Cryptocurrency Price Manipulation

A Comparative Study of the Qualification of Cryptocurrencies in Swiss, US, and European Financial Markets Law and its Effect on the Applicability of Market Manipulation Provisions

MASTER'S THESIS

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Abstract

This Master's thesis presents typical cryptocurrency market manipulation schemes, and discusses and compares what effects the qualification of cryptocurrencies under the financial markets law of three different jurisdictions (*i.e.* Switzerland, the United States and the European Union) has on the applicability of market manipulation provisions. The Master's thesis shows that there remain significant gaps in the current regulatory framework of these jurisdictions, despite recurring opportunities to address these issues.

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Gender Disclaimer: wherever words denoting a specific gender are used in this Master's thesis, they are intended to apply equally to all persons, regardless of sex or gender.

"The methods and techniques of manipulation are limited only by the ingenuity of man."

- Circuit Judge Floyd R. Gibson, in *Cargill Incorporated v. Secretary of Agriculture Hardin,* 452 F.2d 1154, 1163 (8th Cir. 1971)

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Table of Abbreviations

AG	*Aktiengesellschaft*
AMLA	Federal Act on Combating Money Laundering and Terrorist Financing of October 10th, 1997 (CC 955.0)
Art.	Article
BaFin	*Bundesanstalt für Finanzdienstleistungsaufsicht*
BGE	*Entscheidungen des Schweizerischen Bundesgerichts* (Decisions of the Swiss Federal Court)
BSK	*Basler Kommentar*
BTC	Bitcoin
CC	Classified Compilation of Swiss Federal Law
CCP	Central Counterparty
CEA	Commodity Exchange Act of 1936, 7 U.S.C. §§ 1-27f
CBECI	Cambridge Bitcoin Electricity Consumption Index
CEO	Chief executive officer
CEPR	Center for Economic Policy Research
CFR	United States Code of Federal Regulations
CFTC	United States Commodity Futures Trading Commission
CHF	Swiss francs
CHSB	Swissborg
Cir.	Circuit
CO	Federal Act on the Amendment of the Swiss Civil Code (Part Five: The Code of Obligations) of July 1st, 1911 (CC 220)
COB	*Commission française des Opérations de Bourse*
Corp.	Corporation
CR	*Commentaire romand*
d/b/a	Doing business as
DA	Digital Asset
DAO	Decentralized Autonomous Organization
DEBA	Federal Debt Enforcement and Bankruptcy Act of April 11th, 1889 (CC 281.1)
DLT	Distributed Ledger Technology
DOGE	Dogecoin
e.g.	*Exempli gratia*
EBI	European Banking Institute
EC	European Council
ed.	Editor
eds.	Editors
EF	Expert Focus
EIZ	*Europa Institut Zürich*

EJF	The European Journal of Finance
et al.	*Et alii*
etc.	*Et cetera*
et seq.	*Et sequentes*
ESMA	European Securities and Markets Authority
ETH	Ethereum/Ether
EU	European Union
i.e.	*Id est*
ibid.	*Ibidem*
id.	*Idem*
F.	United States Federal Reporter
F. Supp.	Federal Supplement
FG	Swiss Federal Law Gazette
FinIA	Federal Act on Financial Institutions of June 15th, 2018 (CC 954.1)
FINMA	Swiss Financial Market Supervisory Authority
FINMASA	Federal Act on the Swiss Financial Market Supervisory Authority of June 22nd, 2007 (CC 956.1)
FinMIA	Federal Act on Financial Market Infrastructures and Market Conduct in Securities and Derivatives Trading of June 19th, 2015 (CC 958.1)
FinMIO	Ordinance on Financial Market Infrastructures and Market Conduct in Securities and Derivatives Trading of November 25th, 2015 (CC 958.11)
FinSA	Federal Act on Financial Services of June 15th, 2018 (CC 950.1)
FISA	Federal Act on Intermediated Securities of October 3rd, 2008 (CC 957.1)
fn.	Footnote
FR	United States Federal Register
FRF	French francs
GesKR	*Gesellschafts- und Kapitalmarktrecht*
GLI	Global Legal Insights
HK	*Handkommentar*
ICO	Initial Coin Offering
Inc.	Incorporated
IOSCO	International Organization of Securities Commissions
Let.	Letter
LLC	Limited Liability Company
MAD	Directive 2014/57/EU of the European Parliament and of the Council of 16 April 2014 on criminal sanctions for market abuse (Market Abuse Directive)
MAR	Regulation (EU) No 596/2014 of the European Parliament and of the Council of 16 April 2014 on market abuse and repealing Directive 2003/6/EC of the European Parliament and of the Council and Commission Directives 2003/124/EC, 2003/125/EC and 2004/72/EC (Market Abuse Regulation)

MiCA	Proposal for a Regulation of the European Parliament and of the Council on Markets in Crypto-assets, and amending Directive (EU) 2019/1937
MiFID II	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
NFT	Non-fungible token
no.	Number
nos.	Numbers
NYU	New York University
OC	Official Compilation of Swiss federal law
OFK	*Orell Füssli Kommentar*
OTC	Over-the-counter
p.	Page
Par.	Paragraph
PILA	Federal Act on Private International Law of December 18th, 1987 (CC 291)
pm	*Post meridiem*
pp.	Pages
PTD	Pesetacoin
rec.	Recital
RS	*Runschreiben* (Circular)
S.D.N.Y.	Southern District of New York
SA	Securities Act of 1933, 15 U.S.C. §§ 77a-77mm
SCC	Swiss Criminal Code of December 21st, 1937 (CC 311.0)
SEA	Securities Exchange Act of 1934, 15 U.S.C. §§ 78a-78qq
Sec.	Section
SEC	United States Securities and Exchange Commission
SESTA	Federal Act on Stock Exchanges and Securities Trading of February 1st, 1997 (OC 1997 68)
SFC	Swiss Federal Council
SIX	Swiss Stock Exchange
SJZ	*Schweizerische Juristen-Zeitung*
SK	*Schulthess Kommentar*
SSHW	*Schweizer Schriften zum Handels- und Wirtschaftsrecht*
STB	Swiss Takeover Board
SZW	*Schweizerische Zeitschrift für Wirtschafts- und Finanzmarktrecht*
TFEU	Consolidated version 2012/C 326/01 of the Treaty on the Functioning of the European Union
TWh	Terawatt-hour
U.S.	United States Reports (Official Collection of Supreme Court Cases)
U.S.C.	United States Code

US	The United States
USD	United States Dollars
v.	*Versus*
WSJ	Wall Street Journal
XRP	Ripple
ZHR	*Zeitschrift für das gesamte Handels- und Wirtschaftsrecht*
ZStP	*Zürcher Studien zum Privatrecht*
ZStS	*Zürcher Studien zum Strafrecht*

Glossary

Action-based market manipulation	The act of manipulating the market price of an asset by affecting that asset's real value. The manipulator tries to modify the economic reality surrounding the asset in question such that that asset's price indirectly increases. This is different from other types of market manipulation (such as trade- or information-based manipulation), where the manipulator intends to manipulate the price directly.
Bid-ask spread	The difference between the price for which the seller agrees to sell (ask price) and the price the buyer is willing to pay (bid price). The more illiquid a market is, the larger the bid-ask spread.
Block	A record, which contains data on transactions and is stored in a Blockchain.
Blockchain	A chain of transaction blocks.
Central Counterparty	A financial institution, which acts as a buyer for every seller and as a seller for every buyer, thus taking on the counterparty credit risk in regulated transactions.
Collective Custody	Entrusting fungible negotiable securities to a bailee for safekeeping (Art. 973a CO).
Counterparty credit risk	The risk that the counterparty does not meet its payment obligations.
Derivative (economics)	A financial contract between two or more parties, which has a value based on at least one underlying asset or index. Common derivatives include futures, forwards, options and swaps.
Derivative (Swiss financial markets law)	A financial contract that is not a cash transaction and the value of which depends on at least one underlying asset or reference value (Art. 2 Let. c FinMIA).
Efficient-market hypothesis	An economic theory, first proposed by French mathematician Louis Bachelier in 1900, which states that the pricing of any asset reflects all available information.
Fiat money	Currency that lacks intrinsic value. Its value solely depends on trusting an issuing central authority to maintain its value or on the value the parties that use it as a currency agree it has.

Forward	An OTC-derivative, more precisely an agreement between a seller and a buyer to buy/sell a financial asset at a predetermined price at a later time.
Fraud (Swiss law)	Any behavior that maliciously misleads the victim in such a way that they dispose of an asset and cause themselves financial harm (Art. 146 SCC).
Future	Standardized forwards that are traded on an exchange instead of OTC.
Global certificate (Swiss law)	Incorporating all issued rights into a single certificate as opposed to needing one certificate for every issued right (Art. 973b CO).
Hash function	A function that returns a unique result (hash value) based on the content of a given block.
Hash value	The result of applying the hash function to the content of a block.
ICO	The process of emitting membership rights such as stocks or claims such as bonds through the Blockchain instead of traditional capital markets.
Information-based market manipulation	Any manipulative activity where the price is being manipulated by publishing incorrect information or statements.
Intermediated Security (Swiss law)	Fungible rights of a corporative or personal nature against an issuer that are credited to a securities account and over which the account holder has the right of disposal (Art. 3 FISA).
Ledger-Based Security (Swiss law)	Rights that, based on the parties' agreement, are registered in a securities ledger and can only be transferred via this securities ledger (Art. 973d *et seq.* CO).
Negotiable Security (Swiss law)	Any right incorporated into a certificate in such a way that the right can neither be exercised nor transferred without the certificate in question (Art. 965 *et seq.* CO).
Node	A point that is connected to a network and can share and receive data.
Non-fungible token	A token used to record ownership of an asset outside of the Blockchain, typically works of art or collectibles.

Option	A derivative financial product allowing the buyer of the option to sell (put-option) or buy (call-option) the underlying financial asset at a later date for a fixed price, in exchange for a premium (option price).
OTC-Trading	Trading directly between counterparties (as opposed to going through a centralized exchange).
Peer-to-peer network	A decentralized network, which allows for the sharing of files without to the necessity of going through a central authority or server.
Security (financial markets law)	A central definition in the regulatory framework of many jurisdictions, it determines whether or not certain provisions of financial markets law are applicable to a given instrument.
Shorting	Borrowing an asset and selling it on the market immediately. Later, the borrower needs to buy back the asset on the market in order to return it to the lender. If the prices have fallen in the meantime, the lender will have made a profit equal to the difference between the borrowing price and the buyback price.
Swap	A derivative financial product between two parties to exchange financial instruments or cash.
Token	A Blockchain-based instrument, which gives access to a service or application (utility token), incorporates a claim on assets outside of the Blockchain (asset token) or which can be transferred as a means of payment (payment token).
Trade-based market manipulation	Any manipulative activity where the price is manipulated by performing trades.
Uncertificated Security	A dematerialized right that is created by entering that right into a book kept by the obligor (Art. 973c Par. 3 CO).

I. Introduction

A. Centralized and Distributed Ledgers

The theoretical foundation for Distributed Ledger Technologies (DLT) had been the subject of exploration for years when, in 2008, a person or group of persons under the pseudonym "Satoshi Nakamoto" published the so-called Bitcoin White Paper[1]. Soon thereafter, the first Bitcoin was created[2], followed by other cryptocurrencies, eventually leading to perhaps the most important and far-reaching digital revolution of our age.

The cryptocurrency revolution was based on a simple premise: allowing individuals to conduct payment operations between them directly without going through a central authority, which would verify and document every transaction[3]. The idea of not being dependent on a central authority was particularly attractive in the wake of the 2007/2008 financial crisis[4], which had shown that traditional financial intermediaries were not infallible, and that their failure or collapse could have catastrophic consequences[5].

However, central financial authorities exist for a reason: to guarantee the security and correct execution of transactions by entering every single one into a centralized ledger. This verification process ensures that one unit of book money can only be spent once, instead of multiple times (*double-spending problem*)[6]. Nevertheless, this centralized approach raises one glaring issue: the central ledger represents a single point of failure, meaning that if it were to become compromised, the entire system would be compromised[7]. This, in turn, calls for the implementation of extensive security measures to ensure that the one central ledger is not compromised[8].

The alternative to a single centralized ledger is the distribution of copies of it across a network. In the case of a DLT-system, the ledgers are electronically distributed among many different participants or nodes across the network[9]. This network is called a peer-to-peer network, since it is not built around a central infrastructure, but around all network participants[10]. Therefore, the failure or compromise of any one node or ledger – or even of several, as long as the compromised nodes make up less than 50% of the total network – does not affect the stability of the system as a whole[11]. Since the ledgers are distributed across the network, in theory, every single

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[1] Nakamoto, p. 1.

[2] Moore *et al.*, p. 3 ; Ruthishauser/Kubli/Weber, in: Weber/Kuhn, p. 11, no. 8.

[3] Armstrong/Hyde/Thomas, pp. 9-10 ; Gandal *et al.*, p. 1 ; Nakamoto, p. 2.

[4] Nakamoto, p. 2 ; Rossbach, in: Möslein/Omlor, p. 77 nos. 18 *et seq.* ; Ruthishauser/Kubli/Weber, in: Weber/Kuhn, p. 12, no. 10.

[5] Take, for example, the collapse of Lehman Brothers in 2008, the largest bankruptcy in history (with over USD 600 billion in assets). The crisis revealed that financial intermediaries were more concerned about their own margins and gains than about the stability of the broader market. The taxpayer was ultimately required to foot the bill for the (sensible) decision to bail out several *too-big-to-fail* companies in order to avoid a total collapse of the economy.

[6] Cox, in: Cox/Rasmussen, p. 4 ; Green, in: Fox/Green, p. 2 no. 1.03 ; Rossbach, in: Möslein/Omlor, p. 74 no. 10 ; SFC Report, p. 37.

[7] Rossbach, in: Möslein/Omlor, p. 74 no. 11.

[8] *Ibid*.

[9] Greco/Kramer, in: Arpagaus/Stalder/Werlen, p. 733 no. 2691 ; Oswald, p.17.

[10] Nakamoto, p. 2.

[11] Green, in: Fox/Green, p. 2 nos. 1.03 *et seq.* ; Rossbach, in: Möslein/Omlor, p. 75 no. 13.

node has a complete ledger with a full list of all transactions[12]. In practice, since transactions take place continuously, the distributed ledgers are also updated seamlessly and continuously, meaning that they are not always in the exact same state of completeness[13].

B.　The Blockchain and Cryptocurrencies

The Blockchain is a type of electronic DLT-system. Every time new transactions take place, the ledgers are updated, and a new entry or block corresponding to the new transaction is added to them. Each block has a hash value, which is essentially the result of applying a hash function to the contents of the previous block in the chain. Because the hash function returns a unique result depending on the content of the previous block, modifying the content of any previous block will affect the result of the hash function, and thus affect the hash values of all the following blocks, making *post factum* modifications of a block next to impossible. Together, all the blocks form a Blockchain[14]. This elaborate structure is one of the main selling points of the Blockchain: any data based within it is inherently safe because the transaction ledgers are not stored in one place, and because modifications of any transaction block in the chain affects all subsequent blocks[15].

Furthermore, the different blocks usually do not contain information on the real identity of the participants in any given transaction, but only on the transaction itself and the users' digital identity, which makes transactions stored within the Blockchain anonymous[16]. This anonymity is another of the advantages of the Blockchain. It is also, however, one of its main dangers, since the lack of knowledge about one's transactional counterparty means that manipulative practices are far easier to conceal, and Blockchain-based cryptocurrencies may be more easily used for illegal means.
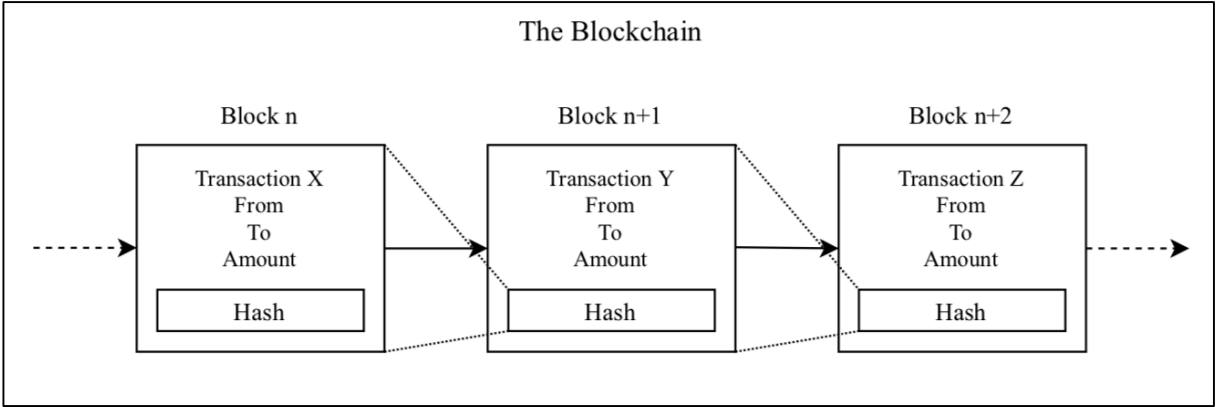
Figure 1: The Blockchain, which is formed by several blocks, each containing data on a transaction (or a package of transactions).

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[12] GREEN, in: FOX/GREEN, p. 2 no. 1.03 ; ROSSBACH, in: MÖSLEIN/OMLOR, p. 76 nos. 14 *et seq.*

[13] GREEN, in: FOX/GREEN, p. 3 nos. 1.07 *et seq.* ; ROSSBACH, in: MÖSLEIN/OMLOR, p. 77 no. 19.

[14] ROSSBACH, in: MÖSLEIN/OMLOR, p. 79 no. 31. The terms Blockchain and DLT are often used interchangeably, but, while all Blockchains are DLTs, the converse is not true.

[15] Theoretically speaking, it would be possible to modify the Blockchain, but that would require that "attackers" cooperate to modify the ledgers held by several nodes at once, and that their combined computational power is more than that of all the "honest" nodes taken together: NAKAMOTO, p. 1.

[16] OSWALD, p. 11 ; ROSSBACH, in: MÖSLEIN/OMLOR, p. 76 no. 16.

Of course, while one of the first and most prevalent applications of the Blockchain is crypto-currency, since then, it has been used for other means, such as a medium of storage for other elements[17]. Any set of rules stored on the Blockchain is called a token. A cryptocurrency is simply a type of token intended to be used specifically for anonymous payments[18].

It remains a common misconception that all trading of cryptocurrencies takes place within the Blockchain. This is not the case, since the blocks composing the Blockchain only contain information on payment transactions in which the cryptocurrency was used. The trading itself is usually conducted over-the-counter on cryptocurrency trading platforms such as Coinbase or Binance, where orders are matched and executed[19].

The special structure of the Blockchain has led to exponential growth in the cryptocurrency market. Since its humble beginnings, this growth has been the leading factor behind the popularity of cryptocurrencies. As of late 2021, the total market cap of cryptocurrencies has surpassed USD 2 trillion[20]. The fast pace of this impressive growth, however, has resulted in significant regulatory difficulties, which will be discussed in this Master's thesis[21].

C.   Structure of this Master's Thesis

The goal of this Master's thesis is to explore what types of manipulative behaviors can typically be found in the cryptocurrency market, and how well regulated these behaviors are. In particular, the aim is to compare the domestic Swiss jurisdiction – taking into account the comprehensive legislative amendment of 2021 – with those of the United States and the European Union.

To achieve these goals, the thesis is divided into several parts. After the introductory first Part, the second Part explores common manipulative practices. The third Part discusses different approaches to regulating such behaviors as well as the difficulties related to regulation and enforcement. Because, frequently, the applicability of market manipulation provisions depends on whether a given asset does or does not qualify as a security[22], the fourth Part presents how cryptocurrencies are qualified in the three aforementioned jurisdictions, and what influence that qualification has on the applicability of market manipulation provisions. Finally, the aim of the fifth and final Part is to present a critical analysis of the results of the Master's thesis and to discuss how cryptocurrency-related market manipulation regulation may evolve in the future.

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[17] Such as Blockchain-based company stock issued through an ICO, or so-called non-fungible tokens (NFTs).

[18] Although the term "cryptocurrency" is unfortunately often used interchangeably with the word "token", the two notions are not the same and must therefore not be confounded.

