The Nature and Future of Bitcoin -A Legal Analysis of Cryptocurrencies

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<u>This article is not intended to provide legal or investment advice. If you have a specific question, you should consult with a private attorney or an investment adviser</u>.

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I. Introduction.

Bitcoin is the most exiting phenomenon in the financial world of the 21st century. Bitcoin created a new system for value measurement that could take the world to a more equitable system for exchange of products of labor.

The concept of Bitcoin was developed by Satoshi Nakamoto[2] in 2008, when he published *"Bitcoin: A Peer-to-Peer Electronic Cash System."* In his paper, Nakamoto outlined the conceptual and technical details of a peer-to-peer electronic cash payment system that would allow online payments between parties without involving an intermediary financial institutions.[3]

A system of direct payment without an intermediary, however, had already existed in the past. This system was called barter and barter was the nature of the transactions even when gold and silver were used as a medium of exchange.

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[2] The real identity of Satoshi Nakamoro is not known

[3] https://downloads.coindesk.com/research/whitepapers/bitcoin.pdf

This paper takes the position that, based on block chain technology, the concept of Bitcoin brings the process of exchanging goods to its original roots – barter. Moreover, block chain currencies should not be put in the same category with systems using a main server to create and emit electronic tokens. The latter are identical to banks printing fiat paper currencies.

The paper will summarize some of the actions taken by different U.S. agencies in their attempts to regulate cryptocurrencies. Also, because the best understanding of the nature of cryptocurrencies is possible only when placed in the context of all other financial concepts, the paper will analyze the history and development of the concepts of "paper currencies" and "securities" and their relation to cryptocurrencies.

The paper's purpose is to initiate a fruitful and amicable discussion of the issue and not to provide a conclusive resolution.

II. What is Bitcoin?

The best way to define Bitcoin is that it is a software that enables people to create and exchange value. On the one hand, the software consists of a snippet of code that represents ownership of a digital concept, which could be described as bitcoin-the-token. On the other hand, it is a distributed network that maintains a ledger of balances of bitcoin-the-token, and could be described as bitcoin-the-protocol. Both are referred to as "Bitcoin."[4]

Once Bitcoin software is installed on a computer or mobile phone, it will generate a Bitcoin address, also referred to as a wallet. The addresses can be used to receive payments or to make payments, similarly to the way emails are exchanged.[5]

A transaction is a transfer of value between Bitcoin wallets that gets included in the block chain. The block chain is a shared public ledger on which the entire Bitcoin network relies. A block is a record in the block chain that contains and confirms many waiting transactions. All confirmed transactions are included in the block chain.

Roughly every 10 minutes the system adds a new block to the block chain through collecting information from bitcoin transactions and turning them into a mathematical puzzle. Bitcoin mining is the process of making computer hardware do mathematical calculations to solve the puzzle. The first miner to find the solution announces it to the others on the network. The other miners then check whether the solution of the puzzle is correct. If enough miners agree with the solution, the block is cryptographically added to the ledger and the miners move to the next set of transactions.[6]

A miner that has solved a puzzle gets a number of bitcoins as a reward. This award initially was 25 bitcoins but the number halves every four years. Currently, it is 12.5 and is expected to decrease by half in 2020-21. [7]

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[4] https://www.coindesk.com/information/what-is-bitcoin
[5] https://bitcoin.org/en/getting-started
[6] See *How Bitcoin mining Works*, The Economist, Jan. 20, 2015.
[7] https://www.coindesk.com/information/how-bitcoin-mining-works

The "miners" are actually powerful computers and are referred to as "nodes." A node runs the bitcoin software and helps to keep Bitcoin running by participating in the relay of information. Anyone can run a node if they download the bitcoin software (which is free) and leave a certain port open. The costs of being a mining node, however, are considerable, not only because of the powerful hardware needed, but also because of the large amounts of electricity that running these processors consumes.[8]

The address is a long string of 34 letters and numbers and is also known as "public key." Each address/public key has a corresponding "private key," made up of 64 letters and numbers. The two keys are related, but the private key is in exclusive control of its owner and the public key does not give access to the private key.

Any transaction issued from a bitcoin address needs to be "signed" with a private key. To do that, the owner puts both the private key and the transaction details (how many bitcoins to be sent, and to whom) into the bitcoin software on a computer or smartphone.[9] The private keys provide a mathematical proof that they have come from the owner of the wallet. The signature/private key also prevents the transaction from being altered by anybody once it has been issued.

The mechanics of Bitcoin transactions prevents any government or state involvement. A transaction starts with the request of Party 1 to send cryptocurrency to the contracting Party 2. Both parties store their coins in electronic wallets. Party 1 would type in or scan Party 2's public key in the request to send funds and Party 2 would authenticate and finalize the transaction with the private key. Subsequently, the history of the public keys of both users on the block chain are reviewed and approved by the computers connected to the block chain network. The computers would validate that Party 1 owns the amount of cryptocurrency and that Party 1 has not previously sent the currency that will be transferred. After the transaction is approved by more than half of the computers, it will be executed.

More information about how Bitcoin works is available at www.bitcoin.org.

III. Actions by US regulators.

US law does not provide for direct oversight of Bitcoin or virtual currency spot markets. As a result, the attempts in the USA to regulate virtual currencies have evolved into a multifaceted, multi-regulatory approach by different agencies. Because this approach is uncoordinated, the best way to understand the issue is by reviewing the actions of each agency.

1. The U.S. Commodity Futures Trading Commission

On January 4th 2018, the Commodity Futures Trading Commission (CFTC) issued a document named *Backgrounder on Oversight of and Approach to Virtual Currency Futures Markets*.[10] In the document, the CFTC discussed various topics regarding cryptocurrencies and most importantly, it reiterated the position of its chairman Timothy Massad before the U.S. Senate Committee on Agriculture, Nutrition & Forestry

[8] Id.
[9] https://www.coindesk.com/information/how-do-bitcoin-transactions-work
[10] https://www.cftc.gov/sites/default/files/idc/groups/public/@newsroom/documents/file/backgrounder_virtualcurrency01.pdf

on December 10, 2014, that cryptocurrencies are commodities under the Commodity Exchange Act (CEA).[11]

The CFTC asserted its legal authority over both cryptocurrency derivatives and cryptocurrency spot markets based on the fact that on December 1, 2017, the Chicago Mercantile Exchange Inc. and the CBOE Futures Exchange self-certified new contracts for bitcoin futures products and the Cantor Exchange self-certified a new contract for bitcoin binary options. The CFTC, however, admitted that "without the self-certification of Bitcoin futures products, the CFTC's surveillance of virtual currency spot trading markets would be practically impossible and legally challengeable."[12]

Although the CEA gives the CFTC the authority to promulgate a wide spectrum of rules and regulations regarding commodities, the agency decided to take the issue to the courts and establish its jurisdiction over cryptocurrencies through litigation.

By order dated Sept. 26, 2018, the U.S. District Court for the District of Massachusetts ruled that the particular virtual currency at issue, My Big Coin, was a commodity. According to the court, this specific crypto currency was a commodity because "it is a virtual currency and it is undisputed that there is futures trading in virtual currencies (specifically involving Bitcoin)."[13] The court concluded that the part of the definition of "commodity" that reads "*and all other goods and articles, all services, rights and interests in which contracts for future delivery are presently or in the future dealt in*," applied to categories—not specific items.[14] Thus, according to the court, since there was already futures trading in cryptocurrency as a category (through the self-certificated futures contracts on Bitcoin), the CFTC had jurisdiction over all cryptocurrencies.[15]

Finally, applying section 6(c) of the CEA,[16] the court accepted the CFTC's position that the agency had power to prosecute fraud in relation to spot transactions in cryptocurrencies and ruled accordingly by denying defendants' motion to dismiss the case. (It should be noted that the court order in *My Big Coin*

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[11] Testimony of CFTC Chairman Timothy Massad before the U.S. Senate Committee on Agriculture, Nutrition and Forestry (Dec. 10, 2014), http://www.cftc.gov/PressRoom/SpeechesTestimony/opamassad-6.

[12] See https://www.cftc.gov/sites/default/files/idc/groups/public/@newsroom/documents/file/backgrounder_virtualcurrency01.pdf

[13] *Commodity Futures Trading Commission v. My Big Coin Pay, Inc. et al*., No. 18-cv-10077, ECF No. 106, (D. Mass. Sept. 26, 2018)) (denial of motion to dismiss).

[14] The full definition reads:

> The term "commodity" means wheat, cotton, rice, corn, oats, barley, rye, flaxseed, grain sorghums, mill feeds, butter, eggs, Solanum tuberosum (Irish potatoes), wool, wool tops, fats and oils (including lard, tallow, cottonseed oil, peanut oil, soybean oil, and all other fats and oils), cottonseed meal, cottonseed, peanuts, soybeans, soybean meal, livestock, livestock products, and frozen concentrated orange juice, and all other goods and articles, except onions (as provided by section 13-1 of this title) and motion picture box office receipts (or any index, measure, value, or data related to such receipts), and all services, rights, and interests (except motion picture box office receipts, or any index, measure, value or data related to such receipts) in which contracts for future delivery are presently or in the future dealt in. See 7 U.S.C. § 1a(9).

[15] *See* https://www.cftc.gov/sites/default/files/2018-10/enfmybigcoinpayincmemorandum092618.pdf

[16] Section 6(c) of the CEA bans the use of any "manipulative or deceptive device or contrivance" in connection with the sale of a commodity (See 7 U.S.C. § 9).

Pay was issued pursuant to a defendants' motion for summary judgment to dismiss the case and the court's findings at this stage are still not final.)

Two other courts have also issued orders holding that cryptocurrencies are commodities: the U.S. District Court for the Eastern District of New York[17] and the U.S. District Court for the Southern District of New York.[18] These cases did not involve actual litigation of the legal nature of cryptocurrencies as well and the orders should not have significant legal impact outside of the particular cases.

The interpretation of the definition of "commodity" by the CFTC and the courts regarding cryptocurrencies is unjustifiably overstretched.

Under the CEA, cryptocurrencies can be classified as commodities only if they are considered to be covered by the phrase "*all services, rights and interests*." A fair reading of the definition of "commodity" in section 1a (9) of CEA suggests that the modifier "*in which contracts for future delivery are presently or in the future dealt in*," refers to the phrase "*all services, rights and interests*" only.[19] The modifier does not apply to the rest of the commodities listed in the definition.[20]

Thus, since "*all services, rights and interests*" do not become commodities until futures trading in them is initiated, cryptocurrencies should be treated as commodities only for futures trading purposes.

"Services, rights and interests" are items of different nature than "*products and articles*," which is the other general term used by the CEA to define commodities. Products and articles are tangible items; services, rights and interests are intangible. Products and articles are material things and have substantive existence independent of statutes. They are commodities regardless of whether they are subject to futures trading. To the contrary, the existence of futures trading is a constructive element of the status of commodities for "*all services, rights and interests*." Without the statutes attaching futures trading as an element of this status, they are not commodities.

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[17] See *CFTC v. McDonnell*, 287 F. Supp. 3d 213, 228 (E.D.N.Y. 2018), where the court stated that that "virtual currencies can be regulated by CFTC as a commodity."

[18] See *CFTC v. Gelfman Blueprint, Inc. and Nicholas Gelfman*, , No. 17-cv-7181 (PKC) ECF Case) (final judgment by default, permanent injunction), where the court concluded that "virtual currencies such as Bitcoin are encompassed in the definition of "commodity" under Section 1a(9) of the Act, 7 U.S.C. § 1a(9) (2012)."

[19] See footnote 14, p.4.

[20] The modifier is not connected grammatically with the other parts of the definition, which include a long list of agricultural products and the phrase "*all other goods and articles*." This is because in section 1a (9) of CEA, the long-itemized list of agricultural products, the phrase "*all other goods and articles"*, and the phrase "*all services, rights and interests in which contracts for future delivery are presently or in the future dealt in*" , are connected with the word "and". The word "and" is always used to connect expressions that are grammatically similar and independent.

On the other hand, the modifier "*in which contracts for future delivery are presently or in the future dealt in*" is a subordinate clause, identifying the phrase "*all services, rights and interests*" and not being separated from it. Expressions which identify are not usually separated in any way from the phrase which they identify and cannot easily be left out. Therefore, the modifier determines only the meaning of the phrase "*all services, rights and interests*".

This distinction is very important because both the CFTC and the court in *My Big Coin Pay* relied on a series of cases involving natural gas to justify their position that cryptocurrencies were commodities.[21] These decisions were used by the CFTC to argue that the CEA only required the existence of futures trading within a certain class (e.g. "natural gas") in order for all items within that class to be considered commodities. In an analogous context, the CFTC argued that My Big Coin was a virtual currency and it was undisputed that there was futures trading in virtual currencies (specifically involving trading in Bitcoin on the Chicago Mercantile Exchange Inc. and the CBOE Futures Exchange). The court accepted this argument.

The purposes underlying the Commodity Exchange Act are most properly fulfilled by giving effect to the plain meaning of the language as Congress enacted it.[22] The analogue between natural gas and cryptocurrencies is not supported by the plain language of the CEA. As stated above, natural gas is a commodity *per se* as opposed to cryptocurrency, which is a constructive commodity. Thus, only individual transactions in cryptocurrencies for future delivery should be subjected to the rules of the CEA.

There is no dispute that the CFTC is the proper authority to regulate futures transactions involving cryptocurrencies. However, the CFTC's position that it has also jurisdiction over spot transactions is questionable. To the extent there is fraud involved in such transactions, the cases should be handled by the proper criminal authorities. Section 6(c) of the CEA should not be used by the CFTC as a protruding wedge to claim authority over all aspects regarding cryptocurrencies.

Additionally, although the term "currency" is included in the definition of "excluded commodity," which encompasses all types of financial instruments,[23] the litigation position of the CFTC suggests that it would not categorize cryptocurrencies as "excluded commodities." These commodities are called excluded because they are exempt from regulation when exchanged between eligible contract participants and not transacted on an official trading facility. By comparing virtual currency to natural gas, the CFTC implied that it would consider virtual currency an exempt commodity.[24] This is an indication about the CFTC's intent to regulate cryptocurrencies.

