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Cryptocurrencies: A political and a fiscal analysis

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Abstract

The existence of cryptocurrency a decade ago is an inescapable reality that at the moment generates a high financial influence at global level, the fact that obliges us to know and to study them. Our questions are essentially at three levels: their acceptance, or not, by the States in the face of the paper-money issued by their Central Banks and how the Private Banks react to this virtual currency created in particular; what actions have Tax Administrations at the global level faced with the wealth they generate and the financial values that move in the real economy. Our study is based on the doctrine that already exists, but mainly financial reports produced by central banks and private banking as well as by tax administrations. Finally, we present our conclusions on the current state of analysis and financial studies of the banking system and tax administrations and, of course, our opinion.

Keywords: Cryptocurrency, Bitcoin, fiscal analysis, policies, perceptions.

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1. Introduction

It's very well known that in the beginning of 2009, Satoshi Nakamoto started the creation of the cryptocurrencies with the invention of the first non-official virtual currency, the Bitcoin—BTC and the production of the first 50 BTCs. This reality had caused a real revolution in the financial world what was demonstrated by the indicators that shows the existence of 2,116 cryptocurrencies. This contrasts with the fact that, in January, the Bank of Portugal just considered the exchange world rates level as the existence of 115 states official currencies. It is important to be aware that in the cryptocurrency, the traded top of the ranking is: (i) bitcoin—with the penetration quote in that market 52.4%; (ii) XRP; (iii) ethereum; (iv) bitcoin cash and (v) EOS. Considering the cryptocurrency world daily transactions, it's possible to state that in 24 hours only, for instance between 02 hours 50 minutes 24/01 and 02 hours 50 minutes 25/01/2019, in cryptocurrency were negotiated the equivalent to the € 13.025.863.931. The cryptocurrency problems are faced in different levels, namely, the juridical nature, the interference to the nuclear context of the law within the States to generate, coin and control the emission of their own currency; the implications in the States Budgets, especially concerning the fiscal revenues to face the expenses; in the States relationships complications due the international commercial exchanges and consequent payment in currency types, as their conversion to the currency of the export State. If we review the positions already assumed by different bank outbound currency institutions, those who are the currency controllers in multiple States, we face, for instance, positions in a total interdiction in the cryptocurrency utilisation as a payment method; there are others that alert to the structural risks of the currencies especially emitted; others assume these types of virtual currency as commodities, this means, there is a limbo due to a reality and the integration in the national, regional and world market, obviously, ruled. So, it's urgent that States, through their internal legislations and their Taxation Authorities, decide and adopt their position concerning the taxation of these facts, with capacity to generate the receipt to their budgets, preserving the principles of the contributive capacity and the equality, without impose and demand to the owners of the incomes, wealth and patrimony in cryptocurrency the same participation in the expenses with the public purse, as they use to do with people who are in same circumstances, but that was made with the official currency. It is very well known that in the beginning of 2009, Satoshi Nakamoto started the creation of the cryptocurrencies with the invention of the first non-official virtual currency, the Bitcoin—BTC and the production of the first 50 BTCs. This reality had caused a real revolution in the financial world what was demonstrated by the indicators that shows the existence of 2,116 cryptocurrencies. This contrasts with the fact that, in January, the Bank of Portugal just considered the exchange world rates level as the existence of 115 states official currencies. It's important to be aware that in the cryptocurrency, the traded top of the ranking is: (i) bitcoin—with the penetration quote in that market 52.4%; (ii) XRP; (iii) ethereum; (iv) bitcoin cash and (v) EOS. This study aims to achieve and present the analysis of the Fiscal State characteristic and its inherent privative function of issue currency, aiming to ensure the pursuit of their constitutional duties. So, the study includes the constitutionally and the validity of a competitive currency to achieve the analysis of their implication in the States Budgets by the issue currency without a national or international authority with competence recognised by the States.

2. Real-world empirical data

If we analyse the Figure 1—CoinMarketCap: <https://coinmarketcap.com/> (consulted 15 hours 07 minutes—23/03/2019)—we see a reality born in the hands of Satoshi Nakamoto with the mining of the first 50 bitcoins—BTCs and with the exponential growth of criptomoedas, this number that today arrives at the 2,121 different types that has a volume total in the global market of \$ 139,989,972,616—US dollars, that in the last 24 hours had been transacted in the global market the value of \$ 31,285,677,773—US dollars.

