TOKEN AS VALUE RIGHTS & TOKEN OFFERINGS AND DECENTRALIZED TRADING VENUES (ENGLISH):

An analysis of securities civil law and securities supervision law from the perspective of Liechtenstein, with particular reference to relevant Union acts

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Imprint

Bibliographical information of the Deutsche Nationalbibliothek:
The Deutsche Nationalbibliothek lists this publication in the Deutsche Nationalbibliografie; detailed bibliographical data are available on the Internet at http://dnb.dnb.de.

https://www.bergtlaw.li/ | https://www.bergtlaw.at/ | https://bergt.tax/

Production and publishing: BoD - Books on Demand, Norderstedt

ISBN: 978-3-7519-3796-2

1st edition May 2020 (Machine Translation into English)

"Imagination will often carry us to worlds that never were.

But without it we go nowhere."[1]

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[1] *Carl Sagan* (1934 - 1996), astronomer, cosmologist, astrophysicist, astrobiologist, television presenter, non-fiction writer, writer.

Preface / Acknowledgement

"No guilt is more pressing than that of saying thanks"[2]

My first thanks therefore go to my supervisors, fellow students, colleagues and staff, who have repeatedly guided me into new scientifically paths with enriching ideas and contributions in discussions over the past years.

I would also like to take this opportunity to thank my diligent and patient proofreaders and all persons who were not explicitly mentioned here.

My parents, brothers and sisters and my colleagues occupy an outstanding position in every respect. My special thanks go to them.

Gams / Vaduz / Ranggen, in November 2019
Joseph Bergt

PS: I look at the present work with some pride and hope on the one hand that I never get tired of the scientific debate and furthermore I call upon or rather invite everyone to empirically falsify or verify the theses represented in this paper; only in this way a validation in the sense of the scientific method can be achieved and I look forward to any further scientific discourse.

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[2] Although this quotation is partly attributed to the Roman orator and statesman *Marcus Tullius Cicero* (106 - 43 BC), it is likely to be of unknown origin due to the lack of comprehensible references.

Editorial notes

It is pointed out that in the present paper the generic masculine is used for reasons of legibility. However, the use of the masculine form of a word always includes the feminine form.

In addition, in the present treatise the use of the Eszett (after the Fraktur font - "sz"; "ß") is completely abandoned and is replaced by a "double s". However, quotations remain unaffected by this, since a falsification of any kind is to be avoided.

Insofar as implementation has already taken place in the respective jurisdictions, the European Case Law Identifier (ECLI) is used to cite court decisions. Similarly, secondary law under Union law is cited using the European Legislation Identifier (ELI).

Furthermore, it should be noted that with regard to citation, the abbreviation and citation rules (AZR), 8th edition, Vienna, 2019, by *Peter Dax* and *Gerhard Hopf, are* predominantly followed.

Furthermore, it should be noted that temporal data without further specification, as in the case of temporal adverbia (e.g. current/current/currently an amendment of a certain area of law is being sought), refer in case of doubt to the publication date of the scientific paper in question.
Finally, it should be pointed out that information from legal authorities without any additional country information refers in case of doubt to the Liechtenstein laws, unless an allocation is already clear, as is the case with the German KWG or the Swiss OR. If the ABGB is quoted, the Liechtenstein ABGB is meant; the Austrian basis for the prescription is quoted as ÖABGB, unless the context indicates which law is meant.

In addition, it should be noted that this paper is divided into two titles. This is because the individual papers were submitted to the University of Liechtenstein as master theses within the framework of the LL.M. in Company, Foundation and Trust Law ("Token as Value Rights"), as

well as in LL.M. Banking and Finance ("Token Offerings and Decentralized Trading Centers"). References (chapter information, marginal numbers, footnotes) are generally to be seen independently and refer to the respective work (the respective title), unless a general reference is noted. The present work is a reprint of the master theses submitted to the University of Liechtenstein.

Addendum to the 2nd edition – May 2020

In this slightly revised 2nd edition of my work, minor concretisations of the content have been made, as well as various orthographic errors have been corrected. The essence of the work remains unchanged and is still written from the point of view of November/December 2019. Formulations that refer to laws "de lege lata" refer to the status as of the end of 2019, but the changes brought about by the Liechtenstein Block Chain Law (TVTG), which has since entered into force, have been taken into account in this work anyway (with the note "de lege ferenda").

Further discussion and updating will certainly be necessary in the future. Since the present work is to be understood as part of a (future) series on Liechtenstein banking and financial market law, other authors are also cordially invited to contact me and, if necessary, to write (guest) contributions on the topic in question, to contribute their thoughts in some other way, or to assist with translations into other languages in order to actually realize this bold undertaking in the long term and to make the work accessible to a broad public at the same time.

I would like to take this opportunity to thank my colleague Wolfgang Fürnschuss and the law firm Advocatur Seeger, Frick & Partner AG, Schaan, who successfully defended the illegitimate intellectual property claims of my opponents on this work before the Liechtenstein courts (legally binding proceedings on 04 CG.2019.409 of May 12, 2020), which contributed significantly to the fact that my work can be published again.

"The censorship is the younger of two shameful sisters, the older one is called Inquisition. "[3]

"A censor is a pencil or pencil-man; a line made flesh over the products of the spirit, a crocodile that lies on the banks of the stream of ideas and bites the heads off the poets swimming in it.[4]

Knowledge is free! The pencil made flesh and the man made pencil or the crocodiles lurking at the stream of ideas were slain by the sword of Justice!

Gams, May 2020
Josef Bergt

PS: This work has also been published in other languages. Translations from the original, which was written in German, were done using deep learning or machine learning methods based on artificial neural networks (artificial intelligence). While the translations are not perfect, they convey the relevant ideas and messages. Without artificial intelligence a translation would not have been possible on such short notice.

ISBN of the German version: 978-3-7504-2737-2

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[3] *Johann Nepomuk Nestroy*, Freedom in Crow's Nest I, 14th century.
[4] *Nestroy*, freedom in crow's nest, pieces 26/I, 26 f.

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List of abbreviations

aA	dissenting view
ibid.	at the place stated/specified
OJ C	Official Journal of the European Union (notices and announcements)
OJ L	Official Journal of the European Union (legislation)
TFEU	Treaty on the Functioning of the European Union
aF	old version
AIFMD	Alternative Investment Fund Manager Directive 2011/61/EU
Note	Note
API	Application Programming Interface
ATS	alternative trading system
BankG	Banking Act (Liechtenstein)
BTC	Bitcoin
BuA	Report and request of the Government to the Parliament of the Principality of Liechtenstein
BWG	Banking Act (Austria)

CCP	Central Counterparty (clearing house)
CFD	contract for difference
CRD	Capital Requirements Directive (CRD IV, 2013/36/EU; CRD III, 2006/48/EC)
CRR	Capital Requirements Regulation EU/575/2013
CSDR	Central Securities Depositories Regulation EU/909/2014
DAO	Decentralised autonomous organisation
Del Regulation	Delegated Regulation
DEX	decentralized exchange
DGSD	Deposit Guarantee Schemes Directive 2014/49/EU
DLT	Distributed Ledger Technology
DVO	Implementing Regulation
DvP	delivery versus payment
EAG	Deposit Guarantee and Investor Compensation Act (Liechtenstein)
EBA	European Banking Authority
eg	gratuitous example

EGG	E-Money Act (Liechtenstein)
ELI	European Legislation Identifier
EMD / E-Money Directive	E-Money Directive / E-Money Directive (E-Money Directive II, 2009/110/EC; E-Money Directive I, 2000/46/EC)
EMIR	European Market Infrastructure Regulation EU/648/2012
ESMA	European Securities and Markets Authority
etc pp	et cetera perge, perge
ETH	Ether
ECB	European Central Bank
FAGG	Distance and Foreign Trade Act (Liechtenstein)
FCA	Financial Conduct Authority (UK)
FernFinG	Remote Financial Services Act (Liechtenstein)
ff / et seqq	Continuing / et sequentes
FINMA	Swiss Financial Market Supervisory Authority (CH)
BaFin	Federal Institute for

	Financial services supervision
FMA	Financial Market Authority (Liechtenstein or Austria)
FMAG	Financial Market Supervision Act (Liechtenstein; as amended BuA 2019/93 and LGBl 2019.303)
FN	Footnote
GewG	Trade Act (Liechtenstein; as amended by BuA 2019/93 and LGBl 2019.305)
GRC	Charter of Fundamental Rights
GW-RL	Money Laundering Directive (5th Money Laundering Directive, 2018/843; 4th Money Laundering Directive, 2015/849)
Ibid / ibid	Ibidem / ibidem
IDD	Insurance Distribution Directive EU/2016/97
Idem / ders	the same
idF	in the version
idS	in that sense
ie	id est
iSd	for the purposes of

ITS	Implementing Technical Standards
IUG	Investment undertaking law (Liechtenstein)
iVm	in conjunction with
JCD (EEA)	Joint Committee Decision (Decision of the EEA Joint Committee)
Clause Directive	Clause Directive 93/13/EEC
KMG	Capital Market Act (Austria)
KSchG	Consumer Protection Act (Liechtenstein)
KWG	Banking Act (Germany)
leg cit	legis citatae
LES	Liechtenstein Collection of Decisions
LGBl	National Law Gazette (Liechtenstein)
LJZ	Liechtenstein Lawyers' Newspaper
MAD	Market Abuse Directive 2014/57/EU
MAR / MMVO	Market Abuse Regulation EU/596/2014

MiFID	Markets in Financial Instruments Directive (MiFID II, 2014/65/EU; MiFID I, 2004/39/EG)
MiFIR	Markets in Financial Instruments Regulation EU/600/2014
MTF	Multilateral Trading Facility
mwN	with additional evidence
NCA / NSA	National Competent Authority / National Supervisory Authority
nF	revised version
NFC	Non-financial counterparty
OR	Code of Obligations (CH)
OSI	Open Systems Interconnection Model
OTC	Over the counter (off-exchange)
OTF	Organised Trading Facility
PERG	The Perimeter Guidance manual
PGR	Law on persons and companies (Liechtenstein; (as amended by BuA 2019/93 and LGBl 2019.304)
PoS/PoW	proof-of-work / proof-of-stake
Prospectus regulation	Prospectus Regulation EU/2017/1129

PSD	Payment Service Directive (PSD II, EU/2015/2366; PSD I, 2007/64/EC)
RTS	Regulatory Technical Standards
Rz	Margin number/edge number
s	see
sa	see also
SI	Systematic internaliser
sl	sine loco (without place)
Solvency II	Solvency II Directive 2009/138/EC
SPG	Due Diligence Act (Liechtenstein; (as amended BuA 2019/93 and LGBl 2019.302)
SPV / SSPV	Special Purpose Vehicle Securitization Special Purpose Vehicle
SR	Property law (Liechtenstein)
SSI	Self-Sovereign Identity
SSM REGULATION	Single Supervisory Mechanism Regulation EU/1024/2013
SteG	Tax law (Liechtenstein)
StGH	State Court of Justice (Liechtenstein)

STSR	Simple, Transparent and Standardized Regulation or Securitization Regulation or Securitization Regulation or Securitization Regulation EEU/2017/2402
TVTG	Law on Tokens and Trusted Technology Service Providers (Liechtenstein; as amended by BuA 2019/93 and LGBl 2019.301, unless otherwise noted)
and the like	and the like
UCITSD	Undertakings for Collective Investments in Transferable Securities Directive 2014/91/EU
USDT	US dollar tether
UVS	Independent Administrative Senate (Austria)
VersAG	Insurance Supervision Act (Liechtenstein)
VersVertG	Insurance Distribution Act (Liechtenstein)
VnB	Consultation report (Liechtenstein)

VRRL	Consumer Rights Directive 2011/83/EU
WAG	Securities Supervision Act (Austria)
ZDG	Payment Services Act (Liechtenstein)

I. Token as value rights

Since the present theses deal in particular with Liechtenstein law, this work should be introduced with the following quotation about the "Crypto Country" Liechtenstein: *"In the past, transaction banking, and especially the field of fintech, has grown more important for the Liechtenstein market.*[5] 1

1. Introduction, research question & basic questions on tokens

In this Part I - "Tokens as book-entry securities" - in contrast to Part II - "Token Offerings and Decentralized Trading Centers" - the focus will be on the civil law classification and transfer regulations of crypto currencies and tokens under Liechtenstein law. The goal of Part I is to examine whether tokens can be treated analogously to securities or generally as dematerialized securities - i.e., book-entry securities - or at least can be designed as such. In this respect, the possibility of representing rights - in assets and in the person[6] - is to be investigated. 2

The aim is to investigate the representation of rights in tokens both de lege lata, at the time of publication of this work and thus [7]before the 3

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[5] *Frick/Vogt* in *Barnes* (Hrsg), Banking Regulation Review, S 318.

[6] Cf. in this regard the alleged triad of property rights from the law on damages in § 1293 ABGB, which defines damage as a disadvantage to property, rights or the person. However, rights to property and to the person are already based on all conceivable rights, see *Reischauer* in *Rummel*, ABGB, 3rd edition, § 1293 ABGB, Rz 1.

[7] Report and motion 2019/54 (or BuA 2019/93) of the Government to the Parliament of the Principality of Liechtenstein concerning the creation of a law on tokens and VT service providers (Token and VT Service Provider Act; TVTG)

TVTG enters into force, and de lege ferenda, after the implementation and entry into force of the TVTG with 01.01.2020. In the absence of an element of the physicality[8] of tokens, it seems inappropriate to speak of the securitization of rights, as is the case with securities.[9] Rather, the

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and the amendment of other laws; in practice, the TVTG is also often referred to as the "Blockchain Act", cf. *Nägele/Bergt*, Cryptocurrencies and blockchain technology in Liechtenstein supervisory law, Regulatory grey area? LJZ 2/18, p 63 (64); *Nägele/Xander*, Token Offerings, in particular Initial Coin Offerings (ICO) and Security Token Offerings (STO) as well as tokens in Liechtenstein law: Regulatory environment and outlook, Rz 18.53 in *Piska/Völkel* (ed.), Blockchain Rules; in its consultation report on the creation of a law on transaction systems based on trustworthy technologies (Blockchain Act; VT Act; VTG) and the amendment of other laws, which was adopted by the Government on 28 August 2018, the Government also referred to the VTG, which was in consultation at the time, as the "Blockchain Act".

[8] BuA 2019/54, p. 62; the law of property does not define the concept of property, but refers to land and vehicle ownership in Art 20 SR in conjunction with Art 34 and Art 171 SR - see *Arnet* in CHK - Handkommentar zum Schweizer Privatrecht, Art 641 ZGB, N 6; idem, N 10: *"Only material objects with a spatial extension can have material quality. Rights and energies are not things, but in some cases they are treated like things*" - according to this, tokens, as digital representations of electronically or magnetically stored data and thus ultimately as electromagnetic energy, are not things according to this narrow concept of property law. Nevertheless, as software, tokens can represent digital content or merchandise, see Title II. Chapter II.2.2.2, FN 395.

[9] No title to the claim can be established. However, if such a claim is documented in a deed, rights in rem can be ordered in this deed, which has a physicality in the form of paper, *Arnet* in CHK - Handkommentar zum Schweizer Privatrecht, Art 641 ZGB, N 10; the Liechtenstein concept of property law was received by Switzerland and is based, similar to the German BGB (§ 90 BGB), on impersonal, physical and spatially delimited objects that can be subjected to human control. The Austrian ABGB, on the other hand, which is based on natural law, is much more comprehensive and distinguishes between physical and

concept of property rights or value rights seems to be more appropriate. It will be examined how the PGR,[10] prior to the amendment of the civil securities law provisions in the final section of the PGR, treats such dematerialised or dematerialised securities in the context of the implementation of the TVTG and how it deals with circumstances which provide for such dematerialised securities in the business model; nevertheless, the positive provisions de lege ferenda which the TVTG itself, and in particular the amendment of the final section of the PGR, entail in this respect will also be examined.

Consequently, it is also necessary to distinguish the civil law concept of securities from the concept of transferable securities or financial instruments that are transferable under supervisory law. In this respect, it is necessary to examine not only whether tokens can represent book-entry 4

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incorporeal objects (§ 285 in conjunction with § 292 öABGB), *Opilio*, Arbeitskommentar zum liechtensteinischen Sachenrecht, Volume I, Art 20 SR, Rz 7 (p 32). In Austrian criminal law, energy was originally treated as a thing by means of authentic interpretation. Later this approach was rejected again and the concept of matter was again restricted to physical things, *Wach* in *Triffterer/Rosbaud/Hinterhofer* (Hrsg), Salzburg Commentary on the StGB, § 132 StGB, Rz 1 (S 1) mwN. While electrical energy in Austria is treated as a physical thing according to prevailing civil law doctrine, it remains controversial whether software is a physical thing or only if it is stored on a physical data carrier. However, data can represent immaterial things, *Hofmann* in *Schwimann/Kodek*, ABGB Praxiskommentar, § 292 ABGB, Rz 3 and 5 (p 15 f). This broad concept of property law in the Austrian ABGB is only programmatic in nature and is not consistently applied. Thus also the acquisition of good faith (§ 367 öABGB) is only viable in physical things, *Kodek* in *Schwimann/Neumayr* (Hrsg), ABGB Taschenkommentar, § 285 ABGB, Rz 3 (p. 448).

[10] LGBl No. 2019.118.

securities, but also whether tokens can represent [11]financial instruments held in the giro account, i.e. financial instruments held in the books. In this context, the representation of book-entry securities by means of tokens, the representation of financial instruments by means of a token and collective investments in connection with tokens will be examined in more detail in Part II of this thesis.

5 In line with the above, the differences between individual and collective asset investments in connection with the tokenisation of financial instruments and portfolios are to be worked out in a differentiated manner. Subsequently, the company law aspects of funds in connection with an investment company as[12] opposed to a stock corporation in the form of a segmented association[13]issuing segment shares[14], again as opposed to so-called securitisation special purpose vehicles[15], are to be dealt with.

6 The concrete research question of the present study is thus: *Can tokens represent dematerialised securities - i.e. book-entry securities - under Liechtenstein law and what differences arise in the assessment before and after the entry into force of the TVTG?* The research question is: *Can tokens represent not only civil law book-entry securities from the perspective of supervisory law,*

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[11] Not to be confused with giro transferable securities according to Art. 392 ff SR, which constitute financial collateral.

[12] AGmvK according to Art 361 PGR (public limited company with variable capital as counterpart to the SICAV - Société d'Investissement à Capital Variable prevailing in Luxembourg; not to be confused with the similarly named counterpart SICAF - Société d'Investissement à Capital Fixe).

[13] Protected Cell Company (PCC) nach Art 243 PGR.

[14] See BuA 2014/69, p. 49 (Art 243e para. 5 PGR).

[15] Also called Special Purpose Vehicle (SPV).

but also financial instruments held in the securities giro, and how do new technical possibilities relate to classically regulated institutions such as fund structures?

While the work under Title I. focuses on Liechtenstein law, especially for the sub-research question, European legal acts in connection with fund regulation must be consulted in addition to national provisions. 7

Before an in-depth examination of the content of the above-mentioned topics, the following is an overview of block chain technology, smart contracts, tokens and coins. It should be noted that technical aspects are presented in a simplified form in order to provide a rough overview of the technologies mentioned and to make the legal argumentation comprehensible when dealing with legal issues that arise in connection with technical aspects of these technologies. Furthermore, it should be noted that the term "block chain" or "block chain technology" is used in this paper as pars pro toto for the so-called distributed ledger technologies and related technologies whose most prominent application is the block chain technology. 8

1.1 Blockchain & Smart Contracts

A block chain is a technical design of distributed ledger technology and is characterized as a public and decentralized register or data storage system that permanently records transaction data. The public means that[16] every transaction on a block chain that has been stored can be 9

[16] Not all block chains are public per se. A distinction is made between "permissioned" or "private" and "unpermissioned" or "permissionless" or "public blockchains". "Public" and "private" refer to the "write permission", while "open" and "closed" refer to the "read permission". Bitcoin and Ethereum are thus "public"

publicly viewed.[17] The permanence results from the cryptographic scattering value or hash functions (a scattering value function which is collision resistant, which means that it is not possible to find different input values which result in the same hash value), on which the technology is based, which guarantee that the transaction history cannot be corrupted or compromised with today's conventional technology and is this stability or technical redundancy closely related to decentralisation. Decentrality means that there is no central instance responsible for the database. Instead, a large number of "nodes" (network participants) in a peer-to-peer network (decentralized network; decentralized autonomous organization) constantly synchronize[18]

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and "open" blockchains - anybody has read and write access to them. A public closed block chain, on the other hand, could be used to exercise anonymous voting rights. If transparency of certain entities is required, a private open blockchain makes sense. A private closed block chain would be the most suitable for public authorities. A possible use case for a permissionless or public block chain is, for example, the implementation of the so-called Self-Sovereign Identity (SSI) as a supplement and eighth level of the Open Systems Interconnection Model (OSI), which represents the reference model for network protocols (Physical Layer, Data Link Layer, Network Layer, Transport Layer, Session Layer, Presentation Layer and Application Layer). This can play an essential role especially in connection with data portability of verified data (identification, age verification, etc pp).

[17] Read permission; the write permission - as for example by transmitting a state by means of a transaction of tokens - is usually also publicly accessible, but causes an effort, which is why transaction fees are charged for a write permission. On the Ethereum protocol, transaction fees are incurred in the form of gas. Gas is the Wei (subunit of ether) required to execute the lines of code.

[18] Also called "broadcasting of states".

transaction data. If a network node is lost, this does not endanger the stability or functionality of the network itself.[19]

Torrent networks are also decentralised. These differ from the block chain in that states are not transferred once (prevention of double spending on the block chain), but content can be multiplied - for example in connection with file sharing protocols. 10

A transaction on a block chain shows in its most basic form the source, the destination(s) and a specific value[20]to be transferred. The source and destination are also known as addresses in a block chain[21], whereby everyone is free to create new addresses. If such an address or public key is created, an additional unique alphanumeric character string is automatically generated and assigned to the public key (the "private 11

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[19] For further information, see *Büch*, Die Blockchain und das Recht, LJZ 2/18, p 55 (p 55 f); see also *Nägele/Xander*, Token Offerings, in particular Initial Coin Offerings (ICO) and Security Token Offerings (STO), as well as Token in Liechtenstein Law: Regulatory Environment and Outlook, margin no. 18.4 in *Piska/Völkel* (Hrsg), Blockchain Rules; cf. also the prospectus of Hydrominer IT-Services GmbH dated 26.11.2018, pp. 87 and 125 f, https://www.hydrominer.org/wp-content/uploads/2018/11/Hydrominer-H3O-Prospectus_2018-11-26_approved.pdf, accessed on 04.08.2019, 00:58.

[20] "Source, target and value.

[21] An alphanumeric character string generated according to mathematical rules (the address or "public key"; also referred to as the public key in Art 5 Para. 1 No. 2 VTG in the version of the consultation report - or later amended to the technology-neutral VT identifier in Art 2 Para. 1 lit e TVTG as amended by Federal Law Gazette 2019/54) A VT identifier enables the unique assignment of tokens and thus serves as an identifier (BuA 2019/54, p. 145). According to the Duden, an "identifier" is understood to be a *"characteristic feature, sign or totality of characteristic features, sign for the unambiguous identification of something"*, cf. the definition in the Duden, https://www.duden.de/rechtschreibung/Kennung, accessed on 04.08.2019, 00:46.

key"[22]). As a rule, only one private key is assigned to each public key, although there are also so-called "multi-sig procedures" ("multi-signature") in which several private keys are assigned to one public key and several private keys are also required to carry out a transaction.[23]

12 Apart from the permanent storage of transaction data, a block chain ensures that each transaction request is verified and confirmed with the content of an instruction to transfer a value from one address to another. Confirmed transaction requests are then stored on the block chain, thereby generating the name-giving and symbolic data chain of a block chain. Each block in a block chain has a hash or scatter value function (algorithm or mathematical function), which is generated from

[22] With asymmetric or public-key encryption, it is not necessary for communicating parties to know a common secret key, since each user generates an independent key pair. The public key can be used to encrypt data, which in turn can be decrypted with the corresponding private key.

[23] This is also referred to as an "m-of-n transaction", since N private keys are assigned to a public key and at least M private keys are required for a transfer of tokens from this address (e.g. 2 of 3; comparable to the structure of subscription rights under company law); cf. prospectus of Hydrominer IT-Services GmbH dated 26.11.2018, p 87 and 125 f, https://www.hydrominer.org/wp-content/uploads/2018/11/Hydrominer-H3O-Prospectus_2018-11-26_approved.pdf

the preceding, already verified data record and thus creates a data hierarchy. This process, known as "mining" or "minting",[24] continuously extends the transaction history.[25]

The confirmation of transactions does not take place on a case-by-case basis, but several transactions are confirmed en bloc at the same time and stored in a new block on the block chain. On average, a block is created on the Ethereum block chain approximately every 13 seconds at the time of writing this paper.[26] In addition to the basic functions listed above, block chains such as Ethereum also enable the execution of decentralized programs or applications (decentralized apps; dapps; Smart Contracts). Smart Contracts execute certain tasks according to their programming code and are usually based on if-then-else state- 13

[24] In the case of Bitcoin, a Proof of Work (PoW) mechanism was implemented by providing computing power (proof of work by solving a mathematical task). Among other things, the so-called Proof of Stake System (PoS) is also frequently encountered. The consensus in the network is formed by a weighted proof of participation (e.g. duration of participation and number of tokens held). The type of consensus mechanism also partly depends on the type of block chain - see FN 16.

[25] *Büch*, Die Blockchain und das Recht, LJZ 2/18, p 55 (p 55 f); Prospectus of Hydrominer IT-Services GmbH dated 26.11.2018, p 87 and 125 f, https://www.hydrominer.org/wp-content/uploads/2018/11/Hydrominer-H3O-Prospectus_2018-11-26_approved.pdf. A transfer of states is only confirmed by the network if it complies with the protocol rules (e.g. it must be ensured that the transferor actually has the number of tokens to be transferred, furthermore no double-spending is allowed, etc). For proper authorization, each transaction must be signed with the private key.

[26] accessed October 19, 2019, 13:20.

ments (if condition A occurs, action B is executed, otherwise C is executed).[27] The term "smart contract" was coined by *Szabo* in 1994: *"A smart contract is a computerized transaction protocol that executes the terms of a contract. The general objectives of smart contract design are to satisfy common contractual conditions (such as payment terms, liens, confidentiality, and even enforcement), minimize exceptions both malicious and accidental, and minimize the need for trusted intermediaries. Related economic goals include lowering fraud loss, arbitration and enforcement costs, and other transaction costs. Some technologies that exist today can be considered as crude smart contracts, for example POS terminals and cards, EDI, and agoric allocation of public network bandwidth.*[28]

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[27] Prospectus of Hydrominer IT-Services GmbH dated 26.11.2018, p. 126f, https://www.hydrominer.org/wp-content/uploads/2018/11/Hydrominer-H3O-Prospectus_2018-11-26_approved.pdf; the name "Smart Contract", which refers to a contract, is rather misleading, especially as a Smart Contract is a manipulation-proof, self-checking and self-executing script. Such a script can also represent a contract in a legal context, especially since contracts themselves can be concluded verbally or by implication. Cf. also *Buterin*, 13.10.2018, 10:21, https://twitter.com/VitalikButerin/status/1051160932699770882?ref_src=twsrc%5Etfw, called on 30.09.2019: *"To be clear, at this point I quite regret adopting the term 'smart contracts'. I should have called them something more boring and technical, perhaps something like "persistent scripts.*

[28] *Szabo*, Smart Contracts, 1994, https://web.archive.org/web/20011102030833/http://szabo.best.vwh.net/smart.contracts.html (only archive link available anymore).

In his manifesto on Smart Contracts, *Szabo* indicates that the considerations in this regard go back even further, namely to so-called agoric computing[29], which has its origins in the 1970s and 1980s.[30]

1.2 Token, coins and standardization despite depositum regulare

The TVTG as amended by BuA 2019/54 defines a token as an information on a decentralized database (VT system, which guarantees the secure disposal of tokens), which can represent rights and to which VT identifiers or identifiers are assigned.[31] According to this legal diction, it could be concluded that tokens are information on a decentralized database that represent rights, while a coin is a subtype of a token that does not represent rights and is necessary for the proper functioning of a block chain (protocol token or protocol coin) and whose value is measured by supply and demand on the market, which is why it does not represent an object without intrinsic value even if accepted as a medium of exchange and therefore is not to be treated as fiat money[32]but as virtual currency. From a technical point of view, it is in any case the

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[29] From Greek ἀγορά for collection point or market place.

[30] Vgl *Miller/Drexler*, The Agoric Papers in The Ecology of Computation in *Huberman* (Hrsg), Markets and Computation: Agoric Open Systems, Incentive Engineering: for Computational Resource Management, Comparative Ecology: A Computational Perspective 1988, https://e-drexler.com/d/09/00/AgoricsPapers/agoricpapers.html; vgl auch *Wozke*, Smart Contracts: Wenn Verträge zwischen Computern geschlossen werden, 11.07.2017, https://blockchain-hero.com/smart-contracts-vertraege-zwischen-computern/, aufgerufen am 01.10.2019, 21:14.

[31] Art 2 Paragraph 1 lit c TVTG as amended by BuA 2019/54.

[32] For the definition of fiat money, electronic money as fiat money and virtual currencies, see Title II, Chapter II.2.9.

other way round and a coin represents the native unit of a block chain, while tokens use the same technical standard as the native coin.[33]

16 But even the wording of the law merely indicates that there are tokens that represent rights as well as tokens that do not represent rights (arg *"an information that can represent rights."*[34]) Technically speaking, a token is software[35] and as such part of a two-factor authentication security

[33] For example, from a purely technical point of view, ether would be seen as a coin, while tokens that are ERC-20 compliant (Ethereum Request for Comment Standard 20) would be a subspecies of this coin standard and thus would be tokens. Note that there are also native coins that represent rights. Following the TVTG, these would then be (native) tokens (protocol tokens) representing rights; *Nägele/Bergt*, Kryptowährungen und Blockchain-Technologie im liechtensteinischen Aufsichtsrecht, Regulatische Grauzone?, LJZ 2/18, S 63 (64); cf. https://de.bitcoinwiki.org/wiki/Coin, called on 08.08.2019, 20:10: *"Coin is a cryptocurrency with its own blockchain, usually created by developers from scratch or by forking. You can also find the term "altcoin", which implies an alternative coin, that is any coin that is not Bitcoin"*; see also https://de.bitcoinwiki.org/wiki/Token, called on 08.08.2019, 20:10: *"Tokens are different from bitcoins and altcoins in that they are not mined by their owners* [...] *but [meant] to be sold for fiat or cryptocurrency in order to fund the start-up's tech project."*Thus, coins are mostly used - in addition to other functions - in connection with consensus building by means of a consensus algorithm (e.g. proof-of-work or proof-of-stake) of a block chain.

[34] Art 2 Paragraph 1 lit c Z 1 TVTG as amended by BuA 2019/54.

[35] Hence software tokens, whereas hardware tokens are stored on a physical device (hardware wallet); cf. with regard to tokens as data or software in the sense of merchandise and thus a token with intrinsic value (token) as opposed to tokens as representation of a claim or membership rights (e-money or deposits or membership and claim rights in the sense of financial instruments) Title II. Chapter II.2.2.2II.2.3.

measure used to authorize the use of software-based services.[36] It cannot be inferred from the legal materials, nor can it be assumed, that coins are a subtype of tokens and do not represent rights. It is also conceivable that a protocol token or native token, with which transactions can be carried out on a block chain, represents the ownership of goods such as precious metals. It[37] would be essential that the right in rem to such merchandise is represented in the token and that the person authorized to dispose of[38] the token thus also has full rights to the specif-

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[36] *Rosenblatt/Cipriani*, Two-factor authentication: What you need to know (FAQ), 15 June 2015, https://www.cnet.com/news/two-factor-authentication-what-you-need-to-know-faq/, accessed 28.08.2019, 21:32; Petruș, How to extract data from a 2FA iCloud account, 12, August 2019, https://www.iphonebackupextractor.com/blog/extract-data-two-factor-authentication/, called on 28.08.2019, 21:34; multi-.or two-factor authentication is a method of authentication in which a computer user is only granted access if he/she provides two or more proofs (factors) of an authentication mechanism. The factors refer to the elements knowledge, possession and inherence. These elements correspond to those of strong customer authentication according to PSD II, see Title II. Chapter II.2.8.1.

[37] Thus, for example, a gold currency or gold standard could be formed, whereby, according to economic monetary theory, this would increase the velocity of tokenised gold and, as a consequence, destroy the value-preservation character of gold to a certain extent.

[38] The rewriting by the person who can legally dispose of the token seems to be the dogmatically only practicable solution, since an ownership would be based on the corpus element (power of disposal), whereas an owner needs an animus (possidendi) in addition to the corpus (animus rem sibi habendi or animus rem alteri habendi). Ownership, on the other hand, is not based on the actual, but on the legal relationship of dominance. However, according to Liechtenstein law, a token does not represent a thing and the provisions of property law are only applicable in the course of the implementation of the TVTG analogously or functionally adequate (not functionally equivalent); see BuA 2019/54, p. 126.

ically represented object. As a consequence of the full right of ownership of the represented object, the person authorized to dispose of such a token also has the right to claim restitution of this object. In order to effectively create commodity money or a gold standard, the object to which the right of ownership is represented in the token would have to be held in regular custody (depositum regulare). The custodian would take the object into custody for the owner by order of the owner (person entitled to dispose of the token) as a third-party owner (ownership agent).[39]

17 A person entitled to dispose of such a token, which represents the right of ownership of a commodity, could also, at his own discretion, act as owner of the object whose right is represented (erga-omnes effect of rights in rem as opposed to inter partes effect between the parties to the contract). When the person entitled to dispose of the token via the block chain transfers the token, the ownership of the specified object is transferred at the same time (in the concrete case by means of a possession order to the custodian, who from now on indirectly owns the object for

[39] The foreign object is kept in custody for the owner with the intention of possession; Art 499 (2) and Art 503 (1) first case in conjunction with Art 510 SR; see Besitzanweisung § 375 öABGB in conjunction with § 428 3rd case öABGB (developed by the Austrian Rsp - Besitzanweisung in demarcation to the traditio brevi manu and the Besitzkonstitut). In contrast to the legal definition of the Austrian Civil Code, Liechtenstein, due to its independent property law provisions, provides in a positive way that an object can also be acquired if it remains in the possession of a third party. This is functionally comparable to § 931 deBGB, according to which ownership can be transferred by assignment of the claim for restitution (transfer by assignment).

the new person entitled to dispose of the token).[40] Since there is a real claim to the object to which the right of ownership is represented in the token, this can also be demanded or indexed at any time by the person authorized to dispose of the token.[41]

It should be noted that a depositary must return the same items that[42]have been placed in safe custody in accordance with the provisions of the depositary agreement.[43] Even if a custodian only has to return items of the same type and quality[44], regular custody may still be required. What matters is what is stipulated with regard to ownership. If the custodian is to become the owner, there is an irregular custody (depositum irregularum); if the depositor remains the owner, there is regular custody. The decisive factor for regular custody is therefore that 18

[40] Causa or title for the transfer of ownership is an agreement under the law of obligations between the person who transfers the token and the person who accepts it, whereby the mode is characterized by the actual transfer of the token from the Wallet address of the person who is obliged to transfer it under the agreement under the law of obligations to the Wallet address of the person who is authorized to do so. A fictitious transfer of title by means of an institute of possession is also permissible under Liechtenstein Property Law - cf. *Opilio*, Arbeitskommentar zum liechtensteinischen Sachenrecht, Volume I, Art 187 SR, Rz 4 (S 406; Art 187 in conjunction with Art 503 SR).

[41] In the case of bankruptcy, for example, an action for exculpation can be segregated (Art. 41(2) KO) or, if included in an execution, an action for exculpation can be brought (Art. 20 EO).

[42] Unit or species debt.

[43] § SECTION 961 OF THE AUSTRIAN CIVIL CODE.

[44] Class or profit participation debt. A specified class debt is treated as a unit debt.

the depositor remains the owner.[45] The mixing or exchange by the depositary of objects with objects of the same type and quality and of the same size does not affect a conditional regular custody agreement, as long as the depositary does not have the right to dispose of the object for his own benefit and the depositor can therefore make a proxy at any time.[46]

19 Thus, in the case of a corresponding custody agreement, the person entitled to dispose of a token, which represents the right of ownership of an object, is to be seen as the owner of an object - e.g. an object placed in custody via a possession order. There is not only a claim under the law of obligations, provided that the custodian has no right of disposal in his own favour over the deposited object and the depositor still has the intention to remain owner. This is sometimes essential in order to exclude the existence of a tokenised financial instrument, as there is no standardisation in this respect[47], but rather an individualised property right. As a[48] consequence, even assuming that such a token represents

[45] RIS-Justice RS0012049, *"For the question whether a depositum regulare or irregular is present, it does not depend on the mixture of the objects (money) deposited with own objects of the depositary, but on the economic intentions of the parties.*

[46] *Parapatits* in *Schwimann/Kodek*, § 959 ABGB, Rz 4 ff; in the case of irregular custody, however, the ownership of an item is transferred to the custodian and the depositor only has a claim for repayment under the Code of Obligations.

[47] See Title II, Chapter II.2.3.1a.

[48] Cf. also BuA 2019/54, p 104 f on the representation of property rights in a token.

a (dematerialised) traditional paper[49], the functional equivalence to financial instruments must be denied, as there are no exchangeable shares.[50] By means of an agreement between the parties, it is nevertheless possible to agree that a custodian can make a debt-discharging payment to the party entitled to dispose of a token if he issues goods of the same type and quality and to the same extent, which does not alter the existence of regular custody. In effect, therefore, standardisation could take place at the level of the custody agreement by means of a corresponding agreement, without this constituting a financial instrument.

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[49] Civil-law security representing a claim to the return of an object; also commodity (value) paper, bill of lading, bill of lading. See also Art 387 and Art 504 SR.

[50] Cf. with regard to functional equivalence for traditional securities under commercial law BaFin, Merkblatt Depotgeschäft, https://www.bafin.de/SharedDocs/Veroeffentlichungen/DE/Merkblatt/mb_090106_tatbestand_depotgeschaeft.html, 06.01.2009, last amended on 17.02.2014, P 1.a).

1.3 Conclusion tokenised property right

20 A block chain is a decentralized, public and permanent database. Depending on the design of the read and write rights, it can be used for different purposes. The Bitcoin and Ethereum protocols are "public" and "open" block chains. In this context, "public" means that, unlike "private" block chains, everyone has write permissions, while an "open" block chain is based on public read permissions as opposed to "closed" block chains.

21 From a purely technical point of view, a token can be seen as a data record or software that is subject to a two-factor authentication security measure and can subsequently be used to authorize software-based services. With such a multi-factor authentication, a user of a computer program is only granted access if sufficient evidence or factors for authentication are proven. Such factors are based on the elements knowledge, possession and inherence, which are also found in connection with strong customer authentication according to PSD II.

22 Coins or - in the diction of the TVTG - token are regularly used on a separate block chain. Unlike such Coins, Tokens are not generated by mining, but are issued on an existing block chain, for example in the course of a fundraising. This terminology is widely used, especially in the technical field, but has no particular impact on legal assessments and thus the terms coins and tokens can be used synonymously as far as possible.

23 Even if coins in the above sense do not necessarily have to represent rights, they are not to be seen as fiat money (meaning not only paper money, but also book money and e-money), as these have an intrinsic value in the sense of virtual currencies in connection with consensus

building on a block chain, or may have other functions which are inherent to the decentralised protocol.

Blockchains regularly use so-called Smart Contracts, which can be contracts in the legal sense, but are primarily permanent scripts and are based on Agoric Computing. 24

Tokens do not represent a thing in the sense of Liechtenstein property law due to lack of physicality. Only with the entry into force of the TVTG on 01.01.2020 will the provisions of property law be applicable to tokens by analogy. Irrespective of this, the principle "Substance over Form" applies and must be looked through to what a token represents. If, for example, a custodian holds an object in safe custody for a person entitled to dispose of a token in accordance with the depositum regulare, such a token effectively represents the right of ownership of the object placed in safe custody. 25

2. Securities according to PGR and their functions

The securities are regulated in §§ 73 ff of the Final Division of the PGR. For the purposes of the PGR, securities are documents in which a right is securitised so that it can only be realised, asserted or transferred with the document. In addition, the provisions on share certificates apply to securities.[51] A similar definition can be found in Art. 965 of the Swiss Code of Obligations. It should be noted that the PGR is based on *Eugen Huber*'s first draft for the revision of Titles 24 to 33 of the Swiss Code of Obligations of 1919, which has never been implemented in Switzerland 26

[51] § Section 73 of the final section on the PGR.

in this form. In[52] contrast to Austria and Germany, both Liechtenstein and Swiss law thus provide a legal definition of the term "securities".[53]

27 The securitisation is intended to achieve even greater marketability and tradability. There are various principles that apply to securities, and these principles are understood to be the functions of securities to ensure the rapid and secure transferability or assertion of securities rights. The simple transfer is achieved by the transfer of the security (transport function). Furthermore, the security document serves as evidence and a debtor can only make payment to the person who is entitled to it by means of the document; an agreement on the transfer, as is the case with the assignment of claims by means of assignment, is 54not necessary (liberating function for the debtor to the person entitled to the security, thus liberating the debt; at the same time, the entitlement to receive the payment - the legitimation - is shown by presenting the security that certifies a certain right; the assumption applies that the holder of the security is also entitled to dispose of it)

28 The embodiment of a right in a deed also has the circumstantial effect or carries with it the proof that the right actually exists according to the content of the deed (indicative and evidentiary function). The right is acquired to the extent described in the security and non-securitised

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[52] See Chapter I.3, margin no. 45; *Frick*, The types of shares under Liechtenstein company law, p. 24; Frick in 90 Jahre Fürstlicher Oberster Gerichtshof, FS für Delle Karth, 2013, The recent development of Liechtenstein company law in the light of EEA membership, p. 193 (196).

[53] See *Micheler*, Wertpapierrecht zwischen Schuld- und Sachenrecht, Zu einer kapitalmarktrechtliche Theorie des Wertpapierrechts - Effekten nach österreichischem, deutschem, english und russischem Recht, p. 17 mwN.

[54] BuA 2019/54, p 110 f, *Micheler*, Wertpapierrecht zwischen Schuld- und Sachenrecht, p 17, 19 ff.

agreements are irrelevant (limitation of objection or exclusion of objection in connection with the evidentiary function or scriptural liability). The exclusion of objection is in turn closely related to the presentation or transaction protection function. The presentation function has the consequence that a debtor may only make payment to the holder of a security - who shows or presents it. The presentation function, which cannot be seen completely detached from the proof, liberation and legitimation function, ultimately leads to the transaction protection function, according to which the security can be acquired in good faith by the person not entitled to dispose of the security.[55]

Securities are thus characterised in particular by their evidentiary function, legitimation and liberation function, exclusion of objections, transport function, and presentation and traffic protection function. The marketability is thus protected in particular by the possibility of acquisition from the non-entitled party, but also by the enforceability of the securitised right independently of the right actually created or existing - apart from the deed - or, if need be, also modified in content. 29

2.1 indicative and evidentiary value

§ Section 73 of the PGR Final Division defines a security on the basis of three criteria. These are these one document, the securitization of a right in this document, and a certain connection between the document and the right.[56] Thus, the right from a security cannot be realized, asserted 30

[55] BuA 2019/54, p 110 f, *Micheler*, Wertpapierrecht zwischen Schuld- und Sachenrecht, p 19 ff .

[56] *Kuhn* in CHK - Hand commentary on Swiss private law, Art 965 OR, N 19.

or transferred to others without the certificate. The transfer component is essentially based on the transport function.[57] A deed is a declaration under private law on a document.[58] In such a document, rights of claim, membership or even property rights can be recorded. Rights of claim can be all claims under the law of obligations, while membership rights include certain rights in corporations - i.e. rights of control and/or participation. In addition, a security can also represent claims in rem. Such commodity (value) securities are securities that represent objects; the transfer of a commodity security corresponds to the transfer of the commodity itself.[59]

31 The aforementioned connection between deed and law is agreed upon by means of a securities clause. A security does not have a purely circumstantial effect, but legitimizes a certain person to demand a securitized service. By making a payment to the designated person, the debtor releases himself from his obligation. Such securities rights are also transferred by assignment of the deed and cannot be assigned in any other way.[60] A security thus proves that a certain right exists vis-à-vis the issuer, which is owed according to the content of the document.[61]

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[57] See Chapter I.2.4.

[58] *Kuhn* in CHK - Hand commentary on Swiss private law, Art 965 OR, N 20.

[59] *Kuhn* in CHK - Handkommentar zum Schweizer Privatrecht, Art 965 OR, N 21; see Art 504 SR.

[60] *Kuhn* in CHK - Hand commentary on Swiss private law, Art 965 OR, N 22 and N 26.

[61] According to § 294 ZPO, private documents - if they are signed - provide full proof that the declarations contained therein originate from the issuer. According to § 312 ZPO, the authenticity of a private document is considered undis-

2.2 Liberation and legitimation function

The liberation and legitimation effect of securities is regulated twice in Liechtenstein. On the one hand, § 1393 ABGB states that promissory notes in the name of the bearer - i.e. bearer securities - are assigned by delivery and therefore require no further proof apart from possession; the deed thus identifies the rightful creditor and legitimises the owner (in the case of bearer securities).[62] On the other hand, § 74 para 2 of the Final Division of the PGR regulates the right of legitimation in connection with securities. This[63] provision of the PGR stipulates that a debtor - unless he[64] acts in bad faith or gross negligence and at, but not before, maturity - may make payment to the holder of a security in discharge of his debt. Even if the person who legitimates himself from the security should have lost his position as a creditor, the obligated party from the security can discharge his debt by paying the expelled person and does 32

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puted if no statement has been made about its authenticity. In contrast to Germany, there is no so-called documentary procedure in Liechtenstein in which an execution title can be obtained by means of an accelerated procedure - cf. § 592 deZPO *"A claim which has as its object the payment of a certain sum of money or the performance of a certain quantity of other fungible objects or securities can be asserted in the documentary procedure if all the facts required to substantiate the claim can be proven by documents.* Independent of this, however, the dunning procedure or debt-driving procedure according to §§ 577 ff ZPO is open.

[62] *Micheler*, securities law between law of obligations and property law, p 37 f.

[63] The PGR takes precedence as lex specialis in principle - see also § 35 para. 1 of the Final Division of the PGR, according to which the reference to the general provisions of the Code of Obligations and the law of property refers primarily to the provisions of the ADHGB and subsidiarily to those of the ABGB.

[64] In the law on bills of exchange, the expiry date is the date from which a bill of exchange becomes due.

not have to pay the actually entitled creditor again.[65] Legitimation and liberation are thus also connected to traffic protection.[66]

33 The possession of a security legitimizes the person identified by the paper as a creditor. Thus, the right of disposal does not have to be proven by a complete chain of transmission of the previous creditors. If the owner and thus creditor of a security presents the documented right, the debtor has to pay to the expelled person.[67] As already explained, § 74 para. 2 of the Final Division of the PGR does not say anything about the material entitlement of the owner; the same also applies to § 1393 ABGB. However, the owner (in the case of bearer instruments) or, generally speaking, the expelled person is considered a creditor. If a debtor wishes to dispute the right of disposal of an expellee, he bears the burden of proof.[68]

34 As the second side of the same coin, the liberation function is the debtor's counterpart to the legitimation function of the person designated as entitled from a security. The debtor can only make payment in discharge of debt to the person who identifies himself as an entitled creditor by means of a security and must rely on the securitised document as evidence. The debtor can also make payment to a person who is not

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[65] *Kuhn* in CHK - Hand Commentary on Swiss Private Law, Art 966 OR, N 4 ff

[66] See Chapter I.2.3.

[67] *Micheler*, Wertpapierrecht zwischen Schuld- und Sachenrecht, p. 38; this is also related to the presentation function, see Chapter I.2.3.

[68] *Micheler*, Securities law between debt and property law, p. 38 f; *Kuhn* in CHK - Handkommentar zum Schweizer Privatrecht, Art 966 OR, N 4.

entitled to dispose of the debt, provided that the former identifies himself by presenting a security and hands it over.[69] It should be noted that a debt-discharging effect on the previous creditor pursuant to § 1395 ABGB does not apply in securities law, since only those who are identified by means of a security are to be paid. In contrast to Austria, this cannot be justified under customary law for Liechtenstein, since here, going back to Art. 966 of the Choir, § 74 of the Final Division of the PGR states that a debtor is only obliged to make payment against presentation of the security by the person named in the deed and can also make payment to this formally correct creditor in discharge of debt.[70]

For registered securities, the exemption and entitlement effect is also 35
regulated separately in § 83 of the Final Division of the PGR, which goes back to Art. 975 chOR. According to this provision, a debtor can only make payment in discharge of debt to the person who holds the registered security on the one hand and who also identifies himself as the person in whose name the security is registered. It[71] is noteworthy that the PGR only speaks of possession or ownership[72] and refers to the corpus element or the power of disposal, whereas the ABGB in its § 1393

[69] *Micheler*, Securities law between debt and property law, p. 39; *Kuhn* in CHK - Handkommentar zum Schweizer Privatrecht, Art 966 OR, N 6.
[70] *Micheler*, Wertpapierrecht zwischen Schuld- und Sachenrecht, p. 59 ff (esp. p. 62).
[71] Or as the legal successor of the person in whose name the securities certificate is made out.
[72] § Section 83 (1) and probably also implicitly Section 75 (2) of the final section of the PGR.

explicitly refers to possession and thus also considers an animus element (will to keep a thing) to[73] be necessary.

[73] See § 309 öABGB. It should be noted that Art 498 para. 1 SR in conjunction with Art 501 SR exclusively refers to the power of disposal for the property as owner, whereas Art 443 SR again attributes a will component to the property. Furthermore, it should be noted that the general provisions of the Austrian Civil Code (ABGB) also interact with Art 5 para. 1 SR. The question of whether an element of will is required for possession is not clarified in Liechtenstein doctrine due to the mixture of reception. According to Swiss doctrine, however, no will is required for possession (cf. *Stark/Lindenmann*, in Berner Kommentar, 4th edition, Art 919 ZGB, N 26) and is therefore largely equivalent to Austrian power of disposal in the sense of ownership. To a large extent because a sharp distinction between corpus and animus is not made in Swiss law and it is sometimes argued that the power of disposal also implies a will to possess. Cf. *Opilio*, Arbeitskommentar zum liechtensteinischen Sachenrecht, Volume I, Art 489 SR, Rz 1 ff (S 491); however, with regard to the Liechtenstein legal system, *Opilio,* with reference to Art 501 para. 1 in conjunction with Art 510 para. 1 SR, argues for an animus element in possession, ibid, Rz 6; to which one must agree, whereby it must be noted that Art 510 para. 1 SR refers to the position of the owner (which is characterised not only by the power of influence but also by the power of exclusion erga omnes - see *Winner* in *Rummel/Lukas,* ABGB, 4th ed. Auflage, § 354 ABGB, Rz 1) and thus refers to the person to whom a matter legally belongs. This does not necessarily imply a will component, since Art 509 para. 1 SR provides for the legal presumption that the owner of a vehicle is also considered to be its owner. The will component is, however, explicitly addressed in Art 501 para. 2 SR (even if this is not derived from Swiss doctrine, but is based on an agreement of will in the sense of a contract of possession - see *Stark/Lindenmann* in Berner Kommentar, Art 922 ZGB, N 40 f and N 65 ff). From this, however, it could be deduced in support of the element of will that possession is only acquired as soon as the corpus is transferred and the previous owner gives up his animus rem sibi habendi (and consequently such a will is established by the recipient). Art 514 SR also refers to the will to possess.

2.3 Presentation or traffic protection function

The presentation function results from § 74 para. 1 of the Final Division of the PGR. Accordingly, the debtor of a security is only obliged to perform against presentation and delivery of the security. If someone wishes to assert the right evidenced by a security without presentation of the security, the debtor must refuse performance.[74] 36

The securities are treated in terms of property law - *the right on paper follows the right on paper*.[75] The transfer of securities made out to bearer is thus, with reference to Art 501 SR in conjunction with § 75 para. 2 of the Final Division of the PGR, in principle effectively effected by the transfer of the document. However, bearer securities, like other types of securities, may be transferred to the PGR in accordance with § 75 para. 1 of the Final Division of the PGR by means of a written contract and the transfer of the security. The owner of the security is subject to the legally rebuttable presumption that he is also the rightful owner. The transaction protection function is based on Art. 172 para. 2 of the SR and protects the bona fide purchaser of a security in his ownership of the security. This protects or guarantees the marketability of securities, as the defences against a bona fide purchaser of a security are limited; the bona fide purchaser cannot therefore make any indication of the marketability of the security. For securitized bearer securities, this limitation of defenses or market protection function is additionally derived from Art 514 SR, which explicitly states that bearer securities that 37

[74] *Kuhn* in CHK - Hand commentary on Swiss private law, Art 966 OR, N 3.
[75] *Frick,* The types of shares under Liechtenstein company law, p 97.

have been lost to the owner against his will[76] cannot be challenged by the person who acquired or received them in good faith.[77]

38 For order documents, traffic protection is also specifically regulated in § 88 of the Final Division of the PGR. This provision corresponds to Art 1146 chOR and its content is identical with § 96 (1) of the Final Division of the PGR (regulation for bearer instruments), which corresponds to Art 979 chOR. The purpose of the provision is to protect the market, since the debtor can only raise defences against a bona fide recipient which are based on the content and[78] the valid status of the security or which the debtor is entitled to raise directly against the holder of the security.[79]

2.4 Transport function

39 The transport function of securities means, as the name implies, that securitised rights can be transferred simply by transferring the - possibly endorsed - securities certificate.[80] The transport function is also derived from Art 73 (1) of the Final Division of the PGR, according to

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[76] This place of property law also implies an element of will of possession; see FN 73.

[77] *Frick,* The types of shares under Liechtenstein company law, S 97 mwN.

[78] Art 1146 chOR uses an "or provision" in legal terms, which probably also makes sense for Liechtenstein law, since it would be incomprehensible if objections against the content and/or validity of the deed could only be raised if they were directed against the existence and content of the deed.

[79] *Kuhn* in CHK - Hand commentary on Swiss private law, Art 1146 OR, N 1.

[80] BuA 2019/54, S 110 and S 165.

which rights securitized in a deed can only be transferred by transferring the deed.[81]

2.5 Conclusion on functions under securities law and their application to book-entry securities under the TVTG and PGR new

In the case of book-entry securities, the transport function is replaced by the entry in the book-entry securities register by handing over the securities certificate in accordance with the TVTG.[82] 40

In addition, book-entry securities have the same function as securities pursuant to Section 81a of the Final Division of the PGR as amended by the Federal Law Gazette 2019/93 (LGBl 2019.304). This means that the book-entry rights also have an immanent traffic protection function and that it must be possible to acquire in good faith the book-entry rights newly introduced into the PGR by means of the TVTG. *"If the transfer of non-securitized debt securities does not have a legal basis comparable to that of ownership, this is certainly present in the case of book-entry securities in the form of the entry in the book-entry rights register that constitutes the book-entry right, provided that the Company ensures the reliable updating [...] of the book-entry rights register and issues the respective creditor with a certificate of proof of the non-public entry*.[83] The fact that the property law regime 41

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[81] See also *Kuhn* in CHK - Hand Commentary on Swiss Private Law, Art 965 OR, N 15.

[82] § Section 81a para. 4 of the final section of the PGR as amended by the 2019/54 Federal Law Gazette; see *Jung*, Die Aktie als Effekte in Zürcher Kommentar, Art 622 OR, N 135.

[83] *Jung*, The share as effects in Zurich Commentary, Art 622 OR, N 136 f.

also applies to book-entry securities is apparent from the legislative materials on the TVTG, which also deal with the positively introduced book-entry securities in accordance with the PGR.[84] In contrast, the principle of abstraction only applies to tokenized book-entry rights under the TVTG, while the principle of causality continues to apply to book-entry rights under the PGR.[85] Thus, if an effective obligatory transaction does not materialize or is subsequently cancelled, the tokenized book-entry rights under the TVTG must be reversed under enrichment law, while book-entry rights can be re-indexed under the PGR.[86]

42 Finally, with regard to PGR book-entry rights, the legitimation and liberation function is now also linked to the entry in the book-entry rights register.

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[84] BuA 2019/54, p 110 f - *"According to the legal definition in § 81a para. 1 SchlT PGR, book-entry securities are 'rights with the same function as securities'.* These benefit from a transport function, legitimation and liberation function, as well as a traffic protection function *("acquisition in good faith of the right according to the principles of property law"*) or limitation of defences. These functions are based on the constitutive register entry in the book-entry securities register and, in the legislator's view, there is a functional equivalence between securities and book-entry securities. *"This functional equivalence justifies the unrestricted equivalence of book-entry securities with securities pursuant to § 81a SchlT PGR.* (BuA 2019/54, p 111)

[85] *"Due to the finality of transactions in systems based on trustworthy technologies, such as the block chain, the TVTG departs from the causal principle prevailing in Liechtenstein civil law to the principle of abstraction with regard to this order.* (BuA 2019/54, p. 126); *"The immutability of transmissions on VT systems suggests that the principle of abstraction should be assumed for token dispositions"* (BuA 2019/54, p. 69).

[86] For further details see Chapter I.4.

3. Tokens as dematerialised securities de lege lata?

In this chapter, tokens are treated as book-entry securities in accordance with the legal situation before the TVTG came into force. If rights, such as membership or claim rights, are represented in a token, no security is issued, since a token is not a physical document.[87] Conversely, this means that such rights - represented in the token - are kept in the books. This is in accordance with Art 150 para. 1 PGR in conjunction with Art 149 para. 3 PGR and Art 267 para. 1 PGR. Art 150 para. 1 PGR states that securities may only be issued via a membership if this is explicitly provided for by law, which must result in argumentum e contrario that no securities may be issued at all if this is not permitted by law. Even if this is the case, it must be possible to keep securities purely in book-entry form, i.e. as uncertificated securities. Also in conjunction with Art 149 para 3 PGR, it follows that if no securities have been issued, the transfer of membership shares or the creation of limited real rights thereto may be effected by written contract. The provisions of the Stock Corporation Act also stipulate that share certificates need only be issued unless otherwise provided in the articles of association.[88] Thus, a technical representation in a token cannot be detrimental to the bookkeeping of share rights. 43

In addition to the aforementioned isolated provisions, the provisions of securities law can be found in the general provisions of the PGR and special provisions such as those in stock corporation law, in particular in the final section of the PGR.[89] Whether share certificates are to be 44

[87] See the introductory remarks on the concept of property rights in Chapter I.1.
[88] Art 267(1) PGR.
[89] § Section 73 et seqq. of the PGR Final Division.

issued to the shareholders of a joint-stock company is to be regulated in the articles of association in accordance with Art 267 para. 1 PGR; in the standard case, securities are to be issued.[90] Regulations according to which a share title must be signed by a member of the board of directors can only be applied if certificates have been issued and this has not been waived in the articles of association.[91]

45 With the PGR of 1926, the Liechtenstein legislator was guided by *Huber*[92]'s preparatory work on the revision of the Swiss Code of Obligations[93], which is why this can be used as a basis for its reception, but it must be taken into account that this draft revision was subsequently revised in Switzerland and only came into force in 1937.[94] If one compares the Swiss company law in Art 620 ff OR, a similar regulation regarding the issuance of share certificates as that in Art 267 PGR is missing. Rather, some provisions of the Swiss Code of Obligations explicitly

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[90] *"The obligation to issue a share certificate (share certificate, share certificate, share title) shall only apply to the company if the articles of association do not stipulate otherwise.*

[91] Art 267(3) PGR.

[92] Prof. Dr. *Eugen Huber*, lawyer and creator of the Swiss Civil Code (ZGB), 1849 - 1923; http://www.e-archiv.li/personDetail.aspx?persID=30919ackurl=auto.

[93] *Frick* in 90 Jahre Fürstlicher Oberster Gerichtshof, FS für *Delle Karth*, 2013, The More Recent Development of Liechtenstein Company Law in the Light of EEA Membership, S 193 (S 196).

[94] Cf. *Bergt*, Verantwortung der Leitungs- und Kontrollorganen in der liechtensteinischen Aktiengesellschaft, p. 19 (Rz 55).

refer to the existence of share titles as physical certificates or securities. In[95] order to realize dematerialized securities, Switzerland has adopted the Book Entry Securities Act.[96]

However, even if the law only provides in Liechtenstein and not in Switzerland that the issuance of share certificates may be waived or can be waived in the articles of incorporation, Swiss practice also recognizes the waiver of the issuance of share certificates, at least with regard to "small" stock corporations or one-person companies[97]; in accordance 46

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[95] Cf. e.g. Art 622 para. 5 and Art 686 para. 3 OR; *Forstmoser/Meier-Hayoz/Nobel*, Swiss company law, § 43 N 2 mwN.

[96] BEG, AS 2009 3577, in force since 01.10.2009. Such book-entry securities or book-entry securities are not to be confused with giro transferable securities pursuant to Art 392 ff SR, which constitute financial collateral pursuant to Art 2 (1) lit g of the Financial Collateral Arrangements Directive 2002/47/EC, ELI: http://data.europa.eu/eli/dir/2002/47/oj. See also Art 392 par. 1 fig. 7 SR.

[97] Cf. on the admissibility of a one-person company *Schopper/Walch*, Die Reform der liechtensteinischen GmbH, LJZ 2017/01, p. 1 (3); see also BuA 1998/153, 178; *Bergt*, Verantwortung der Leitungs- und Kontrollorganen in der liechtensteinischen Aktiengesellschaft, p. 187 f (Rz 458, FN 713): *"Until the amendment of the PGR with LGBl 1980/039 in 1980, it was possible to form and manage public limited liability companies and private limited liability companies in the form of a single-member company in accordance with Art. 637 PGR. However, this provision has been repealed and at least the formation of a joint-stock company can no longer be carried out by one person (cf. Art 281 and 288 PGR), but its management can. It was only with the PGR amendment LGBl 2000/279 in 2000 that it became possible again for a limited liability company to be formed by one partner (Art 389 PGR). This corresponded to the implementation of the Single Member State Company Directive (Art 2 of the 12th EU Company Directive 89/667/EEC), ELI: http://data.europa.eu/eli/dir/1989/667/oj, replaced by Directive 2009/102/EC, ELI: http://data.europa.eu/eli/dir/2009/102/oj.".*

with Swiss dogmatics, a shareholder also has no enforceable claim to the issuance of a share certificate.[98]

47 Also in Liechtenstein, the PGR does not give a shareholder a legal right to the issue of a share certificate. With regard to bearer shares, there is an obligation to appoint a custodian, which keeps the bearer shareholders in a register.[99] With regard to registered shares, the company itself is obliged to keep a share register.[100] The maintenance of the share register is provided for by law as a board activity in contrast to the custody of the share register and can therefore be liable for this activity on the basis of board responsibility towards the Company pursuant to Art 218 et seq.[101]

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[98] OGH to 09 C 271/98-201 of 03.03.2005, LES 2006, 161, guideline d: *"The AG is only obliged to issue a share certificate if nothing else is stated in the articles of association. It is a common practice in Liechtenstein not to issue shares in the case of so-called "Strohmannformgründungen" or one-man companies. [...] The share rights in a stock corporation may in principle only be transferred in accordance with the rules on assignment"*; *Frick*, Die Aktienarten nach liechtensteinischem Aktienrecht, p 80 f; *Forstmoser/Meier-Hayoz/Nobel*, Schweizerisches Aktienrecht, § 43 N 2 ff.

[99] Art 326c PGR. If documents have been issued, they must also be deposited with the depositary in accordance with Art 326a para. 1 PGR.

[100] Species 328 PGR

[101] Art. 326b para. 4 PGR; cf. also para. 66d and para. 66e of the Final Division on PGR. The transfer of the management of the share register constitutes a delegation or assignment of management tasks within the meaning of Art 348 PGR and a delegate may be held responsible for the curae in eligendo, instruendo and custodiendo - cf. *Bergt*, Verantwortung der Leitungs- und Kontrollorgans in der liechtensteinischen Aktiengesellschaft, S 163 ff (Rz 396 ff); see also Chapter I.3.1.

As already mentioned, the PGR provides that[102] securities may only be issued through membership if this is explicitly permitted in the specific provisions of the PGR. If securitizations are issued contrary to such a provision, they are void under securities law. Thus, with respect to the founder's rights of[103] a corporate body, certificates of assignment are[104] only considered as mere evidentiary documents. However, it is possible, provided that the articles of association provide for the establishment fund of a corporationally structured institution to be divided into shares and these share certificates to be issued as securities in addition to the founder's rights.[105] Thus, if permitted by law, the statutes may provide for the issue of securities on membership; otherwise, securitised shares may not be issued.

While share certificates issued in accordance with the articles of incorporation must be regarded as securities[106], this is not the case with the issue of certificates for shares in a GmbH. Share certificates may also be issued for membership rights in a GmbH, but these are treated as mere 49

[102] Art 150(1) PGR.

[103] Pursuant to Art 543 para. 1 PGR, the holders of the founder's rights of an establishment constitute its supreme body.

[104] Private law institutions according to Art 534 PGR.

[105] Cf. Art 540(4) PGR.

[106] Cf. Art 267(1) PGR, Art 268(4) PGR and Art 262(4) PGR.

evidentiary documents, unless the articles of association expressly provide that they are to be treated as securities.[107] Such certificates of evidence are subject to free judicial assessment of evidence in a case that is caught up in litigation.[108]

50 This means that under Liechtenstein company law, no obligation to issue securities can be derived either from special provisions, such as those relating to stock corporation law, or from general provisions that apply to legal entities in general; such an obligation can be laid down in the articles of association.

51 Under Swiss company law, however, if uncertificated securities exist, a shareholder has the right to obtain a certificate of proof of his right to dispose of the securities assigned to him.[109] This right to issue such certificates of evidence for dematerialized membership and claim rights is also valid under Liechtenstein law.[110] Liechtenstein has always known complete dematerialisation through the PGR, which means that securi-

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[107] Art 401(3) PGR.

[108] Art 272 ZPO; in general, in connection with book-entry rights and the judicial assessment, reference should also be made to Art 1 para. 3 PGR, which reads as follows: *"If a provision cannot be derived from the law, the judge shall decide according to customary law and, where no such provision exists, according to the rule which he would establish as legislator (finding of justice)"*. Even if this Liechtenstein uniqueness seems problematic in terms of the separation of powers, a judge can in principle decide in terms of finding justice according to a rule which he would establish as legislator.

[109] *Forstmoser/Meier-Hayoz/Nobel*, Swiss company law, §43 N 4, N 17 and N 59.

[110] Cf. the depository receipts in the form of documentary evidence pursuant to Art 326c para 6 PGR; cf. also Chapter I.3.1.

ties are traded without any pieces. Consequently, the Liechtenstein legal system does not necessarily rely on the bundling of individual effective securities by means of makeshift authentication constructs, such as the issuance of a global or collective deed - although such a structure would also be possible.[111]

While the consultation report on the TVTG[112] wrongly assumed that book-entry securities do not exist in Liechtenstein and were only introduced into the Liechtenstein legal system with the TVTG[113], this view was revised and corrected in the report and motion on the TVTG.[114] In addition to the PGR, the Liechtenstein tax law in particular is also familiar with dematerialised securities and book-entry securities.[115] The State Court also stated as early as 1975 that, for example, the founder's rights of a (private-law) establishment are regarded as uncertificated 52

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111 Cf. on the relevant Swiss legal situation *Forstmoser/Meier-Hayoz/Nobel*, Swiss Stock Corporation Law, §43 N 59 ff.