2. The U.S. Securities and Exchange Commission

Like all other regulators, the U.S Securities and Exchange Commission (SEC) has been closely monitoring the development of cryptocurrencies. So far, the SEC's actions have included issuing press-

[21] See *My Big Coin Pay* at 7, citing *United States v. Brooks*, 681 F.3d 678 (5th Cir. 2012); *United States v. Futch*, 278 F. App'x 387, 395 (5th Cir. 2008); and *United States v. Valencia*, 394 F.3d 352 (5th Cir. 2004)). In these cases, the courts rejected the arguments that a particular type of natural gas was not a commodity because that specific type was not the subject of a futures contract. The courts held that because futures contracts in natural gas underlaid by gas at one hub were dealt in, and because natural gas is "fungible" and may move freely throughout a national pipeline system, this was sufficient to show that natural gas, including the types at issue in these cases, was a commodity. As one court observed, "it would be peculiar that natural gas at another hub is not a commodity, but suddenly becomes a commodity solely on the basis that it passes through Henry Hub, and ceases to be a commodity once it moves onto some other locale". (See *Brooks*, 681 F.3d at 694-95).

[22] See the concurring opinion of Justice Scalia in *Dunn v. CFTC*, 519 U.S. 465 (1997).

[23] See 7 U.S.C. § 1a (19).

[24] The term "exempt commodity" means a commodity that is not an excluded commodity or an agricultural commodity. 7 U.S.C. § 1a (20).

releases, public reports, investor alerts as well as taking enforcement actions against registered [25] and unregistered persons.[26]

Similarly to the cases filed by the CFTC, the enforcement actions did not involve trial litigation on factual and legal issues, and apart from the publicity, the court orders do not have legal significance outside of the specific cases.

There are three documents of particular interest that could bring some light on the SEC's position regarding cryptocurrencies. These documents are *The Statement on Cryptocurrencies and Initial Coin Offerings of the SEC chairman Jay Clayton*, dated Dec. 11, 2017[27], *The Report of Investigation Pursuant to Section 21(a) of the Securities Exchange Act of 1934 regarding The DAO*, dated July 25, 2017[28], and *Framework for "Investment Contract" Analysis of Digital Assets*, posted on the SEC's website in 2019.[29] The documents raise serious concerns not only about the presented legal arguments, but also about the true intentions and motivations of the agency.

For example, *the Statement of the SEC's Chairman* is followed by a disclaimer that it is a private statement and "does not reflect the views of any other Commissioner or the Commission." The statement, however, is published on the official governmental website of the SEC. In light of the circumstances that an official statement is published on the official governmental website of the agency, *the Statement of the SEC's Chairman* should be deemed to reflect the views of the SEC.

Although the concern of the SEC is legitimate and understandable, the documents present questionable legal conclusions. If the SEC believes that there is a serious danger for investors and the agency has jurisdiction over the subject, the SEC should use its rulemaking authority to provide the necessary safety net. Issuing statements full of innuendos and conjectures is not how a governmental agency should regulate the area of its authority.

First, it should be clear that cryptocurrencies are not securities (the topic will be discussed in the next section). This fact should answer two of the questions brought up by the SEC and conveniently not

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[25] For example, on October 22, 2018, the SEC suspended trading in the securities of American Retail Group, Inc. (OTC: ARGB) aka Simex, Inc. for claims that, among other things, the company conducted a token offering that was "officially registered in accordance [with] SEC requirements." *See* https://www.investor.gov/additional-resources/news-alerts/press-releases/sec-suspends-trading-company-making-false. See also *In re ICO RATIN* (2019), https://www.sec.gov/litigation/admin/2019/33-10673.pdf.

[26] On November 16, 2018, the SEC announced that it had settled charges against two companies that sold digital tokens in initial coin offerings (ICOs). These are the Commission's first cases imposing civil penalties solely for ICO securities offering registration violations. Both companies have agreed to return funds to investors, register the tokens as securities, file periodic reports with the Commission, and pay penalties. *See* https://www.sec.gov/news/press-release/2018-264. *See* also SEC v. Reginald ("Reggie") Middleton, Veritaseun, Inc., and Veritaseum, Case 1:19-cv-04625-WFK-RER, (SCF Case) (2019), https://www.sec.gov/litigation/complaints/2019/order-pr2019-150.pdf

[27] *See* https://www.sec.gov/news/public-statement/statement-clayton-2017-12-11#_ftnref8

[28] *See* https://www.sec.gov/litigation/investreport/34-81207.pdf.

[29] *See* https://www.sec.gov/corpfin/framework-investment-contract-analysis-digital-assets

answered to. The questions are whether companies whose assets consist of cryptocurrencies are investment companies[30] and whether these companies must register as national securities exchanges.[31]

Companies whose assets consist of cryptocurrencies do not have obligations under the Investment Company Act because they are NOT "companies engaged primarily in the business of investing, reinvesting, or trading in securities."[32] Neither do they have to register as national securities exchanges because they are NOT "platforms that trade securities and operate as exchanges."[33]

Next, the SEC's documents contain statements that, for some reasons, misstate the law. For example, on page 3 of *the Statement of the SEC's Chairman*, it is stated that "Before launching a cryptocurrency or a product with its value tied to one or more cryptocurrencies, its promoters must either (1) be able to demonstrate that the currency or product is not a security or (2) comply with applicable registration and other requirements under our securities laws." This statement misrepresents the basic principle of the securities laws that the government bears the burden to prove that an instrument is a security before the burden shifts to the defendant to prove that the security does not need to be registered.[34]

Finally, the SEC's legal analysis of the so-called Initial Coin Offerings (ICO) is very questionable and not very convincing. This analysis was first provided in *the Section 21(a) Report* and was based on one particular case. Subsequently, *the Statement of the SEC's Chairman* referred to this report as to a settled law and declared that the tokens in question were securities.[35]

Repeating one statement several times will not necessarily make it truthful. *The 21(a) Report* represents the opinion of the SEC regarding the facts in one specific case only and this opinion is not

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[30] See footnote 1 of the Section 21(a) Report: "This Report does not analyze the question whether The DAO was an "investment company," as defined under Section 3(a) of the Investment Company Act of 1940 ("Investment Company Act"), in part, because The DAO never commenced its business operations funding projects. Those who would use virtual organizations should consider their obligations under the Investment Company Act."

[31] See *Statement on Potentially Unlawful Online Platforms for Trading Digital Assets*. https://www.sec.gov/news/public-statement/enforcement-tm-statement-potentially-unlawful-online-platforms-trading.

[32] Under the Investment Company Act, an investment company is defined, among others, as "any issuer which is or holds itself out as being engaged primarily, or proposes to engage primarily, in the business of investing, reinvesting, or trading IN SECURITIES (emphasis added)." See 15 U.S.C. 80a-3(a).

[33] Under the Securities Exchange Act of 1934, an exchange is defined as "any organization, association, or group of persons, whether incorporated or unincorporated, which constitutes, maintains, or provides a market place or facilities for bringing together purchasers and sellers of SECURITIES…" See 15 U.S.C. 78c (1).

[34] "To establish a prima facie case for violation of Section 5, the [government] must show that (1) no registration statement was in effect as to the securities; (2) the defendant directly or indirectly sold or offered to sell securities; and (3) the sale or offer was made through interstate commerce." *SEC v. CMKM Diamonds, Inc*., 729 F.3d 1248, 1255 (9th Cir.2013) (citing SEC v. Phan, 500 F.3d 895, 902 (9th Cir.2007)). "Once the [government] introduces evidence that a defendant has violated the registration provisions, the defendant then has the burden of proof in showing entitlement to an exemption.'" *CMKM Diamonds, Inc*., 729 F.3d at 1255 (quoting SEC v. Murphy, 626 F.2d 633, 641 (9th Cir.1980)).

[35] The Commissioner stated: "The Commission applied longstanding securities law principles to demonstrate that a particular token constituted an investment contract and therefore was a security under our federal securities laws. Specifically, we concluded that the token offering represented an investment of money in a common enterprise with a reasonable expectation of profits to be derived from the entrepreneurial or managerial efforts of others." See *the Statement of the Chairman of the SEC*, p. 2

legally binding. The only legal significance of the report is that it offers indications as to how the SEC would react to future cases.

The facts referred to in *the 21(a) Report* concern a company named The DAO. The DAO was an unincorporated organization, created in Germany by Slock.it and Slock.it's,. The DAO was supposed to create and hold assets through the sale of DAO tokens to investors. The assets would then be used to fund projects.[36] However, after a breach in the security system, The DAO abandoned the project and refunded the investments to the token holders.

The SEC opted to treat DAO tokens as investment contracts and this approach of the agency is not surprising. In one of its early securities decisions, the Supreme Court adopted the so called "economic reality approach" regarding "investment contract."[37] This is a rather loose approach and allows the assessment of new products for securities law purposes. In a subsequent decision, however, the Supreme Court explicitly limited the application of this approach to investment contacts only and excluded all other types of securities from the economic reality analysis.[38] Thus, the only option for the SEC to connect cryptocurrencies to the securities laws is by classifying them as investment contracts.

The federal case law on investment contracts is voluminous and contradicting and one could easily support two opposite positions. Because The DAO was an unincorporated entity, its tokens could be analyzed as general partnership interests only. In order to support the position that the tokens were investment contracts, and therefore securities, the SEC applied the three-prong test as to when general partnerships are securities, set up by U.S. Court of Appeals for the Fifth Circuit in *Williamson v. Tucker*.[39]

In reality, most federal courts do not consider general partnership interests to be securities. Even some courts have established an irrebutable presumption that a general partner's interest cannot qualify as a security.[40] This does not mean that the SEC's analysis in the *21(a) Report* doesn't present valid legal arguments, but the analysis is not nearly close to the clear-cut case that the SEC presents it to be.

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[36] A detailed statement of the facts could be found at https://www.sec.gov/litigation/investreport/34-81207.pdf.

[37] See *S.E C. v. W J. Howey Co.*, 328 U. S. 293 (1946) See S.E C. v. W J. Howey Co., 328 U. S. 293 (1946). The Court adopted the so called "economic reality approach" and stated that "…an investment contract for the purposes of the Securities Act means a contract, transaction, or scheme whereby a person [1] invests his money, [2] in a common enterprise and [3] is led to expect profits solely from the efforts of the promoter or third party, it being immaterial whether the shares in the enterprise were evidenced by formal certificates or by nominal interests in the physical assets employed in the enterprise."

[38] "The Howey economic reality test was designed to determine whether a particular instrument is an "investment contract," not whether it fits within any of the examples listed in the statutory definition of "security." *Landreth Timber Co. v. Landreth*, 471 U.S. 681, 687 (1985).

[39] *Williamson v. Tucker*, 645 F.2d 404, 422-24 (5th Cir. 1981). See p.14 of *the 21(a) Report*.

[40] In *Goodwin v. Elkins & CO*, the U.S. Court of Appeals for the Third Circuit established an irrebuttable presumption that a general partner's interest cannot qualify as a security "because the role of a general partner, by law, extends well beyond the permitted role of a passive investor." 730 F.2d 99, 103 (1984). Similarly, in *Rivanna Trawlers Unlimited v. Thompson Trawlers, Inc.*,840 F.2d 236 (1988), the Fourth Circuit held that general partners who were capable of exercising significant managerial powers could not convert their partnership interests into a security merely by remaining passive. Likewise, in *Banghart v. Hollywood General Partnership 902* F.2d 805, 808 (10th Cir.1990), the Tenth Circuit held that regardless of the control actually exercised, if a partnership agreement retains real power in the general partners, then an investment in the general partnership is not a security. In *Klaers v. St. Peter*, 942 F.2d 535,538 (1991), the Eight Circuit also look at the partnership agreement to rule that,

The legal approach of the SEC towards cryptocurrencies becomes even odder in the last document that needs to be mentioned - *The Framework for "Investment Contract" Analysis of Digital Assets*. [41] In this document, the entire SEC's analysis of the "common enterprise" element of investment contracts consists of the following statement: "Courts generally have analyzed a "common enterprise" as a distinct element of an investment contract. In evaluating digital assets, we have found that a "common enterprise" typically exists."[42]

More than two sentences are necessary for a legal analysis to be taken seriously. It looks like the SEC created this document with the intention of deterring people from getting involved with cryptocurrencies rather than providing a serious legal analysis.

At the end, when the legal positon of the SEC regarding cryptocurrencies is being discussed, a very important and specific federal case must be cited. The case involves an initial coin offering and was never discussed by the agency in its statements.

In *SEC v. Belmond, Reid &Co.*[43], the court decided that coin offerings do not fall within the definition of security and are not subject to the securities laws, a holding completely opposite to the views of the SEC.

The case concerned a gold mining company, which, in order to secure sources for its future mining operations, sold in advance gold in the form of coins and medallions. The prepayment price of the coins embodied a discount of about 33% to 48% below the prevailing world market price of gold.[44]

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notwithstanding some limitations on the non-managing partners' ability to manage the partnership, the general partnership interests were not securities.

[41] See https://www.sec.gov/corpfin/framework-investment-contract-analysis-digital-assets

[42] See https://www.sec.gov/corpfin/framework-investment-contract-analysis-digital-assets

[43] See *SEC v. Belmond, Reid &Co*., 794 F.2d 1388 (9th Cir. 1986).

[44] The following are the facts in the case:

In 1980, Continental Minerals Corporation (CMC), a closely-held Nevada corporation that developed natural resources, had assets that included several partially developed leasehold interests in what were allegedly gold-bearing properties. In order to develop some of these properties, CMC tried various means of raising capital. One of its attempts involved raising capital by selling its gold directly to investors.

The gold was to be in the form of coins or medallions that it planned to mint from future gold production. Between June and September of 1980, at the time when CMC was offering the coins to the public, the prepayment price embodied a discount of about 33% to 48% below the prevailing world market price of gold. CMC promised to start delivery on November 15, 1980, and to deliver an additional coin every two months.

