

Opinion

Why are cryptocurrencies vulnerable to pump-and-dump schemes in Europe?

*Jorge Constantino*¹

I. Introduction

Cryptocurrency is a digital exchange medium,² stored in the Distributed Ledger Technology (DLT) and form the basis for the term crypto-assets.³ In the United Kingdom, the Bank of England does not make a distinction amongst cryptocurrency and crypto-asset.⁴ Similarly, the European Central Bank (ECB) defines crypto-assets as a digital asset enabled by cryptography.⁵ This paper focuses on the group of cryptocurrencies (or crypto-assets) that belong to Public Permissionless Blockchains.⁶ This paper will explain historical pump-and-dump, and how this old scheme appears to be applied now to cryptocurrency trading. Then it moves to explore the nature of the blockchain ecosystem where cryptocurrencies exist, proposing that ironically the encryption and immutability nature of the blockchain make cryptocurrencies vulnerable to pump-and-dump schemes. Lastly, it argues that the lack of adequate regulation in Europe leaves cryptocurrencies vulnerable to pump-and-dump schemes. The overall effect is that consumers become the targets of fraudsters, which also affects investors, and further affects the development of cryptocurrencies and the blockchain itself.

¹ *Jorge Constantino is currently a Master candidate in International Technology Law at Vrije Universiteit (VU) Amsterdam, The Netherlands. In 2015, he graduated as a Bachelor of Laws from Queensland University of Technology (QUT), Brisbane, Australia. Since, he has worked in legal practice in Australia and currently works as a sessional academic teaching Law at Queensland University of Technology (QUT).*

² Josh Kamps and Bennett Kleinberg, ‘To the moon: defining and detecting cryptocurrency pump-and-dumps’ (2018), *Crime Sci*, Springer Open (p.2).

³ The Dutch Banking Association (Nederlandse Vereniging van Banken, or ‘NVB’), ‘Crypto-assets in Dutch perspective: opportunities for a Dutch crypto-asset ecosystem’, (p. 6).

⁴ See Bank of England, ‘UK Central Bank Digital Currency’, (21 March 2022):

<https://www.bankofengland.co.uk/research/digital-currencies>

⁵ Maria Teresa Chimienti et al, ‘Understanding the crypto-asset phenomenon, its risks and measurement issues’, *European Central Bank Economic Bulletin*, Issie 5/2019, (p. 1).

See also, The European Securities and Markets Authority (ESMA) considering crypto-assets as digital representation or rights which may be transferred and stored electronically, using distributed ledger technology or similar technology: European Securities and Markets Authority (ESMA), ESA 2022 – 15: https://www.esa.europa.eu/sites/default/documents/files/document_library/Publications/Warnings/2022/1028326/ESAs%20warning%20to%20consumers%20on%20the%20risks%20of%20crypto-assets.pdf

⁶ This paper does not seek to engage in a discussion whether the adequate terminology is “cryptocurrency” or “crypto-asset”. Thus, it would consider both terms as equal parallels. Similarly, it is not an objective to establish distinctions between a Private and Public Blockchain, nor whether they are Permissionless or Permissioned. Rather, the discussion below refers to cryptocurrencies such as Bitcoin or Ethereum, contained on Public Permissionless Blockchains.

II. Alleged pump-and-dump schemes in Cryptocurrencies

As illustrated in the movie *The Wolf of Wall Street*,⁷ a pump-and-dump scheme is a historical method consisting of manipulating the stock price from small companies to create artificial prices in the market.⁸ Pumping could take days or weeks. Once the price is high enough, these fraudsters dump their shares on the open market, making a profit, and causing shares to crash and investors to be left with valueless shares.⁹ Market manipulation such as traditional pump-and-dump is prohibited in Europe.¹⁰