112 At this time still "VTG".

113 VnB of the Government concerning the creation of a law on transaction systems based on trustworthy technologies (Blockchain Act; VT Act; VTG) of 28 August 2018, pp. 7, 81 and 132 ff - *"In order that securities can be embodied in a token on a VT system and transferred there without detour via a physical certificate, the legal figure of the book-entry securities law is introduced into Liechtenstein law and at the same time the interface between securities law and VT Act is created".* (S 81).

114 BuA 2019/54, p. 108 ff - *"It should also be noted that the legal figure of the law of value is not new for Liechtenstein law.* (S 109).

115 Cf. art. 12 para. 1 lit. d SteG - *"Securities which are not quoted on a stock exchange, as well as rights and claims which are not securitised in securities [...] are to be valued according to market value [...].*

securities under Liechtenstein law, *"provided they contain assets and do not have the character of securities"*.[116]

53 The legal form of the (private-law) establishment introduced with the entry into force of the PGR in 1926 may also be the reason why Liechtenstein has been familiar with book-entry securities for almost 100 years now, since, as explained above, the shares of the establishment are only legally regarded as securities if this is explicitly provided for in the statute.[117] Argumentum e contrario, they must otherwise be regarded as book-entry securities or property rights[118] representing membership or claim rights. In the public session of the Liechtenstein Parliament on October 25/26/27, 2000, concerning the amendment of the PGR, it is also stated that in the absence of a strict numerus clausus in Liechtenstein securities law, it is possible to issue statutory or contractual uncertificated securities.[119]

54 Furthermore, the statement *that "Liechtenstein securities law, irrespective of the possibility of issuing uncertificated securities, has been relatively strongly influenced by the idea of linking a right with a physical information carrier (deed) since the original version of the PGR in 1926 (see Section 73 (1)*

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116 StGH 1975/002 of 29.04.1975, ELG 1973, 381.

117 Art. 540 para. 4 PGR; cf. margin note 48.

118 Cf. the factual title - "property rights" - of Art 304f PGR, which refers to participation certificates which represent non-voting shares and which, in their concrete codification form, are based on Swiss law - see *Binder/Vetter*, Der Partizipationsschein - eine Auslegordnung in *Lorandi/Staehelin* (Hrsg), Innovatives Recht, FS für *Ivo Schwander*, p. 275 (p. 278 ff).

119 LTP of 26.10.2000, Amendment of the PGR (No 153/1988, Commission report and amended bill of 18 September 2000), 2nd reading, S 1991 (esp *Wolff* and *Frommelt* on Art 304f PGR).

Final Division of the PGR)" must[120] be critically assessed, since *Frick stated as* early as 1980 that *"the majority of the stock corporations registered in Liechtenstein refrain from issuing shares* [...].[121]even if the issue of securities or shares in particular, as has already been explained in this chapter, is the standard procedure for the PGR. However, other sources also demonstrate the familiarity of the Liechtenstein legal system with book-entry securities, such as Art 1a para. 2 lit b BankV, which, with respect to the exception from the concept of deposits, refers to *bonds or other standardized and mass-issued bonds or uncertificated* rights *with the same function.* The legislator thus expressly assumes that securitised rights, i.e. securities with the same function, can also be issued without certification, i.e. as uncertificated rights.[122]

55 It should be noted that, in principle, it is not possible to acquire receivables in good faith, with the exception of a sham assignment[123], an owner's mortgage on a receivable or securitization in securities (securitized receivables). This means that securitized rights, i.e. securities, can be acquired in good faith, unlike uncertificated rights or dematerialized securities, i.e. book-entry securities. Since the TVTG applies the provisions of property law mutatis mutandis, a regime is created under

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120 BuA 2019/54, p 108.

121 *Frick,* The types of shares under Liechtenstein company law, p 80 f.

122 Due to an editorial mistake, the aforementioned legal authority continues to refer to the WPPG instead of the Prospectus Regulation 2017/1129 or the EEA WPPDG; nota bene it is not important for the prudential assessment as a transferable security and thus as a financial instrument that it is a physical document.

123 § Paragraph 916(2) of the ABGB.

which the acquisition of book-entry securities - sometimes in tokenised form[124] - is also covered by protection in good faith.

56 Especially in connection with tokens which represent the right of ownership of certain vehicles, it should be noted that, due to the lack of authentication, they do not constitute goods documents according to Art 504 para. 2 SR. Art 7 Para. 1 TVTG as amended by BuA 2019/93 (LGBl 2019.301) was analogously modelled on the provision of Art 504 Para. 1 SR and the disposal of a token also has the effect of disposing of the right represented by the token. Art 7 Para. 2 TVTG as amended by BuA 2019/93 states that a person obliged by the disposal of the token must ensure that the disposal of a token also effects the disposal of the right represented in the token and that there is no competing disposal of the right represented; thus, there should be a legal parallelism between the transfer of the token and the transfer of the rights represented in the token.

57 However, since the provisions of the substantive law are applied in a functionally adequate manner in the interpretation of the TVTG, this provision is also applied to the disposal of tokens in the absence of an explicit provision to the contrary, which would derogate from Art 504

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[124] By analogous application of the provisions of property law, it must always be checked in advance which rights are represented in the token. Specifically, the question will have to be asked whether these represent value rights. Not all tokens must necessarily represent book-entry securities within the meaning of § 81a of the Final Division of the PGR as amended by the Federal Law Gazette 2019/93; only such book-entry securities entered in the book-entry securities register - but not all debt claims - are treated by the TVTG in the same way as securities, which is why the provisions of property law are also applied analogously.

para. 2 SR. This means that a bona fide recipient of a hazard takes precedence over the bona fide recipient of a book-entry right or "commodity right" - which, according to the statements in the TVTG as amended by Federal Law Gazette 2019/54, is basically equated with a security or commodity instrument in the sense of the functionally adequate application of the property law provisions.[125] This process - also referred to by the government as synchronisation - in Art 7 Para. 2 TVTG as amended by Federal Law Gazette 2019/93 and the resulting obligations apply exclusively to the party obligated by the disposal of a token, but do not say anything about the acquisition in good faith of the rights to an object represented in a token by a third party; the person who has legally validly acquired the right to dispose of a token by means of a legal transaction, but not the rights represented in the token (e.g. to an object), will be able to assert claims for damages against the obligors due to non-performance or to withdraw from the contract.

58 The result seems satisfactory, as the regime of book-entry securities, which are represented in a token, has been modelled on that of securities and the protection afforded by property law has been extended to them as well, in analogous application. Prima vista, however, this regulation seems to apply only to book-entry securities in the form of tokens according to TVTG as amended by BuA 2019/93 and would treat classically book-entry securities without the technical implementation in a token unequally and thus disadvantageously. However, a clarification at the statutory level to the effect that the provisions of property law are also to be applied in a functionally adequate manner to ordinary book-entry securities - in the sense of civil or corporate book-entry

[125] See BuA 2019/54, p 204 f.

securities such as claims, membership or co-ownership rights and property rights - results from Section 81a (1) and (4) in conjunction with Section 81a (5) of the Final Division of the PGR as amended by Federal Law Gazette 2019/93, taking into account the corresponding legislative material. It states that uncertificated securities with the *same function* as securities may be issued or existing securities may be replaced by uncertificated securities with the same function, provided that this is in accordance with the documents of the articles of association and the conditions of issue. In addition, uncertificated securities registered in the book-entry rights register can be acquired in good faith, which suggests that the regime created in the TVTG should be applied analogously to uncertificated securities for uncertificated securities not represented by tokens; the delimitation of uncertificated securities from mere claims[126] is thus made by the specially introduced book-entry rights register, which can also be maintained electronically and decentrally and can also be combined with other registers such as the share register or share register in one register. The transfer of book-entry securities can only be effected by updating the entry in the book-entry securities register.[127]

59 Before the TVTG entered into force, it was therefore only possible to establish a bona fide acquisition of securities, but not of book-entry securities. However, due to the introduction of the abstraction principle for token dispositions,[128] it remains the case that even in the case of a

[126] See Chapter I.3. for the securities clause.

[127] § Section 81a (1) and (4) in conjunction with Section 81a (5) of the Final Division of the PGR as amended by Federal Law Gazette 2019/54; Federal Law Gazette 2019/54, p. 313 et seq.

[128] BuA 2019/54, p 69.

lapsed commitment transaction, the disposition transaction remains effective and only has to be settled in accordance with enrichment law[129]

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[129] Cf. BuA 2019/54, p. 191; the abstraction principle applicable to the transmission regulations according to the TVTG can only have an effective effect if a token represents a thing in the sense of property law, a "res digitalis" - which is not to be assumed (cf. Chapter I.1) - or the property law regime also applies analogously, as is generally stated in the TVTG. In this case, a lack of roots could be indicated; however, due to the principle of abstraction, this would only result in a reversal of the unjust enrichment law (cf. Chapter I.4). This seems stringent, since a VT system is just as final as a core banking system and, due to the lack of real status, transactions must be processed under enrichment law and not under property law, if there is a deficiency in the commitment transaction or if this has not been effectively completed. Nota bene seem to have been mixed up here in the VnB of the government concerning the creation of a law on transaction systems based on trustworthy technologies (Blockchain law; VT law; VTG) of 28.08.2018, p. 57 f, the claims under enrichment and property law. An object of sale can be subject to a property law designation, whereas the purchase price can only be conferred (cf. also the effect under the law of obligations and property law ex tunc vs the effect under the law of obligations ex tunc and the effect under property law ex nunc - cf. also the correction in BuA 2019/54, p. 197). A discrepancy between the nominal legal situation and the effective implementation on a VT system, as stated in the VnB zum VTG of 28 August 2018, p. 58, appears to be too short in its implementation, as this is only the case if a token is also subject to the provisions of substantive law. The principle of causality does not in itself say anything about whether a reversal takes place under enrichment law or property law, which is sometimes also a major point of criticism of the principle of causality - cf. *Honsell*, Tradition und Zession - causal or abstract?, in FS *Wiegand*, p. 349 (pp. 359 and 369). However, it seems interesting that the causality principle applies to the newly positive value rights in the PGR as amended by the TVTG BuA 2019/93, while the abstraction principle only applies to tokenised value rights under the TVTG. See also BuA 2019/54, p 69 - *"The immutability of transmissions on VT systems suggests it, for disposals of tokens to be based on the principle of abstraction [...]*" - p. 197 - *"The government considers the introduction of the principle of abstraction for the TVTG to be*

- as was also the case with receivables in the past, since it is never possible to use a bond. However, since the principle of abstraction does not extend beyond the TVTG to the specifically introduced book-entry securities with the same function as securities in § 81a of the Final Division of the PGR as amended by the Federal Law Gazette 2019/54, it must be assumed that the principle of causality will continue to apply to them and that they will also be subject to the provisions of property law.[130]

3.1 Transfer of value rights

60 The PGR does not provide for any explicit rules on the transfer of such book-entry securities or other membership or debt rights that are not securitized. Only the aforementioned general provision of Art. 149 para. 3 PGR provides that the transfer of a membership as well as the creation of a limited right in rem in such membership may be effected by means of a written contract, provided that there are no pre-emptive rights or a requirement of approval by the corporate bodies or members. However, the transfer by means of a written contract seems to be extremely obstructive, especially in view of the block chain technology, and would destroy its advantages.

61 However, Art. 245 (1) PGR must not be lost sight of the fact that the above-mentioned general provisions of the PGR constitute lege generales, which are derogated from by deviating provisions in the titles on

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justified [...]" - p. 203 - *"The rei vindicatio, which can be applied in a functionally adequate manner, is broken by the principle of abstraction and a token can no longer be demanded even if the commitment transaction is defective. The transaction of disposal remains abstract in itself and without causa. A back completion can take place only enrichment-legally"*.

[130] See Chapter I.3.5 and I.4.

corporations, establishments and foundations. The Stock Corporation Law provides for exactly such a specifying provision in Art 322 para. 2 PGR, which is to be seen as lex specialis. This provision stipulates that between the subscription of shares or securities and the issuance of such a deed, the general provisions of the Code of Obligations, i.e. the provisions of the General Civil Code, in particular those concerning the assignment of claims and the assumption of a debt, are applicable.

Thus, the assignment provisions of Sections 1392 et seq. of the Austrian Civil Code (ABGB) for the transfer of book-entry securities are relevant. An assignment is not an abstract transaction, but requires a valid underlying transaction (e.g. purchase of receivables) in addition to an assignment transaction. In line with the principle of separation, both a title and a mode are required for transfer. The causal transaction and the disposal transaction usually coincide in the case of an assignment, although the assignment transaction is regularly free of form. In practice, it is *"hardly imaginable" that*[131]that the formal obligation of an underlying transaction is reflected in the transfer agreement.[132] Accordingly, under Liechtenstein law, based on the Austrian basis of reception, an assignment does not normally require a written form - neither in the case of a commitment nor in the case of a disposal transaction. In[133] accordance with Art. 326h PGR, an assignment by sign is

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[131] *Heidinger* in *Schwimann/Kodek* (Hrsg), ABGB Praxiskommentar, § 1392, Rz 13.

[132] *Heidinger* in *Schwimann/Kodek* (Hrsg), ABGB Praxiskommentar, § 1392, Rz 9 and 12 f.

[133] That must be regarded as such, even taking into account the fact that the Liechtenstein Civil Code (ABGB) does not recognise assignments by means of signs under Paragraph 427 of the Austrian Civil Code (öABGB), because the

effective, according to which a transfer of bearer shares is effected by entry of a new owner in the share register in accordance with Art. 326c PGR.[134]

63 Such a transfer may be evidenced by a document and the owner of a bearer share has the right to request such a depository receipt, which is purely an evidentiary document, from the depositary. It[135] follows that rights arising from the position of a shareholder or as a holder of membership and/or claim rights (book-entry rights; property rights) can be transferred by assignment and the handing over of a physical certificate is not mandatory. The transfer or the assertion of rights arising from a shareholder position depends -[136] with regard to bearer shares - on the entry in the share register kept by a custodian.[137] Even an issued depository receipt pursuant to Art 326c para 6 PGR is merely a document of

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provision on property law there has been repealed. The Liechtenstein property law (SR), which is based on Swiss law, does not have anything comparable, but it cannot be deduced from this that the assignment requires a written form according to the Swiss Art 165 OR, since the Austrian (ABGB) and not the Swiss (OR) legal basis has been received with regard to the law of obligations and must therefore be used; cf. on the act of transfer of the *Heidinger* assignment in *Schwimann/Kodek* (Hrsg), ABGB Praxiskommentar, § 1392, para. 18.

134 Cf. Art 326h para. 1 and 3 in connection with Art 326c para. 2 PGR regarding bearer shares.

135 Art 326c (6) PGR; BuA 69/2012, p. 22.

136 Since the amendment to LGBl 2013/067, the PGR no longer recognizes pure bearer shares, since even bearer shares should be registered following an insufficient MONEYVAL evaluation of Liechtenstein in order to prevent money laundering or terrorist financing; cf. BuA 2012/69, p. 5 f.

137 It is the duty of the board of directors to appoint a depositary (BuA 69/2012, p. 20). Persons subject to due diligence may be appointed as custodians, or persons domiciled or resident in Liechtenstein, provided that they also have an

account in the EEA in the name of the shareholder. If a company is required to appoint a managing director under trade law or a managing director with special statutory authority pursuant to Art 180a para. 3 PGR, only an account of the shareholder in the EEA is required (Art 326b para. 2 and 3 PGR). While the board of directors itself is responsible for maintaining the share register of registered shares, the depositary and keeper of the share register of bearer shares is expressly not treated as a body by law (cf. the diction in §§ 66d para. 1 and 66e para. 1 of the Final Division of the PGR and further BuA 2012/150, p. 8). However, taking into account the fact that the depositary is also appointed by the company, represented by the board of directors (necessary attribution), or by the Regional Court in non-contentious proceedings, and that the depositary is also to be entered in the Commercial Register in this capacity (Art 326b para. 4 PGR), the question arises whether a depositary also holds a position on a governing body pursuant to Art 326a et seq. PGR and is responsible as a governing body for the careful exercise of the activity as depositary. There could be a transfer of tasks to the depositary according to Art 348 PGR. A delegation of authority in accordance with Art 348 PGR is characterised by a triad of duties of care which go hand in hand with the delegation. A delegating body must exercise reasonable care in the selection (culpa in eligendo), in the instruction (culpa in instruendo) and in the supervision (culpa in custodiendo). The selection of persons and the instruction to perform the function of custodian cause few problems. However, Art 326i para. 1 PGR regulates the supervision of the depositary separately and assigns this task to the auditors. This division of responsibilities could argue against the existence of a delegation and consequently against the depositary being a body. Ultimately, however, all criteria for a delegation or delegation pursuant to Art 348 PGR are fulfilled and a division of responsibilities or allocation of responsibilities to the auditors does not exclude the existence of a delegation pursuant to Art 348 PGR. Particularly in the case of the appointment of optional supervisory bodies under Art 199 PGR, a division of responsibilities in the case of delegation is even customary (with regard to supervision). However, this cannot be inferred from the legislative proposal, even if the background of such a privileged treatment of a custodian compared to a keeper of a share register is questionable and the different treatment remains incomprehensible. The appointment of a depositary itself may be

evidence and does not constitute a separate security or book-entry right.[138] Irrespective of this, it should be noted that the transfer of book-entry securities, as well as the transfer of securities, may be subject to various restrictions, such as share transfer restrictions. It should also be noted that the provisions of property law do not apply to book-entry securities. The situation is different for book-entry securities pursuant to § 81a of the Final Division of the PGR, which will be introduced in the course of the TVTG as of January 1, 2020 and are to be entered in a book-entry securities register and therefore have the same function as securities.

3.2 Maintenance of the share register on a block chain

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the task of the board of directors (and therefore transferable), but not the activity of the depositary itself. The board of directors is the managing body of a public limited company and there is a presumption of competence in its favour. The board of directors may pass resolutions in all matters that are not reserved by law or the articles of association for another body, in particular the general meeting of shareholders (see Art. 716 CO and *Vogt*, http://www.rwi.uzh.ch/eltlst-vogt/gesellschaftsrecht/organisation/de/html/verwaltungsrat_learningObject2.html). *"The management describes the 'formation, execution and implementation of the will' which serves to implement the company's purpose. - Bergt*, Verantwortung der Leitungs- und Kontrollorganen in der liechtensteinischen Aktiengesellschaft, S 32 (Rz 88) unter Bezug auf *Seeger*, Die Verantwortung gemäß Art. 218 bis 228 des liechtensteinischen Personen- und Gesellschaftsrechts, S 86; it is thus based on entrepreneurial decisions. Against this background, the custodian activity can also be seen as a purely administrative act and not as management, and the custodian pursuant to Art. 326b PGR is therefore, unlike the keeper of the share register pursuant to Art. 328 PGR, not an organ of the company. This counteracts the alleged synchronisation of the share registers according to BuA 2012/69, p. 30 aE.

[138] BuA 69/2012, p 22.

As already discussed in the previous chapter, with regard to bearer shares, a register of the holders of shares in a company must be kept by a depositary. In the case of registered shares, however, the company must keep a share register. This is because a stock corporation must know its members ex lege.[139] Despite inconsistent legal terminology, the depositary or - if no physical bearer securities have been issued and therefore cannot be deposited pursuant to Art 326a PGR - the registrar of bearer shares is not to be regarded as a separate body of a joint-stock

[139] This is particularly important when transferring tokenised equity instruments. Due to the provisions of company law, membership rights may only be transferred to persons who are known to the company and who are therefore identified by it. Reduced to tokenised membership rights of a company, this means that such tokens can only be transferred to identified wallets or addresses (so-called whitelisting solution); it must be technically ensured that a membership right under company law in the form of a token can only be transferred to wallet addresses whose authorised parties have been identified. In the case of debt instruments, the situation is different, since it is not provided for under civil law that a debtor must always be aware of his current creditor. If the debtor is not informed of the assignment of the claim against him, he can still make payment to the previous creditor with discharging effect (§ 1395 ABGB). However, since the assertion of the rights of a debt instrument is done directly via the token, in practice, an awareness of the assignment of rights will cause few problems (parallel to the legitimation and liberation effect). Any assignment prohibitions must be observed; Liechtenstein has not adopted the Austrian provision on the binding nature of assignment prohibitions in § 1396a öABGB.

company.[140] With regard to the keeping of the share register for registered shares, however, the position of the executive body is clearer than with the share register for bearer shares.[141]

65 Under company law, it is therefore mandatory for a company to identify its shareholders when issuing equity instruments.[142] Pursuant to Art 326a para. 2 PGR, bearer shares of listed companies and funds are exempt from the obligation to deposit bearer shares with a custodian.[143] These are only to be kept in the register pursuant to Art 326c PGR; the same must apply to book-entry securities (de lege lata), which cannot be deposited but only kept in the register. In the register kept by the custodian, the full name, date of birth, nationality and domicile or the company name and registered office of the shareholder, the date of de-

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[140] Art 326b (1) and (4) PGR. A presumption against the appointment of the executive body is already given in § 66d para. 1 and § 66e para. 1 of the Final Division of the PGR. Cf. in detail FN 137.

[141] Cf. Art 328 para. 1 PGR in connection with para. 66e para. 1 of the Final Division of the PGR (arg *"as the responsible body of the company"*).

[142] In relation to the Company, a person is considered a shareholder if he or she is entered in the register pursuant to Art 326c para. 2 PGR or in the share register pursuant to Art 328 para. 2 PGR.

[143] This also argues against the organ status of the depositary of bearer shares, as otherwise the depositary or registrar of a public limited company would be an organ, whereas in the case of a fund no such depositary would be required and consequently no organ would be responsible for this. In the case of funds, custody must be carried out by a separate depositary separate from the management company (Art 57 ff AIFMG; Art 32 ff UCITSG).

posit and - if the custodian is not a person subject to due diligence pursuant to the DDA - an account connection in the EEA in the name of the shareholder must be entered for each bearer share.[144]

A joint-stock company must also keep a register (share register) of registered shareholders, in which the shareholders must be entered with their surname, first name, date of birth, nationality and place of residence or company name and registered office. Registration has a constitutive effect on the establishment of membership rights in a company and only those shareholders become shareholders vis-à-vis the company who are entered in the share register as soon as it has been created (this applies at least to book-entry securities, but not to physically issued certificates, where the right under the certificate follows the right under the certificate and accordingly comes into existence upon issue of the certificate - and not only upon entry in a register). An entry in the share register can be effected by means of proof of the transfer of the shares.[145] Pursuant to Art. 182 para. 1 PGR, the share register must be kept by the board of directors; since it is an internal register of a company, it is not subject to public belief, and despite its declaratory effect, the rebuttable presumption that a registered person is a shareholder applies.[146] This also means that membership rights and rights to claims in a company can be dematerialised and transferred, as it is not the security in which such rights are evidenced that matters, but rather the entry in the share register or share register. 66

144 Article 326c(1) PGR.

145 Art 328 Paragraphs 1 to 3 PGR.

146 *Marxer*, Die personalistische Aktiengesellschaft im liechtensteinischen Recht, SSHW Band-Nr 263, S 180 (S 180 f and S 183).

67 In accordance with Swiss law, the form of the share register is not defined in more detail for legal positivism. For publicly traded companies, it is common practice for the share register to be kept on an IT basis; however, it can also be kept electronically for smaller companies.[147] In contrast, the Liechtenstein PGR explicitly states that both the share register and the share register may be kept electronically. It is essential for the share register to be kept electronically that it can be made readable at any time and that it is kept at the company's registered office.[148] Consequently, it must be possible to keep the share register or share register on a decentralized register, e.g. a block chain. It should be noted that,

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[147] *Forstmoser/Meier-Hayoz/Nobel*, Swiss Stock Corporation Law, §43 N 79; see also *Marxer*, Die personalistische Aktiengesellschaft im liechtensteinischen Recht, SSHW Band-Nr 263, S 180 (S 181), which points out *"that the share register* must be kept *as a 'business document' for a period of ten years from the dissolution of the AG*" in accordance with Art 142 para. 1 PGR.

[148] Art 326c (4) and (5) PGR in conjunction with Art 1059 PGR; Art 329a (1) and (2) PGR in conjunction with 1059 PGR; cf. Section 66e (1) (2) and (3) of the Final Division of the PGR, whereby it is noticeable that these provisions are again not coordinated. Thus, one would assume that the depositary of the share register with respect to bearer shares has the same duties to keep the register as the board of directors with respect to the keeping of the share register. However, different misconduct in connection with the keeping of the register pursuant to § 66d of the Final Division of the PGR or in connection with the keeping of the share register are punishable by administrative fines. This unequal treatment is not objectively justified and also contradicts the parallelism envisaged in BuA 2012/69, p 30 f. BuA 2013/33, p. 5 clarifies that the electronic maintenance of the share register or share register does not conflict with the required storage at the company's registered office; if the share register is maintained electronically, it will be stored at other locations in addition to the company's registered office, but this is harmless.

due to the reference to Art 1059 PGR, those documents which are required for the entry or registration must be kept for ten years.[149] The retention period begins at the end of the financial year in which the entries or registrations were made.[150]

The provisions on (electronic) record keeping in Art 326c para. 4 and para. 5 PGR are based on Art 28 SPV (creation, retention and access to due diligence records) in order to prevent any double entry of the same data records. It should be noted that it is possible to keep registers electronically via the shareholder base as long as compliance with the underlying documents is ensured, the registers are available at all times and can be made readable.[151] Legally, it is irrelevant whether the electronic management is carried out in a central or decentralised database, and the management of the shareholder listings on the block chain and comparable technologies is possible. It should be noted that the maintenance of such directories is only required for membership rights, but not for debt rights or non-equity instruments or non-equity securities. 68

3.3 Conclusion share register on the Blockchain

The PGR has been familiar with the issue of dematerialised securities, so-called book-entry securities, since its entry into force. An obligation to issue securities cannot be derived and membership or debt rights can therefore be issued without a physical certificate. However, this must be stipulated in the articles of association, since in the standard optional 69

[149] See BuA 2012/69, p. 23.

[150] Art 1059 (1) and (4) PGR.

[151] Cf. BuA 2012/69, S 31 in conjunction with S 21 ff (esp S 23) in conjunction with Art 28 para. 2 SPV.

case, at least in the case of a joint-stock company under Art. 267 para. 1 PGR, share certificates must be issued, unless the articles of association provide otherwise.

70 The PGR stipulates that a company must know its shareholders. In the case of a joint-stock company, a share register of the shareholders must be kept in the name of the company and the bearer shares must be deposited with a custodian or, if issued in the form of book-entry securities by the custodian, must be listed as the registrar.

71 In accordance with Art. 326c para. 4 PGR and Art. 329a para. 1 PGR, the share registers - the share register as well as the share register - can also be kept electronically, provided that it can be made legible at any time. Against this background, the share registers can also be kept on the block chain, as it makes no difference under company law whether the electronic maintenance of the register is carried out in a central or decentralized database.

3.4 Securities vs. transferable securities according to MiFID canon

72 If securities under civil law are represented in tokens - i.e. they are recorded in the books as book-entry securities - and if the rights represented are not individually negotiated, i.e. they are structured in a standardised manner and are not subject to any restrictions on transferability, which is why they can also be assumed to be tradable on the capital market, it can be assumed that these (dematerialised) securities constitute transferable securities in the regulatory sense, i.e. financial

instruments. It[152] is important to note that for the purposes of classification as a financial instrument under supervisory law, it is irrelevant whether a security is actually issued or a book-entry security; even though MiFID II speaks of transferable securities, this also includes transferable book-entry securities[153]; under civil securities law, however, this has significant consequences with regard to the rules on transfer under property law, unlike in securities supervision law.

It is therefore not only possible to represent civil law book-entry securities in tokens, but these can also be qualified as financial instruments for regulatory purposes; tokens can therefore also represent financial instruments. Financial instruments that are issued in the form of tokens are traditionally kept in the books and can represent the same rights as conventional financial instruments. The principle of *"Substance over Form"* applies here, and tokenisation merely enables a separate form of (technical) transferability.[154] 73

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[152] See for the definition of financial instruments in detail Title II, Chapter II.2.3.

[153] Cf. also Art. 3 of the CSDR with regard to the management of securities in the securities account.

[154] Cf. BaFin Fachartikel, Tokenisierung, 15.04.2019 with reference to ESMA, https://www.bafin.de/SharedDocs/Veroeffentlichungen/DE/Fachartikel/2019/fa_bj_1904_Tokenisierung.html, even if the article itself seems to misjudge the principle cited and classifies tokens as securities (recte Wertrechte) sui generis, although the token as a technical layer or container does not add anything to the right represented from a purely legal point of view. Furthermore, the approach according to which the right represented in a token - unjuridically speaking the "underlying" - follows the right in the token would also be completely mistaken (NB: BaFin does not accept this).

The purely technical representation in the token does not influence the legal status as a civil law value right (security) or regulatory financial instrument (transferable security or value right). Even a limited transferability of a book-entry right, which excludes the existence of a financial instrument, will not lead to a different regulatory assessment through tokenisation, provided that the restriction has been implemented in a technically correct manner; at best, the question arises as to the economic sense of representing such rights in tokens. With regard to standardisation, too, the supervisory assessment must be based on the civil law structure of the law and standardisation is not automatically achieved by the technical representation in tokens, since individualised rights (e.g. the right of ownership of a specific object and thus a specific obligation) can still be represented in the token instead of fungible rights defined by type, scope and quality (generic characteristics; fungible objects).[155]

75 With regard to the criterion of tradability on the capital market required for financial instruments in accordance with Annex I Section C of MiFID II, it is regularly assumed that this is the case for tokenised financial instruments - unless technically impossible. Currently, the only purely factual hurdle is that no trading centers for tokenized financial instru-

[155] Cf. Chapter I.1.1 regard to the representation of a unit or generic debt in the token and thus with regard to individualisation or standardisation.

ments exist in Liechtenstein and that hardly any organized trading centers exist in the EU area or EEA.[156] However, the lack of organized capital markets[157] for tokenized financial instruments cannot exclude the tradability required for financial instruments, since such tradability outside of organized capital markets (regulated market, MTF, OTF) can also be established through off-exchange trading (e.g., OTC trades on a DEX). Provided that tradability is not technologically excluded, tradability can be assumed to exist already with the primary issuance of tokenized financial instruments; otherwise, a supervisory license would sometimes be required from an indeterminate point in time and the FMA or national supervisory authority could not exercise its supervisory activities in accordance with the provisions.[158] As explained in Chapter 3.2, it should be noted that the technical implementation of the transferability of tokenized membership rights takes into account a so-called whitelisting mechanism, by means of which tokenized share

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[156] According to the website and register of the Liechtenstein FMA, as of 17.08.2019, there is no regulated market, MTF or OTF in Liechtenstein, https://www.fma-li.li/de/aufsicht/bereich-banken/banken-und-wertpapierfirmen/bewilligungen-zulassungen.html, accessed on 15.09.2019, 16:36; the UK-based LDX (London Derivatives Exchange) has a licence from the Financial Conduct Authority to provide certain investment services in relation to financial instruments, https://register.fca.org.uk/ShPo_FirmDetailsPage?id=001b000000Op9S8AAJ, accessed on 15.09.2019, 16:36, whereby the business model, according to the company, refers to tokenised financial products, https://londondx.com/about/, accessed on 15.09.2019, 16:36.

[157] For the definition of (organised) capital markets, see Title II, Chapter II.2.3.1b.

[158] Cf. for tokens as financial instruments in detail Title II, Chapter II.2.3II.2.3.5 and for specific questions also II.2.2.2; cf. for decentralised trading places (DEX) Title II, Chapter II.2.5 in conjunction with Chapter II.2.4.

rights can only be transferred to addresses whose authorized persons are identified, since it is required under company law that a company knows its members.

3.5 Endorsement and pure name papers in the form of tokens

76 The transfer of a security to ownership is generally effected by means of a written contract and transfer of the security.[159] This provision applies to registered securities[160][161], order papers and bearer securities.[162] However, it should be noted that the right in rem refers to the physical paper, the security certificate.[163] These provisions[164] therefore only apply to securitized membership and debt rights. However, the general provisions of the PGR also contain a written form requirement for the transfer of membership and debt rights, provided that no securities have been issued in respect of such rights.[165] However, the Stock Corporation Act provides for a special provision whereby, until securities are issued, the legal relationship between the subscriber and the Company is governed by the law of obligations. Such book-entry securities can thus be assigned without the need for a written form in a commitment or disposal transaction - by means of assignment by sign.[166] In the

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[159] § Section 75(1) of the Final Division of the PGR.

[160] §§ Sections 82 et seq. of the Final Division on the PGR.

[161] §§ Sections 87 et seq. of the final section on the PGR.

[162] §§ Sections 95 et seq. of the Final Division of the PGR.

[163] See Chapter I.3.1.

[164] § Sections 75(1) and 82 of the Final Division of the PGR. in conjunction with Article 322(2) PGR.

[165] Article 149(3) PGR.

[166] Art 322 (2) PGR as lex specialis to Art 149 (3) PGR; cf. Chapter I.3.1; the provisions on securities in the final section of the PGR take precedence over the

absence of a connecting factor in rem, however, no claims under property law can be made against such book-entry securities. The so-called functionally adequate applicability of the property law provisions to tokens takes this circumstance into account in the TVTG.[167] Value rights are therefore not subject to the regulations on securities.

77 Securities that are made out to order must be transferred by endorsement. An endorsement has the effect of a declaration of assignment placed on the deed. The endorsement is therefore a transfer or issue note.[168] Instruments made out to order are in the name of an entitled party and are also made out to order, which is why a debtor can make payment to the person made out to order or listed in the endorsement with debt-discharging effect. Disregarding the difference between order and genuine registered securities, *Layr/Marxer state that*[169] an endorsement is required for the transfer of registered shares. It has apparently been overlooked that registered securities only constitute order papers in cases of doubt - i.e. in the dispositive rule, but not necessarily - unless the articles of association provide otherwise. However, if pure

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provisions of stock corporation law (cf. The introduction of provisions on book-entry securities in § 81a of the Final Division of the PGR as amended by the Federal Law on Private Television 2019/54 seems to be a dogmatic break with the TVTG, as for the first time, property rights are regulated under the provisions on securities. However, this provision does not require a written contract in order to subsequently transfer the book-entry right.

[167] Cf. e.g. BuA 2019/54, S 126 or Section 81a (4) of the Final Division of the PGR as amended by BuA 2019/54.

[168] § Section 75 para. 2 in conjunction with Section 76 para. 1 of the Final Division of the PGR; see also Section 94 para. 1 of the Final Division of the PGR.

[169] *Layr/Marxer*, Legal nature and transfer of "tokens" from a Liechtenstein perspective, LJZ 1/19, p 11 (16).

or genuine registered shares are issued under the articles of association, the transfer requirement of an endorsement, which is only provided for order papers, is not applicable.[170]

78 In terms of the articles of incorporation, it is therefore possible to issue registered shares as genuine registered shares, so-called "recta shares" or "recta papers", which can be assigned in dematerialised form.[171] As already explained, securities are, unlike book-entry securities, only transferable by means of a written contract and actual delivery; book-entry securities, on the other hand, can be assigned without the need for a written agreement. As a[172] consequence, the question does not arise whether tokens can constitute order papers and how an endorsement is to be made here; rather, in the absence of securitization in a deed, such book-entry securities are not securities and therefore do not comply with the provisions on formal requirements, such as a written contract or endorsement.

79 The statement in the report and motion on the TVTG[173], according to which registered shares can also be issued in the future in the form of book-entry securities, is therefore lacking significant new insights, since

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[170] Art 327(1) PGR. Cf. also Art 974 CO for the distinction between a registered security and an order security under Swiss law.

[171] *Forstmoser/Meier-Hayoz/Nobel*, Swiss company law, §43 N 34 ff; see also BuA 2019/54, p 119, on the genuine registered securities.

[172] Cf. on the possibility of assignment of membership or claim rights kept in the books (in the form of tokens) *Layr/Marxer*, legal nature and transfer of "tokens" from the Liechtenstein perspective, LJZ 1/19, p 11 (16). In the case of technical representation of a membership or claim right (right of value or right of property) kept in the book in a token, the legally effective transfer can be effected by transferring the token.

[173] BuA 2019/54, p 119.

this was also possible under Liechtenstein law up to now. What is essential, however, is that in the future, registered shares, as well as other membership or debt rights, can be issued as uncertificated securities with the same function as securities. Consequently, the regulation of these book-entry securities pursuant to § 81a of the Final Division of the PGR as amended by the Federal Law Gazette 2019/93 under the section on securities makes dogmatic sense and is welcome. Accordingly, the legislative materials also clarify that "*in the event of a transfer of a book-entry right which is considered an order instrument, the entry in the register of book-entry securities shall have all the effects of an endorsement*".[174] Furthermore, the equal treatment of securities and rights with the same function as securities (book-entry securities representing claims, membership rights or property rights) is to be welcomed, as this means that the provisions of property law, with reference to the legislative materials on the TVTG and PGR as amended by the Federal Law Gazette 2019/54, are generally applied to book-entry securities in a functionally adequate manner. At the same time, the result for book-entry securities according to the TVTG is stringent due to the departure from the causality principle to the abstaction principle, as the token cannot be indexed in the event of a defective commitment transaction - this merely leads to a reverse transaction under condiction law, as would otherwise also be the case with claims.[175] However, the bona fide recipient of a commodity always takes precedence over the bona fide recipient of a

[174] BuA 2019/54, p 119.

[175] BuA 2019/54, p. 203; see also chapters I.3 and I.4.

commodity document or right anyway. In[176] addition, there is the option to issue uncertificated securities according to PGR as amended by the Federal Law Gazette 2019/93 with the same function as securities, which are still subject to the civil law order of the causal principle.[177]

4. Civil law classification of tokens under the Liechtenstein "Blockchain Act" (TVTG)

80 As already cursory noted at the beginning of Chapter 1, tokens do not represent objects according to Liechtenstein property law; according to this understanding, there is no "res digitalis".[178]

81 The TVTG as amended by the Federal Law on Broadcasting 2019/54 states that according to this law, the provisions of property law should be applied to the civil law broadcasting regulations in a functionally adequate manner, i.e. analogously, but not equivalently.[179] A thing may not be directly represented in a token, but the TVTG stipulates that the right in rem to a thing can be abstracted or extracted and represented in a token - or the right in rem to surrender as a consequence of the full right of ownership can be represented in the token.[180] This has the consequence that tokens can also be acquired in good faith.[181] However, when acquiring a token in good faith, which represents a right of ownership - e.g. of a good - Art 504 SR must still be observed, since such a token effectively corresponds to a commercial document; accordingly,

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[176] Art 504 para 2 SR.

[177] See the following chapter I.4 more details.

[178] Note: Neo-Latin word creation for "digital thing".

[179] BuA 2019/54, S 126, 166, 184 to 186, 197, 202, 203 and 210.

[180] BuA 2019/54, p 184.

[181] See BuA 2019/54, p 210.

the bona fide acquirer of the good takes precedence over the bona fide acquirer of the token.[182]

Furthermore, the functionally adequate application of the provisions of property law to the transfer order of tokens would in principle result in a token being made accessible for property law vindication if the commitment transaction were to be defective or cease to exist for whatever reason. However, the applicability of the Rei Vindicatio to book-entry securities in the form of tokens according to the TVTG is blocked by the fact that the principle of causality - which prevails in Liechtenstein - has been abandoned for the transmission order of tokens according to the TVTG and the principle of abstaction is now applied to this civil law transmission order of tokens according to the TVTG.[183] 82

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[182] Cf. also Chapter I.1.2 on the distinction between a commodity instrument and a financial instrument; only by means of depositum regulare or representation of the right to a specific piece of a commodity can prudential standardisation (of a commodity claim; in the case of mass issuance of such tokens) be prevented and consequently qualification for prudential purposes as a financial instrument (with the additional presence of transferability and tradability) be prevented; cf. on the constituent elements of transferable securities as financial instruments Title II, Chapter II.2.3; NB: (electronic) vouchers issued by an issuer for the purchase of goods or services do not normally constitute transferable securities if they are treated as payment instruments, which excludes the existence of a financial instrument (cf. Art 3a para. 1 no. 42 Banking Act and Art 4 para. 1 no. 44 MiFID II); at the same time, however, such vouchers also fall largely outside the scope of application of the PSD II or the ZDG in the standard case, since the area exception of limited networks applies (Recital 14 of the PSD II; however, since the entry into force of the PSD, the exception must be notified to the national supervisory authority and justified - Art 37 PSD II).

[183] BuA 2019/54, S 197 and 203

In this regard, the following can be taken from the legal materials on the TVTG: *"The Government is considering that it is correct that Liechtenstein property law does not recognise the abstraction principle, but that both obligation and disposition transactions must be legally effective for a disposition to take place based on the causality principle. However, if the causality principle is followed, the transaction would have to be reversed under property law (ex tunc) and the token, which is subjected to an order to which property law applies in a functionally adequate manner, could be indexed, which would contradict VT systems and, in particular, their finality. Using the principle of abstraction, however, only an enrichment claim can be asserted ex nunc and one is exposed to the general risk of bankruptcy. However, this would also be comparable to a transfer of a sum of money via a bank. Due to the lack of a property-law status of money, this cannot be reversed under property law, but rather a reverse transaction under enrichment law is carried out; the transactions are also not deleted or reversed from the core banking system.*[184]

84 This is essentially to be endorsed. In the consultation report on the VTG, this distinguishing feature was not yet so clearly delineated and is still dogmatically unclear.[185] If the view were to be taken that the introduc-

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[184] BuA 2019/54, p. 197.

[185] Cf. the comments in the government's VnB on the VTG of 28.08.2018, p. 57 f: "*The relationship between the obligation and disposal transaction can either be regulated in such a way that the disposal has no effect without an effective underlying transaction (principle of causality, applies e.g. in Swiss law on movable and immovable property and in Austrian law) or that the disposal also has effect without an effective underlying transaction (principle of abstraction, which is followed by the German Civil Code). The practical significance of the two systems must not be overestimated. If the underlying transaction is invalid, the effects of the disposition may not be definitive in either case. If the principle of abstraction applies, the settlement is made in accordance*

tion of the abstraction principle would put the company in a worse position in the event of bankruptcy - in the event of the invalidity of the commitment transaction - since it would only be possible to reverse the transaction under the law of unjust enrichment and a creditor would thus be referred to the quota under bankruptcy law, it would have to be countered by the fact that such a consideration would not be sufficient, since the principle of causality only permits a vindication in the case of objects; on the other hand, claims must always be reversed under the law of unjust enrichment. This is not only relevant in connection with monetary claims, but it should be noted that tokens which represent book-entry securities or book-entry securities in general (at least

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with the principles of enrichment law, whereas in the case of the principle of causality the disposal is treated as if it had not taken place. The differences between the principle of causality and the principle of abstraction are further relativized by the fact that grounds for invalidity can cover both the obligation and the disposal transaction (so-called error identity). The difference is particularly important in the case of the bankruptcy of the acquirer, because under the abstract principle the party disposing of the assets without cause only has an enrichment claim against the bankruptcy estate and thus bears the risk of insolvency of the acquirer. The immutability of transmissions on VT systems suggests that the abstraction principle should be applied to dispositions of tokens, i.e. that they should be considered effective even if an effective commitment transaction has not been concluded (e.g. due to illegality) or has subsequently ceased to exist (e.g. due to challenge due to an error). The principle of causality would in this case lead to a discrepancy between the nominal legal situation and the factual circumstances documented in the VT system. This does not mean that the disposition is final, but only that it is to be reversed according to the rules of enrichment law by the unjustly enriched acquirer transferring the tokens back to the unfounded disposer by means of a new transfer process (or, if necessary, being forced to do so by a court ruling). Contrary to this view represented in the VnB on the VTG and corrected in the 2019/54 Federal Budget Gazette on the TVTG, the principle of causality would also require unwinding under enrichment law if the securities transaction were discontinued, provided that a token was not treated under property law, which was in line with the legal situation before the TVTG.

according to the legal situation before the entry into force of the TVTG) only represent claims and would therefore only have to be reversed under enrichment law if there were a defect in the title transaction. In fact, this does not result in a worse position in bankruptcy due to the abstraction principle, since already according to the causality principle, receivables can only be reversed under enrichment law if the underlying transaction ceases to exist.[186]

85 With regard to a rescission under the law of unjust enrichment, a distinction must be made as to whether a rescission is effected ex tunc under the law of obligations and property law, or ex tunc under the law of obligations and ex nunc under property law.[187] This is closely related to the assessment which condiction is actually applied - condictio sine causa[188] according to § 877 ABGB, condictio indebiti[189] according to §

[186] See Chapter I.3 FN 129.

[187] This refers to the obligation under the law of obligations and the transaction in rem.

[188] The condictio sine causa, as the name implies, refers to the recovery of services based on a contract that has been contested due to a lack of will, which is why the contract must be reversed ex tunc in accordance with the law of obligations and property (recovery due to the elimination of the causa/causal transaction). Cf. *Pletzer* in *Kletečka/Schauer*, ABGB-ON 1.02, § 877, para. 2. The condictio sine causa can compete with the condictio indebiti, condictio causa data causa non secuta, the property action and with claims for damages - cf. idem, para. 24 mwN.

[189] The condictio indebiti regulates the reversal of a debt following the payment of a non-debt; a condominium creditor makes a payment with the intention of fulfilling a bond, which, however, does not exist, resulting in payment without legal grounds. See *Lurger* in *Kletečka/Schauer*, ABGB-ON 1.06, § 1431, Rz 1 f.

1431 ABGB, condictio ob causam finitam (condictio causa finita)[190] or condictio causa data causa non secuta[191], both of which are regulated in § 1435 ABGB (the latter condiction, however, is only derived from this provision by analogy).

4.1 Value rights according to TVTG (abstraction principle) and PGR (causality principle)

86 It is noteworthy, even if this was not particularly focused on in the legislative materials, that book-entry securities constitute rights with the same function as securities pursuant to Section 81a of the Final Division of the PGR as amended by BuA 2019/54 or BuA 2019/93. In addition to their function as evidence, liberation, legitimation and transport, book-entry securities thus also have a traffic protection function.[192]

87 This is also explicitly standardized by the legislator in § 81a para. 5 of the Final Division of the PGR as amended by the Federal Law Gazette 2019/93: *"Anyone who acquires book-entry securities or rights to book-entry*

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[190] The condictio causa finita regulates the case of the subsequent cessation of a liability, whereby an ex tunc effect under the law of obligations and ex nunc effect under property law applies (e.g. in the case of conversion, price reduction or withdrawal). See *Lurger* in *Kletečka/Schauer*, ABGB-ON 1.06, § 1431, Rz 1 and § 1435, Rz 1 f.

[191] Also condictio ob rem (dati re non secuta) or condictio ob causam datorum, which aims at the reversal of benefits that have not been used for the intended purpose.

[192] The general provisions of securities law in § 73 et seq. of the Final Division of the PGR are to be applied equivalently to the newly introduced book-entry securities; in particular, the transfer to ownership in § 75 leg cit is of significance in this regard.

securities in good faith from the person entered in the book-entry securities register is protected in his or her acquisition, even if the seller was not authorized to dispose of the book-entry securities. In return for mere debt rights, securities law provides for the acquisition of securities or the rights represented by them in good faith in connection with the market protection function, since the securitised right follows the right on paper and thus the rules of property law. Book-entry[193] securities pursuant to § 81a of the Final Division of the PGR as amended by the Federal Law Gazette 2019/54 also have this function, however, *"[in the case of book-entry securities,] the entry in the book-entry securities register shall replace the ownership of the certificate. An acquirer who acquires in good faith from the person entered in the book-entry securities register must be protected in his or her acquisition, even if this person was not authorised to dispose of the rights under substantive law."*[194] The aphorism "*the right on paper follows the right on paper"*[195] therefore also applies, in analogous modification, to the book-entry securities created under BA 2019/54; the right on the book follows the "right on the book", whereby the book-entry securities register or the entry in it is of a correspondingly real nature. With the entry of a right in such a book-entry rights register, *"an existing claim or membership right is subject to the legitimation and transfer regulations under the law of value. In functional terms, the entry in the book-entry rights register is the equivalent of the transfer of the certificate [...].*[196] This also means that the new book-entry securities codified in the PGR are to be subject to

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[193] *Frick,* Die Aktienarten nach liechtensteinischem Aktienrecht, p 97; see also Chapter I.2.3.

[194] BuA 2019/54, S 314

[195] *Frick,* Die Aktienarten nach liechtensteinischen Aktienrecht, S 97, mwN.

[196] BuA 2019/54, page 314.

the property law transfer regulations, as reference is made to the transfer regulations under value law. The transmission rules under value law are the same as the transmission rules under securities law, as the legal materials state that book-entry securities are rights with the same function as securities. Therefore, the transport function of such book-entry securities according to PGR as amended by BuA 2019/54 and BuA 2019/93 also applies to such book-entry securities in the same way as to securities, whereby the transfer of the right from the paper by means of the transfer of the paper is replaced by the transfer of the right from the book-entry securities register by means of the transfer of the right to the book-entry securities register - or the entry therein.

Stringent in this argumentation is the fact that the book-entry rights register does not replace the share registers such as the share register or share register and that these are to be kept regardless of the keeping of a book-entry rights register.[197] This shows that the book-entry rights register is not merely a list of shares, but in the case of uncertificated securities it has the same function as the certificate under securities law. 88

The Swiss doctrine also takes this view with regard to securities: *"If a legal basis comparable to ownership is missing in the transfer of non-securitised debt securities, this is certainly present in the case of book-entry securities in the form of the entry in the book-entry securities register which is constitutive for the book-entry security [...].*[198] 89

This is also the result of the comments on the focal points of securities and securities law in the bill to create the TVTG and the amendment of 90

[197] BuA 2019/54, page 313.

[198] *Jung*, The share as effects in Zurich Commentary, Art 622 OR, N 136 f.

other laws. For example, the government states that book-entry securities are *"non-securitised rights which are structured in such a way that they fulfil the same functions as a security of public faith. These are generally assigned the following functions: simple transfer of the right by transferring the (possibly endorsed) deed (transport function); the legitimation of the contact person by possession of the deed (legitimation function) or the release of the debtor in case of payment to the (possibly the holder of the deed (possibly legitimated by securities law) (liberation function); acquisition in good faith of the right according to the principles of property law (traffic protection function); limitation of the defences to those which are directed against the validity of the deed or which result from the deed (limitation of defences) In the case of conventional securities, all these functions are based on the securitization of the right in a deed or the possession of this deed. In the case of book-entry securities, the representation of the right is waived; a register is used instead of the deed. Book-entry securities [...] can also be acquired in good faith by the person entered in the register as the rightful owner. The transport function, the legitimation function, the liberation function, the traffic protection function and the limitation of objections are all based on the entry in the register. This means that a genuine value right has all the functions of a security (functional equivalence).*[199]

91 What is particularly remarkable about these designs are effectively three interlinked aspects. Firstly, the mention of the transport function in addition to all other functions of securities, secondly, the statement that a book-entry right also has all these functions of a security (equivalence of the functions and not just mere mere use) and thirdly, the fo-

[199] BuA 2019/54, p 110 f.

cus on the ownership of a person entered in the register as being entitled to dispose of book-entry rights. All these aspects, individually and collectively, are based on the property law character of the newly codified book-entry securities. Although § 81a of the final section of the PGR may be modelled on the wording of Art 973c of the chOR, the substance of this provision goes in a diametrically opposed direction. According to the[200] prevailing Swiss doctrine, the Swiss book-entry securities law under Art. 973c of the chOR does not have the functions of a security and does not deal with them in terms of property law, since, according to Swiss dogmatics, they have no transport function; consequently, the acquisition of such book-entry securities in good faith is not possible under Swiss law.[201]

92 This difference to the Swiss legal situation regarding book-entry securities was emphatically stated by the legislator: *"This functional equivalence justifies the unrestricted equivalence of book-entry securities to securities under § 81a SchlT PGR"*.[202] However, the Liechtenstein legislator went one step further and, with the introduction of the TVTG and the amendment of other laws, not only set a legal milestone that could potentially be equivalent to that of the PGR in the future, but also heralded what is probably the greatest break in civil law dogma since the ABGB came into existence: *"Nothing says § 81a SchlT PGR about which rights can be represented in the form of value rights. In practice, the focus will be on fungible claims on the one hand and membership rights in corporations and companies on the other. In principle, however, it must be possible to securitize all types of*

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[200] BuA 2019/54, p 120.
[201] Kuhn in CHK - Hand commentary on Swiss private law, Art 973c OR, N 1b.
[202] BuA 2019/54, p 111.

subjective rights that may be the subject of legal transactions".[203] This means that in the future all rights - whether in rem or under the law of obligations - can be securitized in a book-entry securities register and are therefore subject to the provisions of securities law and the law on securities and thus to the provisions of property law. The greatest novelty that the bill brings with it in connection with the Block Chain Law of Liechtenstein, as it is called, does not even appear to be located in the TVTG.

93 It should be noted, however, that the book-entry rights register must be organized in such a way that unauthorized encroachments by the debtor on the rights of the creditor are excluded[204], otherwise there is no book-entry rights register, as this would have massive potential for abuse on the part of the debtor. Apart from keeping the book-entry rights register on a trustworthy system in the sense of the TVTG (decentralised database), outsourcing to an independent third party to meet these requirements is also conceivable.[205]

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[203] BuA 219/54, p. 111; the terminology "securitisation" seems somewhat vague, as it remains open whether the legislator regards the entry of a book-entry right in the book-entry rights register as a securitisation, especially as the BuA 2019/54 otherwise consistently refers to the representation or depiction of rights. However, the use of the word "securitize" with reference to the property law nature of book-entry securities seems to be quite conclusive due to the functional equivalence to securities. See also BuA 2019/54, p. 115: *"In the case of book-entry securities, the ownership of the deeds is replaced by the entry in the register of book-entry securities".*

[204] § Section 81a (2) of the final section of the PGR as amended by BuA 2019/93 (this passage was forgotten in BuA 2019/54 due to an editorial mistake - see BuA 2019/93, p. 74).

[205] BuA 2019/54, p 113.

The legislator also stipulates that the book-entry rights register can be kept in any form and does not necessarily have to be kept in physical form in order to comply with the provisions of property law; instead, the book-entry rights register can also be kept electronically. In addition, the book-entry rights register may also be maintained on decentralized databases within the meaning of the TVTG.[206] It should be noted that the mere maintenance of the book-entry rights register on a decentralised database within the meaning of the TVTG does not yet lead to the applicability of the transmission regulations for book-entry rights under the TVTG as amended by the Federal Law on the Supervision of Broadcasting 2019/93; for this purpose, the book-entry rights would have to be managed in the form of tokens on a VT system. 94

Taking into account Liechtenstein's liberal financial and business location, the new regulation of book-entry securities under the TVTG and PGR, both of which were amended in 2019/54 and 2019/93 respectively, allows maximum disposition. In addition to the issuance of securities, in the future business operators can choose whether they issue uncertificated securities under the TVTG, to which the provisions of property law apply in a functionally adequate manner, whereby the principle of abstraction applies, or whether they issue uncertificated securities under the new § 81a of the Final Division of the PGR, to which the provisions of property law apply in a functionally equivalent manner, while at the same time remaining within the customary civil law regime of the principle of causality. Such book-entry securities pursuant to PGR as amended by Federal Law Gazette 2019/93 can also be claimed back 95

[206] BuA 2019/54, page 313.

under property law if a title transaction is discontinued.[207] This appears to be a hidden revolution of the securities law and book-entry rights regime with the introduction of the TVTG, which is to be located outside of the TVTG, especially as it seems that this essential circumstance was hardly considered in the legislative process. In addition, from an economic point of view, such book-entry rights may be more attractive than tokenized book-entry rights under the TVTG pursuant to § 81a of the Final Division of the PGR as amended by the Federal Law Gazette 2019/93, as the minimum capital requirements pursuant to Art 16 TVTG as amended by the Federal Law Gazette 2019/93 do not apply.

96 Thus, if an effective obligatory transaction does not take place or if such a transaction subsequently ceases to exist, the tokenized book-entry securities under the TVTG must be reversed under the law of enrichment on the basis of the abstraction principle, while book-entry securities can be indexed under the PGR as amended by the 2019/93 Federal Law Gazette on Civil Law Matters based on the causality principle.[208]

97 In order to be able to understand these aspects in detail, a general digression on the principle of causality and abstraction and the related paradigm conflict in the civil law systems of (Central) Europe will follow - *"The contract in rem and the relationship to the causa is a dogmatic problem that is as old as it is central. Nevertheless, numerous questions are still unanswered."*[209]

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[207] This is despite the fact that an element of corporeality is fundamentally missing; however, such an element is assumed via the book-entry rights register or the constitutive entry in the same, which results in the property law treatment.
[208] See also Chapter I.2.5.
[209] *Honsell*, tradition and cession - causal or abstract?, in FS *Wiegand*, p. 349

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Both causality and abstraction principles regulate the relationship between commitment transaction[210] and disposal transaction - between title and mode. The acquisition of ownership is quite different in the German-speaking countries. In accordance with the principle of consensus, German law is based on an abstract contract of transfer of ownership consisting of a consensus of will and actual transfer. In contrast, Austrian, Swiss and Liechtenstein law, in accordance with the principle of causality, is based on an effective causal transaction, even though the contract in rem is undisputed here.[211] *"This confusing variety has arisen from the duplex dominium of Roman law. On the one hand, the abstract manzipation or in iure cessio, which is detached from the legal ground, and on the other hand the traditio ex iusta causa.*[212] Roman law thus knew both an abstract transaction of disposal and a transfer based on a legally effective title.[213] *"All four possibilities were developed from these elements: the abstract, in rem contract (German law), the causal, in rem contract (Austria), the dispensability of the in rem contract and the transfer (France, Italy), the dispensability not of the transfer but of the in rem contract (according to the minority opinion in Switzerland).*[214] The consensus principle follows the maxim that ownership is only something thought of, which is why it must be transferable by consensus and no tradition is necessary, fol-

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[210] Also title transaction, underlying transaction, causal transaction or causa.

[211] *Honsell*, tradition and cession - causal or abstract?, in FS *Wiegand*, S 349 (p 350 f).

[212] *Honsell*, tradition and cession - causal or abstract?, in FS *Wiegand*, p. 349 (p. 351).

[213] *Ibidem.*

[214] *Ibidem.*

lowing the principle of publicity. *Savigny* combined the principle of tradition and the principle of consensus in a third principle - the contract in rem - according to which a transfer of ownership is required, but this is formulated as a contract in rem - unlike the Roman traditio, which merely represented a fact.[215]

99 While there is a consensus in German-speaking jurisdictions on the contractual nature of the transfer of risks, views differ on the dependence on the legal ground. Consequently, the principle of abstraction is characterized by the fact that an acquirer acquires ownership regardless of whether or not there is also a legally effective obligatory transaction.[216] The advantages of the principle of abstraction are *"traffic protection and freedom of design as well as legal flexibility and conceptual-systematic clarity*.[217] In contrast, in the case of the causality principle, transactions of disposition and obligations are accessory (causal tradition).[218] If the commitment transaction ceases to exist, ownership - at least of one item

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[215] *Honsell*, tradition and cession - causal or abstract?, in FS *Wiegand*, S 349 (S 351 f mwN).

[216] Idem, p 353.

[217] *Honsell*, Tradition and Cession - causal or abstract?, in FS *Wiegand*, S 349, S 353, with reference to *Stadler*, Gestaltungsfreiheit und Verkehrsschutz durch Abstraktion, S 728 ff.

[218] Even though the term accessoriness is in principle only used in connection with the existence of claims and the provision of security for them; as a rule, security exists only to the extent that the claim still exists, i.e. is accessory to the claim. Unlike in Austria, however, in the case of a transfer of ownership by way of security no real transfer of ownership of a security is required as a publicity act, but a fictitious transfer by means of a possession institute is sufficient, provided that this has been so agreed in the security agreement. Cf. *Opilio*, Arbeitskommentar zum liechtensteinischen Sachenrecht, Volume I, S 406, Rz 4 (Art 187 in conjunction with Art 503 SR).

- can be indicated. The principle of abstraction thus contributes to traffic protection and also to conceptual and legal clarity, as it differentiates more clearly between property law and law of obligations than the causality principle. The consequence of basing the causality principle on the legal transaction is that depending on the debt relationship, the transaction is either indicated or conferred, and constellations also arise in which a seller can indicate the value of an object, while a buyer can only demand the purchase price paid under concession law.[219]

Honsell considers the reversal of contracts under property law to be unsuitable in nature, since depending on the underlying transaction, in one case the absolute right of ownership applies with effect erga omnes and in another case only the relative right of claim inter partes and advocates a uniform system for reversal.[220] It cannot therefore be assumed that the introduction of the abstraction principle for the transfer of tokens in accordance with the TVTG would result in a worse position, for example in bankruptcy, compared to the otherwise applicable causality principle. Unlike a security or another right in rem, a claim or value right could only be conferred by way of a deposit. The TVTG declares the property law to be applied in a functionally adequate manner, which would make the indication of tokens possible in the first place. 100

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[219] *Honsell*, tradition and cession - causal or abstract?, in FS *Wiegand*, S 349 (p 354 f).

[220] *Honsell*, Tradition und Zession - kausal oder abstrakt?, in FS *Wiegand*, S 349 (S 357); cf. also idem, S 360 ff, concerning the results of the two-condiction theory, as well as further differences between causal and abstract transfer of ownership (especially in the chain of sale, bankruptcy and reacquisition from the unauthorized party).

However, this is prevented by the introduction of the abstraction principle, as the transaction of disposal remains abstract and without causa and a reversal can only be carried out in accordance with the law of enrichment.[221] The situation is different for the newly introduced book-entry securities in § 81a of the Final Division of the PGR as amended by the Federal Law Gazette 2019/93, which have the same function as securities. These are therefore also to be treated under property law and can subsequently be indexed, since the causal principle continues to apply in Liechtenstein outside the TVTG.

101 Finally, and merely for the sake of completeness and good order, it should be noted that the TVTG is in principle only to be considered if Liechtenstein law is applicable. This is the case if a VT service provider under the TVTG with its registered office in Liechtenstein generates and sells or issues tokens, or the parties validly declare the TVTG or Liechtenstein substantive law applicable; the TVTG as amended by BuA 2019/54 or also BuA 2019/93 refers to this possibility in its Art 3 Para. 2. It should also be noted that a coin or token can also be generated and sold or issued on the basis of a central database instead of a decentralized database (DLT-based technology or block chain or trustworthy technology in the sense of the TVTG) - in this case, the scope of the TVTG is not open from the outset, as Art 2 Para. 1 lit c TVTG mandatorily provides that a token is information on a VT system. The core character of a VT system is therefore decentralisation, as is the case with block chain technology, for example.

4.2 Conclusion Abstraction and causality principle after introduction of the TVTG

[221] See BuA 2019/54, p. 203.

The BuA 2019/93 introduces value rights according to TVTG (value rights represented by a token on a VT system) and value rights according to PGR. The transfer of book-entry securities under § 81a of the Final Division of the PGR as amended 2019/93 follows the transfer rules for securities. The legislative materials explicitly state that book-entry securities pursuant to PGR as amended by the 2019/93 Federal Law Gazette are rights with the same function as securities. Thus, the transport function also applies to these book-entry securities. Instead of the transfer of the right from the security by handing over the security, the transfer of the right from the book-entry rights register is effected by the transfer of the right in the book-entry rights register - i.e. by means of registration. 102

The book-entry securities register in accordance with PGR as amended by BuA 2019/93 is not to be regarded as a list of shares and is to be kept regardless of such lists. The entry of a right in the book-entry securities register has constitutive effect and, with respect to book-entry securities, fulfils the same function as the certificate for securities. A real book-entry right has a functional equivalence to securities; this means that a book-entry right according to PGR as amended by 2019/93 has all the functions of a security. Such book-entry securities rights, like securities, also have a transport function, legitimation and liberation function, traffic protection function, as well as the restriction of objections. 103

These functions are based on the property-law character of book-entry securities pursuant to § 81a of the Final Division of the PGR as amended by the Federal Law Gazette 2019/93. Although the wording of the provision is based on Art. 973c of the Swiss Code of Obligations, the provision goes much further in terms of content, as the Swiss provision 104

rejects the transfer of functions of a security to uncertificated securities; in Switzerland, the transport function is denied in connection with uncertificated securities, and subsequently also the acquisition of good faith.

105 With § 81a of the Final Division of the PGR as amended in 2019/93, the Liechtenstein legislator, however, heralded one of the greatest breaks in the dogmatics of civil law, and at the risk of being repetitive, the following quotation is nevertheless so central that it must be emphasized once again: *"Nothing says § 81a SchlT PGR about which rights can be represented in the form of book-entry securities. In practice, the focus will be on fungible claims on the one hand and membership rights in corporations and companies on the other. In principle, however, it must be possible to securitize all types of subjective rights that may be the subject of legal transactions"*.[222]

106 Consequently, under this regime, all rights can be recorded or securitised in a book-entry securities register and thus be subject to the transfer regulations under securities law. As a result, such book-entry securities are treated as property rights. It should be noted that the substantive provisions of the securities regime apply in a functionally equivalent manner to book-entry securities pursuant to PGR as amended in 2019/93 and not merely in a functionally adequate manner, as is the case for (tokenised) book-entry securities pursuant to TVTG as amended in 2019/93. The biggest revolution in legal terms, which results from the draft of the TVTG and the amendment of other laws, does not even appear to be located in the TVTG, but in the PGR. This is particularly true as the causal principle continues to apply to book-entry securities under the PGR as amended by the Federal Law Gazette

[222] BuA 219/54, page 111.

2019/93, while the abstraction principle applies to book-entry securities under the TVTG.

Value rights under PGR can thus be indexed in accordance with the new legal situation, while value rights under TVTG can only be conferred due to the principle of abstraction. Companies can therefore choose, if appropriately structured, whether they want to be subject to the regime of the TVTG, to which the property rights regulations apply in a functionally adequate manner, or to the regime of the PGR as amended in 2019/93, to which the property rights regulations apply in a functionally equivalent manner. The PGR will continue to be subject to the causal principle, whereas the TVTG will be subject to the principle of abstraction. 107

However, it must be taken into account that a book-entry rights register must be organized in such a way that no unjustified interference by the debtor with the rights of the creditor occurs. If this cannot be guaranteed, there is no book-entry rights register either, as otherwise a grossly disadvantageous potential for abuse would be located in the debtor's premises. The book-entry rights register can also be kept electronically and does not have to be physically organized in order to be subject to the provisions of property law. The book-entry rights register can also be kept decentrally, especially since decentralized or trustworthy technologies as defined by the TVTG are best suited for keeping the book-entry rights register and can also prevent the aforementioned potential for abuse. It is important to note that the management of the book-entry rights register does not necessarily mean that the book-entry rights must also be issued in the form of tokens, which in turn would make them subject to the TVTG. 108

109 Ultimately, it cannot be claimed that the introduction of the abstraction principle for the transmission of tokens in accordance with the TVTG would result in a worse position, for example in bankruptcy, compared to the otherwise applicable causal principle. Prior to the implementation of the TVTG or PGR as amended by the 2019/93 Federal Law on the Supervision of Private Security (BuA 2019/93), a claim or a book-entry right could also only be conferred.