As part of its "Background Information" that was provided to the prospective purchaser, CMC noted that "the gold offered for future delivery has not yet been extracted.... Obviously, if sufficient quantities of gold were being mined currently, these would be sold at world market prices and not offered at a substantial discount." The "Background Information" also noted that CMC planned "to use proceeds from sales of gold to provide additional equipment and pay other operating expenses.

Belmont Reid & Co (Belmont Reid), the defendant in this case, became involved with CMC's offering when CMC asked it to administer the offering. Belmont Reid used its own salesmen and recruited outside salesmen to carry out the offering.

The SEC filed its complaint against Belmont Reid, against a former vice-president of CMC, and against twenty-four salesmen. It claimed that the defendants had violated the registration provisions of the Securities Act of 1933 and that they had violated the antifraud provisions of both the 1933 Act and the Securities and Exchange Act of 1934. See *SEC v. Belmond, Reid &Co.,* 794 F.2d 1388 (9th Cir. 1986).

The court held that the profits to the coin buyers depended upon the fluctuations of the gold market, not the managerial efforts of the defendants.[45] For the court, the transaction involved was just like any sale-of-goods contract in which the buyer pays in advance of delivery and the ability of the seller to perform is dependent, in part, on both his managerial skill and some good fortune. The court concluded: "Perhaps the SEC views such contracts as covered by *Howey*. If so, we must express our doubts."[46]

The decision in *SEC v. Belmond, Reid &Co.* was based on a previous similar case, where the same court held that silver bars were not subject to securities law.[47]

If one takes all the facts from *SEC v. Belmond, Reid &Co.* and replaces the word "gold" with "crypto coins," the following questions must be answered: Why are crypto coins different from gold coins? What are the features that make crypto coins securities and gold coins non-securities? If the CFTC has already claimed jurisdiction over cryptocurrencies and declared them to be commodities, why does the SEC claim jurisdiction over the same products? (Contrary to the SEC's position that a product could be both a security and a commodity at the same time, the SEC is still to present a specific example in this regard; in fact, an example in this regard is not possible even in theory). Doesn't the weight of authority hold that an individually managed commodities account is not a security?[48]

3. The North American Securities Administrators Association (NASAA)

Organized in 1919, NASAA is a voluntary association whose membership consists of 67 state, provincial, and territorial securities administrators in the 50 states, the District of Columbia, Puerto Rico, the U.S. Virgin Islands, Canada, and Mexico.

On May 21, 2018, NASAA announced one of the largest coordinated series of enforcement actions by state and provincial securities regulators in the United States and Canada on initial coin offerings. The coordinated action had the ambitious name "Operation Cryptosweep" and, according to the NASAA's statement, was supposed to demonstrate that "cryptocriminals need to know that state and provincial securities regulators are taking swift and effective action to protect investors from their schemes and scams."[49]

Despite NASAA's enthusiasm, "Operation Cryptosweep" contradicts fundamental constitutional law principles. The purpose of state securities regulations is investor protection, but this purpose cannot be achieved at the expense of lawfulness. NASAA's attempt to give a worldwide effect to its "Operation Cryptosweep" not only directly contradicts the securities statutes, but also infringes on the sovereignty of many foreign jurisdictions.

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[45] *Id*. at 1391

[46] *Id.*

[47] See *Noa v. Key Futures*, 638 F.2d 77 (9th Cir. 1980)). Applying the standards of *Howey* to the facts in the case, the court held that no investment contract was created. Once the purchase of silver bars was made, the profits to the investor depended upon the fluctuations of the silver market, not the managerial efforts of the defendants. The decision to buy or sell was made by the owner of the silver. See *Noa* at 79.

[48] See *Lopez v. Dean Witter Reynolds*, 805 F.2d. 880 (9th Cir. 1986). *Point Landing v. Omni Cap. Int'l*, 795 F.2d 415 (5th Cir. 1986), *Omni Cap. Int'l v. Rudolpf Wolff & Co.,* 108 S. Ct. 404 (1987).

[49] *See* http://www.nasaa.org/45121/state-and-provincial-securities-regulators-conduct-coordinated-international-crypto-crackdown-2/

The problems are easy to see in any of the enforcement orders issued under "Operation Cryptosweep." For example, on May 21, 2018, the Missouri Commissioner of Securities issued a cease and desist order against Baltic Fund, a Lithuanian-based business, whereby the commissioner found that the respondents had been offering unregistered securities in Missouri.[50]

The Missouri Commissioner did not have jurisdiction to issue this order. Under section 409.6-610 (e) of the Missouri Securities Act, titled "Jurisdiction," "an offer to sell or to purchase [securities] is not made in the State of Missouri when a radio or television program or other electronic communication originating outside the state is received in the state."[51]

The Missouri order also directly violated the court decision in *Booth v. Verity*,[52] holding that the mere ability to view a passive web page or mass media report was an insufficient contact with a state to render an out-of-state defendant subject to that state's jurisdiction.[53] Thus, the order is most likely void.

All actions under "Operation Cryptosweep" fallowed similar patterns, relied on similar facts in their legal analysis, and resulted in similar cease and desist orders. Such orders were issued against companies from England, Canada, Singapore, South Africa, Belize, Germany, UAE, etc.

A court can hear a case only if the maintenance of the suit does not offend traditional notions of fair play and substantial justice.[54] All NASAA's actions most likely violated the "minimum contacts" requirement, a concept that is the central due process test for evaluating all assertions of state court personal jurisdiction over nonresident defendants.

There are million companies that issue securities under the rules of their own countries of jurisdiction. Since English is the official language of UK, Australia, Canada, Singapore, the European Union, South Africa and many other countries, it is in the normal course of business for these issuers to use English language websites to solicit investors from their own countries.

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[50] See https://www.sos.mo.gov/CMSImages/Securities/AP-18-10.pdf

[51] A review of the section of the order named "Allegation of Facts" reveals that the findings were based entirely on the content of respondents' website. The commissioner did not state specific facts of solicitation or offers of securities to Missouri residents but based his entire case on the simple fact that respondents' website was accessible to Missouri residents. See https://www.sos.mo.gov/CMSImages/Securities/AP-18-10.pdf.

[52] See *Booth v. Verity*, 124 F. Supp. 2d 452, 459 (W.D. Ky. 2000),

[53] This case is binding in Missouri because it is included in the official comments following section 610 of the Uniform Securities Act, adopted by the State of Missouri through the Missouri Securities Act. "In constructing uniform and model acts enacted by the General Assembly, we must assume it did so with the intention of adopting the accompanying interpretations placed thereon by the drafters of the model uniform act. *John Deere Co. v. Jeff DeWitt Auction Co*., 690 S.W.2d 551,514 (Mo. App. S.D. 1985).

[54] The "minimum contacts" analysis was first set up in *International Shoe Co. v Washington*, 326 U.S. 310 (1945). According to the U.S. Supreme Court, "[d]ue process requires only that in order to subject a defendant to a judgement… if he not be present within the territory of the forum, he have certain minimum contacts with it such that the maintenance of the suit does not offend traditional notions of fair play and substantial justice." *Id.* at 316.

Subsequently, the Supreme Court further developed the test stating that the connection "between the defendant and the forum State necessary for a finding of minimum contacts must come about by an action of the defendant purposefully directed toward the forum State. The placement of a product into the stream of commerce, without more, is not an act of the defendant purposefully directed toward the forum State." See *Asahi Metal Industry Co. v. Superior Court of Cal., Solano Cty*., 480 U.S. 102, 112 (1987).

NASAA members are attempting to establish a precedent where they could assert jurisdiction over every issuer of securities from around the world, even if this issuer solicits investors from its own county via the Internet in compliance with the law of its own jurisdiction. To say that this attempt comports with the traditional notions of fair play and substantial justice would be unfair and unjust to English language.

4. Internal Revenue Service (IRS)

The Coinage Act of 1965 states: "United States coins and currency (including Federal Reserve notes and circulating notes of Federal Reserve banks and national banks) are legal tender for all debts, public charges, taxes, and dues."[55]

This statute means that all coins and bank notes issued by the U.S. government are a valid and legal offer of payment for debts when tendered to a creditor in the USA. They will be the only legal tender to pay taxes or other public debt.

There is no federal statute mandating that a private business, a person or an organization must accept only U.S. currency or coins as payment for goods and services. Private businesses can develop their own policies on what to accept as a payment and there is no reason why they should be banned from utilizing cryptocurrencies as a method of payment if they choose so.

Thus, a question arises as to how transactions involving cryptocurrencies would be treated for tax purposes. The IRS has issued so far only one document on this subject – Notice 2014-21.[56] The document is in the form of questions and answers and present the following position of IRS on cryptocurrencies:

For federal tax purposes, virtual currency will be treated as property and the general tax principles applicable to property transactions will apply to transactions using virtual currency. A taxpayer who receives virtual currency as payment for goods or services must, in computing gross income, include the fair market value of the virtual currency in U.S. dollars as of the date of receipt.

A taxpayer generally realizes capital gain or loss on the sale or exchange of virtual currency that is a capital asset in the hands of the taxpayer. If the fair market value of property received in exchange for virtual currency exceeds the taxpayer's adjusted basis of the virtual currency, the taxpayer has taxable gain. The taxpayer has a loss if the fair market value of the property received is less than the adjusted basis of the virtual currency.

A short-term capital gain comes from the sale of any asset that was owned for less than one year. Long-term capital gains are from assets owned for over a year. Short-term capital gains get taxed at a standard rate based on the taxpayer's income bracket; long-term capital gains get taxed at a way lower and favorable tax rate.

IV. Cryptocurrencies are not securities because nobody knows what a security is.

In the USA, the definition of securities is so unclear and unsettled that nobody knows what a security is. The statutory definition of securities is nothing more than a laundry list of thirty one items to be

[55] See 31 U.S. Code §5103
[56] See https://www.irs.gov/pub/irs-drop/n-14-21.pdf

considered securities.[57] On top of that, according to the plain text of the statutes, all instruments listed as securities may not be securities after all if "the context requires otherwise."

Defining the common elements that bond together thirty one different instruments into one category would have been the best way to establish the definition of securities. Instead, Congress simply listed the instruments and proclaimed that the instruments were securities because the statute said so.

The U.S. Supreme Court has further contributed to the confusion with its inconsistent interpretation of the "context "clause. So far though, the Court has analyzed the "context" clause only regarding certificates of deposits[58], promissory notes[59], and investment contracts (the *Howey* test).[60]

For some scholars, the Supreme Court's definition of "investment contract" identifies the true elements of a security.[61] The Court, however, has explicitly stated that "the *Howey* economic reality test was designed to determine whether a particular instrument is an 'investment contract,' not whether it fits within any of the examples listed in the statutory definition of 'security'." [62]

At the same time, the Court has refused to examine under the "context" phrase the factual circumstances regarding a transaction involving stock and stated that, "[u]nder the circumstances of this case, the plain meaning of the statutory definition mandates that the stock be treated as 'securities'…."[63] Later on, the Court reiterated its position by stating that "the public perception of common stock as the paradigm of a security suggests that stock, in whatever context it is sold, should be treated as within the ambit of the Acts."[64]

Ironically, 130 years before the Supreme Court decided that "the public perception of common stock is the paradigm of a security," the legal authorities uniformly had the opposite view. In *Mechanics' Bank v New York & New Haven R.R. Co*., for example, the Court of Appeals of New York concluded that certificates of stock are not securities.[65]

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[57] See 15 U.S. Code §77b

[58] See *Marine Bank v Weaver*, 455 U.S. 551, 560

[59] See *Reves v. Ernst & Young* 494 U.S. 56, 63 (1990). The following four factors must be examined in order to determine whether a note is a security: (1) the motivations of a reasonable buyer and seller in entering into theatransaction; (2) the plan of distribution of the instrument; (3) the reasonable expectations of the investing public; and (4) whether there is an alternate regulatory scheme that "significantly reduces" the instrument's risk.[59] *Id*. at 66-67.

[60] See *S.E C. v. W J. Howey Co*., 328 U. S. 293 (1946).

[61] See Professor Joseph Long, http://www.sos.nh.gov/securities/PDF/Interpretive_Orders/IntOrd_2010-11-19.pdf, p. 12

[62] See *Landreth Timber Co. v. Landreth*,471 U.S. 681, 687 (1985)

[63] See *Landreth Timber Co. v. Landreth*,471 U.S. 681, 687 (1985)

[64] See *Reves v. Ernst & Young*, 494 U.S. 56 (1990).

[65] See 11 Barb. 580, 1856. The court stated: "Looking at the question upon principle, I am not aware of anything in the nature or uses of this kind of property which requires an application of the rules which belong to negotiable securities." Id. at 623. The court compared stock certificates to bank bills, notes, bills of exchange, exchequer bills, government securities, and corporation bonds, and concluded that all instrument but stock certificates were issued in negotiable form for sale. Id. at 627. A distinguished characteristic of securities was their negotiability and the court concluded that "certificates of stock are not securities for money in any sense, much less are they negotiable securities." Id.

Professor Seymour D. Thompson, who authored *The Commentaries on Law of Private Corporations*, a treatise regarded as the highest authority on corporations in the 19th century, also took the conclusive position that "shares cannot in any proper sense be regarded as money or securities for money."[66]

So, how did stock certificates become "the public perception of the paradigm of securities" when previously they were "not being in any proper sense regarded as securities?"(The position of the Supreme Court is also inconsistent from a legal standpoint because at common law, all securities were legal claims, as opposed to stock certificates, which were equity claims created by the ingenuity of lawyers to avoid law; today many people refer to stock certificates as "investments in equity" without knowing the real reason behind this term).[67]

The simple fact is that stock certificates became securities not based on solid legal principles but because of the general public perception. As Chief Justice Winslow of the Wisconsin Supreme Court explained it in 1912, "While the word `securities', construed strictly, does not cover corporate stock, but rather bonds or evidences of debt, it has undoubtedly acquired a much broader meaning by general usage."[68]

Judge Sinkler, J., who wrote the dissenting opinion in *Donovan's Estate*,[69] also criticized the reliance of the courts on the public perception regarding securities. He stated: "The term 'security' used in its relation to the investment….should be judicially construed not according to the vernacular use but in its

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[66] See Seymour D. Thompson, L.L.D., *The Commentaries on Law of Private Corporations*, second edition (in six volumes), Indianapolis, The Bobbs-Merrill Company, 1909, Vol. IV, p. 87. He cited a case, *Graydon v. Graydon*, 23 N.J. Eq. 229, where the court stated: "Bonds, mortgages, notes, bills of exchange, and matters of that nature are securities for money. Shares of capital, stock, are never such securities." Id.