[19] VON JEINSEN, p. 38.

[20] See Ossinger Joanna, Crypto Market Retakes $2 Trillion Market Cap Amid Bitcoin Gains, August 15th, 2021, accessible at https://www.bloomberg.com/news/articles/2021-08-15/crypto-market-retakes-2-trillion-market-cap-amid-bitcoin-gains (last consulted on October 4th, 2021).

[21] See *infra* on pp. 12 *et seq.*

[22] Throughout this Master's thesis, when specific terms (*e.g.* "Security", "Derivative" or "Fraud") appear with an uppercase first letter, they refer to the specific legal definition of that term in the jurisdiction that is being discussed in the Section where the term is used. Oppositely, when such terms do not start with an uppercase letter, they refer to the general notion.

II. Typical Forms of Market Manipulation

A.   Market Manipulation as a Danger to Market Efficiency

To function correctly, markets need to allocate capital and to operate efficiently[23]. This efficiency can be greatly endangered when the price of any asset traded on that market is manipulated, because it then no longer corresponds to the economic reality of supply and demand[24]. Prices must reflect all information that is publicly available. This is called the *Efficient-Market Hypothesis*[25].

Market and price manipulation are as old as the markets themselves, as they have always represented a way of making money without the risk normally associated with investing[26]. As is correctly stated in a 1971 American market manipulation case, "[…] the methods and techniques of manipulation are limited only by the ingenuity of man" [28].

One of the first well documented cases of price manipulation arose in 1814: people dressed as British military officers announced the death of Napoleon at the hands of a group of Cossacks and the victory of the armies of the Coalition. Of course, Napoleon had not been killed, and the French army would not be beaten decisively until the next year at Waterloo, but the news sent the price of British government bonds skywards. Admiral Lord Cochrane, who had organized the entire charade, was quick to exploit the spike in prices and to unload the bonds he and his entourage had bought in the weeks prior, making a substantial profit in the process[29]. Even though markets were regulated more and more strictly as time went on, fraud has continued to exist. In another high-profile case, the brokerage firm Stratton Oakmont, lead by CEO Jordan Belfort, developed elaborate stock fraud schemes to scam millions of people out of their life savings in the 1990s[30]. Both of these schemes were classic pump and dump manipulations[31].

While Lord Cochrane was eventually convicted of fraud and stripped of his Royal Navy rank, and Jordan Belfort went to prison, their stories remain relevant today, because the economic forces behind market manipulation have remained the same.

Even though no one definition of market manipulation is universally accepted[32], it can be broadly defined as directly or indirectly sending false or misleading signals to the markets, by

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[23] HANSLIN, pp. 8 *et seq.*

[24] *Id.,* p. 72 nos. 130 *et seq.*

[25] BLUMENBERG, p. 19 ; BSK FINMAG/FinfraG-MAURENBRECHER/HANSLIN, Introduction to Art. 142 *et seq.* FinMIA no. 7 ; JARROW, p. 311.

[26] PFLAUM, pp. 3 *et seq.*

[28] *Cargill Incorporated v. Secretary of Agriculture Hardin,* 452 F.2d 1154, 1163 (8th Cir. 1971).

[29] PFLAUM, p. 5. For a more detailed overview and other similar stories, see Vigna Paul, Stock-Market Hoaxes, From 'Napoleon Is Dead' to 'Twitter for Sale', July 14th, 2015, accessible at https://www.wsj.com/articles/BL-MBB-39217 (last consulted on October 8th, 2021).

[30] This story is told in Martin Scorsese's outstanding 2013 movie "The Wolf of Wall Street", in which Jordan Belfort is portrayed by Leonardo DiCaprio.

[31] See *infra* on p. 5.

[32] FISCHEL/ROSS, pp. 508 *et seq.* ; NELEMANS, p. 1174. For example, HANSLIN, on p. 34 nos. 61 *et seq.*, makes a distinction between an effect-based definition (*wirkungsorientiert*) and an intent-based definition (*absichtsorientiert*).

providing misinformation (information-based manipulation)[33], by performing trades (trade-based manipulation)[34], or by influencing the intrinsic value (action-based manipulation*)* of any traded asset, with the intent of manipulating the price such that the market price no longer corresponds to economic reality[35]. This definition, of course, is not specific to traditional markets, but also applies to the cryptocurrency market, which is no less subject to manipulation than are traditional markets[36]. In fact, as we will see, cryptocurrencies are, if anything, more often manipulated than traditional financial instruments.

In this second Part, a few common types of market manipulation acts will be analyzed in more detail, with a distinction between predominantly information-based manipulation [*infra* in Section B], predominantly trade-based manipulation [*infra* in Section C], and predominantly action-based manipulation [*infra* in Section D][37].

B.   Predominantly Information-Based Manipulation

1. Traditional Pumping and Dumping

Pumping and dumping is a classic scam that takes place in three distinct phases.

In the first phase, a person or an organized group of people acquire a traded asset[38]. Typically, this purchase takes place over time rather than *en masse*, to avoid putting too much buying pressure on the price.

In the second phase, called the pump, the manipulators spread false information about the asset in question, in order to artificially inflate its price[39]. Traditionally, the fraudsters claim to have insider information or other sensitive information likely to drive the price upwards. As will be shown[40], current cryptocurrency pumping and dumping schemes have moved away somewhat from this traditional way of pumping and dumping.

Finally, the manipulators unload their holdings in what is called the dump. Because of the earlier price inflation, this results in a significant profit[41]. After the dump, the price usually plummets back to normal levels, making people who bought at the peak of the curve the victims of pump and dump schemes.

There are some variants of the pump and dump scheme, such as the short and distort or trash and cash schemes, which essentially do the opposite: trashing a traded asset, commodity, cryptocurrency, good, or security with misleading negative information, before purchasing it at a

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[33] HANSLIN, p. 55 no. 97.

[34] HANSLIN, p. 57 no. 101 ; NELEMANS, p. 1169.

[35] BLUMENBERG, p. 33 ; FISCHEL/ROSS, p. 510 ; LENGAUER, in: LENGAUER/EGGEN/STRAUB, p. 793 no. 10.192 ; PFLAUM, p. 6.

[36] Quite interestingly, the paper of GANDAL *et al.* concludes that even Bitcoin's initial 2013 price hike from USD 150.- to USD 1,000.- in just two months was, with overwhelming probability, caused by price manipulation.

[37] The reason for classifying manipulation schemes as predominantly information-, trading- or action-based is that many include elements pertaining to several categories.

[38] DHAWAN/PUTNINS, p. 2 ; MOORE *et al.*, p. 2 ; PFLAUM, p. 260 ; SPLINTER/GANSMEIER, p. 769.

[39] DHAWAN/PUTNINS, p. 2 ; MOORE *et al.*, p. 2.

[40] See *infra* on pp. 6 *et seq.*

[41] DHAWAN/PUTNINS, p. 2 ; JIANG/MAHONEY/MEI, p. 2 ; MOORE *et al.*, p.2 ; PFLAUM, p. 260.

discount. A profit is then made by either liquidating a long position acquired during the trash phase (trash and cash), or by covering shorts bought ahead of the publication of the information (short and distort)[42].

Normal pumping and dumping is not a rare occurrence with cryptocurrencies. Prominent examples include a scheme started in 2017 by John McAfee, who urged his Twitter followers to invest in specific cryptocurrencies, before unloading his own stake in the same cryptocurrencies[43], and Elon Musk's repeated tweets about Dogecoin[44] and Bitcoin[45].

2. <u>Spoofing and Layering</u>

Spoofing is the act of placing a large order without the intent of executing it, and making use of the price change resulting from the large order to make a profit with a smaller real order that is placed later[46]. Because the change in price stems from an order – which is information on the traded asset, commodity, cryptocurrency, good, or security in question – rather than from an actual executed and settled transaction, spoofing can be classified as an information-based form of manipulation. As a strategy, spoofing has become worthwhile with the advent of high frequency trading, since it requires cancelling the initial order fast enough to prevent it from being executed, yet not so fast that the order has no repercussions on the market price[47]. Typically, the manipulator will place a large buy-order, which will cause a rise in price. He will then make use of the higher price to sell a previously acquired holding – at a profit of course – before cancelling the spoof order. Layering is a variant of spoofing where, instead of one large order, several smaller ones are placed.

C. **Predominantly Trade-Based Manipulation**

1. <u>Cryptocurrency-Type Pumping and Dumping</u>[48]

When comparing traditional pump and dump schemes to cryptocurrency pumping and dumping, it becomes apparent that the *modus operandi* is quite different. Perhaps the most important difference is that, when performing a pump and dump on a cryptocurrency, the manipulators

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[42] SPLINTER/GANSMEIER, p. 769. For further reading, see Wayman Rick, Short and Distort: Bear Market Stock Manipulation, January 15th, 2021, accessible at https://www.investopedia.com/articles/analyst/030102.asp (last consulted on October 8th, 2021).

[43] In 2021, the CFTC finally stepped in, see McAfee Complaint.

[44] Simply tweeting "Doge" on February 4th, 2021 made the price of DOGE rise by a whopping 60%. When Musk called DOGE a "Hustle" live on SNL on May 9th, 2021, its price fell sharply as a consequence.

[45] Adding the hashtag "#Bitcoin" to his Twitter bio on January 29th, 2021 made the price rise by over 10%.

[46] PFLAUM, p. 262. For a more in-depth explanation, see Frankenfield Jake, Spoofy, February 28th, 2021, accessible at https://www.investopedia.com/terms/s/spoofy.asp (last consulted on October 6th, 2021).

[47] In the cryptocurrency market, high frequency trading does not seem to be very common and has not yet firmly established itself, see PETHUKINA/REULE/HÄRDLE, p. 20. Nonetheless, the use of high frequency trading algorithms is essential to taking advantage of manipulation schemes such as spoofing or layering, which require quick placement and cancellation of orders.

[48] For a critical overview of cryptocurrency pumping and dumping, see the WSJ article of Shifflet Shane/Vigna Paul, Traders Are Talking Up Cryptocurrencies, Then Dumping Them, Costing Others Millions, August 5th, 2018, accessible at https://www.wsj.com/graphics/cryptocurrency-schemes-generate-big-coin/ (last consulted on October 6th, 2021).

usually announce that a pump is going to take place, instead of pretending to have inside information[49]. These announcements are made in a very organized manner, often in online messaging services such as Discord or Telegram. Special chat groups, called pump groups[50], exist on these messaging services, with the sole purpose of pumping and dumping cryptocurrencies[51]. A pump announcement is made, telling the group members to buy a given cryptocurrency. It is then the sheer volume of coordinated buying that makes the price rise[52].

Sometimes, there is what is referred to as a pre-pump, meaning a select few – usually the group administrators – open their own positions before announcing the pump in the pump group, making an additional benefit in the process, while the other members of the pump group suffer significant losses (making pre-pumps akin to traditional pumping and dumping). Obviously, participating in pump groups is dangerous, as one cannot be sure whether they are genuine pump groups where all members are treated equally – which makes them no less manipulative and immoral – or whether the administrators use pre-pumps to prey on uninformed investors who join the group.

The members of pump groups in no way attempt to conceal their activities. On the contrary, the groups openly advertise pumping[53]. To give just two alarming examples:

> "Hello there! Are you interested in cryptocurrency? Do you like making money with ease? Then Pump House is for you! Here at PH we aim to provide our members with the fairest pump signal across all of discord! We do massive collaborations with other like-minded pump groups to ensure that everyone sees the fattest gains possible! We are still a growing community and are looking for active members to participate in our pumps! If this sounds like a good fit for you, please consider joining us at https://discord.gg/fQxg3qu3cU. Hope to see you there for our next pump!"[54].

> "We are the fastest-growing crypto pump and dump group led by cryptocurrency experts. Our goal is to organize free-for-all 500%+ pump events without pre-pump. Everyone will be able to profit weekly"[55].

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[49] DHAWAN/PUTNINS, p. 3 ; MOORE *et al*., p. 7 ; LA MORGIA *et al*., p. 2.

[50] LA MORGIA *et al*., pp. 3 *et seq.* These pump groups could be considered the modern analogue of boiler-rooms, where brokers would sell questionable penny stocks to make a quick profit themselves.

[51] These groups are either open to members only, or simply publicly announce their pumps. Some of them have followers in the tens of thousands. See *inter alia*: "Mega Pump Signals" with over 20,000 followers on Discord, accessible at https://discordservers.com/server/810812307969671168 (last consulted on October 6th, 2021).

[52] Therefore, crypto pumping and dumping is, in a way, a hybrid between an information-based and a trade-based form of manipulation. The pump itself consists of publishing information, and the buying pressure of people other than the publishers makes the price skyrocket.

[53] Still, people fall for the hype. Not everyone is aware of the existence of cryptocurrency pump groups, and even those who are may still think they can "get in on the action" if they notice a pump and buy into it fast enough. Ultimately, the entire system relies on the greed of its users to function.

[54] Homepage of Discord group "Pump House – Fair Crypto Signals", accessible at https://discord.me/pumphouse (last consulted on October 6th, 2021).

[55] Homepage of Discord group "Whalez – Big Pump Group", accessible at https://discord.me/whalez (last consulted on October 6th, 2021).

The number of online pump groups is downright alarming: when searching the term "crypto pump" on Discord, one finds dozens of groups[56], and that is presumably only the tip of the iceberg. The organized character of pump and dump schemes unfortunately means that they are running rampant in the cryptocurrency market. A study by MOORE *et al.* identified over 5,000 cases of pumping and dumping in just a six-month period[57]. DHAWAN/PUTNINS estimate that cryptocurrency pump and dump schemes are around 40 (!) times more frequent than stock market pumping and dumping[58].

The smaller the trading volume, the more effective a pump and dump scheme is, since a given transaction volume will have a much larger relative influence when the total trading volume is smaller[59]. MOORE *et al.* calculated a mean price increase of 23% following pumps of coins outside of the top 500 largest by capitalization, while the mean price increase for pumps in the largest 500 was approximately 4%[60]. Consequently, most pump and dump-type manipulations occur in small cryptocurrencies[61].
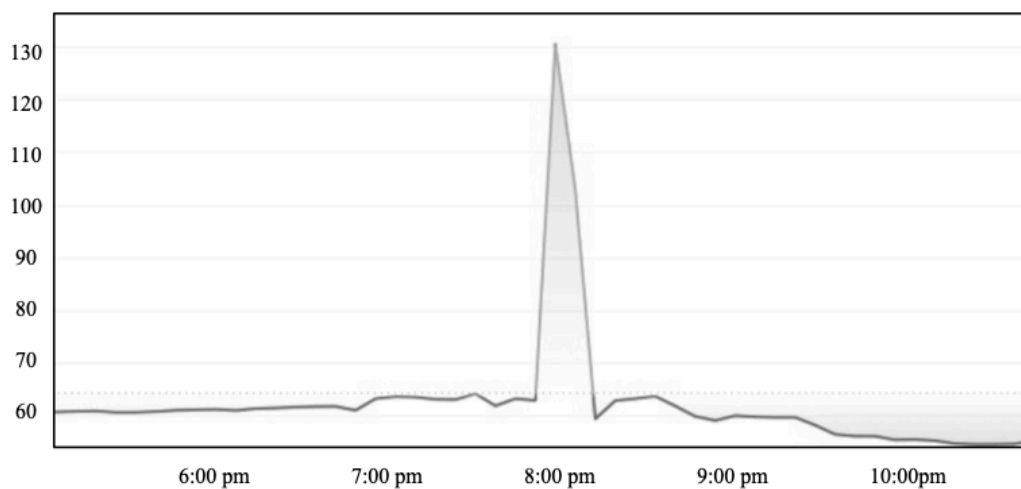
Figure 2: Price evolution from 6pm to 10pm during the Pump of Pesetacoin (PTD) on February 21ˢᵗ, 2018. The pump signal was given on 8pm, and the price rose from USD 0.062.- to USD 0.130.- within minutes (approximately 110% increase). The price was soon back at normal levels and had fallen further by 10pm.

2. Wash Trading

Wash trading means simultaneously buying and selling any traded asset, commodity, cryptocurrency, good, or security[62]. The buyer and seller are either the same person or two persons who are economically affiliated, such as a company buying the stock, which the only company

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[56] Discord public server search engine, accessible at https://discord.me/servers/tag/pump (last consulted on October 6ᵗʰ, 2021).

[57] MOORE *et al.*, p. 2.

[58] DHAWAN/PUTNINS, p. 3.

[59] DHAWAN/PUTNINS, p. 33 ; MOORE *et al.*, p. 3.

[60] MOORE *et al.*, p. 22.

[61] As MOORE *et al.* correctly state, the highest pump and dump activity is mostly, but not exclusively, associated with small-cap coins. Cryptocurrencies with a larger trading volume and cap are also targeted, but they produce less profit when manipulated (for further details, see MOORE *et al.,* pp. 14 and 22). Furthermore, while coins with a low trading volume are the most profitable to pump, the trading volume must not be so low that the acquisition of long positions ahead of the pump would drive the price up sharply, according to DHAWAN/PUTNINS, p. 5.

[62] HANSLIN, p. 59 no. 105 ; PFLAUM, pp. 103 *et seq.*

shareholder is selling. Because the buyer and seller are economically affiliated (or simply the same person), only a legal transfer of property, but not an economic one, takes place. The beneficial owner remains the same[63]. The wash trades give the impression that the market is more liquid than it really is, which serves to make the price shift towards the sales prices agreed to in the wash sale[64], *inter alia* by narrowing the bid-ask spread. This will then be used by the manipulator to sell at a higher price or buy at a lower price.

3. Matched Orders

Matched orders are a variant of wash trading. Instead of the same person, or two economically connected persons, buying and selling, the buyer and seller are two economically independent people who are "simply" colluding[65]. In this variant, there is an actual transfer of property, but the effect on price is the same as in wash trading.

D. Predominantly Action-Based Manipulation

1. Making Public Announcements of Measures and/or Implementing them

Making public announcements that can impact prices is usually not a manipulative practice, as long as the announcements are true. On the contrary, in most jurisdictions, there is even an obligation to publicly disclose price-sensitive information[66]. However, a statement, even of fact, can, when made by a person or company with considerable influence[67], have a noticeable effect on the price of any traded asset to which the information is related[68]. If the statement is untrue or misleading, then this is a case of information-based manipulation, especially when the person making the statement holds a stake in the manipulated asset. This then represents, more often than not, a case of traditional pumping and dumping.

Public statements relating to a traded asset are, however, especially problematic when they are announcements of measures a company is going to implement. The announcement and implementation of measures can affect the intrinsic value and thus the price of the traded asset in question, and does not usually constitute traditional pumping and dumping, since the announcement is not false. The problem is that the people making the announcement do not manipulate the price in such a way that it no longer corresponds to economic reality. Instead, they modify the economic reality with the aim of influencing the price. A good example of this is the manipulation around the American Steel and Wire Company case in 1901. Managers of the company shorted company stock, before announcing the closure of several steel mills, and going through with the announced closing. The stock price fell from USD 60.- to around USD 40.-, at which point the managers covered their shorts. In the aftermath, the steel mills were reopened,

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[63] BLUMENBERG, p. 41 ; PFLAUM, p. 104.

[64] PFLAUM, p. 104.

[65] HANSLIN p. 59 no. 106 ; PFLAUM pp. 105 *et seq.*

[66] MEIER-HAYOZ/FORSTMOSER/SETHE, p. 253 no. 158. This is called *ad-hoc* publicity. In Switzerland, the relevant provisions can be found in the SIX listing rules.

[67] So-called market influencers, such as Warren Buffet, who is sometimes referred to as the "Oracle of Omaha" (see Chen James, The Oracle of Omaha, accessible at https://www.investopedia.com/terms/o/oracleofomaha.asp, last consulted on January 11th, 2022), for the influence his statements on a stock can have on its price, or Elon Musk, in reference to his repeated tweets about several different cryptocurrencies.

[68] Even though there is probably no manipulative intent behind such statements most of the time, one cannot help but notice with concern the effect they can have on stock prices.

and the stock price rose back to previous levels[69]. Of course, the closure of the steel mills actually affected the intrinsic value of the company stock, so its price technically still corresponded to economic reality, but this case illustrates two difficulties related to action-based market manipulation: (1) where is the border between the legitimate announcement of measures and the implementation of measures whose primary goal is price manipulation[70], and (2) how can one distinguish this type of manipulation from insider trading[71]?