110 By explaining the functionally adequate application of the provisions of property law to tokens in the TVTG, it would be possible for the first time to indicate tokens when the title business is discontinued. At the same time, this is prevented again with reference to the finality of a block chain by introducing the principle of abstraction for the transmission order according to the TVTG. Even if the causa is eliminated, the disposal of tokens remains abstract according to the TVTG and can only lead to a reversal of the transaction under enrichment law. This is different, as already explained, for the newly introduced uncertificated securities in § 81a of the Final Division of the PGR as amended by the Federal Law Gazette 2019/93, which have the same function as securities, with the consequence that if the securities transaction ceases to exist, the mode is no longer applicable and, in addition, due to the current property law nature of uncertificated securities, they can also be demanded by means of a vindication in accordance with PGR as amended by the Federal Law Gazette 2019/93.

5. Tokenization in individual and collective investments

In this chapter, the complex of issues relating to securitisation special purpose vehicles (SPVs) as distinct from collective investment schemes will be examined. In terms of corporate law, the focus is on the public limited company as an SPV and the public limited company with variable share capital (AGmvK) as an investment company of a fund pursuant to Art. 361 PGR.[223] In connection with the block chain or tokenisation, the technical possibility of tokenisation of portfolios containing several financial instruments (portfolio management on an individual customer basis in the sense of an investment service) and the legal consequences thereof, which are particularly of a supervisory nature, will be discussed. As a special question, a stock corporation in the form of a segmented entity (Protected Cell Company; PCC) according to Art. 243 PGR, which issues segment shares or other instruments at the level of its segments, will be examined in connection with fund regulation.

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[223] A Liechtenstein AIF may be established by contract (investment fund), by means of a trust (collective trust), by means of a charter (investment company) or in the form of a partnership (investment limited partnership or investment limited partnership) (Art 6 para. 1 AIFMG). The Investment Company may be organized as a stock corporation, AGmvK, Societas Europaea (SE), or as an establishment (Art 9 para. 1 AIFMG). Cf. also Art 4 and Art 7 UCITSG, whereby a UCITS cannot be set up as a partnership. For the distinction from investment undertakings under the IUA 2015, see Title II. Chapter II.2.3.4 In connection with Liechtenstein establishments, it is unclear - quite generally and detached from the fund issue - whether the provisions of Union law that apply to stock corporations (e.g., the restrictions on the acquisition of own shares) apply, since it is still unclear whether the reference in Art. 551 PGR is a pure reference to legal consequences or a material reference to a norm (a reference to a legal basis); only in the latter case would Union acts also be relevant for a Liechtenstein establishment.

5.1 Demarcation issues of collective investment (fund structures)

112 Portfolio management constitutes an investment service pursuant to Article 4 (1) No. 8 of MiFID II in conjunction with Annex I Section A No. 4 of MiFID II and was transformed into national law in Liechtenstein in Annex 2 Section A (1) No. 4 of the Banking Act. By legal definition, portfolio management is defined as the management of a portfolio on an individual basis with discretionary powers within the scope of a mandate or power of attorney from a client, whereby the portfolio must contain one or more financial instruments. In other words, the discretionary management of financial instruments on behalf of an individual client. Management is understood to mean constant monitoring and investment in accordance with investment guidelines for a certain period of time. If the discretionary portfolio management based on individual clients is implemented on a collective level, it is subject to fund regulation. Discretionary individual portfolio management is thus distinct from collective portfolio management or the fund regime, which is also based on a discretionary scope in the investment strategy and, accordingly, the asset allocation.[224]

113 If, on the other hand, there is no discretion, then - for individual clients - depending on the specific execution, either the investment service of executing orders (in relation to Financial Instruments) on behalf of clients or the reception and transmission of orders in relation to Financial

[224] *Seggermann* in *Brandl/Saria*, WAG, 2nd edition, § 1, margin note 26; so-called single investor funds do not exist under this regime, whereby it is reserved for a fund to create and issue its own share class of a compartment, which is only designated for one investor.

Instruments will be provided. In a[225] further distinction, the investment of funds collected - at a collective level - without discretion in predefined investment objectives will regularly be based on a pure business strategy and not on the investment strategy of a securitisation special purpose vehicle.[226] Thus, four cases can be distinguished, depending on whether an individual or collective investment is made and whether it is discretionary or non-discretionary.

If the right to issue financial instruments in a portfolio based on discretionary asset management, i.e. the portfolio itself, is represented in a token, such a token itself represents a financial instrument, namely a certificate in the sense of a depository receipt for transferable securities, within the meaning of Annex 2 Section C No. 1 to the Banking Act.[227] 114

As explained, portfolio management requires a single client base. While it may be technically possible to tokenise such a portfolio of financial 115

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[225] Annex I Section A No 1 and 2 to MiFID II and Annex 2 Section A (1) Nos 1 and 2 to the Banking Act.

[226] See Chapter I.5.2 for details of the distinction.

[227] Cf. with regard to Depository Receipts Title II, Chapter II.2.3.2 receipts are also referred to as depository receipts, since the safekeeping and administration of financial instruments is carried out by the depository business reserved for banks. An asset manager thus manages the portfolio held at a bank for the client. The custody business is regulated in Art. 3 para. 3 lit c BankG. The custody business is defined as the safekeeping and/or administration of transferable securities for others. Custody is aimed at taking into custody, while management is aimed at exercising the rights arising from the transferable securities (e.g. exercising voting rights with the corresponding authorisation) - cf. BaFin, Merkblatt Depotgeschäft, dated 06.01.2009, last amended on 17.02.2014, P 1. and 1. b) and *Seggermann* in *Brandl/Saria*, WAG, 2nd edition, § 1, Rz 43 f.

instruments and distribute it to several people, it is necessary to consider whether this already leaves the field of individual portfolio management and constitutes a collective investment. According to Art 4 (1) lit b of the AIFMD,[228] an AIF manager is defined as a legal entity whose business activity is the management of an AIF. It[229] should be noted that according to Art 6 para 5 lit a AIFMD AIFM may not be authorised to provide exclusively the services mentioned in para 4 leg cit (individual portfolio management and ancillary services). Furthermore, according to Art 6 para 5 lit d AIFMD, an AIFM shall provide the services listed in Annex I no. 1 lit a and b to the AIFMD. These are the investment management functions of portfolio management and risk management.[230]

116 Recital 20 of the AIFMD clarifies that portfolio management within the meaning of the AIFMD means joint or collective portfolio management and not individual portfolio management within the meaning of MiFID

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[228] Directive 2011/61/EU, ELI: http://data.europa.eu/eli/dir/2011/61/oj.

[229] Art 4 para 1 lit a AIFMD; according to Art 4 para 1 lit a AIFMD, an AIF is defined as an undertaking for collective investment including its subfunds which collects capital from a number of investors in order to invest it in accordance with a defined investment strategy for the benefit of these investors and is neither a UCITS within the meaning of UCITSD, 2009/65/EC, ELI: http://data.europa.eu/eli/dir/2009/65/oj, nor an investment undertaking within the meaning of the IUA 2015 (cf. Art 4 para 1 lit 1 AIFMG and Title II, Chapter II.2.3.4).

[230] It should be noted that the management of AIF under Art 4(1)(w) AIFMD is already given if only one of these functions is provided. See further ESMA Discussion Paper 2012/117, Key concepts of the Alternative Investment Fund Managers Directive and types of AIFM, 23.02.2012, https://www.esma.europa.eu/sites/default/files/library/2015/11/2012-117.pdf, para. 4 et seq.

II. The essence of individual portfolio management is thus characterised by the transfer of the administration or settlement and trading of financial instruments to an asset manager, while at the same time a client waives his power of disposition.[231] *"If, however, the client were to relinquish all powers of disposition, i.e. his right to issue instructions to his business partner (i.e. third-party management), the business partner would thus have more than mere power of disposal over the portfolio managed for the client (i.e. investment) [...]"*[232] would be essential elements of the fund regime.

Consequently, pooling of capital for the purpose of investing a portfolio of financial instruments and (indirect) participation therein via an undertaking by issuing tokens representing participation in the undertaking would result in a collective portfolio management and thus a common investment in the sense of the fund regulation. In principle, however, it also seems possible to tokenise an invested portfolio of financial instruments in a depository receipt and then issue it. It should be noted, however, that such a portfolio for which a depository receipt or depository receipt has been issued may not be managed, as this would otherwise again constitute an individual or collective investment.[233] 117

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[231] *Seggermann* in *Brandl/Saria*, WAG 2018, 2nd edition, section 1 no. 3 lit d WAG, margin no. 26.

[232] *Seggermann* in *Brandl/Saria*, WAG 2018, 2nd edition, section 1 no. 3 lit d WAG, margin no. 26.

[233] Cf. also the comments of BaFin regarding the definition of an AIF, according to which an investment must be made for the benefit of the investors, BaFin, Interpretative Letter on the scope of application of the KAGB and on the term "investment fund", 14.06.2013, last amended on 09.03.2015,

5.2 Tokenised shares in SPVs and fund units

118 It should be noted that under the UCITS regime a fund can only invest in liquid financial assets, which is why so-called crypto funds, i.e. funds denominated in crypto-currencies which do not represent liquid financial instruments, can only be established as AIF.[234] In the following, therefore, this chapter will refer in particular to the AIF regime.

119 As explained above, an AIF is, as defined by law, any collective investment undertaking which pools the capital of investors and consequently invests it in accordance with a defined investment strategy for the benefit of investors and, moreover, is neither a UCITS within the meaning of the UCITSG nor an investment undertaking pursuant to the IUG 2015.[235] The concept of capital must be interpreted extensively and includes all types of assets, such as membership rights, claims and property rights: *"Assets can include, for example, traditional assets (equity, equity related, debt etc), private equity, real estate and other non-traditional*

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https://www.bafin.de/SharedDocs/Veroeffentlichungen/DE/Auslegungsentscheidung/WA/ae_130614_Anwendungsber_KAGB_begriff_invvermoegen.html, Chapter I, P 6: *"Issues for the benefit of the investors". e.g. a bank issues a bond in the form of a certificate whose performance is linked to various securities as underlying or to an index it has created itself, there is no investment for the benefit of the investors if the bank is free to use the investors' money and does not promise the investor to invest the investors' money in the assets underlying the* [sic!] *In this case, the Bank merely pursues its own profit-making intentions. An investment for the benefit of the investors is also generally not likely to exist if the Bank invests a part of the monies received via the Certificates in the Reference Portfolio or maps them via a swap with a third party, if the investment or mapping via the swap is made solely for the purpose of hedging its own risk of loss vis-à-vis the holder of the Certificate.*

234 See Title II, Chapter II.2.3.4.

235 Art 4 para. 1 line 1 AIFMG or Art 4 para. 1 lit a AIFMD; see also *Tollmann* in *Dornseifer/Jesch/Klebeck/Tollmann*, AIFM Directive, Art 2, Rz 36 ff (p 33).

asset classes such as ships, forests, wine etc and any combination thereof[236]. The concept of capital, which is to be interpreted broadly according to the AIFMG, therefore also includes merchandise. Thus, an AIF is neither limited in asset allocation nor in the collection of assets. An AIF can invest not only in tokens representing financial instruments, but also in other (largely unregulated) tokens such as Bitcoin or Ether, which represent virtual currencies and are treated similarly to merchandise.[237] The collection of such assets as ETH, BTC or similar tokens also realizes the concept of capital according to the AIFMG.

Furthermore, the fact that a number of investors is accepted is already assumed if more than one investor is accepted. There is no major hurdle to be overcome by this criterion and it is sufficient if there is the possibility of several investors participating in the undertaking; it is not necessary for several to actually participate. If[238] a single investor represents several investors, this is also sufficient to satisfy the requirement of a number of investors.[239] 120

The concept of an organism must also be interpreted in the same broad sense. An undertaking is a vehicle *'in which the external capital raised from* 121

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[236] ESMA Discussion Paper 2012/117, Key Concepts of the Alternative Investment Fund Managers Directive and types of AIFM, 23.02.2012, Rz 12.

[237] Cf. also *Bont*, Kryptowährugnen - und was macht die Regulatoren?, 26.10.2017, https://www.fma-li.li/files/fma/fma-digital-banking-liechtenstein.pdf, p 13; such tokens are also called "Utility Token".

[238] BaFin, Interpretative Letter on the Scope of Application of the KAGB and the Concept of "Investment Fund", 14.06.2013, last amended on 09.03.2015, Chapter I, P 4.

[239] ESMA/2012/117, Rz 29; this is to be assumed, for example, for master/feeder funds or funds of funds.

investors is pooled'. It is therefore indispensable for the concept of an undertaking that a legally or economically independent pooled asset is set up.[240] Accordingly, it is not necessary for an organism to be organised in a specific legal form. Accordingly, funds can also be transferred in the form of a contract, a trust, a charter or a partnership.[241] In this context, the manner in which an investor participates in the assets is also irrelevant and may be based on corporate law relationships or agreements under the law of obligations.[242] The pooling of capital in an undertaking must pursue the goal of generating a return for the investors - i.e. for joint investment. A collective investment undertaking is characterised by the fact that the risk of profits and losses is shared. If there is only profit sharing but no loss sharing, there is no AIF.[243] The investment must also be made for the benefit of the investors and therefore may not be invested for the benefit of the own enterprise, such as the financing of an operating company.[244] Irrespective of this, it should be noted that private equity funds and venture capital funds, which sometimes acquire

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[240] BaFin, Interpretative Letter on the Scope of Application of the KAGB and the Concept of "Investment Fund", 14.06.2013, last amended on 09.03.2015, Chapter I, P 1.

[241] Art 6 AIFMG; cf. Art 2 para 2 AIFMD.

[242] BaFin, Interpretative Letter on the Scope of Application of the KAGB and the Concept of "Investment Fund", 14.06.2013, last amended on 09.03.2015, Chapter I, P 1.

[243] BaFin, Interpretative Letter on the Scope of Application of the KAGB and on the Concept of "Investment Fund", 14.06.2013, last amended on 09.03.2015, Chapter I, P 2; cf. also *Tollmann* in *Dornseifer/Jesch/Klebeck/Tollmann*, AIFM Directive, Art 2, Rz 13 (p 26 f)

[244] BaFin, Interpretative Letter on the Scope of Application of the KAGB and on the Concept of "Investment Fund", 14.06.2013, last amended on 09.03.2015, Chapter I, P 6; ESMA/2012/117, Rz 28; WKO, Alternative Investmentfonds

a controlling influence in operational target companies, are also to be qualified as AIF.[245]

The final and essential criterion of an AIF is that the capital raised is invested according to a defined investment strategy. Indicators for the existence of an investment strategy are that the investment strategy has been defined prior to, or at the latest upon binding subscription of the fund unit certificates by an investor; that the investor has an enforceable claim to implementation of the investment strategy; that the investment strategy is laid down in the investment conditions or constituent documents of the undertaking; that the investment strategy specifies the asset allocation in concrete terms and, for example, promotes investments in certain asset categories or financial investment products, in certain regions, with certain leverage and holding period or other requirements for risk diversification.246 122

The indicators of a defined investment strategy must not be misinterpreted to mean that, with the greatest possible discretion on the part of a management company, no investment strategy has been defined and therefore no AIF exists. As already differentiated in chapter 5.1, discretionary portfolio management on an individual client basis is based on discretionary asset management for a collective, the archetypal definition of an AIF. An investment strategy is characterized precisely by a 123

Manager-Gesetz (AIFM-G), 07.11.2013, https://www.wko.at/branchen/information-consulting/finanzdienstleister/artikel-aifm-g.pdf, p 3 f.

245 *Tollmann* in *Dornseifer/Jesch/Klebeck/Tollmann*, AIFM guideline, Art 2, Rz 67 f (S 42 f).

246 ESMA/2012/117, Rz 30 ff; BaFin, interpretative letter on the scope of application of the KAGB and on the term "investment fund", 14.06.2013, last amended on 09.03.2015, Chapter I, P 5.

(predefined) discretion in asset allocation.[247] ESMA has confirmed this view and explained as follows: *"the fact that investment decisions are left solely to the legal entity managing an undertaking should not be used to circumvent the provisions of the AIFMD"*.[248]

124 This forms the demarcation to securitisation special purpose vehicles or an SPV. A special purpose vehicle that merely issues financial instruments to finance a specific project is not a fund. For such an SPV it is essential that the investment objectives are already defined in the subscription process and that no discretion is allowed in the allocation of assets. In this case, a business strategy and not an investment strategy exists.[249] Holding companies also pursue only a business strategy and are therefore excluded from fund regulation.[250] The AIFMD therefore does not apply to such securitisation special purpose vehicles, holding companies or special purpose vehicles that pursue a business strategy.[251]

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[247] *Tollmann* in *Dornseifer/Jesch/Klebeck/Tollmann*, AIFM Directive, Art 2, marginals 51 and 57 (pp. 37 ff).

[248] ESMA Guidelines 2013/611 on key terms of the Alternative Investment Fund Managers Directive (AIFMD), Corrected version of 30.01.2014 of the Guidelines on key terms of the Alternative Investment Fund Managers Directive (ESMA/2013/611), published on 13.08.2013, https://www.esma.europa.eu/sites/default/files/library/2015/11/esma_2013_00600000_de_cor-_revised_for_publication.pdf, para 22.

[249] Operating companies that engage in trading, manufacturing or other commercially managed activities also have a business strategy and do not have a fund even if they issue financial instruments in a financing round.

[250] Cf. Art 4 para 1 lit o AIFMD or Art 4 para 1 no 14 AIFMG.

[251] Art 2 para 3 lit a and g AIFMD or Art 2 para 2 lit b and h AIFMG; for securitisation special purpose vehicles see the definition in Art 4 para 1 lit an

In a financing round, a special purpose entity thus collects capital, which subsequently forms equity[252] or debt capital for the company. This capital can then be used to implement a business strategy. The capital of investors in a fund, on the other hand, represents investment fund assets that are separate from the management company and can be segregated in the event of bankruptcy.[253] With regard to Token and Robo-Advisory, there is no fixed investment strategy, but only a business strategy if capital is collected which is invested in crypto-currencies such as BTC, ETH, etc. according to an algorithm which is predefined and does not allow any intervention or discretion in the asset allocation. In such a case, there is therefore no collective investment within the meaning of fund regulation. 125

[254]It is important to note that according to Art 159 para. 2 AIFMG and Art 130 para. 2 UCITSG, the FMA has to provide binding answers to 126

AIFMD or Art 4 para 1 line 37 AIFMG in conjunction with Art 1 No 2 of Regulation EU/1075/2013, ELI: http://data.europa.eu/eli/reg/2013/1075/oj. See also the so-called STSR ("Simple, Transparent and Standardized Regulation" or Securitization Regulation), Regulation EU/2017/2402, ELI: http://data.europa.eu/eli/reg/2017/2402/oj (especially Art 2 No. 1 and 2 of the Securitization Regulation).

[252] Equity capital exists if the financing funds are made available for an unlimited period of time and have a nominal value that can be dearned, while borrowed capital is characterised by a term after which it must be repaid together with interest. Venture capital or risk or venture capital usually represents equity capital (also private equity).

[253] Art 41(2) KO - "If the *bankrupt's estate contains assets which do not belong to the bankrupt in whole or in part to the common debtor, the right in rem or in person to segregation shall be assessed in accordance with the general principles of law".*

[254] The "optional provision" is to be seen in the sense of a discretionary power bound by law.

legal and factual questions - including, for example, the question of whether or not a fund exists - by means of an application, provided that the factual elements required for the assessment are disclosed comprehensively and correctly. Only written information from the FMA, which is issued upon application, constitutes a protection of confidence. In connection with trustworthy technologies, the FMA must also provide information pursuant to article 43, paragraph 2, letter b of the TVTG as amended by Federal Law Gazette 2019/93 on the applicability of all special laws cited in article 5, paragraph 1 of the FMA Act with respect to a concrete business model.

127 Finally, with regard to the representation of fund units in a token, it should be noted that units in undertakings for collective investment are considered financial instruments pursuant to Annex 2 Section C No. 3 of the Banking Act and Annex I Section C No. 3 of MiFID II in conjunction with Art 15 of the Austrian Investment Fund Act. There are no regulatory concerns about tokenising such financial instruments.[255]

128 It is also noteworthy that the marketing of units of an AIF is harmonised only for professional investors.[256] Liechtenstein has made use of the opening clause according to Art 43 (1) first paragraph AIFMD and according to Art 129 ff AIFMG it is possible to distribute AIF to private investors in Liechtenstein. However, such AIF are not eligible for passporting.[257]

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[255] See Title II, Chapter II.2.3.5,

[256] See Art 43(1) second paragraph AIFMD.

[257] With regard to distribution to retail customers, which is prohibited in principle in Austria, for example, see also WKO, Alternative Investmentfonds Manager-Gesetz (AIFM-G), 07.11.2013, https://www.wko.at/branchen/information-consulting/finanzdienstleister/artikel-aifm-g.pdf, p. 3.

The company law provisions of a stock corporation are also subsidiarily applicable to an AGmvK or SICAV unless special provisions are provided.[258] An AGmvK can increase the share capital by issuing new shares or it can reduce the share capital by repaying the share capital through the redemption of shares.[259] An AGmvK may subsequently hold its own shares, unlike a stock corporation with fixed share capital.[260] 129

5.3 Segmented Co-operatives (PCC) in distinction to the Fund

On 01.01.2015, the segmented bandage person or the Protected Cell Company became part of the PGR.[261] The PCC is merely a form of organization and not a new corporate form; for example, a stock corporation can be segmented. According to Art. 243 para. 1 PGR, the purpose of companies organized as segmented legal entities is limited to asset management activities (holding company or passive company) and a segmented legal entity may not engage in any trading, manufacturing or other commercial activities.[262] 130

However, Art 243e para. 5 PGR provides that in the case of a public limited company structured as a PCC, so-called segment shares may be 131

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[258] Art 361(3) PGR.

[259] Art 361(2) PGR.

[260] Art 363 PGR; for a public limited company this is only permitted to a very limited extent under Art 306a to Art 306f PGR, as this is actually similar to a capital reduction.

[261] LGBl 2014.362; Art 243 ff PGR.

[262] For further details, see *Helbock*, Besondere Aspekte der Segmentierte Verbandsperson (PCC) in Liechtenstein, LJZ 1/18, p. 22; for further forms of design, see also FN 97.

issued, which may relate to all or individual segments. Such a structure can lead to problems in defining a fund structure, as such a model is very similar to the three-tier cascade of funds - fund[263], compartment and share class.[264]

132 Even in the case of a segmented public limited company, fund regulation - at least with regard to the AIF regime - will regularly have to be denied by the exclusion of a defined investment strategy. Thus, if there is no discretion in asset allocation, but rather the money received in a financing round is invested in predefined investment targets, the fund regulation will also have to be negated if a public limited company is structured as a segmented association issuing segment shares or segment bonds.[265]

133 It should be noted, however, that by law segment shares must be structured as preferred shares.[266] Preference shares include the same basic rights as ordinary shares plus a certain preference for voting rights, the election of certain executive bodies, the adoption of resolutions on specific agendas defined in the Articles of Association, on dividends, on the liquidation portion or on subscription rights in the event that new shares are issued.[267] Preference shares therefore have a higher entitlement than ordinary shares. *"There is a possibility that, in the case of two*

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[263] A fund in contractual or statutory form (management company) in the sense of a capital-forming fund (cf. terminologically also the "establishment fund" in Art 536 ff PGR).

[264] Cf. with regard to segment shareholders BuA 2014/69, p 49 f.

[265] In particular, Art 243f (1) PGR must be observed, according to which the contracting segment and its liability fund must be disclosed.

[266] Art 243e (5) PGR.

[267] Art 301(2) PGR.

different categories of shares, each has certain privileges. In this case, the category of preference shares is that which, taken as a whole, appears to have far greater privileges.[268] According to PGR, pure non-voting shares, which are otherwise [269]equivalent to ordinary shares, are therefore generally not preferred shares. Although they entitle the holder to higher dividends as standard, since they do not carry voting rights, they are not preferential in the sense of a preference share, unless special circumstances arise. In Liechtenstein, such equity instruments constitute participation certificates. The participation capital is capped at twice the share capital.[270] A participant has no right to participate in a general meeting. A preference share, on the other hand, can be structured in such a way that, although it does not represent voting rights, it does bring an advantage over an ordinary share when viewed as a whole. As with the participation certificate, however, such a share does not entitle the holder to participate in a general meeting.[271] However, such a preferred shareholder is entitled to the rights associated with the voting rights pursuant to Art 304c para. 2 PGR (e.g. the right to call a general meeting of shareholders).

The mandatory structuring of segment shares as preferred shares also reveals the statutory distinction from fund structures. According to the legal materials, segment shareholders are "*shareholders of the segmented entity per se* [and] *the segment shareholders exercise their voting rights at the* 134

[268] *Frick*, The types of shares under Liechtenstein company law, p. 127.
[269] Participation certificates according to Art 304a PGR.
[270] Art 304b (1) PGR.
[271] According to Art. 332 para. 2 PGR, only shareholders with voting rights are entitled to participate in the General Meeting.

General Meeting of the segmented entity.[272] In terms of assets, however, a segment shareholder only participates in certain segments.[273] Fund units, on the other hand, are hardly ever structured as preferred shares, according to which there is a right of membership in the management or investment company and participation in a compartment or sub-fund is agreed in terms of asset law. Rather, any participation will relate directly to the respective compartment in accordance with the conditions of the respective share class.

Irrespective of this - or precisely because of this - a public limited company in the form of a PCC can be an interesting structuring alternative for a financing or investment vehicle between a fund and a classic securitisation special purpose vehicle.

5.4 Conclusion Tokenisation of financial instruments and Collective Investment Schemes

135 When pooling capital, which is to be invested subsequently, the fundamental question is whether a fund exists. One of the most important criteria of funds is the investment according to a defined investment strategy. In other words, discretionary individual portfolio management can be converted to a collective investment basis in order to establish a fund. However, holding companies or special purpose vehicles do not constitute funds if they pursue a business strategy. If a portfolio of financial instruments is represented in the form of tokens and investors are to participate in it, a collective investment is made if a management company manages such a portfolio.

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[272] BuA 2014/69, p 49 f.

[273] Thus, the assets of the individual segments must be separated from each other and also from the core assets in accordance with Art 243e para. 4 PGR.

While a UCITS or UCITS may only invest in liquid financial assets, an AIF is free to invest in other assets, which is why a crypto-fund can effectively only be structured as an AIF, unless only the units of a fund are to be issued in the form of tokens. 136

An SPV that issues financial instruments to invest in pre-defined investment objectives does not constitute a fund. There must be no discretion in the investment of the capital raised. This can be of interest in connection with tokens if the capital collected is to be invested stubbornly according to an unchangeable algorithm (Robo-Advisory). The fund regulation is not applied here as long as there is no discretion in the investment of the collected capital. 137

It is also of interest, especially in connection with business models of FinTech start-ups, that the Liechtenstein FMA, in accordance with Art 159 para. 2 AIFMG and Art 130 para. 2 UCITSG, must provide a binding answer to the question of whether a fund exists or not by means of a written application. In this context, it must be noted that the facts required for the assessment must be disclosed; the FMA is bound by any information issued in this regard in accordance with the principle of protection of confidence. 138

It is worth mentioning regarding the regime of AIF that the marketing of units or shares of an AIF is harmonised only with regard to professional investors. Although Liechtenstein has made use of the opening clause in Art 43 (1) first paragraph AIFMD and therefore it is possible to market AIF to retail investors in Liechtenstein (Art 129 et seq. 139

AIFMG), such AIF do not enjoy access to the Europass system and are therefore not eligible for passporting in the European single market.

140 The segmented association or PCC is also interesting in connection with the design of funds. The PCC is only a form of organisation and not a separate corporate form. Accordingly, a stock corporation, for example, can be segmented. Segmented legal entities under Liechtenstein law are limited in their purpose to asset management activities.

141 Art 243e para. 5 PGR provides that segment shares may be issued in the case of a public limited company that has been structured as a PCC. Such segment shares may relate to all or individual segments of the PCC. Such a structure is basically reminiscent of the three-tier cascade of fund, compartment and share class. With such a structure, the question also arises whether there is a defined investment strategy according to which the collected capital is invested. If this is denied, there is no fund, but if this is affirmed, it will usually be difficult to negate fund regulation.

142 It should be noted that segment shares must be structured as preferred shares. Preference shares have the same rights as ordinary shares and also include a certain preference for voting rights, dividends, liquidation shares or subscription rights when new shares are issued; the entitlement of preference shares is therefore higher than that of ordinary shares. An overall view is to be taken into account. Participation certificates (non-voting shares) are therefore not to be treated as preferred shares under Liechtenstein law, since they regularly entitle the holder to higher dividends than ordinary shares, but do not grant voting rights. Overall, there is therefore no preference to ordinary shares, which is why there is no preference share.

Segment shareholders of a segmented stock corporation exercise their voting rights at the general meeting of the segmented entity and also participate in all or individual segments; in the overall view, however, there must be a preference. In addition, it must also be possible to issue debt instruments per segment, such as a segment bond. 143

6. Tokens and consumer law

If tokens do not represent claims[274] against an issuer, but rather represent a commodity with intrinsic or immanent value (digital content) as a data record or software, which is formed on the free market according to supply and demand[275], the regulations under financial market law are not applicable on the one hand,[276] and on the other hand the question arises as to whether and to what extent consumer protection regulations are relevant, in particular with regard to the right of withdrawal according to KSchG and FAGG. 144

Art 8 of the FernFinG also provides for a right of withdrawal, although according to Art 10 FernFinG a consumer has no right of withdrawal in the case of contracts for financial services whose prices on the financial 145

[274] Denominated in money (deposits or e-money), or membership or debt rights under company law (financial instruments) - see Title II. Chapters II.2.2.2 and IIII.2.7.

[275] Whereby price and value formation must always be kept apart. The value is formed in the course of production - in terms of tokens, i.e. development or programming - while the price is created by the exchange or circulation of merchandise and money.

[276] Cf. in this respect the paper under Title II. in detail, in particular Chapter II.2.2.2, II.2.7.3 and II.2.7.6 regarding tokens as token of value.

market[277] are subject to fluctuations which are beyond the control of an entrepreneur and which may occur within the withdrawal period. This also applies to services in connection with transferable or tradable securities and must therefore also apply in connection with tokens representing financial instruments. It should be noted that even if an obligation to inform a consumer about the existence or non-existence of a right of withdrawal is to be complied with[278], failure to inform a consumer about a non-existent right of withdrawal does not result in the creation of such a right of withdrawal - following the symbol deus ex machina, unexpected and surprising. This has the consequence, as *Gruber* argues, *"that the failure to instruct about the non-existence of the right of withdrawal is without sanction.*[279]

146 According to Art. 4(1) of the Consumer Protection Act, a consumer may, without cause, withdraw from a contract 14 days after the conclusion of[280] a contract for the provision of services or, in the case of a contract for the sale of goods, 14 days after the day on which the contract between the trader and the consumer is concluded, if the consumer's contractual statement was not made at the trader's business premises. However, this right of withdrawal will not apply to tokens that represent software in the sense of merchandise (digital content or "utility", "payment", "currency" or "commodity" tokens, which are neither e-

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[277] The definition of the financial market is to be interpreted broadly and is not only based on regulated or organised markets, but also on over-the-counter (OTC) trading; see Title II, Chapter II.2.3.1b.

[278] Article 5(1)(c)(1) FernFinG.

[279] *Gruber*, Das Fern-Finanzdienstleistungs-Gesetz, wbl 2005, Issue 2, 15.02.2005, p. 53 (Section III. Consumer's right of withdrawal), which deals with the subject in greater depth at the point indicated.

[280] Non-performance of contract.

money and thus also not deposits and furthermore not financial instruments, but are treated as virtual currencies), as such contracts are subject to the law on long-distance and foreign trade.[281] However, the FAGG provides for a right of withdrawal for contracts concluded in distance selling comparable to the KSchG.

147 However, an exception to the right of withdrawal according to Art 19 Paragraph 1 FAGG may be applied, whereby lit b and lit l leg cit are particularly relevant with regard to the commodity tokens mentioned. A consumer has no right of withdrawal according to FAGG for the acquisition of digital contents in distance selling, which are not stored on a physical data carrier, if the entrepreneur, with the explicit consent of the consumer and his knowledge of the consequences with regard to the right of withdrawal, has started with the fulfilment prematurely - before the expiry of the 14-day withdrawal period - whereby a confirmation of the concluded contract must be provided on a permanent data carrier.[282] In addition to paper, a permanent data carrier also includes USB sticks, memory cards, hard disks and e-mails.[283] While it is in principle possible to invoke this exception, it involves a considerable administrative effort and reveals a discrepancy with regard to the acquisition of tokens in the sense of digital contents[284] in distance selling and tokens which are stored on a Hardware Wallet, since in this case

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[281] Article 4(3)(d) KSchG in conjunction with Article 12(1) FAGG.

[282] Article 19(1)(l) FAGG in conjunction with Article 6(2) or Article 8(3) FAGG.

[283] Article 4(1)(e) FAGG or Article 2(10) of Directive 2011/83; see also BuA 2015/37, p. 25; see also recital 23 of Directive 2011/83 (VRRL), ELI: http://data.europa.eu/eli/dir/2011/83/oj.

[284] According to recital 19 of Directive 2011/83, digital content is computer programs, applications, games, etc.

the Hardware Wallet is attached to the Hardware Wallet as a physical object. It should be noted that, according to Recital 19 of the Consumer Rights Directive 2011/83, digital content in principle only constitutes goods within the meaning of this Directive or the FAGG if it is stored on a physical data carrier.

148 The question therefore arises whether the exception to the right of withdrawal under Article 19(1)(b) FAGG is relevant for tokens at all, since according to this provision a consumer has no right of withdrawal if a contract is concluded for goods or services whose price is subject to fluctuations on the financial market, whereby an entrepreneur may not have any influence on this and the fluctuations must be able to occur during the withdrawal period. The German Federal Supreme Court supported a right of withdrawal under this provision, citing the national implementation of Germany's Consumer Rights Directive 2011/83 (implemented in the FAGG for Liechtenstein).[285] Although heating oil is also traded on the stock exchange - like many other raw materials, products or goods - the purchase of heating oil is not speculative in nature; there is no aleatory element.[286] In fact, the order of fuel oil is not subject to any volatility, as the price of the goods was determined in advance and was therefore predictable. In the case of fixed-price transactions, the exception to the right of withdrawal under Art 19 (1) lit b FAGG must therefore be negated. Incidental circumstances which could not be foreseen, such as whether the price is still favourable at the time of delivery, are not prejudicial. With[287] regard to tokens

[285] BGH VIII ZR 249/14 of 17 June 2015.

[286] BGH VIII ZR 249/14 of 17 June 2015, pp. 6 and 9.

[287] *Geiger* in *Keiler/Klauser* (Hrsg), Austrian and European Consumer Law, § 18 FAGG, Rz 5.

that are unregulated under Liechtenstein law, which are exchanged or traded on a platform and which are subject to the FAGG, this means that it depends on the will of the parties whether a fixed-price transaction was intended or whether the tokens are acquired for speculative purposes - sometimes at the price at the time of delivery.[288]

Stadler and *Pfeil* propagate a speculative core in B2C transactions with regard to tokens.[289] However, this can hardly be seriously followed in this generality, since the protocol coins or tokens in particular have a purpose in the block chain protocol in addition to value speculation (a prerequisite for the functioning of the network protocol as well as for consensus building, whereby an intrinsic value is formed). Thus, it will always be necessary to distinguish between users who acquire a token in order to obtain various services in the decentralized network or to be able to perform functions and investors who merely wish to participate in the performance of a token; a user of a block chain protocol cannot be assumed to have a primary interest in the performance of a token, since he regularly interacts with the protocol and the utility of the token wishes to take advantage of it and sometimes also consumes the token, which is why any speculative character is of secondary importance. 149

Irrespective of this problem, however, the question arises as to whether tokens actually constitute goods within the meaning of the VRRL or the 150

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[288] Irrespective of this, it is advisable to denominate the price in fiat money when issuing your own token, which can be acquired using other tokens (e.g. a new token to be issued is issued in exchange for a certain amount of EUR or CHF, payable in ETH), in order to at least mitigate volatility to a certain extent in the event of any claims for redemption.

[289] *Stadler/Pfeil*, crypto-currencies as volatile goods according to § 18 Abs 1 Z 2 FAGG?, VbR 03, May 2018, S 101 (S 103).

FAGG. According to Art 2 No. 3 of the VRRL, goods are basically only physical objects. However, water, electricity and gas are also regarded as goods, provided they are sold in a certain quantity or volume. Tokens are quantitatively determinable and since they are stored electromagnetically, the analogy for tokens can also be used, that they are treated like electricity in the VRRL and if they are sold in a certain quantity, they are also regarded as goods in the sense of the VRRL or the FAGG. *Stadler/Pfeil argue in* favour of this analogy[290]. Such an analogy is in clear contradiction with recital 19 of the VRRL, since tokens represent data or software and thus digital content within the meaning of the Directive, and such an analogy must therefore also be rejected: *"Similarly to contracts for the supply of water, gas or electricity, if not offered for sale in a limited volume or in a specific quantity, or for the supply of district heating, contracts for digital content which are not made available on a physical medium should not be considered as contracts of sale or service contracts for the purposes of this Directive"*.[291] As a result, the exception to the right of withdrawal pursuant to Art 19 Para. 1 lit b FAGG must not apply to tokens that merely represent software in the sense of merchandise, i.e. digital content according to the VRRL or virtual currencies according to the 5th GW-Directive.

151 Apart from these provisions, reference should generally be made to Art. 45 of the Liechtenstein IPRG with regard to the applicable law in connection with consumer contracts with a cross-border element. If the

[290] *Stadler/Pfeil*, crypto-currencies as volatile goods according to § 18 Abs 1 Z 2 FAGG?, VbR 03, May 2018, S 101 (S 103).
[291] Recital 19 VRRL and Articles 6(2) and 17(1) VRRL.

country in which a consumer has his habitual residence provides for mandatory special protective provisions, these provisions shall take precedence over any choice of law made, provided that the business relationship was not only initiated by the consumer, but the business activity of the entrepreneur is also directed towards the consumer's country of residence.

It should be noted, however, that in the absence of an enforcement treaty - with the exception of Austria and Switzerland - an acquired foreign title is de facto not enforceable with Liechtenstein, as Liechtenstein has neither signed nor ratified the Brussels and Lugano Conventions.[292] 152

Irrespective of this, it should be noted that even choice of law clauses can be invalid due to misleading, if it has been omitted to point out that mandatory consumer protection provisions of the state in which the consumer has his habitual residence take precedence; blanket choice of law clauses are therefore invalid in relation to consumers.[293] 153

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[292] *Öhri*, Die Grundlagen der zivilrechtliche Verantwortung der mit der Verwaltung und Geschäftsführung einer AG, Anstalt oder Stiftung entrusted with the administration and management of an AG, Anstalt oder Stiftung, LJZ 12.2007, p 100 (101); *Frick*, Anerkennung und Vollstreckung ausländischer Urteile in Liechtenstein - Ein Überblick, LJ, p 106 (110); *Bergt*, Verantwortung der Leitungs- und Kontrollorganen in der liechtensteinischen Aktiengesellschaft, p 71 f (Rz 192).

[293] Art 3 Clause Directive 93/13/EEA, ELI: http://data.europa.eu/eli/dir/1993/13/oj; whereby it remains open how far the information on mandatory law must go, as this potentially degenerates into a descriptive comparison of the respective legal systems; cf. OGH 2 OB 155/16g of 14.12.2017, ECLI:AT:OGH0002:2017:0020OB00155.16G.1214.000, with reference to ECJ C-191/15 of 28.07.2016, VKI/Amazon EU Sàrl, ECLI:EU:C:2016:612: *"Article 3(3)*

154 In general, the (passive) freedom to provide services applicable in the EU and EEA must be observed, according to which, for example, a (bilateral or multilateral) crypto-exchange with regard to tokens that are neither financial instruments, e-money nor deposits is free to accept clients from EU or EEA jurisdictions whose markets are not directly addressed by this company, provided that they initiate the business relationship. It is noteworthy in this regard that while such an activity can be regulated at a low threshold or not at all in Liechtenstein, depending on the concrete form it takes (at least according to the legal situation before the TVTG and as long as no Fiat Settlement is provided), the same activity can be strictly regulated in Germany, for example, since so-called units of account also constitute financial instruments there and therefore an investment service is provided and an MTF would have to be approved.[294] In connection with such financial services, reverse solicitation[295] under Art 42 MiFID II in conjunction with Recital 85 of MiFID II can also be considerable.

Article 3(1) of Directive *93/13 must be interpreted as meaning that a term contained in a trader's standard terms and conditions which has not been individually negotiated and which provides that the law applicable to a contract concluded with a consumer by electronic means is the law of the Member State in which the trader has his registered office, is unfair in so far as it misleads the consumer by giving him the impression that only the law of that Member State is applicable to the contract without informing him that he also enjoys the protection of the mandatory provisions of the law which would be applicable in the absence of that clause; it is for the national court to assess that in the light of all the relevant circumstances."*

[294] See Title II, Chapter II.2.4.

[295] Under these provisions, third country firms can provide investment services on the exclusive initiative of EU or EEA clients without being subject to the corresponding MiFID II regulations.

7. Main results

This concluding chapter summarizes the central findings and results of this work in connection with tokens, securities and book-entry securities. 155

It should be remembered that a block chain is in principle a decentralized, public and permanent database. Not all block chains are the same. In particular, a distinction must be made between the different authorizations regarding read and write access. In contrast to a private (permissioned) block chain, each user has write permission on a public (permissionless) block chain. The attributes "open" and "closed" block chain, on the other hand, depend on the design of the read rights. Bitcoin and Ethereum are prime examples of public open block chains - every user has read and write access. A block chain with write access for everyone, but limited read access (public closed), on the other hand, is ideal for holding anonymous elections. If, on the other hand, transparency is required but not everyone should have write access, a private open block chain can be used. The official traffic, on the other hand, could be transferred to a private closed block chain, which would have limited read and write access. 156

A potential use case of a permissionless or public block chain is, for example, the implementation of the so-called Self-Sovereign-Identity (SSI) as a supplement and eighth level of the Open Systems Interconnection Model (OSI), which is the reference model for network protocols. Especially in connection with data portability of verified data, block chain technology can play an important role (identification, age verification, etc). This is to be presented, for example, as a layer on the 157

Internet browser level. It would be conceivable, for example, that personal data would be fed into this "meta-level" and subsequently - if desired - updated simultaneously on all social networks. Conversely, simply put, content could also be fed in without a website hoster being aware of this (since the content is integrated one layer higher; e.g. advertising for crypto currencies on websites that have prohibited such advertising in and of itself).

158 Technically, tokens can be represented as a data set that is subject to two-factor authentication and can be used to authorize software-based services. Access is only granted after successful authentication. Authentication factors can be based on the elements of knowledge, ownership, and inherence. Interestingly, the same elements are also found in the PSD II in connection with strong customer authentication.

159 Decentralized apps, so-called Smart Contracts, in the sense of permanent scripts, are also regularly used on decentralized protocols such as block chains. These go back to the Agoric Computing models of the 1980s and can also represent contracts in the legal sense, if one considers that contracts themselves can be concluded by implication or verbally.

7.1 The mapping of the full right of ownership in a token

160 Due to a missing element of corporeality, tokens do not constitute a thing within the meaning of Liechtenstein property law. However, with the entry into force of the TVTG on 01.01.2020, the provisions of property law are to be applied analogously to tokens.

161 However, the principle of "Substance over Form" applies regardless of this and the law represented by the token must always be considered.

If, for example, a custodian holds an item in safe custody for a person entitled to dispose of a token in accordance with the depositum regulare, such a token effectively represents the right of ownership of the item held in safe custody.

The question of whether a depositum regulare exists, according to which the depositary remains the owner of a specific object, or whether a depositum irregular is created, according to which only a generic claim exists, depends on the economic intentions of the parties. In accordance with the provisions of the custody agreement, a custodian must return the same items that were placed in safe custody. As stated above, a depositum regulare may exist even if the custodian is only required to return items of the same type and quality. It depends on the agreement concerning the ownership of the goods. If the custodian is to become the owner, there is an irregular depositum regulare. However, if the custodian is to remain the owner, a depositum regulare exists. This can play an important role here, so that in the case of tokenisation of the ownership of property, a token is not qualified as a financial instrument from a supervisory perspective due to the lack of standardisation. 162

However, standardisation can be achieved by means of a safekeeping agreement, which is harmless in the end. A depositum regulare may exist, but the parties or, in particular, the depositor may accept an object comparable in type, number and quality instead of the object given. 163

7.2 Value rights according to TVTG and value rights according to PGR as amended by BuA 2019/93 (LGBl 2019.304)

164 The BuA 2019/93 introduces value rights according to TVTG on the one hand and value rights according to PGR on the other. There are significant differences between the book-entry rights under these laws apart from the representation in a token or the management in the book-entry rights register. For book-entry securities according to PGR as amended in the 2019/93 version of the 2019/93 book-entry securities act, the provisions of the law on property rights are to be applied in a functionally equivalent manner, as these book-entry securities are to have the same functions as those of securities. In addition, the principle of causality continues to prevail in the PGR. In contrast, the provisions of the TVTG are to be applied to book-entry securities under the TVTG only in a functionally adequate manner, i.e. by analogy. Furthermore, the principle of abstraction prevails with respect to the broadcasting regulations of the TVTG.

165 This has the consequence that, in the case of the transfer of book-entry securities in the form of tokens under the TVTG, the transaction of disposal also remains abstract, should the transaction of obligation cease. In this case the transaction would have to be reversed under enrichment law. However, if the cause of a transaction involving uncertificated securities pursuant to PGR as amended by Federal Law Gazette 2019/93 ceases to apply, the commitment transaction also ceases to apply and such uncertificated securities can be indexed in the future.

166 This is because a book-entry security right as per PGR as amended by the 2019/93 Federal Law Gazette has all the functions of a security, including a transport function, legitimation and liberation function, traffic protection function and limitation of objections. The provision is deliberately intended to go further than the Swiss basis for reception in Art 973c of the Swiss Code of Obligations, which denies the application

of property law provisions (transport function and acquisition of good faith) with regard to book-entry securities.

With § 81a of the final section of the PGR as amended by the Federal Law Gazette 2019/93, a far-reaching change was made in the dogmatics of civil law and all rights can be represented in the form of book-entry securities, which means that they can subsequently be subjected to the property law regime. One of the most essential (legal doctrinal) changes brought about by the legislative process on the Blockchain Act is thus to be located outside of it. However, it must be taken into account that the book-entry rights register must also be organised in such a way that unjustified interference by the debtor in the rights of the creditor is excluded. Block chain technology or VT systems as defined in the TVTG are also suitable for this purpose. The keeping of the book-entry rights register on the block chain does not necessarily mean that book-entry rights must also be kept in the form of tokens and would therefore be subject to the TVTG again. 167

7.3 Tokenisation in collective investment structures and segmented associations

One of the most important criteria of funds is the investment according to a defined investment strategy. This means discretion in the allocation of assets. If discretionary individual portfolio management is applied to a collective, this is reflected in fund regulation. 168

Holding companies or special purpose entities that engage in fundraising, for example by issuing a security token, are not funds as long as they pursue a business strategy. This means that at the time of subscription to the (tokenised) financial instruments, the investment objective must already have been determined and there is no discretion in the 169

investment. If, on the other hand, collective investments are made with a certain degree of discretion, a defined investment strategy and, consequently, a fund is present. An example of a tightrope walk can be seen in the investment according to a fixed algorithm. Even with such a robo-advisory based business model, there is no discretion in the investment of the collected capital, which is why the existence of a fund is negated.

170 The representation of a deposit of financial instruments can also lead to a collective investment scheme, provided that not only a depository or depository receipt relating to financial instruments is represented in a token, but - which would be technically possible - an actively or passively managed financial portfolio is represented in a token. If such a token is subsequently denominated and issued to investors, a fund is effectively established.

171 It should be noted that UCITS can only invest in liquid financial assets, which is why a crypto fund that invests in tokens, in the sense of digital content, can only be structured as an AIF. However, it is also possible to issue the shares of a fund in the form of tokens. It is essential that the Liechtenstein FMA, upon written application, must provide binding information on whether or not a fund exists, and must be bound by its opinion.

172 It is noteworthy with regard to AIF that their distribution in the European single market is harmonised only with regard to professional investors. In Liechtenstein, shares of an AIF may also be distributed to retail investors, but such an AIF is not passportable.

The form of the segmented legal entity or PCC provided for under Liechtenstein law may also be of importance in connection with funds. For example, a corporation may be segmented, whereby each segment may issue its own segment shares or even segment bonds. Whether or not a segmented entity has a fund or not depends to a large extent on whether a defined investment strategy or merely a business strategy is pursued. 173

7.4 Consumer transactions iZm Token

The FernFinG basically provides for a right of withdrawal, although a consumer does not have a right of withdrawal in distance selling transactions involving financial services if the financial services covered by the contract are subject to fluctuations on the financial market which are not influenced by the entrepreneur and are within the withdrawal period. The FernFinG also requires that consumers be informed whether or not they have a right of withdrawal; however, there is no sanction if they are not informed about the non-existence of a right of withdrawal, as this does not give rise to a right of withdrawal. 174

Of greater importance, however, is consumer law regarding tokens, which represent software in the sense of digital content and thus merchandise. In Liechtenstein, such tokens are only registered as virtual currencies under supervisory law, which do not require a special authorization under financial market law for issuance or distribution, since they are largely treated as merchandise.[296] Transactions relating 175

[296] Depending on the business model, only the obligation to register as a bureau de change (prior to the entry into force of the TVTG) or to register as a VT exchange service provider may be indicated, see also Title II, Chapters II.2.9 and II.3.

to such tokens will regularly be concluded by means of distance selling, which is why the FAGG and, in particular, its provisions on the right of withdrawal are more important than the KSchG.

176 However, an exception to the right of withdrawal under the FAGG may apply. In particular, the exceptions in Art 19 Paragraph 1 lit b and lit l FAGG come into question in this regard. A consumer has no right of withdrawal according to the latter provision of the FAGG for the acquisition of digital content in distance selling which is not stored on a physical data carrier and where the entrepreneur has, with the express consent of the consumer, commenced performance of the contract prematurely, before the expiry of the withdrawal period, after having been informed of the right of withdrawal. A confirmation of the concluded contract must be provided on a permanent data carrier. In addition to paper, permanent data carriers also include USB sticks, memory cards or even e-mails. However, the justification of this exception is also accompanied by a considerable administrative effort. It should be noted that tokens on a hardware wallet are not to be regarded as digital content, but as goods within the meaning of the FAGG or VRRL.

177 Furthermore, the only relevant exception would be Art 19 (1) (b) FAGG. According to this, a consumer has no right of withdrawal if a contract is concluded for goods or services whose price is subject to fluctuations on the financial market. This is to be denied in any case in the case of a fixed-price transaction. If the price of the goods was agreed in advance, it was also predictable. The fact whether the price is still favourable at the time of delivery is irrelevant here. It therefore depends on the will of the parties whether a fixed-price transaction was intended with regard to tokens or whether they were acquired for speculative purposes.

178 However, a sweeping speculative core in consumer transactions involving tokens cannot be assumed, since tokens often have an inherent function on a block chain and are required for the execution of certain transactions or the functioning of a block chain and are also needed for consensus-building. This must also be taken into account when purchasing tokens, since a user who purchases a token in order to make services in connection with a block chain usable and who sometimes also consumes the tokens, has no primary interest in a performance. Even if such a speculative character can be assumed for a specific transaction related to tokens, tokens do not constitute goods in the sense of the VRRL or the FAGG, which is why this exception to the right of withdrawal cannot be applied from the outset. An analogy with electricity, water and gas, which are treated as goods provided that they are sold in a limited volume or in a specific quantity, should be rejected as a result, as this would directly contradict recital 19 of the VRRL: *"Similarly to contracts for the supply of water, gas or electricity when they are not offered for sale in a limited volume or in a specific quantity, or for the supply of district heating, contracts for digital content which are not made available on a physical medium should not be considered as contracts of sale or service contracts for the purposes of this Directive".* Digital contents, such as computer programs, games, films, music, etc., would also be quantifiable and, according to the consideration of the Union legislator, should not be treated as goods; the exception to the right of withdrawal with regard to digital contents constitutes an independent exception which does not communicate with the exception in Art 19 para. 1 lit b FAGG. This exception is therefore not applicable to tokens as digital contents according to the VRRL, which can also represent virtual currencies according to the 5th GW-Directive.

179 Furthermore, as a general rule, it should be noted that foreign titles, with the exception of those from Austria or Switzerland, are not enforceable in Liechtenstein, as Liechtenstein has not signed and ratified the Brussels and Lugano Conventions. In case of litigation in Liechtenstein by persons not domiciled in Liechtenstein, a security deposit according to §§ 56 ff ZPO (Code of Civil Procedure) is required as security for the costs of the proceedings.

180 Furthermore, it should also be noted in general terms that even a choice of law clause may be invalid because it is misleading, unless there is an indication that mandatory consumer protection provisions of the consumer's country of residence take precedence (ECJ C-191/15, VKI/Amazon EU Sàrl: *"Art. 3(3) Article 3(1) of* Directive *93/13 must be interpreted as meaning that a term contained in a trader's standard terms and conditions which has not been individually negotiated and which provides that the law applicable to a contract concluded with a consumer by electronic means is the law of the Member State in which the trader is domiciled, is unfair in so far as it misleads the consumer by giving him the impression that only the law of that Member State is applicable to the contract without informing him that he also enjoys the protection of the mandatory provisions of the law which would be applicable in the absence of that clause; it is for the national court to assess that in the light of all the relevant circumstances."*

181 Finally, it should be noted that a service relating to tokens in the sense of digital contents can be regulated at a low threshold, depending on the specific form it takes, but the same activity can be strictly regulated in other jurisdictions such as Germany, for example, since so-called units of account (such as tokens) also represent financial instruments there and consequently an MTF would have to be approved for the trading of tokens under German law.

II. Token Offerings and decentralized trading centers

1. Introduction and subject matter of the investigation

182 While the work under Title I. - Tokens as Value Rights - primarily deals with the civil law nature of tokens and their transfer in Liechtenstein, the present paper focuses on the supervisory aspects, especially in connection with token offerings, with European legal acts being taken into account in particular. The term Token Offerings is deliberately chosen in this paper, since it is the term with the highest degree of abstraction with respect to the public law relevant offering of tokens and creativity with respect to word creations for an issuance of tokens seems to be almost inexhaustible. For insiders in the block chain industry,[297] these not legally defined terms of ICO (Initial Coin Offering following the IPO - "Initial Public Offering"; IPO), via variations of these such as DAICO (Decentralized Autonomous Initial Coin Offering), IPCO (Initial Public Coin Offering), IEO (Initial Exchange Offering), IDO (Initial DEX Offering) or ITO (Initial Token Offering), the more technical term TGE (Token Generating Event) up to evaluations that anticipate the legal assessment with regard to classification, such as ETO (Equity Token Offering), ACO (Accredited Coin Offering) or STO (Security Token Offering).

183 These terms are highly heterogeneous and it must always be assessed in each individual case whether block-chain-based business models and the token design or structure involved trigger approval under financial market law. The aforementioned terms do not even necessarily

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[297] The term "block chain" is used in this paper as pars pro toto for Distributed Ledger Technology.

have in common a public or private offer of tokens. This can also only mean the technical generation of tokens[298], or the generation of tokens in the course of so-called mining, which is common in proof-of-work mechanisms.[299] The Bitcoin protocol, for example, relies on the aforementioned proof-of-work mechanism and provides that each block generates 50 new Bitcoins, whereby this number of newly created Bitcoins is halved every 210,000 blocks and the smallest subunit, 1

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[298] Cf. the government's consultation report on the creation of a law on transaction systems based on trustworthy technologies (VT) (Blockchain law; VT law; VTG) and the amendment of other laws, which was passed by the government on 28.08.2018 and for the first time makes a strict distinction between token producer and token issuer. According to Art 2 para. 1 lit l TVTG as amended by the Federal Law Gazette 2019/54, a token issuer is a person who offers tokens in his own name and for his own account or for the account of a third party, or who issues tokens in the name of a third party - in the name of a principal who enters into a power of attorney contract (i.e. the bilateral legal transaction of the order in the internal relationship and a power of attorney with effect in the external relationship) - for the account of a third party. Such a direct or open representation with legal effect of the set acts of the representative for the represented party would essentially correspond to a placement transaction in relation to financial instruments - see BaFin, Merkblatt Platzierungsgeschäft, 10.12.2009, last amended on 25.07.2013, https://www.bafin.de/SharedDocs/Veroeffentlichungen/DE/Merkblatt/mb_091211_tatbestand_platzierungsgeschaeft.html

[299] Also PoW; this is a simplified description of the provision of computing power for solving certain cryptographic calculations, whereby blocks are created and supplied to the block chain when the tasks are solved. These new blocks are used to confirm transactions and issue new tokens. There are also other mechanisms such as proof-of-stake (PoS) and hybrid forms; sa *Buterin*, https://bitcoinmagazine.com/articles/what-proof-of-stake-is-and-why-it-matters-1377531463/, called on 15.09.2019, 16:31.

Satoshi[300], is indivisible.[301] Illustrated by means of a geometric sequence, this looks as follows:

$$\frac{\sum_{i=0}^{32} 210\,000 \left\lfloor \frac{5\,000\,000\,000}{2^i} \right\rfloor}{100\,000\,000} \qquad \frac{209\,999\,999\,769}{10\,000} = 2.09999999769 \times 10^7$$

184 This results in the limit of rounded 21 million Bitcoin (exactly 20'999'999.9769 BTC[302]), whereby the 50 Bitcoin of the Genesis block are not transferable[303] and other irregularities have also led to non-transferable Bitcoins.[304]

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[300] 0.00000001 BTC, named after the ominous inventor of the Bitcoin protocol, *Satoshi* Nakamoto Cf. the Bitcoin Whitepaper, https://bitcoin.org/bitcoin.pdf, accessed on 15.09.2019, 16:31.

[301] called on 15.09.2019, 16:31.

[302] This is due to the high fragmentation in the division and the limitation of the number of bits of the Bitcoin to the 8th digit after the decimal point.

[303] called on 15.09.2019, 16:31; this is also the reason why ETH can be destroyed by transfers to the address 0x0 (so-called "burning"), since nobody has the private key of this address.

[304] https://bitcoin.stackexchange.com/questions/38994/will-there-be-21-million-bitcoins-eventually, aufgerufen am 15.09.2019, 16:31; https://en.bitcoin.it/wiki/Controlled_supply, aufgerufen am 15.09.2019, 16:31.

In this respect, however, the (technical) production and marketing of such tokens does not necessarily serve the purpose of capitalization in the financial market or corporate financing, but the issued tokens can also simply have a purpose inherent in the block-chain-based business model - a utility - which, under Liechtenstein law, will regularly not have too great regulatory consequences. It must therefore be taken into account whether tokens are offered in the course of fundraising (i.e. token offering) or whether the tokens actually represent digital content in the sense of data or software as merchandise and are sold with commercial intent (i.e. token sale). 185

Accordingly, however, the attempted legal definition in the Draft Report of the European Crowdfunding Service Provider Regulation (ECSP) also seems to be misguided, as it is based exclusively on virtual currencies and, in the former diction of the TVTG as amended by the Federal Law on Crowdfunding in 2019/54,[305] on payment tokens.[306] The ECSP literally states: *"'Initial Coin Offering or ICO' means raising funds from the public in a dematerialised way using coins or tokens that are put for sale for a limited time by a business or an individual in exchange for fiat or virtual currencies.*[307] 186

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[305] Report and application 2019/54 of the Government to the Parliament of the Principality of Liechtenstein concerning the creation of a law on tokens and VT service providers (Token and VT Service Provider Act; TVTG) and the amendment of other laws; Art 2 para. 1 lit d TVTG-BuA ("TVTG").

[306] In BuA 2019/93, p. 23 the payment token was deleted again.

[307] Draft Report on the proposal for a regulation of the European Parliament and of the Council on European Crowdfunding Service Providers (ECSP) for Business (COM(2018)0113 – C8-0103/2018 – 2018/0048(COD)), 10.08.2018, https://www.europarl.europa.eu/doceo/document/ECON-PR-626662_EN.pdf, S 28.

187 However, this formulation does not take into account the manifold design variants of tokens, which can represent all rights in principle. Justifiably, ICOs were deleted in the final report. While the ICOs are still considered to have a financing component, which could be of particular interest to SMEs, it is also recognised that, apart from the classification under capital market law, technology can, for example, accelerate technology transfer. It was recognised in good time that the inclusion of ICOs in ECSP does not solve the legal uncertainties associated with this and it is also stated there that the European Commission could propose comprehensive EU framework legislation in the future based on a thorough impact assessment.[308]

188 The concrete research question of this paper is therefore: *When is a token offering available and how are token offerings treated in Liechtenstein supervisory law? The* concrete sub-question is: *Can tokens also represent deposits, e-money, or financial instruments? How do these three regulations relate to one another, and how do they differ from virtual currencies?* In this context, the legal framework under Union law must also be taken into account. In particular, the work will focus on token offerings via so-called decentralised trading centres or decentralised markets. EtherDelta[309],

[308] Report on the proposal for a regulation of the European Parliament and of the Council on European Crowdfunding Service Providers (ECSP) for Business (COM(2018)0113 – C8-0103/2018 – 2018/0048(COD)), A8-0364/2018, 09.11.2018, https://www.europarl.europa.eu/doceo/document/A-8-2018-0364_EN.html, S 8 und 9 (Rz 11a und 15a).

[309] called on 15.09.2019, 16:21; an exchange without a matching engine (bulletin board), on which users must create orders.

IDEX[310], Token Store[311] or the Stellar Decentralized Exchange (DEX)[312] are examples of decentralized trading places, on which completely decentralized, i.e. peer-to-peer (p2p), crypto-currencies or tokens can be traded, sometimes also tokens representing financial instruments.[313] The pooling of interests can be carried out by the respective network protocol - the block chain itself - and such a decentralized trading place differs from the organized capital market in that it is not operated by a central intermediary, but by the sum of the network users - i.e. by the network as a decentralized autonomous organization. In this context,

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310 called on 15.09.2019, 16:21. IDEX keeps the order book offchain (central), as does 0x - https://0x.org/, called on 15.09.2019, 16:22. AirSwap, on the other hand, has a decentralised order book, https://www.airswap.io/, called on 15.09.2019, 16:22. Other so-called "crypto-exchanges" have no order book in the conventional sense at all, e.g. Uniswap, https://uniswap.io/, called on 15.09.2019, 16:23, Bancor, https://www.bancor.network/, called on 15.09.2019, 16:23, Kyber, https://kyber.network/, called on 15.09.2019, 16:23, or DutchX, https://dutchx-rinkeby.d.exchange/, called on 15.09.2019, 16:24, (an exchange based on a Dutch auction - reverse auction or auction with falling prices).

311 accessed September 15, 2019, 16:24.

312 called on 15.09.2019, 16:21; The Stellar DEX stores the order book on-chain, processes transactions on-chain and has matchmaking integrated into the Stellar protocol.

313 In contrast to Exchanges where order book, matching and settlement are created or carried out off-chain, e.g. OpenFinance Network ATS, https://www.openfinance.io/, accessed on 15.09.2019, 16:24. Apart from Exchanges for financial instruments, there are also central intermediaries for tokens which are neither financial instruments, e-money nor deposits - e.g. Binance (https://www.binance.com/, accessed on 15.09.2019, 16:25), Kraken (https://www.kraken.com/, called on 15.09.2019, 16:25), Bittrex (https://international.bittrex.com, called on 15.09.2019, 16:25), Coinbase, called on 15.09.2019, 16:25), Poloniex (https://poloniex.com/, called on 15.09.2019, 16:26), etc., which all keep their order book off-chain and also hold tokens centrally in an omnibus wallet in order to minimise transaction costs on the block chain.

the following sub-question must also be investigated: *Do financial market regulations apply to decentralised trading centres - and if so, in what form or to what extent and how do these regulations differ from those for organised trading centres?*

1.1 Financial market law assessment of DLT-based business models

189 Pursuant to Art. 4 of the FMAA, the Financial Market Authority Liechtenstein pursues the objectives of *ensuring the stability of the Liechtenstein financial market, protecting clients, preventing abuses, and implementing and complying with recognized international standards*. Thus, financial market law pursues a *"regulation that is technology-neutral, risk-based, and non-discriminatory for existing market participants"*[314]. DLT- or block-chain-based business models can also fall within the scope of financial market regulation, whereby a functional approach is followed, which means that each model or token structure is analysed on a case-by-case basis (e.g. generation of tokens in the context of a token offering).

190 The factual economic design of a token and the resulting legal qualification is therefore the linchpin from a supervisory perspective. A distinction must always be made between business model and token design. A token does not have to be a financial instrument, but the business model may nevertheless be subject to a special legal approval, which is subject to supervision by the FMA (Liechtenstein Financial

[314] Cf. the tasks of the Liechtenstein FMA - https://www.fma-li.li/de/kundenschutz.html, called on 15.09.2019, 16:21; FMA Liechtenstein, Innovation as a challenge - and as an opportunity, 20.07.2017, https://www.fma-li.li/de/news/20170920-innovation-als-herausforderung-und-als-chance.html?comefrom=career

Market Authority) pursuant to the FMAG. On the other hand, it is also possible that the business model is unregulated under financial market law, but a token is a financial instrument, which is therefore subject to certain restrictions, for example in distribution, or requires a prospectus.

191 The technology-neutral approach is not only decisive in the FMA's assessment, but this aspect was also taken into account in the TVTG. Thus, the generic legal term of trustworthy technologies or trustworthy technology systems pursuant to article 2, paragraph 1, letters a and b of the TVTG generally also includes technical implementation variants of Distributed Ledger Technology. This is to be understood against the background that the currently assumed or assumed trustworthiness of a block chain no longer necessarily has to be given in the future (e.g. it is conceivable that technological progress in quantum technology could lead to a significant increase in computing power).[315] The trust placed in the classical financial market in a central, qualified and reliable financial intermediary or in a suitable financial institution becomes obsolete with decentralised technologies of this kind, as this trust is replaced by the sum of the users of the network, who in turn confirm the correctness of the respective transactions and thus the possibility of compromise or corruption is negligible once the network reaches a certain size.[316] However, trust is not exclusively granted by the technology, but results from the cryptographic functions in combination with the decentralization, which is an inherent property of the technology, but

[315] Cf. BuA 2019/54, pp. 44 and 56, see also Postera Fund prospectus, p. 101.
[316] Cf. https://en.bitcoin.it/wiki/Weaknesses, called on 15.09.2019, 16:40, for various weaknesses like Majority or Sybil Attacks.

is ultimately due to the individual users of the network; there are some block chains that have such a low number of participants and therefore such a low hash rate that they can be compromised by the computing power of individual server farms, which can be rented at short notice. The subject of trust is thus actually the sum of the users of a network - i.e. the collective - and not the technology as such, which in this respect only represents the means to an end, the object on which the trust is projected. In this respect, the naming of the TVTG can be disputed, since the technology is neither trustworthy nor untrustworthy and the impression should not be created that existing technology systems are not trustworthy.[317]

1.2 Official practice of the Financial Market Authority Liechtenstein

192 The Liechtenstein FMA draws attention to the potential applicability of financial market regulations to block-chain or token-based business models. Depending on their concrete form, tokens may therefore represent membership or debt rights and, due to their investment character, may constitute financial instruments if further criteria are met. As a rule, services relating to financial instruments require a special legal approval by the FMA under financial market law, and a securities prospectus may also be required for the issuance of tokens representing financial instruments.[318]

193 The FMA also commented on virtual currencies like Bitcoin. Accordingly, virtual currencies are a digital representation of values that have

[317] Cf. the terminology of the TVTG BuA 2019/54, p 56 f.