[67] In 1720, the British Parliament enacted the Bubble Act. The Act had four main points: the sale of stock in an unchartered enterprise was deemed to be a public nuisance; the violators of this rule were subjected to penalties, which typically included imprisonment and the forfeiture of property to the crown; any person suffering a loss was provided with a cause of action for treble damages; and brokers who bought or sold shares of unchartered enterprises would lose their licenses and forfeit £500 to the government, one half of which would be available to the informant who revealed the broker's conduct. See Stuart Banner*, Anglo-American Securities Regulation: Cultural and Political Roots*, 1690-1860, p.76 (1998). According to the British author Colin Cooke though, the Bubble Act failed to account for the ingenuity of lawyers, who started to use Deed of Settlement to go around the provisions of the Act. Property was held on trust for its members by trustees who undertook in the deed of settlement to apply it for the benefit of the members, in pursuit of the company of the company's purposes as set out in the deed. The members of the trust (shareholders) were removed from direct involvement in the day to day management of the business, which was conducted on their behalf by a Board of Directors. The members also mutually covenanted to be bound by all of the terms of the deed, one of which provided for the transferability of shares.

In this way, through the device of the Deed of Settlement Company, many companies were formed within the shadow of the Bubble Act. But even with the repeal of the Bubble Act in 1825, these companies continued to flourish. With the repeal of the Act, the Crown was given the power to create corporations which retained the members' several liability for the corporation's debts. The Deed of Settlement Companies, on the other hand, developed within the bound of equitable jurisdiction and did not trouble the common law courts with the problems of their existence. They avoided having anything to do with the courts through the use of arbitration based on the opinions of eminent lawyers such as Sergeant Pangelley. See Colin Arthur Cooke, *Corporation, Trust, and Company,* p.85, Manchester University Press, 1950.

[68] See *In Will of Stark*, 149 Wis. 631,657 (1912)

[69] See *Donovan's Estate*, 28 D.&C. 93 (Pa. D. & C., 1937)

accurate sense. So construed the term "security" does not include shares of stock in a corporation as a class."[70]

In a modern legal system, all rules should be well-defined and logically developed by a consistent application of legal principles. Shares of common stock are securities because of a statutory definition, but their inclusion in the original securities statutes was based solely on the general public perception and not on consistent logic. One could only imagine the result if, instead of applying strictly construed penal codes, criminal courts were delivering their verdicts based on the perceptions of the general public about crimes. The securities laws should not be different.

This is an area that should be of great concern to the cryptocurrency community. It is only a matter of time before an administrative agency or a court decides that the public perception of cryptocurrencies as a form of investment requires that cryptocurrencies be treated as securities.

The official statements of the SEC suggest that the agency is moving into this direction. For example, in its *Section 21(a) Report*, the SEC attempted to connote the idea that "Congress' purpose in enacting the securities laws was to regulate investments, in whatever form they are made and by whatever name they are called."[71] This is a misstatement. Congress intended to regulate only those interests and instruments which were commonly known as "security" **at the time** (emphasis added) when the Security Act of 1933 was originally promoted. New interests or instruments could be deemed securities only if they have the elements of investment contracts. And cryptocurrencies do not.

Also, in the *Framework for "Investment Contract" Analysis of Digital Assets*, the SEC introduced the new concept of "digital assets." The agency even tried to legally define the concept in a document titled *Joint Staff Statement on Broker-Dealer Custody of Digital Asset Securities*, stating that "the term 'digital asset' refers to an asset that is issued and transferred using distributed ledger or block chain technology, including, but not limited to, so-called 'virtual currencies,' 'coins,' and 'tokens'."[72]

The term "asset" belongs to accounting, is legally irrelevant, and only additionally confuses the matter. It artificially connects cryptocurrencies and securities under the category of "assets" and could provide the missing link for the SEC to claim jurisdiction over cryptocurrencies. (Ironically, about 200 years ago, under similar circumstances, Daniel Raymond[73] criticized Adam Smith[74] for the introduction of the term "capital" and properly advised him to leave law to lawyers.)[75]

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[70] See *Id.* at 106

[71] See Section 21(a) Report on cryptocurrencies, footnote 4, p. 2

[72] See *Joint Staff Statement on Broker-Dealer Custody of Digital Asset Securities*, https://www.sec.gov/news/public-statement/joint-staff-statement-broker-dealer-custody-digital-asset-securities#_ftn1.

[73] Daniel Raymond (1786–1849) was the first important political economist in the United States. He was also a brilliant lawyer and wrote the first commentaries on the U.S. Constitution. His books will be cited later in this paper.

[74] Adam Smith (1723- – 1790) was a Scottish economist, also known as "The Father of Economics" and "The Father of Capitalism". His books will be cited later in this paper.

[75] Daniel Raymond provided the following analysis :

> Dr. Smith uses the word capital as synonymous with property, and according to this use of the word (which is by the way a wrong one,) the only natural and intelligible division that can be made of it, is the legal one of real and personal property, or real and personal capital, if the name must be changed. This

If the SEC believes that cryptocurrencies are within its jurisdiction, it should say so. Issuing innuendo legal opinions in order to modify the public perception is not how a government agency should operate.

V. All securities are legal claims and cryptocurrencies are not.

In real life, all securities and investments are perceived as material items and often are referred to as "products." The modern mind has reached to a fiction where the intrinsic productivity of money and other types of financial instruments is never questioned. For many people, money is capable of producing more money, and capital is capable of growing into more capital.

The reason for this misconception should be attributed most and foremost to the textualist approach by lawyers towards the rules regarding investing. Instead of exploring the complexity of the social relationships underlying the investments, lawyers have accepted the different forms of investments as given legal objects. All forms of investments are regarded as autonomous forms of property and are completely disconnected from social relations. Thus, the result of this process of disconnection is the reification of investments as things in themselves.

In the early 1800s, one of the most outstanding philosophers and brilliant minds of the United States, John Taylor of Caroline, distinguished between "natural property," property that exists prior to government and independent of law, and "artificial property," property that exists only because it has been created by government through law. The public debt and the shares of corporations were Taylor's

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> includes every kind of property, unless, indeed, it should be said, that there is a species of incorporeal or representative property, consisting of stocks; and evidence of rights and claims. With this distinction between corporeal and incorporeal property, as such, the political economist has nothing to do; it may be left entirely to the lawyers.
>
> The word property includes every tangible thing, and the division of it into real and personal property, is the only one which exits in the nature of things, and this distinction is obvious to the dullest apprehension.
>
> Dr. Smith , has endeavoured to draw new lines of distinction, wholly artificial, that have no existence in nature, and which can scarcely be comprehended by the acutest mind, and when comprehended, of no possible use. These artificial distinctions are not merely useless, but positively injurious to the science. They perplex the mind, and embarrass the subject, and no man will ever have a thorough knowledge of the science, until he eradicates from his mind, all the confused ideas which they have caused.
>
> What possible advantage can arise from establishing the distinction between fixed and circulating capital? This division of property into fixed and circulating capitals, is a total confusion of all division. According to this rule, there is no difference between land and goods; for, if land was bought to sell, it would be circulating capital; if goods were bought to keep, they would be fixed capital; because, the profit would arise from parting with the land, and by keeping the goods.

See Daniel Raymond, Counsellor at law, *The elements of Political Economy in Two Parts* , pp. 366-368. Second Edition, Baltimore: Published by Lucas, Jun. and E.J. Coale, John D. Toy, printer, 1823,

examples of artificial property. Without a statute creating the public debt, and without statutes chartering corporations, these newer types of property simply would not exist.[76]

Securities cannot exist without law. Unlike cars and other tangible products, securities are not inherently valuable. Their worth comes only from the claims they entitle their owner to make upon the assets and earnings of the issuer.[77] As far back as 1798, the Supreme Court of Massachusetts held in *Russell et al. v. Temple and others* that an individual shareholder in an incorporated bridge and canal company had only a right of action for a sum of money.[78] Securities are legal claims and should be only analyzed as what they really are-legal claims.

There is an important distinction between the legal and economic form of investments, a concept which would be developed in a different paper.

Briefly, at the economic level, all forms of "investment" constitute loans. Very often the sums needed to start an enterprise are large and entrepreneurs are compelled to borrow money from other persons. Once the enterprise starts producing revenue, the profit generated in production thereby comes to be divided into two qualitatively distinct parts: profit of the enterprise which accrues to the entrepreneur, and interest which accrues to the persons who loaned the money.

The people who loaned the money expect to receive their money back along with the accrued interest. For this reason, at the legal level, the law creates legal claims for the lenders. Depending on the complexity of the rights and obligations attached to these legal claims, the loans can take different legal forms.

The key to understanding the development of these legal forms is the barriers that inhibit the circulation of money capital.[79] When capital exists as money, it is exchangeable, liquid and mobile. Once "loaned", it becomes tied to specific assets, and a problem may arise when lenders are not willing to give up control of their money for sufficient time for borrowers to finance their operations. [80]

Historically, the solution to this problem was the establishment of developed markets of legal claims to revenue. Initially, at common law, these claims were classified as "choses in action". This category was used to describe all personal rights of property enforceable only by action and not by taking physical possession.[81] Choses of action were non-assignable and could not even be stolen.

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[76] John Tylor, *An Enquiry into the Principles and Tendency of Certain Public Measures*, Philadelphia, T, Dobson 1794, 56-57

[77] See James Cox, Robert Hillman, Donald Langevoort, *Securities Regulation*, (2nd ed. 1997) p.1

[78] This case is cited by the Supreme Court of Ohio in 1853 in *Eliza A. Johns v. Roberta Johns and others*, 1 Ohio St. 350, 1853 WL 36 (Ohio), 354

[79] See Paddy Ireland, Ian Grigg-Spall and Dave Kelly ,*The Conceptual Foundations of Modern Company Law*, , Journal Of Law and Society, Vol. 14, (Spring 1987),pp. 149-165, p. 156.

[80] Id.

[81] Id. at 155

Gradually, however, laws had changed and these legal claims became transferable. As Sir William Holdsworth observed, eventually some of the choses in action changed their original character and became very much less like personal rights to action and very much like rights to property.[82]

There are many different legal forms of investments, giving various legal rights to their holders and creating complex multiparty legal relationships. The first legal form of loaned money was the contract of loan. By the eighteenth century, such legal forms developed into bills, notes, government stock, shares of common stock, etc. Currently, the most complex legal forms include investment companies, pension funds, hedge funds, derivative instruments, etc.

The distinction between economic and legal forms of investments is very important. Value could be created only in the process of production of goods and services, and all legal forms of investment, no matter how complex, do not create value. To the contrary, the more complicated the legal forms, the more real value lost in regulation and compliance. Additionally, the complexity of the regulations enhances the illusion that the "financial products" exist independently.[83]

Each security, being a legal claim, gives its owner the right to demand performance from another person or entity, with a corresponding obligation of the other person or entity to perform (in most of the times, the performance is properly executed by the payment of a specific amount of money) This is the only benefit the owner of a security has because there is no material substance in securities. If the other person does not perform, the owner of the security gets nothing.

Cryptocurrencies are different. They do not give their holders the right to demand performance. There are no third party's obligations to perform. If somebody owns crypto coins and wants to use them as a method of payment, as soon as somebody else is willing to participate in the exchange, the owner of coins will be able to enjoy the benefits.

Unlike securities, cryptocurrencies are inherently valuable. Under John Taylor's criteria for classification of property, cryptocurrencies should be considered natural and not artificial property because they are not created by law.

Before a discussion about the value of cryptocurrencies, however, it should be discussed the creation of value in general.

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[82] See William Holdsworth, *A history of English Law* (2d ed. 1937) Vol. VII, p. 543.

[83] The illusionary idea that value could be created through regulation is evidenced by some of the rulemaking activities of the SEC. The Securities Act of 1933 contains a number of exemptions from its registration requirements and requires that the SEC adopt rules regarding these exemptions. The Act exempts from registration the so called "private offerings." Throughout the years, the SEC has created different rules (which means different types of securities), including Rule 504, Rule 505, Rule 506 (b) and (c), Regulation A, Regulation A+, crowdfunding, intrastate offerings, etc. Now, because of the complexity of the exempt offering framework, the Commission decided to undertake a broad review of its exemptions to assess whether the framework, as a whole, is consistent. (See *SEC Seeks Public Comment on Ways to Harmonize Private Securities Offering Exemptions*, https://www.sec.gov/news/press-release/2019-97). It seems the SEC is trying to create a new and better "product" for small business capital formation. It is not difficult to predict that a new rule will only further complicate the matter and the rules (if rules are necessary at all) will not improve until the Commission starts looking at the underlying social relationships.

