

civil law

Consumer Protection regarding stablecoins

Denk, Lucas*

ABSTRACT

Virtual currencies have gained popularity as part of the digital transformation of the financial system. In particular stablecoins are becoming increasingly popular with consumers. The tokens, which are pegged to a value and - according to their name - promise price stability, pose significant risks from which consumers need to be protected. This article focuses first on consumer-specific risks (B.) and German consumer protection law and in particular on the applicability of a right of withdrawal from the acquisition of stablecoins (C.). Subsequently, the EU legislator's effort to minimize price stability as well as transparency and exchangeability risks, the Markets in Crypto-assets Regulation (2023/1114), is examined in terms of its consumer protection instruments (D.).

Keywords Stablecoins; Virtual Currencies; Tokens; Crypto-Assets; Financial Regulation; MICAR; Consumer Protection; Right of Withdrawal

A. Introduction to stablecoins

“As with all periods of rapid innovation, there is the potential for excessive hype, fads and hyperbole”¹. The past has shown that breakthrough innovations are often followed by a phase of exaggeration before this gives way to reality and interest in the innovation fades.² It is uncertain which phase stablecoins, as the latest development in the digitalization of the financial market, are currently in.

In May 2022, distortions occurred on the crypto market. The decisive factor was the crash of the algorithmic stablecoin TerraUSD (UST). After the price decline began on 9th May 2022, nearly EUR 40 billion in value was wiped out during the following days.³ Investors of UST lost about EUR 18.5 billion.⁴ Retail holders lost billions of euros.⁵ This incident shows in a depressing way that investors and especially consumers need to be protected from the risks of this new market.

I. Stablecoins as a virtual currency

Cryptocurrencies are digital means of payment without physical equivalent value that are often but not exclusively based on a blockchain.⁶ Users can exchange them via so-called wallets, virtual purses, in a completely decentralized manner against other cryptocurrencies or on centralized exchanges. The enormous volatility of cryptocurrencies is often considered critical and is depriving large parts of this asset class of their potential as an alternative means of payment.

Stablecoins as a special form of cryptocurrencies have been in circulation since 2014 and rely on stabilization instruments to minimize volatility compared to other currencies.⁷ The tokens thereby strive to facilitate monetary transactions and international payments outside of existing currency areas with lower to no fees.⁸ While this is considered to be revolutionary and can change the way transactions are processed, stablecoins are currently also used to trade cryptocurrencies. They can be divided into two categories: stablecoins that achieve their stability of value through collateralization (fiat-collateralized

*The author is a law student at Goethe University Frankfurt am Main. This article is an edited version of a seminar paper from the Law and Finance specialisation written in 2023.



Attribution 4.0 International (CC BY 4.0)

Zitieren als: Denk, Consumer Protection regarding stablecoins, FraLR 2024 (1), S. 29-37. DOI: <https://doi.org/10.21248/gups.83612>

¹Arner et al., ‘Stablecoins: Risks, potential and regulation’ (2020) BIS Working paper No. 905, 2, www.bis.org/publ/work905.pdf (accessed 26 January 2023).

²Fischer, ‘The Debt-Deflation Theory of Great Depressions’ (1933) *Econometrica* Vol. 1 337, 338-349; Minsky, ‘The Financial-Instability Hypothesis: Capitalist Processes and the Behavior of the Economy’ in Kindleberger/Laffargue (eds) *Financial Crises: Theory, History, and Policy* (Cambridge University Press 1982), 14-17; Steinert/Leifert, ‘Scrutinizing Gartner’s hype cycle approach’ (2010) *Picmet 2010 Technology Management for Global Economic Growth* 254, 255, 256, http://www.researchgate.net/profile/Martin-Steinert/publication/224182916_Scrutinizing_Gartner%27s_hype_cycle_approach/links/543005400cf29bbc1273c7e1/Scrutinizing-Gartners-hype-cycle-approach.pdf (accessed 26 January 2023).

³Falk/Hammer, ‘Comprehensive Approach to Crypto Regulation’ (2023) *The University of Pennsylvania Journal of Business Law* 415, 432-433.

⁴ibid, 433.

⁵Yaffe-Bellany/Griffith, ‘How a Trash-Talking Crypto Founder Caused a \$ 40 Billion Crash’ *NY Times* (18 May 2022), www.nytimes.com/2022/05/18/technology/terra-luna-cryptocurrency-do-kwon.html (accessed 26 January 2023).

⁶Möllenkamp, *Handbuch Multimedia-Recht: Rechtsfragen des elektronischen Geschäftsverkehr* (Hoeren/Sieber/Holznapel issue 58 2022), ch 13.6 para 13.

⁷ECB Crypto-Asset Task Force, ‘Stablecoins: Implications for monetary policy, financial stability, market infrastructure and payments, and banking supervision in the euro area’ (2020) Occasional Paper Series No. 247, 7, www.ecb.europa.eu/pub/pdf/scpops/ecb.op247~fe3df92991.en.pdf (accessed 26 January 2023).

⁸G7, IMF and Bank for International Settlements (Committee on Payments and Markets Infrastructure), ‘Investigating the impact of global Stablecoins (2019), 3, 4, www.bis.org/cpmi/publ/d187.pdf (accessed 26 January 2023); Financial Stability Board, ‘Regulation, Supervision and Oversight of “Global Stablecoin” Arrangements: Final Report and High-Level Recommendations’ (2020), 7,

stablecoins, off-chain-collateralized stablecoins, on-chain-collateralized stablecoins) and stablecoins that base their stability on an algorithm that seeks to establish parity of the stablecoin and the reference asset by controlling demand and supply (algorithmic stablecoins).⁹

1. Collateralized stablecoins Fiat-collateralized stablecoins attempt to achieve monetary parity with one official currency through fiat-collateralization. The largest stablecoins such as Tether (USDT) or USD Coin (USDC) are pegged to the US Dollar (USD). META's Libra or Diem would also have been a fiat-based stablecoin.¹⁰ They are issued by a central issuer that stores the collateral which is to be deposited.¹¹ On demand, the holder of the token must request the payout from the collateral at the market price of the token.¹² Fiat-based stablecoins are considered the safest, provided that the assets are dutifully kept and invested, but they are also considered to pose challenges and risks to the financial system if global stablecoins, coins that reach a global or substantial footprint,¹³ emerge.¹⁴

Off-chain-collateralized stablecoins are tokens that attempt to achieve parity with a fiat currency or the underlying commodity, but are always backed by commodities or similar as collateral. The most prominent example might be PAX Gold (PAXG), a coin that replicates the price of gold.