[318] FMA Fact Sheet "Initial Coin Offering" of 10.09.2017, https://www.fma-li.li/files/fma/fma-faktenblatt-ico.pdf, last updated on 01.10.2018

certain similarities to legal tender.[319] Accordingly, cryptocurrencies such as BTC or ETH have a function representing the means of payment (article 2 para. 1 lit. l DDA also assigns a function of value retention to virtual currencies in connection with the activity of a currency exchange office that exchanges legal tender for virtual currencies).[320] This is essential for the distinction between tokens and e-money, as e-money is not intended for saving or investment purposes.[321]

In its current official practice, the Financial Market Authority Liechtenstein follows a technology-neutral approach, as already explained. This means that it legally assesses concrete business models or economic models on the basis of a functional approach.[322] 194

With regard to the legal classification of tokens, the Financial Market Authority largely follows the standard international nomenclature and differentiates accordingly between utility tokens or commodity tokens, 195

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[319] FMA fact sheet on virtual currencies, last updated on 16 February 2018, https://www.fma-li.li/files/fma/fma-faktenblatt-virtuelle-waehrungen.pdf

[320] Cf. BuA 2016/159, p. 31, according to which World of Warcraft Gold should not be a virtual currency (in the sense of the SPG) due to the lack of exchange possibilities for fiat money. Critical in this regard are *Nägele/Bergt*, Cryptocurrencies and Blockchain Technology in Liechtenstein supervisory law, Regulatory Grey Zone?, p 63 (p 65 f). The ECB has also addressed this issue and stated the following: *"However, there seems to be a black market for buying and selling WoW Gold outside the virtual currency scheme"*, ECB, Virtual Currency Schemes, October 2012, p 13, https://www.ecb.europa.eu/pub/pdf/other/virtualcurrencyschemes201210en.pdf.

[321] See Chapters II.2.2.2, II.2.7 and II.2.9 particular also in relation to the EFTA case E-9/17 (Falkenhahn AG and FMA Liechtenstein)

[322] Cf. FMA, Innovation as a challenge - and as an opportunity, 20.09.2017, https://www.fma-li.li/de/news/20170920-innovation-als-herausforderung-und-als-chance.html?comefrom=career, called on 15.09.2019, 16:42.

security or equity tokens and payment tokens or currency coins. It should be noted, however, that this economically influenced naming can only be used as a non-binding indicator for the legal classification. The aforementioned termini technici are not anchored in legislation and are sometimes defined differently by the competent authorities in terms of supervisory law than, for example, tax law.[323] From a legal point of view, it is important to note that both a possible token to be issued and the underlying economic model of a company must be evaluated separately. Security tokens mostly represent financial instruments, while currency coins have a cash representative function and thus serve as a means of exchange, but do not necessarily represent a payment instrument in the context of financial market law.

196 With regard to the utility tokens, which are not legalized in this form, as are the other definitions, the approach of a negative definition is generally followed in practice from a supervisory perspective. Accordingly, utility tokens that are neither financial instruments ("security tokens") nor e-money (especially so-called "stablecoins", which are deposited in fiat currencies and also meet the other requirements of e-money) and do not represent deposits are called utility tokens[324]. Furthermore, equating utility tokens with commodities is probably not

[323] Cf. *Bont*, "Cryptocurrencies - and what do the regulators do", FMA Information Sheet, 26.10.2017, p. 7 and FINMA Guidelines for Subordination Requests regarding Initial Coin Offerings (ICOs) of 16.02.2018, https://www.finma.ch/de/news/2018/02/20180216-mm-ico-wegleitung/, p. 2 f.
[324] *Bergt/Esneault/Feldkircher/Nägele*, National legal & regulatory frameworks in select European countries, Country Analysis Liechtenstein in The Regulation of Tokens in Europe Parts A & B: The EU legal and regulatory framework, Juni 2019, S 117 (S 122).

clear-cut, as virtual currencies and tokens will be subject to higher regulatory requirements than commodities, especially after the TVTG comes into force. Nevertheless, such utility or commodity tokens, which are largely unregulated under Liechtenstein law, can classically be regarded as digital content within the meaning of the FAGG[325] or as virtual currencies within the meaning of the 5th GW-Directive.

Such tokens regularly enable access to certain platforms or, in a coupon-like function, enable the discounted purchase of goods and/or services or contain similar rights or functions. However, tokens also include pure protocol tokens, which enable the functioning of a block chain as well as the consensus building on the same in the first place, or so-called asset or asset-backed tokens, which, for example, represent the claim for restitution of an object and thus represent a traditional document under civil law or a commodity security (or, in the absence of documentary character, a property right). From a regulatory point of view, all these tokens are so-called Commodity Tokens, even if they represent different rights and not per se merchandise. This is one of the reasons why it makes sense to analyse tokens on a case-by-case basis, even though the terms listed above have become established in this industry and usually contain a relevant core. 197

2. Financial market law analysis of tokens

In the following, particularly relevant supervisory aspects in connection with token offerings will be considered, with a thematic focus on decentralised trading systems, financial instruments, deposit business and e-money business. Finally, it should be noted that, given the fast- 198

[325] See Title I. Chapter I.6.

moving nature of this subject area and the deliberately open-ended nature of the question, a final treatment of the matter would, if at all possible, go far beyond the scope of this work. The aim is therefore to create a scientifically processed but at the same time practically relevant field of view on token offerings and decentralised trading centres and to distinguish between virtual currencies and deposit transactions, the concept of e-money and financial instruments. The systematic approach with respect to the academic discussion in the present study essentially follows the supervisory license cascade, which is considered dogmatically sensible, and which is also followed by the FMA Liechtenstein in terms of organization, as can be seen from a look at the areas subject to supervision by the FMA Liechtenstein (Banking; Securities and Markets; Insurance and Pension Funds[326] and Money Laundering Prevention and other Financial Intermediaries), as well as the laws to be implemented by the Liechtenstein FMA in this context.

2.1 Characteristics and scope of application of the BankG

199 Since the authorisations in the Banking Act are structured in cascades as described above, it is important to note that a licence as a bank or

[326] The area of insurance will not be dealt with further in this paper, as this would go beyond the scope of the present study. In this respect, it should only be pointed out that insurance products can also be represented in the form of tokens, and that block chain-based applications can also be of interest in the insurance business. In this respect, it is only necessary to point out that Solvency II, ELI: http://data.europa.eu/eli/dir/2009/138/oj, or the Liechtenstein Insurance Supervision Act and the IDD, ELI: http://data.europa.eu/eli/dir/2016/97/oj, as well as the Liechtenstein advance implementation (in the absence of a decision of the EEA Joint Committee to incorporate them into the EEA acquis) in the Insurance Contract Act may potentially be relevant to such business models.

credit institution is of the highest priority. Consequently, a banking licence basically exempts a bank from licensing as an investment firm, e-money or payment institution or other financial intermediary. Of course, (macroprudential) regulations that provide for a separation of duties must be observed and a bank may not combine all financial activities in one person (keyword: measures against "too interconnected to fail" and "too big to fail").

The Banking Act applies to banks and investment firms[327], regulated markets, operators of multilateral or 200

[327] Minimum capital according to Art. 24 para. 1 Banking Act CHF 10 million for banks and CHF 730,000.00 for (large) investment firms or the equivalent in euros or US dollars (CHF 125,000.00 for investment firms with administrative powers according to Art. 30v para. 1 lit a Banking Act) The annual supervisory fee for banks is a minimum of CHF 100,000.00 and a maximum of CHF 250,000.00 or CHF 1,000,000.00 for banking groups subject to consolidated supervision (Annex 1 Part I Section A of the FMAA). In the case of investment firms, the supervisory levy shall amount to at least CHF 50,000.00 pa or CHF 15,000 in the case of investment firms with administrative powers. The maximum supervisory fee for investment firms is CHF 120,000 per year (CHF 100,000.00 for investment firms with administrative authority) and CHF

500,000.00 for investment firm groups (CHF 250,000.00 for groups of investment firms with administrative authority) - cf. Annex 2 Part I Section B to the FMAA. In contrast, the basic fee for asset management companies is CHF 5,000.00 per year and a maximum of CHF 100,000.00 (Annex 2 Part II Section A of the FMA). It should be noted that banks must comply with the following capital adequacy requirements (capital adequacy ratios and composition of liable capital): Hard core capital (Core Equity Tier 1 (CET1); 4.5 %), capital instruments pursuant to Art 28 CRR and possibly Art 29 CRR (e.g. shares); additional core capital (Additional Tier 1 (AT1); 1.5 %), capital instruments pursuant to Art 51 or Art 61 CRR (e.g. specific subordinated bonds / contingent convertible bonds - "CoCos"); supplementary capital (Tier 2 (T2); 1.5%), capital instruments and subordinated loans in accordance with Art 63 ff or Art 71 CRR (e.g. subordinated bonds / "CoCos"); capital maintenance buffer in accordance with Art 129 CRD IV and 4a Banking Act (2.5% in the form of hard core capital); Possible additional Pillar 2 capital requirement pursuant to Art 104 CRD IV (the previous one corresponds to Pillar 1) to cover other risks not covered by Pillar 1, e.g. due to a high-risk business model; institution-specific countercyclical capital buffer (CCB) pursuant to Art 130 CRD IV / Art 4a ff Banking Act (currently 0 % for Liechtenstein); systemic risk buffer pursuant to article 133 CRD IV / article 7i Banking Ordinance (2.5 % of risk-weighted assets); additional buffers for Global or Other Systemically Relevant Institutions are possible (G-SRI/O-SRI buffer is set by the FMA for Systemically Relevant Institutions; up to 2 % of risk-weighted assets. In addition to solvency requirements, liquidity requirements must also be observed.

organised trading systems[328], investment firms with administrative powers[329], local firms, collective investment undertakings, insurance undertakings and all persons holding commodity derivatives traded on trading venues or economically equivalent OTC contracts.[330][331]

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[328] The fee for licensing an MTF or OTF with the FMA is CHF 30,000.00 (Annex 1 Section A No. 1 lit o and p to the FMA Act). Thus, two licenses must be obtained for the operation of a trading venue - first, the license for an investment firm, and then the license for the MTF and/or OTF that this investment firm operates. An investment firm may operate both MTFs and OTFs as long as they are mapped on separate systems. The annual supervisory fees for MTFs and/or OTFs amount to a minimum of CHF 50,000.00 and a maximum of CHF 120,000.00 or CHF 500,000.00 if foreign representative offices or branches subject to consolidated supervision exist (Annex 2, Title I, Section H of the FMAA).

[329] Minimum capital CHF 125,000.00 in accordance with Art 30v para. 1 lit a BankG (medium-sized investment firm). The small investment firm is regulated nationally in the AMA (asset management company) and has a minimum capital of CHF 100,000.00 or the equivalent in euros or USD pursuant to Art 8 para. 2 lit a AMA. Compare the tripartite division of investment firms in Art 28 para. 2 in conjunction with Art 29 para. 1 and 3 CRD IV. The license fee with the FMA is CHF 100,000.00 for banks, CHF 30,000.00 for investment firms and investment companies with administrative authority, and CHF 10,000.00 for asset management companies (Annex 1, Section A, No. 1 lit a and b, and Section B, No. 1 of the FMA). Fees are also payable for the withdrawal of a licence and the expiry of a licence.

[330] "Over the counter"; off-exchange trading.

[331] Art 2 Banking Act.

On the one hand, banking transactions are the classical core tasks of banks, such as the acceptance of deposits or other repayable funds (liability business)[332], the lending of funds to an undefined group of borrowers or lending transactions (lending business).[333] However, in addition to the provision of investment services and ancillary services,[334] the issuance of electronic money[335] and the execution of payment services[336] also constitute banking transactions.

202 Lending and deposit-taking business are the actual activities reserved for banks and CRR credit institutions. In accordance with Art. 2 para. 1 CRD, the scope of application of the directive extends to so-called insti-

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[332] Article 3(3)(a) Banking Act wrongly refers here to the acceptance of deposits and (instead of "or") other repayable funds. This is based on Annex I No. 1 of Directive 2013/36/EU of the European Parliament and of the Council of 26 June 2013 on access to the business of credit institutions and the supervision of credit institutions and investment firms (CRD IV), ELI: http://data.europa.eu/eli/dir/2013/36/oj; the term "lending business" is used because it affects the asset side of the balance sheet.

[333] Art. 3 para. 3 lit b Banking Act, Annex I no. 2 to CRD IV; the deposit business affects the liabilities side of the balance sheet, the lending business the assets side.

[334] Art 3 para. 3 lit d in connection with Annex 2 Sections A and B of the Banking Act; Annex I No. 7-9, No. 11-12 CRD IV and Annex I Sections A and B of Directive 2014/65/EU, of the European Parliament and of the Council of 15 May 2014 on markets in financial instruments (MiFID II), ELI: http://data.europa.eu/eli/dir/2014/65/oj.

[335] Article 3(3)(f) of the Banking Act; Article 3(1)(c)(2) of the EC Treaty; point 15 of Annex I to the CRD IV.

[336] Art 3 (3) ZDG; Annex I No 4 to the CRD IV.

tutions. An institution is a credit institution or an investment firm under the CRR.[337] Art 4 para. 1 line 1 CRR defines credit institutions as undertakings whose business is to receive deposits or other repayable funds[338] from the public and to grant credit for their own account (also CRR credit institution[339]). CRR investment firms, on the other hand, define themselves as legal entities that professionally perform investment services for third parties and/or investment activities.[340] Exceptions to

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[337] Art 3 para. 1 no. 3 CRD IV in conjunction with Art 4 para. 1 no. 3 of Regulation EU 575/2013 of the European Parliament and of the Council of 26 June 2013 on prudential requirements for credit institutions and investment firms (CRR), ELI: http://data.europa.eu/eli/reg/2013/575/oj.

[338] The CRR therefore correctly assumes, but contrary to CRD IV, that deposits or (not and) other repayable funds will be accepted in the deposit-taking business.

[339] It should be noted that the ECB is responsible for the authorisation of credit institutions under Article 4 in conjunction with Article 14 of the Single Supervisory Mechanism (SSM) Regulation, ELI: http://data.europa.eu/eli/reg/2013/1024/oj. However, on the basis of Art 2 No. 1 SSM Regulation, this only applies to the euro zone, unless close cooperation between the ECB and the national competent authority has been decided. As of 15.09.2019, there are no such decisions, and therefore the FMA continues to be the competent authority for the licensing of banks in Liechtenstein.

[340] Art 4 (1) no. 2 CRR in conjunction with Art 4 (1) no. 1 of Directive 2004/39/EC of the European Parliament and of the Council of 21 April 2004 on markets in financial instruments (MiFID I), ELI: http://data.europa.eu/eli/dir/2004/39/oj, or Art 4 (1) no. 1 MiFID II.

this definition are credit institutions, local firms[341] and investment firms pursuant to Art 29 para. 1 CRD[342] or Art 29 para. 3 CRD[343].

2.2 Token Offerings and Banking Transactions

203 In the following, Token Offerings will be analysed from the perspective of banking transactions. As mentioned above, this includes the asset and liability transactions reserved for banks on the[344] one hand and other services such as investment services and ancillary services, the issuance of e-money, etc. on the other.[345] In the following, the activities reserved for banks in particular will be analysed.

2.2.1 Banking business (deposit business)

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[341] Companies that are active on derivatives and cash markets for their own account exclusively for hedging positions on derivatives markets; Art. 1 no. 4 CRR and Art 30u Banking Act.

[342] Investment firms with administrative authority pursuant to Art 30v BankG, which are permitted to manage funds or securities for clients (medium-sized investment firm).

[343] Investment firms that are not permitted to hold client funds or client securities, nor may they trade for their own account or enter into firm underwriting commitments, but may only provide the investment services listed in Annex I Section A Nos. 1, 2, 4 and 5 of MiFID II (Annex 2 Section A para. 1 Nos. 1, 2, 4 and 5 of the Banking Act) (small investment firms; for Liechtenstein, asset management companies)

[344] Article 1a(1) Banking Ordinance. Banking transactions are the transactions listed in Art 1a para. 1 lit a to c Banking Ordinance. These are the acceptance of deposits or other repayable funds, the commercial lending of funds to borrowers and the provision of pure payment transaction services. Pure payment transaction services are not legally defined and it remains unclear how such services relate to payment services under the ZDG.

[345] Cf. Art. 3 para. 3 BankG.

Art 3 para 3 Banking Act defines deposit transactions as banking transactions which are defined by the acceptance of deposits or other repayable funds[346] (deposit business, since such transactions are on the liabilities side of the bank balance sheet); i.e. the acceptance of external or repayable funds from the public. The term "funds" includes book money or bank deposits and banknotes as well as (secondary) coins, i.e. legal tender.[347] Under the Liechtenstein Law on the Introduction of the Swiss Franc, legal tender is based[348] on the Swiss Franc as the exclusive legal currency and thus legal tender (Art 1 leg cit).[349] 204

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[346] The wording of Article 3(3)(a) of the Banking Act erroneously refers here to the *'acceptance of deposits and other repayable funds'* instead of the conjunction 'or'. Furthermore, in Art. 3 para. 3 lit a and b, the Banking Act defines both the deposit and the lending business, each on its own, as banking business. Art 4 para. 1 no. 1 CRR, on the other hand, defines a credit institution (CRR credit institution) as an *undertaking whose business consists in accepting deposits or other repayable funds from the public and granting loans for its own account.* A CRR credit institution notifiable under the CRR therefore always conducts lending and deposit-taking business. A banking institution under the Banking Act, on the other hand, already exists when one of these transactions is carried out, whereby the Banking Act focuses on the lending of (foreign) funds with regard to the lending business, i.e. it requires a deposit transaction for the lending business, whereas the CRR only refers to the granting of loans for its own account. For further information on money lending and loan lending *Laurer/Kammel* see *Laurer/Schütz/Kammel/Ratka* (Hrsg), § 1 BWG, no. 9.

[347] *Laurer* in *Laurer/Borns/Strobl/M. Schütz/O. Schütz*, BWG, 3rd edition, § 1 BWG, Rz 4.

[348] LGBl No 1924.008, issued on 20.06.1924.

[349] In this context, it is interesting to note the provision in Art. 2 of the Law on the Introduction of the Swiss Franc Currency, according to which legal tender with a nominal value of more than CHF 2.00 is mandatory to be taken in payment.

205 Deposit transactions are defined in this respect as the acceptance of foreign legal tender with a repayment obligation. It should be noted that the public is required to make repayable deposits.[350] As explained above, cryptocurrencies do not constitute legally recognised means of payment (neither in Liechtenstein nor in other legal systems). Rather, depending on the law represented, they are considered as means of exchange which can be accepted in lieu of payment; however, unlike legal tender, there is no obligation to do so and for this reason the acceptance of tokens cannot constitute a deposit transaction.

206 Offering or carrying out deposit-taking transactions within the meaning of Article 3(3)(a) of the Banking Act entails becoming a debtor under a contractual relationship relating to the management of funds or the acceptance of deposits or other repayable funds. The civil law contractual basis for such deposit transactions can be heterogeneous (e.g. depositum irregular[351], but must in any case include an obligation to repay. However, a deposit transaction is not established if funds are accepted for someone else and merely passed on. It should be noted that the intended recipient must also be disclosed, otherwise the initial receipt of the funds already constitutes a deposit transaction.[352]

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[350] Recital 14 of CRD IV or recital 6 of CRD III The terminology of banking transactions refers to the viewpoint of a bank. In the case of a deposit or debit transaction (borrowing), the bank is, as is implied by name, the debtor, whereas in the case of a lending transaction (lending), the bank is a creditor.

[351] What has been taken into custody does not have to be returned as such (individual or special debt), but only an equivalent one in terms of type and quality (generic debt).

[352] *Laurer* in *Laurer/Borns/Strobl/M. Schütz/O. Schütz*, BWG, 3rd edition, § 1 BWG, Rz 5 f.

The exceptions for deposit-taking business in Art 1a para. 2 Banking Ordinance are essential. Accordingly, any transfer of funds that pursue the goal of fulfilling mutual obligations within the framework of contracts for the transfer of ownership or service contracts or that[353] have been transferred as collateral is excluded from the definition of deposits. This exception is highly relevant in everyday legal transactions, even if only very few people actively take advantage of it, since this exception is based on the repayment obligation or the lack thereof and as such describes the synallagmatic exchange of services in the sense of the principles do ut des respectively quid pro quo. If the funds are transferred to purchase goods or services or as collateral, this does not

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[353] With regard to tokens, the exception to the deposit business despite the transfer of funds in connection with leveraged trading of unregulated tokens, for example, on a crypto-exchange would be relevant and conceivable if funds are transferred in tokens as collateral for a loan. This is not to be confused with margin trading, in which funds are credited (credit transaction according to Art 4 para 1 line 1 CRR) and subsequently contracts for difference (CFDs) are entered into by establishing short and/or long positions (entering short and long positions simultaneously is also referred to as straddling). The crediting of tokens in the sense of virtual currencies does not constitute a credit transaction in the sense of the CRR due to the lack of funds. For a practical example, see also the so-called "margin trading" or "leveraged trading" of Bittrex International GmbH, https://bittrexglobal.zendesk.com/hc/en-us/articles/360009624760, called up on 29.10.2019, 22:52. If tokens are credited in this way with the provision of a security deposit in fiat money, neither a deposit nor a credit transaction is involved. However, a crediting can only be made from already existing tokens and not instead of generating and issuing tokens, in order to avoid the e-money regime, for example. This is because tokens credited in this way cannot simply be withdrawn from circulation when they are repaid (which would be the case if a claim were to be repaid - "buyback and burn").

constitute a deposit transaction. This can only be the case if there is an obligation to repay the funds transferred.[354]

208 In Token Offerings, in which tokens in the sense of software are issued as merchandise with intrinsic value[355] against legal tender, there is no deposit business in this respect, as the funds serve to receive a concrete consideration and there is no obligation to repay. The question arises as to whether this is also the case if the Token Offering provides for a so-called soft cap ("floor" as counter position to the "hard cap"[356]). If such a soft cap - a certain threshold value in a certain time delta - is not reached in the financing round, executors of such Token Offerings sometimes provide for the funds to be reversed, as the business model cannot be realized due to a lack of sufficient financing. However, even this does not constitute a deposit-taking business, as there is no unconditional repayment obligation[357], but only a pending, ineffective (suspensive) conditional repayment obligation. The telos of the contractual basis lies in the purchase of tokens, which represent certain rights, in exchange for legal tender. Only if certain conditions do not occur, a claim to reverse transaction arises. However, this is not a repayment obligation, which the BankG or the BankV had in mind, but it is a mutual claim for reversal of the involved parties of their mutual services.

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354 Art. 1a para. 2 lit a BankV; cf. UVS Vienna of 05.05.2004 on 06/42/9144/2003.

355 Tokens that are neither financial instruments, e-money nor deposits, i.e. virtual currencies or other digital content.

356 Threshold value at which the financing round (the Token Offering) is terminated because the financing target has been reached.

357 On the characteristic of the unconditional nature of the repayment claim, see BaFin, Merkblatt Einlagengeschäft, 11.03.2014, P 5.

Another important exception to the deposit business includes cash payments when issuing bonds[358] or other standardised debt securities or non-documented rights with the same function (dematerialised securities or book-entry securities/asset rights), provided that the (repayable) funds are received after approval of a prospectus in accordance with the Prospectus Regulation or the EEA SESTA or if there is no obligation to publish a prospectus. This is essential, as otherwise every bond issue would constitute a banking transaction, especially as such bonds are characterised by the fact that the right to repayment including interest is securitised (legal fiction that bonds do not constitute a deposit transaction; similar to the fiction that the e-money transaction does not constitute a deposit). It is interesting to note that a deposit can also be structured similarly to such a bond (or a loan for lack of standardisation under capital market law), although financial instruments such as capital or money market instruments may not function as payment instruments. With regard to token offerings, this exception can be significant if the issued tokens represent bonds, i.e. financial instruments. With regard to bonds, it is also relevant that investment firms may not issue them to finance their own operating expenses.[359] 209

Other exceptions to the deposit business are client deposits with investment firms, which do not earn interest and can be used exclusively in 210

[358] Here too, deposit transactions are possible, provided that the issuer's discretion with regard to the use of funds is restricted and a repayment claim exists depending on the success of the use of the financial resources from the issue of the bond. See *Laurer* in *Laurer/Borns/Strobl/M. Schütz/O. Schütz*, BWG, 3rd edition, § 1 BWG, margin note 5 mwN.

[359] Article 1a(3) Banking Ordinance.

connection with investment services.[360] The same applies to funds that are transferred to insurance companies or pension funds in connection with life insurance or pension relationships.[361] Payment institutions that provide payment services and sometimes set up payment accounts for this purpose in order to execute payment transactions also fall into this category, although this is not explicitly mentioned. Funds on payment accounts may only be used for payment services, which is why no interest can be granted.[362]

211 Also excluded from the definition of deposits are interbank deposits, deposits by depositors at associations and foundations with notional purposes outside the financial sector, and deposits by shareholders and associates with a qualified interest in the debtor.[363] Finally, an exception is made directly in Art 3 para 3 lit a BankG, according to which an amount of money accepted does not constitute a deposit transaction if it is accepted in the course of an e-money transaction and is directly exchanged for e-money (legal fiction that there is no deposit).[364]

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[360] Art 1a para. 2 lit c BankV.

[361] Art 1a para. 2 lit d Banking Ordinance.

[362] Art 4 (1) Z 51 in conjunction with Z 54 ZDG; cf. Art 4 (1) Z 41 in conjunction with Art 2 (2) ZDG.

[363] Art. 1a para. 2 lit e BankV; in the case of company deposits, there is even a legal prohibition on the return of deposits, which excludes the existence of a deposit business.

[364] Under Article 3(3)(f) of the Banking Act in conjunction with Article 3(1)(b) of the EC Treaty, the issuance of electronic money is a banking transaction reserved for banks and electronic money institutions. Art. 3 para. 3 lit. f Banking Act erroneously refers to *"Art. 3 let. b E-Money Act"* (recte Art. 3 para. 1 lit. b ECG) which is probably due to an editorial mistake.

2.2.2 Definition of deposit and e-money business and financial instruments

With reference to tokens, [365]tokens acquired with e-money can in turn represent e-money if the remaining elements of the facts are present, but the acceptance of e-money does not constitute a deposit transaction under the Banking Act, as e-money is defined as a monetary amount within the meaning of the EGG and ZDG[366], but is not considered a deposit or other repayable funds under the Banking Act. Due to the divergence of the terms "monetary amounts" and "funds", there is no regulatory gap that is contrary to plan and the deposit transaction cannot be circumvented even if, for example, a token representing e-money is issued in exchange for monetary amounts and the e-money tokenised in this way is later accepted or taken into custody (by a separate entity under company law) under a repayment obligation, as e-money always represents a claim for money against the issuer. In[367] addition, the funds received directly or indirectly from the customer by an e-money institution must be adequately secured.[368] This shows that the e-money

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[365] See Chapter II.2.7.

[366] Cf. Art 3 (1) lit b EGG in conjunction with Art 4 (1) Z 54 ZDG and Art 4 (1) Z 18 ZDG.

[367] As such, this claim must also be recorded in the company's accounts and must specifically appear as a liability on the liabilities side. If a token is issued which merely contains data or software in the sense of digital content or merchandise (which can be used for transactions or other functions, such as consensus building on a block chain), no (money) claim arises which would have to be carried under liabilities; rather, the digital content is sold, from which revenue is generated.

[368] Article 11 of the EC Treaty in conjunction with Article 5 of the EC Treaty in conjunction with Article 5 of the CDIR. E-money institutions may not join any

business is the second side of the same coin which also regulates the deposit business.

213 The deposit transaction is defined in Art. 3 para. 3 lit a Banking Act as the acceptance of deposits and [recte: or] other repayable funds, whereby in the case of an e-money transaction, the acceptance of a sum of money cannot, by legal fiction, constitute a deposit transaction if the amount of money accepted is directly exchanged for e-money. Under the Banking Act, an e-money transaction is defined as the issuance of e-money pursuant to Art. 3(b) of the Banking Act [recte: Art. 3(1)(b) of the Banking Act]. This raises the question of whether the deposit business can be revived if all the elements of e-money are present, but the applicability of the ECA is denied due to an exception[369]; this may be particularly relevant for so-called internal stablecoins with a cash representative function.[370] The answer should be anticipated and explained

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deposit protection and investor compensation scheme (e.g. the EAS; Deposit Protection and Investor Compensation Foundation SV with headquarters in Vaduz). Although the EAEC was not introduced until 2019 with LGBl 2019.103, it implements Directive 2014/49 (ELI: http://data.europa.eu/eli/dir/2014/49/oj (Deposit Guarantee Schemes Directive), which, however, according to Art 2 para. 1 no. 9 DGSD in conjunction with Art 4 para. 3 DGSD, applies to credit institutions pursuant to Art 4 para. 1 no. 1 CRR and regulates their affiliation to a deposit guarantee scheme, but Art 5 para. 1 lit d DGSD does not apply to deposits of financial institutions. Financial institutions also include electronic money institutions pursuant to Art 4 para. 1 no. 26 CRR in conjunction with Annex I no. 15 to CRD IV.

[369] See Chapter II.2.7.3 on exemptions for electronic money.

[370] These are tokens which are only accepted by one issuer or group of companies, which is why an exception will regularly be made even if the other elements of e-money are present. If such a stablecoin is only accepted by the issuer, there is no e-money at all, as one of the essential elements, i.e. the acceptance of

in detail below. According to this, a deposit transaction cannot be revived if an exception is made for e-money transactions. This is because a deposit transaction is not given by legal fiction when e-money is issued, as explained above. If an exception to the e-money rule then applies, the scope of application of the EC Treaty is basically given and the electronic value issued continues to be e-money, even if its issuance does not require authorisation; this is also supported by the fact that exceptions must sometimes be justified[371].

Electronic money is an electronically or magnetically stored monetary value in the form of a claim on the issuer which is issued in exchange for funds in order to execute payment transactions and which is also accepted for this purpose by persons other than the issuer. The ECA generally regulates the commercial issuance of electronic money by electronic money issuers.[372] The exceptions are regulated in Art. 2 (2) of 214

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third parties, is missing (such acceptance is, however, to be assumed in the case of crypto exchanges which trade multilaterally). In the case of a group of companies, on the other hand, the exception of a limited network will be justifiable - either because of limited possibilities of obtaining certain types of functionally related goods or services, or because of acceptance in a limited network (retail chain or franchise). The idea of such a stablecoin is to avoid regulation (both a licence as a banking institution and as an e-money institution) and yet to provide a surrogate for the acceptance of fiat money or legal tender by a company that is as suitable as possible. At the same time, a system break to block chain technology is avoided and a delivery vs. payment system is created, since the tokens of the different block chains cannot be exchanged directly. Such stablecoins are usually not designed to leave the system of a company at all and can also be kept purely book-entry without issuing tokens. These can be interesting for so-called Crypto-Exchanges, regardless of whether they are designed bilaterally or multilaterally to create their own economic ecosystem.

[371] See Article 2(2) ECG in conjunction with Article 3(1)(g) and Article 3(3) ZDG.

[372] Article 2(1) in conjunction with Article 3(1)(b) EC.

the EC Treaty, according to which, with reference to the ZDG, there is no e-money in limited networks. Taking all these aspects together, it should be noted that monetary assets still fulfil the definition of e-money under the exemption provisions, but are largely exempt from authorisation. In legal terms, this electronic money which is not subject to authorisation is referred to merely as "monetary value".[373] As explained above, such monetary value continues to constitute electronic money, but if an exception is justified, the issuers of such electronic money are not regulated in such a way that an application for authorisation as an electronic money institution must be made. Consequently, monetary assets that would in principle constitute e-money if all the elements of the facts were present, but which do not require authorisation as an e-money issuer due to an exception, are not subject to authorisation as an e-money institution under the ECA. This makes it clear, however, that dogmatically the scope of application of the E-Money Act is still open and e-money is present, which is why deposit business can no longer be revived if an e-money exception is made.

215 Any other view[374] must be rejected. As explained above, a deposit transaction is characterised by the unconditional obligation to repay the[375] funds, which is inherent in a claim for repayment of a sum of money (not a claim for the concurrent provision of goods or services). The ex-

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[373] Article 2(2) EC.

[374] *Terlau* in *Casper/Terlau* (Hrsg), ZAG: Das Aufsichtsrecht des Zahlungsverkehrs und des E-Money, §1a ZAG, Rz 71.

[375] *"The concept of deposits covers only those liabilities which make the company itself the debtor of repayment of the corresponding service"*. - BVGer B-4772/2017 of 19.12.2017, Z 5.2.

istence of an e-money transaction as described above excludes the deposit transaction. An e-money transaction that is largely exempt from authorisation - justified by an exception that is intended to constitute a privilege - cannot in turn lead to a revival of the deposit business and thus to stricter regulation.

Art 1a para. 2 lit a Banking Ordinance states that funds which are to be regarded as synallagmatic consideration within the framework of a contract for the transfer of ownership or a service contract or which are transferred as security do not constitute deposits.[376] Since tokens do not qualify as objects[377], the acceptance of funds in connection with a service contract or a security deposit is particularly relevant in order to exclude a deposit transaction. 216

The function of the token or stable coin representing the means of payment in this way is of major importance, since otherwise it can be argued that it is only being used in advance of the actual transaction, thus circumventing the deposit business or e-money business, and that the token is not connected with a service, as will be assumed if a token can be exchanged (redeemed) for legal tender and is thereby withdrawn from circulation or destroyed. In this case, it becomes apparent that 217

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[376] See UVS Vienna of 5 May 2004 on 06/42/9144/2003.

[377] Cf. Art 20 SR in conjunction with Art 171 SR, according to which the concept of property law presupposes an element of corporality; *Opilio*, Arbeitskommentar zum liechtensteinischen Sachenrecht, Volume I, p. 389 (Art 171 SR Rz 1 ff); cf. also BuA 2019/54, p. 126, according to which the provisions of property law are to be applied to the transmission regulations according to the TVTG in a functionally adequate, i.e. analogous, but not equivalent manner; nevertheless, tokens can represent the right of ownership (e.g. the claim for restitution as a consequence of the full right of ownership).

such a token does not represent a token of its own (in the sense of a digital content such as software as a commodity or a virtual currency), but that the value is only in the claim (for unconditional repayment) and that the token effectively represents a claim made in money. Deposits exist as described above in the case of contractual agreements on the custody and/or administration of legal tender; an unconditional claim for repayment arises against the custodian institution - similar to e-money.[378] A stablecoin in the sense of the above, which can be exchanged for legal tender at any time, would merely be a surrogate or substitute for such a claim. If a coin represents such a claim made out of money, it can be classified as e-money (but does not represent a deposit due to the electromagnetic representation of the monetary value).

218 If such a stablecoin is thus claimed to be an exception for electronic money, there is no supervisory aggravation in the cascade of authorisations under financial market law, since the deposit business is not revived.[379] From this perspective, the e-money regime is one side of the

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[378] Cf. on the representation of an unconditional repayment claim by means of a token BaFin, Leaflet Zweites Hinweisschreiben zu Prospekt- und Erlaubnisspflichten in Zusammenhang mit der Ausgabe weiterer Krypto-Token, GZ: WA 51-Wp 7100-2019/0011 und IF 1-AZB 1505-2019/0003, https://www.bafin.de/SharedDocs/Downloads/DE/Merkblatt/WA/dl_wa_merkblatt_ICOs.pdf?__blob=publicationFile=1, p 9 f.

[379] Other view *Terlau* in *Casper/Terlau* (Hrsg), ZAG: Das Aufsichtsrecht des Zahlungsverkehrs und des E-Money, §1a ZAG, Rz 92 ff mwN. *Findeisen, on the* other hand, propagates that § 1a (5) German ZAG as amended by BGBl. I p. 1506 (No. 35) is lex specialis to the deposit business. This provision refers to the same exceptions as Liechtenstein's Article 2 para. 2 EGG. However, it does not seem entirely comprehensible how, in what form and to what extent an exception to the scope of application of the e-money regime should at the same time be a lex specialis to deposit business; *Findeisen* in *Ellenberger/Findeisen/Nobbe*

same coin as the deposit business. The redemption of e-money (or the exchange of e-money for the amounts of money given) is only the consequence of the existence of a contractual claim in money and is therefore a real redemption under the e-money regime and not merely a legal consequence of the existence of e-money. E-money business constitutes a privileged form of deposit-taking business, based on the supervisory approval requirements.[380]

(Hrsg), Kommentar zum Zahlungsverkehrsrecht, § 1a, Rz 104. It is true, however, that e-money - including e-money which does not require a licence due to an exceptional circumstance - does not constitute a deposit transaction by legal fiction; Whether this constitutes a lex specialis can be left open, but seems to be excluded, at least for Liechtenstein law, on the basis of the exception of the deposit business, in the case of an e-money transaction pursuant to the Banking Act (otherwise the E-money Act could, as a more specific regulation, also derogate from the Banking Act, which regulates the deposit business - cfII.2.7.3, Rz 400).

[380] As explained in detail in Chapter II.2.7, redemption cannot simply be excluded in the presence of a claim in order to negate the e-money transaction, since the right of redemption or redemption results directly from the claim. Redemption is thus a constituent element of the existence of e-money and is conceptually interchangeable with the existence of a claim in money form and not merely a legal or logical consequence of the existence of a claim with which payment transactions can be carried out. Under Article 11 ECG in conjunction with Article 5 ECV in conjunction with Article 5 ZDV, the funds received from an e-money transaction cannot be freely disposed of, but must be subject to appropriate security requirements. In addition, under Article 44 (2) ECG, the monetary value of the electronic money held by an electronic money institution must be reimbursed to the customer of the electronic money institution at any time at its nominal value and, under Article 45 ECG, interest is strictly prohibited. The fact that redeemability at par value is a factual element and not merely a legal consequence is already apparent from the dogmatic classification of electronic money transactions as deposit transactions, which are treated differently from deposit transactions only by legal fiction in accordance with Article 3 (3)

219 In order to generally exclude the deposit business, the unconditional repayment obligation necessary for deposits would have to be excluded. This would be conceivable if a stablecoin representing a claim only entitles the holder to receive goods or services but not to withdraw the monetary value and thus functions as a voucher, or if such a stablecoin is issued subject to a condition. Such a condition could be, for example, that the Stablecoin can be used for trading on a so-called Crypto-Exchange for a certain number of days.[381] If the condition is agreed upon with effect ex nunc[382], the contractual basis will cease to exist if no trade is executed within the agreed period. The contractual basis is thus destroyed and a holder of such a stablecoin would consequently have a right of enrichment (non-contractual) claim to receive back the legal tender with which he acquired the stablecoin.[383] Thus, performance and consideration must be deferred. The right of redemption under condiction law represents a legal right of recovery[384] and does not constitute a

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lit a Banking Act and Article 6 (3) of the Electronic Money Directive, if special conditions are met.

381 Irrespective of whether it operates bilaterally or multilaterally. For more on this vague term, which covers different business models, see *Schopper/Raschner*, Die Aufsichtsrechtliche Einordnung von Krypto-Börsen in Österreich, ÖBA 4/2019, p. 249 (251).

382 In the event of ex tunc effect, statutory interest of 5 % pa would accrue in accordance with § 1000 ABGB. In the case of a suspensive condition, the contract would be provisionally ineffective at the time of its occurrence.

383 The claim is therefore also only directed at the purchase of goods in the sense of tokens as digital content or virtual currencies and not at an amount of money, which excludes both the deposit business and the e-money business.

384 Condictio causa finita according to § 1435 ABGB - subsequent cessation of the legal basis (with effect ex nunc; in the case of condictio sine causa according to § 877 ABGB or condictio indebiti according to § 1431 ABGB, however, the legal basis must be reversed ex tunc).

contractual claim to unconditional repayment, which would constitute a deposit transaction, since claims under the law of unjust enrichment are based on legal obligations. It is the responsibility of the private sector to agree on a right of structuring with which the contractual basis can be destroyed.[385] If a resolutory condition in the above sense is stipulated, there is no contractual claim for (unconditional) repayment of the funds or any other consideration, but a claim under unjust enrichment law.[386] This must apply all the more to tokens that represent digital contents according to FAGG or virtual currencies[387] according to the

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[385] One conceivable option would be a right of arrangement which combines a potestativ condition with a resolutory condition in such a way that, for example, a person who has acquired such a stablecoin representing a claim with fiat money has the right to destroy the contractual basis, provided that the stablecoins have not been used for trading on a certain trading platform within a certain period of time.

[386] See, for example, *Laurer/Kammel* in *Laurer/Schütz/Kammel/Ratka* (ed.), Article 1 BWG, margin no. 5, which states that *"banking business* [in this case the deposit business] is *only conducted by those who are debtors under the contract for the management or deposit of other people's money [...]"* and thus - which seems banal in principle - only refers to contractual obligations. The same picture emerges in the case of e-money transactions. *Haghofer*, Issue and redeemability of e-money in *Vonkilch* (Hrsg), Commentary on the E-Money Act 2010, § 17, margin note 1 (p. 224), states that *"they* [meaning the issue and redeemability of e-money according to §§ 17 to 20 öEGG regulate *the contractual conditions for the issue and redeemability of e-money* [...]*"*. Accordingly, the agreement on a right to structure, such as a condition subsequent, also excludes the existence of a contractual claim and thus the scope of application of the EEGG. In addition, it can also be argued here that such a stable coin also only represents a claim for the purchase of other tokens in the sense of virtual currencies, but not a claim made out of money.

[387] According to recitals 8 and 10 of the 5th AML Directive, the qualification excludes the existence of e-money from the outset - cf. Chapters II.2.7 and II.2.9 further details.

5th GW-Directive, for which a right of withdrawal according to KSchG or FAGG can be asserted.[388]

220 The view of the deposit-taking business coincides with the German doctrine of the KWG. *"The lynchpin of the deposit-taking business is the repayment promise the depositor trusts in."*[389] In order for a deposit transaction to exist, repayment must therefore be part of the contractual agreement concluded on a commercial basis, based on which the money is transferred; the operator of a deposit transaction thus promises to repay the funds transferred by the depositor. The title transaction can be a money loan or an irregular depositum, or it can consist of other types of contract in which an agreement on repayment is inherent.[390] *"A legal transaction, on the other hand, lacks the characteristic of repayability in the sense of a deposit transaction, if the claim, like the claim for repayment of the purchase price in the case of a failed purchase contract, is merely a secondary contractual obligation due to the withdrawal of the buyer from the purchase contract.*[391]

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[388] See Title I. Chapter I.6.

[389] *Demmelmair/Reschke* in *Beck/Samm/Kokemoor*, KWG with CRR, § 1 para. 1 S 2 No. 1 KWG, Rz 109.

[390] *Demmelmair/Reschke* in *Beck/Samm/Kokemoor*, KWG with CRR, § 1 para. 1 S 2 No. 1 KWG, Rz 110 f.

[391] *Demmelmair/Reschke* in *Beck/Samm/Kokemoor*, KWG with CRR, Section 1 (1) Sentence 2 No. 1 KWG, Rz 110b; cf. BaFin Merkblatt Einlagengeschäft of 11 March 2014: *"Money is repayable if there is a civil-law claim to its repayment or if the creditor at least appears to have such a claim. [...] The classification of the funds as "repayable" under banking supervisory law does not depend on specific civil law contractual arrangements or the civil law classification of the underlying transaction as belonging to a specific type of contract, such as a loan agreement [...]. Rather, the actual content of the transfer of funds is decisive. [...] Repayability is lacking, however, if the*

The question then arises as to whether a stablecoin, which represents a claim in the form of money against the issuer, does not constitute e-money subject to authorisation due to an exception of the E-Money Act (e.g. limited networks) and thus cannot constitute a deposit transaction, can represent a financial instrument (debt instrument which affects the balance sheet liabilities side), provided that the receivable represented in the stable coin is due or repaid with interest after a certain term or maturity and is not a payment instrument.[392] A stablecoin, which represents a claim that does not represent an unconditional right of repayment, is not a deposit due to legal fiction, but may be a (short-term) bond or a money market instrument.[393] However, under Liechtenstein

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claim for repayment only arises in the course of an initially unforeseen reversal of the contract, for example as a claim for damages. In the case of cancellation under condiction law in the example described above, there is no longer any basis for the contract. The reversal and consequently a claim for repayment is also initially unforeseeable if the transfer of funds does not serve the fulfilment of a deposit transaction, but a token is to be used, for example, primarily for trading on a Crypto-Exchange and thus serves as a synallagmatic "Delivery versus Payment" in the course of contract fulfilment. The issuance of such a token can make sense for the operator of a crypto-exchange, especially since countless tokens are based on different block chain protocols and therefore cannot be traded directly against each other due to technical incompatibility of the different network protocols.

[392] The criteria of standardisation, transferability and tradability are assumed (see Chapter II.2.3.1). In addition to a bond in the sense of a debenture bond, there may also be a zero bond or zero coupon bond in which the interest over the full term is expressed exclusively by the difference between (a lower) issue price and (a higher) redemption price (or a money market instrument in the sense of a short-term bond).

[393] For example, the XCHF issued in Switzerland, which is a short-term bond (money market instrument) with 0% interest and automatic rollover,

law, this is to be excluded if such a token represents a payment instrument for the purchase of goods and/or services (such as a shopping voucher), which, however, does not require a licence under the PSD II due to an exception (e.g. the exception of limited networks).

222 For the implementation of an internal stablecoin in the described sense, which can be acquired by means of legal tender and which represents a receivable (in cash or in goods and/or services), it is therefore essential to get away precisely from this receivable characteristic, towards stablecoin as an independent token (in the sense of software as a commodity and thus as digital content or virtual currency) in order to avoid both deposit and e-money business and the existence of a financial instrument in any case, without having to resort to an exception under the PSD II - provided that the aim is to be as unregulated as possible under these regimes.[394] This is possible provided that the stablecoin represents a value of its own and thus, within the framework of a synallagmatic relationship, forms the actual consideration which is received step by

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https://www.swisscryptotokens.ch/wp-content/uploads/2019/06/Prospectus-XCHF-2019-07-v1.0-1.pdf, accessed on 15.09.2019, 16:59; according to Liechtenstein law, the existence of a financial instrument in connection with e-money or payment instruments is only conceivable if no payment instrument is present. In this case, a financial instrument such as a bond may exist. In Liechtenstein, on the other hand, unlike in Germany, e-money does not constitute a financial instrument (cf. Section 1 para. 11 no. 7 of the Banking Act - "units of account"). In Germany (unlike in Liechtenstein, cf. Chapter II.2.7), proprietary trading in electronic money therefore constitutes a financial service (the Liechtenstein counterpart to this is investment services). See *Terlau* in *Casper/Terlau* (Hrsg), ZAG: Das Aufsichtsrecht des Zahlungsverkehrs und des E-Money, §1a ZAG, Rz 111.

[394] However, in terms of tax law, this can result in a burden of income tax on the one hand and value added tax on the other if a token or stablecoin is treated as a commodity.

step.[395] A consumer-friendly, unlimited, perpetual right of withdrawal with ex nunc effect for stablecoins can be agreed upon, whereby the right of withdrawal must be reversed under the law of condiction. In effect, an internal, legal tender-substituting stablecoin, which[396] represents an independent token with intrinsic value, can be created through this, which can be exchanged back into legal tender at any time when exercising a right of withdrawal based on claims under enrichment law (service and consideration must be deferred; the token as an independent token, which does not represent a claim, cannot simply be destroyed; or it also remains possible to buy back the token - particularly in the case of multilaterally structured crypto exchanges in which the issuing/selling party is no longer the counterparty in later trading - whereby tokens acquired in this way would then also appear in the books - not as a receivable, as this would be redeemed on redemption -

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[395] In this respect, a Stablecoin would have to be classified as a data set or software and thus ultimately as a commodity with an independent value. Here, it can be argued via Art 2 para. 3 in conjunction with Art 10 para. 2 lit b URG that the right holder transfers the funds to the seller of the stable coin within the framework of a service contract and thus one of the - apart from the exception in connection with the e-money business - conclusively defined exceptions to the deposit business in Art 1a para. 2 lit a BankV comes into effect (granting or sale of rights of use; sale of copies of works). The exception to the definition of deposits in the Banking Ordinance is identical to Art 3a para. 3 lit a of the Swiss Banking Ordinance. According to FINMA Circular 2008/3, Deposits from the public with non-banks, 20.11.2008, last amended on 26.06.2019, https://www.finma.ch/de/dokumentation/rundschreiben/archiv/archiv-2008/, margin note 10 f, chBankV assumes *"that all liabilities have deposit character"*. For example, *"a down payment with a purchase agreement, an advance with an order, a rent deposit, etc."* do not have the character of deposits.

[396] The value is guaranteed by the market (supply and demand) - e.g. if it can be used for trading on a crypto trading platform.

as assets and could trigger a possible controllable event; In terms of supervisory law, the presence of a virtual currency would also give rise to the question of whether an exchange office activity or an activity of a VT exchange service provider is subsequently performed). However, if a commercial exchange or bill of exchange is not carried out, a reversal under enrichment law does not constitute an exchange office activity either.[397] In this context, it seems to be expedient that under the TVTG regime, the commercial exchange of tokens for other tokens is also covered by the VT exchange service provider subject to registration[398], since the present application, in which tokens can be exchanged for internal stablecoins, would otherwise not be covered by supervisory law, even though such a internal stablecoin represents a surrogate to legal tender to a certain extent, if it also fulfils a function beyond that and prevents a media break (crypto-fiat) and enables the trade of tokens across block chains.

223 In addition, it would also be possible to convert a cash equivalent stablecoin, which represents an independent token, into legal tender. Thus, a company can issue a stablecoin against legal tender as an independent token, not as a receivable, and can also accept this stablecoin on its trading platform with reference to tokens for the execution of trading orders. In doing so, the corporate entity could also bilaterally exchange this stablecoin into legal tender against its own book and for its own account. However, this would constitute an activity as a currency exchange office subject to registration with the FMA pursuant to

[397] See Chapter II.2.9 for the exchange office.

[398] Art 2 para 1 lit r TVTG as amended by BuA 54/2019.

article 2 paragraph 1 letter l DDA in conjunction with article 3 paragraph 3 letter a DDA (or, after entry into force of the TVTG, an activity as a VT exchange service provider subject to registration).[399]

2.2.3 Conclusion Accruals and deferrals for deposit and e-money business

Whereas the deposit business is based on the acceptance of deposits or other unconditionally repayable funds, the e-money business is defined as the issuance of e-money, which is a monetary value stored magnetically or electronically in the form of a claim that can be acquired against payment of a sum of money and serves to carry out payment transactions and is accepted for this purpose by persons other than an issuer. As with the deposit business, e-money transactions involve the acceptance of funds (and e-money itself) which must be repaid. From a regulatory point of view, a deposit transaction does not exist if funds are accepted and e-money is issued directly in return; this is a legal fiction. 224

It is therefore essential for both the deposit-taking and e-money business that the demand for unconditional repayment of funds or monetary amounts is taken into account. Against this background, e-money is one side of the same coin of the deposit-taking business, which is treated in a privileged manner for supervisory purposes compared with the deposit-taking business. The assessment of whether e-money is present is also relevant in connection with tokens or stablecoins. It is essential to question whether a token represents an independent token 225

[399] Cf. Chapter II.2.9; Art 2(1)(l) to DDA as amended by BuA 2019/93.

with an intrinsic value and is handled like a commodity, e.g. as software (digital content or virtual currency), or whether the token actually represents a claim made out of money. An indication for the latter assumption would be if the token is destroyed upon redemption, since an issuer cannot hold a claim against itself. Strictly speaking, virtual currencies or digital content are not issued but sold (token offering vs. token sale).

226 It should also be noted that, in arguing that there is an exception to the e-money regime, deposit-taking business cannot be revived. Dogmatically, e-money is still available or the e-money regime is still applicable; if there is an exception to the e-money regime, it is only subject to lower requirements in the license - in certain cases, the FMA must be informed about the existence of an exception and must be given reasons for it. By legal fiction, this does not constitute a deposit transaction when electronic money is issued. Even if the issuance of such e-money does not therefore require a license as an e-money institution, the deposit business cannot be revived if an exception to the e-money transaction is justified. It remains open whether a token can represent deposits at all, or whether this does not always mean that a monetary value is stored in electromagnetic form - and thus e-money. This is probably to be answered in the affirmative, since the deposit business is only concerned with cash and book money directly and does not provide for any representation of the same; a token could only function within the framework of an authentication mechanism for the disposal of deposits.

227 A coin can therefore, when representing a claim made out of money due to the electromagnetic property of a token, only represent e-money, but not also deposits. A deposit transaction can be excluded, detached

from the reference to tokens, by excluding the unconditional repayment obligation of funds, which is actually the case for deposits. This would be conceivable by means of a resolutory condition with ex nunc effect, or by means of an arrangement according to which only goods and/or services can be obtained with the given money, but there is no unconditional right of return of the monetary value. In the case of a resolutory condition, the contractual basis would cease to exist and would have to be reversed under enrichment law, but not on the basis of a contractual agreement. In[400] this respect, however, it does not appear to be absolutely necessary to issue a claim in the form of money or to purchase goods or services in order to achieve a stable stable value. A token can also be issued as software under agreement of a consumer-friendly right of redemption. Such a token, which represents a commodity, would also have to be returned under condiction law or the contract would have to be reversed (condictio causa finita). However, such an arrangement sometimes has income and value-added tax consequences.

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[400] Subsequently, however, a financial instrument may again exist if such coins are standardised, transferable and tradable and do not constitute a payment instrument. A conceivable variant of representing a claim in a coin, avoiding both the deposit transaction and the existence of financial instruments, could be realised by means of a non-refundable voucher for the purchase of goods or services. Such a coin cannot constitute a financial instrument for the sole reason that payment instruments can never constitute transferable securities within the meaning of Article 4 (1) No. 44 MiFID II; see also BaFin, Hinweise zu Finanzinstrumente nach § 1 (11) Sätze 1 bis 3 KWG, 20.12.2011, last amended on 26.07.2018, Punkt 2. b) cc) Ziff 4, https://www.bafin.de/SharedDocs/Veroeffentlichungen/DE/Merkblatt/mb_111220_finanzinstrumente.html. At the same time, a voucher can be designed in such a way that an exception under the ZDG or PSD II applies.

228 *"The lynchpin of the deposit-taking business is the repayment promise on which the depositor relies."*[401] *"In contrast, a legal transaction lacks the characteristic of repayability in the sense of a deposit transaction if the claim, like the claim for repayment of the purchase price in the case of a failed purchase agreement, is merely a secondary contractual obligation due to the withdrawal of the buyer from the purchase agreement.*[402] In order for a deposit transaction to exist, repayment must therefore be part of the contractual agreement under which funds were transferred.

229 Under Liechtenstein law, a financial instrument in connection with electronic money cannot exist even if there is an exception to the e-money transaction, which also excludes the deposit transaction (which would be the case anyway under Art. 1a para. 2 Banking Ordinance if funds were accepted in connection with the issue of a bond), since in this case there is still a payment instrument, which in turn excludes the existence of a transferable security.

230 If a standardised, transferable and tradable book-entry security is issued which is not a payment instrument and which is to be redeemed after a certain term and on which interest is granted, there is potentially a security token which represents a bond. Unlike in Germany, in Liechtenstein units of account and thus (tokens in the form of) e-money were not legalized as financial instruments. Under MiFID II and also under the Banking Act, the concept of financial instruments is not compatible with payment instruments. With the exception of the concept of e-

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401 *Demmelmair/Reschke* in *Beck/Samm/Kokemoor*, KWG with CRR, § 1 para. 1 S 2 No. 1 KWG, Rz 109.

402 *Demmelmair/Reschke* in *Beck/Samm/Kokemoor*, KWG with CRR, § 1 Abs. 1 S 2 Nr 1 KWG, Rz 110b.

money, a debt instrument such as a bond cannot exist without an explicit legislative requirement.

Nor do money market instruments serve to effect payment transactions, as is the case with payment instruments. For example, the XCHF issued in Switzerland is a short-term (one-month) bond with 0 % interest and automatic rollover (money market instrument). Consequently, trading in such an instrument requires - according to Liechtenstein's understanding - authorization as a regulated trading center; the execution of payment transactions may not be provided for, since otherwise no financial instrument exists.[403] If an instrument exists with which payments can be effected (cash and fiat money, e-money, or shopping vouchers), this excludes the existence of a transferable security and thus a financial instrument.[404] 231

In broad terms, it can be stated that deposits primarily have the character of a store of value or a savings purpose, whereas e-money focuses on the execution of payment transactions and thus has a payment purpose, and that financial instruments ultimately have an investment character. Virtual currencies, on the other hand, can combine one or all 232

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[403] Dieses Hintergrundes war man sich bewusst, lautet es im Prospekt zum XCHF doch wie folgt: *„The main purpose of the CryptoFranc is to serve as a liquidity instrument for the Swiss crypto ecosystem. For example, a Bitcoin (BTC) trader could use it to temporarily transfer funds into CryptoFrancs or a Swiss startup could use it to raise funds in its accounting currency instead of using volatile crypto currencies. It is neither intended to be used as a long-term storage of Swiss Francs, nor to be used as a means of payment for everyday transactions."*, https://www.swisscryptotokens.ch/wp-content/uploads/2019/10/Prospectus-XCHF-2019-10-v1.1.pdf.

[404] Art 4 (1) No 44 MiFID II or Art 3a (1) Z 42 BankG.

of these purposes and even more extensive functionalities (e.g. access function, consensus building, etc).[405]

2.2.4 Banking transactions (lending business)

233 In addition to risk transformation - the transformation of lot sizes and maturities - the deposit business, which is reserved for banks, forms a bridge between the main business areas of banks and the lending business, which is shown on the assets side of the bank balance sheet. In Liechtenstein, this is defined as the *commercial lending of external funds to an undefined group of borrowers*[406]. Such lending transactions are to be assumed if, based on a loan or credit agreement under civil law, the value date is provided in legal tender.[407] The definition, according to which only the lending of foreign funds should constitute an asset transaction, seems odd and goes back to the deliberations in the Landtag of 14.05.1992.[408] According to this, the opinion was expressed that the lending of one's own funds did not constitute a banking transaction in the sense of an lending transaction, which is why the original wording of the BuA 1992/8 regarding Art 3 para. 3 lit b BankG[409] was finally changed. *"Paragraph 4 lit. b) only refers to the "lending of funds to an undefined group of borrowers". In this respect, it should be said - even if the banks here keep in mind that they naturally lend not only their own funds but also*

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[405] Cf. the comments in recital 10 of the 5th ARC Directive.

[406] Art 1a para. 1 lit b BankV.

[407] *Laurer/Kammel* in *Laurer/Schütz/Kammel/Ratka* (Hrsg), Section 1 BWG, margin no. 9; BaFin, information sheet on credit business, dated 08.01.2009, last amended on 02.05.2016, https://www.bafin.de/SharedDocs/Veroeffentlichungen/DE/Merkblatt/mb_090108_tatbestand_kreditgeschaeft.html

[408] Landtag protocol of 14.05.1992 on the Banking Act, p. 730.

[409] At that time still in Art. 3 para. 4 lit b BankG as amended by BuA 1992/8.

external funds to borrowers - that this wording could give rise to a misinterpretation inasmuch as it could be said that the commercial lending of own funds is also a banking transaction. And that would be fundamentally wrong. No one can deny anyone the right to lend their own funds on a professional basis - excluding their own funds. It's unthinkable in our free economy."[410]

Art 4 Para. 1 No. 1 CRR defines credit institutions with regard to lending business as undertakings which grant credit for their own account. No reference can be derived from this to the lending of external funds. According to an autonomous interpretation of European law,[411] lending of own capital in the sense of current assets under CRR will also constitute lending business in Liechtenstein; any other interpretation would be untenable. However, as explained in FN 420 as of 28.06.2019, the CRR is not yet directly applicable in Liechtenstein due to the lack of a decision by the EEA Joint Committee, but has merely been implemented in advance.

234 Pursuant to Art. 8 para. 4 ZDG, payment institutions may also grant credit provided that the granting of credit is an ancillary activity and that such credit is granted only in connection with payment transactions. Furthermore, such loans must be repaid within 12 months of issue at the latest and may not be granted from funds that have been accepted or held with the intention of realising payment transactions.

235 In connection with software-based platforms, care must be taken to ensure that peer-to-peer loans (crowdlending) are not granted without the

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410 *Ritter* im LTP of 14 May 1992 on the Banking Act, p. 730.

411 Directly applicable Community law must be interpreted autonomously at Community level, whereas directives must be interpreted in conformity with Community law.

appropriate authorisation. All creditors who lend their money on a commercial basis are subject to authorisation. Without a corresponding licence as the bank of the respective lenders, the operator of such a platform would also be potentially involved in unauthorised activities, unless loans were merely brokered and the granting of loans was carried out by appropriately licensed banks. Furthermore, the crediting of tokens is not covered by the credit business. Finally, services subject to the ZDG may also play a role on such platforms and may be subject to authorisation.[412]

236 In contrast to Austria, for example, in Liechtenstein only the non-genuine factoring business constitutes a granting of credit.[413] With genuine factoring, a factoring company purchases receivables and also assumes the del credere risk (and thus becomes a new creditor).[414] The company (factor) purchasing the receivables must therefore be concerned about

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[412] BaFin, Crowdlending, dated 4 January 2018, https://www.bafin.de/DE/Aufsicht/FinTech/Crowdfunding/Crowdlending/crowdlending_node.html

[413] § Article 1(2)(16) BWG covers the "*purchase of receivables from the supply of goods or services, the assumption of the risk of recoverability of such receivables and, in connection therewith, the collection of such receivables", i.*e. both genuine and non-genuine factoring as a banking transaction.

[414] The claim is assigned under civil law by means of assignment (§ 1392 ABGB). The assignor (former creditor) transfers his claim against the assignor (debtor) to the assignee (new creditor). Factoring differs from the collection business in that in factoring receivables are sold after invoicing, whereas in debt collection third-party receivables are collected in the name of a third party (out of court).

their collection and bears the default risk. In the case of fictitious factoring, however, the factor does not assume this default risk.[415] The factor acting in this way provides the holder of the receivable with liquidity. This provision of liquidity is a credit transaction reserved for banks (Art 3 para. 3 lit b BankG).[416]

With regard to tokens, the real factoring business in Liechtenstein can be interesting for entrepreneurs who want to enable their customers to purchase their goods and/or services with tokens in order to create additional sales channels, although they themselves do not necessarily want to accept tokens instead of payment. 237

This can be structured in such a way that a merchant and its customers enter into a contractual relationship for the purchase of goods and/or services, in which it is stipulated that the customer owes an amount of value denominated in legal tender, payable in tokens.[417] The merchant subsequently assigns this claim to a factor as new creditor without any formality, whereby the price of the purchased goods and/or services minus a service fee can be used as the assignment price.[418] The new creditor thus bears the del credere risk and must make every effort to 238

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[415] Also the agreement that the factor has to collect the claim from the debtor and that the factor can take recourse to the previous creditor if the debtor does not pay the claim (joining of debt, such as the guarantee according to sec. 1346 ABGB) constitutes non-genuine factoring.

[416] Cf. *Laurer/Kammel* in *Laurer/Schütz/Kammel/Ratka* (ed.), Article 1 BWG, para. 24.

[417] For example, the exchange rate of legal tender to tokens used to settle a customer's liability may be set at the rate at the time the tokens are transferred to settle the liability.

[418] The debtor must be informed of this assignment.

collect the claim. In this constellation, a merchant and subsequently a previous creditor pays to a consumer or customer as debtor, who then transfers his consideration, denominated in legal tender, payable in tokens to the factor and new creditor to whom the claim was assigned. Subsequently, the factor has to hand over the amount owed to the dealer as assignment creditor in legal tender - after possible deferment. The factor can change the tokens into legal tender against his own book[419], or he can exchange them with other intermediaries. This procedure can be implemented accordingly by means of a technical interface and, depending on the specific form it takes, does not trigger any further approval requirements under Liechtenstein law.

2.2.5 Conclusion Acquisition and factoring business

239 Lending or credit business is defined as the lending of external funds to an undefined group of borrowers. With regard to token-based business models, the lending business can play a role in particular in connection with factoring. Unlike in Austria, factoring is not defined per se as banking business in Liechtenstein, and is therefore not reserved for banks. Rather, a distinction must be made between genuine and non-genuine factoring - in other words, it must be determined who bears the del credere. If a factor professionally assumes receivables together with the default risk, this constitutes genuine factoring, which is not covered by Liechtenstein supervisory law. The situation is different with non-genuine factoring business. The del credere is not transferred to the factor (similar to debt collection) and provides liquidity to the

[419] This will constitute a bureau de change or, after the entry into force of the TVTG, the activity as VT exchange service provider; cf. Chapter II.2.9.

person who bears the del credere. The factor thus acts as a lender and carries out the lending business reserved for banks.

2.3 Tokens as financial instruments

In addition to traditional asset and liability transactions, the Banking Act also regulates financial instruments and related investment services. Insofar as tokens represent financial instruments in accordance with Appendix 2 Section C to the Banking Act and Appendix I Section C to MiFID II, they are digitised or tokenised at the technical level, but such security tokens do not lose their status as financial instruments as a result. Services that relate to such security tokens are usually also covered by financial market regulations. Especially the offer or trade of the tokens is of importance, since the purely technical (not professional) creation or generation of tokens per se - without further marketing by issuing the same - is of no further regulatory relevance. 240

Pursuant to Art. 1 para. 3 lit. c of the Banking Act, the Banking Act also serves to transpose and implement MiFID I. In the event of harmonisation within the EU or the EEA, MiFID II and MiFIR[420], as well as CRR and CRD IV, can be used to interpret other definitions of banking and 241

[420] Regulation EU 600/2014 of the European Parliament and of the Council of 15.05.2014 on markets in financial instruments, ELI: http://data.europa.eu/eli/reg/2014/600/oj. This is important for Liechtenstein, especially since for MiFIR, as well as for MiFID II, as of 28.06.2019, the adoption resolution of the EEA Joint Committee into the EEA acquis is still in the draft stage and even the Regulation would not be taken into account without prior national implementation, https://www.efta.int/eea-lex/32014R0600, https://www.efta.int/eea-lex/32014L0065.

financial market law.[421] MiFID II was implemented in advance by national law in the Banking Act and other special capital market legislation.[422]

242 Art. 3 para. 2 in conjunction with para. 3 lit. d of the Banking Act defines the investment and ancillary services listed exhaustively in Annex 2 Sections A and B of the Banking Act, which refer to the likewise exhaustively listed groups of financial instruments in Annex 2 Section C of the Banking Act, insofar as they are exercised commercially, as banking transactions.[423] In Liechtenstein, these are reserved for banks and investment firms and are based on financial instruments. Financial instruments in accordance with Annex 2, Section C of the BA can be simplified into shares (equity instruments)[424] and bonds (debt instruments)[425] or certificates on the same (capital market instruments), money market instruments[426] and derivatives[427]. Equity capital is basically present if the financing is made available for an unlimited period

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[421] Art 3a para. 2 BankG; the status of CRD IV and CRR is also "Entry into force of Joint Committee Decision (JCD) pending" as of 28.06.2019 https://www.efta.int/eea-lex/32013R0575, https://www.efta.int/eea-lex/32013L0036 and these legal acts were only implemented in Liechtenstein nationally in advance.