#	Name	Market Cap	Price	Volume (24h)	Circulating Supply	Change (24h)
1	Bitcoin	\$70 908 382 502	\$4 027,58	\$9 629 008 759	17 605 687 BTC	-0,30%
2	Ethereum	\$14 519 475 105	\$137,81	\$4 559 696 700	105 356 646 ETH	-0,25%
3	XRP	\$12 998 725 263	\$0,311974	\$644 095 684	41 686 017 553 XRP *	-0,47%
4	Litecoin	\$3 726 251 481	\$61,08	\$1 897 617 524	61 010 536 LTC	1,91%
5	EOS	\$3 333 669 750	\$3,68	\$1 454 268 815	906 245 118 EOS *	0,34%
6	Bitcoin Cash	\$2 922 108 036	\$165,20	\$489 586 170	17 688 275 BCH	3,62%
7	Stellar	\$2 074 071 067	\$0,107882	\$226 805 844	19 225 306 719 XLM *	-1,12%
8	TRON	\$1 603 149 804	\$0,024042	\$294 710 543	66 682 072 191 TRX	5,41%
9	Cardano	\$1 590 291 942	\$0,061337	\$105 170 708	25 927 070 538 ADA	6,06%
10	Bitcoin SV	\$1 178 961 099	\$66,72	\$100 373 248	17 670 348 BSV	-0,56%

Figure 1. Table with the 10 main cryptocurrencies

The exponential growth of the cryptocurrencies, as evidenced by ‘Figure 1’ although interfering with the initial monopoly of the BTC, continues to maintain market dominance at 50.59%—see Figure 2 below—CoinMarketCap: <https://coinmarketcap.com/> (consulted 15 hours 07 minutes—23/03/2019).

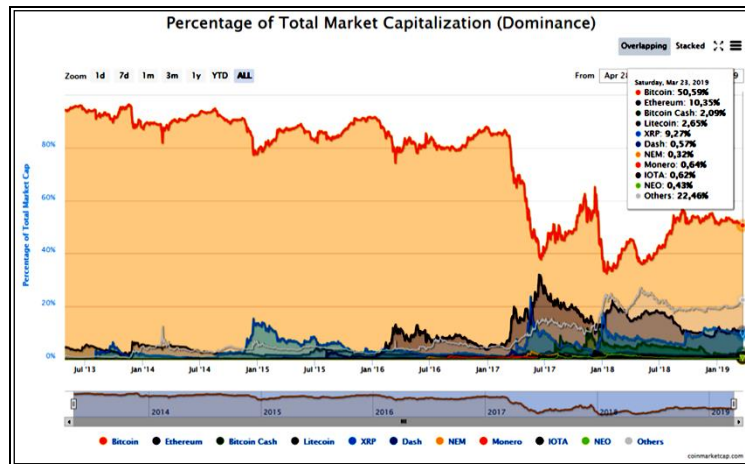


Figure 2. Demonstration table of the domain of the main cryptocurrencies

The analysis of the data published by *Forbes* magazine and densified by STATISTA—The Statistics Portal—Figure 3—<https://www.statista.com/chart/14372/who-are-the-cryptotycoons/> (consulted 15h45—23/03/2019)—shows us the wealth accumulated in billions of dollars with the new digital currencies.