The above described practice is not limited to traditional markets. For example, on March 25th, 2021, Tesla CEO Elon Musk announced that Tesla would accept Bitcoin as payment. In just over a week, its price rose significantly. Two months later, when Tesla announced they would no longer accept Bitcoin as payment – primarily over environmental considerations[72] – , its price plunged. Another two months later, the prices rose again on news that Tesla was likely to accept payments in Bitcoin again. This back-and-forth was harshly criticized, especially since both Musk, personally, and Tesla, owned Bitcoin[73].
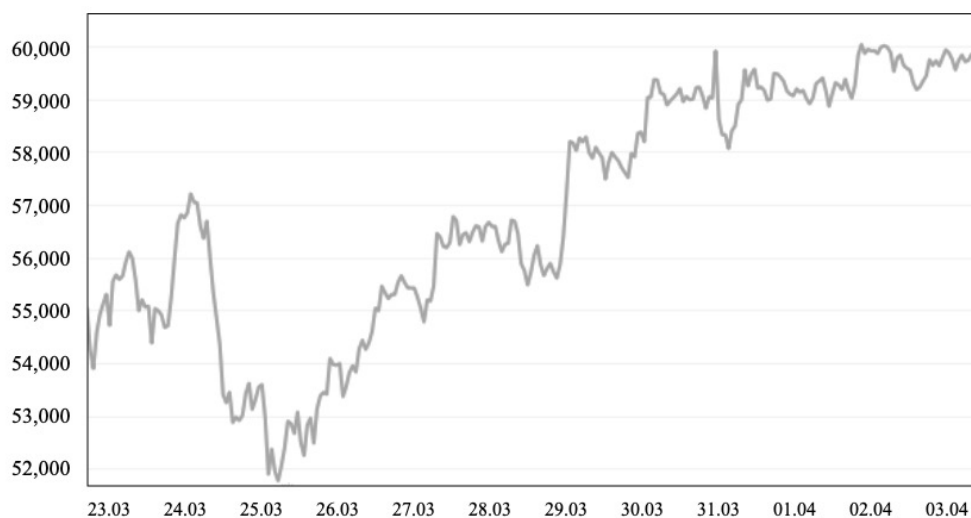
Figure 3: Bitcoin's rise in price after Tesla's announcement in March 2021. After the announcement was made, the price rose from approximately USD 52,000.- to over USD 59,000.-.

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[69] HANSLIN, p. 61 no. 111.

[70] As will later be explored in detail [see *infra* on p. 24], this is a very delicate question.

[71] In the author's opinion, such behaviors are much closer to market manipulation than to insider trading, as the problem is not the trades itself, but rather taking advantage of the price changes stemming from the announcement of measures of which the implementation is ultimately reversed. Insider trading provisions may still be relevant concerning the acquisition of a stake in the first place.

[72] This impact is massive, since all transactions need to be verified before a new transaction block can be added to the Blockchain. This requires substantial computational power, which in turn consumes electricity. The University of Cambridge Bitcoin Electricity Consumption Index (CBECI) estimates that the total power consumed year by the Bitcoin network is around 125 TWh, which is roughly equal to a country such as Argentina. For further details, please visit the CBECI website, accessible at https://ccaf.io/cbeci/index (last consulted on January 4th, 2022).

[73] One of the most virulent critics was NYU economist Dr. Nouriel Roubini, who (in the author's opinion correctly) stated in an interview "First take an individual position in Bitcoin, pump up the price, and then say Tesla has invested. […] It's also irresponsible and it's market manipulation. The SEC should be looking into people that have a market impact that can manipulate the price of assets. That's also criminal behavior". For the full interview, visit: https://twitter.com/CoinDesk/status/1359524088310624258 (last consulted on October 28th, 2021). See also Parker Emily, Cryptocurrency has an Elon Musk problem, May 26th, 2021, accessible at https://www.washingtonpost.com/opinions/2021/05/26/elon-musk-tweets-crypto-markets/ (last consulted on November 2nd, 2021).

III. Regulatory Approaches and Challenges

As has been shown in Part II, there are several ways of manipulating cryptocurrencies. The present Part will examine and discuss the different approaches to regulating these behaviors, and the challenges faced by regulators.

A. Approaches to Regulating Cryptocurrencies

There are essentially two ways of regulating cryptocurrency-related market manipulation. One is to integrate cryptocurrencies into existing financial markets law, while the other is to create a special regulatory framework[74].

1. Integrating Cryptocurrencies into the Existing Regulatory Framework

Today, most jurisdictions have a fully developed financial markets law, which regulates institutions, transactions, products, and – for this Master's thesis, most importantly – market manipulation. For practical reasons, it is often far easier to integrate new cryptocurrency regulation into this existing framework.

This regulatory approach offers some advantages: it allows for the usage of an already existing, proven and robust framework, instead of the creation of a new one from scratch. This, in turn, means that all the legal theories and definitions from the existing framework can simply be carried over without requiring much adaptation. The main disadvantage of this approach – as opposed to creating a special cryptocurrency law – is that it does not allow for a very specific or tailor-made solution.

This integration can take two forms. In some instances, a financial authority or national bank may issue a statement, which will classify cryptocurrencies within an existing definition of security, asset, or commodity[75]. This will then result in the existing framework related to that classification being applicable on a one to one basis. In other cases, the classification of cryptocurrencies as a certain existing form of security, asset or commodity will instead result from a statute[76].

2. Creating a Special Regulatory Framework for Cryptocurrencies

Another option is to create a special law on cryptocurrencies, which forms a regime distinct from the standard financial markets regulation. While following this regulatory approach is more time-consuming, it has the substantial advantage of allowing the adoption of more tailor-made solutions.

This means of regulation is still quite rare today, but we can expect that it will be more prevalent in the future[77].

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[74] IOSCO Report, pp. 8 *et seq.*

[75] This is the US approach [see *infra* on pp. 32 *et seq.*]

[76] This is, for example, the case of Switzerland [see *infra* on pp. 13 *et seq.*].

[77] For instance, the EU wants to introduce a special cryptocurrency Regulation by 2024 (*Proposal for a Regulation of the European Parliament and of the Council on Markets in Crypto-assets, and amending Directive (EU) 2019/1937* ("MiCA"). This will later be explored in more detail [see *infra* at pp. 39 *et seq.*].

B. Challenges Faced by Regulation and Enforcement

1. Keeping up with Growth

As stated above, the cryptocurrency market has experienced extraordinary growth. This growth is, of course, a consequence of the popularity of cryptocurrencies. It represents a substantial regulatory challenge, as the legislative process is slow, and a statute may be obsolete by the time it has come into effect. This problem also shows one of the advantages of integrating cryptocurrencies into an existing regulatory framework, especially through classification of tokens as an existing asset class, *i.e.* speed and adaptability.

Since the law must adapt, it always lags behind the evolution of the market. Furthermore, each iteration of a statute may introduce new loopholes, especially as the statute grows in complexity.

2. Avoiding Overregulation

Modern countries strive to be places of innovation and technological development. A regulatory environment that is too strict would prevent these goals from being attained, since overregulation and innovation do not pair well. Therefore, any state that wants to become a place of innovation but also protect investors against fraudulent behavior must find a difficult compromise between under- and overregulation[78].

3. Anonymity

In many cases, cryptocurrencies and other tokens are still traded on unregulated OTC exchanges. In these situations, a contracting party rarely knows the identity of their counterparty, as unregulated exchanges have no legal obligation to keep such information on record. This is a risk inherent to OTC-trading, and represents an additional difficulty in the regulation and enforcement process. Outlawing market manipulation is useless unless the enforcing body can identify the person behind the manipulation[79]. Consequently, any state outlawing market manipulation needs also to have rules regarding transaction records and party identity.

4. Number of Victims

Another difficulty is the sheer number of victims. For example, when considering pumping and dumping schemes or statements, which have a massive influence on prices, the victims are probably in the hundreds of thousands, or even millions. This not only makes them difficult to identify, but also makes prosecution and enforcement significantly more burdensome.

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[78] This issue is expressly acknowledged in FG 2020 233, p. 249: "The Federal Council considers the proposed regulation to be a reasonable compromise that adequately takes into account both the protective objectives of financial markets law and the possibility of implementing innovative business models." (translated from German by the author). Furthermore, there are both real costs and opportunity costs associated with regulating market abuse, as described in BSK FINMAG/FinfraG-MAURENBRECHER/HANSLIN, Introduction to Art. 142 *et seq.* FinMIA no. 8-9.

[79] ARMSTRONG/HYDE/THOMAS, p. 27.

IV. Regulation of Cryptocurrency Market Manipulation

Now that an overview of the functioning of cryptocurrencies, the manipulation acts typical in cryptocurrencies and the approaches to, and difficulties of, regulation has been provided, the present Part will discuss how three specific jurisdictions, namely Switzerland, the US and the European Union, have regulated cryptocurrency-related price manipulation. Each of these jurisdictions has unique characteristics. In 2021, Switzerland comprehensively adapted its laws and regulations to account for distributed ledger technologies. The US approach to regulation is relevant simply because of the size and importance of the US market, and the EU is of particular interest because it is one of the pioneering entities regarding the introduction of a special DLT-law rather than the inclusion into an existing legislative framework.

A. Switzerland

1. Adaptation of Swiss Federal Law to Distributed Ledger Technologies

In a 195-0 vote[80], the Swiss National Council accepted the proposed *Adaptation of Swiss federal law to the technology of distributed electronic ledgers* (hereinafter the "**DLT-Project**") on September 25th, 2020. This was followed up on the same day by a unanimous 44-0 vote of the Council of States[81]. Following this almost unanimous vote by both chambers of parliament, the DLT-Project entered into force on August 1st, 2021.

The stated objective of the DLT-Project was to adapt the Swiss legal framework to account for the emergence of DLTs[82]. This implied, *inter alia*, the following legislative amendments and additions:

- The amendment of general securities law[83] to include so-called Ledger-Based Securities (Art. 973d CO)[84];

- The amendment of company law to allow for stocks to be issued as Ledger-Based Securities (Art. 622 CO)[85];

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[80] 195 yes votes, 3 abstentions and 1 absentee (excluding the President): Voting database of the Swiss Parliament, accessible at https://www.parlament.ch/de/ratsbetrieb/abstimmungen/abstimmungs-datenbank-nr?BusinessNumber=19.074 (last consulted on October 13th, 2021).

[81] 44 yes votes and 1 absentee (excluding the President): Voting database of the Swiss Parliament, accessible at https://www.parlament.ch/poly/AbstimmungSR/51/out/Abstimmung_51_3944.pdf (last consulted on October 13th, 2021).

[82] . The Federal Council states in FG 2020 233, pp. 252 *et seq.*, that introducing a specific DLT-law, instead of integrating the regulation of DLTs into existing regulatory instruments, had also been considered.

[83] As we will see, it is very important not to confuse "Security" as that term is defined in the part of the CO related to general securities law (*Wertpapier* or *Papier-valeur*, meaning a right attached to a certificate) with "Security" as defined in the financial markets law (*Effekte* or *Valeurs mobilières*, meaning an instrument regulated under Swiss financial markets law, which is what interests us in this Master's thesis). While both are called the same in English, they are very different notions.

[84] FG 2020 233, pp. 258 *et seq.* This new form of Security is specifically tailored towards Blockchain-based securities.

[85] FG 2020 233, p. 261.

- The amendment of bankruptcy law to allow for the separation of crypto-assets from the insolvency estate (Art. 242a and 242b DEBA)[86];

- The amendment of private international law to account for the introduction of Ledger-Based Securities as defined in Art. 973d CO (Art. 105, 106, 108a and 145a PILA)[87] and

- A comprehensive modification of several financial markets law statutes, *inter alia* an adaptation of the FinMIA-definition of Securities to include Ledger-Based Securities as defined in Art. 973d CO (Art. 2 Let. b FinMIA), the introduction of the new definition of DLT-Securities (Art. 2 Let. b[bis] FinMIA), the introduction of the new DLT Trading Facilities (Art. 73a *et seq.* FinMIA)[88] and the adaptation of money laundering provisions to include DLT Trading Facilities (Art. 2 Par. 2 Let. d[quater] AMLA)[89].

These comprehensive modifications were introduced to ensure that Switzerland could continue to be a place of innovation for companies active in the DLT business-segment[90]. As we will see, determining where cryptocurrencies fit into this new framework is instrumental to ascertaining whether or not market manipulation provisions apply to them, since market manipulation provisions are part of financial markets law. Because of this recent and large-scale amendment and the fact that Swiss law, unlike many other laws in other jurisdictions, goes into specifics regarding the qualification of Blockchain-based assets as Securities, the new provisions will be explored in more detail than those of the other two jurisdictions.

2. Qualification of Cryptocurrencies under the Amended Legal Framework

a) As Utility Tokens, Asset Tokens and Payment Tokens

In 2018, the FINMA published guidelines regarding the treatment of ICOs. These guidelines make a distinction between Utility Tokens, Asset Tokens[91] and Payment Tokens. Not all instruments fit neatly into one of these categories: it is entirely possible that some instruments are hybrids and could be qualified as several types of tokens simultaneously[92]. Even though the ICO Guidelines were published before the DLT-Project was adopted, they remain relevant, since qualifying crypto-assets as specific types of tokens can have an influence on how they are classified in financial markets law[93].

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[86] FG 2020 233, pp. 263 *et seq.*

[87] *Id.*, p. 267.

[88] *Id.*, pp. 272-273.

[89] *Id,*, pp. 270-271.

[90] *Id.*, p. 234.

[91] Asset Tokens are sometimes also referred to as Security Tokens or Investment Tokens, but this Master's thesis exclusively uses the term "Asset Token".

[92] DURAND, p. 103 ; FINMA ICO Guidelines, p. 3: "The individual token classifications are not mutually exclusive. Asset and Utility tokens can also be classified as Payment tokens (referred to as hybrid tokens). In these cases, the requirements are cumulative […]".

[93] See *infra* on pp. 16 *et seq.*

(i)   *Utility Token*

Utility Tokens give access to a certain service or application through an infrastructure that is based in the Blockchain[94]. In a way, this makes Utility Tokens analogous to a coupon or a key[95], since they give the holder a right of access to the service or application in question Reciprocally, this means that the issuer of a Utility Token also has a contractual obligation to grant access[97].

However, almost no cryptocurrency qualifies as a Utility Token under the ICO Guidelines, since cryptocurrencies usually do not give their owner the right to access specific services or applications – as they are intended mostly for payments. Nonetheless, some tokens that are commonly referred to as "cryptocurrencies" are actually Utility Tokens. A perfect example is the Swissborg-token (CHSB), which is based on the Ethereum (ETH) Blockchain[98]. CHSB qualifies as a Utility Token because it is based within a Blockchain-based infrastructure that gives the owner access to many Swissborg services, such as special functions within the Swissborg app[99].

(ii)   *Asset Token*

Asset Tokens represent a monetary claim, more precisely a claim against an issuer[101]. As stated by ENZ[102], Asset Tokens are therefore Blockchain-based claims to assets outside of the Blockchain. Typically, they contain claims to part of the future gains of the issuing company and are, therefore, functionally equivalent to equity instruments such as stocks[103].

Cryptocurrencies do not usually qualify as Asset Tokens, since they lack any correlation with real-world assets. Instead, Asset Tokens typically take the form of company shares or other similar rights, which are issued through a Blockchain-based infrastructure[104]. Nonetheless, some instruments commonly referred to as "cryptocurrencies" may qualify as Asset Tokens under specific circumstances[105]. Again, CHSB may be a good example: one could argue that the owner of a CHSB-token relies on Swissborg (the issuing company) to develop its business in order for the token's proposed value to materialize and its price to rise[106].

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[94] FINMA ICO Guidelines, p. 3 ; GRECO/KRAMER, in: ARPAGAUS/STALDER/WERLEN, p. 733 no. 2692 ; OSWALD, p. 16.

[95] ENZ, p. 159 no. 302 ; SFC Report, p. 88.

[97] SFC Report, p. 88.

[98] CHSB is a token, which was issued by the Lausanne-based company Swissborg, through an ICO in 2017. It has since gained both value and traction in Switzerland and abroad.

[99] See Swissborg Terms of Use, accessible at https://swissborg.com/legal/swissborg-app-terms-of-use (last consulted on October 18th, 2021).

[101] FINMA ICO Guidelines, p. 3 ; SFC Report, p. 88.

[102] ENZ, p. 159 no. 303.

[103] GRECO/KRAMER, in: ARPAGAUS/STALDER/WERLEN, p. 733 no. 2692 ; OSWALD, p. 16.

[104] VON JEINSEN, pp. 36 *et seq.*

[105] *I.e.* if they have an investment purpose. This will be discussed more in-depth later [see *infra* on p. 21].

[106] However, as stated on the Swissborg website, accessible at https://help.swissborg.com/hc/en-gb/articles/360016245614-What-is-the-legal-qualification-of-the-CHSB- (last consulted on January 4th, 2022), CHSB is actually qualified as a Utility Token by the company, and the FINMA's lack of reaction seems to confirm this classification.

(iii)   Payment Token

A Payment Token is a token that is intended to be used for payments, and gives no rights to its owner[107]. Payment Tokens are therefore *sui generis* immaterial goods[108]. Almost all assets that are commonly referred to as "cryptocurrencies" qualify as Payment Tokens, since their primary intended use is to provide an anonymous means of payment[109]. All of the most well known cryptocurrencies can be qualified as Payment Tokens under the FINMA ICO Guidelines.

b)   As Securities (Art. 2 Let. b FinMIA)

In Swiss financial markets law, Securities are defined in Art. 2 Let. b FinMIA. This definition is a cornerstone of financial markets law[110], as it determines whether certain provisions of financial markets law apply to a given instrument[111]. For an instrument to qualify as a Security, Art. 2 Let. b FinMIA provides that two criteria must be met.

(i)   Standardization and Suitability for Mass Trading

The first criterion*, i.e.* standardization and suitability for mass trading, relates to the economic characteristics of an instrument and illustrates that Securities must be fungible to qualify as such under Swiss financial markets law. Art. 2 Par. 1 FinMIO states that Securities are deemed standardized and suitable for mass trading if they are publicly offered for sale[112] and have an identical structure and denomination[113], or are placed with more than 20 clients and are not tailor-made for specific counterparties[114].

Whether cryptocurrencies are standardized and suitable for mass trading under Art. 2 Let. b FinMIA and Art. 2 Par. 1 FinMIO therefore does not depend on their qualification as a certain type of token, since standardization and suitability for mass trading do not concern the rights – or lack thereof – which an instrument gives to the owner, but rather that instrument's fungibility. Most if not all Payment and Asset Tokens can therefore be qualified as standardized and suitable for mass trading, because they typically have an identical structure and denomination[115],

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[107] FINMA ICO Guidelines, p. 3 ; OSWALD, p. 15 ; SFC Report, p. 89.

[108] GRECO/KRAMER, in: ARPAGAUS/STALDER/WERLEN, p. 733 no. 2693 ; SFC Report, p. 54.

[109] ENZ, p. 162 no. 314 ; FINMA ICO Guidelines, p. 3 ; OSWALD, p. 15 ; SFC Report, p. 189.

[110] SK FinfraG-FAVRE/KRAMER, Art. 2 Let. b FinMIA no. 18-19.

[111] Such as the duty to obtain authorization of the FINMA for certain activities (*e.g.* Art. 26 *et seq.* FinMIA for Trading Venues), the duty to settle a transaction through a CCP (Art. 48 *et seq.* FinMIA), the duty to provide a prospectus when making a public offer for the acquisition of Securities or seeking the admission of Securities to a Trading Venue (Art. 35 *et seq.* FinSA) or the applicability of market manipulation provisions (Art. 143 and 155 FinMIA).

[112] OFK FinfraG-VOGEL/HEIZ/LUTHIGER, Art. 2 FinMIA no. 15 ; SK FinfraG-FAVRE/KRAMER, Art. 2 Let. b FinMIA no. 9.