Furthermore, there are on-chain-collateralized stablecoins. It should be noted that due to the volatility of cryptocurrencies, up to 200% of the amount paid out in stablecoins must be deposited as collateral.¹⁵ If the price of the deposited cryptocurrency falls below a certain threshold, the holders of the tokens can be forced to liquidate them and in return receive their deposited securities back.¹⁶ If the price of the deposited cryptocurrency does not fall, the holders can still demand the exchange of their tokens at market price. The best-known stablecoin backed by cryptocurrencies is Dai (DAI), which is managed by MakerDAO, a decentralized organization.

2. Algorithmic stablecoins Finally, there are stablecoins for which an algorithm attempts to establish parity with the reference currency. UST is one such stablecoin that has a one-to-one peg to the cryptocurrency Luna and thus attempted to establish parity with USD by allowing investors to exchange one USD in UST for one USD in Luna. If the price of UST fell below one USD, a protocol exchanged Luna for UST, thus artificially increasing demand to stabilize the price. However, there was no collateral behind Luna and UST, so the concept only worked as long as the market capitalization of Luna exceeded that of UST.¹⁷ This scheme could only be upheld by the influx of speculative users.¹⁸ After the market capitalization of Luna fell below that of UST, the Ponzi scheme collapsed and a bank run ensued, in which holders exchanged their UST for Luna in order to be able to sell it in turn for USD. Against the momentum, the protocol failed because of the shrinking number of buyers.¹⁹ The price of UST and Luna fell by 99% within a few days. Algorithmic stablecoins at the current technical level pose significant risks in terms of ensuring price stability.

II. How do retail holders acquire stablecoins?

Stablecoins can be acquired directly from the issuer or be traded on centralized as well as decentralized exchanges. In the context of primary/original acquisition, the coins are acquired by sending the collateral in exchange for tokens. The contract then exists between the retail holder and the issuer. The main difference to the acquisition via trading exchanges is that the tokens need to be created on the blockchain first (issuance).²⁰ This is a result and therefore a contract for work and services pursuant to Section 631(2) of the German Civil Code (BGB).²¹

At the current stage of the market, the purchase by retail holders is most likely to be executed via a centralized trading platform such as Coinbase or Binance.²² In case of this so-called secondary/derivative acquisition, the transaction is processed through the operator as a market maker, with the consequence that the contract for the purchase and, if applicable, the custody of the assets is concluded between the customer and the operator.²³ The issuer does not become part of the contract. Further markets are decentralized P2P exchanges, where users can trade with each other. Since such trading exchanges do not act as market makers, the contract exists directly between the parties involved. The transaction is initiated by the users and settled on the blockchain with the help of a so-called automated market maker, so that the greatest advantage of a decentralized trading platform is the independence of the users from the exchange.²⁴ In any case, a purchase agreement within the meaning of

www.fsb.org/wp-content/uploads/P131020-3.pdf (accessed 26 January 2023); Arslanian, *The Book of Crypto: The Complete Guide to Understanding Bitcoin, Cryptocurrencies and Digital Assets* (Palgrave Macmillan 2022), 150.

⁹Financial Stability Board (n 8), 5; ECB Crypto-Asset Task Force (n 7), 7.

¹⁰Braunack, 'Libra-Coin: Gefährliche Geldpolitik durch Facebook' (2019) vol 73 WM 1911, 1912; Arner et al., 9.

¹¹ECB Crypto-Asset Task Force (n 7), 8.

¹²ECB Crypto-Asset Task Force (n 7), 8.

¹³G7, IMF and BIS (Committee on Payments and Markets infrastructure) (n 8), 2.

¹⁴Wilmarth, 'It's Time to Regulate Stablecoins as Deposits and Require Their Issuers to Be FDIC-Insured Banks' (2022) GW Law School Public Law and Legal Theory, 41 Banking & Financial Services Policy Report No. 2 1, 3, https://scholarship.law.gwu.edu/cgi/viewcontent.cgi?article=2834&context=faculty_publications (accessed 26 January 2023); G7, IMF and BIS (Committee on Payments and Markets infrastructure) (n 8), 11 ff; ECB Crypto-Asset Task Force, 5 (n 7), 22-24, 26, 28; Financial Stability Board (n 8), 12 seqq.

¹⁵Arslanian (n 8), 157.

¹⁶Arslanian (n 8), 158.

¹⁷Bank for International Settlement, 'Annual Economic Report 2022' (2022), 82, www.bis.org/publ/arpdf/ar2022e.pdf (accessed 26 January 2023).

¹⁸ibid, 82.

¹⁹ibid, 82.

²⁰Weber, 'Stablecoin Protocols' (*Medium* 18 February 2019), medium.com/@wew_8484/stablecoin-protocols-9f9e5a9ea71b (accessed 26 January 2023).

²¹Beck/König, 'Bitcoin: Der Versuch einer vertragstypologische Einordnung von kryptographischem Geld' (2015) vol 70 JZ 130, 133.

²²Machacek, 'Die Anwendung der neuen MiCA-Verordnung auf Dezentrale Finanzanwendungen' (2021) vol 32 EuZW 923, 926.

²³ibid, 926.

²⁴ibid, 926.

Sections 453(1)(1) and 433(1) BGB is concluded between the parties, since stablecoins are virtual objects and a virtual currency, fulfill the characteristic of incorporeality and are for these reasons other objects.²⁵

With the rise of stablecoins representing currencies other than USD, there will be a diversification of the supply and the issuer field, so that the original acquisition can become market-dominant. For this reason, the following elaborations also refer significantly to the acquisition of stablecoins from the issuer.