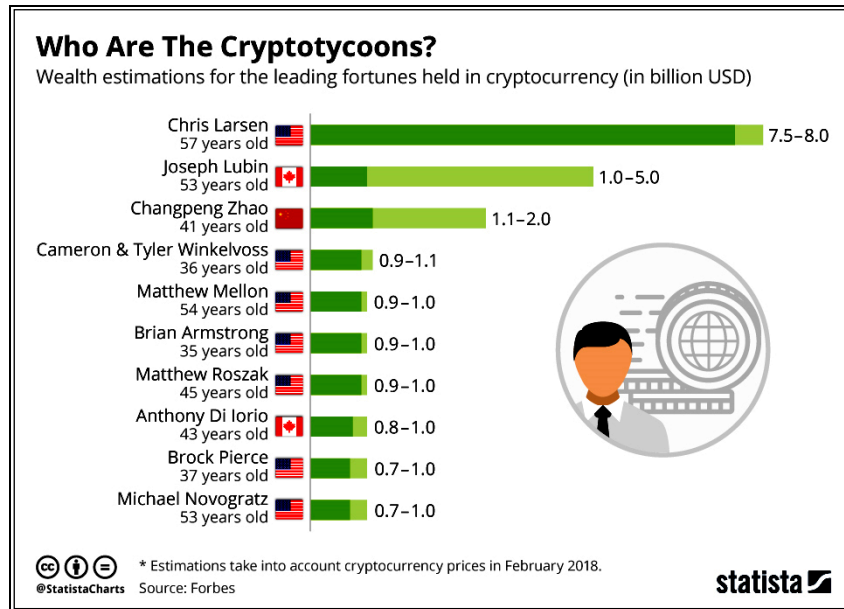


Figure 3. Chart with the richest in cryptocurrencies

This wealth obtained and accumulated is consistent with that obtained by traditional means, namely, through the accumulation and negotiation of gold and business activity, as shown in Figure 4—STATISTA—The Statistics Portal—<https://www.statista.com/chart/14372/who-are-the-cryptocoons/> (consulted 15 hours 50 minutes—23/03/2019).

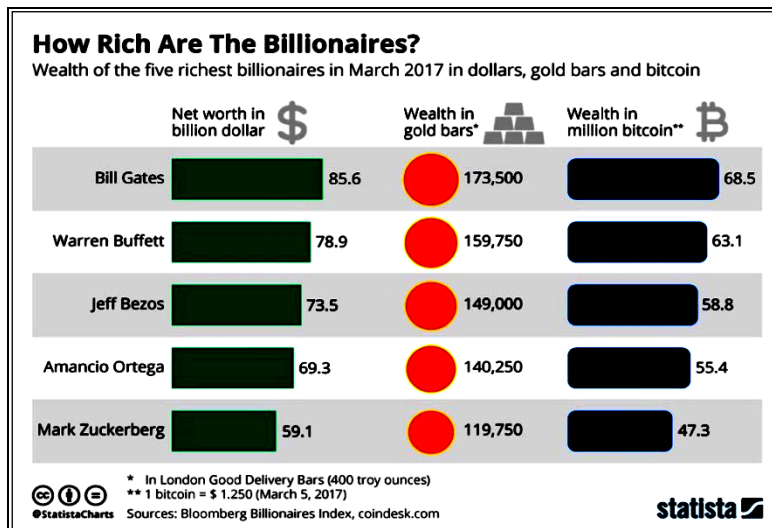


Figure 4. Comparative wealth chart

Faced with this new reality, the cryptocurrency, we wonder if the world of crime will not use them in their criminal activities. Figure 5 demonstrates the potential for criminal activity.

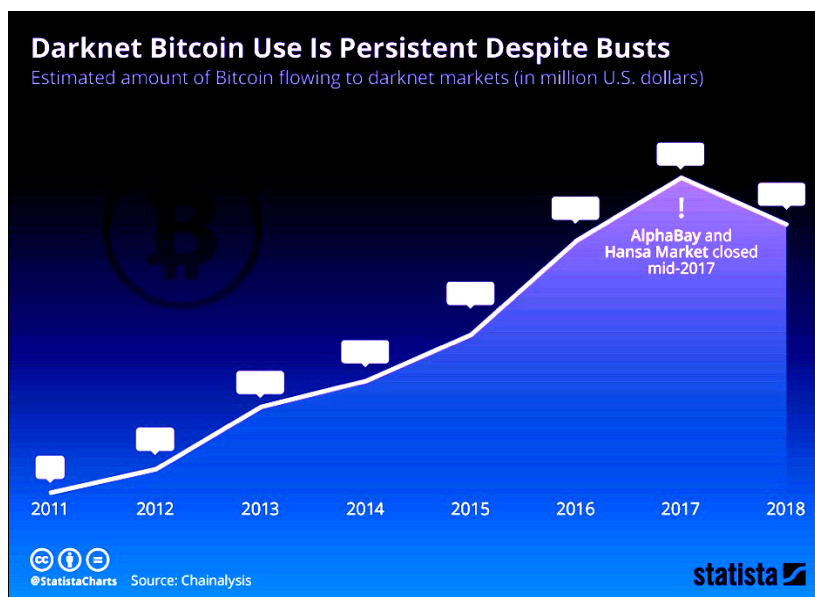


Figure 5. Cryptocurrency black market chart

These facts drawn from the real world and the global economy mark our thoughts on what the international and national community of each country should do with this new type of privately created currency when compared to the national currency in force and States in their multiple uses. Figure 5—STATISTA—The Statistics Portal—<https://www.statista.com/chart/17128/darknet-use-of-bitcoin/> (consulted 15h55—23/03/2019).

