to sidestep fiat monetary systems that dilute the value cash holdings through inflation." Rivers (2021) argued that "if you are rich, you can take a higher money supply and use it to your advantage. If you're poor, you really can't. You're stuck with whatever cash holdings you have in the new economy".

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<sup>17</sup> Zero Hedge at <https://www.zerohedge.com/>

<sup>18</sup> Vikramaditya, Vibhu (2022)



But why would Bitcoin help the poor in this way? The own Zero Hedge site released an article called “Top 2 Richest Bitcoin Wallets Holds 2% of All Bitcoins”<sup>19</sup>, initially published by BanklessTimes. Bitcoin does not avoid the concentration of wealth. It could do the opposite.

Rivers (2021) argued that Bitcoin as a currency has the criteria of durability, portability, scarcity, divisibility, and fungibility. But he recognized that Bitcoin fails to be a unit of account or a store of value because of its volatility. Governors of central banks can think the same.

In April 2022, less than two million bitcoins were left to be mined. The Bitcoin Magazine (2022) argued that “[I]n addition to protecting people’s purchase power, with predictable policy Bitcoin enables planning for the future as users can rest assured that nobody will debase their money.” Then, asked: “given the paramount scarcity of Bitcoin, why has its price trading in a range between \$30,000 and 60,000 over the past year?”. It answered that this is because humanity failed yet to understand the technology and its innovative proposition. But the answer seems to be much more straightforward than that: Bitcoin is not a currency.

In his turn, Anthony Di Orion, the co-founder of the cryptocurrency Ethereum, recognized that “Bitcoin is all about empowerment, Ethereum is all about empowerment.”<sup>20</sup> There is an assumption that central banks are opponents of the Bitcoin Industry. Maybe this is good propaganda for the crypto-market. But this is not necessarily true. Notably, some central banks plan to create their cryptocurrencies, while some private banks already have their own. Central bank governors may consider that cryptocurrencies do not compete with fiat currencies. They represent just one type of asset, which may have a higher risk of fraud. In addition, central banks are led by government officials. These officers can and do invest in different assets, including bitcoins.

Faced with the problems related to the fixed money supply, “Bitcoin enthusiasts” tend to use libertarian ideology in favor of giving time to market adjustment, trusting in price signals. They probably would answer consciously or not using the efficient market hypothesis, at least in his “weak form,” which says that there would be no persistence of risk-adjusted outperformance by active financial managers beyond what would be randomly expected since the prices of stocks and bonds reflect all publicly available information.

In other words, the financial market adjusts itself with all public information; then, if a country has a strong currency because its supply is fixed, unemployment, fewer exports, and capital flight will be reflected in its stocks and bonds, but, in the end (in the short or medium or long run), these economic factors will debase its currency. The country would recover from those problems naturally in time. The social costs of the time needed to recover are not expected to be in the investors’ economic functions.

The experience with the gold standard and the European debt crises showed, however, how difficult it is to trust in market adjustment with no control of the currency, even in a rich country, like the US, which unilaterally canceled the direct international convertibility of the United States dollar to gold in 1971.

One should also consider the anonymity of the Bitcoin Industry, which makes the financial might and political participation of its investors obscure. The need for more transparency of crypto investments is undoubtedly an impediment for monetary policy to be subject to the crypto-market. Bitcoin price uses to decrease when monetary authorities plan to introduce KYC (Know Your Customer) requirements to the crypto-market, as happened in May 2022<sup>21</sup>. This is undoubtedly a sign of the weakness of the crypto-market and can also reflect the considerable participation of financial corruption and fraud inside such a market.

The ideology behind the adoption of Bitcoin seems to consider that society is simply an aggregate of individuals, where each one is looking for a utilitarian good for himself, supposing that in this way, the society will achieve a utilitarian common good for itself. The other possibility for Bitcoin enthusiasts is to imagine a society divided between those who work for governments that try to control everyone (dictatorial management) and those who want to be free from the governments. Bitcoin advocates seem to understand government as a monolith. They use not recognize the division of powers (legislative, executive, and judiciary) and do not recognize that the different levels of government dispute among them to achieve more revenue and to determine political, financial, and social policies.