B. Consumer-specific risks

Many international institutions warn that a threat to monetary policy, international monetary systems, financial stability and fair competition could emerge especially if global stablecoins become system-relevant.²⁶ Furthermore, there are consumer-specific risks in the market of virtual currencies. Consumers are subject to a structural imbalance due to information asymmetry as well as psychological and economic vulnerability.²⁷ This exposes them to a greater risk of losing their assets.²⁸ Nevertheless, they are irreplaceable as a systemically relevant market player. Consequently, they are particularly in need of legislative protection.²⁹ The consumer-specific risks in the market at hand can be divided into the systemic risk, the issuer risk and the information deficit.³⁰

I. The systemic risk

Operational failure of the protocol can lead to the collapse of the system if too many investors try to exchange their tokens for the deposit at the same time in a bank run.³¹ Even the most secure stablecoin is only a representation of an official currency, not the currency itself, which is why stability cannot be guaranteed by any public institution such as governments or central banks.³²

II. The issuer risk

The issuer not only holds the underlying collateral, which is essential for the stable value of the tokens, as otherwise no payout would be possible, and therefore has access to the transferred assets of the depositors, but also invests the assets in the vast majority of cases. Thus, the investor's trust is not only that the issuer or a commissioned trustee will dutifully and sensibly preserve the assets in order to at least maintain them, but also that the latter will not be misappropriated. If this occurs, there might no longer be sufficient collateral deposited for each unit of stablecoins and price dislocations and bank runs could result. The Terra-Luna-crash showed that in such cases consumers cannot sell their coins on trading exchanges for their equivalent value. For consumers, the risk of misappropriation is particularly significant, as they are often less informed than professional investors and can thus be defrauded of their assets by untrustworthy companies, while large investors have the knowledge and the appropriate tools to identify a credible provider. Further issuer risks include the consequences of arbitrary Terms and Conditions, the centralization of providers, risks associated with crypto-lending³³, market power abuse and bargaining imbalance.³⁴ Since Regulation (EU)

2023/1114 on Markets in Crypto-assets (MiCAR) has entered into force and will be applied from mid-2024 respectively 2025 onwards, market participants will be subject to uniform regulation. This stricter regulation helps mitigating the issuer risk.

III. Information deficit

Finally, the information deficit must be added to the risks for consumers. Consumers may use stablecoins without understanding the risks involved. As for information material, private investors are often left alone with the white papers or marketing communications of the issuers on the respective product, which, however, due to the current lack of international standards, often conceal risks and cannot be compared with each other satisfactorily.³⁵

C. Consumer protection under national law

A large number of consumer protection provisions can be found under German law. The prerequisite for their applicability is first of all that German law applies. Since many crypto-asset service providers are located abroad, this must be determined on the basis of Regulation (EC) 593/2008 (Rome I). When trading with stablecoins, the right of withdrawal according to Sections 312 seqq and 355 seqq BGB as well as the regulations on information duties for consumer contracts according to Sections 312d-f, 312i and 312j BGB are most relevant.

I. Application of German consumer protection law

Art. 6 Rome I covers all contracts of sale, delivery of goods or provision of services and thus also the issuance

²⁵Wegge, 'Kryptowährungen, Fan-Tokens und NFTs – ein Blick durch die Sportbrille' (2022) vol 29 SpuRT 354, 356.

²⁶G7, IMF and BIS (Committee on Payments and Markets Infrastructure) (n 8), 2; Financial Stability Board (n 8), 13, 14; ECB Crypto-Asset Task Force (n 7), 5, 6; Adrian/Mancini-Griffoli (IMF), 'The rise of digital money' (2019) Fintech Notes, 9 ff, www.imf.org/en/Publications/fintech-notes/Issues/2019/07/12/The-Rise-of-Digital-Money-47097 (accessed 26 January 2023).

²⁷Tamm, *Verbraucherschutzrecht: Rechtliches Umfeld, Vertragstypen, Rechtsdurchsetzung: Beratungshandbuch*, vol. 2 (Tamm/Tonner 2016) ch 1 paras 7, 10, 14, 42.

²⁸Cf. *ibid*, ch 1 paras 5, 6; Emmerich, 'Wettbewerbsbeschränkungen durch die Rechtsprechung' in Lange/Nörr/Westermann (eds) *Festschrift für Joachim Gernhuber zum 70. Geburtstag*, (J.C.B. Mohr (Paul Siebeck) 1993) 857, 870.

²⁹Tamm (n 27), ch 1 para 6.

³⁰European Commission, 'Commission Staff Working Document: Impact Assessment: Accompanying the document: Proposal for a Regulation of the European Parliament and of the Council on Markets in Crypto-assets and amending Directive (EU) 2019/1937' (2020) SWD (2020) 380 final, 16, 17, eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52020SC0380 (accessed 26 January 2023).

³¹Wilmarth (n 14), 3.

³²ESA, 'EU financial regulators warn consumers on the risks of crypto-assets' (2022) ESA 2022 15, http://www.esma.europa.eu/sites/default/files/library/esa_2022_15_joint_esas_warning_on_crypto-assets.pdf (accessed 26 January 2023).

³³Grebe/Hänchen, *Kryptowährungen und Token* (Omlor/Link 2021), ch 14 para 85.

³⁴European Commission (n 30), 17, 18.

³⁵*ibid*, 16.

of and trading with stablecoins between a consumer and a trader. Similar to Section 13 BGB, the consumer status is given if a party concludes the contract for a purpose that can be attributed neither to his professional nor to his commercial activity. For the CJEU, a private purpose is given if the individual undertakes the transaction to meet his own needs.³⁶ Since stablecoins can be used for both commercial and private purposes, the decisive factor for the primary acquisition is whether the acquirer plans to use them in the context of a private business.³⁷ In case of doubt, private use is to be assumed.³⁸ Tradership is similar to Section 14 BGB and is assumed if the person enters the market to carry out commercial activities and wishes to be subject to the rules for businesses. If the entity competes independently, in a planned manner and for a certain period, it can be assumed that it is active on the market.³⁹ The issuance of stablecoins regularly constitutes a commercial activity. If the trader does not carry out the activity in Germany, the decisive factor according to Art. 6(1)(b) Rome I is whether the activity is directed towards Germany. This sales activity in Germany is present if the conclusion of the contract is to be carried out for the consumer via the Internet and no factual obstacles exist.⁴⁰ German law is then applicable if the consumer has his or her habitual residence within Germany (Art. 6(1) Rome I).