[422] BuA 2017 / 14 of 04.04.2017 and BuA 2017/72 of 26.09.2017. As of 29.03.2019, there was only a draft decision of the EEA Joint Committee to incorporate MiFID II into the EEA acquis.

[423] Cf. also Art. 2 para. 1 Banking Ordinance with regard to commercial activity.

[424] Annex 2 Section C No. 1 lit a and No. 3 of the BankG; in the diction of the PGR also membership rights.

[425] Annex 2 Section C No. 1 lit. b to the Banking Act; in the diction of the PGR also debt securities.

[426] Annex 2 Section C No 2 to the BankG.

[427] Annex 2 Section C No. 1 lit. c and No. 4-10 to the BankG.

of time and has[428] a nominal value to be paid up, while debt capital is characterised by a term after which it must be repaid with interest; both are shown on the liabilities side of the balance sheet (claims of members or creditors against the company).

Tokens that have characteristics of financial instruments or represent comparable rights are subsequently classified as financial instruments. Accordingly, activities relating to such security tokens are also recorded as requiring authorization within the meaning of the Banking Act or other relevant regulations, provided no exceptional circumstances apply. It should be noted that ancillary services may only be provided by persons who hold a licence authorising them to provide investment services.[429] 243

In contrast to Germany and Austria, Liechtenstein has refrained from creating additional financial instruments at the national level, such as investments in accordance with Austrian § 1 para. 1 no. 3 of the Austrian Capital Market Act 2019 or investments in accordance with German § 1 para. 2 of the Capital Investment Act. These are, for example, shares in assets (trust assets) or registered bonds[430], participations in limited partnerships, silent participations or a participation in a GesbR.[431] 244

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428 Unlike, for example, profit participation certificates, see Art 304 (3) PGR.

429 Article 2(2) Banking Ordinance.

430 BaFin, Hinweise zu Finanzinstrumente nach § 1 Abs. 11 Sätze 1 bis 3 KWG, 20.12.2011, last amended on 26.07.2018.

431 Circular 07/2012 of the Austrian FMA on questions of prospectus law of 4 December 2012, margin no. 49 (p. 12); *Zivny*, KMG, Kurzkommentar, 2nd edition, Art. 1 margin no. 47 ff.

2.3.1 Transferable securities

245 In order to protect investors, the term "transferable security", which is a subset of financial instruments, must be interpreted extensively for supervisory purposes.[432] Even if the catalogue of financial instruments in Annex I Section C of MiFID II or Annex 2 Section C of the Banking Act is in principle[433] only of a demonstrative nature, the categories listed are probably taxative[434] (Art 4 (1) No 44 lit a MiFID II regulates equity instruments, lit b leg cit debt instruments and lit c leg cit derivative instruments).[435] Tokens, which thus contain a debt interest similar

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[432] Cf. e.g. *Zivny*, KMG, Kurzkommentar, 2nd edition, § 1 Rz 62.

[433] Although Annex 2 Section C No. 1 of the Banking Act does not define transferable securities in an exhaustive manner, as it refers to transferable securities such as equity instruments, debt instruments and derivative instruments, the existence of a transferable security also requires comparability with the instruments listed, a so-called functional equivalence. See *Schopper/Raschner*, Die Aufsichtsrechtliche Einordnung von Krypto-Börsen in Österreich, ÖBA 4/2019, p. 249 (253).

[434] Vgl *Hacker/Thomale*, Crypto-Securities Regulation: ICOs, Token Sales and Cryptocurrencies under EU Financial Law, 22.11.2017, zuletzt überarbeitet am 13. Dezember 2017, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3075820, S. 25: *„However, it is precisely for novel types of investment products, such as tokens, that the list becomes relevant: it offers archetypical examples of securities that show what the legislator had in mind when regulating these entities. From a functional perspective, tokens must at least be comparable to these typical securities in order to trigger securities regulation."*

[435] Cf. BaFin, Hinweise zu Finanzinstrumente nach § 1 Abs. 11 Sätze 1 bis 3 KWG, 20.12.2011, last amended on 26.07.2018, according to which, for example, shares in assets held by an issuer in its own name and for the account of a third party constitute so-called investments which are covered by national German supervisory law but do not constitute financial instruments within the meaning of MiFID II. For example, fiduciary certificates pursuant to Art. 928 PGR are in principle not to be regarded as transferable securities in the sense of financial

to that of a debt instrument creditor or an equity interest similar to that of a shareholder, are functionally equivalent[436] to the categories of transferable securities mentioned above and must therefore also be treated as such financial instruments.[437] Since MiFID II does not link the concept of a financial instrument to any profit expectation, tokens in connection with so-called proof-of-stake mechanisms of a block chain, which are sometimes used for consensus building, do not fall under the concept of financial instruments. In this case, for example, returns can be generated from the decentralised network, or generally agreements can be made by holding ("ge-staked") tokens. However, this is a function that ensures the functioning of a block chain or the consensus building on such a block chain and no passive, dividend-like or interest-based income is generated, but a token holder receives such a con-

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instruments, as they are only securities under civil law and entitle the holder to enjoy the trust property; only the functional equivalence to financial instruments would have to be examined on the basis of any standardisation. However, even if such trust certificates are structured in a transferable manner, they represent a direct participation in (specific) assets, which no financial instrument according to the final canon of financial instruments under MiFID II can establish.

436 In the USA, the concept of a financial instrument is linked to an expectation of profit according to the so-called howey test. MiFID II is not based on such a profit expectation, but the expectation of future cash flows in connection with a claim may be functionally comparable or equivalent to transferable securities and thus qualify as a financial instrument. See *Hacker/Thomale*, Crypto-Securities Regulation: ICOs, Token Sales and Cryptocurrencies under EU Financial Law, 22.11.2017, last revised on 13 December 2017, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3075820, p. 26.

437 *Höhlein/Weiß*, Krypto-Assets, ICO and Blockchain: Prospectus law perspective and supervisory practice, RDF 2019, p 116 (p 119 mwN).

sideration only for the provision of specific services (e.g. for the validation of transactions on a block chain). In the absence of representation of an equity or debt interest (a claim against an entity), such staking mechanisms or, more generally, governance and consensus functions of tokens in a block chain do not fulfil the concept of a financial instrument.

246 Despite the intrinsically broad exegesis of transferable securities, it should not be overlooked that the prudential definition of transferable securities is only a subset of the civil law securities. Under[438] Union law, financial instruments are[439]thus conclusively regulated within the limits of the categories listed above, but under national law, in addition to the definition of financial instruments, other investment products may be subject to certain regulations. It is important to note that securities that are standardised, transferable and tradable, but are payment instruments with which payment transactions can be made, are not trans-

[438] *Zivny*, KMG, short commentary, 2nd edition, § 1 Rz 62.

[439] Vgl FCA (UK Financial Conduct Authority), The Perimeter Guidance Manual (PERG release 42 September 2019), Chapter 13, Guidance on the scope of MiFID and CRD IV, section 13.4 (S 17; Q28), https://www.handbook.fca.org.uk/handbook/PERG.pdf, aufgerufen am 15.09.2019, 17:19.

ferable securities and therefore do not constitute financial instruments.[440] Thus, (tokenized) vouchers or e-money also do not constitute financial instruments in Liechtenstein's understanding.[441]

Transferable securities are defined in Art 3a para. 1 no. 42 Banking Act as classes of[442] securities that can be traded on the capital market, with the exception of payment instruments.[443] In order to qualify as transferable securities, it is essential that negotiable securitisations exist, which 247

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[440] Art 3a para. 1 no. 42 Banking Act; Art 4 para. 1 no. 44 MiFID II; BaFin, Notes on financial instruments pursuant to section 1 para. 11 sentences 1 to 3 KWG, 20.12.2011, last amended on 26.07.2018, point 2. b) cc) no. 4, https://www.bafin.de/SharedDocs/Veroeffentlichungen/DE/Merkblatt/mb_111220_finanzinstrumente.html.

[441] The situation is different in Germany, where units of account are recorded as a separate type of financial instrument - cf. section 1 (11) no. 7 of the KWG - "units of account". Under German law, the question arises as to how this applies to a payment instrument that also represents a unit of account (e.g. a voucher represented by a token).

[442] The categories or classes are not defined, but are based on civil law and are described by national supervisory authorities in the EU as fungible, exchangeable or identical rights granted to a number of investors. This is mainly based on standardisation and functional equivalence. If an investor has an individualised claim against an entity, this is not a generic claim and is not standardisation. Although such a right is a security or book-entry right in the civil law sense, it is not a financial instrument according to the regulatory assessment. See ESMA Annex 1 Legal qualification of crypto-assets - survey to NCAs, January 2019, ESMA50-157-1384, margin note 16, https://www.esma.europa.eu/sites/default/files/library/esma50-157-1384_annex.pdf. The focus on justifiable rights also makes it clear that a document under securities law is not necessarily required for the existence of a financial instrument.

[443] Cf. Art 4 (1) No 44 MiFID II; it should be noted that capital market instruments, which together with money market instruments constitute financial market instruments, differ from payment instruments in that the former serve

are usually provided in large numbers and with equivalent content. Investors acquire identical rights without the possibility of individualising these rights, which relate to the underlying instrument, or without the possibility of individualising the acquisition process.[444]

248 The nature of transferable securities as financial instruments, which is linked to the applicability of special laws under capital market law[445] and is therefore necessary, must be based on all classes of transferable securities that can be traded on the capital market, with the exception of cash.[446] The definition of transferable securities thus contains three mutually dependent positive elements: Firstly, transferability, which is the condition of the second characteristic, tradability (on the capital market), and lastly, standardisation. The standardisation of securities is essentially based on the general generic term. This concerns fungible, exchangeable or mass-issued identical rights; it is not necessary for the existence of a financial instrument that a physical certificate has actually been issued - book-entry securities can also fulfil the concept of transferable securities and thus of financial instruments.

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investment purposes and the latter serve the purpose of payment transactions. Financial instruments and payment instruments are mutually exclusive; however, tokens sometimes have the character of investments and also have a payment function - such virtual currencies therefore fulfil neither the concept of a financial instrument nor that of a payment instrument. See ESMA Annex 1 Legal qualification of crypto-assets - survey to NCAs, January 2019, ESMA50-157-1384, margin no. 38 ff, https://www.esma.europa.eu/sites/default/files/library/esma50-157-1384_annex.pdf

444 *Zivny*, KMG, short commentary, 2nd edition, § 1 Rz 61.

445 For example the BankG, WPPG, VVG, AIFMG, etc.

446 Article 3a paragraph 1 line 42 of the Banking Act.

According to Art. 4 (1) No. 17 MiFID II, money market instruments are also similar[447] to transferable securities in terms of the necessary characteristics and are defined as *"the classes of instruments normally dealt in on the money market, such as treasury bills, certificates of deposit and commercial papers, with the exception of payment instruments"*. The Del Regulation on MiFID II[448] also provides in Art. 11 that money market instruments are intrinsic to money market instruments, that their value can be determined at any time, that they are not derivatives and that their maturity at issue is a maximum of 397 days.[449]

a. Standardization

The concept of genus is to be assessed under civil law and not under supervisory law. The genus is based on justifiable, hence different, but similar and therefore replaceable rights (genus debt - one replaces the other). The ABGB does not actually make the distinction between fungible and unfungible goods, but distinguishes between consumable and non-consumable goods.[450] Reasonable, i.e. fungible, things cannot 250

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[447] *Assmann* in *Assmann/Schneider/Mülbert* (Hrsg), Securities Trading Law, Section 2 WpHG, margin no. 40 ff; cf. also *Reschke* in *Beck/Samm/Kokemoor* (Hrsg), German Banking Act with CRR, Section 1 KWG, margin no. 1031.

[448] Del Regulation 2017/565, ELI: http://data.europa.eu/eli/reg_del/2017/565/oj.

[449] For a similar definition see also Art 2 (1) lit o UCITSD as well as Art 50 (1) lit a, b, c and h UCITSD and Recital 36 of UCITSD; see also Art 10 (1) lit a of Regulation 2017/1131 on money market funds, ELI: http://data.europa.eu/eli/reg/2017/1131/oj.

[450] § 301 öABGB; Art 20 SR or the basis of the prescription Art 641 ZGB do not define the matter at all. It only states that *"whoever is the owner of a thing may dispose of it at his discretion within the limits of the legal system"*.

be distinguished from each other for lack of useful individual characteristics - unlike unjustifiable things that cannot be described in terms of genre - and are accordingly interchangeable at will. In legal transactions, fungible objects are determined by measure, number and weight. While the fungibility of fungible goods is based on the opinion of the trade, the genus or species debt is determined by the will and agreement of the parties, depending on whether the object of performance is defined according to general or individual characteristics.[451] Even though in Liechtenstein the property law part of the ABGB has been replaced by autonomous legal provisions, the Liechtenstein property law under the section on usufruct in Art 232 and 244 SR and also the PGR in Art 681 para. 3 PGR in relation to the ordinary partnership knows fungible or consumable objects and the Austrian explanations can be used ceteris paribus.[452]

251 Standardisation is therefore a prerequisite if a class of securities or book-entry securities of comparable rights are securitised or, in the case of book-entry securities, are represented (e.g. by means of a token). This can be assumed if the rights embodied in a document or dematerialised property rights without documents[453]can be exchanged at will, for example, for the purpose of asserting them, whereby these rights represented in instruments achieve fungibility and circulation capability. Accordingly, the transferable securities or uncertificated securities may be traded in accordance with the type and number of units, whereby the

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[451] *Helmich* in *Kletečka/Schauer*, ABGB-ON 1.04, § 301, Rz 5 and 6.

[452]Cf. also *Opilio*, Arbeitskommentar zum Liechtensteinischen Sachenrecht, Vol. 1, Art 216, margin no. 008, regarding the generic term.

[453] Value rights, which are represented by tokens, for example.

rights may not be individualised at the request of an investor or otherwise modified (identical rights).[454] Moreover, trading based on standardisation must be based solely on price and no individualised conditions must be attached to the conclusion of trading (identical acquisition process).[455]

b. Tradability on the capital market

The tradability required as a characteristic feature of transferable securities is based on tradability on the capital market.[456] This also requires that the securities can be traded on trading platforms that regularly carry mass supply and demand positions of such securities by potential myriads of interested parties. In addition to regulated markets, MTFs[457] and OTFs, the[458] concept of trading platforms, which is neither technically nor legally defined, includes systematic internalisers, i.e. both exchange and over-the-counter[459] trading. What matters is not the actual trading of the securities, but merely the basic possibility of offering or

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[454] Cf. also Title I. Chapter I.1.2 on standardization through functional equivalence in the case of depositum irregulare.

[455] *Seggermann* in *Brandl/Saria*, WAG, 2nd edition, § 1, margin note 56.

[456] The Del-VO 2017/568 on MiFID II, ELI: http://data.europa.eu/eli/reg_del/2017/568/oj, provides in its Art 1 a definition of free tradability. Accordingly, transferable securities are considered freely negotiable if *they can be traded between the parties to a transaction and subsequently transferred and if all securities belonging to the same category as the security in question are fungible.*

[457] Multilateral Trading Facility / Multilateral Trading System; MHS.

[458] Organised Trading Facility / Organised Trading System; OHS.

[459] OTC-Trade; over the counter.

requesting them in large numbers. Accordingly, an appropriately voluminous issue is indispensable from the outset. In contrast to regulated markets, however, there is no requirement for a free float.[460]

253 It is irrelevant for the criterion of tradability whether the capital market is organised, i.e. whether it is a state-regulated and supervised regulated market, or not, since tradability is based on all capital markets. The capital market is not explicitly legally defined, but in general it includes not only public regulated markets ("stock exchanges") but also private capital markets such as the MTF and OTF mentioned above, as well as OTC markets. As such, decentralized exchanges (DEX) also form[461] part of the capital and financial markets. As explained above, it is not important that the securities or book-entry securities are actually traded, but it is sufficient that trading in these investment products is possible.[462]

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[460] *Seggermann* in *Brandl/Saria*, WAG, 2nd edition, § 1, margin no. 54.

[461] Decentralized protocols based on Distributed Ledger Technology, such as the block chain, which have no central operator and are de facto operated by the sum of their users as a collective, i.e. the network itself. If financial instruments are traded on such peer-to-peer networks, also known as decentralised autonomous organisations (DAO), which enable the uncompromisable and uncorruptible transmission ("broadcasting") of states (as opposed to torrent networks, which are also decentralised), financial market regulations must also be taken into account. A frequently encountered characteristic of such DEX in contrast to capital markets with a central intermediary is that they combine matching as well as clearing and settlement, at least as long as settlement is not in legal tender but exclusively in tokens. In terms of corporate law, the question arises whether such decentralised networks or DAOs are companies without personality (communities under personal law) like a simple partnership under Art 649 ff or Art 680 ff PGR.

[462] BaFin, Hinweise zu Finanzinstrumente nach § 1 Abs. 11 Sätze 1 bis 3 KWG, 20.12.2011, last amended on 26.07.2018.

Furthermore, the element of tradability does not require free tradability. According to Art 51 (1) MiFID II, free tradability is[463] only required for trading on regulated markets. Even instruments with restricted transferability can in principle constitute transferable securities. The limit is set by the provisions of company law. For example, tradability cannot be assumed in the case of shares in a GmbH, as these are subject to special transfer regulations.[464][465] Even in the case of registered securities, it[466] must be examined on a case-by-case basis whether they are tradable in the above-mentioned sense. It follows from Art 35 (2) MiFID-DVO[467] that even securities that are not freely tradable can be classified as transferable securities. However, as explained above, limited tradability excludes admission to trading on a regulated market. 254

c. Transferability

Tradability on the capital market presupposes a frequent possibility of circulation, which is why no particular relevance can be attached to the element of transferability as such. Tradability under capital market law requires more than the mere possibility of assignment. With regard to transferability, tradability must be taken into account accordingly. If 255

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[463] Art 40 (1) second subparagraph MiFID I; cf. Art 55b (5) Banking Regulation.

[464] Obligation to have a notarial deed in Austria pursuant to § 76 para. 2 GmbHG; requirement of public notarisation at the Commercial Register of a transfer of a share in a company pursuant to Art 403 para. 4 PGR.

[465] *Seggermann* in *Brandl/Saria*, WAG, 2nd edition, § 1, margin no. 54.

[466] Whereas in the case of bearer securities only the holder of a security can assert the rights evidenced by it, in the case of registered securities only the person in whose name the security is registered can assert the rights evidenced by it.

[467] Regulation 1287/2006, ELI: http://data.europa.eu/eli/reg/2006/1287/oj.

tradability on the capital market is given, transferability must also be assumed.[468]

2.3.2 Equity, equity-like und non-equity transferable securities

256 Transferable securities pursuant to Annex 2 Section C to the Banking Act may be structured in different ways. On the one hand, equity instruments such as shares or shares in (partnerships) companies or similar instruments (equity), as well as certificates (depository receipts or depository receipts) for such securities (equity-like, such as ETFs[469]) are included, and[470]on the other hand, non-equity instruments such as debt instruments and derivatives or structured financial products are also included.[471] Debt instruments are defined as bonds or (securitised) debt instruments, including certificates on them. Taking[472] into account the definition of transferable securities, however, the lack of a securitisation cannot lead to the withdrawal of the status as a financial instrument.[473]

257 The depository receipts referred to above are tradable certificates representing the ownership of shares or ETFs[474] and are quoted and traded in the currency of the market in which they are traded. The idea behind

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[468] *Seggermann* in *Brandl/Saria*, WAG, 2nd edition, § 1, Rz 55.

[469] Exchange Traded Funds.

[470] Annex 2 Section C No. 1 lit a to the BankG.

[471] Cf. regarding the terminology *Seggermann* in *Brandl/Saria*, WAG, 2nd edition, § 1, Rz 58.

[472] Annex 2 Section C No. 1 lit b to the BankG; a distinction between equity securities (equity instruments) and non-equity securities (debt instruments) is also common.

[473] *Seggermann* in *Brandl/Saria*, WAG, 2nd edition, § 1, margin no. 58.

[474] Or for example bonds. In this case it is naturally no longer an equity-like instrument, but a non-equity or even more specific debt instrument.

depository receipts is to facilitate the purchase, holding or sale of securities by investors outside their home market, thus facilitating (indirect) cross jurisdiction trading of the financial instruments underlying the certificates. The Underlying represented by the Certificates is deposited with a custodian bank acting as custodian. A certificate thus securitizes or represents the deposit of the right to a financial instrument and is therefore an instrument under the law of obligations (shareholder position under the law of obligations and therefore similar to equity).[475]

The definition in Annex 2 Section C No. 1 lit c to the Banking Act - *all other securities that entitle the holder to buy or sell securities or that result in a cash payment* - covers mezzanine financing forms or structured financial products.[476] Structured financial products are instruments that are based on one or more underlying instruments and also have a derivative component (combination of a cash instrument with a derivative instrument to form an economic and legal unit).[477] MiFIR defines structured financial products as *securities created to collateralise and transfer the credit risk associated with a pool of financial assets and which entitle the holder of the securities to receive regular payments that depend on the cash flow of the* 258

[475] *Seggermann* in *Brandl/Saria*, WAG, 2nd edition, § 1, Rz 93 and 99 in connection with Art 2 para 1 no. 27 MiFIR.

[476] Art 2 (1) No 29 MiFIR in conjunction with Art 4 (1) No 44 lit c MiFID II.

[477] BaFin, Circular 08/2017 (VA) - Derivative financial instruments and structured products of 30.08.2017, https://www.bafin.de/SharedDocs/Veroeffentlichungen/DE/Rundschreiben/2017/rs_1708_derivate_finanzinstrumente_va.html.

underlying assets. This[478] refers in particular to the securitisation of receivables in asset-backed securities (ABS), which is usually carried out with the involvement of securitisation special purpose vehicles.[479] Other securities also include all standardized options that materially represent bonds with additional option,[480][481] conversion or exchange rights[482] on equity instruments, warrants (securitized options) or instruments that result in cash payments.[483]

259 Equity instruments represent a position of ownership together with a share in profits and losses (distribution of profits in the form of dividends) and usually with voting rights, are not limited in time and have

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[478] Art 2 (1) No 28 MiFIR. Structured products are typically derivative financial instruments consisting of several components. For example, capital protection products, yield enhancement products, participation products or leveraged products. Cf. Liechtenstein Bankers Association, Information Brochure on the types and risks of financial instruments, 3rd edition, electronic edition No. B9808d, https://www.bankfrick.li/Portals/0/06-downloads/diverse/risiken-im-effektenhandel.pdf, p 25 ff.

[479] Securitization Special Purpose Vehicle (SSPV). For these SSPVs the Securitisation Regulation or STS Regulation (simple, transparent and standardised) will be relevant in future, ELI: http://data.europa.eu/eli/reg/2017/2402/oj (Status in 2019 for the EEA: Adopted act under scrutiny by EEA EFTA, https://www.efta.int/eea-lex/32017R2402, accessed on 15.09.2019, 17:24).

[480] A warrant bond is a bond with an option right to purchase shares of the issuer. The bond continues to exist after the option has been exercised. The option right can be traded separately on a stock exchange.

[481] Exchangeable bonds are bonds with the right to be converted into equity of a third company.

[482] A convertible bond is a bond with the right to exchange the bond for shares in the issuing company, whereby the bond ceases to exist after conversion.

[483] BaFin, Hinweise zu Finanzinstrumente nach § 1 Abs. 11 Sätze 1 bis 3 KWG, 20.12.2011, last amended on 26.07.2018.

a nominal value (shareholder-like equity interest). Holders of debt instruments, on the other hand, assume a creditor position and are therefore not entitled to a share in profits but rather to repayment of the debt and repayment of interest (debt interest).[484] In addition, they are limited by a term.

2.3.3 Derivatives transactions

In addition to Annex 2 Section C No. 1 lit c to the Banking Act, derivative financial instruments are also defined in Nos. 4 to 10 leg cit.[485] Accordingly, derivatives are financial instruments which derive their value from the performance of an underlying asset (underlying). Since there is an offsetting position for each position, derivatives are a zero-sum game, since the payments of the two together add up to zero. A distinction is made between conditional or asymmetrical (options) and unconditional or symmetrical forward transactions (futures, forwards and swaps).[486] 260

In contrast to unconditional forward transactions, options offer the option of whether or not the transaction should be executed on the maturity date. Only one contracting party enters into an obligation, while 261

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[484] Zero coupon bonds or so-called zero bonds are a special form of bond in which no current interest is accrued or paid. Interest over the entire term is paid exclusively on the difference between the (lower) price at issue and the (higher) redemption price. In other words, a zero coupon bond is a bond without interest coupons.

[485] Based on Art 2 (1) No 29 MiFIR in conjunction with Art 4 (1) No 44 lit c and Annex I Section C (4 to 10) MiFID II; cf. also Art 2 No 5 EMIR.

[486] Cf. *Seggermann* in *Brandl/Saria*, WAG, 2nd edition, § 1, margin note 63.

the other party has a right, an option.[487] A distinction is made between American options (right to performance within a certain period of time) and European options (performance on the due date), whereby both forms of option are found in both Europe and America, irrespective of the name given to them. The buyer of an option pays a premium to the seller for this right. The seller is obliged to fulfil the transaction when the buyer exercises the option. The buyer's potential loss amounts to the option premium, while the seller is exposed to a theoretically unlimited potential loss with limited profit potential. Examples of options are caps, floors, credit link notes or credit default swaps.[488]

262 However, in the case of unconditional or symmetrical derivatives, equivalent rights and obligations exist when the contract is concluded. The risk is also symmetrically distributed accordingly. If the price of the underlying asset changes, this is reflected accordingly in the profit and loss profiles of the buyer or seller. The contractually agreed benefits are to be fulfilled without any further conditions. Forwards and futures are standardised and traded on futures exchanges, while forwards are private contracts without any corresponding standardisation and are traded over the counter, i.e. OTC.[489]Swaps, on the other hand, are

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[487] See also the pairs of definitions long call (right to buy) and the counterpart short call (obligation to sell), as well as long put (right to sell) and the antonym short put (obligation to buy). The long position corresponds to the owner and the short position to the writer.

[488] Cf. *Seggermann* in *Brandl/Saria*, WAG, 2nd edition, § 1, margin note 63.

[489] OTC derivatives are derivative contracts which, according to Art 2 No. 7 EMIR, are not executed on regulated markets within the meaning of Art 4 (1) No. 14 MiFID I. Compare the counterpart of exchange-traded derivatives in Art 2 Art 1 no. 32 MiFIR.

(standardised) over-the-counter transactions that aim to exchange future cash flows (two parties exchange the cash flows of one party's financial instrument for those of the other party's financial instrument).[490]

Derivative contracts are characterised as forward transactions, which differ from spot market transactions in that the conclusion and fulfilment of a transaction do not coincide. Specifically, the price-relevant conclusion date and the value-relevant settlement date fall apart over time, whereby the value depends on the performance of a reference variable, the underlying, which is used as a basis. This means that the conclusion and fulfillment of the contract are separate, and settlement is only made at a later point in time.[491] 263

Derivatives are used both for hedging (hedging transactions with regard to a price in order to hedge certain risks), the realization of risk-free profits by simultaneously executing offsetting transactions on different markets (arbitrage; exploitation of market inefficiencies), and speculation (betting) on the future development of a price (market variable). It[492] should be noted that standardised derivative contracts are sometimes subject to a trading obligation on a regulated market, MTF 264

[490] *Seggermann* in *Brandl/Saria*, WAG, 2nd edition, § 1, margin note 63.
[491] *Seggermann* in *Brandl/Saria*, WAG, 2nd edition, § 1, Rz 62.
[492] *Seggermann* in *Brandl/Saria*, WAG, 2nd edition, § 1, margin note 63.

or OTF[493]provided that they are subject to a clearing obligation[494], admission to trading on a trading venue[495] and sufficient liquidity.[496]

265 In connection with tokens, the question arises in particular whether a derivative contract exists if a token is issued as a placeholder, e.g. in the ERC-20 standard on the Ethereum block chain, and is later to be "swapped" into the native coin of a specially developed block chain. However, if such tokens are only issued in a fundraising as an intermediate step in the course of the technical implementation in order to be exchanged or redeemed at a later point in time at a ratio of 1:1 against

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493 Art 28 MiFIR.

494 Art 4 EMIR (European Market Infrastructure Regulation), ELI: http://data.europa.eu/eli/reg/2012/648/oj, provides for the obligation to clear OTC derivative contracts between financial counterparties (Financial Counterparty; FC) pursuant to Art 2 (8) of Regulation EU 648/2012 and/or between non-financial counterparties pursuant to Art 10 (1) lit b leg cit (Non-Financial Counterpary Plus; NFC+).

495 Venue Test.

496 Liquidity Test; Article 32 paras. 1 and 3 MiFIR in conjunction with Article 5 paras. 2 and 4 EMIR in conjunction with DelVo 2016/2020, ELI: http://data.europa.eu/eli/reg_del/2016/2020/oj. In addition, these parties must value the outstanding OTC derivatives on a daily basis (Art 11 para 2 EMIR in conjunction with Art 16 and 17 DelVO 149/2013, ELI: http://data.europa.eu/eli/reg_del/2013/149/oj) and exchange collateral for non-centrally cleared (bilateral) OTC derivatives (Art 11 para 3 EMIR in conjunction with DelVO 2016/2251, ELI: http://data.europa.eu/eli/reg_del/2016/2251/oj). The obligation to provide collateral exists for both a variation margin (daily market fluctuation) and an initial margin (collateral to be submitted to the clearing house upon opening a derivative contract position). In contrast, the reporting obligation pursuant to Art 9 EMIR to a trade repository (legal entity pursuant to Art 2 No. 2 EMIR) applies to all transactions, changes or terminations of derivative contracts (reportable derivatives pursuant to Annex I Section C No. 4-10 MiFID II) of FC, NFC+, NFC and CCPs (central counterparties pursuant to Art 2 No. 1 EMIR).

the native coin of the own block chain, there is no derivative and consequently no financial instrument, since in this case the price-relevant point in time of conclusion does not differ from the value-relevant point in time of fulfilment. Due to a fixed exchange ratio, it is also not possible to speculate on the price or value development. From an economic and technical point of view, such tokens must also be exchanged, as otherwise they would never be able to fulfil their intended function and would effectively be worthless.

a. Commodity derivatives

Finally, MiFID II has extended its scope of application to include commodity derivatives. These are financial instruments according to Annex I Section C Nos. 5, 6, 7 and 10 of MiFID II.[497] They include all options, futures, swaps and other derivative contracts relating to commodities, which is to be understood as meaning that a derivative must relate to the price of a commodity. Such commodities do not include services, legal tender, intellectual property or other rights.[498] 266

The concept of goods is derived from the delegated regulation to MiFID II, according to which goods of a fungible nature are to be understood as goods which can be delivered. Per verba legalia, this includes in particular metals as well as the ores and various alloys required for this purpose, agricultural products and energy in the form of electricity.[499] 267

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[497] Art 2 (1) No 30 MiFIR.

[498] *Seggermann* in *Brandl/Saria*, WAG, 2nd edition, § 1, Rz 70.

[499] Art 2 No 6 Del Regulation 2017/565, ELI: http://data.europa.eu/eli/reg_del/2017/565/oj.

This definition is based on the implementing regulation for MiFID I.[500] Recital 22 of this implementing regulation states that Union law provides for various exceptions to the scope of the MiFID regime for commodity derivatives as financial instruments. This exception was ultimately confirmed in Article 2 (1) (j) MiFID II.[501]

268 Accordingly, MiFID II does not apply to "persons502 *dealing on own account in commodity derivatives or emission certificates or derivatives thereof, including market makers but excluding persons dealing on own account when executing client orders*, or persons *providing investment services other than dealing on own account for clients or suppliers of their main business in commodity derivatives or emission certificates or derivatives thereof,* unless" high frequency algorithmic trading techniques are used for this purpose, this is only an ancillary activity, the main service may not be the provision of banking, investment services or market making services, and this exception is reported annually to the competent supervisory authority.

269 Commodity derivatives are differentiated into derivatives which relate to commodities (i) which must be settled in cash or can be settled in cash at the request of a party (Annex 2 Section C No. 5 of the Banking Act), (ii) which can be physically delivered provided that these commodities are traded on a regulated market, MTF or OTF (No. 6 leg cit), (iii) which can be physically delivered but are not listed in No. 6 leg cit and serve non-commercial purposes (No. 7 leg cit).

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[500] Article 2 No 1 of Regulation 1287/2006, ELI: http://data.europa.eu/eli/reg/2006/1287/oj.

[501] *Seggermann* in *Brandl/Saria*, WAG, 2nd edition, § 1, margin note 69.

[502] Art 2 (1) lit j MiFID II.

b. Difference to traditional or commodity documents (civil law)

Commodity derivatives, which derive their value from commodities, should not be confused with so-called commodity or traditional securities. Traditional commercial law documents such as bills of lading, storage or loading notes[503] certify the right to the surrender of a real object and represent the object in such a way that by means of a disposal of such a traditional document the represented object is simultaneously disposed of in terms of property law.[504] As a rule, such commercial papers do not constitute financial instruments unless they are standardised. 270

This basic idea was also taken into account in the establishment of a separate civil law broadcasting regulation in the TVTG[505] and tokens sometimes represent the same civil law securities or, in the absence of securitization in a document, value rights or property rights. Civil law securities may not be equated with the regulatory or public law concept of transferable securities and thus with financial instruments. The latter constitute only a subset of (civil law) securities. It can be left open whether, according to the provisions of property law, the claim for restitution and thus the ownership can be "distilled" or abstracted as a full right from an object itself - apart from goods which have been handed over to a carrier or a warehouse[506] - at all, since it is to be regulated by 271

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503 Cf. Art. 374 para. 1 ADHGB and Art. 387 and Art. 504 SR.

504 BaFin, Merkblatt Depotgeschäft, 06.01.2009, last amended on 17.02.2014; BaFin circular 6/1998 - Erläuterungen zur Grosskredit- und Millionenkreditverordnung, 05.05.1998

505 Cf. art. 1 para. 1 lit a and title II of the TVTG as amended by BuA 2019/93.

506 Art 504 SR.

special law in Art 7 Para. 1 TVTG that the disposal of the token also has the effect of the disposal of the right represented by the token. Thus, it is possible to tokenize the right of ownership of all imaginable things. If this synchronisation of the legal effect between the transfer of a token and the right represented therein does not occur automatically, the person obligated by the disposal of the token must ensure this effect.[507] Also according to § 81a of the Final Division of the PGR as amended by the Federal Law Gazette 2019/93 it is possible to represent all rights in a book-entry right.[508]

272 Even if it is to be ensured in principle that upon transfer of the token, no other disposal of an object to which the token represents the property right is made, it is possible under analogous application of property law (which is generally referred to in the TVTG as "functionally adequate application") that someone acquires the token or the right of disposal over it in good faith, while another acquires the object represented by this token in the same good faith. Here, too, it must apply analogously that the bona fide acquirer of the object takes precedence over that of the token.[509]

2.3.4 Units in undertakings for collective investment

273 Annex I Section C No 3 of MiFID II defines units in collective investment undertakings as financial instruments. This refers to units in all collective investment schemes, which was clarified by national law in

[507] Art 7 Para 2 TVTG.

[508] Cf. the legislative materials BuA 2019/54, p 111.

[509] Art 504 para 2 SR.

Annex 2 Section C No. 3 of the Banking Act. According to this, units in undertakings for collective investment in securities (so-called UCITS according to the UCITSG[510]), units in investment undertakings[511] and units in alternative investment funds (AIF[512]) are covered.

A fund under the UCITSG is a collective investment undertaking the[513] sole purpose of which is to invest monies from investors (referred to as the public) for collective account in securities and/or liquid financial assets in accordance with risk spreading principles and to pay out or redeem units at the request of the respective holders; UCITS are therefore always open-ended funds and are only suitable for closed-end funds AIF.[514] The UCITSG accordingly provides for product regulation and may only be invested in equities or equivalent membership securities, debt securities and other marketable securities.[515] While the fund units 274

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510 Art 3 para 1 line 1 UCITSG (Law on Undertakings for Collective Investments in Transferable Securities based on the UCITS Directive 2009/65/EC, ELI: http://data.europa.eu/eli/dir/2009/65/oj).

511 Article 3(1)(a) IUG.

512 Art 4 para. 1 no. 1 AIFMG.

513 With reference to a block chain, on which, for example, transaction fees are paid to token holders within the framework of a proof of stake mechanism, such an organism could also be assumed. The same could also be argued in relation to Bitcoin, since the computing power (or at least the electricity required for this) is made available within the framework of the proof-of-work mechanism and could therefore represent a pooling of capital. The decentralised network could be seen as a simple company or cooperative and thus as an organism. However, a regulator will be virtually impossible to find in decentralised technologies.

514 Cf. Art 1 para 2 lit b UCITSD; cf. also *Volhard/Jang* in *Weitnauer/Boxberger/Anders*, KAGB, § 1 KAGB, Rz 39.

515 Art 3 para. 1 no. 1 in connection with no. 16 and Art 51 UCITSG.

of a UCITS can thus be issued in the form of security tokens, it is not possible to invest in classic crypto currencies such as BTC or ETH.[516] However, if the permissible securities from which the fund assets of a UCITS may be formed have been tokenised, it is sometimes possible to invest in security tokens.

275 The AIFMG, on the other hand, is not a product regulation but a manager regulation and investments are not restricted, but are possible in all assets or asset classes. There is a pooling of capital which is invested in accordance with a defined investment strategy for the benefit of the investors. Furthermore,[517] there is no restriction of investment categories in the AIFMG or the AIFM-Directive[518]. The definition of capital is to be interpreted very comprehensively and extensively. The collection of crypto-currencies in the sense of protocol tokens such as BTC or ETH can also open up the scope of application of the AIFMG, provided that the other constituent elements are given. In addition to investing in crypto-currencies, it is also possible to issue the fund units in the form of security tokens.[519]

276 Funds or investment undertakings under the IUA, on the[520] other hand, are all undertakings for collective investment (i.e. collective investment

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[516] Such funds known as "crypto funds" can only be set up as AIF.

[517] Art 4 para. 1 no. 1 AIFMG.

[518] Directive 2011/61/EU, ELI: http://data.europa.eu/eli/dir/2011/61/oj.

[519] It should be noted that the marketing of units or shares of an AIF is harmonised for professional investors only (cf. Art 43 (1) second paragraph AIFMD). Liechtenstein has made use of the opening clause according to Art 43 (1) first paragraph AIFMD and according to Art 129 ff AIFMG it is possible to market AIF to retail investors in Liechtenstein. However, such AIF are not eligible for passporting.

[520] Also IUG 2015; LGBl No 2016.045.

schemes) which are neither UCITS nor AIF and are aimed exclusively at qualified investors and do not collect capital.[521] The capital to be invested is not collected in the first place, but rather a risk pool is formed among the investors who decide to invest the assets they hold or have held in an investment undertaking on a collective basis.[522]

Pursuant to Art. 15 AIFMG, shares or units of an AIF are considered transferable securities if they are standardised and tradable according to the constituent documents of the AIF and their transferability is not restricted. This means that the characteristics of transferable securities are also taken into account with regard to the units in a fund. Transferable securities can generally be represented by means of tokens, as tokenisation is only implemented at a technical level without interfering with the characteristics or facts of transferable securities or other financial instruments. Accordingly, it is possible to make use of the European passport with regard to fund units as well as transferable securities or other financial instruments by means of the notification procedure ("passporting") of approved securities prospectuses with regard to security tokens in order to offer the tokenised units or financial instruments to the public in the EU or EEA or to admit them to trading on a regulated market.[523] 277

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[521] Article 3(1)(a) IUG.

[522] BuA 2015/89, 25 f.

[523] For details, see the considerations under securities prospectus law in Chapter II.2.6; see also FMA Communication 2019/1, https://www.fma-li.li/files/list/fma-mitteilung-2019-01.pdf, p. 2, on the tokenisation of fund shares.

2.3.5 Conclusion on the supervisory perspective of tokenization

278 In the sense of a container, tokens can contain all the rights specified by MiFID II or the Banking Act that are securitised by financial instruments and can therefore also represent financial instruments - not as physical securities, but as dematerialised rights to value or assets. It should be noted that tokens only form a technical layer and do not constitute a separate type of financial instrument. A different conclusion regarding the possibility of tokenisation of financial instruments would be fatal and much more far-reaching and, moreover, would be misguided for reasons of investor protection, because in this case all security tokens would have to be denied the status of financial instruments and would buzz around the financial market completely free of regulation, although they ultimately represent financial instruments.

279 The FMA Liechtenstein has also stated the following with regard to fund units: *"The units of a fund must generally meet the requirements for transferable securities. In principle, the transferability of securities is assessed on the basis of the three criteria of transferability, standardization, and tradability. In contrast, the issuance of a physical certificate is not required [...], which is why it can be assumed that the law is technologically neutral (substance over form). In this respect, tokenisation is not to be regarded as a separate or new legal form, but does result in the obligation to comply with supplementary obligations.*[524]

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[524] FMA Communication 2019/1 - Supplementary obligations regarding the issue and redemption as well as the keeping of the share register for fund share tokens of 03.09.2019, https://www.fma-li.li/files/list/fma-mitteilung-2019-01.pdf, p. 2.

The tradability required of transferable securities must, in principle, be provided for in the terms and conditions of issue at the time of issue of tokens. A practical hurdle here is that no organized trading centers that trade in tokenized financial instruments exist in Liechtenstein. Also in the EU or EEA, there are not yet any MTF or OTF that trade security tokens; an additional hurdle in this regard is that clearing houses (CCP) and central securities depositories (CSD) would also have to convert their systems for token-based financial instruments. However, such systems are likely to become established in the foreseeable future and therefore there is no fundamental restriction on tradability. The subjective will component of an average issuer is to design the tokens as transferable and tradable on the capital market, regardless of whether corresponding trading venues already exist. Otherwise, this would lead to the biting result that from an as yet uncertain point in time in the future, approval requirements would be triggered (from the de facto possibility of the tokens being tradable on a trading venue to be approved first), at which point the respective national supervisory authority would not be able to perform its supervisory function to the appropriate extent due to information asymmetries regarding the sudden status of a token as a financial instrument. 280

2.4 Regulated markets, MTF & OTF, SI

With reference to Annex 2 Section A para. 1 lines 8 and 9 of the Banking Act, the operation of a multilateral trading facility (MHS) and an organized trading facility (OHS) are both classified as investment services 281

requiring a licence.[525] Both of these systems under private law are classified under the umbrella term of trading venue, in addition to the regulated market under public law (stock exchange, official trading).[526] An MTF can be operated by banks, investment firms or a market operator.[527] An OTF can also be operated as an investment service by these persons. With regard to investment firms, the focus is on the full license as an investment firm and not on those with administrative authority.[528]

282 In this context, a regulated market is "*a multilateral system operated and/or managed by a market operator which brings together within the system the interests of a large number of third parties in buying and selling financial instruments admitted to trading under the rules of the system in accordance with non-discretionary rules for the conclusion of a contract*".[529]

283 A multilateral system is defined as "*a system or mechanism that brings together multiple third-party buying and selling interests in financial instru-*

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[525] Art 30t BankG.

[526] Art 3a para. 1 no. 5 Banking Act or Art 4 no. 24 MiFID II.

[527] Administrator and/or operator of a regulated market pursuant to Art 3a para. 1 no. 12 Banking Act.

[528] Cf. for the definition of investment firms and investment services including their exceptions Art. 3 para. 2 Banking Act and Art. 15 Banking Act in conjunction with Art. 2 Banking Ordinance. Alternatively, Art 28 para. 2 in conjunction with Art 29 CRD IV can also be used. The latter provisions focus on the minimum capital requirements of the different types of investment firms, depending on the investment services they provide. While Art 3a para. 1 lit. 6b Banking Act explicitly states which persons may operate an MTF, this is not the case under national law in Art 3a para. 1 lit. 6b Banking Act with regard to an OTF. Recital 121 of MiFID II makes it clear, however, that market operators may also operate an OTF.

[529] Article 3a paragraph 1 line 6 BankG.

ments within the system" (i.e. the matching of matching orders in financial instruments, with trading venues also aiming at matching for the purpose of concluding contracts).[530] Multilateral in this sense means that a person can interact with at least two others in their trading intention.[531]

With regard to regulated markets, it should be emphasised that access to these markets is handled very restrictively at the legal level. Only banks and investment firms and other persons may be admitted as members or participants in regulated markets, provided that they are of sufficiently good repute, possess sufficient competence in relation to trading, possess the necessary organisational structure and possess sufficient financial resources to perform their functions.[532] A more in-depth discussion of regulated markets can be dispensed with, especially since Liechtenstein does not even have a separate Stock Exchange Act, which makes a more extensive discussion largely impossible. 284

Consequently, it is essential for multilateral systems that a contract for the purchase or sale of financial instruments is concluded or mutual interests are brought together on a system - this can be a software-based platform or another set of rules (technological neutrality). Clearing and 285

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[530] Article 3a paragraph 1 line 6a of the Banking Act.

[531] *Müller/Meljnik* in *Wohlschlägl-Aschberger* (Hrsg), MiFID II, 2.2 The OTF as a multilateral trading facility.

[532] Article 55d(1) Banking Ordinance. Cf. para. 2 leg cit, according to which members and participants do not have to comply with the obligations of Art 8a to 8h BankG, whereby these obligations, which are directed at banks and investment firms, must in any case be complied with vis-à-vis their customers. Accordingly, it is also clear that only licensed financial intermediaries can participate in such trading centres.

settlement is usually carried out by central clearing houses and central securities depositories, as otherwise further approvals may be required.[533] In addition, the focus on financial instruments is particularly noteworthy. Accordingly, multilateral trading centres are used for trading in financial instruments and not for trading in commodities. Accordingly, it should be noted that tokens and crypto-currencies can never be traded in their entire diversity of types on a marketplace regulated by financial market law. Only tokens representing financial instruments can be traded on these markets.[534] It should be noted that the German Banking Act treats not only transferable securities under MiFID II but also so-called units of account as financial instruments under national law.[535] Tokens, which - according to Liechtenstein law - do not represent financial instruments (and also no e-money; such as the virtual currencies BTC or ETH), cannot and may not be traded in Liechtenstein on a trading place such as an MTF due to the lack of classification as financial instruments. In Germany, on the other hand, a crypto stock exchange that has a multilateral structure and relates to tokens that represent digital content or virtual currencies according to Liechtenstein's understanding, and that combines buying and selling

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[533] For example, cash flows resulting from the settlement of a transaction with financial instruments would represent the provision of payment services requiring authorisation. The clearing obligation for standardised OTC derivative contracts pursuant to Art 4 EMIR must also be observed.

[534] See *Seiffert*, Börsen und andere Handelssysteme in *Kümpel/Wittig* (Hrsg), Bank- und Kapitalmarktrecht, 4th edition, 2011, Rz 4.65.

[535] § Section 1 (11) (7) KWG - "Units of account".

interests with respect to such tokens, must also apply for and obtain a license as an investment firm with an MTF or OTF.[536]

Only qualified participants may participate in the regulated market. Participation in a multilateral trading facility (MTF) is modelled on this regime. In [537]accordance with Community law, access to an MTF is regulated as strictly as access to regulated markets. In Liechtenstein's national laws, this results from Art 55m para. 2 BankV in conjunction with Art 55l para. 1 lit e no. 3 BankV in conjunction with Art 55d para. 1 BankV.[538] For both MTF and OTF, access to trading systems must be based on transparent, objective and non-discriminatory criteria.[539] OTFs should not require members or clients to be direct clearing members of a central counterparty (CCP).[540] 286

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[536] See *Patz*, Trading Platforms for Crypto Currencies and Cryptoassets, BKR 2019, S 435.

[537] Article 18 (3) in conjunction with Article 19 (2) in conjunction with Article 53 (3) MiFID II or Article 14 (4) in conjunction with Article 42 (3) MiFID I, ELI: http://data.europa.eu/eli/dir/2004/39/oj.

[538] Retail customers or non-professional investors cannot therefore participate in an MTF. Only professional or institutional investors (eligible counterparties) can participate as trading members. These are defined in Annex II of MiFID II and Annex 1 of the Banking Act.

[539] See Art 35 and 36 MiFIR.

[540] ESMA Questions and Answers ESMA70-872942901-38 of 12.07.2019, Multilateral
and bilateral systems (last updated on 02.04.2019), Question 3, last updated on 07.07.2017 (p 36 f), https://www.esma.europa.eu/sites/default/files/library/esma70-872942901-38_qas_markets_structures_issues.pdf.

Investment firms are required to trade in shares on regulated markets, MTFs, OTFs, SI or equivalent third-party trading venues. This requirement may[541] effectively prohibit investment firms from trading outside such execution venues, such as a decentralized exchange (DEX), unless such trading in shares (including in the form of tokens) is not systematic, irregular, ad hoc and infrequent[542], or is concluded between eligible and/or professional counterparties.[543]

288 Regulated markets and MTFs both cover organised trading to the exclusion of bilateral systems. In bilateral systems, an investment firm or market operator enters into transactions for its own account (proprietary trading). An investment firm that trades on its own account does not act as a risk-free intermediary between buyer and seller, as is the case with trading venues where the matching of interests (and hence agency trading as opposed to matched principal trading) is carried out[544] (multilateral relationship).

289 The term "system" used in the provisions on regulated markets and MTFs, and from MiFID II onwards also in the provisions on OTFs, is to be seen as technology-neutral and covers both markets that are only implemented on the basis of a set of rules and regulations and those markets that comprise a set of rules and regulations together with a trading platform. No systems of a technical nature need to be used to

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[541] This also applies to an OTC market maker.

[542] Partially equivalent counterpart of the criteria for systematic internalisers.

[543] Art 23 (1) MiFIR; trading transactions with certain derivative contracts are also subject to a trading obligation, Art 32 (1) in conjunction with Art 28 (1) MiFIR.

[544] Cf. Chapter II.2.4.5 regarding the differences between the matched principal and agency trading.

bring together interests and ultimately orders. Such a system is defined as a set of rules and regulations that lays down membership requirements, trading among members, tradable financial instruments, reporting obligations and, where applicable, transparency obligations.[545]

An MTF can trade a wide range of financial instruments, especially equity instruments; this is not the case with an OTF. Unlike regulated markets, there is no obligation to contract for MTFs and OTFs.[546] 290

The characteristic which aims to bring together buying and selling interests must be interpreted extensively and includes not only orders and quotes but also pure expressions of interest. With regard to the sufficiency of expressions of interest and the general, broad interpretation, the existence of an organised trading venue will not regularly fail on this element. It is important to note that the interests are brought together on the basis of the determined system rules or according to the system protocols and internal operating procedures of the operator. In contrast to OTFs, these rules must not allow for any discretion with regard to conceivable interferences between interests and are therefore non-discretionary. According to the legal definition, the pooling of interests must be such that it results in the conclusion of a contract. OTFs, on the other hand, can operate in part according to certain established discretionary rules, which are specified in general terms and conditions or comparable conditions.[547] 291

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[545] See Recital 6 MiFID I.

[546] The situation is different for regulated markets; see the Austrian literature by *Seiffert*, Börsen und andere Handelssysteme in *Kümpel/Wittig* (Hrsg), Bank- und Kapitalmarktrecht, 4th edition, 2011, Rz 4.59.

[547] See Recital 6 MiFID I.

292 Finally, it should be noted that tokenised financial instruments traded on regulated markets, MTFs or OTFs are also subject to the CSD Regulation and therefore - even if this may sometimes contradict the decentralised nature of the technology - must be deposited with a CSD.[548]

2.4.1 Multilateral Trading Facility (MTF)

293 An MTF is a multilateral system in which a contract is concluded by matching financial instruments within the system according to non-discretionary rules.[549] Under non-discretionary rules, agreements under private law are to be regarded as free from any discretion, which differ from statutory or public-law non-discretionary trading rules for regulated markets. Accordingly, an operator of an MTF may not enter into transactions at his discretion and may not intervene on a discretionary basis, e.g. by matching matching client orders in the sense of matched principal trading.

294 MTFs may not trade for their own account or against their own book and must have at least three members.[550] MTFs are subject to lower requirements than regulated markets. This has a particular impact on authorisation.[551] Operators of MTFs must in particular take precautions to

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[548] Article 3(2) CSDR (Central Securities Depositories Regulation, Regulation EU 909/2014), ELI: http://data.europa.eu/eli/reg/2014/909/oj. Pursuant to Art 76 para. 2 CSDR, the holding of transferable securities admitted to trading on trading venues is only applicable to transferable securities issued after January 1, 2023 by means of book-entry book-entry transfers, or to all transferable securities from January 1, 2025 onwards.

[549] Article 3a paragraph 1 line 6b BankG.

[550] See Art 18 (7) and Art 19 (5) MiFID II.

[551] Cf. the separate authorisation regime for regulated markets in Title III (Art 44 ff) of MiFID II and that for investment firms in Title II (Art 5 ff) of MiFID II.

ensure that risk limitation, such as risk diversification, is implemented. Furthermore, efficient mechanisms for frictionless trading must be implemented and sufficient financial resources must be available at all times.[552]

Listing or admission to trading on an MTF also entails post-admission obligations for issuers of financial instruments. For example, they must also comply with[553] the ad hoc publicity obligation and other provisions of the MAR[554] or MAD.[555][556] In general, the operator of an MTF must agree access to the system with the access rules of regulated markets. With regard to organisational rules, the differences between the two trading venues - MTF and regulated market - are minimal. It[557] should be noted that investor protection provisions on transactions carried out by an investment firm in its capacity as operator of an MTF are not taken into account.[558] 295

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[552] Article 19 (3) MiFID II.

[553] Publication of insider information according to Art 17 MMVO.

[554] Market Abuse Regulation EU 596/2014, also MMVO (Market Abuse Regulation), ELI: http://data.europa.eu/eli/reg/2014/596/oj.

[555] Market Abuse Directive 2014/57/EU, ELI: http://data.europa.eu/eli/dir/2014/57/oj. Please note that neither the MAR nor the MAD are applicable in Liechtenstein. The Market Abuse Act and the Market Abuse Ordinance of Liechtenstein are still based on Directive 2003/6/EC ELI: http://data.europa.eu/eli/dir/2003/6/oj. In the absence of a decision of the EEA Joint Committee, the MMVO is also not directly applicable to Liechtenstein.

[556] Art 31 (1) MiFID II applies equally to MTF and OTF.

[557] Atz 19 (2) in conjunction with Art 18 (3) in conjunction with Art 53 (3) MiFID II.

[558] Art 19 (4) in conjunction with Art 24, 25, 27, 28 MiFID II. Members or participants of an MTF must, however, comply with these provisions vis-à-vis their clients if they execute their orders.

296 For MTFs, in addition to the traditional structure, there is also the possibility of registration as an SME growth market. The[559] requirements for such markets are that at least 50% of the issuers are small and medium-sized enterprises, that suitable criteria for the admission of issuers' financial instruments are defined, that sufficient information on primordial admission is made available to enable informed investment decisions, that the provisions of the Market Abuse Ordinance including the prevention of market abuse are complied with and that an issuer reports financial reports on an ongoing basis. In SME growth markets, the interests of investor confidence of SMEs vis-à-vis those of the administrative burden of issuers are in tension.

297 The clearing and custody services resulting from a trade on an MTF must be provided by institutions authorised for these tasks (central counterparty or CCP for the clearing of derivatives - which can also be represented in a security token - and a central securities depository or CSD for the settlement of transactions in financial instruments held in the securities giro).

298 For financial instruments as defined by MiFID II,[560] MiFIR applies, which means that an MTF must meet the requirements of pre- and post-trade transparency. This means, for example, that current bid and ask prices and trading interests as well as the price, volume and timing of transactions must be published (Articles 3 to 10 MiFIR).

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[559] Article 33 MiFID II and Article 30t (6) Banking Act.

[560] These also open up the scope of application of market abuse legislation and require MTF participants to comply with the provisions against insider dealing and market abuse.

An MTF has an interest in working with a CCP because, on the one hand, a CCP is placed between the buyer and the seller (central counterparty), which results in a less complex risk exusus, and, on the other hand, the settlement risks (counterparty default risk in settlement) are reduced when offsetting transactions between several counterparties (netting) by requiring collateral.[561]

Derivatives traded on a regulated market must be cleared by a CCP. In addition,[562] transactions in derivatives must be reported to a registered or recognised trade repository.[563] 300

Tokens that qualify as financial instruments and are admitted and traded on a trading venue must be issued in dematerialised form from 01.01.2023 and 01.01.2025 respectively, and must be recorded and maintained in book-entry form (in the securities giro) by a central securities depository.[564] 301

In accordance with EU law, non-discriminatory access to both a CCP[565] and a CSD[566] must be granted. This means that there is a legal right to 302

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561 See, for example, recital 66 EMIR.

562 Art 2 (1) No 29 in conjunction with Art 29 (1) MiFIR. Arg e contrario, transactions with financial instruments that are not derivatives are not subject to clearing. It follows from Art 55q para. 1 Banking Ordinance that an MTF may also conclude agreements on the clearing and/or settlement of transactions within the system with a central counterparty or clearing house (CCP) and a settlement system (CSD) of another EEA member state.

563 Art 9 in conjunction with Art 55 or Art 77 EMIR.

564 Art 3 Abs 1 iVm Art 76 Abs 2 CSDR (Central Securities Depository Regulation), ELI: http://data.europa.eu/eli/reg/2014/909/oj.

565 Art 37 EMIR.

566 Art 33 CSDR.

access these facilities, but it must be taken into account that most of the existing institutions must first implement a technical interface to the block chain in order to actually be able to feed security tokens, which represent financial instruments, into such regulated trading systems.

303 It should also be noted that an operator of an MTF may provide ancillary services pursuant to Annex 2 Section B of the Banking Act and Annex I Section B of MiFID II as well as non-regulated ancillary services.[567] A conflict with Art 19 (5) MiFID II does not arise here, as the execution of client orders or proprietary trading within the meaning of MiFID II always relates to financial instruments (Annex I Section A Nos. 2 and 3 to MiFID II). It should be noted that regulated and unregulated ancillary services cannot be notified on their own under the EU passport system.[568]

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[567] FCA, The Perimeter Guidance manual (PERG), Release 42 September 2019, Section 13.3, Investment Services and Activities, S 15 f (Q26), https://www.handbook.fca.org.uk/handbook/PERG.pdf, accessed 15 September 2019.2019, 17:39 -*"an investment firm* [...] *can apply for passporting rights that include ancillary services* [...] *if ancillary services are* [carried out] *together with one or more investment services and activities; and where the ancillary service is also a regulated activity* [...]", arg e contrario, it must also be possible for an investment firm operating an MTF to provide ordinary ancillary services that do not constitute investment services within the meaning of Annex I Section B to MiFID II and are therefore not passportable.

[568] FCA, The Perimeter Guidance manual (PERG), Release 42 September 2019, Section 13.3, Investment Services and Activities, S 15 f (Q26), https://www.handbook.fca.org.uk/handbook/PERG.pdf, accessed 15 September 2019.2019, 17:39; cf. also *Schopper/Raschner*, Die Aufsichtsrechtliche Einordnung von Krypto-Börsen in Österreich, ÖBA 4/2019, p. 249 (264 f), whereby an organisational separation must be realised, as an MTF is a multilateral system that brings together buying and selling interests in relation to

2.4.2 Conclusion MTF

In the following, the above abstract scheme is used to show in a simplified form how a specific trading transaction is typically executed on an MTF: 304

1. A trading transaction is concluded between two trading members (authorised financial intermediaries) of an MTF via the trading platform of the MTF; if applicable, for the purpose of fulfilling an underlying order of an end customer (economic buyer or seller);

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financial instruments for the purpose of concluding a contract. I.e. tokens representing financial instruments and tokens not representing financial instruments cannot be held on the same trading venue. A clear distinction is made in ESMA Advice, Initial Coin Offerings and Crypto-Assets, 9 January 2019 | ESMA50-157-1391, https://www.esma.europa.eu/sites/default/files/library/esma50-157-1391_crypto_advice.pdf, Rz 179 (p. 39 f), on the other hand, implies that tokens representing financial instruments and tokens not representing financial instruments can be traded on the same trading venue (*"investors may not easily distinguish between those crypto-assets that are within the scope of EU financial services rules and those that are not, especially when they are available for trading on the same venues").* Even if one and the same operator offers trading in tokenised financial instruments and tokens, which are neither financial instruments nor e-money, this is not the same trading venue or platform. However, the operator of an MTF may also operate a trading venue for non-regulated tokens in isolation from the MTF (on which tokens representing financial instruments are listed). This is also arguably contrario, for example, from other financial market laws such as Art 24 (1) VersAG. This provision prohibits insurance companies from engaging in activities that are not related to insurance. This follows the rationale that the insurance fund would otherwise be attacked. MiFID II and the Banking Act do not contain a similar telos or a comparable provision, which also argues in favour of the permissibility of the execution of non-regulatory ancillary services by a financial intermediary such as an investment firm, provided that organisational separation takes place.

2. The transaction (the pooled interests) is transmitted by the MTF to the clearing house (Central Counterparty; CCP);[569]
3. Clearing takes place between the clearing house and the clearing members;
4. A reconciliation between the clearing members and the trading members takes place (determination of reciprocal claims);
5. The clearing house (CCP) transmits instructions to the settlement agent for settlement (Central Securities Depository; CSD);
6. The settlement platform (CSD) then effects the actual transfer of the financial instruments in question and also ensures the actual transfer of the corresponding funds; settlement is effected by book entry;
7. Ultimately, the reconciliation between the members of the CSD and the clearing members takes place.

2.4.3 Organised Trading Systems (OTF)

305 Organised trading systems differ from MTFs primarily in that the matching of interests is limited to non-equity instruments, namely bonds, structured financial products, emission certificates or derivatives,[570] and that this matching can also be carried out according to discretionary, thus discretionary, fixed rules, provided that pre-trade

[569] The purpose of clearing is to ensure subsequent error-free settlement and thus the transfer of ownership.

[570] With the exception of derivatives which are subject to the clearing obligation pursuant to Art 5 EMIR (Art 55n para. 3 Banking Ordinance).

transparency requirements are met and best execution is adhered to.[571] This means that an OTF operator is free to decide to what extent client orders are specifically matched within the system. OTFs may in principle not execute client orders using equity capital and may not execute orders against their own book, with the exception of government bonds. As a[572] result, OTFs do not have trading participants but clients, as they can only act bilaterally to a limited extent (trading for their own account and therefore not matching client orders).[573]

In this context, there is a striking difference between an OTF and MTF or regulated markets. OTFs are free to decide whether or not to be authorised or restricted to participate in their system, whereas MTFs and regulated markets have clear rules on who can participate in these systems. OTFs do not have participants but clients in certain cases (with regard to government bonds) due to the legal possibility of limited bilateral appearance in legal transactions, as they can act not only as risk-free intermediaries but also as bilateral counterparties in addition to pooling interests. The admission parameters mentioned may, for example, relate to minimum latency requirements. Nevertheless, these rules must also be transparent and non-discriminatory for OTFs. OTFs are accordingly less restricted in the admission of clients or the execution of orders from platform users than MTFs or regulated markets. However, an OTF may execute a client order when it decides to do so, but

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[571] Article 3a paragraph 1 line 6c of the Banking Act.
[572] Public debt instruments for which no liquid market exists in accordance with Art. 55n paras. 1 and 5 Banking Ordinance.
[573] Art 20 (1) to (6) MiFID II

may not unilaterally deviate from the client's instructions regarding purchase or execution.[574]

307 The provisions on pre- and post-trade transparency and best execution can only be applied to an OTF when Matched Principal Trading is executed. For an MTF, these standards apply throughout, as the MTF may not operate bilaterally.[575]

308 The exercise of discretion mentioned at the beginning of this section relates to the decision to place or withdraw orders on an OTF (order discretion)[576] and to the decision whether or not a specific order will be matched with those already in the system (at a given time) (execution discretion)[577]. Transparent rules for the exercise of discretion are required and investor protection rules apply to the execution of orders.[578]

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[574] Recital 14 MiFID II.

[575] See Art 24 ff MiFID II; Art 8e BankG.

[576] Art 55n para. 8 lit a BankV; only insofar as this does not conflict with any customer instructions. It would be conceivable that the operator of an OTF executes an order partially on one trading venue and then forwards the remaining order to another trading venue, or that an order already placed is cancelled altogether, since a better result can be achieved on another trading venue.

[577] Art. 55n para. 8 lit b Banking Ordinance; if, for example, an order for 1000 units of a financial instrument is matched on the bid side by two matching orders on the ask side, an OTF operator can decide whether, to what extent and how to execute the order (on an MTF, however, order execution would be organised without any discretion). This discretion must be in line with client instructions and the Best Execution Policy.

[578] Information obligations pursuant to Art 24 MiFID II; assessment of suitability and expediency pursuant to Art 25 MiFID II; obligation to execute orders in the most favourable manner for the client (best-execution obligation) pursuant to Art 27 MiFID II and the rules for processing client orders (Art 28 MiFID II).

Finally, it should be noted that OTF and Systematic Internalisers (SI) are not operated by the same legal entity. There must also be no links between an OTF and an SI or another OTF.[579] 309

2.4.4 Systematic internalisers (SI)

Systematic internalisers are investment firms (or, under national law, banks)[580]which[581], when they execute client orders without operating a multilateral system, frequently and to a significant extent trade for their own account in an organised and systematic manner.[582] SIs are therefore market-like infrastructures[583], but only involved in bilateral trading. 310

MiFID II does not define the constituent element of the bilateral regime and therefore only allows a negative definition. The distinction is not based on the modalities of order execution, but on the function that a trading venue operator performs. A distinction is made between the 311

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[579] Article 20 (4) MiFID II: Article 55n (6) Banking Regulation; see also recital 17 of DelVO 2017/565 on MiFID II, ELI: http://data.europa.eu/eli/reg_del/2017/565/oj.

[580] Article 3a paragraph 1 line 34 of the Banking Act.

[581] Trading on own account within the meaning of Article 4 (1) No. 2 MiFID II is not deemed to be trading on own account if *an investment firm participates, with the aim or effect of carrying out de facto risk-free back-to-back transactions in a financial instrument outside a trading venue, in combination systems which it has set up with entities not belonging to its own group.* (Art 16a of Del Regulation 2017/2294 amending Del Regulation 2017/565, ELI: http://data.europa.eu/eli/reg_del/2017/2294/oj).

[582] Art 4 (1) no 20 MiFID II.

[583] Cf. the concept of execution venue pursuant to Art 64 (1) last sentence of MiFID II

neutral and risk-free intermediary position on the one hand and the bilateral counterparty that executes orders against its own trading positions on the other. As explained, the OTF already breaks the precise dividing line between the two systems. A trading venue operator that would accept orders against its own positions would in principle be subject to a conflict of interests, as neutrality is no longer guaranteed.