[113] BSK FINMAG/FinfraG-DAENIKER/WALLER, Art. 2 Let. b FinMIA no. 20, who state that Securities need not necessarily be absolutely identical (*e.g.* the possibility of buying fractions instead of only round numbers does not affect the qualification because the structure and denomination are functionally still the same) ; OFK FinfraG-VOGEL/HEIZ/LUTHIGER, Art. 2 FinMIA no. 15.

[114] BSK FINMAG/FinfraG-DAENIKER/WALLER, Art. 2 Let. b FinMIA no. 21 ; KRAMER/MEIER, p. 74 ; SK FinfraG-FAVRE/KRAMER, ART. 2 Let. b FinMIA no. 7.

[115] If cryptocurrencies did not have an identical structure and denomination, that would defeat their purpose, since they would not be a practical means of payment, see NAKAMOTO, p. 5.

and are publicly offered for sale[116]. Some Utility Tokens, however, may not fulfill this criterion[117], as they may lack the required fungibility.

(ii)   Specific Forms of Securities

The second criterion relates to the form of the Security. It must take the form of a Negotiable Security (Art. 965 *et seq.* CO), Uncertificated Security (Art. 973c CO), Ledger-Based Security (Art. 973d *et seq.* CO), Derivative (Art. 2 Let. c FinMIA) or Intermediated Security (Art. 3 FISA).

-   **Negotiable Securities** (Art. 965 *et seq.* CO) are physical certificates to which a right attaches in such a way that the right can neither be transferred nor exercised without the certificate in question[118]. They therefore have three distinctive features: (1) a physical certificate, (2) a right and (3) a link between the right and the certificate[119]. The physical instruments incorporating the issued rights may be held by a bailee in collective custody (Art. 973a CO)[120], or the rights may be issued through one global certificate instead of an individual certificate being issued with each right (Art. 973b CO). The transfer of a Negotiable Security necessitates the transfer of the physical title (Art. 967 Par. 1 CO).

    The characterization of cryptocurrencies as Negotiable Securities (Art. 965 *et seq.* CO) is questionable. Indeed, as will be shown in the following paragraphs, there is no consensus among authors on whether cryptocurrencies fulfill the three criteria provided for in Art. 965 CO.

    As stated above, the first requirement is that there be a certificate. While paper is not necessary for a support to be qualified as a certificate under Art. 965 *et seq.* CO, it is agreed that a physical title is required[121]. Electronic storage devices such as drives or flash drives therefore qualify as certificates, since they are physical storage mediums[122]. Nonetheless, the Blockchain itself, which can be found on the hard drives of all network nodes, does not itself qualify as a certificate as defined in Art. 965 *et seq.* CO, because it is simply stored on these storage mediums without being one itself.

    With regards to the second condition, *i.e.* the right that a Negotiable Security must contain, a distinction must be drawn between Asset and Utility Tokens on the one hand, and Payment Tokens on the other hand. Only claims, membership rights and rights *in rem* qualify as rights under Art. 965 CO[123]. As described above, Asset Tokens give their owner claims against the issuer, and Utility Tokens contain either claims, membership

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[116] The mere possibility of the instrument being publicly sold is sufficient, an actual public sale is not necessary: BSK FINMAG/FinfraG-DAENIKER/WALLER, Art. 2 Let. b FinMIA no. 21.

[117] See also FINMA ICO Guidelines, p. 4.

[118] BSK FINMAG/FinfraG-DAENIKER/WALLER, Art. 2 Let. b FinMIA no. 4 ; CR CO II-BOHNET, Art. 965 CO no. 8 ; ENZ, p. 181 no. 362 ; OFK FinfraG-VOGEL/HEIZ/LUTHIGER, Art. 2 FinMIA no. 16.

[119] CR CO II-BOHNET, Art. 965 CO no. 6 ; ENZ, p. 181 no. 362 ; KUNZ, p. 257 no. 260.

[120] Several instruments are collectively entrusted to a bailee, instead of each bailor (creditor) being required to hold an individual title ; OFK OR-FRICK, Art. 965 no. 12.

[121] KUNZ, p. 257 no. 261 ; MEIER-HAYOZ/VON DER CRONE, p. 2 no. 7.

[122] ENZ, p. 182 no. 363 ; MEIER-HAYOZ/VON DER CRONE, p. 2 no. 8-9.

[123] BANDI-LANG/MAUCHLE/SPOERLÉ, p. 243 ; KUNZ, p. 257 no. 261 ; MEIER-HAYOZ/VON DER CRONE, p. 3 nos. 11 *et seq.* ; OFK OR-FRICK, Art. 965 no. 2.

rights, or both[124]. Both Asset Tokens and Utility Tokens therefore contain rights within the meaning of Art. 965 CO. Payment Tokens, however, do not give to their owners any rights[125], and therefore do not meet the second requirement of Art. 965 CO.

Third, the link between the right and the certificate must be such that the right can neither be exercised nor transferred without transferring the certificate[126]. Blockchain-based assets (in whichever form of token they are embodied) are not transferred through a transfer of the physical storage devices on which the Blockchain is stored, but, rather, through modification of the Blockchain itself[127]. Therefore, there is no sufficient link between the certificate and the right. As a result, even if one accepts the premise that hard drives or other storage devices may be certificates as defined in Art. 965 CO and that Asset and Utility Tokens give their owners various rights – be it claims or membership rights – against the issuer, none of the three types of tokens can qualify as Negotiable Securities[128].

- **Uncertificated Securities** (Art. 973c CO[129]) are, as opposed to Negotiable Securities, dematerialized titles. The rights are created by entering them into a book that is kept by the obligor (Art. 973c Par. 3 CO). Thus, they do not depend on any physical certificate, but only on the book entry[130], hence the name Uncertificated Security.

  The qualification of cryptocurrencies as Uncertificated Securities depends on their classification as a specific type of token. As mentioned above, Utility and Asset Tokens contain claims and/or membership rights. Furthermore, the Blockchain can be qualified as a book as that term is used in art. 973c Par. 3 CO, meaning that both Utility and Asset Tokens qualify as Uncertificated Securities[131]. Since Payment Tokens do not give their owners any rights, they cannot, however, be qualified as Uncertificated Securities[132].

- **Ledger-Based Securities** (Art. 973d *et seq.* CO) were newly introduced by the DLT-Project. They are defined in Art. 973d Par. 1 CO as rights that, based on the parties'

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[124] If they are hybrid tokens [see *supra* on p. 15].

[125] ENZ, p. 179 no. 358 ; FG 2020 233, p. 277 ; FINMA ICO Guidelines, p. 3 ; FURRER *et al.*, p. 12 no. 39 ; SFC Report, p. 49. Dissenting: VON DER CRONE/KESSLER/ANGSTMANN, pp. 341 *et seq.*, who argue that the network forms a group in which every participant has rights against the other participants taken collectively.

[126] KUNZ, p. 257 no. 261 ; MEIER-HAYOZ/VON DER CRONE, p. 4 no. 19 ; VON DER CRONE/KESSLER/ANGSTMANN, p. 341.

[127] ENZ, p. 184 no. 368 ; SFC Report, pp. 59 *et seq.* ; VON DER CRONE/KESSLER/ANGSTMANN, p. 341 ; VON DER CRONE/MONSCH/MEISSER, p. 4 ; VON JEINSEN, p. 39.

[128] Although DURAND, p. 107, states that all three can be qualified as Negotiable Securities. The author does not share this opinion, since, as said, the transfer of the right happens not by transfer of the storage medium (as would be required by Art. 965 CO) but through modification of the data it stores, meaning the conditions of Art. 965 CO are not met.

[129] This provision was redrafted as part of the DLT-Project to facilitate the distinction between Uncertificated Securities (Art. 973c CO) and Ledger-Based Securities (Art. 973d *et seq.* CO), since the older formulation somewhat erroneously referred to Uncertificated Securities as having "[…] the same function as Negotiable Securities […]". For further details see FG 2020 233, p. 275 and OFK FinfraG-VOGEL/HEIZ/LUTHIGER Art. 2 FinMIA no. 21.

[130] VON DER CRONE, p. 157 no. 287.

[131] BANDI-LANG/MAUCHLE/SPOERLÉ, p. 243 ; DURAND, p. 107 ; SFC Report, p. 61 ; VON DER CRONE/KESSLER/ANGSTMANN, pp. 342 *et seq.* ; VON JEINSEN, pp. 40 *et seq.*

[132] BANDI-LANG/MAUCHLE/SPOERLÉ, p. 244 ; ENZ, p. 187 ; FG 2020 233, p. 258. Dissenting: VON DER CRONE/KESSLER/ANGSTMANN, pp. 342 *et seq.*

agreement, are registered in a securities ledger and can only be transferred via this securities ledger. As provided for by Art. 973d Par. 2 CO, the securities ledger must (1) be technologically structured in such a way that it gives the creditor – but not the obligor – power of disposal over the rights in question, (2) be adequately structured through technical processes and organizational measures so as to prohibit unauthorized modifications – *e.g.* by having several participants jointly manage the ledger – , (3) record the contents of the rights, the registration agreement and the functioning of the ledger, and (4) be built in such a way that creditors can view ledger entries concerning themselves without the intervention of a third party[133]. The transfer of Ledger-Based Securities is subject to the registration agreement (Art. 973f Par. 1 CO).

Most types of tokens can be qualified as Ledger-Based Securities (Art. 973d *et seq.* CO). Asset and Utility tokens are rights that, based on the parties' agreement, are registered in a securities ledger that meets the conditions of Art. 973d Par. 2 CO – in this case, the Blockchain – and can only be transferred via this securities ledger. They therefore are Ledger-Based Securities as defined in Art. 973d CO[134]. Payment Tokens, however, cannot be qualified as Ledger-Based Securities, although the Blockchain in which they are based can be qualified as a securities ledger as that term is used in Art. 973d CO, since, once again they do not give their owners any rights[135].

- **Derivatives** (Art. 2 Let. c FinMIA) are financial contracts of which the value derives from at least one underlying asset, and that are not cash transactions. As provided for by Art. 2 Par. 2 FinMIO, underlying assets can either be instruments (*e.g.* shares, bonds, commodities and precious metals) or reference values (*e.g.* currencies, interest rates or indices). Derivatives include, *inter alia*, swaps, options and forwards[136]. Somewhat counterintuitively, the notion of Derivatives relates not to the form of a right (as is the case with Negotiable Securities, Uncertificated Securities, Ledger-Based Securities and Intermediates Securities), but to its content[137].

Whether cryptocurrencies can be qualified as Derivatives is questionable. This is especially important for Payment Tokens, since they cannot be qualified as either Negotiable Securities, Uncertificated Securities or Ledger-Based Securities. While Asset Tokens may sometimes qualify as Derivatives[138], it is difficult to see how Payment and Utility Tokens could, as their value does not depend on any underlying asset or reference value. However, Payment Tokens may be used as an underlying asset for a Derivative as that term is used in Art. 2 Let. c FinMIA. These cryptocurrency derivatives, which have

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[133] BANDI-LANG/MAUCHLE/SPOERLÉ, p. 244 ; KRAMER/MEIER, pp. 62 *et seq.*.

[134] FG 2020 233, pp. 276 *et seq.* ; KRAMER/MEIER, p. 65.

[135] BANDI-LANG/MAUCHLE/SPOERLÉ, p. 244 ; FG 2020 233, p. 277.

[136] BSK FINMAG/FinfraG-DAENIKER/WALLER, Art. 2 Let. b FinMIA no. 14 *et seq.* ; BSK FINMAG/FinfraG-WATTER Art. 2 Let. c FinMIA no. 3.

[137] SK FinfraG-FAVRE/KRAMER, Art. 2 Let. b FinMIA no. 5. Essentially, where all other forms of Securities as defined in Art. 2 Let. b FinMIA (Negotiable Security, Uncertificated Security, etc.) need to meet requirements related solely to form (such as some type of physical or dematerialized certificate, title or book), the definition of Derivatives is only concerned with the content of the instrument (its value needs to depend on at least one underlying asset of reference value).

[138] DURAND, p. 107 ; FINMA ICO Guidelines, p. 5 ; VON JEINSEN, p. 42.

exploded in popularity[139], may indeed qualify as Derivatives under Art. 2 Let. c FinMIA.

- **Intermediated Securities** (Art. 3 FISA) are fungible corporate rights[140] or claims[141] against an issuer, which are credited to a securities account and over which the account holder has the right of disposal. Intermediated Securities are created in two steps. First, the issuer issues rights as Negotiable Securities held in collective custody (Art. 973a CO), issued through a global certificate (Art. 973b CO) or as Uncertificated Securities (Art. 973c CO) or Ledger-Based Securities (Art. 973d CO). In the second step, these issued rights are transferred to a custodian[142], and credited to one or more securities accounts (Art. 6 FISA)[143]. Because they are credited to securities accounts, Intermediated Securities can be transferred by simple credit-debit operations following an order of the account holder to the custodian (Art. 24 FISA)[144]. Therefore, a physical transfer of the certificate or title[145], modification of the book entry[146] or of the ledger[147] is not necessary when buying or selling and Intermediated Security[148].

The ability of tokens to qualify as Intermediated Securities (Art. 3 FISA) depends on the type of token. Any token issued in any of the forms mentioned in the above paragraph and transferred according to the provisions of the FISA may be classified as an Intermediated Security. Because of the amendment of Art. 4 FISA, this now also applies to Ledger-Based-Securities, since DLT Trading Facilities, as that term is used under Art. 73a *et seq.* FinMIA, can act as custodians[149].

c)   As DLT-Securities (Art. 2 Let. b^bis FinMIA)

DLT-Securities were newly introduced by the DLT-Project as of August 1st, 2021. DLT-Securities are defined in Art. 2 Let. b^bis FinMIA as Securities that take the form of either a Ledger-Based Security (Art. 973d *et seq.* CO) or of other Uncertificated Securities (Art. 973c CO) that are held in distributed electronic ledgers, which are technologically structured in such a way that they give the creditor – but not the obligor – power of disposal over the rights in question.

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[139] The BaFin, for example, observed a rise from around 50 to 1,000 certificates between May and October 2019, see *BaFin Marktbefragung zu Derivaten mit Krypto-Assets als Basiswert*, November 2019, p. 3.

[140] *E.g.* stocks and other equity instruments.

[141] *E.g.* bonds and other debt instruments.

[142] Typically a bank or central depository (Art. 4 FISA).

[143] BANDI-LANG/MAUCHLE/SPOERLÉ, p. 239 ; VON DER CRONE, p. 158 no. 288.

[144] VON DER CRONE, p. 157 no. 287.

[145] If the instrument was initially issued as a Negotiable Security.

[146] If the instrument was initially issued as an Uncertificated Security

[147] If the instrument was initially issued as a Ledger-Based Security

[148] Today, most instruments that retail investors can buy take the form of Intermediated Securities. The investment bank acts as a custodian in the sense of Art. 4 Par. 2 Let. a FISA, thus enabling the buying and selling of instruments through simple credit-debit operations instead of physical delivery of the certificate (if issued as a Negotiable Security) or modification of the book entry or ledger (if issued as an Uncertificated Security or Ledger-Based Security, respectively).

[149] FG 2020 233, p. 308 ; VON DER CRONE/MONSCH/MEISSER, p. 5 (specifically referring to tokens as Negotiable Securities or Uncertificated Securities before the DLT-Project entered into force).

As stated by the message of the Federal Council, DLT-Securities are therefore always Securities, but Securities are not always DLT-Securities[150]. Therefore, only Asset Tokens and some Utility Tokens can be qualified as DLT-Securities, and only when they take the forms mentioned in Art. 2 Let. b^{bis} FinMIA[151]. Payment Tokens are not Securities[152] and therefore cannot be qualified as DLT-Securities, either[153].

d)   <u>Summary and Overview</u>

To conclude, Asset Tokens usually are Securities and DLT-Securities, since they meet the requirements of Art. 2 Let. b or b^{bis} FinMIA[154]. While Utility Tokens usually also meet these conditions, they are treated by the FINMA as Securities only if, in addition to their utility purpose, they also have an investment purpose, since they otherwise lack the necessary link to the capital market[155]. Payment Tokens are never Securities[156]. This is in line with the classification of tokens as Securities by the FINMA before the DLT-Project entered into force[157]. Nevertheless, it is noticeable that the failure of certain types of tokens to qualify as Securities is due less to their economic characteristics (fungibility) than to their legal attributes (taking one of the forms prescribed in Art. 2 Let. b FinMIA) and their link to the capital markets.

Instruments		Utility Tokens	Asset Tokens	Payment Tokens
Securities (2 Let. b FinMIA)		Usually not[158]	✓	x
Standardized and suitable for mass trading (2 Par. 1 FinMIO)		Sometimes	✓	✓
Form[159]	Negotiable Security (965 *et seq.* CO)	x	x	x
	Uncertificated Security (973c CO)	✓	✓	x
	Ledger-Based Security (973d *et seq.* CO)	✓	✓	x
	Derivative (2 Let. c FinMIA)	x	Sometimes	x[160]
	Intermediated Security (3 FISA)	✓	✓	x
DLT-Securities (2 Let. b^{bis} FinMIA)		Usually not[161]	✓	x

Figure 4: Overview of the qualification of Tokens as Securities and DLT-Securities

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[150] FG 2020 233, p. 309.

[151] *Ibid.*

[152] See *supra* on pp. 16 *et seq.*

[153] FG 2020 233, p. 309.

[154] FINMA ICO Guidelines, p. 5.

[155] *Ibid.*

[156] *Id.,* p. 4.

[157] FG 2020 233, p. 309 ; FINMA ICO Guidelines, pp. 4 *et seq.*

[158] Except for fungible Utility Tokens that also have an investment purpose [see in the above paragraph].

[159] As mentioned above, Derivatives refer not to the form, but to the content of an instrument.

[160] The Payment Tokens themselves cannot be treated as Derivatives (and therefore, Securities), but Derivatives based on Payment Tokens as an underlying asset can.

[161] Except for fungible Utility Tokens that also have an investment purpose [see in the above paragraph].

3. Applicability of Market Manipulation Provisions to Cryptocurrencies

In Swiss law, there are several provisions prohibiting manipulative practices in regulated markets. These provisions, unlike those in many other jurisdictions, do not contain a list of prohibited behaviors. Instead, they are formulated generically.

First, there is the prohibition of **Market Manipulation** (Art. 143 FinMIA)[163]. This provision is part of supervisory law[164], and allows the FINMA to initiate enforcement proceedings against any market participant or regulated financial institution (Art. 143 FinMIA in connection with Art. 30 *et seq.* FINMASA)[165]. The aim of this provision is not to punish wrongdoers, but rather to prevent manipulation, thus ensuring an efficient functioning of the markets[166]. It was introduced in 2013 into the SESTA[167], and moved to Art. 143 FinMIA as of January 1st, 2016.

Second, there is the much narrower provision on **Price Manipulation** (Art. 155 FinMIA)[168]. As this provision is part of criminal law, its purpose is not to prevent, but to punish[169]. It was first introduced as Art. 161bis SCC when the SESTA entered into force in 1997. It was then moved to Art. 40a SESTA in 2013[170], before finally being moved into the FinMIA in 2016.

Finally, there is ordinary **Fraud** (Art. 146 SCC), a criminal provision which remains relevant in cases where Art. 155 FinMIA is not applicable.

The chronology above shows that the prohibition of market manipulation was, for the longest time, strictly of criminal nature. Only as recently as 2013, was it finally introduced into supervisory law. In the present Chapter, we will explore in more detail whether the aforementioned provisions prohibit the manipulative practices described in Part II and what the classification

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[163] "A person behaves inadmissibly when he or she: a. publicly disseminates information which he or she knows or should know gives false or misleading signals regarding the supply, demand or price of securities admitted to trading on a trading venue or DLT trading facility which has its registered office in Switzerland; b. carries out transactions or acquisition or disposal orders which he or she knows or should know give false or misleading signals regarding the supply, demand or price of securities admitted to trading on a trading venue or DLT trading facility which has its registered office in Switzerland. […]".

[164] In Swiss law, supervisory law is a branch of public law that is concerned with the enforcement aspects of financial markets law. Essentially, it contains provisions on when the FINMA can intervene, how it can intervene, and what administrative sanctions it can pronounce.