Similarly, cryptocurrency pump-and-dump can be organised by either a single natural person, a group of natural persons, and even cryptocurrency exchange platforms such as Yobit.¹¹ Unlike traditional pump-and-dump, cryptocurrency pump-and-dump works on synchronised trading of a high volume of a cryptocurrency to increase the price of the coin in a short period of time (this could last between seconds to minutes).¹² In cryptocurrency pump-and-dump, the common target is pumping unpopular cryptocurrencies.¹³ Once the prices have reached a desirable price or profit percentage for the organisers, they would dump their coins on the open

⁷ Lauren Frauen, 'Real Wolf of Wall Street Jordan Belfort says GameStop's stock surge 'is a modified pump-and-dump' and it's the amateur investors who come late to the party who will lose out the most', MailOnline, (21 January 2021):

<https://www.dailymail.co.uk/news/article-9199023/Real-Wolf-Wall-Street-Jordan-Belfort-says-GameStops-stock-surge-modified-pump-dump.html> (retrieved on 23 March 2022).

⁸ Taro Tsuchiya, 'Profitability of Cryptocurrency Pump-and-dump Schemes' (2021), Digital Finance, Springer, (pp. 151-152).

See also: United States Securities and Exchange Commission: https://www.sec.gov/rss/your_money/pump_and_dump.htm (retrieved on 16 March 2022).

⁹ US Commodity Futures Trading Commission: Customer Advisory: Beware Virtual Currency Pump-and-Dump Schemes. (p.1).

¹⁰ See Articles 12 and 15 of the European *Market Abuse Regulation* (MAR).

See also: INDICATORS OF MANIPULATIVE BEHAVIOUR RELATING TO FALSE OR MISLEADING SIGNALS AND TO PRICE SECURING (SECTION A OF ANNEX I TO REGULATION (EU) No 596/2014), Official Journal of the European Union, (2016), p. 18: <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32016R0522&rid=1>

Note that in other jurisdictions such as in the United States of America, market manipulation is also punishable: US *Securities and Exchange Act 1943* (regulates financial markets). The U.S. Securities and Exchange Commission (SEC): warns against market manipulation: pump & dump, see: <https://www.sec.gov/files/Market%20Manipulations%20and%20Case%20Studies.pdf>;

¹¹ Jiahua Xu École, Benjamin Livshits, "The Anatomy of a Cryptocurrency Pump-and-Dump Scheme" (2019), 28th USENIX Security Symposium (USENIX Association), (p. 1610).

¹² Taro Tsuchiya, "Profitability of Cryptocurrency Pump-and-dump Schemes" (2021), Digital Finance, Springer, (p. 151).

See also: Report from the United Kingdom (UK) Cryptoassets Taskforce: final report, October 2018, (p. 37): https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/752070/cryptoassets_taskforce_final_report_final_web.pdf

¹³ Josh Kamps and Bennett Kleinberg, 'To the moon: defining and detecting cryptocurrency pump-and-dumps' (2018), Crime Sci, Springer Open (p.3).

cryptocurrency exchange market,¹⁴ leaving unsuspecting victims with worthless coins.¹⁵ The following features can also be identified in these cryptocurrencies pump-and-dump schemes:

- a. The pump organiser,¹⁶ who would create a group chat on an encrypted messaging program such as Telegram,¹⁷ to alert other people that a pumping event is about to occur, without disclosing yet the targeted coin or cryptocurrency exchange platform.¹⁸
- b. Pump participants, these are cryptocurrency traders who would join the Telegram group and follow the instructions from the pump organiser to buy the specified coin upon reveal.¹⁹ The likelihood that these participants are being cheated is high because the pump organiser has first-hand knowledge about the specific coin, and likely already bought a great number of coins before anyone else.²⁰
- c. Pump target exchange, it is a selected market exchange platform, for example Binance or Yobit, where the pump event is finally broadcasted to the open market.²¹ In some cases, platform exchanges are colluded or willingly participating in the scheme.²²
- d. Final victims, these people have no knowledge about the pumping scheme.²³ These victims are urged to buy the revealed coin, dumped on the open market, because of the hype caused by pump organisers or fear of missing out.²⁴

¹⁴ Report from the United Kingdom (UK) Cryptoassets Taskforce: final report, October 2018, (p. 37): https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/752070/crypto-assets-taskforce-final-report-final-web.pdf

¹⁵ Daniel Dupuis et al, 'Old frauds with a new sauce: digital assets and space transition' (2021), Journal of Finance and Crime, Emerald Publishing Limited, (p. 7).