312 Under the MiFID regime, proprietary trading or trading for own account is defined as *trading using own capital, which leads to the conclusion of transactions with one or more financial instruments.*[584] According to Annex I Section A No. 3 of MiFID I and II, proprietary trading constitutes an investment service. In Annex 2 Section A para 1 no. 3 of the Banking Act, proprietary trading was defined as follows, based on three different cases: *Trading in financial instruments for own account if and to the extent that* [1st case] *it is carried out by banks and investment firms or* [2nd case] *as market making or if* [3rd case] it is *frequently traded for own account outside a regulated market or a multilateral trading system in an organized and systematic manner by operating a system accessible to third parties which serves to conclude contracts for financial instruments.* This definition is based on Recital 8 or Art 2 (1) (d) of MiFID I.

313 The definition in Annex 2 Section A of the Banking Act was introduced in Liechtenstein on the basis of MiFID I[585] and the definition was apparently no longer harmonised with Art 3a para. 1 no. 34 of the Banking Act, as the former forgets to a considerable extent about the element of trade. Art 4 (1) (20) of the second paragraph of MiFID II directly defines that "in a systematic manner frequently" refers to the number of OTC

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[584] Art 4 (1) (6) MiFID I and II, cf. the reference in Art 2 (1) (5) MiFIR.

[585] LGBl 2007/261 of 20.09.2007, in force since 01.11.2007

transactions with a financial instrument, while the "substantial extent" is measured by the percentage that OTC proprietary trading occupies of the total trading volume of an investment firm or the trading volume in the European Union with respect to a financial instrument.[586] The elements of frequent and systematic trading must be cumulative.[587] An investment firm may also make a conscious decision to be subject to the rules of a systematic internaliser. However,[588] if the thresholds established by ESMA are reached in order to establish the status of systematic internaliser, transparency, best execution and reporting obligations shall be complied with.[589] For example, players who operate on a DEX (decentralised exchange) with regard to financial instruments (security tokens) and exceed the thresholds mentioned above can sometimes be qualified as systematic internalisers.[590]

Furthermore, the activity of a systematic internaliser must be carried out by staff or by means of an automated technical system provided for 314

[586] See ESMA benchmarks against which an investment firm must calculate whether it qualifies as a systematic internaliser, https://www.esma.europa.eu/data-systematic-internaliser-calculations, accessed 15.09.2019, 17:42
[587] Cf. BaFin information on the facts of proprietary trading and own-account trading dated 22 March 2011, last amended on 15 May 2018, Chapter 1. b), https://www.bafin.de/SharedDocs/Veroeffentlichungen/DE/Merkblatt/mb_110322_eigenhandel_eigengeschaeft_neu.html
[588] https://www.esma.europa.eu/data-systematic-internaliser-calculations.
[589] Cf. Article 21 (3) of the MiFID I Implementing Regulation, ELI: http://data.europa.eu/eli/reg/2006/1287/oj.
[590] See Chapter II.2.5.

that purpose. It is not necessary that the personnel be exclusively dedicated to this purpose or that the system be exclusively adapted to this purpose.[591]

315 It is interesting in this context that the technology-neutral concept of a system is not used here, as it is inherent in the multilateral system under MiFID II and is generally based on a set of rules.[592] However, it is inevitably clear from the wording of the Implementing Regulation that it is not necessary for the investment firm to operate this system itself; this is formulated in a way that is unclear under national law. Here it says that in the case of proprietary trading in relation to systematic internalisers, a *system accessible to third parties is operated*[593]. In addition to general obligations such as best execution,[594] the Banking Ordinance regulates[595] further obligations for systematic internalisers. In this context, systematic internalisers must, for example, execute orders relating to financial instruments at the price offered at the time the order was received. In addition, quarterly reports on the execution quality must

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[591] Art 21 (1) lit b DVO-MiFID I (EC/1287/2006); cf. a Art 12 to 17 of the Delegates Regulation EU 2017/565, ELI: http://data.europa.eu/eli/reg_del/2017/565/oj, according to which a certain percentage of transactions must be carried out in certain periods.

[592] It should be noted that a Systematic Internaliser does not use a multilateral system.

[593] Annex 2 Section A para. 1 no. 3 to the Banking Act.

[594] Art 24 and 25 MiFID II in conjunction with Art 64 Delegated Regulation EU 2017/565, ELI: http://data.europa.eu/eli/reg_del/2017/565/oj; cf. in general Chapter III of the Del Regulation regarding the obligations of investment firms.

[595] Annex 7.4 Section V. Bst C based on Article 14 MiFIR.

be prepared and reference data[596] on OTC derivatives must be submitted to the competent authorities. The overall result is that although systematic internalisers are subject to strict regulations, they may not combine the buying and selling interests of third parties.

316 The consequences of classification as a systematic internaliser are that an investment firm must report its activities to the competent authorities, in Liechtenstein to the FMA, which consequently monitors the obligations arising from this status. In addition, pre-trade transparency obligations must be complied with both for equity and quasi-equity instruments and for non-equity instruments. In addition, post-trade transparency obligations and obligations with respect to the execution of transactions also exist.

317 Market makers are also active in bilateral trading for their own account. Market makers are persons who[597] continuously indicate their willingness to trade on one or more financial markets by buying and selling financial instruments using their own capital for their own account at prices they set. Market makers are players on the financial market who are continuously available to other participants on the financial market as counterparties for transaction interests. In this sense, market makers act as liquidity providers on a market with regard to certain financial instruments.[598]

2.4.5 Overview of organised trading venues

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596 See Art 2 RTS 23, Del-VO 2017/585, ELI: http://data.europa.eu/eli/reg_del/2017/585/oj.

597 Thus, exchange and/or over-the-counter.

598 Article 4 (1) (7) MiFID II; Article 3a (1) (50) Banking Act.

318 The trading systems mentioned, MTF and OTF, serve to bring together matching interests in financial instruments for the purpose of concluding a contract (not to be confused with matching client orders or matched principal trading).[599] The etymology of the concept of Matched Principal Trading can be traced back to the fact that both buyer and seller act as principals with regard to their order.

319 Matching or the merging of interests with regard to financial instruments presupposes three elements: The first criterion is that an intermediary (e.g. the operator of an MTF or OTF) acts as an intermediary between buyer and seller. This intermediary is intermediated in such a way that he is not exposed to market risks at any time during the execution of the transaction (no orders are executed); the intermediary therefore acts as a risk-free intermediary (risk component based on the multilateral intermediary status). The second characteristic is based on a temporary element, whereby both transactions - buy and sell orders - are executed simultaneously against each other. With regard to the third and final element, the transaction is to be concluded by the intermediary in such a way that, apart from a transparently communicated commission or fee for the execution, no profit or loss is made from the transaction itself (element of remuneration).[600]

320 The operator of a platform on which matching client orders are pooled must therefore be licensed by the FMA as an investment firm and to operate an MTF and/or OTF. The operation of an MTF and/or OTF is

[599] Cf. the English version of Article 4 (1) (38) of MiFID II.

[600] Art 4 (1) no. 38 MiFID II.

subject to a separate license issued by the FMA.[601] It should be noted that the investment firm operating an MTF may not simultaneously be a member or participant in that MTF for the purpose of proprietary trading or matched principal trading (matching of matching client orders). The investment firm may only engage in agency trading on its own MTF, as effective mechanisms must be in place to ensure that no conflicts of interest arise. Since an investment firm operating an MTF is prohibited from trading against its own book[602], no client orders can be executed and thus no matched principal trading (combination of two matching client orders acting as principal and therefore as a matching principal). Rather, an investment firm operating an MTF acts as a risk-free intermediary which merely brings together interests, but not client orders, relating to financial instruments; this leads to the conclusion of contracts for financial instruments, but not to the performance of such contracts. An MTF or an investment firm operating one and an agency broker[603] (agent) must be separate persons. Agency trading therefore takes place on an MTF. Participating financial intermediaries such as asset managers or investment firms (with administrative authority) act as agents (agency brokers). On an MTF, the orders of such trading

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601 Art 15 in conjunction with Annex 2, Section A, para. 1, item 3 in conjunction with item 8 and/or 9 of the Banking Act; Annex 1, Section A, no. 1 lit o and p FMAG.

602 This would inevitably also lead to conflicts of interest.

603 Agency brokers act as intermediaries to execute their client orders on a trading venue. Agency brokers must observe the best execution regulations. An Agency Broker executes customer orders, while a Broker-Dealer trades in securities on its own account or on behalf of its customers.

members (contractors) are subsequently merged (buy-side and sell-side).[604]

2.4.6 Conclusion Organised trading venues

321 It follows from the above that a license from the Liechtenstein Financial Market Authority is required for the operation of an MTF or OTF pursuant to Art. 15 of the Banking Act, provided that the following elements are cumulatively available to the future trading center operator[605]:

- A system for trading in financial instruments is a prerequisite for a trading venue. The terminology of the system is to be understood in a technology-neutral way and thus generally covers sets of rules. Voice trading, for example, also falls under the system concept;
- The system must necessarily be multilateral in nature (pooling of interests relating to financial instruments of buyers and sellers through an intermediary - but not the pooling of matching orders);
- It is necessary that this system serves the execution of the trading parties' interests or, ultimately, the conclusion of client or-

[604] Art 19 (5) MiFID II; ESMA Q&A on MiFID II and MiFIR market structures topics, ESMA70-872942901-38, 02.04.2019, sections 5 and 5.1 Multilateral and bilateral systems, Q&A 1 last updated on 31.01.2017, p. 35.

[605] Cf. BaFin Leaflet on the Multilateral Trading System of 07.12.2009, last amended on 25.07.2013, https://www.bafin.de/SharedDocs/Veroeffentlichungen/DE/Merkblatt/mb_091208_tatbestand_multilaterales_handelssystem.html.

ders (however, the operator of an MTF in particular is not allowed to carry out transactions in its own name and for its own account and therefore has no clients, which is why it cannot combine client orders in the sense of matched principal trading; on an MTF, only agency trading is possible);

- As a consequence of matching the interests or orders of trading participants, there is no possibility of entering into transactions with specific counterparties on a case-by-case basis or selecting the contracting party;
- The contract is concluded within the system or platform and not outside it (the conclusion of the contract must be separated from the performance - clearing and consequently settlement). If the contract is concluded outside the system, it is sometimes a pure information system or bulletin board;[606]
- Ultimately, the system must be designed to bring together the interests of a large number of trading participants and not simply to serve the purpose of concluding individual trade transactions. Pursuant to Art 18 (7) MiFID II, MTFs or OTFs must have at least three members or users who can interact with each other for pricing purposes.

2.4.7 Reproduction of a CCP for utility tokens and advantages of the block chain

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[606] Cf. *Seiffert*, Börsen und andere Handelssysteme in *Kümpel/Wittig* (Hrsg), Bank- und Kapitalmarktrecht, 4th edition, margin no. 4.64; depending on the specific form, however, the acceptance and transmission of orders is conceivable (Annex 2 Section A para. 1 line 1 to the Banking Act); cf. also Chapter II.2.5.

322 The system of a central counterparty (clearing houses), which is frequently encountered in financial market law, can also be emulated in connection with the matching of tokens which are neither financial instruments nor e-money ("utility tokens" or "commodity tokens" in the sense of digital contents or virtual currencies).[607] In order to represent a comprehensible and meaningful process, the premise is formed that a User A wants to acquire BTC with ETH on a trading platform for Tokens, while a User B wants to acquire the corresponding amount in ETH by means of BTC or sell BTC against ETH. In the following, a possibility of how such a matching can be carried out is shown:

- Users A and B register on a trading platform for tokens that represent neither financial instruments nor e-money;
- User A would like to acquire BTC with his ETH;
- User B wants to sell BTC (against ETH);
- Subsequently, two steps are executed in synchronism:
    - User A transfers ETH to the operator of the trading platform for tokens, whereby the legal reason for the transfer is the acquisition of BTC from the operator of the trading platform as central counterparty in accordance with a contractual agreement (e.g. with deferment of payment for one legal second);
    - User B transfers BTC to the operator of the trading platform for tokens. In this case, the legal reason for the transfer is the sale of BTC to the operator of the trading

[607] This can also be interesting in connection with the internal token on a crypto-exchange as mentioned in Chapter II.2.2.2

platform as Central Counterparty in accordance with a contractual agreement.

- The operator of the trading platform for tokens has subsequently acquired ETH from user A for at least one legal second and owes user A BTC for this. At the same time, the trading platform operator has acquired BTC from User B for at least one legal second and owes ETH to User A in return;
- The operator of the trading platform for tokens fulfils its obligation to User A with the BTCs acquired by User B. At the same time, the operator of the trading platform for tokens fulfils his liability towards User B with the ETH purchased by User A.

The charm of the use of block chain technology or smart contracts for the concrete execution in the above sense lies in the fact that the operator of the trading platform for tokens as the central counterparty holds the respective tokens for at least one legal second. However, due to the technological requirements, such a transaction is executed and processed automatically almost in real time and via a smart contract (conclusion and fulfilment of a contract). As a result, the counterparty risk (default risk) is de facto completely eliminated and this represents an enormous potential for the financial market. If block chain technology is fully implemented in the future, highly regulated markets such as multilateral trading centres could operate much more efficiently and 323

economically. From this perspective, block chain technology and related technologies can[608] be seen as a harbinger of Pareto efficiency.[609] Distributed ledger technologies can at least partially replace the existing regulatory burden with technology to prevent market failure. *"On the positive side, it should be noted that the competition of Fintechs with universal banks leads to lower prices, improved products or an increase in the variety of offers. The fact that in the longer term, a considerable share of the earnings of the standardised banking business is likely to be taken over by Fintechs is also harmless in terms of competition law".*[610]

324 Dabei darf aber nicht übersehen werden, dass die Kryptomärkte bislang wirtschaftlich betrachtet ineffiziente Märkte sind, welche Arbitrage-Handel und auch Marktmanipulation ermöglichen; hierzu ein Auszug: *„By mapping the blockchains of Bitcoin and Tether, we are able to*

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608 From a macroeconomic perspective, such markets would require no or at least less regulation to achieve Pareto efficiency. Also, an asymmetric distribution of information due to a principal-agent conflict can be better combated by the technically given publicity and transparency of the technology than by regulation. In economics, asymmetric information distribution is one of the four market failures besides externalities, market power - monopoly/monopson and public goods. Regulation is intended to prevent and counteract market failures, but it is an independent cost factor, which is why perfect efficiency is not achieved. This situation could be approached by means of block chain technology. In this context, see also the monitoring problem and agency costs, *Jensen/Meckling*, Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure, p. 45 f.

609 See BuA 2019/54, p. 80 f. with regard to avoiding excessive regulation.

610 *Müller*, Europarechtliche Aspekte von Fintechs, in *Krimphove* (Hrsg), Fintechs, p 83 (p 92); from the point of view of competition law, it should not be forgotten that competition law does not provide protection of competition.

establish that entities associated with the Bitfinex exchange use Tether to purchase Bitcoin when prices are falling. Such price supporting activities are successful, as Bitcoin prices rise following the periods of intervention. These effects are present only after negative returns and periods following the printing of Tether. Indeed, even less than 1% of extreme exchange of tether for Bitcoin has substantial aggregate price effects. […] Overall, our findings provide substantial support for the view that price manipulation may be behind substantial distortive effects in cryptocurrencies. These findings suggest that external capital market surveillance and monitoring may be necessary to obtain a market that is truly free. More generally, our findings support the historical narrative that dubious activities are not just a by-product of price appreciation, but can substantially contribute to price distortions and capital misallocation."[611]

However, the general prohibition of trading crypto-currencies would be contrary to fundamental rights in the EU and EEA in accordance with the freedom of business in Art. 16 of the Charter of Fundamental Rights (GRC), the freedom of ownership in accordance with Art. 17 GRC and the principle of equality in Art. 20 GRC, which offers a claim to competition and technology neutrality. Individual restrictions would, however, be permissible in principle if justified (e.g. for reasons of consumer protection, for which the investor protection provisions of MiFID II can also be applied analogously in relation to financial instruments).[612] However, the assessment of Libra under competition law, taking into account the prohibition of abuse in Art 102 TFEU, seems 325

[611] *Griffin/Shams*, Is Bitcoin Really Un-Tethered?, 13.06.2018, S 33, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3195066.

[612] With regard to Libra, see also the comments on the e-money regime under margin note 396.

more problematic. Such an abusive exploitation of a dominant position in the internal market could be seen specifically in the fact that a dominant position of Facebook in the area of social media is used to achieve an equally dominant position in the area of payment services (monopolisation of data).

2.5 DEX as a trading venue and other investment services

326 A decentralized exchange (DEX) is a decentralized trading place based on distributed ledger or block chain technology. The design of the software varies, but in most cases a matchmaking system is directly integrated into the decentralized network and such software systems regularly provide mechanisms for the conclusion and fulfillment of contracts in relation to tokens or the rights represented by tokens. Well-known practical examples for decentralized trading places are EtherDelta[613], IDEX[614], Token Store[615], OasisDex[616] or the Stellar DEX[617]. On these systems decentralized, i.e. peer-to-peer (P2P) tokens, which sometimes represent financial instruments, can be traded. A characteristic feature of these systems is that both order book including custody,

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613 accessed September 15, 2019, 17:46.

614 called on 09/15/2019, 17:46.

615 called on 09/15/2019, 17:46.

616 called on 15.09.2019, 17:46.; with the Oasis Protocol, the order book is kept on-chain and matching and settlement are also carried out on-chain, which is why this Protocol is completely decentralised. Oasis is a decentralized P2P swap protocol, which is public, non-custodial, on which orders related to ERC-20 based tokens are executed following the logic of permissionless Smart Contracts.

617 called on 09/15/2019, 17:46.

matching and settlement are executed on-chain - sometimes by using Smart Contracts.[618]

With regard to the criteria elaborated in Chapter 2.4 and summarised in particular in Chapter 2.4.6 the constituent element of the system for trading in financial instruments is thus basically fulfilled. The technological system of a DEX fulfills the requirements of a system to represent a set of rules according to which financial instruments can be traded. However, one problem here is that trading on organised trading venues under the MiFID regime relates exclusively to financial instruments. However, this would merely be an incorrect implementation on a DEX and the existence of a regulated marketplace cannot yet be ruled out, simply because tokens are traded on them that do not represent financial instruments as well as those that do represent financial instruments. If the regime of trading venues were to apply to a DEX, this would mean that only financial instruments could be traded there. 327

However, the second emerging criterion of organised trading venues, the mandatory existence of multilateral systems, is already causing major difficulties. This is for two reasons: On the one hand, a DEX does not have a central intermediary to operate the system, but the technical system is virtually self-sufficient. On the other hand, bilateral trade is possible on such systems, whereas multilateral trade is not necessarily required. However, if such a multilateral system is integrated, it will in principle be executed by a technological instance of the system itself. The execution of the parties' interests or the conclusion of customer orders by a set of rules is also based on a central intermediary (customer 328

618 Exceptions confirm the rule - EtherDelta, for example, does not provide for matching. Order book and matching are kept or performed off-chain at IDEX.

or participant), which is not available in a decentralised network or in a Smart Contract of the same, however, due to the lack of legal subjectivity of the latter.[619]

329 It should be noted that the above comments are generally made in a generalised manner and without detailed technical discussion of specific decentralised platforms. For a concrete assessment, the individual technical processes and procedures must always be analysed. However, the succinctness is that a DEX cannot be a regulated trading venue or financial market player. This is already due to the fact that a legal entity capable of regulation is missing, especially since the technology itself cannot be subject to supervision. However, the interaction with a DEX by central entities must be assessed separately from this. In connection with tokens, which represent financial instruments, investment services can sometimes be provided. A distinction must therefore be made between a DEX as "backend" and an interface to the DEX as "front-end" (also bulletin board).

330 Such an interface in the sense of an API[620] can, for example, be characterized by the fact that information relating to purchase and sale offers of certain tokens on a block chain, which represent financial instruments, is made accessible in graphically prepared form, whereby the

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[619] It should be noted that the operator of a software interface (in the sense of a bulletin board) on a DEX could also be regarded as a risk-free intermediary who combines the interests of third parties with respect to certain tokens. However, it must be taken into account that there is regularly much more of a pure information platform, which is provided by a technical service provider, and that the conclusion (and not only the fulfillment) takes place outside the system.
[620] Application Programming Interface.

basic information can also be viewed directly on the block chain without an interface. Such a software bridge can aim at facilitating the procurement of information or the exchange of information regarding offers to buy and sell from other users of a block chain, since this data is presented in graphically processed form (information platform, "bulletin board"). Such an information platform would facilitate the inspection of and communication about transaction offers concerning certain tokens on a block chain. Depending on the design of the interface, it is also possible that new offers to buy or sell are listed on a block chain via a front-end platform. Accordingly, such a software platform would enable users to view and evaluate buy and sell offers from other users regarding certain tokens representing financial instruments and currently carried on a block chain in a simplified and graphically processed manner; furthermore, by using such an interface, offers regarding tokenised financial instruments could be created directly on the block chain.

If such a platform enables clients to trade financial instruments by making it easier for front-end users to obtain information on tokenised financial instruments, which can then be used to initiate the conclusion of a contract, the question arises whether a multilateral trading facility is being operated or another investment service is being provided. It depends on whether the system is designed to bring together the interests of users of such a software front-end according to certain rules defined in advance. As a rule, however, such a platform will not be designed to perform agency trading or matched principal trading. Rather, service providers offering a software bridge to a DEX will act as technical information service providers and service providers (in the sense of "software as a service") for persons interested in trading tokenized 331

financial instruments by providing a software platform with a bulletin board function or a bulletin board[621] (i.e. a pure information platform).[622]

332 If such a platform only serves to identify interested parties with regard to the purchase or sale of tokenised financial instruments and does not offer the possibility of concluding a contract for financial instruments or other content on such a platform and therefore has no obligation to fulfil a contract via the platform, there can be no multilateral trading platform such as an MTF or OTF or any other financial market player such as an SI.[623] If such a software interface is designed in such a way

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[621] The ESMA Report 50-164-2430 of 12.07.2019, Licensing of FinTech business models, https://www.esma.europa.eu/sites/default/files/library/esma50-164-2430_licensing_of_fintech.pdf, margin no. 92, states in this regard that national supervisory authorities have classified such comparison platforms or bulletin boards as fundamentally completely unregulated, whereby a case-by-case examination must be carried out in order to be able to assess any activities requiring authorisation depending on the concrete scope of functions of such platforms.

[622] In practice, there are a large number of such software platforms, whereby it is not always easy to understand in detail how they work or whether an interface to a DEX is available or a DEX itself. Cf. the project DSTOQ, which uses the Stellar DEX - https://dstoq.com/; DStoq (DSQ Token): Licensed Decentralized Stock & Crypto Exchange?, 04.08.2018, https://bitcoinexchangeguide.com/dstoq-dsq-token/ and First Blockchain Security Token Exchange - Built on Stellar (XLM), 31.07.2018, https://cryptocoinspy.com/first-blockchain-security-token-exchange-built-on-stellar-xlm/, all called on 15.09.2019, 17:57.

[623] Other investment firms are also conceivable; cf. Chapter II.2.4.4 In the case of systematic and substantial trading for own account on a DEX with tokens representing financial instruments, it must be checked whether a systematic internaliser is present. Cf. for the trading thresholds for calculating whether such

that the users can exercise their free discretion to accept or not accept a certain offer related to tokenized financial instruments, or if the users are free to choose where they execute or fulfill a possible concluded contract, the operator of such a software interface on a DEX merely provides a non-regulated technical service. The decisive factor here is that both the conclusion and negotiation of the contract as well as the fulfillment and execution of the contract are ultimately carried out off the software-side bridge[624] to a DEX on which it is possible to trade tokenized financial instruments.

Such an activity does not constitute a situation which would require a license pursuant to Annex 2 Section A Paragraph 1 Lines 6 to 9 in conjunction with Art 15 Banking Act, as neither an MTF or OTF is operated nor is there any placement of Financial Instruments with or without a firm takeover obligation, provided that a technical service provider as operator of an interface to a DEX does not provide a combination of matching interests with respect to tokenized Financial Instruments and therefore does not perform clearing or settlement, but both conclusion and execution take place bilaterally between buyer and seller on a DEX and thus directly on a block chain (or a Smart Contract on which the block chain is matched) and therefore only publicly visible information or data from the block chain is evaluated or processed. The platform 333

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an internaliser is to be assumed https://www.esma.europa.eu/data-systematic-internaliser-calculations. An OTC Market Maker could also act on a DEX. It should be noted, however, that certain financial instruments are subject to a trading obligation, see Chapter II.2.4, margin note 287.

624 Software platform, -interface, -bridge, -frontend, information platform, naming platform, etc. are used synonymously here for all software-sided programs, which enable access to a DEX, on which tokenized financial instruments can be traded from time to time.

operator does not carry out any placement or issuing business either, since no sales of financial instruments are made. Such transactions are based on the sale of financial instruments in the name of a third party for the account of a third party within the framework of a placement agreement without a firm commitment to underwrite (placement transaction) or an issue with a placement agreement with a[625] firm commitment to underwrite (firm commitment underwriting; agreement to take over the issued financial instruments into the own portfolio and thus assume the sales risk; issuing transaction).[626] However, such an interface could be used primarily for the acceptance and transmission of orders relating to one or more financial instruments (trade brokerage pursuant to Annex 2 Section A para. 1 line 1 Banking Act).

2.5.1 Acquisition brokerage

334 For the provision of investment services of reception and transmission of orders relating to financial instruments, it is essential that a service provider brings together the interests of clients for a future transaction,

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[625] An issue is the issue of financial instruments to a broad range of recipients, while a placement is directed at a limited group of buyers for the purpose of selling financial instruments (also private placement), cf. *Seggermann* in *Brandl/Saria*, WAG, 2nd edition, § 1, margin note 33.

[626] BaFin Merkblatt Platzierungsgeschäft, 10.12.2009, last amended on 25.07.2013, https://www.bafin.de/SharedDocs/Veroeffentlichungen/DE/Merkblatt/mb_091211_tatbestand_platzierungsgeschaeft.html; BaFin Merkblatt Emissionsgeschäft, 07.01.2009, last amended on 24.07.2013, https://www.bafin.de/SharedDocs/Veroeffentlichungen/DE/Merkblatt/mb_090107_tatbestand_emissionsgeschaeft.html. Both placement and issuing business represent a form of loro issuing, as the financial instruments are placed in the public in the name of and for the account of a third party and are not sold in the public's own name as is the case with nostro issues. See also *Seggermann* in *Brandl/Saria*, WAG, 2nd edition, § 1, margin note 33 ff.

whereby the specific transaction is carried out after the merger and is usually executed off-exchange.[627]

The main characteristic of the conclusion mediation is the mediation of the possibility of a concrete and not a purely abstract conclusion of a transaction for customers.[628] The mediation of the conclusion of a transaction thus presupposes that concrete key details of a potential future transaction are conveyed by the intermediary to its customers on the buyer and seller side and that without such mediation a conclusion could not be concluded. 335

Relevant services, which can be subsumed as contract brokering, are provided by the person who acts in the sense of a messenger and forwards a customer's declaration of intent with the purpose of making possible the concrete possibility of a transaction relating to the purchase or sale of financial instruments by naming the customer. In this respect, however, it must in any case be such a declaration of intent by the customer, which is transmitted to potential contractual partners and enables a concrete conclusion of a contract.[629] 336

However, if a software interface on a DEX functions purely as an information platform about existing acquisition or sales interests or offers and if the customer has the possibility of concluding a contract and fulfilling a transaction without such an information platform, this does not 337

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627 *Zahradnik* in *Brandl/Saria*, WAG, 2nd edition, 2018, § 3 Rz 6.

628 *Kalss/Oppitz/Zollner*, Capital Market Law, 2nd edition 2015, Rz 4/10.

629 BaFin, leaflet on investment brokerage of 17 May 2011, last amended on 13 July 2017, https://www.bafin.de/SharedDocs/Veroeffentlichungen/DE/Merkblatt/mb_091204_tatbestand_anlagevermittlung.html.

constitute a contract brokerage. This is because a mere (graphic) presentation of public information relating to price offers of tokenised financial instruments on a DEX may make it easier to view, the information platform is ultimately but not conditio sine qua non for the availability of concrete transaction details and therefore not causal for the execution and therefore ultimately for the brokerage of a concrete transaction, since the offer information on tokenised financial instruments can also be viewed directly on the block chain or the DEX, which can lead directly to the conclusion of the contract including fulfilment.

338 As already explained, the acceptance and transmission of orders includes the bringing together of investors, which makes it possible to conclude transactions between them.[630] A merger can only occur if the parties to the transaction would otherwise - i.e. without a merger - not meet. In this respect, the service of conclusion mediation must represent the causal condition without which the conclusion of the transaction would not have taken place. This would only be the case if the transaction offers could be viewed exclusively via a software interface to a (block-chain-based) DEX, but not via the block chain itself, even if they were ultimately executed on it. If, however, offers on tokenised financial instruments are visible on the block chain anyway, independently of such a platform, and if investors can meet directly and conclude a transaction even without such a platform, such a platform is not a sine qua non for bringing together possible business partners and enabling a transaction to be concluded, including the performance

630 *Seggermann* in *Brandl/Saria*, WAG, 2nd edition 2018, § 1 Rz 16 with reference to Recital 20 to MiFID I.

of the transaction. Consequently, a pure information platform would exist, which makes certain information about tokenised financial instruments accessible on a block chain, which would not require a licence pursuant to Art 15 in conjunction with Annex 2 Section A para. 1 line 1 of the Banking Act, especially since the mere mirroring of information or the presentation of information that is publicly and generally accessible and available anyway does not constitute a transaction brokerage.

2.5.2 Portfolio management, investment advice and financial analysis

By operating an interface to a DEX, potentially further activities relevant under financial market law can be realized. Thus, the question arises whether (individual) portfolio management, investment advice or ancillary services such as securities and financial analysis or other forms of general recommendations related to (tokenised) financial instruments, which serve to support customers, can be realised through this. 339

Portfolio management is *the management of portfolios on an individual client basis with discretionary powers under a mandate from the client, provided that these portfolios contain one or more financial instruments.*[631] Management is understood to mean the continuous investment and monitoring of assets. This suggests a certain permanence on the time line. The management of investments on an individual basis separates portfolio management from collective portfolio management or asset management 340

[631] Article 4(1)(2) VVG.

(funds). A further characteristic of portfolio management is that the client's power of attorney necessarily also stipulates discretion in the management of the assets, thereby drawing the line to non-discretionary execution of orders on behalf of clients. It[632] should be noted in this respect that individual instructions or investment guidelines are not detrimental to portfolio management.[633]

341 If a software platform merely creates a technically processed access to an already public decentralised network, this does not include (individual) portfolio management in accordance with Annex 2 Section A Paragraph 1 Item 4 of the Banking Act.

342 Investment advice constitutes "*the provision of personal recommendations to a client, either at his request or on the initiative of an asset management company, relating to one or more transactions in financial instruments*".[634]

343 Investment advice is divided into the two action radii of advice on specific financial instruments and asset structuring through advice related to a specific portfolio. Accordingly, investment advice covers all information and assessments as well as expectations regarding financial instruments, but also advice on specific trading transactions to promote a portfolio. For investment advice, an individualised, personal recommendation is required. General information on financial instruments or general market expectations do not generally qualify as investment advice, as the personal situation of an investor must always be taken into account when providing investment advice. In this respect, investment

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[632] Annex 2 Section A para. 1 no. 2 to the Banking Act.

[633] *Seggermann* in *Brandl/Saria*, 2nd edition, 2018, § 1 Rz 26 mwN.

[634] Article 4(1)(3) VVG.

advice refers to certain financial instruments or certain trading transactions, which must be tailored to the respective situation of a customer in an appropriate manner, whereby the investment advice indicates individualisation. Otherwise, an investment recommendation may exist, which represents an ancillary service.[635]

With regard to an interface on a DEX, depending on the specific design, investment advice will regularly fail due to individualization, since only general information which is publicly accessible is displayed on various types of tokenized financial instruments, which excludes the applicability of Annex 2 Section A para. 1 item 5 of the Banking Act.[636] 344

In addition to these comments on investment advice, the ancillary service of the investment recommendation regarding transactions with financial instruments or securities and financial analysis pursuant to Annex 2 Section B No. 5 Banking Act is to be examined in more detail.[637] 345

In Austria, the definition of investment recommendations has been supplemented by the terms "production", "dissemination" or "transmission". However, this is merely a linguistic specification of the content 346

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[635] *Seggermann* in *Brandl/Saria*, 2nd edition, 2018, § 1 Rz 28 ff.

[636] According to recital 79 of Directive 2006/73/EC (MiFID-DRL), advice concerning financial instruments given in newspapers, magazines, journals or other media reaching a wide audience, such as the Internet, television or radio, is not considered to be a personalised recommendation as required by the investment advice, ELI: http://data.europa.eu/eli/dir/2006/73/oj.

[637] Article 3(1)(b)(1) VVG.

of the standard to make it clear that it prevents any form of communication relating to financial instruments from constituting an investment recommendation in the sense of an ancillary service.[638]

347 The preparation of an investment recommendation means that it has been elaborated or significantly edited. Dissemination refers to the intended or actual provision of an investment recommendation to a number of persons below the public definition. The last of the three criteria, dissemination, refers to communication of any kind by which third-party information is made available to a third party.[639]

348 Again, all three criteria will have to be excluded for an interface to a DEX, on which tokenized financial instruments can be traded, depending on the concrete design. The creation is to be negated, since an offer is already listed on the DEX itself and an image of this offer information cannot in itself constitute the creation of an investment recommendation without further changes in content or a concrete recommendation. If no investment recommendation is available, it cannot be distributed or passed on at all, although this is impossible in any case with information that is public in itself. In this respect, an investment recommendation pursuant to Annex 2 Section B No. 5 of the Banking Act will also regularly be excluded.

2.5.3 Conclusion Frontend and Backend of a DEX, Market Making and SI

349 A DEX is a decentralized trading platform on which orders relating to tokenized financial instruments are placed, concluded and executed

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[638] *Seggermann* in *Brandl/Saria*, WAG, 2nd edition § 1 Rz 49.

[639] *Seggermann* in *Brandl/Saria*, WAG, 2nd edition § 1 Rz 49.

peer-to-peer on the block chain. Order book including custody, matching and settlement are regularly executed on-chain - usually fully automated by means of Smart Contracts.

Based on this, a DEX is a system for trading with financial instruments and provides a concrete set of rules according to which the tokenized financial instruments can be traded. However, a DEX is not to be classified as an organized trading platform like an MTF or OTF, as the decentralized nature of such a trading platform means that there is no legal entity capable of regulation, i.e. an operator. Furthermore, there is often only bilateral and not multilateral trading on a DEX; the otherwise risk-free intermediary is replaced by a technological entity. Consequently, a DEX is not to be regarded as a trading venue subject to authorization. 350

While such a DEX technically represents the backend, there are also software interfaces or interfaces that represent a frontend to a DEX and allow access to information from it. Typically, such an interface allows the user to view publicly available information about tokens and orders on a DEX in graphical form. These interfaces are often also referred to as bulletin boards or bulletin boards and represent an information system, which may constitute an unregulated technical service, even if tokens representing financial instruments are traded on the DEX. It is essential that the conclusion and fulfillment of the contract is done directly on the DEX and not on the interface.[640] 351

[640] If a software interface only enables the viewing and communication of transaction offers via specific tokens on a block chain, no activity requiring a licence is performed under Liechtenstein law; this also does not apply if new buy or

352 However, the question arises in particular whether the operator of such an interface carries out a trade brokerage in relation to tokenised financial instruments. If, however, an information platform is designed in such a way that only a graphical processing of publicly accessible information relating to tokens and orders via tokens[641] representing financial instruments is carried out, such a front-end is not a sine qua non for making concrete transaction details available; on the basis of the publicly accessible information, a conclusion is also possible without such an information system and no concrete transactions are brokered.

2.5.4 TVTG and DEX

353 In the 2019/54 Federal Budget Law Gazette (BuA) on the TVTG, decentralized exchanges (DEX) are mentioned in connection with the amendments to the DDA.[642] The relevant Art 2 Paragraph 1 lit zquater SPG as amended in 2019/54 and lit zter as amended in 2019/93 covers operators of trading platforms for virtual currencies and tokens under the TVTG. It does not explicitly cover operators of interfaces that facilitate the use of a DEX for technical laypersons by displaying information on certain

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sell orders can be placed directly on the block chain via such an interface - provided the operator of such an information platform is not involved in the matching, clearing and settlement of matching buy or sell interests. The operation of a system that is not designed to bring together the interests of users according to specific and pre-defined rules, but is merely conceived as a technical information and service provider for persons interested in trading in financial instruments - i.e. as a pure information interface - and the interface therefore only enables the naming of persons interested in buying or selling financial instruments, is not regulated under financial market law.

641 Usually, interface operators also offer the possibility for a user to create new orders directly on the DEX.

642 BuA 2019/54, p 305.

tokens and offers relating to such tokens graphically on a website (bulletin boards). There is no doubt that this provision in the DDA is intended to be a catch-all provision. The legal consequences in practice remain to be seen, but this provision appears to represent dead law even before the TVTG came into force.

This is because it remains unclear which facts should ultimately be covered. The exchange of legal tender against tokens, as well as tokens against other tokens, is already covered by the VT exchange service provider according to Art 2 Paragraph 1 lit r TVTG.[643] The Bulletin Board is explicitly not to be covered by the provision of Art 2 Para. 1 lit zquater SPG as amended by BuA 2019/54 or lit zter as amended by BuA 2019/93, but may be covered by the role of the VT price service provider pursuant to Art 2 Para. 1 lit t TVTG as amended by BuA 2019/54 or Art 2 Para. 1 lit s TVTG as amended by BuA 2019/93. 354

The VT price service provider publishes current aggregated price information of tokens. The government refers to a platform operator whose platform functions like a bulletin board, and states that they sometimes have to use VT price service providers or VT exchange service providers.[644] The VT price service providers are thus partly comparable to the data provision services under MiFID II and MiFIR.[645] However, a bulletin board or notice board accessing a DEX does not necessarily have to be registered as a VT price service provider. Such a bulletin board or 355

643 IdF BuA 2019/54.
644 BuA 2019/54, p 162.
645 See Chapter II.2.5.6.

bulletin board provides users of VT systems with aggregated price information, i.e. the average sale or purchase price *of "the transactions concluded on a VT system with regard to tokens" on the*[646] basis of offers to buy and sell or concluded transactions.

356 However, a bulletin board primarily reflects information from the block chain relating to specific tokens and specific orders and does not contain aggregated price information in the sense of the average prices of transactions concluded on a VT system. If only information on specific offers of a DEX is displayed, no average price and thus no aggregated price information is provided. It goes without saying that an operator of a bulletin board is free to offer such services as well and would therefore have to register such a service with the FMA as a VT price service provider.[647]

357 Coming back to the operators of a trading platform for virtual currencies or tokens according to Art 2 Paragraph 1 lit zquater SPG as amended by SPG 2019/54 or lit zter as amended by SPG 2019/93, it must be noted that even if this operator does not change the tokens against its own book, but procures them from third parties, for example by order, such a situation[648] is recorded by the VT token custodian or VT key custodian, since such an actor will necessarily hold the token or VT key [649]for at least one legal second when executing the corresponding transaction. However, it is precisely these business areas that Art 2 para 1 lit

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[646] BuA 2019/54, p 162.

[647] Art 2 para 1 lit k and lit t in connection with Art 11 para 1 and Art 12 para 1 in connection with Art 23 TVTG as amended by BuA 2019/54.

[648] Art 2 para 1 lit n and o TVTG as amended by BuA 2019/54.

[649] Cf. comments on crypto-exchanges under the VT exchange service provider in BuA 2019/54, p. 158 et seq., in particular p. 160 last paragraph.

zquater DDA as amended by DDA 2019/54 and lit zter as amended by DDA 2019/93 should cover according to the report and proposal. This seems redundant, as VT service providers subject to registration, which exactly cover such business models as described above, are subject to due diligence according to Art 2 para 1 lit l and n to r TVTG as amended by Federal Law Gazette 2019/54 or lit k and m to q TVTG as amended by Federal Law Gazette 2019/93.[650] Which other activity could be meant is not clear even in the light of day, as it is also stated that the activity of a trading platform operator for virtual currencies or tokens must go beyond a mere brokerage activity without any involvement in the payment flows.[651]

2.5.5 Conclusion Bulletin Board and DEX as VT price service provider?

The government states in BuA 2019/54 on page 160 that operators of interfaces or information systems which access a DEX and present information on tokens or orders listed on it in processed form provide aggregated price information. While this may be the case, it is not mandatory. An operator of such a bulletin board, which obtains and reflects public information from a DEX, provides information from the block chain relating to specific tokens and specific orders which can be concluded bilaterally. This procedure does not constitute the provision of

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[650] In other words, VT token custodians, VT key custodians and VT exchange service providers (cf. Art. 3 para. 1 lit r DDA as amended by 2019/93).

[651] The statements in BuA 2019/54 S 304, on the attribution of a Smart Contract to the trading platform operator, are not convincing either, as this regularly does not create any technical control or influence on the transaction processing, as a Smart Contract represents an autonomous structure in a decentralised block chain, which can be controlled by anyone.

aggregated price information in the sense of average prices of transactions concluded on a VT system, but reflects concrete prices of concrete offers to sell or buy. However, if not only (price) information on specific offers is graphically processed on a DEX, but average prices are actually displayed, a VT service provider may be available, which must be registered with the FMA.

359 The SPG as amended by BuA 2019/54 covers operators of trading platforms for virtual currencies or tokens in accordance with the TVTG as persons subject to due diligence. Even if this is only to be seen as a mere catch-all, it remains unclear which roles are to be subsumed under this. Persons who operate trading platforms through which it is possible to exchange virtual currencies for legal tender, other virtual currencies or tokens are to be covered. The exchange activity against their own book is already covered by the activity of a VT exchange service provider. If tokens are purchased or sold within the scope of a power of attorney agreement, the government itself states that it is legally assumed that tokens or private keys are held or managed by the contractor for at least one legal second,[652] which is why this activity is covered by the VT token depository or VT key depository. As a result, there seems to be little room left for the operator of trading platforms for virtual currencies or tokens. The terminology "trading platform" would suggest multilaterally conceived transactions, but the law states that the activity must go *"beyond a mere intermediary activity without involvement in payment flows". If,*[653] however, matched principal trading occurs, the operator of such a platform acts on the one hand against his own book and on the other

[652] BuA 2019/54, p 160.

[653] Art 2 para 1 lit z quater SPG as amended by BuA 2019/54.

hand executes customer orders. In this case, too, it is ensured that only one VT service provider can carry out such transactions. In this respect, the practical significance of this provision in the DDA appears to be manageable.

2.5.6 Data provision services and bulletin boards

In addition to investment firms and regulated markets, MiFID II also provides for data provision services[654] that are to be allocated to the reporting segment (data reporting service providers).[655] Under MiFID II there are approved publication systems[656], providers of consolidated data tickers[657] and approved reporting mechanisms.[658] These data provision services are basically differentiated between Transaction Reporting and Trade Reporting. In transaction reporting, information on transactions with financial instruments is forwarded to the national supervisory authority in order to enable market monitoring and to detect irregularities or conspicuous trading at an early stage.[659] Trade Reporting, on the other hand, publishes information on securities transactions

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654 The costs of licensing a data provision service with the FMA amount to CHF 30,000.00 (Annex 1 Section A No. 1 lit q to the FMA). The annual supervision fee is at least CHF 20,000.00 and at most CHF 150,000.00 (Annex 2, Title I, Section I of the FMA).

655 Art 4 (1) No 63 MiFID II; Art 3a (1) Z 46 to 49 Banking Act.

656 Approved publication arrangement oder APA; Art 4 Abs 1 Nr 52 MiFID II.

657 Consolidated tape provider or CTP; Article 4 (1) No 53 MiFID II. If one compares the English version with the German version of MiFID II, it is noticeable that there was a translation error in the cited provision. The APAs (approved publication systems) were incorrectly translated here as "APS".

658 Approved reporting mechanism oder ARM; Art 4 Abs 1 Nr 54 MiFID II.

659 Reporting details of transactions to the competent authorities (reporting aspect).

and thus makes it available to other market participants.[660] This is intended to counteract an asymmetrical distribution of information and also make it possible to find the best trading venue for executing orders.

361 The procedure for authorisation is the same for all data provision services.[661] An APA is mandatory for investment firms and systematic internalisers that execute transactions in financial instruments traded on trading venues on their own account or on behalf of clients. Under Articles 20 and 21 MiFIR, it is mandatory to publish the volume, price and time of conclusion of transactions in certain financial instruments in the context of trading transparency. A software provider that offers an interface to a DEX on which security tokens are also traded, does publish trading information relating to financial instruments, but not from banks, investment firms or asset management companies, provided that information is processed and displayed by the block chain. At most, this would be conceivable if a systematic internaliser appears on a DEX. In such a case, however, the internaliser would have to ensure that it has a connection to an approved APA.

362 For this reason, an operator of an interface to a DEX is[662] also not a CTP, as such data is consolidated in a live data stream, via which price and trading data volumes of a financial instrument can be retrieved. However, trading information refers exclusively to data on specific financial

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[660] Publication of commercial information (publicity aspect).

[661] Art 59 ff MiFID II.

[662] See Chapter II.2.5 bulletin boards or a software-based bulletin board.

instruments on regulated markets, MTF, OTF and approved publication systems.[663] A decentralized exchange, on which tokens representing financial instruments are sometimes traded, does not constitute such a trading place or data provision service, which is why the provision on the CTP is also not relevant for such a bulletin board or information platform that accesses a block-chain-based DEX.

Such a service provider of an interface to a DEX does not have to report to the national supervisory authority or ESMA and therefore cannot constitute an ARM. 363

2.6 Prospectus considerations

The Liechtenstein Securities Prospectus Act (WPPG) transposed[664] into national law by 21.07.2019 the Prospectus Directive[665] on the drawing up of a securities prospectus for the public offering of securities[666] or for their admission to trading on a regulated market.[667] Since 21.07.2019, the Prospectus Ordinance has[668] also been directly applicable in the 364

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[663] In Art 4 (1) No 53 MiFID II wrongly translated as "GSP".

[664] LGBl 2007.196; incorrectly and probably based on an editorial mistake, Art 1a (2) lit b BankV still refers to the WPPG instead of the Prospectus Regulation 2017/1129 and the EEA WPPDG.

[665] Directive 2003/71/EU, ELI: http://data.europa.eu/eli/dir/2003/71/oj.

[666] The term "securities" refers in particular to transferable securities and thus to the financial instruments pursuant to Annex 2 Section C of the Banking Act; cf. Art. 3 para. 1 lit a WPPG, LGBl 2007,196.

[667] Article 2(1) WPPG, LGBl 2007.196.

[668] Regulation 2017/1129, ELI: http://data.europa.eu/eli/reg/2017/1129/oj.

EEA and thus for Liechtenstein in its entirety and replaces the Prospectus Directive.[669] The implementation took place in the EEA Securities Prospectus Implementing Act.[670] In addition to facilitating the drafting of prospectuses, the main focus of the Regulation is on the exceptions to the drafting of a prospectus. Issues with a total equivalent of less than EUR 1 million within a period of twelve months may not require a prospectus in any EU or EEA state. Liechtenstein makes use of the possibility - offered by the Regulation - and sets the national threshold below which no prospectus is required at EUR 8 million within a period of 12 months.[671]

2.6.1 Definition of securities and public offer

365 According to Art 1 (1) in conjunction with Art 3 (1) of the Prospectus Regulation, a securities prospectus must be drawn up for the public offering of securities and their admission to trading on a regulated market in the EU or EEA. According to Art 2 lit a Prospectus Regulation, securities in this sense are transferable securities within the meaning of

669 Decision of the EEA Joint Committee/Joint Committee Decision (JCD) 84/2019 of 29.03.2019; cf. BuA 2019/36, p. 6; also note the two delegated regulations on the Prospectus Regulation EU/2019/979, ELI: http://data.europa.eu/eli/reg_del/2019/980/oj and EU/2019/980, ELI: http://data.europa.eu/eli/reg/2019/979/oj.

670 EEA SPA, LGBl 2019.159.

671 BuA 2019/36, p. 8; Article 3(b) EEA SPA.

Art 4 Paragraph 1 No 44 MiFID II. Neither the[672] Liechtenstein EEA SPA nor the Prospectus Regulation nor the former Austrian CMM[673] or CMM 2019[674] cover invitations to make an offer (invitatio ad offerendum).[675]

For reasons of investor protection, the concept of a security must be interpreted broadly. It[676] is essential that they are tradable and therefore fungible "certificates"[677], which are issued *"in large numbers and with the* 366

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[672] With the exception of payment or money market instruments pursuant to Article 4 (1) No. 17 MiFID II with a maturity of less than 12 months. Cf. the financial instruments under Annex 2 Section C No. 1 of the BankG.

[673] § 1 para. 1 no. 1 KMG BGBl. no. 625/1991 as amended on 02.01.2018.

[674] Federal Law Gazette I No. 62/2019; Section 1 (1) no. 1 of the Austrian Capital Market Act 2019.

[675] Cf. *Zivny*, KMG, Kurzkommentar, 2nd edition, § 1 Rz 8 mwN, according to which the invitation to make an offer and knowledge notifications, in which an intention to sell is immanent, can also be covered by the concept of a public offer, but this is to be excluded with reference to the legal phrase "invitation to subscribe", the concrete subscription conditions are also required for subscription. The existence of a concrete intention to sell as a sufficient criterion for a public offer has been critically evaluated and rejected in the prevailing Austrian doctrine. A potential investor must receive at least the essentialia negotii in a notification relating to a transferable security. This is also in line with the wording of the law, as without the necessary contractual content it is not possible to subscribe and consequently not to issue an invitation to subscribe to transferable securities - cf. in this regard *Zivny*, KMG, Kurzkommentar, 2nd edition, § 1 Rz 6 f mwN.

[676] *Zivny*, KMG, Kurzkommentar, 1st edition, § 1 Rz 40; *Zivny*, KMG, Kurzkommentar, 2nd edition, § 1 Rz 62 mwN, Rz 65.

[677] Even without securitisation, a security or book-entry right within the meaning of the transferable securities may exist. This is already apparent from the fact that a securities prospectus must also be drawn up and approved by the

same content",[678] so that investors acquire identical rights without any individualisation.[679]

367 The term "securities" in the Prospectus Regulation is therefore based on the three criteria of standardisation, transferability and tradability.[680] In particular, registered shares with restricted transferability are therefore not to be classified as transferable securities and thus as financial instruments. This is not necessarily the case with lock-up agreements.[681]

368 A public offer is characterised by a communication to an undefined group of people[682] - i.e. the public. Such a communication may be made in any manner and in any form, provided that sufficient information on the terms and conditions of the issue and the financial instruments to be issued is available to enable a potential investor to make an informed judgment as to whether the relevant transferable securities should be acquired or subscribed for (investment decision); this also applies to the placement of securities through a financial intermediary.[683] There are

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competent supervisory authority for the admission of transferable securities to a regulated market. This is because Art. 3 para. 1 CSDR requires that securities admitted to trading on trading venues - from 2023 or 2025 at the latest - be recorded by means of book entries in the securities account. The use of the term "deed" therefore appears imprecise. For dematerialisation see *Zivny*, KMG, Kurzkommentar, 2nd edition, § 1 Rz 69 mwN.

678 *Zivny*, KMG, short commentary, 2nd edition, § 1 Rz 61.

679 *Zivny*, KMG, short commentary, 2nd edition, § 1 Rz 61.

680 See Chapter II.2.3.1.

681 *Zivny*, KMG, Kurzkommentar, 2. Auflage, § 1 Rz 70 mwN; ESMA/2015/1874, Q&A, Prospectuses 23rd updated version – 15 December 2015, Question 67, S 51 f.

682 *Zivny*, KMG, Kurzkommentar, 2nd edition, § 1 Rz 18; Communication to the public.

683 Art 2 lit d Prospectus Regulation.

no special requirements regarding the concept of the public. Thus, in the opinion of BaFin, even an offer that is addressed only to a certain group of persons - such as employees or certain professional groups - is equivalent to a public offer[684]. In Austria's view, however, a notification (together with sufficient information on the conditions of issue) must be addressed to a basically unlimited group of addressees in order to fulfil the public element.[685]

The constituent element of the public offer is therefore, in addition to 369
the element of the public or the general public, a communication which must contain sufficient information on the issue. The term "communication" is already by law to be interpreted very extensively and includes any kind of communication. However, the public offering must always be based on a market law concept. Accordingly, a public offer is to be assumed if potential investors are addressed in a targeted manner and if they are informed about the essential contents of the contract, such as in particular the contracting party and issuer, the type of financial product issued, the term (if applicable), the concrete price and subscription possibilities as well as the ISIN[686], if applicable. If, as a result of the communication, investors are able to subscribe to the transferable securities

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[684] See BaFin, obligation to publish a prospectus, 01.11.2013, last amended on 05.08.2019, https://www.bafin.de/DE/Aufsicht/Prospekte/Wertpapiere/Prospektpflicht/prospektpflicht_node.html

[685] *Zivny*, KMG, short commentary, 2nd edition, § 1 Rz 18.

[686] International Securities Identification Number.

themselves or to make an offer to subscribe or place an order to purchase them, a communication constituting a public offer must be assumed.[687]

370 This understanding of public offer also applies to the placement (with or without a firm commitment to take delivery) of securities by third parties. The[688] obligation to draw up a securities prospectus applies to anyone who offers securities to the public by issuing them (nostro issue or own issue, but also a loro issue or third-party issue).[689] The person who ultimately applies for the admission of transferable securities to trading on a regulated market is also subject to the obligation to prepare a prospectus.[690]

371 Information and price entries in trading and order systems as well as information in information systems or the activity as market maker do not count as a communication in the sense of a public offer.[691]

372 Under this aspect, software interfaces to a DEX will[692] normally - provided that only information regarding tokens or orders on the block

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[687] *Zivny*, KMG, Kurzkommentar, 2nd edition, § 1 Rz 7; see also BuA 2007/38, p. 27.

[688] Providers in a secondary offering are also included.

[689] However, underwriting (on a firm commitment basis) or placing (without a firm commitment basis) of financial instruments constitute investment services pursuant to Annex 2 Section A para. 1 no. 6 or 7 of the Banking Act.

[690] Art 3 par. 3 Prospectus Regulation; this does not necessarily have to be the issuer at the same time (e.g. lead manager). This does not include admission to trading of financial instruments on an MTF or OTF. However, admission to trading on an MTF or OTF will regularly constitute a public offer.

[691] *Zivny*, KMG, short commentary, 2nd edition, § 1 Rz 13.

[692] See Chapter II.2.5.

chain with reference to financial instruments is displayed in a processed form - be considered an information system, which does not entail any obligation to publish a prospectus. Such an interface can therefore, as explained, be designed as far as possible without regulation under Liechtenstein law. However, the security tokens, via which information is displayed in the front-end, must also be fed into the back-end, i.e. the DEX on the block chain.

This will depend on the specific activity. With reference to the above- 373
mentioned execution for the activity of a market maker, it should be noted that this does not entail any obligation to publish a prospectus. Apart from financial instruments that are subject to trading requirements, OTC market makers and systematic internalisers can act on a DEX and conclude transactions with tokens that represent financial instruments.[693] The bilateral appearance and trading for own account on a DEX - regardless of whether this is carried out [694]by the above-mentioned financial market players or by unregulated companies - therefore excludes the existence of a notification and consequently a public offer within the meaning of the Prospectus Regulation and therefore no securities prospectus is to be prepared for this activity.

If, on the other hand, no transactions relating to tokens that represent 374
financial instruments are carried out for one's own account, but such

[693] See Chapter II.2.4, in particular margin note 287 and Chapter II.2.5, in particular margin note 332.
[694] Conversely, if there is no public offer in the activities of an authorised market maker, this must also be the case for bilateral trading on own account on a non-continuous basis by non-regulated undertakings.

tokens are offered on a DEX, which is[695] public in itself, it is necessary to draw up and approve a securities prospectus[696], unless an exception applies. This potentially creates the problem that a global public offer with a global circle of addressees is made via a DEX, but that there are no corresponding cross-jurisdictional regulations.[697] This problem is not new, but exists since the advent of the Internet.[698] Finally, in connection with tokenised financial instruments, the requirement that securities prospectuses be easy to understand must also be taken into account.[699]

2.6.2 Exemptions from the obligation to publish a prospectus

375 An offer of securities to the public is not subject to an obligation to publish an approved prospectus pursuant to Art 3 (1) of the Prospectus Regulation if such an offer is not subject to notification pursuant to Art

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[695] A restriction of the addressees could, however, be implemented technically directly in the token, which could subsequently exclude the public or, at best, the transferability on the capital market.

[696] The FMA only approves the prospectus and the prospectus is not approved or authorised, as the FMA only checks the formalities of the prospectus but not its content. The fee charged by the FMA for approving a prospectus amounts to CHF 5,000.00 (Annex 1, Section C, No. 3 lit a of the FMA Act)

[697] Theoretically, at least, participation or subscription could be technologically excluded from certain jurisdictions.

[698] Cf. the comments of BaFin, Prospectus requirement - legal position since 21.07.2019, last amended on 05.08.2019, Section II, Point 4.

[699] Art. 37 and 40 of DelVO 2019/980; cf. BaFin leaflet Examination of securities prospectuses for comprehensibility, WA 51-Wp 7115-2019/0099 and BaFin leaflet Second information letter on prospectus and permission requirements in connection with the issue of so-called crypto tokens, WA 51-Wp 7100-2019/0011 and IF 1-AZB 1505-2019/0003.

25 of the Prospectus Regulation[700], or if the total consideration of an offer to the public in the EEA over a period of twelve months does not exceed EUR 8 million or the equivalent in Swiss francs.[701] According to Recital 13 of the Prospectus Regulation, this threshold is variable in that it can be set between EUR 1 million and EUR 8 million in the individual Member States of the EU or the EEA. Below a total equivalent of EUR 1 million in 12 months in the case of a public offer in the EU or EEA, no prospectus is required.[702]

Further exceptions to the obligation to publish a prospectus are stipulated in Art. 1 paras. 2 to 5 of the Prospectus Regulation. The most important exceptions with regard to public offers pursuant to Art 1 Paragraph 4 of the Prospectus Regulation are the following: 376

- A public offer of transferable securities addressed exclusively to qualified investors[703] (Art. 1 para. 4 lit a Prospectus Regulation)

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[700] This is the case, for example, with investments under German law or investments under Austrian law. In general, this refers to securities whose public offering is subject to an obligation to publish information under national law, even though these securities are not transferable securities and therefore financial instruments within the meaning of MiFID II, but are only classified as investment products by a national legislator.

[701] The limit of EUR 8 million in 12 months applies only to Liechtenstein, and in other jurisdictions certain securities information sheets or a formal prospectus may be required in 12 months from EUR 1 million.

[702] Art. 1 para. 3 Prospectus Regulation.

[703] The assessment of whether an investor is professional or non-professional must be carried out by the issuer in accordance with Annex 1 to the AMA (Annex II to MiFID II). In principle, a subdivision is made into suitable counterpar-

- An offer of securities addressed to fewer than 150 non-qualified investors in each Member State (Art. 1 para. 4 lit b Prospectus Regulation);
- An offer of securities with a minimum denomination per unit or a minimum investment of EUR 100,000 (Art. 1 par. 4 lit. c and d Prospectus Regulation)

It should be noted that if one of these exceptions is invoked, the EU passporting system can no longer be used.[704]

2.6.3 Conclusion Players on a DEX and prospectus requirement

377 An obligation to draw up a prospectus shall arise in the case of an offer of transferable securities to the public (nostro or loro issue) or admission of transferable securities to trading on a regulated market, unless an exception applies, but does not cover admission to trading on an MTF or OTF. The offer to the public shall require that the offer is made by means of a notice to the public.

378 For example, information and price entries in trading and order systems, data in information systems or the activity of a market maker are not considered to be information that would be required for a public offer.

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ties or institutional investors, professional investors and non-professional investors. The professional investors are divided into born professional members (financial institutions or financial intermediaries) and elected professional members (non-professional investors, who can be treated as professional clients upon request if they meet certain criteria; so-called opt-in). Professional investors and even financial institutions can be treated as non-professional clients by opting out.

[704] See recital 13 of the Prospectus Regulation.

Information systems (front-end), which process and reproduce information of a DEX (back-end) in relation to tokens and individual orders via tokens, which sometimes represent financial instruments, do not trigger a prospectus obligation due to the lack of a public offer of transferable securities. However, the question is rather how such security tokens can get onto a DEX at all and whether a public offer has already been made. If this is the case, the problem is that, unless this is technically impossible, a global issue is made via the DEX, but there are no global regulations on public offers of financial instruments and securities prospectuses. 379

In a placement of transferable securities (in the form of tokens) on a DEX, however, provided the essentialia negotii are communicated and no exceptional circumstances apply, a public offering will be seen and a prospectus is therefore required. 380

On a DEX on which security tokens are traded, (OTC) market makers and systematic internalizers can in principle act as financial market players. As explained above, their activities do not constitute a public offer and therefore do not entail a prospectus requirement, as they ensure liquidity on the capital market by continuously or systematically and to a considerable extent conducting proprietary trading in financial instruments. However, such bilateral trading against their own book or in their own name and for their own account does not constitute a communication to the public of the terms and conditions of offers of financial instruments. The trading obligations applicable to investment firms with regard to equity securities and certain derivatives pursuant to Art 23 and Art 28 MiFIR must be taken into account. 381

2.7 Stablecoins and e-money

382 The term stablecoin is not a legal definition, but stablecoins are characterised by the fact that they are linked to different assets ("asset-backed"; "currency-pegged") and are largely removed from volatility by these deposited values. It is precisely by linking such coins or tokens to legal currencies that they sometimes fulfil a cash representative function. In this context, the question always arises as to whether stablecoins constitute e-money.[705]

383 Apart from e-money, stablecoins can also be (commodity) derivatives, depending on their specific form. One conceivable example would be a token based on the price of gold. In this case, as is customary with derivative contracts, the price-relevant time of contract conclusion and the value-relevant time of contract fulfilment or realisation would differ and the value would be derived from the underlying asset (gold price).[706]

384 It would also be conceivable that a claim in rem in the sense of the claim for restitution would be represented in a token as an outflow of the full title equivalent to a civil or commercial goods document.[707] To remain with the example of gold, the (in rem) claim for restitution of a specific piece of gold (in the sense of a special debt) could be tokenised. Such a

[705] See Chapter II.2.2.2.

[706] Cf. the comments in Chapter II.2.3.3 concerning derivative transactions; cf. also, on the tokenisation of the right of ownership of property, Title I. Chapter I.1.2, which does not constitute a financial instrument.

[707] Due to the dematerialization and thus the lack of the element of corporeality, this is probably a "commodity law" or property law of a real nature.

token would not be recorded as a financial instrument under Liechtenstein supervisory law.[708]

Finally, coming back to e-money, it should be pointed out that only very limited charges can be levied when redeeming e-money.[709] In principle, at the request of a customer and e-money holder, the corresponding amount of the e-money held by the customer must be redeemed at any time (omnitemporal component) at par value. In addition, the redemption conditions, including any claims for remuneration, must be clearly and transparently set out in the contract.[710] 385

2.7.1 E-Money Act - scope of application

The scope of application of the Electronic Money Act (EGG) extends to the commercial issuance of electronic money by electronic money issuers.[711] E-money issuers are in particular credit and e-money institutions.[712] This includes credit institutions within the meaning of CRD 386

[708] Cf. further on Title I. Chapter I.1.2, according to which a "quasi-standardisation" can nevertheless be achieved, for example by means of a safekeeping agreement.

[709] Such as in the form of fees or other advantages; Article 44 ECG.

[710] Recital 18 of the E-Money Directive; see also II.2.7.6 further guidance.

[711] Article 2 (1) EC Treaty; Article 1 (1) E-Money Directive 2009/110/EC, ELI: http://data.europa.eu/eli/dir/2009/110/oj.

[712] Article 3(1)(c) of the EC Treaty; the minimum capital of electronic money institutions is EUR 350,000.00 or the equivalent in CHF (Article 8(2) of the EC Treaty) The license fee charged by the FMA for electronic money institutions is CHF 30,000.00 pursuant to Annex 1, Section A, No. 1, lit. g FMA Act. The supervision fee for electronic money institutions is at least CHF 20,000.00 and at most CHF 120,000.00 per year (Annex 2, Part I, Section C, No. 1 and 5 FMAA.

IV[713] including branches of third-country companies within the European Union - in accordance with the respective national law[714] - as well as so-called exempt legal entities (such as special electronic money institutions pursuant to Art. 30 EGG).[715] Unlike in Austria, other activities of an electronic money institution pursuant to article 5 paragraph 2 of the EC Treaty do not have to be explicitly covered by the Liechtenstein FMA in the administrative ban on licensing.[716]

387 Electronic money institutions, together with their third country counterparts, also qualify as electronic money issuers under the Electronic

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[713] The original reference refers to the predecessor regulation of CRD IV, Directive 2006/48/EC, ELI: http://data.europa.eu/eli/dir/2006/48/oj; cf. Art. 1 (1) (a) of the E-Money Directive.

[714] Art 1 (1) (a) of the E-Money Directive in conjunction with Art 38 and Art 4 (3) of the CRD III.

[715] Cf. Art 2 No 3 in conjunction with Art 1 (3) of the E-Money Directive. The regulation on branches of companies domiciled in third countries was repealed both in the EC Treaty (Art. 28 ECG) and in the Banking Act (Art. 30p to 30r Banking Act). This is intended to clarify that branches of third States in Liechtenstein require independent legal subjectivity (unlike branches) and approval. Cf. BuA 2018/98, p. 83 f.

[716] Cf. §3 para 3 öEGG *"Furthermore, e-money institutions may carry out the following activities, provided that their licence entitles them to do so:"Miczajka*, Necessity and scope of the licence in *Vonkilch* (ed.), Commentary on the E-Money Act 2010, p 70 (p 73 f); in addition, other business activities may also be carried out (Art. 5 para. 2 lit. e EGG; § 3 para. 3 no. 5 öEGG; Art. 6 para. 1 lit. e E-Money Directive) - how this should work in practice remains uncertain - ibid, p 70 (p 77). It would be conceivable to implement this by means of a strict organisational separation similar to that of an investment firm operating an MTF through which security tokens representing financial instruments can be traded and which also offers trading in unregulated tokens (cf. Chapter II.2.4.1, FN 568)

Money Directive.[717] It should be noted that third country entities must be established in accordance with national law. In national law, the reference to third countries has so far been[718] regulated in Article 28 of the EC Treaty. According to the statements in the report and the government's motion for the introduction of a law on deposit insurance and investor compensation for banks and investment firms (EAG), these provisions regarding relations with third countries have been repealed at the same time as the provisions on third-country companies in Art 30p to 30r of the Banking Act.[719][720]

In the government's view, this should represent a legal adjustment, as branches from third countries have not been established according to the established practice to date, but independent corporate structures have been incorporated in the EU or EEA and consequently approved.[721] This should also make it clear that branches can only be implemented by means of autonomous authorisation and thus with their own legal subjectivity. Consequently, the shortcoming relating to branches of companies established in third countries, which prevented 388

[717] Art 1 (1) (b) in conjunction with Art 2 (1) and (3) in conjunction with Art 8 of the Electronic Money Directive.
[718] IdF LGBl 2011.151.
[719] IdF LGBl 2011.243.
[720] BuA 2019/13, S 100 f and BuA 2018/98 S 84 aE; EGG as amended by LGBl 2019.106; BankG as amended by LGBl 2019.105.
[721] Since own licensees also have access to the passporting system, unlike branches without legal personality.

them from benefiting from the Europass system or the freedom to provide services and freedom of establishment, will also be remedied.[722]

389 Unlike CRR institutions, e-money issuers or institutions are not subject to the obligation under company law to[723] be established as a public limited company or a Societas Europaea (SE) and can therefore also be established in other legal forms. BaFin takes the legal view that, according to the terminology used there, the central office or an operator of an e-money transaction may also be "*natural persons, partnerships or other majorities of persons, [...] legal entities or corporate structures without legal capacity*"[724]. Under Liechtenstein law, an electronic money institution, and hence an electronic money issuer, must be a legal person (Art. 3 para. 1 lit a and c ECG).