VI. Creation of value.

The concept that only labor can produce value was very well understood in the early years of the history of the United States. Thomas Jefferson, in one of his letters to John Eppes, stated: "Capital may be produced by industry, and accumulated by economy; but jugglers only will propose to create it by legerdemain tricks with paper."[84]

Stephen Simpson, the Cashier of the Bank of the United States,[85]explained the concept in 1831 in his book *Working Man's Manual: A New Theory of Political Economy*: "Capital is the superabundant aggregate stock of labour, in the hands of individuals, government, and nations. Some writers have mystified the question by restricting it to stock, cash, ready money, or some current representative of labour, easily convertible into gold, silver, or commodities."[86] According to Simson, "capital in itself is not an active agent of wealth, but a passive instrument, whose ability to produce depends on its application by the hands of labour." [87]

"For what is wealth," Simpson continued, "but the sum of our necessaries, comforts, possessions, and enjoyments? Is not labour necessary to produce these? Can capital, idle and inert, add to them? No,- capital is dead, inert, passive, and can only be an active agent in the hands of him who labours; therefore capital never adds to them ……but industry, assisted by that capital."[88]

Daniel Raymond also criticized the misperception that capital can produce more capital. "There is a prevailing error or vice which runs through most works on political economy. They talk about the relative productiveness of capitals employed in different ways, instead of the relative productiveness of labor employed in different ways."[89]

"Capitals are not, strictly speaking, productive," continued Raymond. "The attribute productiveness does not belong to them. Money cannot produce money; neither can goods produce goods. It is figurative mode of expression to speak of productiveness of capitals in any sense of the word."[90]

John Pickering, another prominent economist, defined capital as "that amount of the products of labor, of any and every kind, which remains over and above consumption during the time of production;

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[84] The Papers of Thomas Jefferson, Retirement Series, vol. 6, 11 March to 27 November 1813, ed.c J. Jefferson Looney. Princeton: Princeton University Press, 2009, pp. 490–499.

[85] The Bank of the United States is the first national bank of the United States and was established in 1791. Many people, including Thomas Jefferson and James Madison, regarded its creation as a violation of the Constitution. Stephen Simpson, whose father, George Simson Esq. was the director of the bank, was a chief cashier. He knew from inside the way the bank was operating and was one of its biggest critics. In 1811, when the democrats won the majority, the charter of the bank was not renewed by Congress. For more on the history of the Banks of the United States see Stephen Simpson, *Working Man's Manual: A New Theory of Political Economy*, 1831 pp. 242 – 272. See also William M. Gouge, *A Short History of Paper Money and Banking in the United States*, Part II, 1833, printed by T.W. Ustick, pp. 38-42

[86] Stephen Simpson*, Working Man's Manual: A New Theory of Political Economy*, 1831, Thomas L. Bonsal – No 31 Market Street, Adam Waldie, Printer, p.54

[87] See Simpson, p.55

[88] (page 66)

[89] See Daniel Raymond, Counsellor at law, *The elements of Political Economy in Two Parts*, Second Edition, p.359, Baltimore: Published by Lucas, Jun. and E.J. Coale, John D. Toy, printer, 1823p.

[90] Id.

in other words, surplus labor."[91] He gave as an example the production of a farmer. "It is that portion of the produce of his farm, which remains in his possession, say at the end of the year, after maintaining himself and family, paying his expenses, &c. This portion of his wealth may with propriety be called capital, surplus labor in its most simple forms."[92]

For Pickering, "man can create no other kind of value."[93] For this reason "no one would be willing to exchange what has cost him two days labor, for that which has cost another man but one day's labor; because, rather than submit to the injustice of making such an exchange, he would create the exchangeable value himself."

The determination of how value is created brings up the question of how value is exchanged. For Simpson, "the true and just mode of distribution [of] labor is, by giving value for value." The exchange of products of labor required a medium that possessed real value and quality that was best adaptable to the process of circulation. This medium was money.

VII. Value of money, creation of paper money and banks, and why paper currencies are not real money.

In 1872, in his book *Paper Money, The Root of Evil*, Charles Mann defined money "…to be the instrument which men use in exchanging the objects of desire, as the medium of exchange, and the standard by which values are measured in making exchanges."[94]

Direct barter was the first form of exchange, but barter was possible only on a limited scale because the process was slow and laborious.[95] Subsequently, it was discovered it was easier to barter for a common object which everybody would be willing to receive in exchange for the objects of desire and use as a measurement of value.[96]

Money became this object. According to Mann though, the use of money didn't change the nature of transactions. "All exchange of the products of labor is essentially barter in kind. A common medium is used merely to facilitate the operation."[97]

Corn, cattle, iron, leather, cocoa, tobacco, and other commodities, have all been used as money in different ages and different countries.[98] Gold and silver, however, were the most fitted for the purpose

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[91] See John Pickering, *The Working Man's Political Economy*, 1847, p. 56
[92] See Pickering, pp. 56-67
[93] See Pickering, pp. 58
[94] See Charles A. Mann, Paper Money, The Root of Evil, D. Appleton & Company, 1872 p.1
[95] See Mann, p.3
[96] Id.
[97] Id.
[98] See William M. Gouge, *A Short History of Paper Money and Banking in the United States*, Part I, 1833, p 9.
For example, in 1618, Governor Argall of Virginia ordered "that all goods should be sold at an advance of twenty-five per cent., and tobacco taken in payment at three shillings per pound, and not more or less, on the penalty of three years servitude to the Colony."
In 1732, an act was passed at Maryland, making tobacco a legal tender at one penny a pound, and Indian corn at twenty-pence a bushel.
In 1641, the General Court of Massachusetts "made orders about payment of debts, setting corn at the usual price, and making it payable for all debts which should arise after a time prefixed."

because they were portable, durable, divisible, and always of the same quality.[99] Additionally, gold and silver were mined and their permanent value was determined by the same principles that determined the permanent value of other metals: it depended principally on the cost of production, and in the cost of production the main element was the quantity of labor.[100]

Gold and silver, on the other hand, had some deficiencies, mostly because of their weight and bulk. It was difficult to count gold and silver coins when the transactions involved large quantities. It was also difficult and dangerous to transport big bulks of these metals.[101]

As a result, commerce created paper money. It became a common practice to deposit coins in a bank and the bank would issue in return its bills or certificates to represent the deposit. The bills or receipts circulated as money and were supposed to represent always coins actually in bank vaults. The paper was issued for convenience only.[102]

The effect of paper money on trade was enormous. It is not the purpose of this paper to analyze the entire social impact of paper money, but some points need to be made in order to understand the significance of Bitcoin.

Paper money completely transformed commerce when it was discovered that the bills issued by a bank were usually being presented for redemption late, and that the bank was under no necessity of retaining coin on hand to the full amount of its bills outstanding.[103] Thus, many banks started issuing notes in excess of the amount of coin that was in their vaults.

This practice was employed for the first time in the United States. William M. Gouge tells a story about the Farmers' Exchange Bank of Gloucester, a bank incorporated in Rhode Island in February of 1804. Only a couple of years after its incorporation, the bank had $86 in gold in its vaults while it had issued $648,043 in bank bills. When the scandal exploded, “other New England Banks exhibited proof that they had been trading on the same principles.”[104]

The problem was so big that Congress had to investigate it. In a speech in February of 1811, Mr. Burwell, a representative of the state of Virginia, stated, "The State of Massachusetts found, upon examining the vaults of the Banks, the whole of them did not contain specie equal to the paper issued by a single one."[105]

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[99] See William M. Gouge, p. 10
[100] See Charles Mann, p. 6
[101] As Charles Mann pointed out, “in the extensive operations of wholesale trade it becomes a great labor to count over the coin, piece by piece, for each transaction…; while to transport it from place to place becomes another labor since each load is hauled, at great expense, in lumbering coaches, drawn by horses, over rough roads, exposed to all the dangers which beset the king's highway in a lawless age.” Seen Charles Mann, p. 22
[102] See Charles Mann, p. 23
[103] Id.
[104] See William M. Gouge, *A Short History of Paper Money and Banking in the United States*, Part I, 1833, p. 50.
[105] See Id.

At the annual meeting of the stockholders of the United States Bank in 1828, the President of the bank, N. Biddle, revealed that of 544 banks in the United States, 144 had been openly declared bankrupt, and about 50 more had suspended business.[106]

Thus, only forty years after its independence, the young country plunged into ruins. The society was completely divided as the vast majority of people were subjected to permanent poverty. "Of all aristocracies," said a committee of the New York Legislature in 1818, "none more completely enslave a people than that of money; and in the opinion of your committee, no system was ever better devised so perfectly to enslave a community, as that of the present mode of conducting Banking establishments."[107]

The situation in the United States was so bad that, in order to prevent the adoption of paper money as a legal tender in England, William Gouge's book was published there under the title *The Curse of Paper-Money and Banking*.[108]

It should be noted that Adam Smith was not a proponent of paper money. He preferred that "consumer circulation be metallic and only transactions between dealers should be in paper:" that "Bankers were subjected to the obligation of an immediate and unconditional payment of their notes in

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[106] See William M. Gouge, p 2

[107] See William M. Gouge, p 5

[108] See William M. Gouge, *The Curse of Paper-Money and Banking*, London, 1833.

The introduction was written by William Cobbett, a member of the Parliament for Oldham. In his letter to Charles Sutton, the then Speaker of the House of Commons, Mr. Cobbett stated:

> "Sir, I take the liberty to dedicate this book, exhibiting the "Curse of Paper-Money" in full glare, and calling upon every man of sense and every lover of his country, to do his best to strangle the monster, before it shall have produced in England those disgraceful and ruinous effects which it is here shown to have produced in America. However, notwithstanding all this, Mr. Gouge has put together a collection of facts, respecting the iniquity and the mischiefs of paper-money and banking, quite enough to frighten any man, who knew America before that infernal system was in vogue, and who now beholds that which is about to be done in England. I, who knew America forty years ago, and who took little notice of what was passing when I was there in 1818 and 1819 ; who have, in fact, known nothing of it in this respect, and in anything like detail, since the year 1799, am filled with astonishment as I read…Hundreds of old people, of widows, of fatherless children, who were wholly dependent upon this species of property, were reduced to utter ruin and beggary ; and that city, which I knew with sixty thousand souls in it, without a single beggar, or a single person whom you could properly call a pauper, became a scene of beggary and of pauperism ; having all the signs of misery, such as we behold in our great towns ; and quite horrible to relate, the crime, which was scarcely heard of, at the time when I lived there, had so increased, that, there were three or four thousand commitments annually in Philadelphia alone ; while, at one time, last winter, there were upwards of sixteen hundred poor persons in the poor-house, with many many more receiving out-door relief; and this Mr. Gouge tells us, that, in some years, the expenditure on account of the poor of Philadelphia, now exceeds the expenditure on the same account at Liverpool… When I lived in Philadelphia, it was extremely difficult to get any woman to work for you, either at the needle or at house work. The servant-maids would hire only by the week. In hard money, the latter used to get two dollars a week, besides their board and lodging, and a woman who was employed by the day, had a dollar a day and her board. There are now, Mr. Gouge says, "some thousands of women, in Philadelphia alone,, " who cannot earn, on an average, a dollar a week each," and he describes them as the victims of paper-money, which has drawn the wealth of the country into a few hands, and brought the middle class down to the lower. If this picture be shocking to my readers in general, what must it be to me, who saw the country in a state so very different!"

See William M. Gouge, *The Curse of Paper-Money and Banking*, London, 1833.pp i-xxii.

coin on demand;" and that "the amount of notes which the country required was an amount equal to the sum of metallic money which would circulate if there were no paper."[109]

When talking about paper money, Adam Smith had in mind the Scottish system of banking, which was carried on by unincorporated companies and each of their members was responsible, in his whole personal and real estate, for the whole amount of debts due by the bank.[110]

This was not the case in the United States. All banks in America were chartered as corporations by the governments of the respective states in which they were established. There were no private banks in terms of total liability of directors and shareholders.[111]

As soon as a bank was chartered, it started issuing unlimited amount of paper money. It was not uncommon to issue paper money even if the shareholders had paid off only 10 per cent of the subscribed capital. As a general rule, bank directors never contributed money to the bank capital but were always the first ones to take money out. Directors and shareholders were taking full advantage of the separate personality of the bank corporations and were getting away with no liability after a failure of a bank.

Members of Congress and state legislatures were often themselves the owners of bank securities and tended to vote for policies that advanced their private interests.[112]

The above described effect of paper money was the result of its lack of value. For Charles A. Mann, "Bank-notes have all the characteristics of money, except that of value depending on cost of production."[113] The notes cost only the expense of printing.[114]

"Bank bills are currency; but we must be careful not to confound them with money, according to common parlance; for money is what has a real and intrinsic value; but paper has none," said Stephen Simson.[115] For him, "[a] Bank Bill is, in itself, worth nothing …"[116]

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[109] See Adam Smith, *An Inquiry into the Nature and Causes of the Wealth of Nations*, T. Nelson and Sons, Edinburgh, and New York, 1884, pp 115 -135

[110] See William M. Gouge, *A Short History of Paper Money and Banking in the United States*, Part I, 1833, p vi

[111] See James William Gilbart, The History of Banking in America, London, 1837, p 60

[112] See Stuart Banner, *Anglo-American Securities Regulation: Cultural and Political Roots*, 1690-1860, p. 154 (1998)

[113] See Charles A. Mann, *Paper Money, The Root of Evil*, D. Appleton & Company, 1872, p. 25

[114] Id.