[165] BSK FINMAG/FinfraG-MAURENBRECHER/HANSLIN, Introduction to Art. 142 *et seq.* FinMIA no. 26 ; OFK FinfraG-VOGEL/HEIZ/LUTHIGER Art. 143 FinMIA no. 1 ; SK FinfraG-SETHE/FAHRLÄNDER, Introduction to Art. 142 *et seq.* FinMIA no. 16.

[166] BSK FINMAG/FinfraG-MAURENBRECHER/HANSLIN, Introduction to Art. 142 *et seq.* FinMIA no. 32 ; SK FinfraG-SETHE/FAHRLÄNDER, Introduction to Art. 142 *et seq.* FinMIA no. 17.

[167] Federal Act on Stock Exchanges and Securities Trading of February 1st, 1997, which has since been abrogated and replaced by the FinIA, FinMIA, FinSA and FINMASA.

[168] "A custodial sentence not exceeding three years or a monetary penalty shall be imposed on any person who, with the intention of gaining a pecuniary advantage for themselves or for another, substantially influences the price of securities admitted to trading on a trading venue or DLT trading facility which has its registered office in Switzerland in that they: a. disseminate false or misleading information against their better knowledge; b. effect acquisitions and sales of such securities directly or indirectly for the benefit of the same person or persons connected for this purpose.".

[169] SK FinfraG-SETHE/FAHRLÄNDER, Introduction to Art. 142 *et seq.* FinMIA no. 76.

[170] OC 2013 1103, p. 1107. Small changes were made, but the content of the provision remained largely untouched. See LENGAUER, in: LENGAUER/EGGEN/STRAUB, p. 795 no. 10.12 for further details.

of cryptocurrencies discussed *supra* on pp. 14 *et seq.* means with regards to the applicability of these provisions.

a)   Market Manipulation (Art. 143 FinMIA)

(i)   Information-Based Manipulation

The first type of manipulative behavior covered by Art. 143 FinMIA is information-based manipulation (Art. 143 Par. 1 Let. a FinMIA). More precisely, there needs to be (1) an information, which (2) is publicly disseminated and (3) sends false or misleading signals regarding the supply, demand or price[171].

The term **information** is understood to refer not only to facts, but also to opinions and rumors[172].The information in question must be **publicly disseminated**, which is the case when it is announced through information channels that are typical for the financial sector[173]. With regards to the amount of people to which the announcement must be addressed in order to qualify as public[174], LENGAUER[175] states that the target audience must be undetermined, or at least sufficiently large that the involved parties cannot exchange the information among them in such a way as to intentionally control its flow, whereas LEUENBERGER/RÜTTIMANN[176] state that giving misleading information even to a single market participant is sufficient, as long as that person or institution has sufficient power to send a false or misleading signal regarding the supply, demand or price[177]. In the year 2000, the STB qualified a group of approximately 80 people as sufficiently large[178].

This dissemination of information must send **false or misleading signals** regarding supply, demand or pricing. This is the case when an informed market participant[179] would see the information in question as price-relevant[180]. To be false or misleading, the signal in question must

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[171] BSK FINMAG/FinfraG-MAURENBRECHER/HANSLIN, Art. 143 FinMIA nos. 27 *et seq.* ; LENGAUER, in: LENGAUER/EGGEN/STRAUB, p. 794 nos. 10.193 *et seq.* ; SK FinfraG-LEUENBERGER/RÜTTIMANN, Art. 143 FinMIA nos. 27 *et seq.*

[172] BSK FINMAG/FinfraG-MAURENBRECHER/HANSLIN, Art. 143 FinMIA no. 25 ; FINMA-RS 2013/08, p. 5 no. 21 ; LENGAUER, in: LENGAUER/EGGEN/STRAUB, p. 794 no. 10.194 ; OFK FinfraG-VOGEL/HEIZ/LUTHIGER Art. 143 FinMIA no. 4 ; SK FinfraG-LEUENBERGER/RÜTTIMANN, Art. 143 FinMIA no. 27.

[173] LENGAUER, in: LENGAUER/EGGEN/STRAUB, p. 795 no. 10.198 ; OFK FinfraG-VOGEL/HEIZ/LUTHIGER Art. 143 FinMIA no. 5 ; SK FinfraG-LEUENBERGER/RÜTTIMANN, Art. 143 FinMIA no. 28.

[174] Which can be relevant regarding semi-private announcements, such as those that happen in pump groups.

[175] LENGAUER, in: LENGAUER/EGGEN/STRAUB, p. 795 no. 10.199.

[176] SK FinfraG-LEUENBERGER/RÜTTIMANN, Art. 143 FinMIA no. 29.

[177] In the author's opinion, this view is correct, since the influence a misleading information can have on the market does not relate as strongly to the size of the target audience to which it is communicated as to that audience's market influence or buying/selling power.

[178] STB Recommendation 0070/03, Intersport PSC Holding AG, of August 11th, 2000, rec. 1.3-1.4, which related to a public offering, but there is no reason for different standards to apply with regards to Market Manipulation.

[179] The informed investor or market participant (*verständiger Anleger/Marktteilnehmer*) is therefore a very important standard, as it determines when the threshold of price-relevance of an information is crossed.

[180] BSK FINMAG/FinfraG-MAURENBRECHER/HANSLIN, Art. 143 FinMIA no. 25 ; FINMA-RS 2013/08, p. 5 no. 17 ; LENGAUER, in: LENGAUER/EGGEN/STRAUB, p. 795 no. 10.201 ; OFK FinfraG-VOGEL/HEIZ/LUTHIGER Art. 143 FinMIA no. 6 ; SK FinfraG-LEUENBERGER/RÜTTIMANN, Art. 143 FinMIA no. 31.

either not correspond to the market conditions (false information) or deceive an informed market participant (misleading information)[181].

"Normal" pumping and dumping is clearly encompassed by Art. 143 Par. 1 Let. a FinMIA[182]. While the *modus operandi* of cryptocurrency pump groups is different, there is no reason that it would fall outside of the scope of Art. 143 FinMIA, which will be explored in more detail in the Paragraph relating to Art. 143 Par. 1 Let. b FinMIA[183].

However, it is unclear whether the public announcement of measures[184] can be qualified as information-based manipulation under Art. 143 Par. 1 Let. a FinMIA, since the information that was published was technically true. MAURENBRECHER/HANSLIN argue that disseminating true information can never be the basis for market manipulation[185]. This opinion seems too narrow, since it fails to consider that even true statements, such as those made by Elon Musk, may have the hidden principal purpose of manipulating prices.

In the author's opinion, such statements may therefore be considered untrue under Art. 143 Par. 1 Let. a FinMIA, when they (1) relate to measures to be implemented by the publisher of the statement, if (2) the announcement of their implementation has the potential to significantly affect prices[186], and (3) under the condition that these measures are announced not with the goal of actually implementing them, but in order to manipulate prices. A good objective indicator to see whether or not the measures are intended to be implemented is to see if the implementation is serious and whether it is reversed at a later time[187]. While such statements are more akin to action-based market manipulation[188], it makes sense to include them within the scope of application of Art. 143 Par. 1 Let. a FinMIA, since they are, in a way, untrue. Nonetheless, this proposed approach could be met with considerable practical difficulties, as it is not only difficult to determine whether price changes stem from such announcements, but also to prove the manipulative intent of publishing true information. This is precisely why using an objective standard, such as seeing whether the announced measures are implemented for only a short time before being cancelled or whether they are actually seriously implemented for the long run, is important.

(ii)   *Trade-Based Manipulation*

Trade-based manipulation is also prohibited (Art. 143 Par. 1 Let. b FinMIA). This provision applies whenever there are (1) transactions or orders that (2) send false or misleading signals

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[181] BSK FINMAG/FinfraG-MAURENBRECHER/HANSLIN, Art. 143 FinMIA nos. 32 *et seq.* ; LENGAUER, in: LENGAUER/EGGEN/STRAUB, p. 796 no. 10.202 ; OFK FinfraG-VOGEL/HEIZ/LUTHIGER Art. 143 FinMIA no. 4. More nuanced: SK FinfraG-LEUENBERGER/RÜTTIMANN, Art. 143 FinMIA no. 30.

[182] BSK FINMAG/FinfraG-MAURENBRECHER/HANSLIN, Art. 143 FinMIA no. 51 ; FINMA-RS 2013/08, p. 5 no. 21 ; SK FinfraG-LEUENBERGER/RÜTTIMANN, Art. 143 FinMIA no. 46.

[183] See *infra* on p. 25.

[184] See *supra* on pp. 9 *et seq.*

[185] BSK FINMAG/FinfraG-MAURENBRECHER/HANSLIN, Art. 143 FinMIA no. 31.

[186] This criterion must be interpreted restrictively, but is clearly met when market participants have as large an influence as do Elon Musk and Tesla.

[187] In the case of Tesla, the problem was that there was a constant back-and-forth between accepting Bitcoin as payment and then no longer accepting it, making a manipulative intent seem plausible, at the very least. See also the example of the American Steel and Wire Company, where steel mills were closed, and then reopened shortly after [see *supra* at p. 9].

[188] For further details, see HANSLIN, p. 60 nos. 108 *et seq.*

regarding the supply, demand or price[189]. Therefore, not only "true" trade-based manipulation – *i.e.* where the trades are actually executed – is reprimanded, but also manipulation based on orders that, while placed, are left unexecuted[190]. Regarding when exactly signals are deemed false or misleading, please refer to Paragraph (i).

Typically, spoofing and layering fall within the scope of Art. 143 Par. 1 Let. b FinMIA[191], as do wash trading[192] and matched orders[193].

In the author's opinion, pumping and dumping in the form of pump groups also qualifies as trade-based manipulation under Art. 143 Par. 1 Let. b FinMIA. Once the pumps are announced and the members of the group start buying, these trades send a false or misleading signal to the market, and should therefore be encompassed by Art. 143 Par. 1 Let. b FinMIA. In these pump groups, not only the people making the announcements, but also those who engage in trading, act illegally.

(iii)   *Relation to a Security Admitted to Trading on a Swiss Trading Venue or DLT Trading Facility*

In either case, the manipulative behavior must always relate to a Security admitted to trading on a Swiss Trading Venue or DLT Trading Facility in order for Art. 143 FinMIA to apply[194].

Therefore, the FINMA only opens enforcement proceedings when the behaviors that constitute market manipulation under Art. 143 Par. 1 Let. a or b FinMIA relate to Asset Tokens or, sometimes, to Utility Tokens[195] – in both cases, they need to be admitted to trading at a Swiss Trading Venue – , but not to Payment Tokens, since the latter are not Securities.

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[189] BSK FINMAG/FinfraG-MAURENBRECHER/HANSLIN, Art. 143 FinMIA no. 52 ; LENGAUER, in: LENGAUER/EGGEN/STRAUB, p. 796 no. 10.203 ; SK FinfraG-LEUENBERGER/RÜTTIMANN, Art. 143 FinMIA nos. 35 *et seq.*

[190] BSK FINMAG/FinfraG-MAURENBRECHER/HANSLIN, Art. 143 FinMIA no. 56 ; LENGAUER, in: LENGAUER/EGGEN/STRAUB, p. 797 no. 10.208 ; SK FinfraG-LEUENBERGER/RÜTTIMANN, Art. 143 FinMIA no. 35. This is different from the author's stricter qualification of trade-based market manipulation [see *supra* on pp. 6 *et seq.*], which includes only actual transactions and not orders.

[191] BSK FINMAG/FinfraG-MAURENBRECHER/HANSLIN, Art. 143 FinMIA no. 71 ; FINMA-RS 2013/08, p. 6 no. 29 ; LENGAUER, in: LENGAUER/EGGEN/STRAUB, p. 800 no. 10.217 ; SK FinfraG-LEUENBERGER/RÜTTIMANN, Art. 143 FinMIA no. 60. All these sources classify spoofing under trade-based manipulation, which, while theoreticaly speaking erroneous in the author's opinion [see *supra* on pp. 6 *et seq.*], may be reasonable under Swiss law specifically.

[192] BSK FINMAG/FinfraG-MAURENBRECHER/HANSLIN, Art. 143 FinMIA no. 68 ; FINMA-RS 2013/08, p. 5 no. 23 ; LENGAUER, in: LENGAUER/EGGEN/STRAUB, p. 798 no. 10.214 ; SK FinfraG-LEUENBERGER/RÜTTIMANN, Art. 143 FinMIA no. 49.

[193] BSK FINMAG/FinfraG-MAURENBRECHER/HANSLIN, Art. 143 FinMIA no. 68 ; FINMA-RS 2013/08, p. 5 no. 24 ; LENGAUER, in: LENGAUER/EGGEN/STRAUB, p. 798 no. 10.214 ; SK FinfraG-LEUENBERGER/RÜTTIMANN, Art. 143 FinMIA no. 50.

[194] BSK FINMAG/FinfraG-MAURENBRECHER/HANSLIN, Art. 143 FinMIA nos. 14 *et seq.* ; SK FinfraG-LEUENBERGER/RÜTTIMANN, Art. 143 FinMIA nos. 20 *et seq.* Nonetheless, as stated in FINMA-RS 2013/08, p. 6 nos. 41 *et seq.*, it is the FINMA's practise to also take into account, for purposes of evaluating the seriousness of a business (*e.g.* in the case of registration proceedings), manipulation unrelated to Securities admitted to trading on a Swiss Trading Venue.

[195] In such instances where they qualify as Securities [see *supra* on p. 21].

(iv)   *Profit and Intent not Required*

Art. 143 FinMIA only sanctions manipulative behaviors about which the manipulator knew or should have known that they would send false or misleading signals[196]. This standard is met when an average market participant in possession of the same information and skills as the manipulator can see that the information or trade can send a false or misleading signal. This standard is therefore both objective – since it uses the point of view of an average market participant – and subjective – since only the information known to, and skills of, the manipulator are taken into account[197]. If the manipulator knew or should have known about the false or misleading nature of his statements or trades, then that is sufficient. Neither the intent to manipulate, nor the making of a profit, are required[198].

While it is safe to assume that this criterion is met by most cryptocurrency manipulation schemes described in Part II, it could be hard to prove in some instances, such as in the case of announced and reversed measures[199].

b)   <u>Price Manipulation (Art. 155 FinMIA)</u>

Price Manipulation is provided for in Art. 155 FinMIA, a criminal law provision[200]. While its structure somewhat differs from that of Art. 143 FinMIA, Art. 155 FinMIA makes the same distinction between information-based manipulation (Par. 1 Let. a) and trade-based manipulation (Par. 1 Let. b). Price manipulation as defined in Art. 155 Par. 1 FinMIA carries a maximum custodial sentence of three years.

(i)   *Information-Based Manipulation*

Art. 155 Par. 1 Let. a FinMIA covers the exact same manipulative acts as Art. 143 Par. 1 Let. a FinMIA[201]. Therefore, if a manipulative act is prohibited under Art. 143 Par. 1 Let. a FinMIA, then it is also illegal under Art. 155 Par. 1 Let. a FinMIA[202], provided the requirement of intent is fulfilled[203].

(ii)   *Trade-Based Manipulation*

Trade-based manipulation, as defined in Art. 155 Par. 1 Let. b FinMIA, is much narrower than Art. 143 Par. 1 Let. b FinMIA, as it encompasses only the sale and acquisition by the same

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[196] BSK FINMAG/FinfraG-MAURENBRECHER/HANSLIN, Art. 143 FinMIA no. 45; SK FinfraG-LEUENBERGER/RÜTTIMANN, Art. 143 FinMIA no. 43.

[197] BSK FINMAG/FinfraG-MAURENBRECHER/HANSLIN, Art. 143 FinMIA no. 47 ; LENGAUER, in: LENGAUER/EGGEN/STRAUB, p. 805 no. 10.229 ; SK FinfraG-SETHE/FAHRLÄNDER, Art. 142 FinMIA nos. 59 *et seq.*

[198] BSK FINMAG/FinfraG-MAURENBRECHER/HANSLIN, Art. 143 FinMIA no. 45 ; LENGAUER, in: LENGAUER/EGGEN/STRAUB, p. 804 no. 10.228 ; SK FinfraG-LEUENBERGER/RÜTTIMANN, Art. 143 FinMIA no. 43.

[199] Which is precisely why the author proposes the application of an objective test in these situations [see *supra* on p. 24].

[200] LENGAUER, in: LENGAUER/EGGEN/STRAUB, p. 780 no. 10.150 ; OFK FinfraG-VOGEL/HEIZ/LUTHIGER Art. 155 FinMIA no. 1 ; SK FinfraG-LEUENBERGER/RÜTTIMANN, Art. 155 FinMIA no. 1.

[201] BSK FINMAG/FinfraG-MAURENBRECHER/HANSLIN, Introduction to Art. 142 *et seq.* FinMIA no. 84 ; SK FinfraG-SETHE/FAHRLÄNDER, Introduction to Art. 142 *et seq.* FinMIA nos. 91 *et seq.*

[202] Regarding what manipulative acts are prohibited under Art. 143 Par. 1 Let. a FinMIA, see *supra* on pp. 23 *et seq.*

[203] See *infra* on p. 27.

person or by persons colluding for this purpose (fictitious trades)[204]. This means that only wash sales and matched orders are punishable, but spoofing, layering, and pumping and dumping as practiced in pump groups are not, since they are "real" trades, where both parties are independent from one another[205].

JEAN-RICHARD-DIT-BRESSEL argues that spoofing, layering and other "real" trades would fall under Par. 1 Let. a, since these transactions indirectly send false or misleading information to the market[206]. As is correctly stated by WOHLERS/PFLAUM[207], this opinion cannot be shared. Since criminal trade-based price manipulation related to Securities is exhaustively regulated in Art. 155 Par. 1 Let. b FinMIA, using Par. 1 Let. a to punish trades that fall outside of the scope of Par. 1 Let. b would violate the principle of legality[208].

(iii)   Relation to a Security Admitted to Trading on a Swiss Trading Venue or DLT Trading Facility

The manipulative behavior must relate to a Security admitted to trading on a Swiss Trading Venue or DLT Trading Facility[209]. This requirement is the same as in Art. 143 FinMIA. Therefore, manipulation of Asset Token prices is punishable, as is manipulating the price of Utility Tokens when they qualify as Securities[210], provided they are admitted to trading on a Swiss Trading Venue. However, manipulative practices that relate to Payment Tokens fall outside the scope of application of Art. 155 FinMIA, since these tokens are not Securities.

(iv)   Intent

Whereas Art. 143 FinMIA simply requires that the manipulator knew or should have known that he was sending false or misleading signals, Art. 155 FinMIA is much stricter.

First, there must be direct intent in the case of information-based manipulation – as shown by the formulation "against their better knowledge" – whereas *dolus eventualis* is sufficient in the case of trade-based manipulation[211].

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[204] BSK FINMAG/FinfraG-WOHLERS/PFLAUM, Art. 155 FinMIA nos. 49 *et seq.* ; OFK FinfraG-VOGEL/HEIZ/LUTHIGER Art. 155 FinMIA nos. 2 *et seq.* ; SK FinfraG-LEUENBERGER/RÜTTIMANN, Art. 155 FinMIA nos. 30 *et seq.*

[205] BSK FINMAG/FinfraG-WOHLERS/PFLAUM, Art. 155 FinMIA no. 50 ; SK FinfraG-LEUENBERGER/RÜTTIMANN, Art. 155 FinMIA nos. 30 *et seq.*

[206] JEAN-RICHARD-DIT-BRESSEL, p. 469.

[207] BSK FINMAG/FinfraG-WOHLERS/PFLAUM, Art. 155 FinMIA no. 48.

[208] The principle of legality is a basic principle of all Swiss criminal law, and states that if a criminal provision does not prohibit a given behavior, then any person adopting that behavior cannot be criminally prosecuted. For further details, see SK FinfraG-SETHE/FAHRLÄNDER, Introduction to Art. 142 *et seq.* FinMIA no. 95.

[209] BSK FINMAG/FinfraG-WOHLERS/PFLAUM, Art. 155 FinMIA no. 16 ; LENGAUER, in: LENGAUER/EGGEN/STRAUB, p. 780 no. 10.150 ; SK FinfraG-LEUENBERGER/RÜTTIMANN, Art. 155 FinMIA nos. 14 *et seq.*

[210] See *supra* on p. 21.