390 The material scope of application of the E-money Directive thus relates to the issuance of electronic money, while the personal scope of application relates to electronic money issuers, which ultimately results in a de facto local scope of application, whereby electronic money issuers can only exist and be authorised in the EEA/EU. It should be noted that where e-money is distributed through sales outlets acting on behalf of the e-money issuer, the contract is concluded between a customer and

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[722] BuA 2018/98 p 83 f; cf. with regard to the legal independence of branches their definition in Art 3 para. 1 no. 16 CRD IV in conjunction with Art 4 para. 1 no. 17 CRR.

[723] Article 18 of the Banking Act.

[724] BaFin Merkblatt - Information on the Payment Services Supervision Act (Zahlungsdiensteaufsichtsgesetz, ZAG) of 22.12.2011, last amended on 29.11.2017, Chapter 4 lit a sublit bb, https://www.bafin.de/SharedDocs/Veroeffentlichungen/DE/Merkblatt/mb_111222_zag.html?nn=9450978#doc7846622bodyText33.

the issuer and not between the customer and a sales outlet.[725] Pursuant to Art. 14 (2) EGG, issuance is also reserved for e-money issuers. Thus, it is not possible to circumvent the e-money regime by issuing a monetary value in a third country which distributes these monetary values via a sales outlet in an EEA or EU Member State.

2.7.2 Conclusion on the territorial scope of the electronic money regime

391 The E-Money Directive and the national implementation in the E-Money Act cover the professional issuance of electronic money with regard to the material scope of application. The personal scope of application extends to e-money issuers who issue e-money. E-money issuers are in particular CRR credit and e-money institutions. This personal scope of application implicitly results in a local scope of application. Since such institutions can only be incorporated and authorised in the EU or EEA, it is not possible to issue e-money in foreign jurisdictions that are unfamiliar with the e-money regime.

392 Thus, if a token is issued which would represent e-money if it had been issued in the EU or EEA, it does not constitute e-money, provided that the issuer is established in a third country which does not recognise e-money and carries out the issuance there. An example of such an e-money token which, in the absence of issuance in the EU or EEA, does not constitute e-money, but which would be treated as e-money if it had been issued in a Member State, is Tether.[726] The distribution of such a

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[725] *Gerhartinger*, Die zivilrechtliche Beurteilung von E-Money in *Vonkilch* (Hrsg), Commentary on the E-Money Act 2010, Rz 52 (p 30 f).
[726] See Chapter II.2.7.6 detail.

token by a third party (but not a sales outlet acting on behalf of the issuer) in the EEA or EU area does not subsequently open up the scope of application of the e-money regime, nor is it to be regarded as a payment service, since the material scope of application is limited to the issuance of e-money as explained above and, if such a monetary value is issued in the form of a claim against an issuer in a third country, there can be no e-money from the outset. However, given the relationship between the e-money business and the deposit business, it would have to be examined in the respective foreign jurisdiction whether such a deposit business would be carried out or whether a bond or other bond would be issued.

2.7.3 tokens as e-money, wallets and certain payment accounts for e-money

393 E-money comprises six elements which must be cumulative in order to constitute e-money.[727] According to the Electronic Money Act, electronic money is defined as (i) an electronically or magnetically stored (ii) monetary value which is reflected in (iii) a claim against the electronic money issuer, which (iv)[728] is issued against payment of an

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[727] EBA Report with advice for the European Commission on crypto-assets, 09.01.2019, S 13, https://eba.europa.eu/documents/10180/2545547/EBA+Report+on+crypto+assets.pdf.

[728] In the English language version of Art. 2(2) of the E-Money Directive, the term "funds" is used for monetary amounts (issued on receipt of funds), which could be interpreted more broadly than the German term "Geldbeträge". However, the term "funds" must also be interpreted narrowly in the sense of funds and not broadly in the sense of financial resources or assets. This also follows from Recital 18 of the E-Money Directive, according to which e-money must always be redeemed at par value; cf. also the ruling of the EFTA Court of 30

amount of money in order to (v) execute payment transactions (within the meaning of the Payment Services Act; PSA) and which is also accepted by (vi) natural or legal persons other than the electronic money issuer.[729]

E-money is primarily used for payment purposes and not for saving. 394
By accepting funds in the course of issuing e-money, there is therefore, by legal fiction, no deposit transaction.[730] E-money institutions are also

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May 2018 in Case E-9/17 between Edmund Falkenhahn AG and the Liechtenstein Financial Market Authority, https://eftacourt.int/download/9-17-judgment/?wpdmdl=1805, margin note 27 - *"An e-money issuer is therefore prohibited from making the value of an e-money unit dependent on any other reference value, such as an ounce of gold, than the par value of the underlying legal currency.* For Liechtenstein, this also results from Article 3 para. 3 lit a BankG, according to which, merely by legal fiction, no deposit transaction exists if the amount of money received is directly exchanged for e-money; however, if no deposit transaction exists, an e-money transaction can also never exist as a consequence. The fact that the redeemability of e-money is factual and that this requirement can only apply to legal tender and e-money itself is, moreover, clearly evident from the fact that deposits are unconditionally repayable funds and that e-money does not, by legal fiction, constitute a deposit if the amount of money received is exchanged directly for an electronically stored monetary value (e-money).

[729] Art 3(1)(b) ECG; Note: The Roman numerals in the parentheses serve to clarify the individual elements of the offence; see EBA Report, Report with advice for the European Commission on crypto-assets, 09.01.2019, p. 13

[730] Cf. Art. 3 (3) lit a Banking Act and Recital 13 of the E-Money Directive; cf. Chapter II.2.2.2 - the deposit business can no longer be revived even if there is an exception to the e-money business, as in this case, from a dogmatic point of view, e-money - albeit "unauthorised" - is still present.

prohibited from granting loans from funds or interest on funds received in connection with the issuance of e-money.[731]

395 However, some cryptocurrencies are inherently generated or dug up by so-called mining and are not issued by a central entity. If there is no central issuer, such an issuer cannot issue or commit to a claim.[732] Crypto-currencies such as Bitcoin and ether are also not to be classified as e-money, since there is no e-money issuer against whom a claim - represented in a magnetic or electronic monetary value - could be directed. This is in line with the view of the EBA[733], which does not consider crypto-currencies to be comparable with conventional payment services or EU financial market regulations in general,[734] although for reasons that are probably misguided.[735]

396 In addition, cryptocurrencies such as BTC or ETH generally do not represent claims, but rather, as "tokens of value", an independent token in the sense of digital contents as merchandise (data or software) and thus virtual currencies. Tokens such as Bitcoin or Ether would therefore not

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[731] Recital 13 of the E-Money Directive; however, interest may be granted if this is not linked to a holding period. In addition, Art 18 (4) (b) PSD II also allows payment institutions to issue short-term loans to be repaid in twelve months.

[732] Vgl die Ausführung in EBA Opinion on „virtual currencies", EBA/Op/2014/08 vom 04.07.2014, https://eba.europa.eu/documents/10180/657547/EBA-Op-2014-08+Opinion+on+Virtual+Currencies.pdf, Rz 179 – *"absence of a redeemer"*.

[733] European Banking Authority.

[734] It is argued that cryptocurrencies should not be subject to the e-money or payment services regime, as this would give them credibility which they would allegedly not have.

[735] EBA/Op/2014/08 of 04.07.2014, Rz 179 f.

constitute e-money even if issued centrally, as long as they do not represent a claim against the issuer. This view was expressed by *Mersch*, member of the Executive Board of the ECB, in a speech to the ECB in connection with the Facebook "Libra" token: *"The first challenge concerns Libra's fundamentally legal nature. The choice is, essentially, whether to treat Libra as e-money, as a financial instrument or as a virtual currency. Libra does not appear to qualify as e-money, as it does not embody a claim of its holders against the Libra Association*[736]. Tokens can represent claims and therefore e-money, but if they represent a token with intrinsic value independent of a claim (denominated in money), the e-money offence cannot exist. Such tokens represent data or software in the sense of merchandise or digital content and do not represent claims on the books, and are therefore not subject to the linked triad or the communicating vessels of e-money, deposits or financial instruments.[737] Even if BTCs had been issued centrally, they could never constitute e-money if a claim against the issuer was not represented, as *Terlau* implies in general.[738] This view is dogmatically wrong in several respects and must be rejected, as will be shown below.

The question arises whether, as soon as there is a claim against the issuer, one necessarily enters the financial market law area of financial instruments, deposits or e-money. For example, a voucher in the form 397

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[736] *Mersch*, Speech at the ECB Legal Conference, Frankfurt am Main, 2 September 2019, https://www.ecb.europa.eu/press/key/date/2019/html/ecb.sp190902~aedded9219.en.html, called on 04.10.2019, 22:10

[737] Cf. also Chapter II.2.2.2 on this delimitation issue.

[738] *Terlau* in *Schimansky/Bunte/Lwowski* (Hrsg), Banking Law Manual § 55a, Rz 148.

of a token could be issued against payment of fiat money. If this represents a claim for the purchase of goods or services, such a voucher does not constitute a financial instrument, as the voucher is a payment instrument. In the absence of an unconditional obligation to repay the money given, there is also no deposit transaction.[739] However, the question arises as to whether the voucher can subsequently represent a monetary value (arg: issue against fiat money), in the form of a claim (arg: claim to receive goods or services from the issuer), with which payment transactions can be carried out (arg: redemption or payment of goods or services with such an electronic voucher).

398 However, the qualification already fails on the first criterion of monetary value. Such a qualification can only refer to a monetary claim, which is also linked to the giving of a monetary amount. The prerequisites are that the monetary value must necessarily be a monetary amount and that a claim can only relate to such a claim with value date in monetary form, so that a payment transaction must be effected pursuant to Article 2 No. 2 ECG in conjunction with Article 4 No. 5 PSD II or Article 3 para. 1 lit b ECG in conjunction with Article 4 para. 1 no. 54 ZDG. Accordingly, the provision, transfer or withdrawal of funds, which are defined as book money, cash and e-money pursuant to Article 4 para. 1 no. 18 ZDG (Article 4 no. 25 PSD II), are essential for payment transactions.

399 As a result, a claim to receive goods or services can never constitute e-money. This is also logical, since e-money is a legally fictitious special case of the deposit business - the deposit business is always based on

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[739] In anticipation of the outcome, if the deposit business is denied, there can be no more e-money business.

unconditionally repayable funds. BaFin takes the following view: *"The concept of monetary value covers not only legal tender but also any type of medium of exchange which is generally accepted as payment for specific goods or services or even only in a specific socio-cultural environment or only by the parties to a multilateral framework agreement.*[740] *Auffenberg*, too, propagates this opinion with little differentiation: *"Block-chain-based payment units already meet these requirements due to the immanent use case of payment, quite independent of their concrete technical design and the question of whether they function as original block-chain units via an open and decentrally organized block chain or whether they are units of a Smart Contract on a block chain issued by a central issuer, namely the programmer of the Smart Contract.*[741] The latter relies on *Terlau* for its view.[742]

Terlau argues that Bitcoin represents monetary values, since BTCs act as 400
a means of exchange and payment.[743] For the reasons stated, this view is dogmatically mistaken and must be rejected outright. A monetary value can refer exclusively to a monetary claim for the execution of payment transactions; if it were not a claim made in money, then, as explained, no payment transactions within the meaning of the PSD II could be executed from the outset, which are based on the provision, withdrawal or transfer of funds. Moreover, e-money transactions are merely a variant of the deposit business; if the existence of a deposit

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740 BaFin leaflet - Information on the Payment Services Supervision Act, P 4 a, https://www.bafin.de/SharedDocs/Veroeffentlichungen/DE/Merkblatt/mb_111222_zag.html

741 *Auffenberg*, e-money on block-chain basis, BKR 2019, p. 341 (p. 342).

742 *Terlau* in *Casper/Terlau*, ZAG, § 1a Rz 41 mwN.

743 *Terlau* in *Schimansky/Bunte/Lwowski* (Hrsg), Banking Law Manual § 55a, Rz 148.

business is a priori impossible, there can never be an e-money transaction (argumentum a maiore ad minus, which is why the e-money transaction regulated in the ECL does not constitute a lex specialis to the deposit business under the Banking Act, as it could in this case derogate from the latter)[744]. A claim which entitles the holder to receive goods or services may represent or function as a means of exchange, but due to the lack of a value date in money terms, it does not fulfil the criteria of monetary value with which payment transactions can be carried out.

401 This is also stringent, as e-money dogmatically constitutes a deposit or unconditionally repayable funds and there is only the legal fiction that funds received do not constitute a deposit if the amounts received are exchanged directly or immediately into e-money.[745] Consequently, it is also dogmatically stringent that when an exception to the e-money regime is justified, the deposit business can no longer be revived on the basis of this fiction. This is because, although the scope of application of the EC Treaty is opened up, an exception - e.g. the limited networks - means that the issuance of such e-money is not subject to authorisation. There is therefore no deposit, since electronic money is issued; the

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[744] Cf. Chapter II.2.2.2, FN 377 moreover, both the Banking Act and the Introductory Act to the EC Treaty constitute special legislation. In the supervisory cascade, the regulation of banks even corresponds to the more specific regulation. To see the e-money business as a lex specialis to the deposit business, however, does not seem to be entirely correct, as both the Banking Act and the Introductory Act regulate the deposit business, whereby by legal fiction, in the case of a deposit business with certain conditions, special consequences are attached to the e-money business. Deposit business and e-money business are therefore two separate legal institutions, which both regulate the deposit business.

[745] Cf. Art. 6 para. 3 of the E-Money Directive and Art. 3 para. 3 lit a Banking Act.

issue of electronic money may, however, be exempt from authorisation if an exception is made. This does not, however, exclude the scope of the EC Treaty from the outset and, consequently, does not affect the scope of the Banking Act, which regulates the deposit business. This is further reinforced by the fact that such exceptions to the e-money business must also be reported to the FMA.[746]

[747]However, it is correct to say that e-money is the third form of money besides cash and book money, whereby e-money does not have the purpose of saving and must not bear interest[748], but is designed for making payments of small amounts. This already follows from the recitals of the First E-Money Directive[749] - *"For the purposes of this Directive, electronic money may be considered as an electronic surrogate for coins and banknotes which is stored electronically [...] and which is generally intended to be used for making retail payments electronically". It*[750] has already been argued here that funds received do not constitute deposits if e-money is issued immediately *"in view of its specific characteristics as an electronic surrogate for coins and banknotes"*[751]; it is also important to note that under this first Directive on e-money, if the e-money was held on a credit 402

[746] Art 3 (3) ZDG.

[747] *Terlau* in *Schimansky/Bunte/Lwowski* (Hrsg), Banking Law Manual § 55a, Rz 11.

[748] See Recital 13 and Article 12 of the second E-Money Directive.

[749] Directive 2000/46/EC, ELI: http://data.europa.eu/eli/dir/2000/46/oj.

[750] Recital 3 of Directive 2000/46/EC.

[751] Recital 7 of Directive 2000/46/EC.

account, the deposit transaction was still established, unlike under the second Directive on e-money.[752]

403 Auch die nationale Aufsichtsbehörde Englands, die Financial Conduct Authority oder kurz FCA, führt diese Argumentationslinie ins Treffen. Der Unionsrechtsgesetzgeber konstatiert hierbei die gesetzliche Fiktion, dass die Annahme von Geldern bei darauf folgendem Eintausch in E-Geld kein Einlagengeschäft zu begründen vermag: *„If the monetary value is kept on an account that can be used by non-electronic means, that points towards it being a deposit. For example, an account on which cheques can be drawn is unlikely to be electronic money. If a product is designed in such a way that it is only likely to be used for making payments of limited amounts and not as a means of saving, that feature points towards it being electronic money. […] In other words, a deposit involves the creation of a debtor-creditor relationship under which the person who accepts the deposit stores value for eventual return. Electronic money, in contrast, involves the purchase of a means of payment."*[753] Dem folgend ergibt sich, dass das Einlagengeschäft und das E-Geldgeschäft dogmatisch eng verbunden sind und zwingend auf eine Forderung lautend auf Geld abstellen. Der Unterschied liegt im Sparzweck der Einlagen und dem Zweck zur Durchführung von Zahlungsvorgängen des E-Geldes.

404 The ECB can also provide further support for the argument that deposit and e-money are legally and economically related: *"The presumption*

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[752] Recital 8 of EL 2000/46/EC.

[753] PERG Chapter 3A, Guidance on the scope of the Electronic Money Regulations 2011, Section 3A.3: The definition of electronic money, Release 42, September 2019, S 4 (Q15).

must be, therefore, that e-money institutions always take deposits, even where the period of time that elapses between the making of the deposit and the exhaustion of the corresponding monetary value is fairly limited".[754] The e-money business is a special form of deposit business, which is also regulated differently due to various circumstances, such as the lack of a savings purpose and the prohibition of interest payments.

Diese Auseinandersetzung hat ihren Ursprung jedoch bereits in den 405
1990er Jahren. Die EZB hat die wirtschaftliche Similarität von E-Geld und Einlagen schon 1994 und 1998 in Zusammenhang mit der ersten E-Geld-RL 2000/46/EG aufgezeigt. Gemäss diesen Erwägungen werden Einlagen insbesondere für voluminösere Transaktionen herangezogen, da für betragsmässig kleine Überweisungen verhältnissmässig hohe Gebühren fällig würden. Für derartige Kleinbetragszahlungen soll E-Geld dienen: *„The 1994 Report indicated the similarities, in economic terms, between sight deposits with the banking system, on the one hand, and value loaded on prepaid cards, on the other. Indeed, in both cases, the customer entrusts part of his/her belongings to an institution. Therefore, in many cases, electronic money comes into competition with traditional bank money, a situation which raises concern for the level playing-field. In the case of sight deposits, the available funds can be mobilized through various payment instruments, such as cheques, transfer orders, etc. In the case of electronic money, the available funds can only be mobilised with a specific payment instrument, which is the storage medium representing the purchasing power. Whenever the issuer of electronic money is a credit institution, electronic money becomes,*

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[754] *Athanassiou/Mas-Guix*, ECB Legal Working Paper Series, Electronic Money Institutions – Current Trends, Regulatory Issues and Future Prospects, No 7 / July 2008, S 34, FN 91.

in economic terms, a sub-set of bank money, although there are obvious practical and technical differences. For example, traditional bank money is not often used to purchase goods and services of very low value, because the processing costs via payment instruments which make use of it would represent too high a share of the transaction costs; conversely, electronic money might not be used for high-value transactions."[755]

406 The fact that e-money can only have a monetary value in the sense of a value denominated in money also follows from the EFTA Court's judgment in the Edmund Falkenhahn AG case - according to which e-money cannot be used for investment purposes either; therefore, if a token is subject to market volatility, it can be acquired for investment purposes, e-money can never be present: *"In order to fulfil its function as an electronic replacement for coins and banknotes, the stored e-money, which is to be reimbursed at any time at par value, must at all times have a value which corresponds to the value of the amounts of money paid for it. Consequently, electronic money cannot be used for saving or investment purposes. Consequently, a business model where the value of electronic money would be linked to the price of gold at the risk of the electronic money holder does not fall within the scope of the Electronic Money Directive. If electronic money could be linked to the gold price, the actual reimbursement at face value based on the gold price would be purely coincidental. Thus, electronic money cannot be linked to anything other than its monetary value.*[756] This means that tokens, which represent data or software with inherent value and thus digital

[755] ECB Report on Electronic Money, August 1998, p. 8, https://www.ecb.europa.eu/pub/pdf/other/emoneyen.pdf.
[756] EFTA E-9/17, paragraph 46.

content in the sense of merchandise or specially defined virtual currencies, and which may therefore be subject to market fluctuations, can never represent e-money, even if they also have a payment representing function.[757]

It follows from all the above that the redeemability of e-money is a constituent element of the facts and not merely a legal consequence, as redeemability implies the existence of a claim. The (unconditional) repayability of funds is inherent in the deposit business. The e-money transaction always constitutes a deposit transaction, which, however, is subject to a different regime when an electronically stored monetary value is issued immediately. If, however, no deposit transaction can exist, no e-money transaction can occur. As a result, the right to redeem the monetary value given at par value is indeed applicable to both the deposit transaction and the e-money transaction. 407

Whereas a payment by debit card is thus established as a "pay-now system" and a payment by credit card functions according to a "pay-later system", in the case of e-money payment, the payment is made quasi in advance to an e-money issuer and subsequently this value is transferred merely to execute a payment transaction ("pay-before system").[758] If there is no demand - for the return of the amount of money given - and if such a demand does not appear on the liabilities side of a company's books, there can be no e-money either; payment transactions 408

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[757] See also Chapter II.2.7.8; see also EFTA-EFTA E-9/17, R 27, according to which electronic money can only be linked to an amount of money and must always correspond to the nominal value of the currency received.

[758] *Gerhartinger*, Die zivilrechtliche Beurteilung von E-Money in *Vonkilch* (Hrsg), Commentary on the E-Money Act 2010, margin no. 51 (p. 30).

are, as explained, only based on monetary amounts, so claims on goods cannot constitute e-money. If there is a right of redemption of the monetary amount, redemption at par value is not merely the logical sequence and legal consequence of the existence of a claim or a right of redemption, but redemption or repayment at par value is in fact exemplary for the existence of deposits or e-money. Dogmatically, this is also consistent and the redeemability of the nominal value as a constitutive criterion for the existence of e-money results from the requirement of a monetary value in the form of a claim (unconditionally repayable funds or monetary amounts as a consequence of the deposit transaction).[759] However, this should not and must not lead to the e-money regime being easily circumvented, for example by merely requiring redemption at a certain fractional percentage. However, this will not regularly pose a problem with regard to tokens, since, as the EU legislator states in recital 10 of the 5th AML Directive, virtual currencies and e-money are mutually exclusive.

409 Only claims can be redeemed in this process. Tokens which represent digital content in the sense of a commodity or even virtual currencies

[759] Critics could argue that the requirement and thus redeemability is established in Article 3 (1) (b) ECG and Article 2 (2) of the Electronic Money Directive, whereas redeemability at par value is not defined in the term but has been transposed into Article 44 ECG and Article 11 of the Electronic Money Directive, and thus redeemability at par value - unlike redeemability - is merely a legal consequence. However, as already explained, this is not the case, since the deposit transaction must always be taken into account when assessing the e-money transaction and, consequently, the reimbursement of the nominal value must also be based on a realistic example. A different assessment cannot be made, even taking into account the different treatment of deposits in connection with their savings purpose, which means that interest and sometimes higher fee rates than for e-money are permissible.

are therefore not e-money, but can be repurchased by an issuer independently of this, whereby this may have tax consequences, or, from a regulatory point of view, may also be a bureau de change.[760] Electronic money represents central bank money that has already been issued and does not serve to create new monetary units or units of value such as tokens. E-money can only exist if a token actually represents the fiat money that has been issued.[761]

The concept of "against payment of a sum of money" is to be understood in a broader sense than against payment of "legal tender" and refers, on the one hand, to this same legal tender, i.e. cash and book money, and, on the other hand, to e-money itself, which has a representative function as a means of payment. With reference to the ZDG, the legislator has clearly stated that e-money is also covered by the concept of monetary amount.[762] It is important to note that tokens issued 410

[760] See Chapter II.2.9 on bureaux de change.

[761] Cf. *Lintner* in *Vonkilch (Hrsg)*, E-Geldgesetz 2010, § 1 Rz 15 and 16 with reference to BaFin Merkblatt ZAG 2011: *"This link to 'conventional cash or book money' in conjunction with the 'obligation to redeem' [...] is intended to largely secure the monetary policy influence of central banks and serves to protect the state's currency monopoly. [...] The issuance of primary money is still exclusively reserved for the central bank and for credit institutions that create 'mirror money'. The obligation to issue e-money in the amount of the nominal value of the amount of money received is also motivated by monetary policy [...]. On the other hand, if, for example, goods or services are given instead of a monetary amount, this exchange by way of electronic payment systems does not fall within the definition of electronic money according to the clear wording of the Electronic Money Act, even if a similar economic function is fulfilled.*

[762] Article 3(1)(b) EC in conjunction with Article 4(1)(54) and (18) of the ZDG.

against e-money can in turn represent e-money.[763] If a token can be acquired both against payment of monetary sums and against payment of other tokens which do not represent either deposits or e-money, it can effectively result that those tokens which are acquired with monetary sums legally represent e-money, while those which are acquired with other tokens in the above sense do not represent e-money (in this case the claim would have to relate to the repayment of the assets given - once monetary sums, once other tokens). From a legal point of view, such a constellation would thus give rise to two different tokens depending on the type of acquisition; even if it may be technically possible that only one token is issued, this mixing of e-money with non-e-money would be legally inadmissible if the same token was acquired by means of other crypto-currencies[764], as it would not be possible to understand which tokens of the same type are to represent e-money and which are not. In order to qualify as e-money, it is therefore necessary to differentiate whether the acquisition is made either by means of a sum of money or with tokens which do not themselves represent e-money. The crucial legal question seems to be whether e-money can be present if a token to be issued can only be acquired with fiat money and tokens that do not represent e-money.[765] In this case, not only monetary amounts

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[763] See in detail *Nägele/Bergt*, Kryptowährungen und Blockchain-Technologie im liechtensteinischen Aufsichtsrecht - Regulatische Grauzone?, LJZ 2/18, p 63 (p 67).

[764] Which in turn do not constitute e-money.

[765] For example, if an acquisition can only be made by giving 50% fiat money and 50% other unregulated tokens, regardless of whether this is economically feasible.

are given and this argues against the existence of e-money.[766] If, however, there is a demand for repayment of the amounts of money and tokens given, it could also be argued that all the criteria for e-money are met (in this case "against payment of an amount of money") and that an "excess" repayment (in the form of tokens, which must be set aside in addition to the amounts of money paid) is not detrimental to the existence of e-money (and circumvention is therefore also made impossible).

411 In the end, it will probably be necessary to differentiate again with regard to the acquisition by means of fiat money and other tokens - which are unregulated under Liechtenstein law - and this constellation also appears to be merely another manifestation of the problem described above, in which a token can be acquired in return for fiat money or other tokens. If at least a partial acquisition by means of fiat money is envisaged, it can be assumed that the tokens acquired in this way also represent e-money if the remaining elements of the offence of e-money are fulfilled - unlike those acquired with crypto-currencies. Strikingly speaking, it can make no difference whether a newly issued token is issued in exchange for fiat money or tokens or in exchange for fiat money and tokens.[767] If a token is issued against fiat money, it will also represent such a token if the other elements of the e-money concept are

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[766] Cf. also EFTA E-9/17 of 30.05.2018 - there is no e-money when issued against gold.

[767] What is meant here is that a token in a Token Offering can be acquired in a first case against fiat money or virtual currencies (both are accepted as consideration), while in a second case it is necessary that tokens can only be acquired against fiat money and virtual currencies (e.g. against payment of 50 % of the acquisition price in CHF and 50 % in BTC).

fulfilled, whereas a token of the same design issued against crypto currencies does not represent e-money. In the case of the acquisition of a token against fiat money and crypto-currencies, this problem merely becomes more acute; if, for example, a newly issued token is acquired for 50% against CHF and 50% against ETH, the 50% or 0.5 units of the token will represent e-money, provided that all other characteristics are fulfilled, while the other 50% do not represent e-money; the ratio must be legally irrelevant. Although such an implementation is technically possible, it is legally inadmissible, since two different tokens would have to be issued and, in addition, authorisation as an e-money institution would be required at least for the token representing e-money.

412 The monetary value of e-money is either software-based or stored on a physical medium (e.g. card/chip). A key feature of e-money is that no payment account needs to be accessed and no individualised elements such as password or PIN or TAN entry and no signature are required for payment authorisation.[768][769]

413 The definition of e-money should not impede technical innovation.[770] Against this background, the question arises as to whether the decentralisation of the block chain contradicts the e-money regime despite the intention of technological neutrality. The e-money regime allows the e-money value to be managed on an issuer's server (*specific account for electronic money*). However, this should not lead to the conclusion

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[768] In this case, a personalised instrument, i.e. a payment instrument pursuant to Article 4(1)(48) ZDG, would be available.

[769] *Gerhartinger*, Die zivilrechtliche Beurteilung von E-Money in *Vonkilch* (Hrsg), Commentary on the E-Money Act 2010, Rz 1 ff (p 12 f).

[770] Recital 8 of the Electronic Money Directive 2009/110.

that e-money may only be held in such specific accounts for electronic money (to be maintained by the issuer).

Rather, e-money can be stored on the card-based and software-based systems mentioned above in addition to these server-based systems. Particularly in the case of software-based systems, storage on data carriers such as the hard disk of a computer is conceivable. However, this also applies to the block chain or wallets, which are ultimately stored on data carriers in the same way, albeit in a decentralised manner, i.e. on several data carriers. In the spirit of technological neutrality, the wording of Recital 8 of the E-Money Directive, which refers to electronic money *"on a medium in the possession of the electronic money holder"*, should be interpreted as meaning that "possession" refers to the power to dispose of the electronic tokens in the sense of a claim in digital coins or an electronic purse/wallet, especially since the national civil law systems will differ in those jurisdictions subject to Union law and it is certainly not the purpose of regulation to make it dependent on the respective national civil law whether electronic money is available or not or how this is to be implemented or transferred with regard to storage.[771] A transfer of such stored e-money can be effected by assigning the represented claim. It is not necessary for it to be transferred to an e-money-specific payment account with the new creditor. Instead, the e-money issuer must be notified as the debtor of the new creditor. This can be done by presenting the e-money from the party entitled to draw on it. 414

[771] Cf. *Gerhartinger*, Die zivilrechtliche Beurteilung von E-Money in *Vonkilch* (Hrsg), Commentary on the E-Money Act 2010, Rz 1 ff (p 12 f) and Recital 8 of the E-Money Directive 2009/110.

415 Taking into account the above and considering the civil law principles and remembering that e-money represents a claim against the issuer, it must be possible to hold tokens representing e-money on a wallet and also to transfer them peer-to-peer on a block chain. Under purely civil law, a debtor does not necessarily have to be informed of an assignment between the assignor (former creditor) and assignee (new creditor). However, the assignee, i.e. an electronic money issuer, could continue to make payment to the previous creditor in discharge of debt under § 1395 ABGB if the latter (the assignee) was not informed of the assignment. In practice, however, this is probably less of a problem with regard to tokens, as the right of redemption and hence the claim reflected in the e-money is also linked to the e-money - in the case of tokenised e-money, to the token. The (new) creditor distinguishes himself from the debtor by presenting the e-money.[772] It should be noted that a wallet for tokenised electronic money which is made available by the electronic money issuer or another provider is to be classified as a payment account, as electronic money constitutes a monetary amount pursuant to Art 4 (1) no. 18 ZDG and a payment account pursuant to Art 4 (1) no. 51 ZDG is an account in the name of payment service users which can

[772] The holder of the e-money - also in the form of tokens - must prove to the issuer that he is the rightful holder, i.e. that he is entitled to dispose of the e-money; due to the publicity and permanence of the block chain, this proof will regularly be easy to obtain and can thus be prevented by technical means from a probatio diabolica. However, no whitelisting, in the sense that tokenised e-money can only be transferred to identified wallets or wallet holders, is required.

be used to execute payment transactions.[773] Such a wallet, on which e-money tokens can be held, would therefore be classified as a payment account. The holding of payment accounts by payment service providers is linked in particular to the deposit and withdrawal transactions or other payment service providers holding accounts.[774] In addition, however, it must also be possible to hold e-money tokens on private wallets, provided that the protocol of token and wallet is technically compatible; however, such a private wallet cannot constitute a payment account within the meaning of the ZDG.

2.7.4 Conclusion monetary value and management of e-money on wallets

As has already been repeatedly stated due to its importance, the essential characteristic of e-money is the existence of a claim for money against an issuer. If a token as an independent token has an intrinsic value and this value is therefore to be seen in analogy to commodity 416

[773] It should be noted that the ZDG applies only to the professional provision of such payment services (Art 2 para. 1 ZDG) with regard to the execution of payment transactions via a Wallet on which electronic money can be held; private individuals are not affected by this, unless they provide payment services independently, regularly and with the intention of gaining an economic advantage, i.e. on a professional basis. It should also be noted that an issuer's internal shadow accounts, which, for example, mirror the issuer's electronic money in circulation, are not considered payment accounts, as they are not intended for the execution of payment transactions, cf. BaFin, Merkblatt - Hinweise zum Zahlungsdiensteaufsichtsgesetz (ZAG), 22.12.2011, last amended on 29.11.2017, P 2. a)

[774] Cf. Art 4 (1) Z 5, 12 and 24 ZDG.

money or virtual currency, but not as fiat money[775], it represents a commodity in the form of software which is sold by a service provider in the field of software development and does not contain a claim for money against an issuer; the value of such a token is formed on the basis of the market according to supply and demand, comparable to Bitcoin, Ether or the token of the best-known Liechtenstein block chain company, Aeternity. However, the value does not arise from a contractual claim against an Issuer. The e-money business is basically a deposit business, which is treated differently due to legal fiction if certain conditions are met. However, the relationship to the deposit business means that the monetary value of the e-money transaction in the form of a claim under the e-money concept is based only on unconditionally repayable funds or amounts of money, and claims for the purchase of goods and/or services are not included. The right to redeem at par value or - more precisely - the right to redeem the money provided is thus a constitutive element of e-money.

417 Electronic money should not stand in the way of technical innovation. As a consequence, even the decentralisation of the block chain is in line with the e-money regime. E-money can be managed on an issuer's server (specific account for electronic money). On the other hand, e-money can also be stored on card-based or software-based systems. Under purely civil law, the transfer of e-money is effected by assigning the claim represented by the e-money. If such an assignment of tokenised e-money on the block chain takes place by transferring the corresponding token to a wallet, an e-money issuer as debtor does not necessarily

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[775] See Recital 8 of the 5th Money Laundering Directive, which qualifies e-money as fiat money.

have to be informed of this procedure. Pursuant to § 1395 ABGB, the issuer, as cessus or debtor, could continue to make payment to the previous creditor in discharge of debt if the latter was not notified of the assignment. De facto, however, this does not pose a problem since the claim - and thus its redeemability or redemption at the nominal value of e-money - is linked to the token. Anyone approaching an issuer as the party entitled to dispose of an e-money token is entitled to redeem the claim and at the same time inform the issuer of the assignment; the right to dispose of such an e-money token can be guaranteed precisely because of the technically guaranteed traceability of transactions on a block chain.

A Wallet on which electronic money can be held and subsequently transferred is to be classified as a payment account if it is provided by an electronic money issuer itself or a third party service provider. Irrespective of this, it is also possible, as explained above, to hold e-money in private wallets without requiring authorisation as a payment institution on the basis of the civil law rules on the transfer of e-money. 418

2.7.5 E-money and exemptions

A further element of e-money is the feasibility of payment transactions in accordance with the ZDG. A payment transaction is defined as a provision, withdrawal or transfer of funds initiated by the payer or payee.[776] 419

Finally, in order to be classified as e-money, a monetary value in the above sense also needs to be accepted by third parties. The ECA does 420

[776] Art 4 (1) Z 54 ZDG.

not apply to a monetary value which is only accepted by its own issuer. In addition, an exception to e-money requiring authorisation applies if a monetary value is issued on a prepaid instrument which can only be used to a very limited extent. Here, analogous to the ZDG, the exceptions of the very limited product range (range of goods or services) and the limited service provider network (limited networks) apply.[777] The network is to be regarded as limited if an instrument is accepted exclusively for the purchase of goods or services in a receiving office or in a chain of stores (retail chain; franchise or shop-in-shop solution[778]) (connection of the parties by a commercial agreement).[779] The product range is considered to be very limited if the purpose of the payment instrument is "*effectively limited to a fixed number of functionally linked goods or services*".[780] In this context, specific groups of goods or goods which are related to each other must be taken into account.[781] Practical examples of such instruments - without claiming to be exhaustive - are customer cards, travel and parking tickets, fuel cards, membership cards, etc.[782]

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[777] Article 2 (2) ECG in conjunction with Article 3 (1) lit g and i ZDG; cf. Chapter II.2.8.2.

[778] The shop-in-shop solution refers to goods and/or services provided by a given retailer in accordance with recital 13 of the PSD II. This exception may be relevant if a Crypto-Exchange wishes to issue an internal payment instrument (in the form of tokens) with which other virtual currency tokens can be obtained (also or especially if the Crypto-Exchange is multilateral).

[779] Recital 5 E-Money Directive in conjunction with Art. 3 lit k PSD II.

[780] Recital 13 PSD II.

[781] For example, if an instrument can be used exclusively to acquire geodata or certain investment products. In particular, the possibility of obtaining individual types of products or services by means of an instrument will regularly justify this exception. See Chapter II.2.3.1a regard to the generic term.

[782] Recital 5 E-Money Directive in conjunction with Recital 14 PSD II.

Under PSD II, the national supervisory authority, i.e. the FMA in Liechtenstein, must be notified if such an exception of the limited network is used and the total value of payment transactions exceeds EUR 1 million in the preceding 12 months. In this regard, the FMA must also be notified of which exception is utilized.[783] 421

2.7.6 Trading of Stablecoins and e-money using the example of Tether

This chapter will deal with tokens or stablecoins, which represent e-money. In contrast to Germany, bilateral trade against its own book of tokens representing e-money is not subject to any supervisory concerns. According to Liechtenstein's understanding, e-money (also in the form of tokens) is not a financial instrument.[784] However, the German Banking Act (KWG) provides in its § 1 para. 11 no. 7 that units of account, i.e. tokens in the sense of virtual currencies, also constitute financial instruments. Therefore, under German law there could potentially be competition between (tokenised) e-money and financial instruments under the KWG. However, even if there is an exception for e-money (which is subject to authorisation), the concept of financial instruments is unlikely to come to life under German law, as such a monetary value in the form of a token (unit of account) still represents e-money from a dogmatic point of view, even though no authorisation as an e-money institution is required. 422

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[783] Article 37(2) PSD II, ELI: http://data.europa.eu/eli/dir/2015/2366/oj; Article 3(3) ZDG. In the ZDG, the threshold value was set at CHF 1 million or the equivalent in euros, in derogation of the Directive.

[784] See Chapter II.2.2.2, margin note 221.

423 Coming back to Liechtenstein law, proprietary trading in e-money does not constitute the issuance or distribution of e-money which would be covered by the EGG or ZDG. Nor does this constitute a redemption of the claim by the issuer or any entity attributable to it.[785] Under civil law, this would constitute an assignment of claims and, in the case of commercial purchase of claims, may also constitute a genuine factoring transaction, which under Liechtenstein law does not constitute a banking transaction.[786]

424 It is correct that e-money is a claim made in money. This claim can be represented in a token. An exchange or exchange transaction in the sense of an exchange office activity pursuant to Art. 2 para. 1 lit l DDA[787] towards the e-money issuer with a token representing e-money cannot occur. If the claim against the issuer is "exchanged", it is actually redeemed and expires. The view that the exchange of e-money or e-money represented by tokens for legal tender or virtual currencies[788] constitutes exchange office activity within the meaning of the DDA reflects the prevailing (supervisory) view de lege ferenda (from the implementation of the 5th Amendment to the DDA). Money Laundering

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[785] This is assessed differently in Germany, see *Terlau* in *Casper/Terlau* (Hrsg), ZAG: Das Aufsichtsrecht des Zahlungsverkehrs und des E-Money, §1a ZAG, Rz 111.

[786] See Chapter II.2.2.4.

[787] IdF LGBl 2009.047; see Chapter II.2.9.

[788] In recital 8 of the 5th Money Laundering Directive, e-money is considered to be fiat money. Since the 5th Money Laundering Directive has not yet been implemented in Liechtenstein, only the change of legal tender against virtual currencies, i.e. not the change from e-money to virtual currencies or legal tender, is covered for the time being.

Directive)[789] and, for reasons of civil law doctrine, this view is stringent in accordance with the reasons described above, as e-money represents an electromagnetically represented monetary value in the form of a claim for unconditional repayment of funds or monetary amounts against an entity issuing e-money; the classification as fiat money by the Union legislator suggests that e-money represents a claim for money - as well as deposits.[790] In Liechtenstein, the introduction of the TVTG as amended by BuA 2019/54 and BuA 2019/93, respectively, failed to implement the legal requirement to exchange fiat money for other fiat money or virtual currencies for the existence of bureaux de change or VT exchange service providers.[791] Irrespective of this, following the diction of Recital 8 of the 5th Money Laundering Directive, it is obvious that, from an economic point of view, virtual currencies do not

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[789] See Recital 8 of the 5th Money Laundering Directive, 2018/843 (Status: Adopted act under scrutiny by EEA EFTA), ELI: http://data.europa.eu/eli/dir/2018/843/oj; the 4th Money Laundering Directive, 2015/84, on the other hand, has been in force since 1 August 2019, although it has already been transposed in advance in the DDA with LGBl 2017.047 (BuA 2016/159), ELI: http://data.europa.eu/eli/dir/2015/849/oj (https://www.efta.int/eea-lex/32015L0849); the 6th Money Laundering Directive 2018/1673, ELI: http://data.europa.eu/eli/dir/2018/1673/oj, however, is without relevance for the EEA for the time being; *Nägele/Bergt*, cryptocurrencies and block-chain technology in Liechtenstein supervisory law - regulatory grey area? LJZ 2/18, p 63 (p 66) - here it was erroneously assumed that e-money is a virtual currency, although e-money and virtual currencies are mutually exclusive.

[790] Thus, the criteria "monetary value", "in the form of a claim", "against payment of a sum of money" and "in order to carry out payment transactions with it" are all closely related and relate to monetary claims on an issuer, which are shown in its books on the liabilities side - as are deposits in the sense of deposit-taking business.

[791] See in detail Chapter II.2.9.

represent a medium of exchange without intrinsic value, i.e. fiat money. The Union legislator thus also assumes that virtual currencies have an intrinsic value similar to commodity money.[792]

425 Another question is whether matching (as a risk-free intermediary or in the course of matched principal trading) is possible in relation to e-money (especially in the form of tokens). If the system is modelled on a central counterparty[793], then in the end there is only a trade against the own book and this is possible, as already explained, with regard to e-money. This could be countered by the fact that electronic money must be redeemable at any time at par value, with no minimum limit for redeemability.[794] This raises the question of the usefulness of multi-lateral trading places for e-money - e-money, or the underlying claim, must be redeemable at any time at par by the issuer. So why should someone pay more or less than the corresponding face value for e-money if e-money is always to be redeemed at face value and is therefore not subject to volatility and is also not suitable for savings purposes, but primarily serves to execute payment transactions?[795] At least one reason could lie in foreign exchange speculation transactions, for example. However, since the claim is against the issuer and the latter must reimburse the nominal value, a creditor of the claim (e-money holder) can also sell it at will. This does not affect the issuer's obligation

[792] See Chapter II.2.7.8.

[793] See Chapter II.2.4.7.

[794] Recital 18 of the E-Money Directive.

[795] EFTA Court of 30.05.2018 on E-9/17.

to hand over the corresponding par value to the person entitled to dispose of the e-money in exchange for the redemption or redemption of the e-money.[796]

In the case of such a convergence of interests in relation to e-money or tokens representing e-money, the question arises whether this fulfils the definition of the distribution of e-money. Apart from electronic 426

[796] Cf. Art. 11 (1) and (2) of the E-Money Directive and Art. 44 of the EC Treaty regarding the issuance and reimbursement of electronic money at par value. Cf. also the ruling of the EFTA Court of 30 May 2018 in Case E-9/17 between Edmund Falkenhahn AG and the Liechtenstein Financial Market Authority, https://eftacourt.int/download/9-17-judgment/?wpdmdl=1805. In the specific case, units of account called "World" and "Money" should be issued against legal currencies, whereby the value of the units of account should be made dependent on the market value of gold. Client funds should be secured by investing in gold. As a result, this contradicted the E-Money Directive, since, as explained, e-money is repayable at any time at par value and, moreover, gold is not a secure low-risk asset or a secure liquid asset.

money issuers themselves, only their agents or persons pursuant to Article 14 (1) ECG may[797] carry out such distribution.[798] While the issuance of e-money, i.e. the issuing of monetary values in the form of electronically or magnetically stored units of account against prepayment of monetary amounts, is reserved for an issuer (the corresponding claim is recorded in the books of the issuing entity), distribution is also possible through agents.[799] Distribution, on the other hand, is based on redeeming, reselling to the public, redeeming at the request of a customer of electronic money, or topping up electronic money products or providing a distribution channel for electronic money.[800] The mere

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[797] Cf. the definition in Article 14(2) ECG *"an issuance of electronic money through agents or persons referred to in paragraph 1 is prohibited"*, which suggests that the persons in Article 14(1) ECG are not agents; agents are characterised by the fact that they may distribute and/or redeem electronic money and other payment services on behalf of an electronic money institution (Article 3(1)(e) ECG). Apart from this, important operational tasks - including the redemption and/or distribution of e-money - can be outsourced. Outsourcing of important operational tasks of an electronic money issuer may not be carried out in such a way that the quality of internal control and the supervisory activities of the FMA are materially impaired (Art. 13 ECA). It is recommended that a clear agreement on rights and obligations be concluded in writing between the payment institution and the service provider. The distinction between the activities of agents and the outsourcing of important operational tasks was regulated more comprehensibly in the Austrian article 15 of the Introductory Act to the Austrian Banking Act in conjunction with article 21 and 22 of the Austrian Law on Financial Services Authority (öZaDiG) than in Liechtenstein, where it is immediately apparent that these activities are different.

[798] Article 14 and Article 5(2)(a) of the EC Treaty in conjunction with Article 7(4) to (6) and Article 25 ZDG.

[799] *Muri*, Distribution of e-money via third parties, outsourcing and agents in *Vonkilch* (ed.), Commentary on the E-Money Act 2010, § 15 Rz 3 (p. 213.)

[800] *Muri*, Distribution of e-money via third parties, outsourcing and agents in *Vonkilch* (Hrsg), Commentary on the E-Money Act 2010, § 15 Rz 5 f (S 213 f.)

matching or bringing together of interests relating to e-money on a platform is therefore not covered by the narrow definition of distribution. Furthermore, it is a characteristic feature of agents and other attributable persons (vicarious agents) that they provide payment services on behalf of the issuer. An e-money issuer is also liable for actions of its agents and other attributable persons.[801] However, third parties must be free to sell any e-money (claims) they have acquired for their own account and at their own risk. It[802] should be noted, however, that with the partial incorporation of the 5th Money Laundering Directive into the EEA acquis and with the national implementation of this legal act in Liechtenstein, a change of e-money against other fiat money or a change of fiat money such as e-money against virtual currencies constitutes the activity of a bureau de change.[803]

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[801] Art. 15 EGG as lex specialis to § 44 Final Division PGR.

[802] Under civil law, this constitutes a synallagmatic acquisition or assignment of a claim and is not a provision, transfer or withdrawal of a sum of money by the payer or payee. Such a transaction does not constitute a payment transaction, as the amount of money (the receivable) is acquired by the payer or payee. In the absence of a payment transaction, no payment service (including a payment initiation service) is provided; see Art 4 para. 1 no. 54 and no. 40, no. 39, no. 41 ZDG in conjunction with Art 2 para. 2 ZDG. Cf. also the definition of exchange offices in Art 2 para. 1 lit l DDA as amended by LGBl 2009.047, which is largely based on Recital 8 of the 5th ARC Directive. The provision relating to the exchange of e-money for other fiat money or virtual currencies would otherwise be obsolete if this would constitute a payment transaction and thus a payment service within the meaning of the DDA anyway.

[803] See margin note 424 and Chapter II.2.9.

Similarly, it must be possible to bring together the interests relating to electronic money without[804] being qualified as an agent or other attributable person, especially since, as explained above, this does not even constitute a sales activity geared to sales. Even in the case of a sale in such a scenario, it must be left to the selling entity to do so at its own risk and in its own name and not in the name of the issuer.

428 While the mere merging of acquisition and disposal interests with regard to e-money appears unproblematic from a prudential perspective, the actual settlement of such transactions is a payment service. In such settlement, the parties are transferred legal tender or virtual currencies on the one hand and funds (e-money) on the other.[805] Since PSD II, the exception for commercial agents has been restricted in that they may not represent both buy-side and sell-side at the same time, but a commercial agent may only act on behalf of the payer or the payee, not for both.[806]

429 Subsequently, it will be necessary to analyse, on the basis of the "Tether" case, which has been courted by the media and is of practical relevance,

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[804] Such persons must be identifiable to an electronic money institution and disclose their representation to third parties.

[805] Transfer of funds as a payment transaction within the meaning of Article 4(1)(54) ZDG. The transfer of e-money acquired on a multilateral system using tokens also constitutes a payment service, as this constitutes a monetary amount within the meaning of the ZDG.

[806] BuA 2019/11, p 36 f; recital 11 PSD II. Where a commercial agent acts on behalf of a payer and a payee, the exemption can only be maintained if the commercial agent does not at any time control the funds of the customer. This exception would be conceivable for a commercial agent and payment initiation service provider under Art 4 (1) Z 40 and 39 in conjunction with Art 2 (2) lit e ZDG.

whether the stable coin USD Tether (USDT) represents e-money, as this is often encountered as the counterpart of trading pairs on trading platforms for tokens.[807] For the purposes of this analysis, the legal nature of tether should be discussed in more detail. Tether has been or is being issued on an ongoing basis by Tether Limited, Hong Kong.[808] The terms and conditions of Tether Limited stipulate that Tether is 100% covered by the Tether Reserve. For example, if USDT is purchased by Tether Limited, it is tied 1:1 to the US dollar. If USDT 100.00 is purchased, Tether Limited will hold USD 100.00 worth of reserves in order to keep these tether tokens as stable in value as possible or to guarantee the redemption.[809] The same is also possible with Euro, so newly issued Euro Tether (EURT) can be acquired by adding Euro in a ratio of 1:1. Tether Limited also contractually undertakes to redeem the issued Tether, whereby Tether Limited reserves the right to privilege a "redemption" of Tether and generally excludes Tether Limited from liability for any disadvantages in connection with the redemption.[810]

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[807] For example on the platform https://www.bitpanda.com/de operated by the Austrian Bitpanda GmbH, called up on 15.09.2019, 18:11.

[808] accessed July 29, 2019, 5:45 p.m.

[809] The value of Tether is not the intrinsic value of the token itself (in the sense of a token or software as a commodity), but the requirement to exchange the token for the corresponding equivalent value. Tether are also destroyed "burning" when they are taken back, see *Valera*, Tether Burns Half A Billion USDT Coins In An Act Of Redemption, 25.10.2018, https://www.criptomonedaseico.com/en/news-en/tether-burns-half-a-billion-usdt-coins-in-an-act-of-redemption/, accessed on 29.07.2019, 18:39.

[810] https://tether.to/legal/ in der Fassung vom 26.02.2019, aufgerufen am 29.07.2019, 17:46 – insb Klausel 3 „About Tether Tokens; General Restrictions“ und Klausel 14.8 „Limitation of Liability & Release“; vgl auch https://tether.to/

430 Based on this formed premise, tether represents an electronically stored monetary value. This value arises from the contractual claim against Tether Limited (issuer) to exchange the tether back into the corresponding fiat money amount. It can therefore be stated that tether is issued in the form of a debt claim against the issuer (tether limited) for various amounts of money, as the issuer has originally committed itself to Tether Limited without restriction, and later with partial restrictions, to (unconditionally) redeem tether. By linking Tether to legal tender, it is clear that Tether can be used to settle payment transactions. In addition, there is an acceptance of Tether for the execution of such payment transactions away from the Issuer.[811]

431 In conclusio, Tether would be a model for the Union's e-money regime. As follows from recitals 13 and 18 of the E-Money Directive ,[812]the acceptance of funds is not an acceptance of deposits or other repayable

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, aufgerufen am 15.03.2019, wonach es heisst wie folgt: *„Every tether is always 100% backed by our reserves, which include traditional currency and cash equivalents and, from time to time, may include other assets and receivables from loans made by Tether to third parties, which may include affiliated entities (collectively, "reserves").*", während dieselbe Seite am 19.02.2019 noch verlautbarte: *"Every tether is always backed 1-to-1, by traditional currency held in our reserves. So 1 USD₮ is always equivalent to 1 USD."*, https://web.archive.org/web/20190219054619/https:/tether.to/ - vgl hierzu *Khatri*, 14.03.2019, 13:20, Tether Says Its USDT Stablecoin May Not Be Backed By Fiat Alone, https://www.coindesk.com/tether-says-its-usdt-stablecoin-may-not-be-backed-by-fiat-alone, aufgerufen am 07.10.2019, 20:58.

[811] Fulfilment of the last element of e-money, the acceptance by persons other than the issuer, is assumed on the basis of notoriety; cf. also the trading platform for tokens listed in FN 807, on which tether is accepted.

[812] Cf. also the delimitation in Art. 3 para. 3 lit a BankG.

funds, provided that electronic money is issued directly in return.[813] *"It is* therefore a logical consequence of the legislative fiction of the demarcation to deposit business that the actual issuance of a monetary value in the form of a claim is based on the unconditional nature of the repayment claim or receivable.[814] If there is an unconditional claim for repayment of monetary amounts, it is logical consequence that there is a corresponding claim for performance (specifically a repayment claim). If, however, the deposit transaction can be eliminated by a contractual agreement on a merely conditional repayment claim, this must apply all the more to the e-money transaction. There is also no room for the argument that the monetary value in the form of a claim in connection with the e-money regime relates to payment transactions and that the primary concern is not an unconditional obligation to repay the funds given, since in this case most (electronic) vouchers would also have to be qualified as e-money, unless an exception to the limited network were to apply. In this case, such vouchers would also have to be redeemable, as they would implement the e-money regime incorrectly - such an interpretation is untenable, however; the claim against an issuer for the monetary value (i.e. e-money) cannot therefore be abstracted from the claim for repayment of the amount of money surrendered (in exchange for the monetary value). If, however, e-money is involved, the supervisory authorities stipulate that the redemption of

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[813] *Lintner*, Federal Act on the Issue of Electronic Money and the Taking up, Exercise and Supervision of the Activities of Electronic Money Institutions in *Vonkilch* (ed.), Commentary on the Electronic Money Act 2010, § 1, margin note 11 (p. 45).

[814] Cf. Art 44 (1) and (2) ECG, according to which e-money must be reimbursed by the issuer at par value at any time upon request.

e-money must be subject to strict conditions and cannot be restricted - neither in terms of time nor in terms of amount. Each tether is secured by the nominal value paid[815] and there is no conditional repayment claim.

432 It is essential, however, that the Electronic Money Act and the Electronic Money Directive, on the basis of which the Electronic Money Act has been transposed into national law, are intended to enable electronic money institutions to take up, pursue and supervise their activities. The scope of application of the E-Money Act thus extends exclusively to the commercial issuance of electronic money by electronic money issuers.[816] E-money issuers are primarily e-money institutions and banks.[817] However, since e-money based on EU legislation only exists legally in the EU and EEA, only e-money issuers issuing e-money in the EEA and EU are covered. Conversely - and more precisely - the limitation of the activity of issuing electronic money, which is primarily regulated by the E-Money Directive, to CRR credit institutions and electronic money institutions implicitly implies the local scope of the E-Money Directive, which covers the territory of the EU/EEA with regard to the issuance of electronic money, as the aforementioned institutions can only be licensed in this territory.[818]

433 As a consequence, e-money can only be issued in the EU and EEA. In the case of a constellation with sales outlets in the EEA or the EU which

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[815] See Rz 429.

[816] Articles 1 and 2 (1) ECG; Article 1 (1) of the E-Money Directive; see also Chapter II.2.7.1.

[817] Article 3 (1) (c) ECG; Article 1 (1) (a) and (b) Electronic Money Directive.

[818] See Chapter II.2.7.1.

act on behalf of a (foreign) issuer, the issue will nevertheless take place in the EU or EEA. In the case of Tether, however, it is assumed that Tether Limited or entities attributable to it will not effect an issue in the EU or EEA. Although tether thus basically fulfils all the elements and characteristics of electronic money, tether limited operates outside this geographical area and issues tether in a jurisdiction that is probably unfamiliar with electronic money.[819] As a consequence, this also excludes the material scope of application, as it is based on a claim against the e-money issuer. However, from a Liechtenstein perspective, the Hong Kong-based Tether Limited is not an e-money issuer in the sense of EU law. As the E-Money Directive, as explained above, only deals with the issuance of e-money, the further distribution of a token, which would in principle constitute e-money if it had been issued in the EU or EEA, by a third company in the EU or EEA - which is not associated with the issuer - is not covered by supervisory law. In[820] short, tether does not constitute (authorised) electronic money within the meaning of the Electronic Money Directive or the Electronic Money Act (but would only require authorisation if issued in the EU or EEA), and trading in such unauthorised electronic money (bilateral and/or multilateral) by a separate, independent company in Liechtenstein does not trigger an authorisation requirement.[821]

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[819] In principle, however, if e-money is denied, care must be taken to ensure that a deposit transaction is not nevertheless established in accordance with the respective foreign jurisdiction, as these are similar in nature.

[820] At least if not otherwise regulated nationally. A distribution of tether in Liechtenstein must be unregulated for the reasons stated.

[821] At least in so far as such a Stablecoin is not a financial instrument. Cf. Chapter II.2.2.2 German Banking Act (KWG) for this and for proprietary trading in e-money as a financial service.

2.7.7 Conclusion bilateral and multilateral action on electronic money

434 Proprietary trading of e-money or tokens representing e-money is difficult to distinguish from the distribution of e-money. Based on Art. 2 (1) no. 3 lit g of the 5th AML Directive, the exchange of fiat money (i.e. e-money) for virtual currencies is a bureau de change service subject to due diligence, but not necessarily a payment service; the underlying claim representing e-money is transferred by means of assignment. Even the distribution of e-money is sometimes difficult to distinguish from the issuance of e-money, the issue of e-money being determined by who the claim resulting from the issuance of e-money appears on the books.[822] Where a sales agent acts on behalf of and at the risk of an electronic money issuer, the issuer issues the electronic money directly; outsourcing of the issuance of electronic money or issuing by agents is also prohibited.[823] However, distribution within the meaning of the E-Money Directive or the ECA, as the name indirectly implies, is always carried out on behalf of an electronic money issuer and is permitted by persons pursuant to Art. 14 para. 1 ECA or agents to whom the relevant regulations apply. However, trading in one's own name in electronic money (distribution in one's own name) does not constitute an activity requiring authorisation as an electronic money institution or payment

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[822] Muri, Vertrieb von E-Money über Dritte, Auslagerund und und Agents in Vonkilch (Hrsg), Commentary on the E-Money Act 2010, § 15 Rz 6 (p. 214).
[823] *Gerhartinger*, Die zivilrechtliche Beurteilung von E-Money in *Vonkilch* (Hrsg), Commentary on the E-Money Act 2010, Rz 52 (p 30 f).

institution.[824] This is in contrast to Germany, where the KWG[825] stipulates that units of account are to be regarded as financial instruments; this classification under German law appears to lead to contradictory competition between e-money and financial instruments when, for example, tokenised e-money is sold in proprietary trading, for which a licence as a financial institution would therefore seem appropriate.[826]

Matched principal trading of (tokenised) e-money also appears to be unproblematic under Liechtenstein law, as here too the contractor or operator of such a trading platform acts as the central counterparty and thus acts in its own name for its own account. A trading platform for (tokenised) e-money which is in fact multilaterally structured, in which the operator acts as a risk-free intermediary and merely brings together acquisition and disposal interests relating to e-money, does not give rise to any problems from a supervisory perspective either. However, if such an intermediary also carries out the performance of the contract (settlement), this constitutes a payment service subject to authorisation, since in such a transaction legal tender on the one hand and funds (e-money) on the other are sometimes transferred. Such trading of e-money does not conflict with the right to redeem e-money at par value, as the claim against the issuer remains unchanged; only the claim holder changes. Since the implementation of PSD II, the commercial agent exception can no longer be used if someone acts as a commercial agent or broker under the ADHGB in force in Liechtenstein for both the 435

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824 *Terlau* in *Casper/Terlau* (Hrsg), ZAG: Das Aufsichtsrecht des Zahlungsverkehrs und des E-Money, § 1a ZAG, Rz 110 f.

825 Cf. § 1 para. 11 no. 7 KWG - "Units of account".

826 *Terlau* in *Casper/Terlau* (Hrsg), ZAG: Das Aufsichtsrecht des Zahlungsverkehrs und des E-Money, § 1a ZAG, Rz 111.

seller and the buyer. In the case of commercial provision of the above-mentioned transactions relating to e-money, genuine factoring may sometimes exist, but this does not require a licence under financial market law in Liechtenstein (unlike in Austria, where both genuine and non-genuine factoring is qualified as banking business).

436 The concept of e-money does not cover those monetary instruments which, although in principle representing e-money if issued in the EU/EEA, are issued in third countries which are not familiar with the e-money regime. Consequently, the trading or marketing of such tokens by third parties, i.e. companies not associated with the issuer, does not trigger a license requirement under financial market law in Liechtenstein.

437 An example of such an e-money token not requiring authorisation is the Stablecoin Tether. This basically fulfils all the requirements of e-money, as there is a right of redemption at any time at par value; if Tether were issued in the EU or the EEA, its specific design would merely constitute an incorrect implementation of the e-money regime.

2.7.8 Monetary value - Revival of the ringtone clause?

438 E-money, with its monetary value, is mandatorily set off against a claim denominated in money. E-money is therefore also fiat money, which is inevitably derived from Recital 8 of the 5th Money Laundering Directive, which also deals with the status quo regarding the current regulation of virtual currencies: *"Service providers who facilitate the exchange between virtual currencies and fiat money (i.e. coins and notes declared as legal tender and electronic money of a country accepted as a means of exchange in the issuing country) and providers of electronic purses are not obliged by the*

Union to report suspicious activity".[827] A token, which thus represents virtual currencies analogous to commodity money, since it has an intrinsic value due to the data or software displayed and its functionality, cannot represent fiat money and thus also no e-money. The Union legislator has made it clear that virtual currencies do not represent objects without intrinsic value (i.e. fiat money) which function as a medium of exchange - in this case, it would have been sufficient to use fiat money alone. Tokens, even if they do not represent any rights per se, such as Bitcoin, do not represent fiat money. This is also expressly clarified by the EU legislator in recital 10 of the 5th GW-Directive: *"Virtual currencies are not to be confused with electronic money in the sense of* [the E-Money Directive], *with the broader concept of "funds" in the sense of* [the PSD II], *with services or payment transactions in accordance with* [the PSD II] *or with gaming currencies that can only be used within a given gaming environment. Although virtual currencies may be frequently used as a means of payment, they may be used for other purposes and may have wider applications, such as as a means of exchange, investment, value preservation products or for use in online casinos"*.[828] Outside the E-Money Directive, the European legislator thus states that virtual currencies and e-money are mutually exclusive. Tokens that qualify as virtual currencies cannot constitute e-money. Nevertheless, tokens do not necessarily have to represent virtual currencies and can indeed represent e-money, provided that this is

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[827] Recital 8 of the 5th ARC Directive 2018/843.

[828] Recital 10 of the 5th Council Directive 2018/843; according to Art. 3 No. 18 of the 5th Council Directive 2018/843, virtual currencies are defined as: *"a digital representation of a value which has not been issued or guaranteed by any central bank or public authority and which is not necessarily linked to a currency defined by law and which does not have the legal status of a currency or of money but is accepted by natural or legal persons as a means of exchange and which can be transmitted, stored and traded electronically".*

the intention; the scope of the e-money regime in connection with tokens is likely to be very limited as a result.

439 Dies hat auch die EBA bereits vor langem erkannt: *„VCs* [Anm: Virtual Currencies] *can be (i) transferred from one user to another via electronic means, (ii) stored on an electronic device or server and (iii) traded electronically. […] The aim of the abovedefinition is to distinguish VCs from (fiat) currency and, in particular, from e-money as digital representation of FC* [Anm: Fiat Currency]. *In economic theory, money performs three different functions: (1) a unit of account, (2) a means of exchange and (3) a store of value. In principle, VCs could potentially fulfil one or more of the functions of money. However, the definition of VC above reflects the fact that these functions are, at least currently, not comparable in terms of quality, and are not always fulfilled at the same time as each other or to the same extent. Furthermore, from a regulatory perspective, inclusion of the term 'currency' in the denomination 'VC' is misleading as it implies the highest liquidity of the asset, wide or universal acceptance within its geography, as well as exchangeability with other (virtual and fiat) currencies, which may not necessarily be the case for every single VC scheme."*[829]

440 The concept of monetary value is not further defined in the E-Money Directive. However, this element is closely related to the other elements *"in the form of a claim against the issuer"*, *"issued against payment of a sum of money"* and *"in order to effect payment transactions"* and must be interpreted narrowly from a teleological point of view. Consequently, it is

[829] EBA Opinion on „virtual currencies", EBA/Op/2014/08, 04.07.2014, S. 12, https://eba.europa.eu/documents/10180/657547/EBA-Op-2014-08+Opinion+on+Virtual+Currencies.pdf.

evident that a monetary value is based exclusively on money in the sense of the economic theory of the EBA as a unit of account, means of exchange and store of value, as cited above. The characteristic of the monetary value can subsequently also be equated with the element "in the form of a claim against the issuer" which arises when monetary amounts within the meaning of the EBA are accepted. Thus, a monetary amount is given, which results in a claim for the return of this same amount of money and thus determines the monetary value in the form of a claim, which is stored electronically. As a consequence, this monetary value can also be used to process payment transactions, which in turn requires the provision, withdrawal or transfer of a monetary amount; the monetary value can therefore only be based on a monetary claim.[830] The view held by the BaFin and a part of German doctrine, according to which a monetary value represents any kind of medium of exchange, is therefore dogmatically mistaken and must also be rejected under the interpretation of national law oriented towards the requirements of European law (interpretation in conformity with directives or Community law). This is especially true since the e-money business ultimately constitutes a deposit transaction which, by legal fiction, when linked to certain conditions (in the sense of the EC Treaty), has different consequences than the deposit transaction under the Banking Act; the deposit transaction is based on the acceptance of (unconditionally) repayable funds.[831]

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[830] Cf. Art. 1 No. 4 of the E-Money Directive: *"This Directive shall not apply to monetary value stored on instruments* covered by *the derogation under Article 3(k) of the"* PSD I. The monetary value can therefore only refer to monetary amounts with which payment transactions can be effected.

[831] See in detail Chapter II.2.7.3.