[115] See Stephen Simpson, *Working Man's Manual: A New Theory of Political Economy*, 1831, p.90

[116] Stephen Simpson continues: "What is a Bank Bill? It is an order for so much money, or labor, drawn upon the producer of labor. Its acceptance, receipt and circulation, is tantamount to the payment of an order upon the person receiving it. "Suppose a farmer sells twenty barrels of his flour for a bank note of $100. The note is an order to take from him this amount of real property, and leave him $100 bill. This bill-in itself, is worth nothing- it has no [exchangeable] value- it is but the mere presumption, appealing to his faith, that it will bring him one hundred dollars of gold, silver, or[a proportionate amount of other products of]labor. ….. In this manner, the luckless farmer has parted with his hundred dollars [or as many days' labor, or ounces of silver] for shadow; and his property has passed into the hands of the adroit speculator. In many ways his $100 note may prove equally worthless; but, taken at the best advantage, it has this detrimental property, that it can never purchase an equal amount of any commodity that his hundred dollars worth of labor would command, supposing the paper money had no existence." "Such is the character and operation of every bank bill, and every treasury note, or public stock certificate. It is a draft from capital, drawn upon labor at sight, and paid by public credulity, faith, or, what is sometimes termed, credit. The party that profits, and the only one in this transaction of fiction and fraud, is the

In *Tyranny Unmasked*, one of the most important books ever written, John Tylor examined the two different capacities of paper currency. One, which he described as "the capacity of exchanging property," occurred when paper currency facilitated the exchange of items of equal value. And one, which he described as "the capacity of transferring property," when paper currency was employed by its issuer for receiving value without giving value in return.[117] For Tylor, "Its capacity to exchange property is its good soul, and its capacity to transfer property, its bad one."[118]

Tylor observed that the motivation of every issuer of paper money was to print as much money as possible.[119] He estimated that 200 out of the 230 millions of currency in the early 1800s were created or

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banker, the stockholder and speculator; who are generally a trinity, or the three combined in one. By this operation, the banks make use of the entire property of the community for their own exclusive profit, interest and usury. They draw bills upon our lands, our houses, stores, ships, and every species of real [property or] labor, upon which they make, [illegal percentage to an enormous amount,] besides causing an increase of prices, that prove highly pernicious to the industry of the country in its competition with foreigners. " " The only specious argument in favor of bank credits, has been founded on the fact, that they throw in to circulation all the labor of the community, and thus stimulate trade by the increase of fictitious money; [or, in other words, by a circulation of bank debts]. And for whose profit and benefit is this fictitious circulation? Exclusively for that of the stockholder, and never, in any degree, for that of the producer, upon whose labor he thus freely draws at pleasure. It is labor that pays the bank bill-it is labor that pays the interest; and after thus paying capital and interest for the exclusive benefit of the idle class of stockholders, how can it be possible that the producers should not suffer under the double burden of sustaining the idle pampering the rapacious, and gratifying the gambler, who, as professor Vethake says, plays with loaded dice, or marked cards, unknown to his plundered victim.
" A Bank Bill, then it will be seen from the foregoing remarks, is, in itself, worth nothing – that its whole worth is derived from labor, which pays it at the moment it comes in to circulation- that the bank gives it no value whatever; [no, but the borrower does, by surrendering his real property in exchange for it;]for when it returns to the bank, it is no longer a credit- that it is no money, nor gold, nor, silver, nor equivalent to gold and silver, possessing in itself no single property of preciousness, stability or usefulness; [but it is a debt owed by a banker to the holder, on which he draws interest as though it contained as many ounces of silver as there were dollars printed upon the face of it. Hence it is evident that the more a bank is in debt, the greater is its income, which is a palpable absurdity, and a gross violation of right and justice.] See Simpson, p 141.

[117] See John Taylor*, Tyranny Unmasked*, Washington City, Printed and Published by Davis and Force, Franklin's Head, Pennsylvania Avenue, 1822, p. 40

[118] See John Tylor, p. 42

[119] "An increase of currency, for the purpose of transferring property, contains no such internal remedy against the evils of excess. Governments and exclusive privileges increase their exactions at least comparatively, and usually take care that their compensations shall exceed a temporary depreciation. When it ceases, or appreciation happens, the transfer of property from the people to themselves, commenced by increasing currency under the pretext of facilitating exchanges, is aggravated without any new law; and the numerical acquisitions are doubled or trebled in value, merely by saying nothing. When wheat was worth two dollars a bushel, sixty millions of dollars would transfer property equal to thirty millions of bushels of wheat; but when wheat is reduced to one third of that price, the same sixty millions transfers property equal to one hundred and eighty millions of bushels. Is this chasm so wide and deep, that the national distress cannot be discerned in its bottom" See Tylor, at 45

Tylor continued: "Far different is the character of money or currency employed for the purpose of transferring property. Its quantity must be increased, as this occupation is increased; nor is it liable to the salutary restriction interwoven with its capacity of exchanging property, because these artificial transfers of it are subject to no limitation, so long as the people have anything to lose. It is true that these occupations, though perfectly distinct, appear to run into each other, because currency, like Araspes the Persian, has two souls. Its capacity to exchange property is its good soul, and its capacity to transfer property, its bad one. When its good soul prevails, it dispenses justice; under the influence of its bad one, it becomes a violator of each man's spouse, private property."

calculated for the very purpose of transferring property.[120] He also contributed to the capacity of paper currency to transfer property the enormous transfer of wealth that occurred at that time from the cotton producing states to the few states that had developed banking systems.[121]

Bank notes were not real money but credit instruments. As Charles Mann stated, "their value depended on the prospect of their being redeemed in coin on presentation; bank-notes, therefore, were strictly a credit currency."[122] Bank notes, according to William M. Gouge, differ from money "in being evidences of debt owing by one man to another—which money is not."[123]

If a bank became insolvent, the receiver of its broken notes had only recourse to the person from whom he had received it. The broken notes created stress for the fluent circulation of goods because they didn't provide finality to the transactions in which they were employed. The courts were divided on the issue whether the person paying out with such notes was bound to make the payment good. [124]

The biggest difference between real money and paper currencies is the fact that real money derives its force from common consent. People are impelled to use certain commodities as a circulating medium

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See John Tylor, p. 42

[120] Id., at 49, "Two hundred of our existing two hundred and thirty millions of currency, have been created or are calculated for the very purpose of transferring property; and, though this capital also performs some share of the business of exchanging it, yet this association of the good capacity of currency with its bad one, alleged as a proof of merit, is only a cloak of fraud. Under the pretext of facilitating exchanges, the bad capacity of currency has obtained the profits of labour to a ruinous amount. The metallic currency is incarcerated, to create a necessity for a transferring currency; and extravagance and borrowing is used to increase its quantity, to carry our lands and goods to capitalists. The more of these which are intended to be transferred, the more of the transferring currency becomes necessary to facilitate the conveyance; and it has at length grown up into a monster which eats faster than five successive years of uncommon fruitfulness could furnish food." p.49

[121] Id., at 53. Tylor stated: "The new project was imitated throughout the Union, most calamitously in States unprovided with the transferring capital created by the funding system; and whilst the people in those States where in this capital resided, lost only the regular transfers of property caused by the banking and funding systems, those States wherein capital only existed partially or not at all, sustained a vast additional loss, by an unavoidable succession of frauds and bankruptcies. Every individual of all the States not enriched by this second deluge of property-transferring currency, contributed to the wealth of the few, who were so ; but the western States which held a very small share of the artificial certificate capital, suffered most, and so sorely, that some of them have been searching for a remedy with great assiduity. Ohio struck at the root of the evil by endeavouring to repel the machine for transferring property from the people to capitalists, but she is told that this is both a wise and a constitutional operation, and that she must forever submit to it. She has only an election it is said, between transferring the property of the people to the stockholders of the bank of the United States, or to stockholders of her own creation; but for want of the resident capital created by the funding system, and as she has no means of raising up an internal capitalist sect, she cannot avail herself of this poor right of election, and must remain tributary to the existing transferring capital, residing without the State."

[122] See Charles A. Mann, Paper Money, The Root of Evil, D. Appleton & Company, 1872, p.30

[123] See William M. Gouge, A Short History of Paper Money and Banking in the United States, Part I, 1833, p. 19

[124] The courts of most states held that the receiver of a bill of an insolvent bank had to return it forthwith to the person from whom he received it, and that any delay in so doing discharged the latter. Some courts, however, went so far as to hold that bank-notes did close transactions in which they were employed; that giving them for a debt without objection was payment, and that the risk of the solvency of the bank was thrown on the receiver. See Charles A. Mann, *Paper Money, The Root of Evil*, D. Appleton & Company, 1872, p. 29

only because of convenience.[125] To the contrary, paper currencies derive their force from law, which attaches arbitrary the amounts expressed on the face of the currencies.[126]

According to John Tylor, legal tender laws are contrary to the nature of real money.[127] "If the nature of money is correctly stated," Tylor said, "the idea of governing its value by commercial restrictions, exclusive privileges, and monopolies, is more chimerical, than that of governing the local value of paper money by tender laws; and as its value is not regulated by these jugglers, but by the universal laws of commerce, it is evident that all their tricks for making money travel and settle where they please, are fallacious." [128]

Stephen Simpson realized that "the exchange of values may be justly carried on by a metallic currency, either gold or silver." In Simpson's opinion, "the moment it [the exchange of values] is effected by bank bills, funded debt, or any capital of a fictitious character, fraud is introduced, and value for value is no longer given or received." [129]

Today, only sovereign governments print paper currencies. Government paper currencies do not differ from other paper money and has the same two capacities. These capacities though, appear in specific ways.

When a specific government currency is used to determine the price of a transaction and the government that has issued the currency is not a party to this transaction, the currency is being employed in its capacity to exchange value. When a government is involved in a transaction priced in its own currency, this government receives value in exchange for no equivalent.

The next two examples explain how transactions involving government paper currencies operate.

All sovereign governments issue bonds. At the economic level, an issuer of bonds borrows money ("money" here is used to denote real value and wealth) in exchange for the issuer's promise to return the borrowed amount and share with the lenders its future income in the form of interest. At the legal level, a contract is created whereby the issuer of the bonds is obliged to pay to the bondholders a certain amount (principal plus interest) of the **specified-in-the-contract currency**.

When a sovereign government issues bonds, this government can either generate revenue by taxing its citizens so it could satisfy the bond obligations by sharing the revenue with the bondholders, or simply choose to print out the amount of currency necessary to pay off the bond debt. The key here is the fact that all bonds, being securities, are legal contracts and create only specific legal rights and obligations. The mere obligation of every issuer under a bond contract is to deliver a specific amount of a specific currency at a specific date. And the government is the one printing the currency.

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[125] Id. p. 26

[126] See William M. Gouge, *A Short History of Paper Money and Banking* in the United States, Part I, 1833, p. 19

[127] See John Taylor, Tyranny Unmasked, Washington City, Printed and Published by Davis and Force, Franklin's Head, Pennsylvania Avenue, 1822, p. 76

[128] Id.

[129] See Stephen Simpson, *Working Man's Manual: A New Theory of Political Economy*, 1831, p.69-70. Simpson himself cited Tylor when stated: "Hence, charters and monopolies of banking, the funding system, and government patronage, create what Taylor calls an aristocracy of interest, because these laws divide the nation into a minority enriched, and a majority furnishing the riches."

This is the reason why most developed countries, which issue government bonds denominated in their respective currencies only, will never default on their debts. The only cost for them to pay off a debt is the price associated with the printing of the banknotes necessary to pay off the debt.

Countries defaulting on bond obligations are always countries that have issued bonds denominated in currencies different from their own currencies.[130] These countries have no choice but to pay off the bond obligations through taxation. If there is no wealth to be taxed in the country, the result is always a default.

The transfer-of-wealth-to-the-issuer-for-no-equivalent effect of paper currencies could also be illustrated by the history of countries that proclaim to provide extensive free social services.

These services are expensive and initially are financed through taxation. At some point though, taxation becomes so burdensome that it is not possible to reasonably justify the tax rates. As a resilt, these governments would start extracting wealth from the natural exchanges for products of labor by infusing more and more banknotes in circulation.[131]

A time will always come when the citizens of these countries would turn to other currencies as a medium of exchange. The use of a foreign currency for commercial transactions is often done in violation of the local legal tender laws. However, the possibility of giving away wealth in transactions denominated in the local currency leaves no alternative.

Although the use of a foreign currency as a medium of exchange always represents the capacity of paper money to exchange property, it does not eliminate its other capacity of transferring property for no equivalent. The people using the foreign currency have to acquire it and this is done via international trade, where a transfer of wealth for no equivalent occurs from the nation using the currency to the nation issuing the currency.

For Tylor, "the most gainful commerce is [the one] which imported more than it exported."[132] According to Tylor, "If two dollars are exported and only one imported, it is not a gainful commerce. The case is the same if such a commerce is carried on in commodities, or in their representative, money. If two measures of labour are exported in any form, and only one imported, a loss ensues."[133]

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[130] These are so called "eurobonds'" Eurobonds are defined as bonds that are a) underwritten by an international syndicate, b) offered simultaneously to investors in a number of countries, c) outside of the jurisdiction of any single country, and d) in unregistered form, See Hal S. Scott and Philip A. Wellons, *International Finance,* 1998, p.1269

[131] According to Tylor "we cannot ascertain the extent in which we have cultivated the capacity of currency to transfer property, because it is impossible to discover how much has been transferred by its depreciation." See John Taylor, *Tyranny Unmasked*, p. 44. "But as the policy of transferring property has increased, the diminution of consumptions has followed." Id., p.58. "Governments have universally exercised a despotic control of consumptions, sometimes from humane, but chiefly from fraudulent motives. Laws for limiting the prices of consumable articles, unattended by the desire of transferring property are of the former description; and laws for controlling consumptions, with the covert intention of transferring property, of the latter." Id., p.60. "When these laws design to provide the multitude with bread, they starve them; when they pretend to supply the multitude with money, they impoverish them." Id.

[132] Id. p. 53

[133] Id.

Therefore, when the citizens of a nation have consented to the use of a specific foreign currency as a medium of exchange, the number of units of labor exported to the nation "producing" the currency significantly exceeds the units received in return, limited only to the labor cost incurred in the process of printing the currency.[134]

The world has attempted to deal with this problem after World War II, when a new system was agreed upon in Bretton Wood, New Hampshire. Under this system, the U.S. government promised to give any holder of dollars gold at the rate of $35 for an ounce of gold.[135] However, this system expired in 1974.

Currently, the international currency system is one of floating rates, where the supply and demand is supposed to set currency prices. This system is completely disguising the true nature of all paper currencies – the fact that they are nothing more than evidence of debt. Debts that the debtors would gladly forget to pay off, or to be more precise, would gladly pay off with more evidence of debt. As Simpson observed: "[h]ence it is evident that the more a bank is in debt, the greater is its income, which is a palpable absurdity…" [136]

Here is an illustration of Simpson's point. Section 16 of the Federal Reserve Act states that the Federal Reserve notes "shall be obligations of the United States and …shall be redeemed in lawful money on demand at the Treasury Department of the United States, in the city of Washington, District of Columbia, or at any Federal Reserve bank."[137] At the same time, the Coinage Act of 1965 states that: "United States coins and currency (including Federal Reserve notes and circulating notes of Federal Reserve banks and national banks) are legal tender for all debts, public charges, taxes, and dues."[138]

Thus, the Federal Reserve notes are defined statutorily as legal obligations of the United States, which can be discharged by the delivery of…more legal obligations of the United States. (This example shall not be deemed to single out the US government as the only government adhering to such practice. In reality, every sovereign government in the world employs the same practice when emitting paper currency).