According to Art. 6(4)(e) in conjunction with Art. 4(1)(h) Rome I, Art. 6(1)-(2) Rome I does not apply if contracts are concluded within a multilateral trading facility that complies with the requirements of Art. 4(1)(17) Directive 2004/39/EC. This is determined by Art. 4(1)(22) of Directive 2014/65/EU (MiFID II). The trading of stablecoins via crypto exchanges constitutes purchases and sales within a multilateral trading facility and fulfills the requirements of Art. 6(4)(e) Rome I, since Art. 4(1)(h) Rome I only reproduces the wording of Art. 4(1)(22) MiFID II, and consequently the existence of a financial instrument is not required.⁴¹ Thus, the exclusion according to Art. 6(4)(e) in connection with Art. 4(1)(h) Rome I applies to secondary acquisitions. The primary acquisition of tokens does not meet the requirements. The law applicable to the contract is then determined by the law applicable to the multilateral trading facility. German consumer protection law will be applicable if the operator has a registered office in Germany.

II. A right of withdrawal due to distance contracts

Consumers can withdraw from a distance contract by exercising an existing right of withdrawal according to Sections 355(1), 312g(1) and 312c BGB.

1. *Particularities for the applicability of Sections 312 seqq BGB* The applicability is determined by Section 312(1) and 310(3) BGB. The primary emphasis here is on the identification of the consumer and the trader status. Sections 13-14 BGB impose the same requirements as Art. 6(1) Rome I. In this case, however, the problem of the recognizability of the status of consumer or trader arises again.

a) *Consumer and trader status* In the case of secondary purchases outside of crypto exchanges, the decisive factor is whether the parties deal anonymously or the consumer

status is recognizable.⁴² If the secondary purchase takes place via a decentralized crypto exchange, the consumer status cannot be determined on a regular basis due to the anonymity of the transaction. In addition, the trader status of the other side is unknown, which is why there is often a so-called "double blind" constellation.⁴³ In this case, one view sees the trader in a privileged position due to ignorance and assumes in double blind constellations that there is no consumer contract.⁴⁴ The BGH (Federal Court of Justice) would also come to the same conclusion, as it assumes that contracting parties must generally presume that the counterparty is a consumer.⁴⁵ On the other hand it can be assumed that a consumer contract exists despite the unidentifiability of the counterparty, provided that the counterparty factually fulfills the consumer characteristics. However, this perspective overlooks the fact that it is impossible for the trader on decentralized crypto exchanges to determine the counterparty. Consequently, they would be expected to provide notice about a right of withdrawal that might not even exist to a market participant they cannot get in contact with.⁴⁶ This is unacceptable for the trader. As a result, a consumer contract will not exist in the vast majority of cases when acquiring stablecoins via decentralized crypto trading venues.

In the case of centralized crypto exchanges, the contract of the seller and the buyer is concluded with the operator. For the operator as a trader, consumer status must and can be determined, as users must, among other things, create a profile on the platform. For trading venues located in Germany, such as the Stuttgart Stock Exchange, registration with an ID card is required, so that, in these cases in particular, consumer status can be identified.

In the case of primary purchases, consumer status can also be determined by the issuer that regularly fulfills the trader status.

b) *Payment of a price* The requirement to pay a price is not problematic if the consumer acts on the acquirer side and commits to paying fiat money. However, the situation may be different for off-chain-collateralized or on-chain-collateralized stablecoins. All values other than digital representations of a value are recognized as a method of payment, provided that the value fulfills the function of a

³⁶Case C-269/95 *Benincasa v Dentalkit* (1997) ECR I-03767, para 17.

³⁷Maume, *Rechtshandbuch Kryptowerte: Blockchain, Tokenisierung, Initial Coin Offerings* (Maume/Maute/Fromberger 2020), ch 8 para 17.

³⁸BGH NJW 2009, 3780; Maume, *Rechtshandbuch Kryptowerte*, ch 8 para 17.

³⁹BGH NJW 2002, 368.

⁴⁰Joined Cases C-585/08 and 144/09 *Pammer v Reederei Karl Schlüter GmbH & Co. KG* and *Hotel Alpenhof GesmbH v Oliver Heller* (2010) ECR I-12527.

⁴¹Maume, *Rechtshandbuch Kryptowerte* (n 37), ch 8 para 11.

⁴²Maume, *Rechtshandbuch Kryptowerte* (n 37), ch 8 para 18.

⁴³Maume, *Rechtshandbuch Kryptowerte* (n 37), ch 8 para 33.

⁴⁴Heinrichs, 'Das Gesetz zur Änderung des AGB-Gesetzes: Umsetzung der EG-Richtlinie über mißbräuchliche Klauseln in Verbraucherverträgen durch den Bundesgesetzgeber' (1996) vol 49 NJW 2190, 2191; Fornasier, in Sacker/Rixecker/Oetker/Limperg (eds), *Münchener Kommentar zum BGB*, vol. 2 and 3 (C.H.BECK 9th edn. 2022) § 310 para 82.

⁴⁵BGH NJW 2009, 3780.

⁴⁶Maume, *Rechtshandbuch Kryptowerte* (n 37), ch 8 para 34.

method of payment according to the parties' agreement.⁴⁷ This will be the case for cryptocurrencies such as BTC, ETH and stablecoins as digital representations of a state currency.⁴⁸ If issuers demand payment of a commodity for the issuance of off-chain collateralized stablecoins, then this is a means of payment according to the parties' agreement and also a price in the individual case.

c) Remote communications If stablecoins are offered for issuance on websites and there is otherwise no contact between the parties, the requirement of means of distance communication in the meaning of Section 312c(2) BGB is met. The same applies if trading takes place via app- or web-based exchanges.

2. Exclusion of the right of withdrawal according to Section 312g(2)(8) BGB For most financial services, Section 312g(2)(8) BGB stipulates an exclusion of the right of withdrawal.

a) Contract for the supply of goods or the provision of services including the provision of financial services Stablecoins are tokenizations on a blockchain. They exist only in a database and are thus not physical objects, so they are neither things nor goods within the meaning of Section 241a(1) BGB. Consequently, the parties do not conclude a contract for the supply of goods during primary or secondary acquisition. Since the creation of new tokens is a contract to produce a work pursuant to Section 631(2) BGB and a commercial activity within the meaning of Art. 57(2)(a) of the Treaty on the Functioning of the European Union (TFEU), the parties conclude a contract for the provision of services. In contrast to the primary acquisition, a purchase agreement within the meaning of Sections 453(1)(1) and 433(1) BGB exists for the secondary acquisition. Such a purchase agreement fulfills the requirements of a service within the meaning of Art. 57(2)(a) TFEU in connection with Art. 3(1)(16)(c)-(g) MiCAR. Since stablecoins are primarily used to make payments, both the primary and secondary acquisition constitute a financial service within the meaning of Section 312(5)(1) BGB. This result is confirmed by recital 79 of the Preamble to MiCAR, according to which crypto-asset services are to be considered financial services within the meaning of Directive 2002/65/EC.

b) Dependence on fluctuations The consumer should not be granted a right of withdrawal that they exercise in the event of unfavorable price developments and does not exercise in the event of book profits.⁴⁹ However, the situation with stablecoins is complex.