[211] BSK FINMAG/FinfraG-WOHLERS/PFLAUM, Art. 155 FinMIA nos. 59 *et seq.* ; LENGAUER, in: LENGAUER/EGGEN/STRAUB, p. 791 nos. 10.192 *et seq.* ; OFK FinfraG-VOGEL/HEIZ/LUTHIGER Art. 155 FinMIA no. 11 ; SK FinfraG-LEUENBERGER/RÜTTIMANN, Art. 155 FinMIA no. 35.

Second, there must be the intention of gaining a pecuniary advantage. The intended pecuniary advantage may take several forms, such as an avoided loss or a book profit[212]. It does not need to be specifically intended, *dolus eventualis* is sufficient[213].

Third, the manipulator must also have the intention to substantially influence prices. Specific intent is required here, and *dolus directus* is not sufficient[214]. This specific intent can either be proven when it is admitted by the accused, or when a reasonable investor would qualify the information or trade in question as price-sensitive[215]. Whether the influence on prices can be considered substantial depends on the type of instrument: the more volatile the price, the larger the change must be in order to qualify the influence as substantial[216]. In the author's opinion, the influence on prices of cryptocurrencies could be considered substantial when the change exceeds 5-10%, since small-cap cryptocurrencies and other tokens, which are more frequently the target of manipulation, are relatively illiquid and volatile. Nonetheless, the influence may sometimes be substantial even below the aforementioned threshold, for example in the case of tokens with more liquidity and/or less volatility.

While it is safe to assume that these three subjective criteria are usually met by most cryptocurrency manipulation schemes described in Part II, an analysis on a case-by-case basis is necessary. Moreover, the required intent could be hard to prove in some instances, such as in the case of announced and reversed measures[217].

c)   Ordinary Fraud (Art. 146 SCC)

One of the main arguments for the introduction of a special criminal provision on market manipulation, through Art. 161[bis] SCC in 1997, was that it was difficult to apply criminal provisions on Fraud (Art. 146 SCC) to market manipulation[219].

Nevertheless, Art. 146 SCC may still be of relevance to market manipulation, but only outside the scope of application of Art. 155 FinMIA. Since Art. 155 FinMIA exhaustively and finally regulates the criminal prosecution of market manipulation related to Securities, any manipulative behavior related to Securities under Art. 2 Let. b FinMIA that is not encompassed by Art. 155 FinMIA is not punishable under criminal law[220]. However, manipulation that does not relate to Securities lies outside the scope of application of financial markets law. Therefore, Art.

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[212] BSK FINMAG/FinfraG-WOHLERS/PFLAUM, Art. 155 FinMIA no. 87 ; SK FinfraG-LEUENBERGER/RÜTTIMANN, Art. 155 FinMIA no. 45. It is therefore sufficient that the perpetrator consciously disregards the consequences of his acts. He does not need to specifically intend the consequences.

[213] BSK FINMAG/FinfraG-WOHLERS/PFLAUM, Art. 155 FinMIA no. 82.

[214] BSK FINMAG/FinfraG-WOHLERS/PFLAUM, Art. 155 FinMIA no. 67 ; LENGAUER, in: LENGAUER/EGGEN/STRAUB, p. 791 no. 10.186 ; SK FinfraG-LEUENBERGER/RÜTTIMANN, Art. 155 FinMIA no. 37.

[215] SK FinfraG-LEUENBERGER/RÜTTIMANN, Art. 155 FinMIA no. 38.

[216] BSK FINMAG/FinfraG-WOHLERS/PFLAUM, Art. 155 FinMIA no. 67 ; SK FinfraG-LEUENBERGER/RÜTTIMANN, Art. 155 FinMIA no. 41.

[217] Which is one of the main reasons why the author proposes the application of an objective test in these situations [see *supra* on p. 24]. Nonetheless, in criminal law, the principle of *in dubio pro reo* dictates that if any reasonable doubt remains, then the perpetrator cannot be held criminally liable.

[219] FG 1993 I 1369, p. 1428.

[220] See *supra* on pp. 26 *et seq.*

146 SCC remains relevant for market manipulation unrelated to Securities, such as Payment Token- or Utility Token[221]-related manipulation.

To an extent, this means that even types of manipulative behaviors identical to those not covered by Art. 155 FinMIA when they relate to Securities, such as cryptocurrency-type pumping and dumping or spoofing and layering[222], are not necessarily excluded from criminal prosecution under Art. 146 SCC. Admittedly, the opposite argument could also reasonably be made, since one could argue that, when introducing Art. 161[bis] SCC, it could not have been the legislature's intent to apply looser standards to the criminal prosecution of market manipulation when it relates to Securities than when it does not relate to Securities. This approach fails to consider that the goals behind Art. 155 FinMIA and Art. 146 SCC are not identical. While the former seeks to protect the investors' trust in a clean and transparent market[223], the latter's goal is to protect anyone against losses resulting from deceptive financial practices[224].

Therefore, it is the author's opinion that, when the requirements of Art. 146 SCC are met, market manipulation unrelated to Securities constitutes Fraud, even if the same behavior would not be punishable under Art. 155 FinMIA if it were related to Securities. However, when a manipulative act relates to Securities, then Art. 146 SCC is completely irrelevant, since Art. 155 is the only applicable provision in that case. Consequently, the following explanations relate only to instruments, which do not qualify as Securities under Swiss law, such as Payment Tokens and some Utility Tokens.

(i) Objective Requirements

Art. 146 SCC has several objective requirements: the offender needs to maliciously mislead the victim, causing the victim to act in a manner that causes a financial loss[225].

The first condition is the **that the perpetrator misleads the victim**. The victim can be misled even by an implied behavior or statement[226]. Thus, even in manipulation cases where there is no direct and express communication between perpetrators and victims – such as with pump and dump schemes as practiced with cryptocurrencies, since the buyer-victims are not members of the pump groups – this first requirement is met.

Second, the victim must be misled **maliciously**. Malice is not defined within the SCC, which is why the courts have elaborated a catalogue of situations where malice is presumed[227]. It

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[221] In such instances where Utility Tokens cannot be qualified as Securities [see *supra* on p. 21].

[222] See *supra* on p. 27.

[223] FG 1993 I 1369, p. 1428.

[224] BGE 117 IV 147 ; BSK Strafrecht-Maeder/Niggli, Art. 146 SCC no. 11 ; CR-CP II-Garbarski/Borsodi, Art. 146 SCC no. 5 ; HK StGB-Schlegel, Art. 146 SCC no. 1.

[225] BSK Strafrecht-Maeder/Niggli, Art. 146 SCC no. 36 *et seq.* ; CR-CP II-Garbarski/Borsodi, Art. 146 SCC nos. 8 *et seq.* ; HK StGB-Schlegel, Art. 146 SCC nos. 4 *et seq.* ; OFK Strafrecht-Donatsch, Art. 146 SCC nos. 1 *et seq.*

[226] BSK Strafrecht-Maeder/Niggli, Art. 146 SCC no. 46 ; HK StGB-Schlegel, Art. 146 SCC no. 4 ; OFK Strafrecht-Donatsch, Art. 146 SCC no. 2.

[227] CR-CP II-Garbarski/Borsodi, Art. 146 SCC nos. 35 *et seq.* ; HK StGB-Schlegel, Art. 146 SCC nos. 7 *et seq.* ; OFK Strafrecht-Donatsch, Art. 146 SCC no. 7.

includes statements that, by nature, are difficult to verify[228], and statements that the victim cannot reasonably be expected to verify[229]. Consequently, since both pumping and dumping in the form common with cryptocurrencies and the announcement of measures as made by Elon Musk and Tesla contain statements difficult to verify by nature, or that are not reasonably expected to be verified, they meet the requirement of malice, if they mislead victims of such schemes . All other forms of market manipulation also meet the criterion of malice, since a normal investor cannot reasonably be expected to verify all orders and statements about cryptocurrencies, *inter alia* because of the very fast flow of information.

The third requirement is that **the victim acts.** Any act capable of causing a financial loss meets this requirement[230]. This therefore includes, *inter alia*, any situation where the victim, because of having been misled, places an order to buy or to sell.

The final objective requirement is that the **victim suffers a financial loss**. A financial loss is any financial damage suffered by the victim, such as a net loss or lost profit[231]. With regards to pumping and dumping as it is done with cryptocurrencies, the victims suffer a loss because they purchase while the price is inflated, and are then stuck with the instrument in question after its price has plummeted. In the case of the public announcement of measures, the loss is due to the price falling back down – or going back up, depending on the situation – after the implementation of measures is cancelled. In all other manipulation cases, the financial loss of the victim corresponds to the difference between the actual price of the manipulated asset and the price at which it would have traded if the market had not been manipulated.

Strictly speaking, the **economic loss of the victim must relate to the gain made by the perpetrator**: there must be a direct connection between the two (a shift of wealth from one to the other)[232]. While it would therefore be reasonable to assume that the fact that this connection is required limits the applicability of Art. 146 SCC to cases where the manipulators sell to the victims directly – such as in the case of cryptocurrency pumping and dumping –, and excludes its application in cases where there is no sale from the perpetrator to the victim, or vice versa – such as wash sales of matched orders – a 1996 decision of the Swiss Federal Court[233] came to the opposite conclusion[234]. In aforementioned case, several banks (including a Swiss bank) conspired, and made the price of a French stock rise from FRF 508.- to FRF 1854.- within six months through a mix of matched orders and wash trades, which attracted the interest of the COB. The COB filed a request for legal assistance with the Swiss courts in order to gain access to the records of the Swiss bank. The Swiss Federal Court not only held that the victim and the perpetrator need not know each other's identity, but also admitted that the requirement of a

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[228] BGE 105 IV 104 ; BGE 111 IV 58 ; BGE 135 IV 83.

[229] BGE 96 IV 148 ; BGE 106 IV 362.

[230] BGE 126 IV 113 ; BSK Strafrecht-MAEDER/NIGGLI, Art. 146 SCC no. 133 ; CR-CP II-GARBARSKI/BORSODI, Art. 146 SCC no. 97 ; HK StGB-SCHLEGEL, Art. 146 SCC no. 17 ; OFK Strafrecht-DONATSCH, Art. 146 SCC no. 16.

[231] CR-CP II-GARBARSKI/BORSODI, Art. 146 SCC no. 108 ; HK StGB-SCHLEGEL, Art. 146 SCC no. 19 ; OFK Strafrecht-DONATSCH, Art. 146 SCC no. 24.

[232] BSK Strafrecht-MAEDER/NIGGLI, Art. 146 SCC no. 262 ; CR-CP II-GARBARSKI/BORSODI, Art. 146 SCC no. 127 *et seq.* ; HK StGB-SCHLEGEL, Art. 146 SCC no. 29 ; OFK Strafrecht-DONATSCH, Art. 146 SCC no. 31. This criterion is called *Stoffgleichheit.*

[233] BGE 122 II 422.

[234] While this decision precedes the introduction of a dedicated criminal provision on market manipulation, its holdings remain relevant with respect to Art. 146 SCC.

connection between the loss of the victim and the profit of the perpetrator is satisfied when the loss and the gain result from the same decision to manipulate the price, without requiring a qualitative and quantitative identity between them[235]. As stated by LENGAUER[236], this ruling created some uncertainty[237]. Nonetheless, the connection required under Art. 146 SCC between the loss of the victim and the intended gain of the perpetrator, in the author's opinion and in light of BGE 122 II 422, is satisfied in cases of market manipulation.

(ii)   *Subjective Requirements*

Concerning the subjective requirements, Art. 146 SCC requires **direct intent** as well as the **goal to gain a pecuniary advantage**[238]. Since Art. 12 SCC encompasses not only purpose, but also *dolus directus* and *dolus eventualis*, the perpetrator need not have specifically intended his acts and their consequences, but simply must have known about his acts and accepted their consequences. With most manipulation schemes, neither intent nor the goal to gain a pecuniary advantage should be problematic. However, in the case of public announcements of measures to be implemented, the question of intent is much more delicate, since it will be very difficult to prove that the measures were not actually intended to be implemented[239]. In conclusion, the subjective requirements seem to be the limiting factor regarding the application of Art. 146 SCC to market manipulation related to cryptocurrencies.

d)   <u>Summary and Overview</u>

In summary, while Art. 143 FinMIA covers most types of market manipulation, it does not apply to instruments that do not qualify as Securities under Art. 2 Let. b FinMIA. Therefore, cryptocurrency market manipulation lies outside the scope of Art. 143 FinMIA, as cryptocurrencies usually qualify as Payment Tokens, which are not Securities. The same can be said for Art. 155 FinMIA. However, in the author's opinion, market manipulation schemes related to assets that do not qualify as Securities are still prohibited under Art. 146 SCC. The limiting factor regarding the applicability of Art. 146 SCC to cryptocurrency market manipulation is not whether the manipulation scheme in question meets the objective requirements of Art. 146 SCC, but rather the proof of intent and of the goal to gain a pecuniary advantage.

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[235] BGE 122 II 422 rec. 3b: "The word of the law requires only that the damage be caused by deception, and that there be an intention of unlawful enrichment, without the latter necessarily being realized, and without there necessarily being a quantitative or qualitative identity between the impoverishment and the enrichment: it is sufficient that the advantage sought and the loss suffered result from the same decision. This is the case with price manipulation, when the victim's decision (in this case to buy securities) is directly caused by the deception intended by the perpetrator." (translated from French by the author). This reasoning seems sound, since it takes into account the special circumstances of coordinated market manipulation.

[236] LENGAUER, in: LENGAUER/EGGEN/STRAUB, p. 73 no. 10.7.

[237] Which was also cited as a motive for introducing a dedicated criminal provision on market manipulation in the form of Art. 161bis SCC, see FG 1993 I 1369, p. 1428. While in the message, the Federal Council seems to believe Art. 146 SCC is inapplicable to market manipulation for fundamental reasons, one must still follow the precedent of BGE 122 II 422, since it is the courts' task to interpret provisions that are in force, and not that of the Federal Council.

[238] BSK Strafrecht-MAEDER/NIGGLI, Art. 146 SCC no. 273 ; CR-CP II-GARBARSKI/BORSODI, Art. 146 SCC no. 120 *et seq.* ; HK StGB-SCHLEGEL, Art. 146 SCC no. 29 *et seq.* ; OFK Strafrecht-DONATSCH, Art. 146 SCC no. 29 *et seq.*

[239] The proposed test of basing the analysis on how long the implementation takes and whether it is cancelled, as developed above in the analysis of Art. 143 FinMIA [see *supra* on pp. 23 *et seq.*], is less relevant in criminal law, since the principle of *in dubio pro reo* must prevail.

	143 (1)(a) FinMIA (only Asset/some Utility Tokens)	*143 (1)(b) FinMIA* (only Asset/some Utility Tokens)	*155 (1)(a) FinMIA* (only Asset/some Utility Tokens)	*155 (1)(b) FinMIA* (only Asset/some Utility Tokens)	*146 SCC* (only assets that are NOT Securities)
"Classic" pump and dump	✓	x	✓	x	Sometimes (A)
Cryptocurrency-type pump and dump	x	✓ (A)	x	x (A)	Sometimes (A)
Misleading announcements	✓ (A)	x	✓ (A)	x	Sometimes (A)
Spoofing/Layering	x	✓	x	x	Sometimes (A)
Wash trades	x	✓	x	✓	Sometimes (A)
Matched orders	x	✓	x	✓	Sometimes (A)

Figure 5: Overview of the applicability of current Swiss market manipulation provisions to specific types of market manipulation. "(A)" denotes that this is the author's personal opinion.

4. Conclusion

Although Switzerland has recently amended its financial markets law on a large scale, cryptocurrency market manipulation remains mostly unregulated. The main reason for that is that cryptocurrencies usually qualify as Payment Tokens, and thus not as Securities, since they do not meet the requirements of Art. 2 Let. b FinMIA.

While a select few cryptocurrencies may be classified as Asset and/or Utility Tokens, only those with an investment purpose currently fall within the scope of the FinMIA. For all other cryptocurrencies – *i.e.* a vast majority of them – only the general provision on Fraud (Art. 146 SCC) is applicable. While the provision prohibiting Fraud would, in the author's opinion, be technically applicable, it is still ill-adapted to market manipulation specifically. Consequently, the recent DLT-Project notwithstanding, the current regulatory environment is, unfortunately, quite friendly towards cryptocurrency market manipulation.

B. United States

1. Structure of US Securities Law

In the United States, the states and the federal government have concurrent jurisdiction in securities law[240]. Because of this, both federal and state law contain rules. Since inter-state and international transactions are subject to federal law, this Master's thesis only considers issues related to federal law.

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[240] BARTOS, p. 1 ; LEVY, no. 1:2.

Some of the most important federal statutes include the Securities Act of 1933 (hereinafter "**SA**") and the Securities Exchange Act of 1934 (hereinafter "**SEA**"), both of which were adopted in the wake of the 1929 stock market crash. While both statutes are relevant regarding the prohibition of market manipulation, this Master's thesis will focus on the SEA, since the manipulative practices described in Part II relate to the secondary market, which is one of the subject matters covered by the SEA. The Commodity Exchange Act of 1936 (hereinafter "**CEA**") is also relevant, since it contains provisions prohibiting the manipulation of Commodity prices.

Unlike Swiss law, US federal securities law has no definition(s) specifically tailored to Blockchain-based assets. Instead, a substance-over-form approach is preferred, meaning that instruments are regulated irrespective of their form[242]. Therefore, the existing generic definitions, particularly those of the Security as defined in the SA and SEA, remain relevant in connection with these types of assets. Other definitions, such as that of the Commodity as defined in the CEA, can also be relevant.

First, the present Section will analyze whether and how cryptocurrencies qualify as Securities under the SEA and SA, and/or as Commodities under the CEA[243]. Next, the consequences of the classification of cryptocurrencies as Securities or Commodities in connection with the applicability of market manipulation provisions will be presented[244].

2. Qualification of Cryptocurrencies under Federal Law

a)   As Securities

The applicability of federal securities law – including market manipulation provisions – depends on whether the instrument in question qualifies as a Security. Securities are defined in Section 2(a)(1) SA[245] as "[…] any note, stock, treasury stock, security future, security-based swap, bond, debenture, evidence of indebtedness, certificate of interest or participation in any profit-sharing agreement, collateral-trust certificate, preorganization certificate or subscription, transferable share, investment contract, voting-trust certificate, certificate of deposit for a security, fractional undivided interest in oil, gas, or other mineral rights […]"[246]. Out of all these

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[242] As the Supreme Court held in *United States Securities and Exchange Commission v. C.M. Joiner Leasing Corp.*, 320 U.S. 344 (1943) and *Reves v. Ernst & Young,* 494 U.S. 56 (1990), the scope of application of federal securities legislation is not limited to instruments specifically mentioned within the statutes in question, but also extends to any new instrument that is functionally equivalent, since Congress intended to regulate investments regardless of their form. Ever since, the SEC has maintained its practise of applying securities law independently of the form of, or technology behind, the investment, as long as the instrument in question has an investment function: see *inter alia* DAO Report, p. 10.

[243] See *infra* in Chapter 2.

[244] See *infra* in Chapter 3.

[245] Section 3(a)(10) SEA contains a similar definition. In *Tcherepnin v. Knight*, 389 U.S. 332, 335 (1967), the Supreme Court states that the two definitions are virtually identical, and thus considers the precedents developed for either one to be relevant for both. This was later confirmed in *United Housing Foundation, Inc. v. Forman*, 421 U.S. 837, 847 (1975), which went so far as to state that the two definitions could, despite somewhat different wording, be considered the same.

[246] The definition is a bit broader, as it also includes, *inter alia*, options to buy or sell instruments that qualify as a Security under Section 9(a)(1) SA, but this is not of particular relevance to the issues discussed in this Master's thesis.

instruments, the only one whose definition may include cryptocurrencies is the Investment Contract[247]. Therefore, the definition of the Investment Contract will be explored in detail below.

(i)   The Howey Test

In a 1946 decision[248], the Supreme Court devised a three-pronged test determine whether an instrument qualifies as an Investment Contract. The test is referred to as the *Howey* test, after the name of the respondent in that case. The three prongs of the *Howey* test are as follows: there must be (1) an investment of money (2) in a common enterprise, and (3) reasonable expectations of profit, which is derived from the efforts of others[249]. The Supreme Court also expressly noted that the instrument in question need not have any intrinsic value[250], adopting a substance-over-form approach, theoretically allowing for much more flexibility[251].