There are different and enormous interests in the business of printing paper money and it should not be a surprise if the development of cryptocurrencies is met with vigorous opposition by governments and some private financial entities. "Banknotes, it must be confessed," said Simpson, "come very cheap to those who issue them. But to those who receive them, banknotes come as dear as gold and silver."[139]

VIII. Bitcoin is real money.

Bitcoin is real money. It derives its force as a circulating medium from common consent and not from legal tender laws. Bitcoin is real money because people want it to be so.

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[134] For example, the cost of producing a $100 note is 14.2 cents. See https://www.federalreserve.gov/faqs/currency_12771.htm

[135] See Hal S. Scott and Philip A. Wellons, *International Finance*, 1998, p.390

[136] See Simpson, p 141.

[137] See 12 U.S. Code §411

[138] See 31 U.S. Code §5103

[139] See Stephen Simpson, Working Man's Manual: A New Theory of Political Economy, 1831, p.65

Only a commodity could be real money. Unlike paper currencies, Bitcoin has value. The amount of labor behind Bitcoin is the amount of labor put by the "miners" while mining bitcoins. Satoshi Nakamoto compared Bitcoin miners to "gold miners expending resources to add gold to circulation. In this case, it is CPU time and electricity that is expended."[140]

Although CPU (Central Processing Unit of a computer) has been used in the past to mine bitcoin, the process of mining is now overtaken by ASICs (Application Specific Integrated Circuits). ASICs are able to calculate the SHA-256 equation far quicker than CPUs and are purpose-built and connect to the network via a wireless link or Ethernet connection.

According to Simpson, "[t]he objects of simple labour are commodities of food, beverage, furniture, &c.; those of compound labour are machinery, carriages, boats, ships, bridges, canals, roads, rail roads, &c."[141] Therefore, ASICs constitute compound labor.

After the inception of Bitcoin, there was initial interest among merchants in accepting bitcoins in their retail or online stores. People were able to buy a wide range of goods and services with the cryptocurrency. It was possible to pay for flights and hotels with bitcoins. Even some Bitcoin enthusiasts, in their attempts to prove the vitality of the currency, undertook all-around-the-world trips by paying with bitcoins only.

As a result, the price of Bitcoin surged. The free market, uninhibited by laws, regulations, or other non-market forces, quickly realized that the amount of labor, put in by a computer programmer, highly exceeded the amount of labor, put in by a person making and serving coffee; and that the compound labor, incorporated in Bitcoin, consists of a significantly higher number of labor units than the simple labor, necessary to prepare and serve a cup of coffee.

Ironically, it was the same price surge that also negatively impacted Bitcoin. Many people, perceiving Bitcoin as the "next big thing", started acquiring crypto-coins with the intention of holding them as investment. Driven by the delusion that money is capable of producing more money and capital is capable of growing into more capital itself, these investors had no understanding as to where the value increase would come from.

Cryptocurrencies are viable only if they constantly circulate as a medium of exchange. They are not securities needed to be held in order to exercise the integrated right to legally claim future proceeds of labor.[142] Being a commodity, the value of cryptocurrencies can only be determined when placed in interaction with other commodities through the process of trading.

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[140] Satoshi Nakamoto , *Bitcoin: A Peer-to-Peer Electronic Cash System*, https://bitcoin.org/bitcoin.pdf.

[141] See Stephen Simpson, *Working Man's Manual: A New Theory of Political Economy*, 1831, pp. 131-132. "The objects of simple labour, are commodities of food, beverage, furniture, &c.; those of compound labour are machinery, carriages, boats, ships, bridges, canals, roads, rail roads, &c. Simple labour terminates in the production of what is immediately useful, and which ends in consumption; compound labour is that which gives existence to what may be used as a means of extended labour, and augmented industry Simple labour is the exercise of the most humble faculties; but to derive the means of compound labour, requires science, genius, and invention, of the most exalted class."

[142] That cryptocurrencies are not securities is evidenced by how the value of a share of common stock is determined. The value of a share of common stock is the sum of money which would demand, at the prevailing

Investing in cryptocurrency could be compared to investing in collectible items or investing in growth stocks (stocks not paying dividends and therefore, with no value).[143] To the extent there are other investors subjectively attaching value to the items, the initial investors can realize profit by reselling them.

The major cryptocurrencies, such as Bitcoin, Ethereum, Litecoin, and some others, encrypt units of labor through the process of "mining." However, according to *coinmarketcap.com*, a platform tracking the daily trading of cryptocurrencies, most cryptocurrencies are not mineable.[144]

The number of cryptocurrencies not based on block chain is increasing. In February of 2019, JPMorgan announced that it would be the first of the major U.S. banks to publicly introduce its own coin.[145] Facebook also announced its intentions to develop own digital currency which will be called Libra.[146] Surprisingly, Amazon and Walmart have not joined the crowd yet, although having their own cryptocurrencies should be consistent with their positions as the biggest retailers in the world. (See also

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rate of interest, a return equivalent to the income actually accruing to the share. So, for example, given a prevailing rate of interest of 10%, a share whose nominal value was $100 and which pays $20 in dividends annually, would have a market value of $200, because when the dividend is capitalized at 10%, it would represent a capital of $200. On the other hand, a $100 nominal value share paying only $5 annually would represent a capital of only $50. Thus, the value of the share represents the capitalized legal claim on the value generated by a company in the process of production by utilizing labor. The price of shares, therefore, is determined not by the value of the company's assets, but by the volume of profit generated by the productive use of those assets and by the prevailing rate of interests.

[143] Growth stocks have no value. These stocks don't pay dividends and the only opportunity for investors to earn money on their investment is to resell them. A legal analysis of growth stocks demonstrates that the possibility of reselling the shares with a profit is an illusion.

Corporate stock could be defined as a legal claim that gives its holder three different rights: the right to claim dividends, the right to vote at shareholders meetings, and the right to claim a liquidation quota upon liquidation of the company. Because shareholders don't get monetary gains from participating in shareholders meetings, and because, by definition, these stocks pay no dividends, a shareholder could earn money only if the company is liquidated and the assets are cashed out.

If a company is healthy, the promoters will never liquidate it. A liquidation is possible only if the company becomes insolvent. In this case though, the shareholders would receive less, probably nothing, from their initial investment.

A gain could occur only if another investor is willing to buy the shares from the initial shareholder at a higher price. Investments where the only possibility for profit comes from other investors' money are defined as financial schemes.

[144] *See* https://coinmarketcap.com/

[145] https://www.bloomberg.com/news/articles/2019-02-14/jpmorgan-to-use-cryptocurrency-for-payments-business-cnbc-says?srnd=premium. According to the presentation, unlike a traditional cryptocurrency, which uses public, open-access block chain technology, JPM Coin would always have a value equivalent to one U.S. dollar and use JPMorgan's private block chain.

[146] See https://www.bloomberg.com/news/articles/2019-07-17/facebook-s-crypto-plan-draws-fresh-outrage-from-maxine-waters?srnd=premium.

Harvard Takes the Plunge Into Crypto With a Token Sale Investment[147], and *Speculation Mounts That Crypto Exchange Bitfinex Is Planning a Token Sale*[148]).

Cryptocurrency technologies that do not include "mining" are usually based on a main server which distributes electronic tokens to its customers in exchange for value. This raises the question as to whether a technology not involving crypto-mining could be considered a cryptocurrency technology. The answer is probably "no".

These technologies are similar to the system used by the U.S. banks in the 1800s to issue paper notes. The only difference between the new crypto certificates and the paper notes is in their physical appearance – electronic instead of paper.

A single server will have the capacity to emit unlimited numbers of currency units. If a currency becomes a medium of exchange, nothing would prevent its issuer from emitting extra units and using them to pay for products of labor without providing value in return.

Electronic tokens created and issued by a single server are not real money. Similar to bank notes, they are certificates representing deposits of value without having value themselves. In the 19th century, bank notes, along with all other debt instruments, were considered securities by the U.S. courts. They were not real money and were only embodying legal claims based on money.[149] In fact, they were referred to by the courts as "securities for money." Only after 1933 did bank notes cease to be securities because of their omission from the list of instruments of the Securities Act of 1933.

Since instruments, similar to cryptocurrencies employing a main server as a method of control and distribution of coins, were commonly known as "securities" at the time when the Security Act of 1933 was originally promoted, it would not be surprising if the SEC uses this fact to assert jurisdiction over all cryptocurrencies at some point in the future.

All technologies should not be put in the same category because, depending on the type of technology used, there could be different legal consequences. Putting different technologies in the same class of "cryptocurrency" is not justified and a discussion is needed as to what type of technology should be considered "cryptocurrency".

IX. Bitcoin and real cryptocurrencies will be a legal nightmare for all governments.

Law is the most essential part of all paper currencies and securities. These instruments will not exist but for the specific statutes creating them.

Block chain cryptocurrencies, on the other hand, operate entirely upon consent. They don't need a legal framework to exist and therefore, it would be impossible to regulate them.

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[147] https://www.bloomberg.com/news/articles/2019-04-11/harvard-takes-plunge-into-crypto-with-a-token-sale-investment.

[148] https://www.bloomberg.com/news/articles/2019-05-06/speculation-mounts-crypto-exchange-bitfinex-, planning-token-sale?srnd=premium.

[149] See *Mechanics' Bank v New York & New Haven R.R. Co.,*. 11 Barb. 580, 623, 1856

Block chain cryptocurrencies cannot be regulated by a single country. Since there is no main server, no country would be able to claim jurisdiction over a system which encompasses the entire world. If a single government attempts to impose regulations, it would immediately encroach upon the sovereignty of all other governments.

Transactions with currencies based on block chain technology can be executed only with the consent of the parties to the transactions. Judicial decisions and judicial foreclosures cannot be enforced on these currencies. It would be impossible for a court to seize, impound, or block a bitcoin account. It would be also impossible for a government to confiscate bitcoins.

The mechanics of Bitcoin transactions prevents any authority involvement. No transfer can occur without the simultaneous use of the public and private keys by the cryptocurrency owner, who is in total control of both keys. A government does not have the luxury of going to a third party, such as a bank or another custodian, to seize the currency.

Because of their lack of physical appearance, a government cannot forcefully establish possession over digital coins. For example, a court can order a defendant to make a payment using a cryptocurrency, but the court does not have legal tools to enforce this order without defendant's consent.

In an article titled *Cryprocurrency and Blockchain: The New Legal Frontier*, Doug Fredrick attempted to evaluate the possible effect of cryptocurrencies on dissolution of marriage in the State of Missouri.[150] Because a court is not allowed to enter a valuation of marital property not supported by evidence,[151] Mr. Fredrick suggests that, in order to prove the existence of digital coins, the plaintiff request from the defendant during discovery[152] "screen shots that display the current balance of all cryptocurrencies in each wallet, exchange or other cryptocurrency accounts, a list of all public keys for all cryptocurrency wallets, etc." [153]

The problem with this idea is that if the defendant refuses to comply, the plaintiff needs to petition the court for an order enforcing the request for production. An access to a cryptocurrency account is not possible against the will and without the consent of the person in possession of its private key, which in this case is the defendant. Since the enforcement of an order for production is not feasible, no court would issue such an order.

The private key is crucial for keeping control over a Bitcoin account. Many Bitcoin owners prefer to keep their coins in a "paper wallet", which is a physical recognition of the public bitcoin address and the

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[150] Just like all states in the USA as well as all civil law countries, Missouri has adopted the institution of marital property (also often referred to as community property).This is property acquired during marriage and trial courts are required to evaluate and divide it in just proportions between the spouses.

[151] See *Tarneja v. Tarneja*, 164 S.W.3d,555, 539,(Mo. App. S.D.2005)

[152] Discovery is a unique procedure under the U.S. civil trial practice that can be used by one party to obtain information about the case from the other party in order to prepare for trial. The discovery requests are supervised by the court and the court may issue orders compelling the parties to provide the requested information.

[153]Doug Fredrick, *Cryptocurrency and Blockchain: The New Legal Frontier* Journal of the Missouri Bar, Vol.74, No.6 / November-December 2018, p. 329

private key. It is literally nothing more than a piece of paper. Moreover, some owners prefer to break up their paper wallets into many pieces and store them in different locations for safety purposes.

Since no legal action is possible with respect to a cryptocurrency account without the consent, and against the will, of its owner, digital currencies will be out of reach for courts and governments. It should be noted, however, that this is not the case with digital coins stored with cryptocurrency exchanges, which is the topic of the next section.

X. Cryptocurrency exchanges and futures trading in cryptocurrencies

Cryptocurrency exchanges are websites where people can buy, sell or exchange cryptocurrencies for other digital currency or traditional currency like US dollars or Euro. The exchanges are located all over the world and operate only via the Internet. Some of the bigger exchanges are Coinbase, Binance, Changelly, Gate.io, Cryptopia. Bittrex, etc.

The transactions on the exchanges are spot transactions. After the execution of each transaction, the purchasers of cryptocurrency can either move it to their own accounts/wallets, or keep the currency with the exchange.

Some exchanges incorrectly claim that, "technically, cryptocurrency exchanges also serve as banks because you can store money there as well." When a person deposits cash in a bank, the person loses ownership (because cash is fungible) and becomes a creditor of the bank. The exchanges are not banks because the title to digital coins at all times remains with the owners and does not transfer to the exchanges.

The relationship between an exchange and its users can be defined as bailment. Bailment is the transfer of possession of personal property without the transfer of title. All digital currencies are custodial assets and are held by the exchanges for the benefit of the owners. The owners bear the risk of losing the currencies. To the extent a crypto exchange could be held liable for losses, it could be only for a breach of the standard of due care owned by a custodian.