(aa) One view is based on the assumption that currency tokens, like foreign exchange trading and, moreover, trading in volatile cryptocurrencies on the financial markets, are subject to fluctuations, and for this reason the right of withdrawal is excluded.⁵⁰ The BGH has ruled that the price of the contractual object is subject to market fluctuations even if the underlying asset indirectly influencing the market price is itself subject to fluctuations on the financial market.⁵¹ Since stablecoins reflect a currency that is subject to fluctuations compared to other currencies, the price of the token is dependent on market fluctuations. Furthermore, stablecoins do not represent a nominal value as their price is based on market developments.⁵²

(bb) On the other hand, it can be argued that the comparison with foreign exchange trading shows the significant difference between these two financial instruments. In foreign exchange trading, market participants speculate on price gains or losses by buying or selling state-recognized currencies. However, this always involves comparing two currencies whose values may develop differently. The market price here indicates how much one currency is worth in comparison to another currency. Due to the different economies behind a state-recognized currency, there can be exchange rate gains or losses in comparison to the referenced currency. However, when mapping a currency, the same economy stands behind both the mapped currency and the referenced currency. Both develop in the same way compared to a third currency. In comparison to each other, no significant exchange rate gains or losses can be determined in the long term. Another argument would be the example of the gold ring, which is excluded from the scope of Section 312g(2)(8) BGB, although its price is also subject to fluctuations on the financial market.⁵³ The BGH argued that such transactions are not speculative in nature and that other value-forming factors play a role in the formation of the price.⁵⁴ However, the same would have to apply to stablecoins, since transactions involving them do not have a speculative character as users do not acquire them for profits but rather for utility reasons.

(cc) If the first view is adopted, the right of withdrawal is excluded, since the presence of financial market dependent fluctuations means that all requirements of Section 312g(2)(8) BGB are met. If, on the other hand, the second view, which is preferred here, is followed, Section 312g(2)(8) BGB does not exclude the right of withdrawal. Subsequently, the question arises how the right of withdrawal competes with a right of redemption under Arts 39(1) and 49(2)-(4) MiCAR.⁵⁵

c) Legal consequences Pursuant to Section 355(1)(2) BGB, the recipient of the exercised right of withdrawal is the trader. Not only the exercise, but the existence of the right of withdrawal has far-reaching legal consequences for both parties. If the consumer is not correctly informed about the right of withdrawal according to Section 356(3)(1) BGB, Art. 246a Section 1(2)(1) of the Introductory Act to the German Civil Code (EGBGB), the withdrawal period of 14 days does not begin. As a

⁴⁷Wendehorst, in Säcker/Rixecker/Oetker/Limberg (eds), *Münchener Kommentar zum BGB*, vol. 2 and 3 (C.H.BECK 9th edn. 2022) § 312 para 39; Recital 23 Digital Content Directive; BT-Drucksache 19/27653, 35, dserver.bundestag.de/btd/19/276/1927653.pdf (accessed 26 January 2023).

⁴⁸Wendehorst (n 48), § 312 para 40.

⁴⁹Wendehorst (n 48), § 312g para 11.

⁵⁰Grüneberg, in Grüneberg/Ellenberger/Götz (eds) *Bürgerliches Gesetzbuch*, § 312g para 11; Maume, *Rechtshandbuch Kryptowerte* (n 37), ch 8 para 53.

⁵¹BGH NJW 2013, 1223.

⁵²Broemel, 'Regulating Virtual Currencies' in Kettemann/Peukert/Spiecker gen. Döhmann (eds), *The Law of Global Digitality* (Routledge 2022), 215, library.oapen.org/bitstream/handle/20.500.12657/57619/1/9781000603767.pdf (accessed 26 January 2023).

⁵³Wendehorst (n 48), §312g para 41.

⁵⁴BGH NJW 2013, 1223.

⁵⁵See D. IV. 2.

result, consumers can withdraw from their declaration of intent for up to one year and 14 days. According to Section 357(3)(1) BGB, the consumer will recover the deposit provided as consideration.

Furthermore, the information requirements pursuant to Sections 312d-312f BGB apply. Section 312j BGB requires business transactions with consumers, issuers and central trading places to provide further information on their websites. Failure to comply with information requirements may result in claims for damages under Sections 280(1), 241(2) and 311(2) BGB or the voidability of the contract under Sections 119 seqq, 142-143 BGB, whereby it will be difficult for the consumer to prove the causality of the damage.⁵⁶

III. No application of the law on consumer contracts for digital products and the sale of goods consumer law

The provisions on digital content pursuant to Sections 327 seqq BGB are not applicable to stablecoins due to the absence of characteristic of a digital product, since their sole purpose as digital representations of a value is to serve as a payment method, and therefore they are not considered as digital content or digital service themselves.⁵⁷ Since crypto-assets do not constitute movable things, the provisions on the sale of consumer goods according to Sections 474 seqq BGB do not apply.⁵⁸

D. Effective consumer protection through MiCAR?

The EU is considered the most important driver of consumer protection standards and has issued a comprehensive set of regulations since 1970.⁵⁹ With regard to the regulation of blockchain technology, the European Commission has launched a number of legislative projects as part of its package on the digitalization of the financial sector.⁶⁰ Key parts of this package are the DLT Pilot Regime, the Digital Operational Resilience Act, the Transfer of Funds Regulation, and MiCAR, which, as the centerpiece of the package, contains a number of consumer protection provisions.