3. The importance of currency in modern states

Economic theory highlights three fundamental functions of the existence of money, namely, it is a medium of exchange—a seller accepted as a means of payment, a unit of value—a criterion that facilitates the comparison of prices between things that we buy, as well as the value of the promises of payment that we assume, and reserve of that same value—allows holders to transfer their purchasing power over time through their storage, which means that for the whole population in general their stability over time is crucial.

All these money functions were widely studied. Some examples are Kiyotaki and Wright (1989): ‘On money as a medium of exchange’, *Journal of Political Economy*, demonstrating the money significance as medium of exchange; Kocherlakota (1996): ‘Money is memory’, *Journal of Economic Theory*—presenting the money as essential element to the ‘business memory’. Samuelson (1958): ‘An exact consumption-loan model of interest with or without the social contrivance of money’, *Journal of Political Economy*—analysing the money as international value preservation; Doepke and Schneider (2017): ‘Money as a unit of account’, *Econometrica*—highlight the importance of the unit of account created by governments as a means of exchange in business exchanges.

The current systems of modern economies have their own means of issuing, controlling, guarding and transacting the banking systems integrated between the public and the private, that is, between the central bank and private banks, thereby generating a population by having the central banks in their active role of supervision, control and provisioning of financial assets, national currency in each state, thus guaranteeing an efficient and elastic money supply.

This need for money for the exchange of the most varied species and quadrants, whether internal in the States or external globally, is possible in the face of the current designation of money as a

convention of society and indispensable which is supported by a responsible institution within each state that enjoys public trust (Carstens, 2018a).

4. The responsibility for controlling and issuing the currency

Central banks, with the necessary independence from the political sector, guarantee a monetary policy and financial stability, operational, instrumental and administrative independence and democratic accountability for the maintenance and stability of the currency of each country (Gianni, 2011), thus allowing in today's societies we can say that money is a necessary social convention and supported by a responsible institution within each state that enjoys the necessary public trust (Carstens, 2018a; Campina, 2017).

5. The cryptocurrency

The emergence of the cryptocurrency without authorisation of any banking system, as we know them today, that is, created by individuals, are born with the invention of Bitcoin by someone with the pseudonym of Satoshi Nakamoto based on 'Blockchain', being later this concept adapted to other numerous cryptocurrency. It will be appreciated that 2,121 different types are known today, while still maintaining their absolute predominance in bitcoin—see Figures 1 and 2 (Berentsen & Schar, 2018). For a detailed description of the technological elements of Bitcoin and other blockchain-based cryptocurrencies, such as digital signatures, hashing and block cryptographic chaining (Auer, 2018).

At the beginning of the game, we can detect a big problem with the creation of this digital coin since it is stated that the creator of bitcoin only allows the mining of 21 million units, that is, what happens when these units are exhausted? Who controls your issue? That is, who is the representative of the international community in general that ensures to this same community the stability of value, the certainty of its supply for use and storage as value and the reliability of this system?

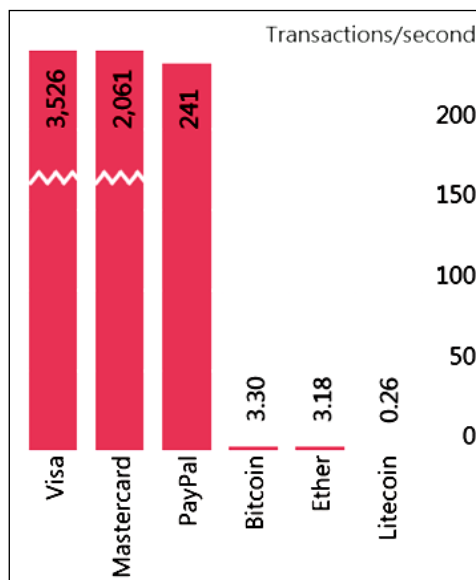


Figure 6. Number of transactions per second—comparison

It is enough to look at Figure 1 to see that the value of cryptocurrency is constantly changing, with upward or downward variations *vis-a-vis* the US dollar or, of course, any other conventional currency, and not even comparable with the traditional use needs debit and credit cards. 'Graph V.4' in Bank for International Settlements (2018).