¹⁶ Which can be natural persons or legal entities.

¹⁷ Report from the United Kingdom (UK) Cryptoassets Taskforce: final report, October 2018, (p. 37): https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/752070/crypto-assets-taskforce-final-report-final-web.pdf

¹⁸ See graphics of signals and how a cryptocurrency pump-and-dump looks like in real life:

Oscar Williams-Grut, 'Walkthrough: How Traders 'pump and dump' Cryptocurrency', Business Insider (14 November 2017): <https://www.businessinsider.com/how-traders-pump-and-dump-cryptocurrencies-2017-11?international=true&r=US&IR=T> (retrieved on 22 March 2022).

¹⁹ JT Hamrick et al, 'the Economics of Cryptocurrency Pump and Dump Schemes' (2019), SSRN Electronic Journal, (pp. 8- 9).

²⁰ Taro Tsuchiya, 'Profitability of Cryptocurrency Pump-and-dump Schemes' (2021), Digital Finance, Springer, (p. 153).

²¹ Huy Kghiem et al, 'Detecting cryptocurrency pump-and-dump frauds using market and social signals', Expert systems with Applications, 182 (2021), Elsevier Ltd. (pp. 3, 11).

²² Jiahua Xu École, Benjamin Livshits, 'The Anatomy of a Cryptocurrency Pump-and-Dump Scheme' (2019), 28th USENIX Security Symposium (USENIX Association), (p. 1610).

²³ Daniel Dupuis et al, 'Old frauds with a new sauce: digital assets and space transition' (2021), Journal of Finance and Crime, Emerald Publishing Limited, (p. 7).

²⁴ Ibid., (p. 8).

See also: Report from the United Kingdom (UK) Cryptoassets Taskforce: final report, October 2018, (p. 35): https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/752070/crypto-assets-taskforce-final-report-final-web.pdf

As mentioned above, pump-and-dump schemes are not a new problem to the financial market, as technologies evolve fraudsters also evolve. Thus, it appears that fraudsters are taking advantage of the lack of adequate regulation in the European cryptocurrency market to conduct their illegal activities such as pump-and-dump schemes. However, despite this current legal dilemma, it is open to the prosecution, police enforcement, and legal operators from each Member State to come up with clever legal arguments to deter cryptocurrency pump-and-dump. For instance, legal practitioners and justice operators may use current regimes prohibiting traditional market manipulation to prosecute or deter cryptocurrency pump-and-dump activities. Cryptocurrency pump-and-dump poses a risk to the integrity of financial markets affecting investors' confidence in markets,²⁵ and it also undermines trust in the blockchain ecosystem.²⁶ Hence, it is important to find clever solutions to deter cryptocurrency pump-and-dump schemes.

III. Blockchain's ecosystem makes cryptocurrency vulnerable to pump-and-dump schemes

The blockchain's purpose is to create an anonymous system to empower individual's privacy and independence from centralised control.²⁷ Blockchain provides crucial features such as encryption and immutability that can be enjoyed by cryptocurrencies such as Bitcoin,²⁸ inspired by Satoshi Nakamoto visioning to create a peer-to-peer electronic cash system that allows payments from a party to another without using a financial institution.²⁹ The promise of no government control, encryption, and immutability are certainly attractive attributes when dealing with cryptocurrencies.³⁰ However, it is argued that these features are the current "curse" for cryptocurrency because encryption and immutability are being used as shields for wrongdoers to run schemes such as pump-and-dump.³¹

US Commodity Futures Trading Commission: Customer Advisory: Beware Virtual Currency Pump-and-Dump Schemes. (p.2).