I. Is there an alternative to MiCAR with regard to consumer protection?

During the legislative process for MiCAR, different approaches to the regulation of crypto-assets, markets and crypto-asset service providers were discussed. Those ranged from regulating stablecoins under Directive 2009/110/EC (E-Money Directive) to a de facto ban of stablecoins. The European legislator has given preference to full harmonization over opt-in regulations regarding crypto-asset service providers. A decisive point was the protection of investors, which was to be better ensured by full harmonization.⁶¹ Also discussed were options in the context of regulating cryptocurrencies, which are considered financial instruments as defined by MiFID II.⁶² There were three main options for stablecoins: 1) specific legislation to address the risks posed by stablecoins; 2) regulation of stablecoins under the E-Money Directive; and 3) measures to limit the use of stablecoins within

the EU. The option of creating a new category of “cryptocurrencies” in the list of financial instruments in Annex I C MiFID II was rejected, although this would have been a time-saving and target-oriented option, if only because of the similarity of financial instruments under MiFID II and stablecoins.⁶³

The Commission chose a mixture of options 1 and 2 for MiCAR, with option 1 being the most preferable measure in the impact assessment for achieving the objectives, including consumer protection.⁶⁴ Nevertheless, option 3 offered consumer protection and market integrity benefits compared to no legislative action.⁶⁵ It is possible that the risks in terms of financial stability, monetary policy and currency sovereignty would outweigh the benefits for consumers, namely making cheap, global and efficient payments, as consumers in the EU already enjoy these benefits through SEPA.⁶⁶ However, the overall picture indicates that a ban on stablecoins in the EU would lead to negative effects for users. In addition to missing EU objectives such as promoting innovation in the financial sector, investors would be forced to use third-country offerings on the grey market and expose themselves to avoidable risks due to a lack of offerings.⁶⁷ As a result, consumers would face fraud, cyber risks and misinformation with no protection under European law if they rely on offers from third countries.⁶⁸ A stablecoin ban offers consumer protection benefits only if merely the private issuance is limited. As soon as a government institution such as the ECB assumes the role of issuer and offers consumers payment benefits as well as limiting the risks for consumers, the consumer protection benefits could outweigh those of options 1 and 2. The prerequisite for this is that the ECB strives to adopt this role, which is not the case at present.⁶⁹

⁵⁶Wendehorst (n 48), § 312i paras 108, 109.

⁵⁷Recital 23 Digital Content Directive.

⁵⁸Grunewald, in Westermann/Grunewald/Maier-Reimer (eds), *Kommentar zum BGB*, (Dr. Otto Schmidt 16th edn. 2020) § 474 para 3.

⁵⁹Alexander, *Verbraucherschutzrecht* (C.H.BECK 2015), ch.1 para 2; Valant, *Verbraucherschutz in der EU: Übersicht über die Politik* (European Parliamentary Research Service 2015) PE 565.904, 5, [http://www.europarl.europa.eu/RegData/etudes/IDAN/2015/565904/EPRS_IDA\(2015\)565904_EN.pdf](http://www.europarl.europa.eu/RegData/etudes/IDAN/2015/565904/EPRS_IDA(2015)565904_EN.pdf).

⁶⁰Hirzle/Hugendubel, ‘Die Entwicklung des Kryptorechts im Jahr 2022’ (2022) vol 22 BKR 821, 821.

⁶¹European Commission (n 30), 32-34, 44.

⁶²European Commission (n 30), 35 ff, 45-51.

⁶³European Commission (n 30), 39, 95; Securities and Markets Stakeholder Group (ESMA), ‘Advice to ESMA: Own Initiative Report on Initial Coin Offerings and Crypto-Assets (ESMA22-106-1338)’ (2018), paras 47, 48, www.esma.europa.eu/sites/default/files/library/esma22-106-1338_smsg_advice_-_report_on_icos_and_crypto-assets.pdf (accessed 26 January 2023).

⁶⁴European Commission (n 30), 56.

⁶⁵European Commission (n 30), 57.

⁶⁶European Commission (n 30), 55.

⁶⁷Maume, ‘Die Verordnung über Märkte für Kryptowerte (MiCAR): Stablecoins, Kryptodienstleistungen und Marktmissbrauchsrecht’ (2022) vol 2 RDi, 497, 505; European Commission, 57.

⁶⁸European Commission (n 30), 56.

⁶⁹Although the ECB is working on a digital euro. The project is currently in its investigation phase; Brauneck, ‘Die verfehlte Rolle der EZB bei der EU-Regulierung von Kryptowerten durch MiCA’ (2022) vol. 2 RDi, 10, 10, 12, 14.

II. Coexistence of MiCAR and other consumer protection regimes

The objective of MiCAR is to create a single Union framework for crypto assets, markets and crypto-asset service providers as well as promote alternative payment methods and minimize crypto-specific risks.⁷⁰ MiCAR includes regulations on previously unregulated instruments. E-money supervised under the E-Money Directive, financial instruments regulated under MiFID II and central banks with their plans on a digital euro are excluded from the material or personal scope of application.⁷¹ Likewise, legal protection is not excluded from other consumer protection instruments. This follows from recital 37 of the Preamble to MiCAR, according to which the right of withdrawal pursuant to Directive 2002/65/EC is excluded if there is a right of withdrawal under Art. 13 MiCAR. Vice versa, other regulations apply in addition to MiCAR.⁷² A primacy of MiCAR due to *lex specialis* is not justified in the context of effective consumer protection. This is confirmed by the legislative process of Directive (EU) 2023/2673.⁷³ In the EU Commission's proposal, the right of withdrawal under national law was supposed to be excluded.⁷⁴ In the adopted act, there is no such exclusion. Therefore, the historical as well as the teleological interpretation support the coexistence of both consumer protection regimes, even if certain rights overlap.

III. Systematics of MiCAR

Titles III and IV MiCAR are most relevant for consumers, as they impose comprehensive requirements on issuers of stablecoins to protect consumers and to ensure system stability. The classification of stablecoins is based on Art. 3(1)(5)–(7) MiCAR.

1. *Categorization of stablecoins in MiCAR* According to Art. 3(1)(5) MiCAR, crypto-assets are a digital representation of a value or a right which may be transferred or stored electronically using distributed ledger technology or similar technology. Furthermore, MiCAR distinguishes between three categories: electronic money token (EMT), asset-referenced token (ART) and crypto-assets that are not EMT or ART.

According to Art. 3(1)(7) MiCAR, EMT means a type of crypto-asset that purports to maintain a stable value by referencing the value of one official currency. Most stablecoins fall under this category. Pursuant to Art. 3(1)(6) MiCAR, ART means a type of crypto-asset that is not an EMT and that purports to maintain a stable value by referencing another value or right or a combination thereof, including one or more official currencies. In practice, this means most stablecoins that are not considered as EMT. As recital 41 of the Preamble to MiCAR states, algorithmic stablecoins can either be EMT or ART as long as they fulfill the category's requirements. If not, they will be treated as crypto-assets under Title II.