The SEC released a framework for application of the *Howey* test to cryptoassets, in 2019. While, strictly speaking, it is not a rule or regulation, it does provide guidance regarding the qualification of digital assets as Investment Contracts[252]. Together with several enforcement decisions and complaints, such as the 2017 investigation of the German corporation Slock.it[253] and the 2020 lawsuit filed against Ripple[254], the framework forms the basis of the SEC's classification of cryptocurrencies.

The first requirement of the *Howey* test is the **investment of money**. In 1979, the Supreme Court decided *Daniel*[255]. The Court held that the first requirement of *Howey* was met when

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[247] This definition is often the one that is used to determine whether "[…] unique and novel instruments […]" are subject to the federal securities laws: DA Framework, p. 1.

[248] *United States Securities and Exchange Commission v. W. J. Howey Co.,* 328 U.S. 293 (1946).

[249] *Id.* at 299: "In other words, an investment contract, for purposes of the Securities Act, means a contract, transaction or scheme whereby a person invests his money in a common enterprise and is led to expect profits solely from the efforts of the promoter or a third party, it being immaterial whether the shares in the enterprise are evidenced by formal certificates or by nominal interests in the physical assets employed in the enterprise". While it could be argued that the reasonable expectation of profit and the fact that the profit must result from the work of others may be construed as two distinct requirements, this Master's thesis will treat them as a single one, since both the courts and the SEC often analyze them together, and since these requirements are very closely linked in the case of cryptocurrencies anyway.

[250] *United States Securities and Exchange Commission v. W. J. Howey Co.,* 328 U.S. 293, 301 (1946).

[251] DARBELLAY/REYMOND, p. 881. The author sees this more pragmatic approach as welcome, since it does away with formalities and instead considers the economic nature of an instrument rather than its legal designation, as opposed to Swiss law for example.

[252] DA Framework, fn. 1.

[253] In 2017, the SEC investigated the German corporation Slock.it over alleged violations of federal securities law. The company had raised funds through the issuance of tokens in exchange for 12 million ETH coins (equivalent to a total of approximately USD 10 billion when considering the 2017 ETH prices). The SEC examined whether this constituted a violation of the obligation to register Securities publicly offered for sale in the US (Section 5 SA). In the ensuing report (DOA Report), the SEC found that the coins issued by the company could indeed be qualified as Securities under the *Howey* test. This report is important since it is one of only very few that, rather than stating outright that an cryptoasset qualifies as an Investment Contract, actually explains the reasoning behind that classification. For further details, see DOA Report, pp. 11 *et seq.*

[254] On December 22nd, 2020, the SEC filed suit against Ripple Labs Inc. and two executives, claiming XRP was a Security and had been offered for sale in the US without the necessary registration with the SEC. The case is still pending as of December 31st, 2021.

[255] *International Brotherhood of Teamsters, Chauffeurs, Warehousemen & Helpers of America v. Daniel,* 439 U.S. 551 (1979).

there was "[…] a specific consideration in return for a separable financial interest"[256]. The same standard had been applied in previous decisions[257]. In 1991, when deciding *Uselton*[258], the United States Court of Appeals of the 10th Circuit held that the investment required under the first prong of the *Howey* test could also take forms other than cash, even going so far as to include services and goods[259]. This decision also confirmed the holding in *Daniel*[260], which stated that there must be an exchange of value.

The criterion of the investment of money as required under the first prong of the *Howey* test is usually met in the case of cryptocurrencies, since they are acquired in exchange for real money[262].

The second prong of the *Howey* test is the **presence of a common enterprise**. The enterprise is common when investors and promoters each contribute to the venture's development[263] (the investors contribute capital, while the entrepreneurs manage the business in order to generate returns).

The required presence of a common enterprise is similarly unproblematic. Indeed, cryptocurrencies have what is called horizontal commonality, *i.e.* the fortunes of all investors are linked because they rely on the success of the instrument in which they have invested[264].

The *Howey* test's third prong requires that the investment in a common enterprise results in a **reasonable expectation of profit solely derived from the efforts of others**[265]. There is a reasonable expectation of profit when the owner of the instrument in question intends to make a profit based on the development of the business (such as by selling his stake in the enterprise at a higher price than the price of initial acquisition), or when he has a right to a portion of the profits (such as dividends)[266]. Furthermore, the profits must result solely[267] from the efforts of others. This requirement is fulfilled when the investor intends to use the managerial work of others in order to make a profit himself[268]. This is generally the case when the person promoting

[256] *Id.*, at 559.

[257] See *inter alia*: *United States Securities and Exchange Commission v. C. M. Joiner Leasing Corp.*, 320 U.S. 344 (1943) ; *Tcherepnin v. Knight,* 389 U.S. 332 (1967) ; *United States Securities and Exchange Commission v. United Benefit Life Insurance. Co.*, 387 U.S. 202 (1967).

[258] *Uselton v. Commercial Lovelace Motor Freight, Inc.*, 940 F.2d 564 (10th Cir. 1991).

[259] *Id.*, at 574.

[260] *Id.*, at 575.

[262] DA Framework, no. II A. As stated in the DOA Report, p. 11, this condition is also met when a coin is purchased in exchange for another coin (in that case ETH).

[263] *International Brotherhood of Teamsters, Chauffeurs, Warehousemen & Helpers of America v. Daniel,* 439 U.S. 551, 561 (1979) ; *United States Securities and Exchange Commission v. W. J. Howey Co.,* 328 U.S. 293, 299 (1946) ; *United Housing Foundation, Inc. v. Forman*, 421 U.S. 837, 852 (1975).

[264] DA Framework, no. II B ; DOA Report, p. 11.

[265] *United States Securities and Exchange Commission v. W. J. Howey Co.,* 328 U.S. 293, 299 (1946).

[266] *International Brotherhood of Teamsters, Chauffeurs, Warehousemen & Helpers of America v. Daniel,* 439 U.S. 551, 561 (1979) ; *United Housing Foundation, Inc. v. Forman*, 421 U.S. 837, 852 (1975).

[267] As in exclusively: the value of the investment must only depend on the acts of persons (natural or legal) other than the investor himself.

[268] *International Brotherhood of Teamsters, Chauffeurs, Warehousemen & Helpers of America v. Daniel,* 439 U.S. 551, 561 (1979) ; *United Housing Foundation, Inc. v. Forman*, 421 U.S. 837, 852 (1975).

the investment is essential to generating a profit. Examples include the development of a network, additional functionalities, markets and products[269].

Since cryptocurrencies usually fulfill the first two conditions of the *Howey* test; their qualification as Investment Contracts usually hinges on the third prong[270]. In order to determine whether there is a reasonable expectation of profits, one must take into account only prospective profits relating to internal factors of the investment (such as the development of the business). Price changes, even when foreseeable, that stem strictly from external forces such as market trends or inflation are not considered prospective profits in the context of the *Howey* test[271]. Therefore, there is generally no expectation of profits in the case of tokens that are intended strictly for payment – since these tokens represent no investment in a business that could be developed – while there are expectations of profit under *Howey* when the token in question represents an investment in an entity that conducts business and wishes to develop, or when the token gives access to services[272].

(ii)   The SEC's Practice

Theoretically, following the above-described guidelines strictly would lead to failure to classify cryptocurrencies as Securities, because they fail the third prong of the *Howey* test. The problem is that, in recent years, the SEC has handed down decisions and issued multiple statements that are contradictory.

In 2017 for example, then SEC-Chairman Jay Clayton stated that cyptocurrencies were not usually Securities[273]. Nonetheless, on December 22nd, 2020, Clayton's last day in office, the SEC filed a complaint against Ripple Labs Inc., arguing that their payment coin XRP was a Security[274]. In his testimony before the US Senate Banking Committee in September 2021[275], the current SEC-Chairman, Gary Gensler, stated that only a small number of cryptocurrencies were not Securities, but that most of them definitely were. He also called the cryptocurrency market the "Wild West" and announced stricter regulation. This change of stance clearly contradicts that of ex-Chairman Clayton.

b)   As Commodities (§ 1a(9) CEA)

Commodities are defined in § 1a(9) CEA as "[…] wheat, cotton, rice, corn, oats, barley, rye, flaxseed, grain sorghums, mill feeds, butter, eggs […], and all other goods and articles, except

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[269] DA Framework, no. II C 1.

[270] *Ibid.*

[271] *Id.*, no. II C 2.

[272] *Ibid.* In the DOA Report, p. 12, the SEC states that the tokens in question fulfilled this requirement because token holders could expect to share the profits resulting from the development of the network.

[273] SEC Statement on Cryptocurrencies and Initial Coin offerings, December 11th, 2017, accessible at https://www.sec.gov/news/public-statement/statement-clayton-2017-12-11 (last consulted on November 4th, 2021).

[274] See XRP Complaint, pp. 34 *et seq.*

[275] Full testimony accessible at https://www.banking.senate.gov/hearings/09/10/2021/oversight-of-the-us-securities-and-exchange-commission (last consulted on November 3rd, 2021).

onions[276] (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 […] in which contracts for future delivery are presently or in the future dealt in.".

In 2015, the CFTC classified BTC as a Commodity[277]. However, instead of explaining the reasoning behind this decision, the CFTC simply stated "The definition of a "commodity" is broad. […] Bitcoin and other virtual currencies are encompassed in the definition and properly defined as commodities"[278]. In a 2019 interview, CFTC-Chairman Heath Tarbert also confirmed that ETH is a Commodity under § 1a(9) CEA[279].

c)   Summary and Overview

In the author's opinion, the SEC's guidelines should, in theory, allow us to clearly place specific types of tokens within or outside the scope of the SEA. Unfortunately, because of the contradictory decisions regarding the classification of tokens as Securities, this is not the case. While stating that the cryptocurrency markets need stricter regulation in order to guarantee investor protection is certainly correct, the unclear and opaque practice of the SEC assuredly results in unnecessary difficulties for financial service providers active in this business segment, creating more uncertainty than certainty. Whether the SEC will develop a uniform and transparent method of classification remains to be seen.

The CFTC, on the other hand, has clearly and unequivocally stated that cryptocurrencies are indeed Commodities as defined in the CEA[280].

3. Applicability of Market Manipulation Provisions to Cryptocurrencies

a)   Section 9 SEA

Unlike the Swiss provisions on market manipulation, Section 9 SEA contains a list of prohibited behaviors, in addition to a general clause. This makes it much easier to determine whether or not a given act of manipulation is covered by the SEA.

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[276] Quite interestingly, futures contracts related to onions are specifically regulated by the Onion Futures Act of 1958, which was introduced after two onion traders, Vincent Kosuga and Sam Siegel, cornered the onion market in the 1950s. At one point, Kosuga and Siegel had as much as 30,000,000 pounds of onions stored in their Chicago warehouse. When they flooded the market with their onions, they made millions in the process, since they had bought shorts beforehand. This drove many onion farmers into bankruptcy, causing a public outcry, which ultimately led to the adoption of the Onion Futures Act. For further reading on this story, see Secorun Palet, Laura, Cornerning the onion market… and getting away with it, January 15th, 2015, accessible at https://www.ozy.com/true-and-stories/cornering-the-onion-market-and-getting-away-with-it/37385/ (last consulted on November 2nd, 2021).

[277] *Coinflip, Inc., d/b/a Derivabit, and Francisco Riordan v. U.S. Commodity Futures Trading Commission,* CFTC Docket no. 15-19, 2015, see also LUCKING/ARAVIND, p. 2.

[278] *Coinflip, Inc., d/b/a Derivabit, and Francisco Riordan v. U.S. Commodity Futures Trading Commission,* CFTC Docket no. 15-19, 2015, p. 3. Note that this also includes "other virtual currencies".

[279] Full interview accessible at https://www.youtube.com/watch?v=TrhR2ChZLXM&list=PLx28zU8ctIRqbI-heJs8mYvS_Q48FYKlU5&index=7 (last consulted on November 3rd, 2021).

[280] *Coinflip, Inc., d/b/a Derivabit, and Francisco Riordan v. U.S. Commodity Futures Trading Commission,* CFTC Docket no. 15-19, 2015, p. 3.

Section 9 SEA clearly forbids the market manipulation schemes mentioned in Part II. This includes wash sales (Sec. 9(a)(1)(A)), matched orders (Sec. 9(a)(1)(B) and (C)), pumping and dumping (Sec. 9(a)(4)) and spoofing and layering (Sec. 9(a)(3) and (4)).

It is unclear whether announcements of measures as in the cases of the American Steel and Wire Company and Elon Musk[281] are prohibited under Section 9 SEA. The former case dates back to 1901, before the introduction of the SEA. In the latter case, the SEC took no enforcement measures[282]. In the author's opinion, such acts fall under SEA Sec. 9(a)(4), as they constitute false or misleading statements when their implementation is not actually intended[283].

In any case, the rules of Section 9 SEA apply only to Securities. As stated above, the SEC's practice regarding the classification of cryptocurrencies as Securities is not uniform, ultimately resulting in a lack of clarity regarding the applicability of Section 9 SEA to cryptocurrencies.

b)   § 9 CEA

§ 9 CEA prohibits the manipulation of Commodity prices. It contains two different provisions regarding market manipulation.

§ 9(1) CEA prohibits the use, or attempt to use, any manipulative device or contrivance. § 9(1) CEA is the basis for CFTC Implementing Rule 180.1, which contains some additional details regarding § 9(1) CEA. Rule 180.1 prohibits any intentional or reckless[285] fraud or fraud-based manipulation, in connection with any Commodity sale, swap or future[286]. It is not necessary that the manipulator intended to create or succeeded in creating an artificial price[287]. Rule 180.1 specifically targets untrue or misleading statements (Rule 180.1(a)(2)), manipulative fraud or deceit (Rule 180.1(a)(3)) and any other manipulative device or scheme (Rule 180.1(a)(1)).

§ 9(3) CEA is a residual provision that is aimed at covering manipulative acts falling outside the scope of § 9(1) CEA. It prohibits any manipulation or attempted manipulation and forms the basis for CFTC Rule 180.2[288]. It requires that the manipulator had the ability to influence prices, specifically intended to manipulate and succeeded in causing the price no longer to reflect the forces of supply and demand of a Commodity[289].

These rules are quite broad and, unlike Section 9 SEA, do not specifically mention any types of manipulative acts. The CFTC consciously avoids the adoption of rules that would classify certain types of manipulative acts as within or outside the scope of §9 CEA, preferring instead to make decisions on a case-per-case basis[290]. This approach, although it results in less overall

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[281] See *supra* on pp. 9 *et seq*.

[282] Presumably because the Commission did not view BTC as a Security, but the author's research did not reveal any express statement on why the SEC did not initiate any proceedings.

[283] See *supra* on p. 24.

[285] Recklessness being defined as "[…] an act or omission that departs so far from the standards of ordinary care that it is very difficult to believe the actor was not aware of what he or she was doing" in CFTC Bulletin on Rules 180.1 and 180.2, p. 41404.

[286] CFTC Adopting Release, p. 1 ; CFTC Bulletin on Rules 180.1 and 180.2, p. 41400.

[287] CFTC Adopting Release, p. 1.

[288] *Id.*, p. 2.

[289] *Ibid.*

[290] CFTC Bulletin on Rules 180.1 and 180.2, p. 41400.

clarity and foreseeability, seems sound, since including or excluding specific behaviors may allow the circumvention of the rules. Since the CFTC seems to base its enforcement decisions on the uniform application of the principles that are clearly laid out in Rules 180.1 and 180.2, the decision not to establish a list of prohibited behaviors does not seem problematic.

Historically, the CFTC has enforced the prohibition of spoofing and layering (including other trade-based manipulative acts)[291], wash sales[292], and information-based manipulation acts such as traditional pumping and dumping[293]. There is not as yet a decision on cryptocurrency-type pumping and dumping, but the CFTC issued an advisory on February 15th, 2018, warning investors about digital asset pumping and dumping and pump groups, and promising whistleblowers an award of 10-30% of the monetary sanctions if an enforcement action results in a fine exceeding USD 1,000,000.-[294]. This advisory clearly indicates the CFTC's intent to crack down on cryptocurrency pump and dump schemes in the future.

4. Conclusion

The US has a very different approach compared to Switzerland. As opposed to relying on a detailed statutory definition that is adapted to DLT-assets – as is the case in Switzerland –, the US applies the existing definitions of the Security and the Commodity to new instruments such as cryptocurrencies. The bases for the application of these old rules to new financial instruments are jurisprudential tests – such as the *Howey* test – guidelines, and the SEC's and CFTC's practices.

On the one hand, while the manipulative behaviors discussed in Part II are almost certainly prohibited under the SEA, the lack of uniformity and coherence regarding the classification of cryptocurrencies as Securities means that it is unclear whether Section 9 SEA actually applies to cryptocurrency market manipulation. On the other hand, the CFTC's clear classification of cryptocurrencies as Commodities and the ensuing applicability of § 9 CEA means that more CFTC market manipulation enforcement actions are probably to be expected in the future.

C. The European Union

The Union's competence to regulate certain aspects of the financial markets is derived from the TFEU. This includes the prohibition of market abuse behaviors. The two most important statutes in this regard are the Market Abuse Regulation (hereinafter "**MAR**")[295] and the Market

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[291] DRW Complaint, pp. 12 *et seq*. The CFTC eventually lost the case in court, see *U.S. Commodity Futures Trading Commission v. Wilson,* 27 F. Supp. 3d 517 (S.D.N.Y. 2014). See also *U.S. Commodity Futures Trading Commission v. Amaranth Advisors LLC, Amaranth Advisors ULC (Calgary) and Brian Hunter,* 554 F. Supp. 2d 523 (S.D.N.Y. 2008) and *In re David G. Henner,* CEA Docket no. 161, 1971.

[292] *Eagle Market Makers Inc. v. U.S. Commodity Futures Trading Commission,* CFTC Docket no. 19-08, 2019.

[293] McAfee Complaint, pp. 1 *et seq*. Interestingly, this traditional pump and dump scheme actually related to cryptocurrencies.

[294] CFTC Pump and Dump Advisory, p. 1.

[295] Regulation (EU) No 596/2014 of the European Parliament and of the Council of 16 April 2014 on market abuse (market abuse regulation) and repealing Directive 2003/6/EC of the European Parliament and of the Council and Commission Directives 2003/124/EC, 2003/125/EC and 2004/72/EC.

Abuse Directive (hereinafter "**MAD**")[296]. Both instruments entered into force in 2014. The former contains rules that prohibit certain manipulative behaviors, while the latter addresses national criminal prosecution of prohibited practices.

1. *De lege lata* (MAR/MAD)

Currently, the MAR is the Union's most important instrument regarding market manipulation. It contains a list of behaviors that fall under the prohibition of market manipulation (Art. 12 MAR), a list of accepted market practices (Art. 13 MAR), as well as an autonomous definition of Financial Instruments (Art. 3(1) MAR), which serves as an anchor to determine the applicability of the aforementioned market manipulation provisions.

a)   Qualification of Cryptocurrencies as Financial Instruments under MiFID II

The definition of Financial Instruments is incorporated into Art. 3(1) MAR, which refers to the MiFID II. As per Annex I Section C MiFID II, Financial Instruments are, *inter alia*, Transferrable Securities, Units in Collective Investment Undertakings and Derivatives, provided their value depends on specific underlying assets.