5.1. Central banks studies

In its Financial Stability Report, November 2018, the Central Bank of the Republic of Turkey clearly explains all the complexity that multiple central banks of other countries have placed in this particular currency and the paths they intend to follow, so we take the reader to the conclusions we have transcribed, and stress as if they were ours.

The ‘Financial Stability Report—November 2018—V. 27’ of the ‘Central Bank of the Republic of Turkey’ Reference p. 87 and 88 under the heading ‘Current situation’, analytical data from some countries on the use of ‘blockchain’ cryptom for their internal monetary systems and, with the exception of Sveriges Riksbank which has an ‘e-krona project’ under consideration, such as the Swiss National Bank, the People’s Bank of China, the Hong Kong Monetary Authority, the Bank of Japan, the European Central Bank, the Bank of Canada, the Iranian government, the Monetary Authority of Singapore or the Reserve Bank of Australia in its use and concerned with the consequences that may arise from the use of cryptocurrency for the economic-financial system, whether internal or global. We directed the reader to this interesting summary through the link that we inserted in the final.

5.2. Fraudulent use

Illegal use is well illustrated in our Figure 5, which requires the authorities of all countries of the world to investigate the use of cryptocurrency for illicit and fraudulent acts, limiting ourselves to show by way of example a decision US sentencing case.

In September 2014, Manhattan Federal Court sentenced to 4 years in prison Robert M. Faiella, an underworld money changer in the acquisition of bitcoin, for consciously selling almost \$ 1 million in bitcoins that were intended to facilitate the purchase of drugs on the site ‘Silk Road’ of the black market where illegal drugs are transacted and anonymously. This was communicated by the Department of Justice—U.S. Attorney’s Office—Southern District of New York—<https://www.justice.gov/usao-sdny/pr/bitcoin-exchanger-sentenced-manhattan-federal-court-four-years-prison-selling-nearly-1> (consulted 16 hours 55 minutes—21/03/2019): The Riksbank’s e-krona project—Report 2—October 2018—Sveriges Riksbank.

6. The general budgets of the member states revenue

The structure and the fundamental role of States are set out in their Constitutions, in which, among other multiplicities of disciplinary aspects of the nations they regulate, the rules governing their annual budgets are laid down, among other things they clearly refer to expenditure and foreseeable and necessary revenues for the fiscal year to which they refer.

The ‘Constitution of the Republic of Turkey’ provides in the first paragraph of article 161 ‘The expenditure of the State and of public corporations shall be determined by annual budgets.’

The ‘Constitution of the Portuguese Republic’ stipulates in Article 105 that the State Budget is obliged to provide the revenue necessary to cover expenses.

The ‘Constitution of the Federative Republic of Brazil’ shall regulate in article 165, the design of the annual budgets that must contain the fiscal budget referring to the Powers of the Union, its funds, organs and entities of the direct and indirect administration, including foundations instituted and maintained by the public authority.

It is clear that current states derive their revenues primarily from the collection of taxes, so we are now interested in the transactions in the real world and global in cryptocurrency, with the consequent enrichment of people in these new assets, let us see as digital currencies, or as commodities, what are the tax consequences that can arise from it and in this respect what tax revenues can be collected.

Take note, for example, in Figures 3 and 4 to understand the role that tax administrations should play to subject those facts to taxes.

It is this reality that we are going to occupy now.

7. The obligation to contribute to the state's expenditure

For all of us who live in States whose main source of income is the taxes to meet the expenses they bear with the community that integrates them, we are all sure that we must contribute to the tax revenues that are legally required of us. As we said above, our analysis now turns to the obligation to contribute to the gains made, or to the purchases we make, by using cryptocurrency rather than the use of currency. As is evident this obligation to pay taxes is based on structuring principles that we analyse.

7.1. Principles of the rule of law

The subjection to taxes imposed in the most diverse constitutions always incorporates a vast set of guiding principles. We now turn to examining at least two of these principles, namely, 'contributory capacity' and 'equality' in this taxation, to discuss its applicability to transactions, gains, payments and wealth through the use of cryptocurrency.