2. *Admission requirement of issuers* ART and EMT require authorization in order to be traded on public platforms (Art. 16(1) and 48(1) MiCAR). While only a registered office of the issuing company in the EU is required for the authorization of the issuance of ART, the authorization

for the issuance of EMT even requires an authorization as a credit institution or as an e-money institution within the meaning of the E-Money Directive. The regulation of EMT issuers basically aligns with the requirements for credit institutions. A license can be dispensable due to the requirement of proportionality if the token does not exceed certain size benchmarks (e.g. Art. 16(2) MiCAR). The requirement of establishment in the EU facilitates the judicial as well as extrajudicial pursuance of consumer protection. In the absence of an addressee of a regulatory measure, MiCAR is not applicable to decentralized services.⁷⁵

IV. Consumer protection through retail holder protection?

MiCAR has set itself the objective of providing a legal framework to promote the protection of private holders on markets for crypto-assets.⁷⁶ Particular attention was paid to ensuring protection in the case of stablecoins, as these can be very popular among users as a means of transfer or payment.⁷⁷ Accordingly, the most important means for achieving this objective is to compensate for the information deficit. During the legislative process of MiCAR, the term "consumer" has been replaced by "retail holder". In this way, MiCAR aligns the terminology with other regulations in the financial sector such as MiFID II or the Prospectus Regulation 2017/1129, in which the term consumer cannot be found either. However, the relevant provisions of MiCAR materially constitute consumer protection law and the definition of private holder under Art. 3(1)(37) MiCAR is the same as that of the consumer in previous versions of MiCAR and under Art. 2(1) of the Consumer Rights Directive 2011/83/EU.

1. *Provision of information* One of the most important consumer protection instruments is the provision of information, so that private investors can make decisions based on reliable information. MiCAR implements this objective through the requirement to publish a white paper, the regulation of marketing communications and the obligation to act honestly, fairly and professionally in the best interest of holders.

a) *Obligation to publish a white paper* In order for stablecoins to be offered to the public, the issuers of ART or EMT must publish a white paper. This results

⁷⁰Patz, 'Überblick über die Regulierung von Kryptowerten und Kryptodienstleistern' (2021) vol 21 BKR 725, 733.

⁷¹Baur, 'MiCA („Regulation on Markets in Crypto-Assets“) - Ein europäischer Rechtsrahmen für Kryptowerte kommt' (2021) jurisPR-BKR; Patz (n 70), 736.

⁷²Maume, 'Die Verordnung über Märkte für Kryptowerte (MiCAR). Zentrale Definitionen sowie Rechte und Pflichten beim öffentlichen Angebot von Kryptowerten' (2022) vol 2 RDi 461, 468.

⁷³Directive (EU) 2023/2673 of the European Parliament and of the Council of 22 November 2023 amending Directive 2011/83/EU as regards financial services contracts concluded at a distance and repealing Directive 2002/65/EC (2023).

⁷⁴Art. 16b(2)(a) of the EU Commission's Procedure 2022/0147 stated that the right of withdrawal does not apply to crypto-assets as defined in Art. 3(1)(2) MiCAR (Art. 3(1)(5) MiCAR in the adopted act).

⁷⁵Hirzle/Hugendubel (n 61), 825.

⁷⁶Recital 5 of the Preamble to MiCAR.

⁷⁷Recitals 5 and 40 of the Preamble to MiCAR.

for ART from Art. 17(1)(a) MiCAR and for EMT from Art. 48(1)(b) MiCAR

(aa) *Content* The content of the white paper for ART is based on Art. 19, Annex II MiCAR. Pursuant to this, the published file must contain information, among others, about the issuer and the token to be issued as well as the risks and the reserve of assets. According to Art. 19(4) MiCAR, issuers must add a statement on the document which clearly and unambiguously states that ART may lose value, may not always be transferable and liquid and are not covered by the investor compensation schemes under Directive 97/9/EC and the deposit-guarantee schemes according to Directive 2014/49/EU. Pursuant to Art. 19(2) MiCAR, these disclosures shall be fair, clear and not misleading in any way. To ensure that the most relevant points are quickly apparent to consumers, the detailed information must be preceded by a summary. This in particular shows that the white paper is supposed to mitigate the information deficit consumers face. Significant changes must be reported to the competent authorities in accordance with Art. 25(1) MiCAR. The content of the white paper for EMT is based on Art. 51, Annex III MiCAR and substantially corresponds to the requirements for ART.

(bb) *No strict liability and standard of liability* Art. 26 MiCAR for ART and Art. 52 MiCAR for EMT order the liability of issuers for damages of holders due to incomplete, unfair or unclear as well as misleading information. In addition to the issuer, the members of the management board are also liable. However, a fault standard is not included in Arts 26 and 52 MiCAR. But this does not result in strict liability.⁷⁸ Rather, a comparison with other financial market regulations should be performed, according to which strict liability appears to be out of system, since the European legislator often leaves it to the national legislator to establish a standard of fault.⁷⁹ Therefore, issuer liability should be limited to negligent or grossly negligent breaches of duty, depending on the respective national standards of fault.⁸⁰ However, this is contrary to the will of the European Legislator to adopt a fully harmonized regulation. Civil liability under national law remains unaffected in accordance with Arts 26(5), 52(5) MiCAR. Claims for damages under Sections 280(1), 311(2), 241(2) BGB as well as Sections 823 seqq BGB can therefore be asserted side by side with claims pursuant to MiCAR.