²⁵ Report from the United Kingdom (UK) Cryptoassets Taskforce: final report, October 2018, (p. 37): https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/752070/crypto-assets-taskforce-final-report-final-web.pdf

²⁶ Thibault Schrepel, 'Blockchain and Antitrust' (2021), Edward Elgar Publishing Limited, (pp. 18 - 35). Thibault Schrepel, 'Anarchy, State, and Blockchain Utopia: Rule of Law vs. Lex Cryptographia' (2019), General Principles and Digitalisation, Hart Publishing.

²⁷ Thibault Schrepel, 'Blockchain and Antitrust' (2021), Edward Elgar Publishing Limited, (pp. 2, 10 -16).

²⁸ Tina van der Linden, 'Trust me: Combining Online Dispute Resolution, Law and Blockchain Technology', The Indian Journal of Law and Technology (2019), 15, 2 (pp. 455-56).

²⁹ Satoshi Nakamoto, 'Bitcoin: A Peer-to-Peer Electronic Cash System', Bitcoin Org: <https://bitcoin.org/bitcoin.pdf> (retrieved on 20 March 2022).

³⁰ Please note that not all blockchains are immutable, see Thibault Schrepel, 'Blockchain and Antitrust' (2021), Edward Elgar Publishing Limited, (p. 31).

³¹ Tao Li et al, 'Cryptocurrency Pump-and-Dump Schemes' (2021), SSRN Electronic Journal, (p. 3).

In this sense, the encryption attribute can offer protection to the cryptocurrency user's identity and privacy, allowing cryptocurrency traders to enjoy anonymity when running pump-and-dump schemes.³² Moreover, cryptocurrencies can be immutable, at least the ones in public permissionless blockchains, meaning that they are decentralised which prevents any direct interference from the government in cryptocurrency trading or pump-dump-dump schemes.³³ Thus, under these circumstances, cryptocurrency's distributed nature allows fraudsters to have access to the functioning mechanisms of coins, allowing anyone in the network to promote pump-and-dump schemes from anywhere,³⁴ without being exposed or being subject to prosecution. For instance, no single person possesses centralised control of Bitcoin. Rather, its control power is decentralised and equally distributed among other users,³⁵ which allows any person (including criminals) to have a try at cryptocurrency pump-and-dump schemes without facing sanctions. Although, one could argue that law enforcement could trace wrongdoers by utilising similar technologies.³⁶ It is unlikely to efficiently combat cryptocurrency pump-and-dump activities because encryption, decentralisation, and distribution are playing a greater role against cryptocurrencies at this stage.

IV. Lack of adequate regulation against cryptocurrency pump-and-dump schemes in Europe

The European Commission has expressed concerns about unregulated crypto-assets such as Bitcoin or Ethereum, stressing the risk of financial fraud such as pump-and-dump schemes.³⁷ In January 2018, the Markets in Financial Instruments Directive Framework II (MiFID II) and the Markets in Financial Instrument Regulation (MiFIR) came into force aiming to provide

³² Tina van der Linden, 'Trust me: combining Online Dispute Resolution, Law and Blockchain Technology', *The Indian Journal of Law and Technology* (2019), 15,2, (p. 456).

³³ Josh Kamps and Bennett Kleinberg, 'To the moon: defining and detecting cryptocurrency pump-and-dumps' (2018), *Crime Sci*, Springer Open (p.14).

³⁴ Thibault Schrepel, 'Blockchain and Antitrust' (2021), Edward Elgar Publishing Limited, (pp. 24 - 31).

³⁵ *Ibid.*, (pp. 24 -25).

³⁶ Daniel Dupuis et al, 'Old frauds with a new sauce: digital assets and space transition' (2021), *Journal of Finance and Crime*, Emerald Publishing Limited, (pp. 4-5).

John Bohannon, "Why Criminals Can't Hide Behind Bitcoin," *Science* (March 9, 2016): <https://www.science.org/content/article/why-criminals-cant-hide-behind-bitcoin> (retrieved on 24 March 2022).