7.1.1. The principle of contributory capacity

The present Constitutions state that States are based on 'law', which is evident in article 2 of the 'Constitution of the Republic of Turkey'—'the Republic of Turkey is ruled by rule of law', point that is assumed in the Portuguese Constitution in Article 2 that the 'Portuguese Republic is a democratic State' or the 'Constitution of the Federative Republic of Brazil' in establishing in Article 1 that the 'Federative Republic of Brazil constitutes a democratic State of law', which translates into the said constitutions the principle of legality in an obligation to contribute to public expenditure in accordance with their ability to contribute, a fact that is excluded in Article 73 of the 'Constitution of the Republic of Turkey', which requires that 'Everyone is under obligation to pay taxes according to his financial resources', also assumed by the constitution of Portugal in Articles 103 and 104, as well as in Brazil of its incorporation through the provisions contained in article 150, that is, each has to contribute to public expenditures according to their ability to contribute.

7.1.2. The principle of equality

The same Constitutions establish in all of them the principle of equality of persons, see for example article 10 of the Constitution of the Republic of Turkey or article 13 of the Portuguese or Brazilian article 5.

This means that if all people are equal before the law, that is to say that all of them must be paid with taxes for public expenditure, however against the 'principle of vertical equality' those people who have different capacity must contribute in a different way and to the exact extent of that difference, resulting in the application of the 'principle of horizontal equality', that is, all persons who are in the same economic and financial situation must contribute equally.

7.2. Cryptocurrencies and the applicability of these principles

Faced with these realities, there is no doubt that all situations that support the use of cryptocurrency in place of traditional paper money must be taxed by the holders of their use, whether they are taxes on consumption, consumption, on income or wealth, among others that each of the tax systems may contain, because if this is not the case we are faced with a serious and gross breach of the principles of contributory capacity and equality in its dual vertical and horizontal equality.

7.3. The tax administrations—acting before the cryptocurrency

Tax administrations have had the most varied opinions, but it is a dominant opinion that the use of cryptocurrency, as virtual money replacing traditional paper money, entails subjecting them to the same taxes as all other taxpayers.

In this sense, the US Internal Revenue Service—IRS—in the ‘Notice 2014–21’, that all situations that fit the general norms of taxation, regardless of whether they are used cryptocurrency, were subject to the same taxes and that they should always be valued at the fair market value of the virtual currency converted into US dollars.

The Brazilian tax administration, while recognising that the cryptocurrency are not considered as currencies, understands that financial assets are considered to be equities and therefore declared as assets and rights, thus taxing the capital gain incident on the purchase transactions and sale. IRPF 2019. *Ministério da Economia—Secretaria Especial da Receita Federal do Brasil*—<https://receita.economia.gov.br/interface/cidadao/irpf/2019/perguntao> (consulted 11 hours 48 minutes, 11-03-2019).

It is imposed on individuals who deal with cryptocurrency that must inform the tax administration, through the so-called Capital Gains Assessment Program, which should be synchronised at the end of the year with the Individual Income Tax Return.

With regard to Turkey due to the lack of definition of the nature of the cryptocurrency and its absence of regulation, there is no tax legislation on the subject, which is why the income of a natural person from cryptocurrency is not taxable since they do not fit into any of the hypotheses of the current legislation, the same applies to VAT. However, legal persons are subject to tax, regardless of their source, under the terms of Income Tax Law No. 552015.

The Portuguese tax administration ruled on this issue with binding information No. 5717/2015 and concluded that gains generated by gains and qualifying for capital gains, gains or gains from a business or professional activity are not subject to taxes in relation to the Portuguese tax system, unless by its habituality it constitutes a professional or business activity of the taxpayer, because in this case falls within the general rules of taxation.

8. Conclusions

The analysis of the current state of the cryptocurrency allows us to conclude that they are a factual reality that involves very large monetary amounts and are disseminated globally and generate personal wealth.

This particular form of creating virtual-only currency is generally not accepted by the Central Banks or private Banking, which understands that cryptocurrency do not meet the three essential assumptions of paper money.

The States, the Financial Institutions, here including the banking system, and international organisations have working groups to analyse, discuss and assimilate the new reality, considering it as a general rule as commodities and not as currency.

Tax Administrations generally assume the taxation of this activity of issuing, holding and transacting these particular virtual currencies and subject them to taxes in the same way that they subject any other facts valued in the traditional paper money and provided they fulfil the assumptions of the norms their tax systems, assuming in this way that taxpayers’ ability to contribute and non-discrimination in the face of the general principle of equality is.