441 An electronically stored monetary value has an evidentiary function and such a value records the claim against an issuer on the one hand and the amount of the monetary claim on the other hand.[832]

442 The view that tokens as digital content represent data or software with an intrinsic value or, due to their classification as virtual currencies, do not represent fiat money, in conjunction with Recital 6 of the E-Money Directive, generally speaks against the subsumption of tokens under the e-money regime. According to this recital, the scope of the E-Money Directive is not open to monetary assets which can be used to acquire digital goods or services if an operator or issuer adds an additional intrinsic value to a monetary asset, e.g. *"in the form of access, search or transmission facilities"*.[833] This further presupposes that the *"good or service can only be used with a digital device, such as a mobile phone or computer, and the operator of the telecommunications, digital or IT system or network does not merely act as an intermediary between the payment service user and the supplier of the goods or services"*.[834] This could be assumed if a payment were made directly to the operator and no debtor-creditor relationship between a user and a provider of the goods or services is established.

443 This exception from the scope of application of the EC Treaty and the E-Money Directive, also known in Germany as the ringtone clause,[835] applies to digital goods or services made available by the operator. *"If the operator is at least involved in the value creation of the product, he is not*

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[832] *Gerhartinger*, the civil law assessment of e-money in *Vonkilch* (Hrsg), E-Money Act 2010, p. 11 (p. 28; margin note 46).
[833] Recital 6 of the Electronic Money Directive 2009/110.
[834] Recital 6 of the Electronic Money Directive 2009/110.
[835] See *Haslhofer-Jungwirth/Kaufmann/Ressnik/Zimmermann* in *Weilinger* (Hrsg), Payment Services Act, Section 2 ZaDiG, p. 38 (margin note 51 mwN).

exclusively an intermediary and therefore the exception is applicable".[836] In this context, an operator is involved in the generation of added value if an independent value in the sense of an additional functionality such as an access, search or transfer facility mentioned in the E-Money Directive is added to a product. *"Thus, the mere provision of the communication line by which the product is transmitted can also be such an addition of added value.*[837]

All of this seems to apply to block-chain-based network protocols and an issuer developing a block chain or a software platform can sometimes make use of this exception, especially since the mere provision or development of the technology, which subsequently enables the transfer of tokens, must represent added value against the background of the doctrine cited above. Tokens also regularly have additional functions which are attributed to them by their issuer, e.g. access to a platform; here, too, the creation of added value can be assumed, which is added to a token by its issuer. As a consequence, the block chain technology or related technologies seem to have led to a silent revival of the ring tone clause, which removes additional ground from the applicability of the e-money regime to tokens or virtual currencies.[838] The e- 444

[836] *Haslhofer-Jungwirth/Kaufmann/Ressnik/Zimmermann* in *Weilinger* (Hrsg), Payment Services Act, Section 2 ZaDiG, p. 38 f (margin note 51).
[837] *Haslhofer-Jungwirth/Kaufmann/Ressnik/Zimmermann* in *Weilinger* (Hrsg), Payment Services Act, Section 2 ZaDiG, p. 39 (margin note 51).
[838] Vgl auch EZB, Virtual Currency Schemes, Oktober 2012, S 16, https://www.ecb.europa.eu/pub/pdf/other/virtualcurrencyschemes201210en.pdf, deren Aussagen im Kerngehalt in dieselbe Kerbe schlagen, wonach virtuelle Währungen von E-Geld zu differenzieren sind: „[…] *a clear distinction should be made between virtual currency schemes and electronic money […]. Although some of these criteria* [Anm: von E-Geld] *are also met by virtual currencies, there is one important differ-*

money regime appears to be largely unsuitable to regulate tokens, unless it is also the actual intention of an issuer to issue e-money in the form of tokens. However, this raises the question of whether the advantages of decentralised technology can be reconciled with e-money regulation, or whether, from an economic point of view, this does not result in "the worst of both worlds".

2.8 Payment services and token-based business models

445 The Payment Services Act (ZDG), which came into force[839] on 1 October 2019, is the national implementation of the PSD II.[840] The ZDG is applicable to the commercial provision of payment services by payment service providers.[841] Payment service providers are banks or CRR credit institutions, e-money institutions and payment institutions.[842]

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ence. In electronic money schemes the link between the electronic money and the traditional money format is preserved and has a legal foundation, as the stored funds are expressed in the same unit of account (e.g. US dollars, euro, etc.). In virtual currency schemes the unit of account is changed into a virtual one (e.g. Linden Dollars, Bitcoins)." Token bzw virtuelle Währungen können sohin einen spekulativen Kern bzw Anlagecharakter aufweisen, welcher wie ausgeführt dem Vorliegen von E-Geld widerspricht, da E-Geld weder Spar- noch Anlagezwecken dienen darf.

[839] LGBl 2019.213.

[840] Directive 2015/2236, ELI: http://data.europa.eu/eli/dir/2015/2366/oj.

[841] Art 2 (1) ZDG; Art 2 (1) PSD II.

[842] Art 2 (3) ZDG; Art 1 (1) PSD II. This is due to the cascade-like licensing system. Thus, banks and e-money institutions may also carry out payment services; cf. Art 5 para. 2 lit a EGG).

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Payment services include payment transactions[843], payment transactions[844], payment instruments transactions[845], money remittance transactions[846] and, since PSD II, also payment initiation services and account information services.[847]

447 The payment initiation service is a service where the payment service user initiates, upon request, a payment order on a payment account

[843] Art 4 (1)(5) and (12) ZDG; services enabling cash deposits or cash withdrawals to or from a payment account, as well as all transactions required for the maintenance of a payment account.
[844] Art 4 para. 1 no. 45 ZDG (Z 46 leg cit for the execution of a payment transaction in which the amount relevant for the payment transaction is covered by a credit); the execution of payment transactions - i.e. transfer, provision or withdrawal of funds by the payer or payee (Art 4 para. 1 no. 54 ZDG) - including the transfer of funds to payment accounts (Art 4 para. 1 no. 51 ZDG). This includes pull payments (such as direct debits) and push payments (credit transfers, standing orders).
[845] Issue of payment instruments or the acquiring of payment instruments (acceptance and settlement). Payment instruments are defined as personalised instruments or procedures agreed between the payment service user and the payment service provider for issuing payment orders (Art 4 (1) no. 48 ZDG, Art 4 no. 14 PSD II). No physical element is required and the PIN, signature or PIN and TAN may also constitute such a personalised procedure and thus a payment instrument.
[846] Art 4 (1) no 17 ZDG; Art 4 no 22 PSD II. A payment service where no payment account is set up. The amount of money of a payer is transferred to a payment service provider acting on behalf of the payee.
[847] Art 2 (2) ZDG; Art 4 No 3 in conjunction with Annex I PSD II.

held with another payment service provider.[848] With regard to tokens, this provision may be relevant for an operator of a trading platform for tokens if he wishes to enable his customers, via a bank integrated in the business model, to hold deposits in order to acquire tokens with them on a trading platform. If the operator of the trading platform forwards the corresponding payment orders on behalf of the customers, this constitutes a payment trigger service.[849] If no payment order is triggered, but only information on the account balance is reflected, for example, within the platform, there is no payment initiation service, but there is an account information service.[850] Account information services are online services for communicating aggregated or consolidated information on a payment service user's payment accounts.

448 Remarkable is the minimum capital regulation of payment institutions in the ZDG, which implements the PSD II. Due to the changed CHF/EUR exchange rate since PSD I, these have effectively been halved. While the minimum capital for payment institutions[851] was

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[848] Art 4 (1) Z 39 ZDG; Art 4 No 15 PSD II. Payment initiation service providers (PISP) provide the payee with certainty that the payment has been initiated so that the payee can immediately deliver the goods or provide the service (see recital 29 PSD II).

[849] However, the commercial agent exception could potentially be used in this case, see recital 11 PSD II.

[850] Art 4 para. 1 no. 25 ZDG; Art 4 no. 16 PSD II (also Account Information Service Provider; AISP). These service providers enable a user to obtain an overall view of his financial situation in real time (Recital 28 PSD II).

[851] The fee for the authorisation of a payment institution with the FMA is CHF 30,000.00, and the fee for granting or refusing registration of an account information service provider is CHF 15,000.00 (Annex 1 Section A No. 1 lit i and No. 2b lit a of the FMA). In addition, the annual basic supervision fee pursuant to

CHF 250,000.00 and CHF 40,000.00[852] for payment institutions providing money remittance services, the minimum capital de lege lata is CHF 125,000.00 for payment institutions providing payment services under Art. 2 para. 2 lit a, b and f to h ZDG[853] and CHF 20,000.00 for payment institutions providing only money transfers.[854] The payment triggering service providers introduced with PSD II require a minimum capital of CHF 50,000.00.[855] Account information service providers, on the other hand, do not require a license, but are merely subject to registration with the FMA and must present professional liability insurance or an equivalent guarantee.[856]

2.8.1 Strong customer authentication

449 Recital 107 of the PSD II states that, in order to ensure a harmonised application of the PSD II, the European Commission may mandate EBA to develop regulatory technical standards[857] for strong customer authentication to ensure security of payment services. Strong customer

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Annex 2, Title I, Section D of the FMAA is at least CHF 20,000.00 and at most CHF 120,000.00 (or CHF 500,000.00 for payment institutions with representative offices or branches subject to consolidated supervision). For account information service providers, the supervisory levy is also CHF 20,000.00 pa, but a maximum of CHF 80,000.00 for foreign branches and representative offices subject to consolidated supervision.

[852] Art 11 ZDG as amended by LGBl 2009.271.

[853] Art 10 para. 2 lit c ZDG (as amended by LGBl 2019.213).

[854] Art 10 (2) lit a in conjunction with Art 2 (2) lit c ZDG.

[855] Art 10(2)(b) in conjunction with Art 2(2)(e) ZDG-

[856] Art 11 (1) and Art 12 (1) lit m ZDG.

[857] Regulatory technical standards; RTS.

authentication is an authentication that takes into account at least two independent elements from the areas of knowledge, ownership and inherence.[858]

Payment service providers are required to provide strong customer authentication when a payer accesses his payment account online, initiates an electronic payment transaction or acts via remote access in a way that creates a risk of fraud or other misuse.[859] 450

On the basis of Art 98 PSD II, EBA, in cooperation with the ECB, has developed the regulatory technical standards for strong customer authentication.[860] This RTS or the Del-VO entered into force on 14.03.2018.[861] The PSD II itself has been in force since 13.01.2018; in the absence of an earlier decision by the EEA Joint Committee, it was already implemented in Liechtenstein under national law as of 01.10.2019. It[862] should be noted that the provisions on strong client authentication will not take effect until 18 months after the RTS to the PSD 451

858 Art 4 No 30 PSD II; Art 4 (1) Z 34 ZDG. An element of knowledge may, for example, be a password or a PIN. The possessory element is based on the power of disposal of a user, e.g. over a payment instrument or a device that generates an authentication code. The element of ownership, on the other hand, is based on genetic inheritance and includes, for example, a fingerprint or voice recognition. Cf. also Title I. Chapter I.1.2 with regard to the "two factor authentication" customary for transactions of tokens on the block chain, which also refers to these elements.

859 Art 97(1) PSD II.

860 RTS Del-VO 2018/389, ELI: http://data.europa.eu/eli/reg_del/2018/389/oj.

861 This only applies to the EU area. With regard to the EEA, the current status is: "Adopted act under scrutiny by EEA EFTA".

862 Art 115 (1) PSD II.

II enters into force, which means that they will not take effect for the EU until 14 September 2019.[863]

452 Payment service providers generally have to implement a transaction monitoring mechanism that allows for the consideration of risk-based aspects such as the amount of all payment transactions, known fraud scenarios, the access software used, signs of malware infection and misused or stolen authentication elements.[864]

453 For the purpose of strong customer authentication, security measures must be taken to ensure that an authentication code cannot be falsified, that elements of knowledge, possession or inherence cannot be derived from an authentication code, or that a new authentication code cannot be generated (reverse engineering).[865]

2.8.2 Exemptions from the authorisation according to ZDG

454 The most relevant exceptions of the ZDG[866] for block chain-based companies are dealt with below. These are inevitably the two main applications of the limited network exception (limited network or shop-in-shop solution and very limited choice), the commercial agent exception, and the exception concerning interbank payments in general.[867]

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[863] Art 97 PSD II in conjunction with the transposition provision in Art 115 (4) PSD II. Cf. also Art 38 (2) of the Del Regulation 2018/389.

[864] Article 2 of Del Regulation 2018/389.

[865] In addition, according to this provision, authentication may be granted for a maximum of five minutes without activity and may be subject to a maximum of five consecutive failed attempts at authentication; thereafter, the options for action under Art 97 para. 1 PSD II must be temporarily or permanently blocked.

[866] Art 3 (1) ZDG.

[867] Art 3 (1) lit l ZDG.

455 One of the most important exceptions of the ZDG is that of the limited networks (closed loop) according to Art 3 (1) lit g (Z 1 to Z 3) ZDG. Especially in the case of block-chain-based projects, the exception for geographical limitation to one member state in Z 3 leg cit is less relevant due to its ubiquitous application, but the other two paragraphs are all the more significant. The scope of application of the ZDG is excluded in the case of services based on payment instruments of limited use, (i) which entitle the holder to purchase goods or services exclusively from a limited network of service providers under a business agreement with the issuer (retail chain; franchise)[868], or (ii) which can only be used to purchase a very limited selection of goods or services (limited range).[869] Upon implementation of the PSD II in Liechtenstein, the FMA must be notified of the assertion of this exception if a threshold value is exceeded in the execution of payment transactions with a total value of more than CHF 1 million in the preceding 12 months, and the reasons

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[868] If a payment service based on a payment instrument entitles the holder to purchase goods or services only from a specific retailer (shop-in-shop solution), this also constitutes an exception to the ZDG. See in this regard Recital 13 of the PSD II. See also the leaflet BaFin, Hinweise zum Zahlungsdiensteaufsichtsgesetz (ZAG), 22.12.2011, last amended on 29.11.2017, P 3. j), https://www.bafin.de/SharedDocs/Veroeffentlichungen/DE/Merkblatt/mb_111222_zag.html.

[869] Art 3 (1) lit g Z 2 ZDG; cf. chapter 2.7.3 mwN and further details. From PSD I to PSD II, the limitation was tightened, which is also reflected in the terminology. Thus, the limited selection of goods or services was further restricted to a very limited selection. The effect of this tightening in practice remains questionable; in general, however, this exception will have to be based on the civil law generic term or functionally related product categories.

for this must be given.[870] The FMA records such notifications in the publicly accessible Payment Services Register and reports to the EBA.[871]

456 Another major exception to the ZDG is the provision of payment transactions between a payer and a payee by a commercial agent who has the contractual authority to negotiate or conclude a contract for the sale or purchase of goods or services on behalf of the payer or the payee.[872] While under the PSD I regime it was possible for a commercial agent to represent both buyside and sellside, i.e. the payer and the payee, such conduct was stopped with the introduction or national implementation of the PSD II.[873] A commercial agent can now only act for one side of the contract, i.e. either the payer or the payee, and can make use of this exception in the ZDG.[874]

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[870] Art 3 (3) ZDG.

[871] Art 3 (5) in conjunction with Art 16 ZDG and Art 3 (6) ZDG.

[872] Commercial agents or brokers must also have a certain degree of discretion in negotiating or concluding a purchase or sale of goods or services. While the criterion of conclusion refers to an act of will for the conclusion of a legal transaction, the characteristic of negotiation concerns the content of the transaction, such as in particular price, condition, place of procurement, contracting party, etc. There is no discretion if the conclusion and conditions of the transaction, as well as the counterparty, have already been determined and funds are merely forwarded; this is the definition of a payment service - cf. BaFin, Merkblatt - Hinweise zum Zahlungsdiensteaufsichtsgesetz, of 22.12.2011, last amended on 29.11.2017, P 3. b)

[873] Consequently, the trading agent exception can no longer be used for trading platforms, see BaFin, Merkblatt - Hinweise zum Zahlungsdiensteaufsichtsgesetz, dated 22.12.2011, last amended on 29.11.2017, P 3. b).

[874] Art 3(1)(p) ZDG; cf. recital 11 PSD; cf. also BuA 2019/11, p. 13 f; cf. also Chapter II.2.7.6 margin no. 428 While the aforementioned BuA 2019/11 apodictically

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According to the ADHGB in force in Liechtenstein, commercial agents or commercial representatives are defined as independent traders who are constantly entrusted with the task of brokering business for entrepreneurs or concluding business on their behalf.[875] It is therefore conceivable that a commercial agent accepts funds from an entrepreneur for whom he has negotiated a transaction and, after negotiating or concluding a contract, transfers these funds to a second entrepreneur as a counterparty in the course of fulfilling the contract. For this type of activity, a commercial agent can - if he has discretionary powers when negotiating or concluding the contract - invoke the exception to the ZDG and thus does not require authorisation as a payment institution.[876] The term "commercial agent" used in the ZDG in the supervisory context is to be interpreted broadly and, due to its economic content, also includes commercial brokers and seniors.[877] Commercial brokers

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states that a commercial agent representing both parties can no longer claim the benefits of the exemption, this cannot be deduced from the PSD II in such an absolutist manner. Recital 11 aE PSD II states that a commercial agent may continue to act for both payer and payee under this exception if he never comes into possession of or controls customer funds. This can only refer to a payment initiation service provider who acts as a commercial agent for both parties in order to negotiate and conclude a sale of goods or services (but does not fulfil this for the parties); in general, it should be noted with regard to the exceptions that the scope of application of the ZDG is opened up here, but not the actual scope of application, which is why no authorisation is required.

[875] Art 87 ADHGB.

[876] *Haslhofer-Jungwirth/Kaufmann/Ressnik/Zimmermann* in *Weilinger* (Hrsg), ZaDiG, § 2, margin note 20.

[877] See *Haslhofer-Jungwirth/Kaufmann/Ressnik/Zimmermann* in *Weilinger* (Hrsg), ZaDiG, Section 2, margin note 21.

basically perform the same tasks as commercial agents, with the difference that they are not charged with the permanent mediation of business, but act on a case-by-case basis and also act for private individuals.[878]

2.8.3 Conclusion Exceptions according to ZDG under PSD II

458 The ZDG provides for various exceptions where no authorisation as a payment institution is required. Some of these exceptions are also relevant for the EGG. Apart from the exception of payment services in connection with interbank transactions (e.g. payment or securities settlement systems), the most relevant exception is that of limited networks. According to this, the applicability of the ZDG or EGG is excluded if services are based on payment instruments of limited use which can only be used for the purchase of goods or services from a limited network of service providers which have a business relationship with each other (retail chain; franchise; limited network). Services based on payment instruments that can be used to purchase goods or services from a very limited range of providers (limited range) also benefit from the exception of limited networks. It should be noted that since the implementation of the PSD II, this exception must be reported to the competent supervisory authority, in Liechtenstein to the FMA, if payment transactions with a total value of more than EUR 1 million in 12 months (article 37, paragraph 2 PSD II) or CHF 1 million in 12 months (article 3, paragraph 3 ZDG) are overrun. Reasons must be given as to which exception is actually used. These exceptions are recorded in the public national register of payment services and reported to the EBA.

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[878] Article 67 ADHGB.

Another important exception to the ZDG is that of commercial agents or sales representatives and commercial brokers. If, in the course of negotiating or brokering a transaction and concluding a transaction, someone passes on funds for one payer or payee only (transaction execution), this person acts as a commercial agent or commercial broker on behalf of the payer or payee and may make use of the commercial agent exception of the ZDG, which means that no authorisation as a payment institution for such services is required. Under PSD II, unlike under PSD I, it is no longer possible for a commercial agent to represent both the payer (buyside) and the payee (sellside) equally under the exemption. However, according to Recital 11 aE PSD II, a commercial agent may continue to act on behalf of both payers and payees under the commercial agent exception, provided that he never holds or controls customer funds; this may only be relevant for payment service providers who do not hold customer funds per se. 459

The difference between commercial agents and commercial brokers is that the former are constantly entrusted with brokering business for entrepreneurs or concluding transactions on their behalf, while commercial brokers or seniors perform the same tasks in principle, but act on a case-by-case basis and act not only for entrepreneurs but also for private individuals. 460

2.9 Exchange offices according to SPG as amended by LGBl 2009.047 and 2019.302

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Pursuant to Art. 3 para. 3 lit a DDA as amended by LGBl 2009.047, exchange offices are[879] so-called reporters, as they are considered to be due diligence officers who must immediately report the commencement of their business activities to the Liechtenstein FMA in writing. Exchange offices are assigned to the FMA's internal Money Laundering Prevention Division and other financial intermediaries. A currency exchange office is defined as a person who exchanges legal tender or exchanges legal tender for virtual currencies or vice versa.[880]

462 Recital 8 of the 5th Money Laundering Directive states that[881] e-money should in future be covered by bureaux de change. However, this Directive has not yet been implemented in Liechtenstein, where the actual behaviour of a bureau de change has been changed to the exchange of fiat money and virtual currencies, whereas in Liechtenstein legal tender

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[879] This chapter primarily refers to the DDA as amended by LGBl 2009.047, i.e. to the legal situation regarding the DDA before the entry into force of the TVTG (DDA as amended by BuA 2019/93), unless otherwise noted.

[880] Art 2 para. 1 lit l SPG; With the introduction of the TVTG, a separation into exchange offices for the exchange of legal tender on the one hand and VT exchange service providers for the exchange of tokens against other tokens or against legal tender on the other hand is to be implemented (in the 2019/54 BA, p. 367 f, the focus was still on payment tokens and virtual currencies, in contrast to the 2019/93 BA). The reference to fiat money in accordance with the provisions of the 5th Money Laundering Directive is thus not followed in the TVTG, at least not by legal definition, and thus the exchange of e-money for legal tender or virtual currencies does not appear to be covered in Liechtenstein; for operators of trading platforms for virtual currencies and tokens in accordance with Art. 2 para. 1 lit zter SPG as amended by BA 2019/93, see the comments in Chapter II.2.5.4.

[881] Directive 2018/843, ELI: http://data.europa.eu/eli/dir/2018/843/oj.

is still used instead of fiat money.[882] It is clear from the recital that e-money is considered to be fiat money.[883] Against this background, the question also arises as to the significance of adhering to the concept of virtual currencies, since fiat money is a means of exchange without intrinsic value, which in this form, in addition to legal tender and e-money, could allegedly also be applied to Bitcoin and consortia otherwise subsumed under virtual currencies, since a focus on a physical element of fiat money (in the sense of paper money) will not be sustainable when taking account of book money and e-money. The concept of virtual currency thus seems prima vista redundant, but on closer inspection it cannot be omitted. Virtual currencies such as Bitcoin have a value that goes beyond the pure data set, which is determined by the usability and functionality in the Bitcoin protocol; a Bitcoin may not

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[882] This was not complied with with the introduction of the TVTG either, although the government's explanations there even state that the 5th Money Laundering Directive was implemented in this respect - BuA 2019/54, p. 302.

[883] Fiat money is usually defined as an object that has no intrinsic value but serves as a medium of exchange. This applies to legal tender. For example, the Swiss franc is defined as a Liechtenstein franc as means of payment only on the basis of the law on the introduction of the Swiss franc currency (LGBl 1924.008). However, such a means of payment is only to be regarded as (fiat) money once it has been accepted as general consideration and consequently used for the settlement of transactions. Its value is measured, for example, by factors of government stability and the strength of the national economy. Fiat money differs from commodity money, which has an intrinsic or inherent value in addition to an exchange value (e.g. precious metals such as gold, or so-called primitive money, such as mineral money, shell money, cloth money, etc.). Electronic money does not have an intrinsic value, as the monetary value always relates to a monetary claim, which is why the classification as fiat money is economically correct.

represent any special rights, but this does not mean that Bitcoin represents nothing or no value.[884]

463 De lege lata, the change from e-money to legal tender or virtual currencies in Liechtenstein is not covered by the legal definition of exchange office or the activity of a VT exchange service provider. Virtual currencies are electronically storable, transferable and tradable crypto-currencies or tokens which are a digital representation of a value, provided that these tokens are used to acquire goods or services (means of exchange) or to store value and thus assume a comparable function of legal tender (means of payment function such as Bitcoin or ether), whereby a virtual currency was not issued by a public authority and does not necessarily have to be linked to legal tender.[885]

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[884] Cf. Chapter II.2.7.6, margin no. 424 With the introduction of the TVTG, the exchange of virtual currencies among each other, which was not covered prior to the entry into force of the TVTG, will also fall under the scope of application of the DDA as amended by the DDA 2019/93 as the provision of a VT exchange service. However, the concept of the VT exchange service provider goes further and also covers tokens which do not represent virtual currencies (i.e. tokens which have a value due to the underlying software and technology - i.e. digital contents - or tokens which represent the right in rem to an object). In contrast, the change of e-money is still not covered in Liechtenstein, since it is based on legal tender and not on fiat money (cf. Art 2 para. 1 lit q TVTG as amended by Federal Law Gazette 2019/93 and Art 2 para. 1 lit l SPG as amended by Federal Law Gazette 2019/93).

[885] BuA 2016/159, p. 31 - virtual currencies are not "digital monetary units" which can only be exchanged for legal tender to an extremely limited extent or are unsuitable for exchange at all; cf. definition in Art 3 No. 18 5 of the ARC Directive or Art 2 (1) lit z to DDA as amended by BuA 2019/93.

Furthermore, only the exchange of legal tender with other legal tender or the exchange of legal tender into virtual currencies and vice versa is covered by an exchange office activity according to SPD as amended by LGBl 2009.047. The gap regarding the unregulated exchange of tokens against other tokens (or virtual currencies among each other) will be closed with the introduction of the VT exchange service provider in the TVTG and this activity will also be covered by supervisory law.[886]

According to the above, it should be noted that bureaux de change are designated as contracting parties for exchange transactions (bilateral exchange operations against their own books). No exchange office activity, however, constitutes a multilateral contractual relationship, e.g. 465

[886] Cf. art. 2 para. 1 lit r TVTG as amended by 2019/54 - in this context there was even talk of so-called payment tokens. However, the plan to introduce further new terms was rejected, which is certainly conducive to comprehensibility and legal certainty. However, the solution of service providers who exchange fiat money at the official exchange rates as well as virtual currencies or tokens for other tokens and/or fiat money seems to be out of round. With regard to the exchange of fiat money among each other, there is a bureau de change subject to registration pursuant to Art 2 Para. 1 lit l in conjunction with Art 3 Para. 3 lit a SPG as amended by BuA 2019/93, for which a trade licence is also required, while with regard to the exchange of tokens for tokens or fiat money, there is a VT exchange service provider subject to registration pursuant to Art 2 Para. 1 lit q in conjunction with Art 12 Para. 1 TVTG as amended by BuA 2019/93. This becomes even more acute when one considers that for the activity of a bureau de change according to Annex 2, Title IV, Section D, No. 2 of the FMA Act, the additional supervisory levy amounts to CHF 40 - but only for transactions subject to the duty of care - while that for the activity of a VT exchange service provider according to Annex 2, Title VIII, Section A, No. 2 of the FMA Act as amended by Federal Law Gazette 2019/93 amounts to 0.25 % of the gross revenue and thus covers all transactions.

in the case of a trading platform for tokens (unlegislated or "unlegislated" in legal terms, so-called crypto-exchanges or crypto exchanges), in which the operator of such a trading platform merely acts as a risk-free intermediary and brings together the buying and selling interests of third parties to conclude a contract.[887]

466 Finally, it should be noted that the purchase of tokens in a Token Sale or Token Offering does not constitute an exchange activity in the sense of an exchange office. This is because such a transaction does not constitute a bill of exchange, but an issue in the course of a primary issuance or a sale as a result of the offering for sale of digital contents.

467 Exchange offices do not require a permit, but they are fully liable to take care.[888] Accordingly, exchange offices must pay a supervision fee to the FMA. This fee amounts to a minimum of CHF 500.00 and a maximum of CHF 100,000.00 per annum, whereby the additional fee in addition to the basic fee amounts to CHF 40.00 per transaction subject to due diligence.[889]

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[887] However, settlement in fiat money (or, more narrowly, in monetary amounts) triggers a payment service, unless there is an exception, see Chapter II.2.7.6 and Chapter II.2.8.

[888] Art 3 para. 1 lit f DDA.

[889] Annex 2, Title IV, Section D of the FMAG

According to Art. 5 para. 2 lit a and lit g DDA, exchange offices must fulfil the due diligence obligations under Art. 5 DDA[890] when establishing a business relationship[891] as well as when handling occasional transactions amounting to CHF 1,000.00 or more. Art 5 para. 2 lit g DDA represents a lex specialis to lit a or lit b leg cit, since in most cases it cannot be assumed that a permanent business relationship will be established at exchange offices.[892] Due diligence-relevant bill transactions are only accepted for bills of exchange in legal tender at the official exchange rates if the threshold value exceeds CHF 15,000.00. In the case of an exchange of virtual currencies for legal tender and vice versa, however, the threshold is set at CHF 1,000.00, whereby transactions that are related are to be added together. The processing of occasional transactions by a bureau de change does not trigger a supervisory fee idH of CHF 40.00 due to lack of due diligence.[893]

469 In the BuA 2019/54 as well as in the BuA 2019/93 for the TVTG, the introduction of a comparable threshold for the VT switching service provider in the SPG as amended in the BuA 2019/93 (LGBl 2019.302) seems

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[890] In this respect, the data listed in Art. 6 para. 1 SPV (KYC) and Art. 20 para. 1 SPV (AML) must be collected. For identification in remote access (remote identification, which also includes video identification), Art 14 SPV in conjunction with the FMA Guidelines 2019/7 of 11.06.2019, https://www.fma-li.li/files/list/fma-wl-2019-7-sicherungsmassnahmen.pdf, must be observed.

[891] Art 2 para. 1 lit. c DDA: *"any business, professional or commercial relationship maintained in connection with the professional activities of the person subject to due diligence and which is expected to be of a certain duration when the contact is established"*.

[892] BuA 2016/159, p 57.

[893] Art 5 para. 2 lit g DDA; BuA 2016/159, p. 57; cf. also BuA 2019/54, p. 93

to have been forgotten due to an editorial mistake.[894] Otherwise, it does not appear to be objectively justified why a comparable threshold does not lead to an exemption from the due diligence obligations or the supervisory levy when changing tokens into legal tender or when changing tokens against tokens. This would be economically unacceptable, especially for business projects that focus on transactions with low value.[895] However, VT bill of exchange service providers should not impose a fixed additional fee for transactions subject to due diligence[896], but rather a percentage-based supervisory fee is to be paid, which is based on the exchanged tokens and legal tender; nevertheless, each transaction is to be recorded as subject to due diligence.[897]

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[894] BuA 2019/54, S 367 ff. However, Art. 5 para. 2 lit h DDA as amended by BuA 2019/93 provides for a threshold value of CHF 1,000.00 for VT bill of exchange service providers who operate exclusively physical machines.

[895] If tokens are exchanged for other tokens, the threshold value would be calculated on the basis of the corresponding equivalent value in legal tender.

[896] Annex 2, Title IX, Section G No 2 to the FMAG.

[897] In accordance with the wording of the FMAG as amended by FMAG BuA 2019/54, this levy amounted to 0.25 % of gross revenues (factor of 0.0025). With Annex 2 Title VIIII Section A No. 4 of the FMAG as amended BuA 2019/93, the maximum annual total supervisory levy of CHF 5,000.00 or CHF 10,000.00 for all VT service providers was increased to CHF 100,000.00. The tax-related figures appear to be out of proportion, considering that VT service providers are not subject to macro-prudential supervision by the FMA, but that taxes comparable to those of financial institutions such as electronic money and payment institutions are levied (see Annex 2, Title I, Section D, No. 5 lit. a and Annex 2, Title I, Section C, No. 5 lit. a FMA Act). In addition, Art 16 of the TVTG as amended by the Federal Law Gazette 2019/93 contains minimum capital requirements for VT service providers of up to CHF 250,000.00, which can probably only be raised by very few start-ups, although the TVTG is intended to promote precisely this fintech start-up scene. Since this is a minimum capital

In the case of block-chain-based projects involving other financial intermediaries under the supervision of the FMA, in addition to the existence of a bureau de change, if indicated, it must also be examined in particular whether a trust is established[898] or whether the scope of application of the Money Laundering Act has been opened.[899] 470

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requirement, the capital may never fall below this level and therefore cannot be used as operating capital as is otherwise customary for companies under PGR. According to Art 182e PGR, up to half of the share capital could otherwise be used for business activities without the need for restructuring measures or over-indebtedness in accounting terms.

[898] Law of trusts or salmon law according to Art 879 ff PGR; in the case of a trust, trust certificates can also be issued (and subsequently tokenised) as securities over the trust property according to Art 928 para. 1 PGR. These securities must be transferred like registered shares in accordance with para 3 leg cit. Such securities do not necessarily have to represent transferable securities in the sense of financial instruments pursuant to MiFID II; the standardisation or functional equivalence to financial instruments, as well as transferability or tradability in general, are important.

[899] Although the FMA is responsible for the supervision of casinos with regard to due diligence, it should be noted that pursuant to Article 13 of the GSG, the Office of Economic Affairs (AVW) is responsible for licensing under the Money Gaming Act (GSG). With regard to the GSG, it should be noted that the GSG primarily focuses on the concept of money, which means that it cannot generally be applied to token-based business models (cf. the constant reference to a money game using the concept of deposits in Art 3 para. 1 lit i, l, o and v in connection with lit f and e GSG; however, the penal provision in Art 88 para. 1 lit a GSG is very broadly defined and potentially covers all activities in connection with gambling: *"The Regional Court punishes for offences with a prison sentence of up to one year or with a fine of up to 360 daily rates, whoever deliberately organises, operates, brokers, distributes, gives space for, advertises, brings people together, procures gaming equipment including software for this purpose or otherwise commercially promotes it without the necessary licence for gambling or without the gambling being legally exempt from such a licence.* "“). As in the case of the explanations on trading

2.10 Conclusion on money laundering prevention and other financial intermediaries

471 Under the current legal situation, the exchange office pursuant to the DDA (both as amended by LGBl 2009.047 and as amended by BuA 2019/93) - at least in terms of the pure wording of the law - does not cover the exchange of e-money for other legal tender or virtual currencies. While it is still understandable that e-money does not constitute a virtual currency, as it is only a claim for money against an issuer under civil law, the DDA and the VT exchange service provider pursuant to the TVTG as amended by Federal Law Gazette 2019/93, contrary to the 5th Money Laundering Directive or an alleged (partial) implementation thereof, does not cover e-money, as the diction and consequently the telos of the 5th Money Laundering Directive has not been implemented. The activities of bureaux de change and providers of exchange services are still based on legal tender instead of fiat money.

472 While electronic money is [900]fiat money, it is not legal tender. Virtual currencies are digital monetary units with a function representing the means of payment, such as Bitcoin, Ether or comparable crypto-currencies, which have not been issued by an official body and do not necessarily have to be linked to legal tender. Since it was the aim of the Liechtenstein legislator to also cover exchange transactions relating to e-

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venues and a DEX under Chapter II.2.5, it should be noted that a block chain, on which games of chance and games of skill can be conducted using tokens, does not have a regulatory subject, similar to a DEX. Furthermore, according to the GSG, such games are always based on money in the sense of legal tender and not on tokens.

[900] Fiat money, unlike commodity money (e.g. gold), is based on an object that has no intrinsic value, but still functions as a medium of exchange.

money, an attempt could be made to subsume these under virtual currencies. However, from a dogmatic point of view, this seems not only impure but also unjustifiable, since e-money is a claim made in money under civil law and, because of its relationship to deposit transactions, also constitutes fiat money, while Bitcoin, for example, represents a token with inherent value in the sense of digital content that represents data or software as merchandise and, because it is accepted as a medium of exchange, is treated as a virtual currency under supervisory law.

473 Exchange offices pursuant to SPG as amended by LGBl 2009.047 must comply with the due diligence obligations when entering into a business relationship of a certain duration as well as for occasional transactions with a value of CHF 1,000.00 (in relation to virtual currencies) or more (whereby mechanisms must be implemented which recognise related transactions in order to add them up). This is relevant, since the FMA only charges a supervisory fee in the amount of CHF 40.00 per transaction subject to due diligence; otherwise, exchange transactions with small amounts would be economically uninteresting and unprofitable. It seems that, due to an editorial mistake, a corresponding threshold value was not anchored in the legislation for VT bill of exchange service providers in both BuA 2019/54 and BuA 2019/93 on the TVTG. However, according to the new Annex 2 Title IX Section G No. 2 of Title IX of the FMAG as amended by the Federal Law Gazette 2019/54 and Annex 2 Title VIII Section A No. 2 of the FMAG as amended by the Federal Law Gazette 2019/93 (LGBl 2019.303), no fixed additional supervisory fee per transaction relevant to the duty of care

should be retained for VT bill of exchange service providers, but a percentage-based fee based on the exchanged tokens and legal tender for each transaction.

474 Ultimately, in connection with block-chain or token-based business models from the area of money laundering prevention and other financial intermediaries subject to the FMA, the examination of a life situation that is relevant to the business from the perspective of the Money Gaming Act may be relevant. In this context, it should be noted that a license for casinos pursuant to the GSG is granted by the Office of Economic Affairs; in this regard, the FMA merely supervises compliance with due diligence obligations. In general, however, the GSG focuses on the concept of money or deposits, which is why it is regularly not relevant to exclusively token-based business models (cf. article 3, paragraph 1 lit i, l, o and v in conjunction with article 3, paragraph 1 lit f and e of the GSG, whereby the penal provision in article 88, paragraph 1 lit a of the GSG is defined broadly and covers all activities in connection with games of chance; in this context, a teleological reduction would come into question). Irrespective of this, in connection with token-based bets or gaming opportunities on a block chain (similar to a DEX, but decentralised crypto gaming), it must be noted that there is no regulatory subject here either.

3. Overview of regulatory aspects of the TVTG

This chapter is intended to provide an overview of the TVTG as[901] amended by BuA 2019/54 and BuA 2019/93, which will enter into force in the future, and in particular of the regulatory provisions. The TVTG is divided into four parts. The first section sets out the subject matter of the Act and provides essential definitions of terms.[902] The second section regulates civil law aspects and introduces its own transmission regulations for tokens.[903] Section III. provides for provisions on supervisory aspects[904] and the fourth and last section regulates final and transitional provisions.[905] 475

The third regulatory department is further subdivided into 476

- Title A. General (scope of application in Art 11 of the TVTG);
- Title B. Registration of VT service providers (Articles 12 to 38 TVTG);
    - Section 1. registration obligation and requirements (art. 12 to 17 TVTG);
    - Section 2 Registration procedure (Art 18 to 19 TVTG);
    - Section 3. lapse and withdrawal (art. 20 to 22 TVTG);
    - Section 4 VT service provider register (art. 23 TVTG);

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[901] IdF BuA 2019/54 or the slightly adjusted BuA 2019/93 if reference is made to the TVTG and not otherwise noted.

[902] Division I. General provisions (Art 1 and Art 2 TVTG).

[903] Division II. Basic principles of civil law (art. 3 to art. 10 of the TVTG).

[904] Division III Supervision of VTG service providers (Art. 11 to incl. Art. 49 TVTG).

[905] Division IV Transitional and final provisions (Art 50 and Art 51 TVTG)

- Section 5. pursuit of business activities (Art 24 to 29 TVTG);
- Section 6 Basic information for token issues (Art 30 to 38 TVTG);

- Title C. Supervision[906] (Art 39 to 44 TVTG);
- Title D. Procedures and appeals (Arts. 45 to 46 TVTG);
- Title E. Penal provisions (Art 47 to 49 TVTG).

477 Art 12 TVTG stipulates that the professional provision of VT services must be registered before the actual provision of services by a VT service provider. Token issuers who issue tokens in Liechtenstein in their own name or not professionally for third parties with a total equivalent value of less than CHF 5 million - whereby this threshold value must be calculated over a period of twelve months - do not have to register with the FMA (Art 12 para. 2 TVTG as amended by BuA 2019/93).

478 The third department of the TVTG thus regulates the supervision of various VT service providers. The prerequisites for registration are regulated in Art. 13 of the TVTG and are based in particular on reliability and professional competence according to Art. 14 and Art. 15 of the TVTG. Also relevant are the minimum capital requirements for token issuers, VT key and token custodians, physical validators[907] and VT exchange service providers. In addition to these regulations, those on

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[906] Again erroneously referred to as Title B. This editorial error is repeated in the subsequent titles in BuA 2019/54, but was corrected in BuA 2019/93.

[907] According to Art 2 Para. 1 lit p TVTG as amended by BuA 2019/93, a physical validator is a person who guarantees the contractual enforcement of rights to property represented in tokens in the sense of property law on VT systems. A corresponding counterpart for immaterial rights was not created - e.g. a noetic

basic information for token issues are also essential (Art 30 to Art 38 TVTG). Basic information must in particular include details of the token to be issued and the rights associated with it, the VT system used, the purpose of the token issuance, the conditions of transfer of the tokens and risks associated with the issuance (issuance conditions).[908]

According to Art. 3 Para. 1 lit r SPG as amended by Federal Law Gazette 2019/54, VT service providers subject to registration are subject to due diligence, with the exception of the token issuers, VT inspection body, VT price service providers and VT identity service providers. Regardless of the classification as due diligence agents, the FMA supervises all 479

custodian, from the Greek νοητική or the notion of notic as the doctrine of recognition of intellectual objects, who could time-stamp and register immaterial rights in order to avoid the repeated tokenisation of the same rights.

[908] Art 33 TVTG; cf. *Nägele/Xander*, Token Offerings, especially Initial Coin Offerings (ICO) and Security Token Offerings (STO) as well as Token in Liechtenstein Law: Regulatory Environment and Outlook, margin no. 18.58, in *Piska/Völkel* (ed.), Blockchain Rules.

VT service providers.[909] This is important, as it excludes the requirement of a 180a person[910] or a commercial managing director.[911] In this respect, the provision in the GewG as amended by BuA 2019/93 (LGBl 2019.305), according to which the Trade Licensing Act does not apply to the activities of VT service providers, is merely of a clarifying nature.[912] By placing VT service providers under the supervision of the FMA, the licensing requirement under trade law, according to which a trade license is granted only if the applicant is a citizen of an EU or EEA Member State or of Switzerland or, as a third-country national, has had an uninterrupted residence in Liechtenstein for at least 12 years and

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[909] Art 39 DVTG:

[910] The mandatory appointment of a person who holds a licence under the Law on the Supervision of Persons pursuant to Art. 180a of the Persons and Companies Act (LGBl No. 2013.426) or as a trustee for companies which do not pursue any active commercial activity but are designed as a passive company or holding structure is a peculiarity reserved for Liechtenstein law - cf. *Bergt*, Verantwortung der Leitungs- und Kontrollorganen in der liechtensteinischen Aktiengesellschaft, Rz 116 ff. In this connection, pursuant to Art. 3 of the Ordinance on Persons and Companies Law of 19.12.2000, LGBl 2000.281, "it must be *expressly apparent from the purpose of legal entities and trust enterprises whether or not a business conducted on a commercial basis is being carried on"*. Financing a future economic activity by issuing unregulated tokens does not constitute a commercial activity within the meaning of the Trade Licensing Act, which is why a so-called 180a person or a trustee had to be appointed to manage and represent the company until the TVTG came into force. It is important to note that although the Trade Licensing Act only applies to professional activities - aimed at third parties - in Switzerland and professional activities abroad are not covered by the Trade Licensing Act, the Trade Licensing Act cannot be circumvented by exclusively developing an activity in foreign jurisdictions, since in this case the company is officially dissolved and liquidated for lack of proper staffing in accordance with Art. 971 para. 1 lines 1 and 3 PGR.

[911] Art 180a (1) and (3) PGR.

[912] Art 3 lit s GewG as amended by BuA 2019/93.

permanently maintains this residence (article 8, paragraph 1, letter c of the GewG as amended by LGBl 2006.184), is thus no longer applicable. This is inevitably a relic from the times of protectionism of the guilds under trade law, but in an increasingly globalised world, especially in the block chain, it is a massive obstacle to the implementation of business plans for third-country nationals.

With regard to the operators of trading platforms for virtual currencies pursuant to Art 2 Paragraph 1 lit zquater SPG as amended by BuA 2019/54 (or Art 2 Paragraph 1 lit zter as amended by BuA 2019/93, as the providers of electronic purses were removed again), please refer to Chapters 2.5.4 and 2.9 and (FN 880). With regard to VT exchange service providers, reference is made to Chapters 2.2.2, margin no. 222 aE, 2.5.4 and 2.9 to avoid repetition. 480

In addition, the physical validator should be emphasized, which is defined according to Art 2 Paragraph 1 lit p TVTG as a person who *guarantees the contractual enforcement of rights to property represented in tokens in the sense of property law on VT systems*. If property rights to a real object are thus represented in a token, the function of a physical validator is to guarantee the exercise of the real claims of the person authorized to dispose of the token (i.e. owner of the tokenized object) on the tokenized object. In practice, this can be done by taking the tokenized object into custody or by taking out insurance through the physical validator. In[913] accordance with the legal materials, it can be deduced from the idea of a so-called token economy that an extensive tokenisation of assets, such as *"precious metals, precious stones and raw materials [...] works* 481

[913] See BuA 2019/54, p. 237.

of art, land and real estate up to rights to commodities such as cars, watches or yachts" can be expected[914]. While the role of the physical validator is fundamentally clear, the question arises as to how relevant its scope of application is or whether the activity of this service provider competes with EU fund regulation. This is because an AIF is defined as a collective investment undertaking which collects capital from investors in order to invest it according to a defined investment strategy. As already explained in paragraph 119, the definition of "capital" is extremely broad: *"Assets can include, for example, traditional assets (equity, equity related, debt etc), private equity, real estate and other non-traditional asset classes such as ships, forests, wine etc and any combination thereof"*.[915] Against this background, the question arises as to whether, for example, a valuable painting displayed in tokens to enable several people to "participate" in the painting does not constitute a fund; the defined investment strategy could be seen in asset management (exhibition in certain art galleries and museums against payment). This will regularly be affirmed, and would such tokens ultimately be fund share certificates. In addition to fund regulation, the TVTG would also apply in this case. The regulatory need for a physical validator in such a case, as well as the exact division of responsibilities between the physical validator and the depositary, remains unclear.

482 Finally, Art. 7 Par. 1 lit. f TVTV (LGBl 2019.349) must be singled out. According to this ordinance provision, the notification of a token issue must also include information on the target market. The legal definition of "target markets" is not explained and ultimately it remains uncertain

914 See BuA 2019/54, p. 24.

915 ESMA Discussion Paper 2012/117, Key Concepts of the Alternative Investment Fund Managers Directive and types of AIFM, 23.02.2012, Rz 12.

whether this is an independent legal terminology or whether the terminology is based on that of IDD 2016/97 or the VersVertG.

4. Central results

This concluding chapter summarises the central findings and results of this work in connection with token offerings and decentralised trading places (DEX) on the one hand and the distinction between deposit business, e-money business, financial instruments or investment services and virtual currencies on the other. 483

4.1 Banking transactions, e-money, financial instruments and virtual currencies

It is inherent in both deposit-taking and e-money business that there is a requirement for unconditional repayment of funds. This can be justified dogmatically by the fact that the e-money business is also a deposit business to which, however, by legal fiction of the European legislator, special consequences are attached under certain conditions. The two transactions represent two sides of the same coin and, in principle, e-money is a privileged form of deposit-taking, with payment services being the main focus of the latter: Deposits have a savings purpose, whereas e-money has a payment purpose. Since e-money is a variant of the deposit business, it is only logical that unconditional redeemability is indeed the model for e-money. E-money can therefore only be created by giving fiat money or monetary amounts. The monetary value is therefore always based on a monetary value. This monetary value must be issued in the form of a claim, whereby this claim must therefore nec- 484

essarily be denominated in money; the fact that the claim is denominated in money also results in redeemability at par value as a constituent element.

485 It should be borne in mind that if an exception is made for electronic money, the scope of the Electronic Money Act and the Electronic Money Directive is still open, but a monetary value is present which does not require a licence. As such, deposit business can no longer be revived in the event of an exception, as electronic money is issued concurrently, even if it does not require a licence. It should also be noted that payment instruments cannot represent financial instruments under MiFID II or the Banking Act. It is also clear from Recitals 8 and 10 of the 5th GWD that the intention of the Union legislator was to enshrine in legislation that virtual currencies do not represent e-money. While e-money can be issued in the form of tokens, tokens which have an intrinsic value in the sense of digital content, represented by the data or software of a token, and are therefore treated as merchandise and sometimes represent virtual currencies, do not qualify as e-money. Virtual currencies may have payment functions such as e-money, but may also serve savings purposes such as deposits, or may be used for investment purposes, as is the case with financial instruments. In light of the above, it is clear that although tokens can represent both e-money and financial instruments if appropriately designed, virtual currencies do not represent either e-money or financial instruments, as they perform a variety of different functions, some of which are similar to those of traditional financial market instruments.

486 This is closely linked to the so-called ring tone clause in Recital 6 of the E-Money Directive. According to this recital, the scope of the E-Money

Directive is not open to monetary assets that can be used to acquire digital goods or services, provided that an operator or issuer attributes an additional intrinsic value to a monetary asset, e.g. in the form of access or transmission facilities. It is also important that a good or service can only be used by means of digital devices and that an operator of such an IT system does not merely act as an intermediary between user and service provider. An operator already adds value if an additional function is added to a product; the provision of communication or transmission channels is sufficient. In the case of block chain-based tokens, an additional function in the sense of an access function is regularly added to these tokens, or the software with which the token can ultimately be transferred is usually also developed. Consequently, the scope of application of the e-money regime to tokens appears to be marginal.

Unlike in Germany, units of account such as tokens cannot be treated as financial instruments in Liechtenstein. In contrast to Liechtenstein, multilateral trading of tokens such as Bitcoin or Ether, which according to Liechtenstein's understanding represent data or software in the sense of merchandise, on a trading platform in Germany represents an investment service such as the operation of an MTF, since the German Banking Act is stricter than MiFID II and also covers units of account as financial instruments.[916] This can lead to the paradoxical competition between e-money and financial instruments under German law if e- 487

[916] § Section 1 para. 11 no. 7 KWG; this must be taken into account in particular in the cross-border field of activity (e.g. in the operation of a crypto-exchange from Liechtenstein which is not regulated by supervisory law) and plays an essential role in connection with the passive freedom to provide services and marketing. With respect to investment services, Recital 85 of MiFID II must be taken into account in particular.

money has been tokenised - for example, proprietary trading of e-money is not covered by the EGG or ZDG there, but unlike in Liechtenstein, this is considered a financial service.

488 This can also be relevant in connection with tokens, especially stablecoins, which are to be kept stable. A token can also represent a claim against an issuer. If the other criteria are met, such a token can represent e-money. However, e-money is excluded if a token does not represent a claim, but represents an independent token in the sense of software as a commodity (such as Bitcoin). An indication that a token represents a claim can be seen in the fact that when a token is taken back, it is destroyed - a claim is thus redeemed, as it is not possible for an issuer to hold a claim against itself.

489 The exclusion of an unconditional repayment obligation to avoid a deposit transaction could be achieved by a resolutory condition with ex nunc effect. In such a case, the contractual basis would cease to exist upon the occurrence of a certain event and would subsequently be unwound under the law of enrichment - but not under the law of obligations; in other words, there would only be a conditional repayment obligation anchored in legislation. As a result, there is no contractual unconditional repayment obligation. If a specific redemption or repurchase is desired, implementation would also be conceivable by means of a consumer-friendly redemption right; this presupposes, however, that a token represents digital content and does not represent a claim made out of money (i.e. e-money) or membership or other claim rights (i.e. financial instrument).

490 However, if a token or stablecoin represents an independent token, a consumer-friendly unlimited right of withdrawal can be granted. This

can be reversed under condictio causa finita (condictio causa finita) law and also gives such a token a stable value. Such an internal stable coin could be of interest in a trading platform for tokens.

Apart from deposit and e-money business, lending business can also play a role for token-based business models. Factoring in particular can be relevant, e.g. if an entrepreneur wants to create additional sales channels and offers his goods or services in exchange for tokens, but does not necessarily want to accept them. This entrepreneur can assign his claim in legal tender, payable in tokens, to a factor who takes over the del credere and pays the assignment price in legal tender to the assignment creditor. This is genuine factoring, which in Liechtenstein - unlike in Austria - does not constitute banking business. The situation is different, however, in the case of fictitious factoring, where the factor does not assume the default risk and therefore, from a legal point of view, contributes or credits liquidity. The fictitious factoring thus represents a credit or lending transaction. 491

As already mentioned in connection with the distinction between e-money and deposit transactions, tokens are to be seen as technical containers and can in principle represent all rights, i.e. all financial instruments provided for in MiFID II. However, it will not be possible for a token to represent deposits, since in this case the token already represents value and thus represents e-money; the deposit business, however, is directly geared to book money and cash, which cannot be represented in any other way. 492

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The material scope of the e-money regime covers the commercial issuance of electronic money. The personal scope of application also extends to e-money issuers who issue e-money. E-money issuers are primarily CRR credit institutions and e-money institutions. A local scope of application - tailored to the EU area and the EEA - can be derived from this. The issuance of monetary instruments in third countries cannot open up the scope of the e-money regime, as these jurisdictions are not familiar with e-money. It has to be assessed according to the respective jurisdiction where these monetary assets were issued whether a deposit transaction is involved or whether a financial instrument is involved, if a token is not a payment instrument. Such tokens, which would constitute e-money if they had been issued in the EU or EEA, are not subject to authorisation if a third party independent of the issuer subsequently distributes such tokens in Liechtenstein, since the material scope of application only covers the issuance of e-money (the token tether would, for example, constitute e-money if it had been issued in the EU or EEA). If, however, a sales outlet were to act on behalf of an issuer in the EU or EEA, this would be regarded as a direct issue by the issuer in the EEA or EU, which would consequently be subject to approval.

494 E-money should not hamper technical innovation, according to the recitals of the E-money Directive. Nor is the decentralised block chain an obstacle to the e-money regime. On the one hand, e-money can be managed on an issuer's server (specific account for electronic money), on the other hand, e-money can also be stored on card-based systems. Under civil law, e-money is transferred by assigning the represented claim against the issuer. If a wallet for tokenized e-money is made available by an issuer or a third-party provider, it constitutes a payment account,

since e-money is legally defined as a monetary amount despite the actual representation of a claim. However, for the purposes of civil law transfer, e-money can also be held on private wallets without requiring supervisory approval.

In this context, proprietary trading and subsequently also matched principal trading of e-money in Liechtenstein is safe from a supervisory perspective, as only claims are assigned. At best, a genuine factoring transaction may exist, but as explained above, this is harmless from a regulatory perspective in Liechtenstein. Matching of interests in relation to the purchase or sale of (tokenised) e-money is also unproblematic, but if the settlement (fulfilment of the contract) is carried out outside the matching process, a payment service requiring authorisation will be present. It should be noted that the commercial agent exception for payment services has been restricted under PSD II and that under the ADHGB a commercial agent or commercial agent or commercial brokers or sellside agents can no longer represent both contracting parties (buy- and sellside) in the negotiation or conclusion of the contract while at the same time claiming the exception from the ZDG. 495

It should also be noted that the exchange office in the Liechtenstein SPG as amended by LGBl 2009.047 or the VT exchange service provider pursuant to TVTG as amended by BuA 2019/93 does not fully implement the 5th Money Laundering Directive in this regard, contrary to the Government's intentions. This is because the EU directive is aimed at the exchange of fiat money for other fiat money or into virtual currencies. E-money, which, from a dogmatic point of view, is dogmatically based on a claim made in money, is included under fiat money. In Liechtenstein, however, this provision still refers to legal tender, which is why, 496

strictly speaking, e-money from exchange transactions is currently not covered in Liechtenstein. The VT bill of exchange service provider de lege ferenda also only records the exchange of tokens for legal tender or other tokens.

4.2 Central and decentralized trading centers

497 Essential for the existence of a trading venue such as an MTF or an OTF are the following elements, which must be cumulative:

- A system for trading in financial instruments, whereby "system" is to be interpreted in a technology-neutral way and covers any set of rules (e.g. also voice trading);
- It is imperative that the system be multilateral (i.e. no Matched Principal Trading, only Agency Trading, may be carried out on an MTF). This is also the case with an OTF);
- The system must serve the interests of the trading parties;
- As a result of the pooling of interests, it is not possible to execute individual transactions with individually selected contracting parties;
- The contract is concluded within the system or platform and not outside of it. If the contract is concluded outside the system, there is potentially a pure information system or bulletin board (in terms of tokens, a so-called DEX);
- Ultimately, the system must be designed to bring together the interests of a large number of trading participants and must carry out individual trade brokering (minimum of three participants required).

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For better traceability, a typical trading process via an MTF is outlined below in order to subsequently delimit the activity on a decentralized exchange (DEX):

1. Between two trading members authorised as financial intermediaries, a trading transaction is concluded via the trading platform of the MTF operated by an investment firm; if applicable, for the purpose of fulfilling an underlying order of an end client (economic buyer or seller);
2. A completed "transaction" or, more precisely, the combined interests relating to the purchase or sale of financial instruments are transmitted by the MTF to the clearing house (Central Counterparty; CCP);
3. Clearing takes place between the clearing house and the clearing members;
4. A reconciliation between clearing members and trading members takes place (determination of mutual claims);
5. The clearing house (CCP) transmits instructions to the settlement agent (Central Securities Depository; CSD) for the execution of settlement;
6. The settlement platform (CSD) then effects the actual transfer of the financial instruments in question and also ensures the actual transfer of the corresponding funds; the settlement is carried out on the books (financial instruments held in the securities giro);
7. Ultimately, the reconciliation between the members of the CSD and the clearing members takes place.

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Apart from financial instruments or tokens that represent them, the model can also be simulated in connection with a central counterparty (CCP) for tokens that represent neither e-money nor financial instruments (virtual currencies). In the following, it will be shown in concrete terms how such matched principal trading can be carried out:

1. Users A and B register on a trading platform for tokens that represent neither financial instruments nor e-money;
2. User A would like to acquire BTC with his ETH;
3. User B wants to sell BTC (against ETH);
4. In the following two steps are carried out:
    - User A transfers ETH to the operator of the trading platform for tokens, whereby the legal reason for the transfer is the acquisition of BTC from the operator of the trading platform as the central counterparty in accordance with the contractual agreement (e.g. with deferment of payment for one legal second);
    - User B transfers BTC to the operator of the trading platform for tokens. In this case, the legal reason for the transfer is the sale of BTC to the operator of the trading platform as Central Counterparty in accordance with a contractual agreement.
5. The operator of the trading platform for tokens has subsequently acquired ETH from user A for at least one legal second and owes user A BTC for this. At the same time, the trading platform operator has acquired BTC from User B for at least one legal second and owes ETH to User A in return;
6. The operator of the trading platform for tokens fulfils its obligation to User A with the BTCs acquired by User B. At the same

time, the operator of the trading platform for tokens fulfils his liability towards User B with the ETH purchased by User A.

The elegance of this example is due to the block chain technology. Such a transaction is executed automatically and quasi in real time via a Smart Contract. The counterparty default risk is effectively set to zero by a technical instance. With the advent of block chain technology on the financial market, even highly regulated markets such as multilateral trading centres can be structured more efficiently. The block chain technology thus enables a reduction in the density of regulation while at least maintaining the same level of efficiency in the fight against market failures and thus enables a convergence with Pareto efficiency. 500

Using block chain technology, so-called decentralized exchanges (DEX) can also be implemented. On a DEX, orders relating to tokens, sometimes also those representing financial instruments, can be settled peer-to-peer. Usually the order book, matching and settlement are kept on-chain (execution via Smart Contracts). However, a DEX cannot be classified as an organized trading venue like an MTF or OTF, as there is no legal entity capable of regulation due to the decentralized nature of such a trading venue. In addition, there is usually only bilateral and not multilateral trading on a DEX. The role of the risk-free intermediary, which brings together the buying and selling interests, is represented by a technological entity. Financial market players such as investment firms - (OTC) market makers or systematic internalisers - can also appear on a DEX. 501

Such a DEX technically represents the backend and software-based interfaces (front-end) are also provided, which access a DEX to reflect in- 502

formation about tokens and orders held there. Such a frontend is comparable to a browser accessing the hypertext transfer or HTTPS protocol (central server or database), except that decentralized nodes are accessed on a block chain protocol instead. Such interfaces are often referred to as bulletin boards and can be designed as a pure information system, provided that only publicly accessible information is displayed graphically, which would constitute an unregulated technical service. It is essential that the conclusion and fulfillment of the contract is done directly on the DEX and not on the interface. There is also no contract mediation as long as such an interface or its operator is not a sine qua non for the availability of concrete business details and consequently a contract conclusion. This is normally not the case if only publicly accessible information is represented by a block chain.

503 In BuA 2019/54 on the TVTG, the government stated that operators of such information systems provide aggregated price information on offers to buy and sell tokens. Although this may be the case, it is not mandatory and therefore de lege ferenda an information system cannot always be qualified as a VT price service provider.

504 In terms of securities prospectus law, it must be noted in connection with a DEX that a prospectus must be prepared and approved for public offers of tokens that represent financial instruments, unless an exception applies. Problems can also arise from the fact that a DEX can lead to a global offer of financial instruments, but there are no uniform global regulations on prospectus requirements; this problem has effectively existed since the existence of the Internet.

505 On a DEX on which security tokens are traded, (OTC) market makers and systematic internalizers can in principle act as financial market

players. It is important to note that information and price entries in trading and order systems, data in information systems or the activity of a market maker are not regarded as messages that would be required for a public offering. The activity of such financial market participants (on a DEX) does not constitute a public offer and therefore does not trigger a prospectus obligation. Both actors are primarily responsible for increasing liquidity on the capital market by either continuously or systematically and to a considerable extent conducting proprietary trading in financial instruments. It should be noted in this respect that investment firms are subject to certain trading obligations with regard to equity securities and certain derivatives pursuant to Art 23 and Art 28 MiFIR.

506 The SPG as amended by the 2019/93 SPG BuA 2019/93 also covers so-called operators of trading platforms for virtual currencies or tokens as persons subject to due diligence. Even if this is intended as a catch-all, it remains unclear what is to be regulated by this. As the government itself states, token bills against legal tender are covered by the VT bill of exchange service provider. If an actor acts on behalf of the government, he holds the token or the private key of the ordering party for at least one legal second and is subsequently recorded as a VT key custodian or VT token custodian. The practical significance of this provision in the DDA will therefore first have to be established.

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Abstract

This academic paper deals with both civil (securities) law and regulatory (securities) law aspects. Thus, a summary of the property law is provided, which deals with the classification of tokens under Liechtenstein law.

Furthermore, dematerialised securities, which have been known to the Liechtenstein legal system for almost 100 years, will be discussed. The legal situation regarding securities and book-entry securities prior to the entry into force of the "Blockchain Act" (TVTG) is outlined and book-entry securities under the TVTG (principle of abstraction) and book-entry securities under PGR as amended by the Federal Law Gazette 2019/93 (principle of causality) are discussed in detail.

The civil and corporate law focus is on Liechtenstein, while the Swiss corporate law basis of reception and the general civil law reception of Austrian law are also taken into account.

The supervisory part of the work is clearly in the focus of Union law, but also takes into account national specificities of Liechtenstein, Austria and Germany in addition to European legal acts.

Thus, tokens and token-based business models are also examined in the light of Union legal acts such as MiFIR, MiFID II, CRR, CRD IV, CSDR, EMIR, AIFMD, UCITSD, E-Money Directive II, PSD II, MAD/MAR, Prospectus Regulation, 5th AML Directive and other regulations, directives, as well as implementing regulations and delegated regulations. A special focus is placed on crypto exchanges and decentralised trading places (DEX). In addition, a focus will be placed on consumer law in terms of tokens and distance selling contracts, taking into account the

VRRL and the Clause Directive. In this context, tokens as data or software and thus as digital content and consequently merchandise are also dealt with in more detail and the parallels to tokens as tokens with intrinsic value or virtual currencies in contrast to fiat money are shown.

Furthermore, the author aims at explaining deposit business, e-money transactions and financial instruments as communicating vessels in contrast to virtual currencies. Although this is primarily a legal dispute, technical aspects of Distributed Ledger Technologies, such as the block chain as a decentralised database, tokens & coins, smart contracts, agoric computing, self-sovereign identity, etc. - as far as this is necessary for the legal assessment - are also explained in more detail; in addition, economic backgrounds and excursuses for better comprehensibility also influence the theses and possible applications of the block chain technology are shown.

In this way, e-money should also be comprehensibly deciphered in relation to cryptographic currencies on the basis of the relevant practical case of USD-Tether and a possible revival of the "ring tone clause" in e-money should be discussed.

The present discussion is to be understood as scientific work with practical relevance for advice in connection with block-chain-based start-ups, representation before supervisory authorities, as well as generally useful advice on how to avoid pitfalls in entrepreneurial project implementation from a legal perspective. Against this background, this book is aimed at lawyers, in-house counsel as well as authorities, courts, scientists and other interested parties in the field of financial market law and block chain technology.

curriculum vitae

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Josef Bergt is specialized in the areas of Liechtenstein and European banking and financial market law, corporate and capital market law and IT law and has extensive expertise in the regulatory framework of financial markets, in particular regarding Distributed Ledger Technology (DLT) and its various variations such as blockchain, Directed Acyclic Graphs (DAG), hashgraph, holochain, etc., including token sales and offerings such as initial coin offerings, token generating events and security token offerings (ICO/TGE/STO). In addition, Josef Bergt has experience in the establishment of regulated financial institutions and financial intermediaries, the licensing of such institutions and the preparation of securities prospectuses and their approval by the relevant supervisory authority. Furthermore, he has experience in litigation in the areas of civil and commercial law. Furthermore, he has a profound knowledge of data protection and intellectual property rights.

Josef Bergt was part of the team that supported the first security token prospectus approved by the Liechtenstein Financial Market Authority (FMA) in August 2018. Josef Bergt is also a supporter of the Liechtenstein "Blockchaining Act" (Token and VT Service Provider Act; TVTG) and the Liechtenstein blockchain scene. In addition, he was also part of the team that proposed the legal framework for an EU token regulation paper via thinkBLOCKtank asbl. Finally, as part of his legal activities, Josef Bergt has provided legal advice and assistance to more than 250 start-ups and financial intermediaries, some of which are block-chain-

based, and in this context has drawn up expert opinions and contractual terms and conditions under financial market law, as well as making the relevant legal clarifications and representing the company before the authorities.

In addition to his scientific authoring activities, Josef Bergt is also a speaker at international events and at universities, where he provides insight into the interaction of new technologies with existing law.

Training

2019 – 2020	Accounting Intensive Course, Vocational and Further Education Centre (bzb) Buchs, Canton St.Gallen
2018 – 2020	Studied Executive Master of Laws (Corporate, Foundation and Trust Law), University of Liechtenstein.
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Publications

Responsibility of the management and control bodies in the Liechtenstein company limited by shares - in consideration of Swiss and Austrian law, Schulthess Verlag Zürich, 2020, ISBN 978-3-7255-8112-2 (reprint of the dissertation, Private University in the Principality of Liechtenstein, 2019.)

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Professional activities

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01/17 – 12/17	Associate with Schwärzler Attorneys at Law, Schaan.
05/16 – 10/16	Court internship at the Princely District Court of Vaduz.
01/16 – 03/16	Court internship at the district court of Telfs.
04/12 – 12/12	Legal assistant, law firm Dr. Peter Bergt.

Josef's Vanity Card #1:

"Joseph, where are you?"

"Somewhere, something incredible is waiting to be known."[919]

[919] *Carl Sagan.*