³⁷ The European Commission STAFF WORKING DOCUMENT IMPACT ASSESSMENT Accompanying the document Proposal for a Regulation of the European Parliament and of the Council on Markets in Crypto-assets and amending Directive (EU) 2019/1937, (pp. 16- 18): <https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=SWD:2020:0380:FIN:EN:PDF>

transparency and legal protection to investors.³⁸ It mainly covered high frequency algorithmic trading and financial instruments trading,³⁹ but did not regulate public permissionless distributed crypto-assets (or cryptocurrencies).⁴⁰ This gap in the law prompted the European Commission to introduce a legislative proposal for regulation on Markets in Crypto-Assets (MiCA).⁴¹ MiCA aspires to provide a comprehensive framework for the regulation and supervision of issuers and providers of services for crypto-assets with a view to protect consumers and the integrity and stability of the financial system.⁴² It appears that MiCA's small steps may be directed at regulating cryptocurrency exchange platforms. However, it is unclear whether this proposal would indeed adequately address the deterrence of cryptocurrency pump-and-dump schemes. Technology is constantly moving and the definition of crypto-asset proposed by MiCA must be comprehensive enough to cover those cryptocurrencies that belong to the permissionless distributed blockchain.⁴³ Moreover, MiCA now has the opportunity to regulate and prevent any flaws resulting from the blockchain by regulating financial market manipulation, such as pump-and-dump schemes, in order to promote legal protection for consumers and foster an environment of innovation in this field of technology. Finding the right balance requires a flexible and innovation-friendly approach which is likely to produce

³⁸ ESMA: <https://www.esma.europa.eu/policy-rules/mifid-ii-and-mifir#:~:text=MiFID%20II%2FMiFIR%20entered%20into,more%20efficient%2C%20resilient%20and%20transparent> (retrieved on 20 March 2022).

³⁹ Directive 2014/65/EU of the European Parliament and of the Council of 15 May 2014 on markets in financial instruments and amending Directive 2002/92/EC and Directive 2011/61/EU:

<https://eur-lex.europa.eu/legal-content/en/TXT/?uri=CELEX:32014L0065>

See Article 4(15) MiFID II.

See also: ABN-AMRO, 'Markets in Financial Instruments Directive II': <https://www.abnamro.nl/en/commercialbanking/products/international-payments-treasury-management/mifid.html>

⁴⁰ Laura Zandersone, 'Updating the Crypto Assets Regulation and establishing a pilot regime for distributed ledger technology', Initial Appraisal of a European Commission Impact assessment, European Parliament research Service (March 2021) (p.1):

[https://www.europarl.europa.eu/RegData/etudes/BRIE/2021/662617/EPRS_BRI\(2021\)662617_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/BRIE/2021/662617/EPRS_BRI(2021)662617_EN.pdf) (retrieved on 21 March 2022).

See also: The European Commission STAFF WORKING DOCUMENT IMPACT ASSESSMENT Accompanying the document Proposal for a Regulation of the European Parliament and of the Council on Markets in Crypto-assets and amending Directive (EU) 2019/1937: <https://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=SWD:2020:0380:FIN:EN:PDF>

⁴¹ Proposal for a regulation of the European Parliament and of the Council on Markets in Crypto-assets, and amending Directive (EU) 2019/1937, COM/2020/593, 24/09/2020: https://www.eba.europa.eu/sites/default/documents/files/document_library/Publications/Warnings/2022/1028326/ESAs%20warning%20to%20consumers%20on%20the%20risks%20of%20crypto-assets.pdf

⁴² European Securities and Markets Authority (ESMA), ESA 2022 – 15:

https://www.eba.europa.eu/sites/default/documents/files/document_library/Publications/Warnings/2022/1028326/ESAs%20warning%20to%20consumers%20on%20the%20risks%20of%20crypto-assets.pdf

⁴³ Article 3 of the proposed MiCA, defining crypto-assets as digital representation of value or rights which may be transferred and stored electronically, using distributed ledger technology or similar technology: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52020PC0593>

economic benefits to Europe.⁴⁴ This approach would provide legal certainty to investors and providers of crypto-assets, whilst ensuring consumer protection.⁴⁵