References

- Auer, R. (2018). The mechanics of decentralised trust in Bitcoin and the blockchain. BIS Working Papers.
- Baktas, S. (2018). Turkey blockchain & cryptocurrency regulation.—Jul 30, 2018. Retrieved from <https://medium.com/@simabaktas/turkey-blockchain-cryptocurrency-regulation-9ef75a63f16b>
- Berentsen, A. & Schar, F. (2018). *A short introduction to the world of cryptocurrencies*. Federal Reserve Bank of St Louis, Review, vol 100—Graph V.4. in Bank for International Settlements (2018). BIS Annual Economic Report 2018—V. Cryptocurrencies: looking beyond the hype.
- Campina, A. (2017). Images, international law, political rhetoric and democratic education form Human Right’s needs: A study case of Portugal 19332016. *New Trends and Issues Proceedings on Humanities and Social Sciences*, 4(1), 14-19. <https://doi.org/10.18844/prosoc.v4i1.2046>
- Carstens, A (2018). *Money in the digital age: what role for central banks?* Lecture at the House of Finance. Frankfurt, Germany: Goethe University.
- Department of Justice—U.S. Attorney’s Office—Southern District of New York no site. Retrieved from <https://www.justice.gov/usao-sdny/pr/bitcoin-exchanger-sentenced-manhattan-federal-court-four-years-prison-selling-nearly-1>
- Doepke, M. & Schneider, M. (2017). Money as a unit of account. *Econometrica*, 85(5).
- Financial Stability Report 2018. vol.: 27” of “Central Bank of the Republic of Turkey”.
- Giannini, C. (2011). *The age of central banks*. Edward Elgar Publication, 2011. ISBN 9780857932136.
- Herlin, P. (2018). *Compro Bitcoin*. Lisboa: D. Quixote.
- Imposto sobre a renda—Pessoa Física: Perguntas e respostas IRPF. Ministério da Economia—Secretaria Especial da Receita Federal do Brasil, 2019. Retrieved from <https://receita.economia.gov.br/interface/cidadao/irpf/2019/perguntao>
- Kiyotaki, N. & Wright, R. (1989). On money as a medium of exchange. *Journal of Political Economy*, 97(4).
- Kocherlakota, N (1996). Money is memory. *Journal of Economic Theory*, 81.
- Lefebvre, F. (2015). *Laves Practivas. Todo sobre Bitcoin—Aspectos economicos, fiscales, contables y administrativos*. Madrid, Spain: Lefebvre-El Derecho.
- Mettam, G. R. & Adams, L. B. (1994). How to prepare an electronic version of your article. In B. S. Jones, & R. Z. Smith (Eds.), *Introduction to the electronic age* (pp. 281–304). New York: E-Publishing Inc.
- Pacheco, L., Tavares, F., Salazar, V., Vieira, E. & Peguinho, C. (2017). *Financas Internacionais—Teoria e Pratica*. Lisboa, Portugal: Edicoes Silabo.
- Samuelson, P. (1958). An exact consumption-loan model of interest with or without the social contrivance of money. *Journal of Political Economy*, 66(6).
- Santarosa, V. (2015). Financing long-distance trade: the joint liability rule and bills of exchange in eighteenth-century France. *The Journal of Economic History*, 75(3).
- Strunk, W., Jr. & White, E. B. (1979). *The elements of style*. (3rd ed.). New York: Macmillan.
- The Riksbank’s e-krona project—Report 2—October 2018—Sveriges Riksbank”—https://www.riksbank.se/globalassets/media/rapporter/e-krona/2018/the-riksbanks-e-krona-project-report-2.pdf?_t_id=1B2M2Y8AsgTpgAmy7PhCfg%3d%3d&_t_q=e-krona+report+2&_t_tags=language%3aen%2csiteid%3af3366ed3-598f-4166-aa5a-45d5751e940b&_t_ip=193.136.77.125&_t_hit.id=Riksbanken_Core_Models_Media_DocumentFile/_c4e8c566-16be-4db7-ba87-077df9933221&_t_hit.pos=1
- Van der Geer, J., Hanraads, J. A. J. & Lupton R. A. (2000). The art of writing a scientific article. *Journal of Scientific Communications*.