The ESMA has held that only certain types of crypto-assets qualify as Financial Instruments under the MiFID II[297]. Typically, this includes only tokens with an investment function, which qualify as Transferable Securities. Tokens whose only purpose was to give access to a service or to serve as a means of payment do not qualify as Financial Instruments under the MiFID II, since they lack the investment aspect. Hybrid tokens may qualify as Financial Instruments, so long as they have an investment component[298].
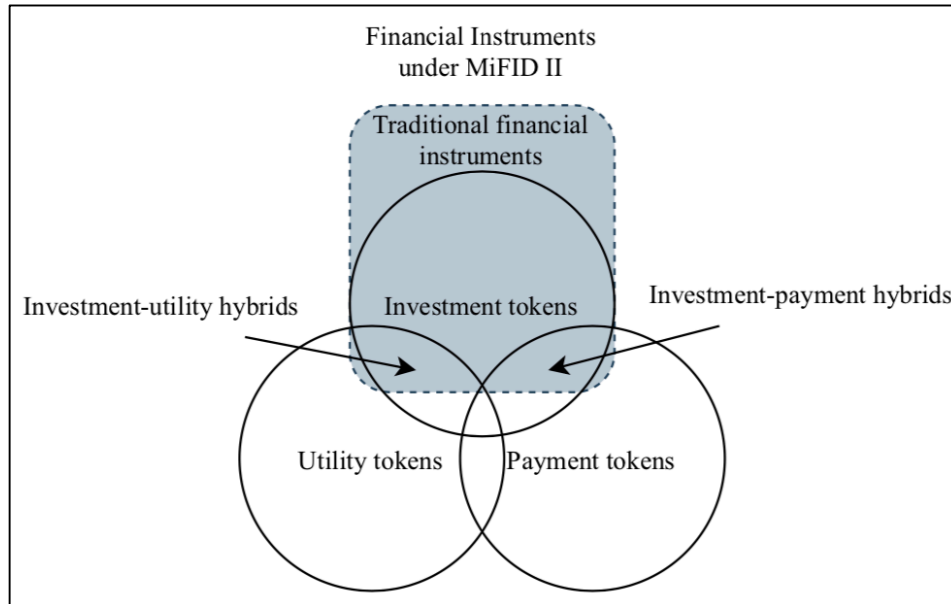
Figure 6: Current scope of EU financial regulation of crypto-assets.

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[296] Directive 2014/57/EU of the European Parliament and of the Council of 16 April 2014 on criminal sanctions for market abuse (market abuse directive).

[297] ESMA ICO Advice, pp. 18 *et seq.*

[298] ESMA ICO Advice, p. 19 ; ZETZSCHE *et al.*, p. 21.

b)   Prohibited Behaviors (Art. 15 MAR)

Art. 15 MAR prohibits market manipulation. The prohibited behaviors are listed in Art. 12 MAR and include spoofing and layering (Art. 12(2)(c) MAR), classic pump and dump schemes (Art. 12(1)(c) and (2)(d) MAR) and wash sales and matched orders (Art. 12(1)(a) and (2)(a) MAR). Interestingly, the MAR also contains a clause that prohibits the voicing of opinions regarding a Financial Instrument without disclosing the positions acquired in that instrument beforehand (Art. 12(2)(d) MAR).

With regards to the announcement of measures to be implemented by a company, it is the author's opinion that these can constitute a manipulative behavior under Art. 12(1)(a) MAR and thus should be treated as such, if the measures are cancelled shortly after their initial implementation[299].

In any case, all these behaviors qualify as market manipulation only when they relate to Financial Instruments, meaning the manipulation of cryptocurrency prices falls outside the scope of application of Art. 12 MAR.

2. *De lege ferenda* (MiCA)

On September 24th, 2020, the EU Commission adopted the "Digital Finance Package", aimed at modernizing the regulatory framework and making Europe a leader in the industry[300]. This package includes, *inter alia*, a proposal for a Regulation specifically concerned with crypto-assets.

The proposed Regulation, called Markets in Crypto-Assets Regulation (hereinafter "**MiCA**")[302], is an instrument that aims to regulate assets and market participants that are not currently covered by other statutes, such as the MiFID II or MAR. To achieve these goals, the Commission adopted a rather unique approach, opting to create a separate legislative framework instead of integrating the rules into the existing European financial markets law[303]. The MiCA's approach was found to be superior to pursuing an opt-in approach[304].

The MiCA is, in 2021, a proposal for a Regulation. It has not yet been adopted, and it is likely that a final vote of the European Parliament will not occur before 2024.

a)   Qualification of Cryptocurrencies as Crypto-Assets (Art. 3(1)(2) MiCA)

The MiCA introduces several new definitions, which are all relevant to DLT-based assets. First and foremost, there is the broad general definition of the Crypto-Asset (Art. 3(1)(2) MiCA). However, there are also more detailed definitions tailored to specific tokens, such as Asset-Referenced Tokens (Art. 3(1)(3) MiCA), Electronic Money Tokens (Art. 3(1)(4) MiCA) and Utility Tokens (Art. 3(1)(5) MiCA). The MiCA therefore adopts a framework that applies to

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[299] For further details regarding the author's opinion, please see *supra* on p. 24.

[300] See the Commission's press release, accessible at https://ec.europa.eu/commission/presscorner/detail/en/IP_20_1684 (last consulted on November 9th, 2021).

[302] Proposal for a Regulation of the European Parliament and of the Council on Markets in Crypto-assets, and amending Directive (EU) 2019/1937.

[303] Other options were also considered, see MiCA Impact Assessment, no. 5.2.

[304] MiCA Impact Assessment, no. 6. The author agrees with this conclusion, since a specific legal framework allows for a much better and tailor-made solution as well as more clarity.

Crypto-Assets in general, with specific provisions applying to particular types of tokens as defined in Art. 3(1)(3) *et seq.* MiCA.

Crypto-Assets are defined in Art. 3(1)(2) MiCA as "[…] a digital representation of value or rights, which may be transferred and stored electronically, using distributed ledger technology or similar technology […]".

This new and specific definition clearly encompasses cryptocurrencies, *inter alia* because one of the stated goals of the MiCA is to regulate all crypto-assets that currently fall outside of the scope of application of existing EU-regulation[305].

Expressly excluded from the definition of Crypto-Assets are instruments that already qualify as Financial Instruments under the MiFID II (Art. 2(2)(a) MiCA)[306]. These instruments, mostly investment tokens, continue to be encompassed by the MiFID II/MAR-regime.
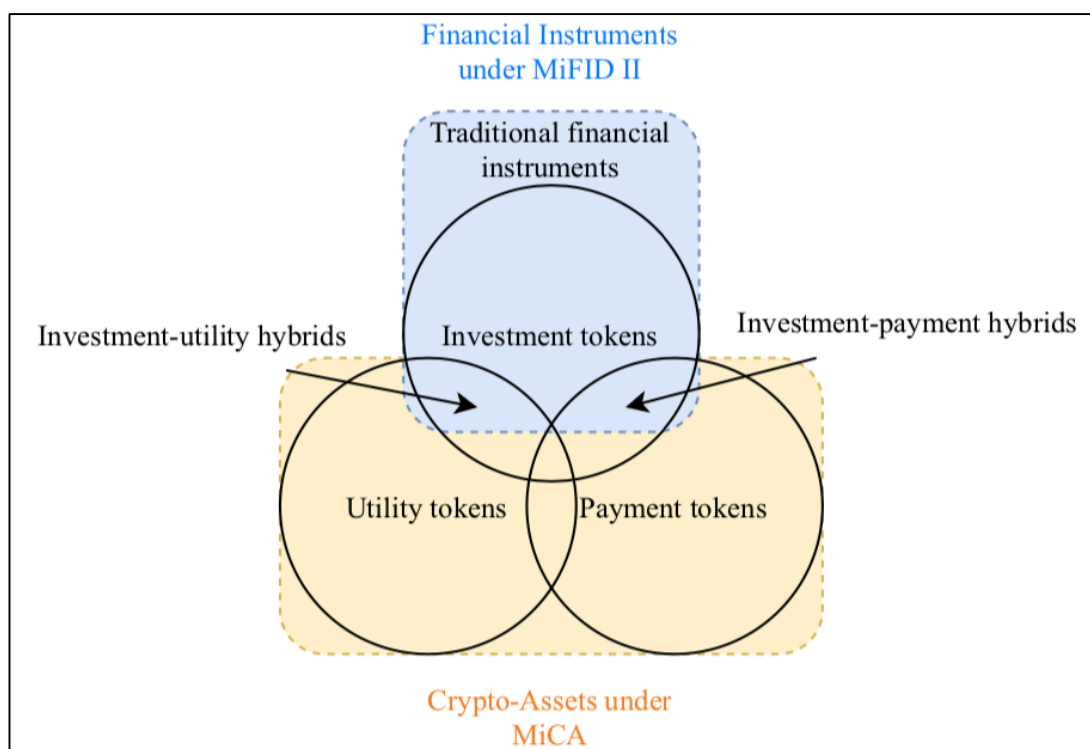

Figure 7: Proposed scope of EU financial regulation with respect to crypto-assets under the future regime.

b)   New Rules on Market Manipulation

The MiCA is one of the first statutes ever to introduce specific rules prohibiting the manipulation of crypto-asset prices. These provisions are intended to protect customers and investors, and their introduction would be a very welcome change.

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[305] See rec. 1 *et seq.* MiCA ; ZETZSCHE *et al.*, pp. 11 *et seq.*

[306] ZETZSCHE *et al.*, pp. 11 *et seq.*

Specifically, the rules are set forth in Art. 76 *et seq.* MiCA, and apply to all Crypo-Assets as defined in Art. 3(1)(2) MiCA. This means that these provisions also prohibit market manipulation related to cryptocurrencies, since they are Crypto-Assets under Art. 3(1)(2) MiCA.

Art. 80 MiCA contains a list of forbidden practices. It is redacted similarly to Art. 12 MAR. The list includes traditional pumping and dumping (Art. 80(1)I MiCA), spoofing and layering (Art. 80(2)(b) MiCA) and matched orders and wash sales (Art. 80(1)(b) MiCA). Cryptocurrency-type pumping and dumping is, in the author's opinion, clearly encompassed within the broad formulation of Art. 80(1)(a)(i) MiCA.

Interestingly, the MiCA also contains a clause prohibiting the public voicing of opinions about Crypto-Assets by influential people who hold those Assets, unless they have disclosed their conflict of interest (Art. 80(2)(c) MiCA). This clause, which has affectionately, and for obvious reasons, been dubbed the "Elon Musk clause", represents an important step in the right direction. However, it fails to address the treatment of announced measures, which are implemented and later cancelled, as it concerns only the voicing of opinions. In the author's opinion, while such announcements are still encompassed within the general clause of Art. 80(1)(a)(i) MiCA[307], an opportunity was unfortunately missed to provide additional clarity.

3. Conclusion

While the EU's current legislative framework does not significantly differ from that of other jurisdictions – since current financial markets law does not apply to cryptocurrencies – the proposed introduction of the MiCA represents an important milestone in the regulation of cryptocurrency price manipulation. With the MiCA, the EU is among the first jurisdictions worldwide to introduce a law, which specifically regulates – *inter alia* – cryptocurrencies. This will allow for much more flexibility than did the existing regime, and will provide for much better investor protection.

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[307] For additional details regarding the author's opinion on this issue, please see *supra* on p. 24.

V. Discussion and Conclusion

A.   Application of Market manipulation Provisions to Cryptocurrencies

The analysis of the regulatory framework of all three jurisdictions reveals that there are often multiple factors impacting the applicability of market manipulation provisions to cryptocurrency market manipulation.

1. Qualification of Cryptocurrencies as a Specific Instrument

Without doubt, the most important factor is whether cryptocurrencies qualify as a certain type of instrument under the applicable law – be it Securities under Art. 2 Let. b FinMIA in Switzerland, Investment Contracts under the *Howey* test or Commodities under the CEA in the US, or Financial Instruments under the MiFID II.

a)   Aging Statutory Rules

Quite often, these definitions date back to a time before the emergence of cryptocurrencies. This is particularly true in the United States, where regulators rely on definitions that are almost 90 years old. Such dated definitions, even when they follow a substance-over-form approach, are ill-adapted to modern financial instruments, and have thus strayed ever closer to obsolescence as time has continued to pass and new financial instruments have emerged.

While applying dated definitions to new instruments is difficult, it is not impossible. Nonetheless, pursuing this approach requires discipline, coherence and transparency from the enforcement authorities. Unfortunately, these bodies – the SEC is a perfect example here – sometimes issue contradictory and/or opaque decisions, creating significant uncertainty and making the application of the law unforeseeable, at best, and chaotic, at worst.

Therefore, in the presence of very old rules, rather than to relying on an authority to apply these rules to modern and emerging financial instruments, a much sounder approach is to overhaul the regulatory framework, as was done in the EU, with the goal of adapting a new framework to the challenges of the digital era.

b)   Recently Amended Rules

While relying on old definitions is certainly not good practice, the analysis shows that even in cases where these definitions have recently been amended[308], they may still fail to cover cryptocurrencies. This is due to a multitude of reasons.

The law is frequently based on the premise that all financial instruments give their owner some form of right, either against the issuer (stocks, bonds, etc.) and/or against other parties (mostly derivatives). Cryptocurrencies, often intended strictly for payment, technically do not give any rights to their holders at all. Therefore, they are outside the scope of the financial market laws and, consequently, the market manipulation provisions contained therein. While the approach of applying financial markets law only to instruments that give their owner rights may have

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[308] As is, for example, the case in Swiss law.

been sound a few years or decades ago, it certainly is not today, since it fails to consider that even instruments that do not fulfill this criterion may have an investment purpose.

Indeed, both strict payment and strict utility tokens are used to invest, not in a company or business, but in the proposed value of the Blockchain technology underlying all cryptocurrencies. The investors buying these instruments think that their value will rise as the technology matures and makes its way into everyday life. Investing in cryptocurrencies carries the same risks as investing in traditional financial instruments, such as market manipulation or fraud[309]. Nonetheless, cryptocurrency investments are not encompassed by financial markets law, which is based on a more centralized view, where all market participants must go through central intermediaries. This leaves investors at the mercy of manipulators, of which there is no shortage in the cryptocurrency market.

Therefore, it would be reasonable to include within the scope of application of financial markets law instruments that have the economic function of an investment, be it in a company, business, or a technology – as is the case with strict payment and utility coins – eventhough these instruments technically do not give to their holders any rights in the traditional sense. While the intended primary purpose of these coins may not be to serve as an investment, their actual primary economic use is to serve as an investment instrument – not in a company, but in a technology. This would not only guarantee much better investor protection, but would also ensure that financial markets law is better adapted to the more decentralized future, which will inevitably come.

2. Emergence of New Manipulative Behaviors in the Digital Age

Another important factor regarding the applicability of market manipulation provisions to cryptocurrency market manipulation is whether they cover new types of manipulative behaviors, made possible in the digital age by increased connectivity and access to information. These new behaviors include online pump groups, and the use of social media by market influencers such as Elon Musk either to state their opinion about a certain investment or to announce the implementation of measures with the intent of driving the price upwards, only to cancel that implementation later.

a) Ill-Adapted Anti-Manipulation Statutes

The analysis in this Master's thesis reveals that even where the application of provisions prohibiting market manipulation does not fail due to the qualification of cryptocurrencies as certain types of instruments, it is still sometimes not entirely clear whether the manipulative behaviors common in the cryptocurrency markets are covered by these provisions.

In some jurisdictions, such as Switzerland, the provisions are formulated quite generically, and make a simple distinction between information-based and trade-based manipulation. In this case, there is a compelling argument to be made for the application of these provisions to the new manipulative behaviors mentioned above, so long as the requirements set forth by the provisions in question are met.

In other jurisdictions, such as the US and the EU, the generic provision prohibiting manipulation is accompanied by an illustrative list of behaviors. While this system has the advantage

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[309] If anything, it actually carries more risks, *inter alia* due to the lack of regulation and increased volatility.

that those behaviors that are listed are clearly forbidden – see *e.g.* Art. 80(2)(c) MiCA, the "Elon Musk clause" – it has the disadvantage that manipulators might – in some jurisdictions at least[310] – argue that if their behavior is not listed, it is not prohibited.

In either case, provisions rarely cover expressly the new types of market manipulation that have emerged – and continue to emerge – in the digital age and that are so common with cryptocurrencies. This results in additional uncertainty, as the enforcement bodies must make use of the general clause prohibiting market manipulation rather than being able to rely on a list. The analysis of enforcement decisions and guidelines shows that in practice, this uncertainty can be greatly mitigated by the authorities if they establish a list of behaviors they consider to be market manipulation. This has been done by the FINMA and the SEC[311]. The CFTC has also announced enforcement actions against pump groups. Because the enforcement bodies have established reasonably clear guidelines regarding specific behaviors, uncertainty is limited. Still, while not urgent, it would be a safer course of action to specifically include the newly emerged manipulative behaviors in the statutes directly, as is planned with the MiCA[312].

B.   Final Conclusion

This Master's thesis shows that enforcement in the field of cryptocurrency market manipulation is, regrettably, the exception rather than the rule in the legal orders discussed.

While this is an unfortunate situation it is, in some ways, understandable from a legal standpoint, especially in the case of jurisdictions that rely on statutes dating back to the first half of the twentieth century – as is the case with the US[313].

In other cases, however, the fact that market manipulation related to cryptocurrencies remains unregulated even in the face of recent, comprehensive and large scale legal amendments – *e.g.* in Swiss law – is inexcusable. Admittedly, the Swiss DLT-Project achieved most of its stated goals[314]. Yet, during its elaboration, the problem of investor protection seems to have been deemed of secondary importance. Apparently, the Federal Council sees the issue as sufficiently non-urgent to postpone the regulation of cryptocurrency-related market manipulation until the planned general review of the FinMIA[315]. While the Federal Council sees that upcoming review as an opportunity for a "[…] comprehensive evaluation […] with regards to the application of

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[310] In most common law jurisdictions for example, the maxim of *inclusio unius est exclusio alterius* usually applies, meaning that if a statute contains a list of behaviors, then any behavior not on that list is, in principle, not covered by that statute (unless the list begins with "such as", "includes", or similar terms). This perfectly illustrates the importance of properly drafting provisions that prohibit market manipulation.

[311] While the SEC does not technically have a list, its practise regarding specific behaviors is quite clear (as opposed to its practise regarding the qualification of cryptocurrencies as Securities).

[312] Adding such provisions to a statute should create additional certainty, possibly allowing the enforcement bodies to concentrate their efforts on other issues and manipulation behaviors. Nonetheless, it is very difficult for any statute to keep up with the pace of digital evolution, as it may be – at least partly – outdated quite fast. However, this could be kept to a minimum by including both a list and a general clause, as was done in the MiCA.

[313] Ultimately, it may boil down to either relying on aging statutory rules and choosing a regulation-by-enforcement approach – which, while faster and more adaptive, may come with more uncertainty, as has been shown, for example, with the US – or constantly amending the statutes themselves – a slower approach, but with less uncertainties. Of course, neither of these methods is strictly superior to the other.

[314] FG 2020 233, pp. 240 *et seq.*

[315] *Id.*, p. 273.

the FinMIA market conduct rules to DLT-based assets"[316], the reality is that the DLT-Project was, unfortunately, a missed opportunity to do precisely that. This decision sadly comes at the detriment of retail investors since it seems that, for the foreseeable future, cryptocurrency-related market manipulation will remain mostly unregulated in Switzerland. While in the author's opinion Art. 246 SCC is applicable to market manipulation that is related to tokens that do not qualify as Securities under Art. 2 Let. b FinMIA[317], the fact that there have been no indictments, complaints, or any other proceedings unfortunately appears to indicate that this belief is not shared by many. Thus, people investing in cryptocurrencies will, in Switzerland, continue to be at the mercy of fraudsters and manipulators.

Amongst the three discussed jurisdictions, the one that is most concerned about investor protection is clearly the EU. While the MiCA has its drawbacks, such as being unclear regarding its application to certain types of utility tokens[318], it represents a significant step forward, since its benefits greatly outweigh its disadvantages. Hopefully, the MiCA, as one of the first instruments of its kind, will serve as a model for other legal orders when they inevitably decide to adopt their own statutes on the matter. These jurisdictions, when critically reviewing the MiCA's performance, should also be able to reflect on its shortcomings – which although limited, are undeniably present – in order to better structure their own provisions.

To conclude, cryptocurrency market manipulation is, for several reasons, severely under-regulated. Sadly, legal hurdles and considerations seem to be a larger contributing factor than practical hurdles. Especially when considering just how popular cryptocurrencies are, there is, more often than not, a crass contrast between the *laisser-faire* attitude of the legislative organs and the very urgent need for regulation

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[316] FG 2020 233, p. 273: "This work is independent from the upcoming medium-term general review of the FinMIA already announced by the Federal Council, which will provide an opportunity for a comprehensive evaluation, including, inter alia, with regards to the application of the FinMIA market conduct rules to DLT-based assets." (translated from German).

[317] See *supra* on p. 29.

[318] See ZETZSCHE *et al.*, pp. 22 *et seq.*