V. Conclusions

As it stands, the absence of current adequate regulation in Europe leaves cryptocurrency vulnerable to pump-and-dump schemes because of the blockchain's encrypted and immutable nature. For now, in the search of some possible solutions, one may observe the efforts from other jurisdictions such as in the United States, where the authorities are releasing warnings to deter people from engaging in cryptocurrency pump-and-dump schemes and even offering monetary reward to whistle-blowers who would reveal fraudsters.⁴⁶ Similarly, the Australian Securities & Investments Commission is using Telegram communication to infiltrate on chats, and caution fraudsters about cryptocurrency pump-and-dump liability under corporation and consumer law.⁴⁷ In Europe, despite not having a specific or adequate legislation that prohibits cryptocurrency pump-and-dump schemes, the judicial system, arguably, may attempt to apply current regulations against market manipulation to deter cryptocurrency pump-and-dump activities.

Lastly, as the current burden is equally shared between the blockchain and the absence of adequate regulation in Europe, and until the MiCA proposal finds the green light from Member States, the best one can hope is to allow the blockchain ecosystem to regulate itself.⁴⁸ Permitting cryptocurrency market exchange platforms to set their own regulations against pump-and-dump schemes would alleviate the current issue and assist to deter these activities. For example, Bitvavo (a Dutch cryptocurrency trading platform) has implemented under its policy the banning of pump-and-dump activities on its platform.⁴⁹ This type of “good

⁴⁴ The Dutch Banking Association (Nederlandse Vereniging van Banken, or ‘NVB’), ‘Crypto-assets in Dutch perspective: opportunities for a Dutch crypto-assets ecosystem’, (p. 27).

⁴⁵ Michele Benedetto Neitz, ‘How to Regulate Blockchain’s Real Life Applications: Lessons from the California Blockchain Working Group’ (2021), 61 *Jurimetrics J.* 185-217, (pp. 203, 214).

⁴⁶ Commodity Futures Trading Commission’s Office of Customer Education and Outreach: https://www.cftc.gov/sites/default/files/2019-12/customeradvisory_pumpdump0218.pdf (retrieved on 18 March 2022).

⁴⁷ Jonathan Shapiro and Tom Richardson, ‘ASIC enters chat room to warn ‘pump-and-dump’ group’, *Financial Review Australia*, (Oct, 2021): <https://www.afr.com/markets/equity-markets/asic-enters-chat-room-to-warn-pump-and-dump-group-20211011-p58yxa> (retrieved on 18 March 2022).

⁴⁸ Professor Thibault proposes a fascinating way of self-regulation through Lex Cryptographia and offers a hybrid view, where the Rule of Law and Lex Cryptographia may find harmony. See: Thibault Schrepel, ‘Anarchy, State, and Blockchain Utopia: Rule of Law vs. Lex Cryptographia’ (2019), *General Principles and Digitalisation*, Hart Publishing (pp. 375-380).

⁴⁹ Bitvavo’s trading rules prohibiting pump-and-dump: <https://bitvavo.com/en/trading-rules> (retrieved on 22 March 2022).

Samaritan” initiative promotes a robust trust on the blockchain and therefore cryptocurrencies. It also cooperates with the law and financial markets in deterring market manipulation behaviour. Additionally, in the quest to deter these cryptocurrency pump-and-dump schemes, trading platforms and law enforcement must welcome the development and implementation of AI systems to detect pump-and-dump schemes which can assist in combating this problem.⁵⁰ On another point, genuine cryptocurrency investors should be doubtful about crypto-markets hype and undertake best endeavours to conduct their own research to verify the legitimacy of the chosen cryptocurrency. Finally, the MiCA proposal must adequately regulate market manipulation in cryptocurrencies to ban pump-and-dump activities, without being coercive on technology innovation. This would lead to public protection of consumers while promoting financial stability and legal certainty to investors and innovators.

⁵⁰ Taro Tsuchiya, ‘Profitability of Cryptocurrency Pump-and-dump Schemes’ (2021), *Digital Finance*, Springer, (p. 152).