In normal life, possession is transferred by the physical delivery of an item. Because cryptocurrencies do not have physical appearance, the exchanges exercise actual possession by retaining control over the electronic private keys associated with the block chain addresses/wallets. The private keys, which are used to process transactions, are stored by the exchanges.

Owners, who elect to keep their digital coins with exchanges, surrender their private keys and may be exposed to significant adverse legal events. Unless agreed otherwise, an exchange may grant a security interest to a third party in the digital currency held by the exchange on behalf of the owner. Even worse, an exchange can be served with a subpoena, warrant, or order by a court requiring from the exchange to relinquish the control over the digital coins to the court.

It is not certain, for example, whether a Singaporean exchange would honor a subpoena issued by a U.S. court. The possibility is there though, and it should be a good reason for owners not to store their coins with an exchange. [154]

While cryptocurrency exchanges are the best places to buy digital currencies, there is no reasonable explanation as to why people still choose to keep their digital coins with the exchanges. It is possible that the general view of the financial markets as conglomerates of banks and financial institutions "producing" value, created the misperception that cryptocurrency exchanges also "produce" value.

This misperception is further enhanced by the actions of some of the exchanges. For example, the website of one of the most prominent U.S. exchanges contains the following statement: "In the case of a Future Transaction, you may withdraw your consent up until the end of the business day before the date that the Future Transaction is scheduled to take place." A subsequent check revealed that this exchange was not registered with the CFTC as a futures commission merchant and therefore, the above statement violated the provisions of Commodities Exchange Act.[155] Although it is very unlikely that futures transactions are being executed on this particular exchange, the statement misleadingly conveys the wrong impression that an active trading, capable of "producing value," is taking place on the exchange.

The above example also raises a serious concern about the possibilities of futures trading in cryptocurrencies.

The trading of futures (legally defined in the U.S. as "contracts for future delivery") is executed generally on futures exchanges (legally defined in the U.S.as "futures designated contract markets"). In order to ensure the liquidity of the futures markets, all countries require the establishment of clearing houses. The clearing houses make sure that all futures transactions entered into, are physically executed.

The rules of some futures exchanges allow cash settlements. In these cases, there is no actual delivery of the underlying commodity, but only a cash payment to make up the difference between the spot price at the time of the execution and the actual price of the futures contract. However, cash settlements outside of designated futures exchanges, practice known as bucketing, is banned in the USA and is explicitly outlawed by the Commodity Exchange Act.[156]

Because ownership and possession of digital coins is established through public and private keys only, it is hard to imagine how a clearing house would settle transactions. Most likely, cryptocurrency exchanges that offer futures trading are doing it without proper clearing procedures.

The supply of cryptocurrencies based on block chain technology is strictly controlled by the underlying formula and everybody should be able to estimate the exact number of available coins at any

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[154] The complete loss for the clients of Quadriga CX, who could not recover their $143 million in stored Bitcoin after the exchange founder died holding the only keys to cryptocurrencies, demonstrates that keeping the entire control over the public and private keys by the owners has no alternative See https://www.bloomberg.com/news/articles/2019-02-15/quadriga-s-late-founder-revealed-crypto-storage-in-old-podcast?srnd=premium

[155] Since cryptocurrencies are commodities, the exchange should be classified as a futures commission merchant under 7 U.S. Code § 1a(28). Furthermore, the exchange should register as such under 7 U.S. Code § 12a(1).

[156] *See* 7 U.S. Code § 6b

given moment in the future. This supply cannot be disrupted by outside market forces and does not require hedging against losses.

On the other hand, if the cryptocurrency involved is distributed by a main server, the only person to benefit from futures trading would be the person in control of the server because the controller would be in the position to manipulate the futures trading by unilaterally increasing or decreasing the supply of coins.

Digital currencies are neither seasonal nor fungible and are not a good fit for futures trading.[157]

XI. What is the future of Bitcoin? Summary and conclusion.

The foundation of modern economy is the division of labor. For the division of labor to be perfected, there must be a common item which all the world is willing to receive in exchange for the objects of desire and to use as a measurement of their value.[158] This item is money.

Only a commodity could be real money. A commodity is an item which incorporates labor. A banana hanging on a tree is not a commodity; only after it gets picked up by the input of labor, the banana becomes a commodity.

Not every commodity could serve as money. In order to be money, a commodity must have some specific qualities and incorporate a certain amount of labor.[159]

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[157] Originally, futures trading was created in order to assure price stability for agricultural products and traces back to the 1848 establishment of the Chicago Board of Trade. Farmers had to secure a price at one point in time, store the grain, and deliver it at a later point of time. They needed to hedge the cost of their production against future losses and futures traders were the ones willing to accept the risk of possible destructions of the crops. Curiously, the current regulation of futures products, including instruments such as financial swaps and foreign currency contracts, are still part of Title VII of the U.S. Code, named "Agriculture."

[158] See Charles A. Mann, Paper Money, The Root of Evil, D. Appleton & Company, 1872, p.2

[159] The process of transformation from commodities into money is very well described by John Pickering:

Capital, in a general sense, is that amount of the products of labor, of any and every kind, which remains over and above consumption during the time of production; in other words, surplus labor ; and for reasons already given in the last chapter, the elements of nature can make no part of the commercial or exchangeable value of them.

In the farmer's case, it is that portion of the produce of his farm, which remains in his possession, say at the end of the year, after maintaining himself and family, paying his expenses, &c. This portion of his wealth may with propriety be called capital, surplus labor in its most simple forms. Suppose he should find himself possessed of a larger quantity of apples than he could possibly dispose of at the time ; he well knows that if he keeps them a great length of time, a great portion of them will spoil on his hands; perhaps the whole, and become a dead loss upon his hands. To prevent which, he cuts and dries them, and by this operation his capital becomes more valuable than it was before. First, because a greater quantity of labor is condensed into about one-sixth of its former bulk, and about one-tenth of its former weight.

Second, in its new form it has acquired another valuable property by the additional labor put upon it, and that is, it will keep much longer than before without danger of spoiling, by which the farmer will be enabled to dispose of it at the most favorable opportunity. By this condensation the following advantages are obtained. The cost, or labor of carriage or distribution to consumers at a distance from the farmer, will be diminished in proportion to the condensation; they will get the commodity so much cheaper. The farmer is also enabled to dispose of a greater quantity of his own labor in exchange for other commodities for his own use; which, but for

Gold and silver were the commodities most fitted to serve as money, but they had some deficiencies, mostly because of their weight and bulk. These deficiencies obstructed the free exchange of goods and people referred to paper currencies to improve the speed of circulation.

By nature, paper currencies are credit instruments. Paper currencies are not real money because they do not incorporate labor. Today, however, human minds have reached to a fiction which results in the reification of paper currencies as things in themselves. For the modern mind, paper currencies have "real" value, although their value is artificially attached to them by legal tender laws.

This fiction allows the issuers of paper currencies to participate in the exchange of products of labor without providing products of labor themselves. In other words, the issuers of paper currencies receive value without giving value in exchange. As a result, the current system of exchange for products of labor is unevenly skewed in favor of the issuers of paper currencies.

Bitcoin, by its nature, could resolve all these issues. Unlike paper currencies, Bitcoin has value. The amount of labor behind Bitcoin is the amount of labor put in by the "miners" while mining bitcoins. It derives its force as a circulating medium from common consent and not from legal tender laws.

Unlike gold and silver, Bitcoin can be stored in electronic wallets and can be easily transferred electronically to every point of the world. The risk associated with the transfer of tons of gold and silver is not pertinent to cryptocurrencies.

Can Bitcoin be an effective medium of exchange for an extensive circulation of trade? Probably not in its current version due to the limited number of bitcoins. To be a valid medium of exchange and circulate as money, a commodity must be of quantity that would facilitate the flawless exchange of goods and adjust to the permanent accumulation of products of labor. Money must provide for equilibrium in commerce. Gold and silver have always been a medium of exchange because the process of their mining has never ceased.[160]

Bitcoin could be vital as a medium of exchange only if it could continue to emit bitcoins. Bitcoin supply though, is tightly controlled by the underlying algorithm and only a small number of new bitcoins

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the condensation, he could not have enjoyed. Hence we perceive, that the operation is beneficial to all parties concerned.

We will now suppose the farmer wishes to condense or concentrate this dried capital to a still greater degree, how will he effect it? Merely by exchanging it for an equivalent amount of gold or silver, in the form of coin or money, which is the most condensible, concentrative and convenient form yet discovered, into which capital or wealth can be converted. These metals having properties or qualities which no other substances possess, the principal of which are—first, being indestructible by fire; second, capability of keeping any length of time without suffering diminution in quantity; third, capability of being divided and sub-divided into the smallest portions without loss; fourth, being found in but a few places, and in limited quantities, make a natural limit to the quantity that can be produced, which is not the case with any other product of labor : demand being the limit of all other productions.

See John Pickering, *The Working Man's Political Economy*, 1847, pp 56-58.

[160] Some economists in the past were presenting a faulted argument in favor of abandoning gold and silver and adopting paper money as a medium of exchange because, according to them, the supply of gold and silver would have stopped at some point in the future. Adam Smith, however, proved them wrong and demonstrated that the shortage of silver in some parts of the world was due to the difficulty associated with moving a big bulk of metal rather than not having enough silver.

are coming out every day. It will continue to do so at a diminishing rate until a maximum of 21 million has been reached.

Bitcoin could be subdivided into smaller units and the smallest unit, called satoshi, is one hundred millionth of a bitcoin (0.00000001). Thus, the maximum possible number of total Bitcoin units is 21 trillion. This number is lower than the total number of units of the current U.S. national debt, which is about 22.6 trillion dollars. The amount looks big, but it is probably smaller than the total amount of commercial trading that occurs on a daily basis in the entire world. Once the maximum number of 21 million bitcoins is reached, the relevancy and interest in Bitcoin would probably disappear.

There is a misconception among Bitcoin enthusiasts that if the demand for bitcoins grows and the supply remains the same, the value will increase.[161] Cryptocurrencies, unlike securities, cannot increase their values because they are not legal claims upon future earnings.

The value of Bitcoin will increase only if it has a valuable purpose. The only purpose of Bitcoin as a commodity is to be a medium of exchange. If Bitcoin can assure a smooth flaw of trade, its value will increase. If its supply discontinues and the supply of all other commodities increases, Bitcoin would become an impediment for commerce, its value will decrease, and it may even disappear.

A system that uses a main server, where the owner of the server emits electronic tokens, is tantamount to issuing paper currencies. Paper currencies are not commodities and a system not based on block chain technology cannot produce real money.

Some big projects using a main server to emit crypto coins, such as JPMorgan's JPM Coin or Facebook's Libra, will continue to operate mostly because of the entities supporting them. These projects, however, will be subjected to the jurisdictions of the countries where the main servers would be located. It is not clear what kind of legislation Congress will enact, but laws regarding finances have always been creating problems more often than solving them. Finances don't need more laws, finances are laws.

Facebook is already feeling the pressure imposed by US Congress.[162]The company has reiterated on numeral occasions that it would comply with the demands of the regulators. The truth is, there are not existing statutes or regulations Facebook has to comply with.

If projects similar to Facebook's Libra are to be regulated, it should be only to the extent that the financial mayhem that occurred in the early 1800s in the USA be prevented. For example, in order to abstain from excessive production of tokens, the issuers could be required to redeem on demand their tokens for other currencies or different mediums of exchange, or be banned from participating in transactions in which the method of payment is to be executed in their own tokens. It is not clear though, how a state could legally enforce regulations over a server, emitting digital coins and located outside of this state's jurisdiction, if the citizens have already adopted by consent the digital coins as a medium of exchange.

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[161] See https://www.coindesk.com/information/what-is-bitcoin

[162] It has been reported that the House Financial Services Committee Chairwoman Maxine Waters and other committee Democrats have crafted legislation to bar the company from proceeding with the coin until it can be properly vetted. See https://www.bloomberg.com/news/articles/2019-07-17/facebook-s-crypto-plan-draws-fresh-outrage-from-maxine-waters?srnd=premium

Based on block chain technology, the concept of Bitcoin takes the system of exchange of goods to its original roots – barter. When a commodity, such as gold, silver, or Bitcoin, is used as a medium of exchange, the nature of the transaction is barter because all these commodities are products of labor. Barter is the fairest way to allow the market to determine the value of labor input.

Whether or not Bitcoin survives, the underlying concept developed by Satoshi Nakamoto has no alternative for the future. The current system of exchange of goods, based on paper currencies, gives unfair advantage to the issuers (as well as some individuals and entities connected with the issuers[163]) because in the process of exchange of goods, the issuers receive value without giving value themselves.

It is possible that a new global system emerges, most likely after the next reduction of the available-for-mining Bitcoin tokens. The new system, however, must follow completely the model created by Satoshi Nakamoto. It must be block chain based and must include mining, which is the only possible way to create value. It must be decentralized and dependent on the contributions of many unassociated individuals and entities. There must be no institution controlling the network. The only difference from Bitcoin should be the capacity of the new system to produce and emit digital coins with no limit upon strict rules and conditions. Commodities, the production of which is designed to stop at some point in the future, cannot function as a medium of exchange.

The world must go back to barter. The current level of technology, as demonstrated by Satoshi Nakamoto, allows the return to barter. Although not perfect, this is the most equitable system for exchange of products of labor. Under this system, considering the level of integration in the world, the same amount of labor input should pay the same reward regardless of the place where the labor input is provided. A computer programmer located in Bangladesh should get paid the same if the labor input is equal to the labor input of a computer programmer located in the USA.

There are too many interests that could be affected by a new barter method of exchange. The current financial system, based entirely on paper currencies and credit, would be rendered needless. The issuers of paper currencies (mostly governments) will lose the privilege of receiving windfall benefits from their infusing of paper currencies into the flow of commerce.

One thing is certain. The current system of exchange of products of labor creates too much inequality and there are too many interests benefiting from this situation. Whether cryptocurrencies would be able to change the status quo is yet to be seen.

[163] The national banks never infuse directly the markets with paper currencies. They do so by using commercial banks. Thus, the commercial banks and their shareholders also benefit from this process.