Besides that, to Bitcoin enthusiasts, those who control the protocols of Bitcoin and the miners are only for the good of society and do not concentrate the wealth in their hands. Even though mining nowadays is concentrated in the two most affluent countries in the world: China and the US, which represent around 60% of all mining in the world. There is no inclination to evil with the controllers or with the miners.

Bitcoin Industry adopted the philosophical approach behind modern economics, founded on utilitarianism and consequentialism, along with the wishful thinking that there is an “invisible hand” moving the supposed

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<sup>19</sup> Kerr (2022)

<sup>20</sup> Durden (2021).

<sup>21</sup> Durden (2022a).

“free market” to support the selfish behavior of individuals and companies to generate a materialistic common good for society. The common good of society is determined by aggregating the materialist good enjoyed by each of its members. This philosophical approach is deeply suspicious of the state or any other social control that alters price signals.

It can be said that the libertarian approach to economics has the same philosophical approach as the Bitcoin Industry. But there is a significant difference. Bitcoin Industry ideologues have deep confidence in technology to solve social issues and provide well-being for society. In other words, Bitcoin ideologues have difficulties with human governance, while libertarians are individualists.

Concerning the principle of subsidiarity, certainly, the domestic monetary policy or the global monetary policy should not be delegated to an individual or a private association because it is a comprehensive social issue with ample social impact. It demands social control. Profit cannot be the foundation for a country's monetary policy. Consequently, only states or international institutions can manage the monetary policy.

Society is neither an aggregate of individuals nor a partnership but a unity of parts to achieve a common good. The principle of subsidiarity does not divide human beings according to the possession of material goods or the task they perform in society. The principle of subsidiarity is assisted by the sources of Catholic philosophy, which are basically Aristotelian-Thomist, in which the human being and society are directed towards a holistic common good. Technology in Christian theology must support all that is human.

## 4. Conclusion

In finance, the most vital characteristic of an asset can be its weakest aspect, depending on its objective and circumstance. Nakamoto tried to create rare electronic cash that would allow online payments directly without going through a financial institution. But can we rely on an algorithm instead of monetary authorities to ensure financial stability? Does this algorithm need no social scrutiny? Can global currency management operate for profit instead of serving the common good? According to the principle of subsidiarity, the answer to those questions is no.

Bitcoin price presents high volatility because Nakamoto failed to create money. Instead, he (they) developed a speculative commodity that has concentrated the wealth in “mining” countries. Bitcoin is not the solution to the ethical issues encountered between monetary authorities and traditional banks. Instead, it brings more ethical issues because of its most vital characteristics of anonymity and cross-border nature. Because of those aspects, Bitcoin is prone to be used in illegal transactions, such as money laundering, tax evasion, and terrorism financing.

Bitcoin enthusiasts present a libertarian proxy ideology that glorifies technology and understands government as a monolith. Such ideology despises any ethical control and even despises human governance. Although many consider it amoral, technology usually carries relevant moral aspects. Technology is not an ideology, but it is not amoral.

According to the principle of subsidiarity, the financial market or currency should not be regulated by individuals, much less by an algorithm that has no social control and, in an industry where no one knows the ethical approaches and influences that have the core developers and miners. The financial market needs regulation that integrates freedom with ethical custody. The principle of subsidiarity argues that society is neither an aggregate of individuals nor a partnership but a unity of parts to achieve a common good, having the human person as its end.

Both Adam Smith, the father of modern economics, and Aristotle condemned usury. Aristotle is highly relevant to the philosophical point of view of individual and social virtues present in the principle of subsidiarity. Aristotle condemned usury, defining it as “money bred of money.” Could we argue that, for Aristotle, usury can be defined as money “mining” money?

## Conflict of interest

No conflicts of interest are declared.

## Funding

The authors received no fund for this study from any organizations.

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