For courts to assess if an issuer or members of the management board have violated white paper regulations, it is necessary to determine which perspective violations are to be judged from. The Prospectus Regulation, which is comparable to MiCAR and, in particular, to the white paper regulations, can provide a point of reference. According to this, the determination of whether a misstatement has occurred is based on the recipient's horizon.⁸¹ Initially, one could take the position that the assessment is made from the point of view of an expert.⁸² In addition, there are opinions that assess this from the point of view of a reasonable investor⁸³ as well as the perspective of an uninformed layperson.⁸⁴

Correctly, the determination of the degree of liability should depend on the group of investors to which the issuer is addressing the information.⁸⁵ Since MiCAR intends to protect the retail holder rather than the

consumer, information provided by the issuer in the context of stablecoin offerings violates the regulation if it is misleading or misunderstandable to the average retail holder, rather than the average consumer. According to the case-law of the BGH, the average investor can read a balance sheet, but is not necessarily familiar with the language used in initiated circles.⁸⁶ The average consumer, on the other hand is considered less educated in the financial sector compared to the average investor.⁸⁷ Among other things, the change of term professionalizes the language requirements for the white paper. This has the effect of reducing consumer protection if the average consumer does not understand the information and then makes incorrect decisions based on this lack of information. Companies could exploit this to conceal risks in complex formulations. It remains to be seen how the standard of liability will develop and to which extent this is due to the change in MiCAR's concept from consumer to retail holder.

b) *Regulation of marketing communications including liability* The provision of a white paper is complemented by the regulation of marketing communications. According to Art. 29(1) MiCAR, marketing communications on ART shall be fair, clear and not misleading. In addition, the information shall be consistent with the contents of the white paper, refer to it and may only be distributed after the white paper has been published. The same applies to EMT within the meaning of Art. 53 MiCAR, whereby the marketing communications must be supplemented by an unambiguous statement that the holders have a right to return their tokens at par value at any time.

c) *Commitment to act in the best interest of the holders* According to Art. 27 MiCAR, issuers of stablecoins are obliged to act honestly, fairly and professionally and communicate to (potential) holders in a fair, clear and not misleading manner. There is no parallel provision for EMT, although it should be mentioned here that issuers of EMT must fulfill the requirements pursuant to Titles II and III of the E-Money Directive by reference

⁷⁸Zickgraf, 'Primärmarktpublizität in der Verordnung über die Märkte für Kryptowerte (MiCAR) – Teil 2' (2021) vol 21 BKR 362, 368; Maume, 'Verordnung über Märkte für Kryptowerte. Part 1, p. 467.

⁷⁹Maume, 'Die Verordnung über Märkte für Kryptowerte (MiCAR). Zentrale Definitionen sowie Rechte und Pflichten beim öffentlichen Angebot von Kryptowerten' (2022) vol 2 RDi, 461, 467.

⁸⁰Maume, 'Die Verordnung über Märkte für Kryptowerte (MiCAR). Zentrale Definitionen sowie Rechte und Pflichten beim öffentlichen Angebot von Kryptowerten' (2022) vol 2 RDi, 461, 467.

⁸¹König, *Anlegerleitbilder und Anlegerschutz im Kapitalmarktrecht* (in Abhandlungen zum Deutschen und Europäischen Gesellschafts- und Kapitalmarktrecht (AGK), vol 200 2022), 74.

⁸²LG Düsseldorf BeckRS 1980, 1722.

⁸³Bauerschmidt, 'Die Prospektverordnung in der europäischen Kapitalmarktunion' (2019) vol 19 BKR 324, 331.

⁸⁴Wunderlich, 'Haftungsfragen im Zusammenhang mit öffentlich angebotenen Vermögensanlagen' (1975) vol 13 DSTR, 688, 690.

⁸⁵Assmann/Kumpan, *Handbuch des Kapitalanlagerechts*, (Assmann/Schütze/Buck-Heeb 5th edition 2020), ch 5 para 139.

⁸⁶BGH NJW 1982, 2823.

⁸⁷Koppensteiner, 'Verbraucherleitbilder bei der Bewerbung von Kapitalanlagen' in Alexander/Bornkamm/Buchner et al. (eds) *Festschrift für Helmut Köhler zum 70. Geburtstag* (C.H.Beck 2014), 376.

to Art. 48(3) MiCAR and are thus obliged to act in a trustworthy manner.

2. *Right of redemption* As stablecoins will be ART or EMT, retail holders who acquire stablecoins will not have a right of withdrawal pursuant to Art. 13 MiCAR. Instead, Art. 39(1) MiCAR provides holders of ART with a redemption right against the issuer or the trustee of the reserve assets at any time. According to Art. 39(2) MiCAR, the respective issuer is obliged to take back the issued tokens against payment of money or against return of the deposited assets at market value. Holders of EMT have a redemption claim at par value under Art. 49(2)–(4) MiCAR. The major advantage of a right of redemption compared to the right of withdrawal under German consumer contract law is the unlimited period of enforcement as the right of redemption is not limited to 14 days. However, as Arts 39(1) and 49(2)–(4) MiCAR state, this right of redemption is to be exercised against the issuer of the respective token or the trustee of the assets only. The recipient of a right of withdrawal on the other side is the trader according to Section 355(1)(2) BGB. While this can be the issuer in the case of primary acquisition, it will be the operator of the exchange in the event of acquisition via a centralized exchange. Since both rights to alter the legal relationship coexist, consumers can choose if they prefer to exercise the right of withdrawal according to Sections 355(1), 312g(1) and 312c BGB against the operator or if they give preference to the redemption right pursuant to Art. 39(1), respectively Art. 49(2)–(4) MiCAR.

E. Evaluation and outlook

MiCAR constitutes an attempt to prevent Libra or Diem and a response to other cryptocurrency projects by big tech companies.⁸⁸ Moreover, the legislative process overlapped with the highly dynamic development of the still emerging market for stablecoins.⁸⁹ The most relevant consumer protection instruments under MiCAR are the obligation to publish a white paper as well as the white paper liability and the right of redemption. The latter is supposed to complement and improve the right of withdrawal under German consumer protection law. This is not contradictory to other financial markets regulation, because the market for stablecoins involves risks and opportunities different from those in markets for typical financial products. Particular attention is to be paid to the gradual decline of consumer protection. While earlier drafts of MiCAR listed consumer protection as one of the main objectives, the final draft as well as the adopted act already contained significantly fewer references to consumer protection. Instead, the objective of consumer protection got replaced by retail holder protection. There may be consequences with regard to the wording of the white paper and potential claims against the issuer and the members of its management boards arising from false information. Furthermore, this linguistic alignment to other financial markets regulations reveals the European legislator's view of stablecoins mainly as an investment asset and not as a means of payment.

Recent events and scandals surrounding the Terra-Luna crash may signal the rock bottom of an otherwise promising technology. After all, Gartner's hype cycle, a

model that shows the typical progression of an emerging technology towards market adaption,⁹⁰ also states that the phase of fading interest is followed by the slope of enlightenment,⁹¹ a phase in which the technology can prove its potential. It remains to be seen whether stablecoins will use their potential to turn the financial system upside down and establish a third layer in making payments alongside cash payments and wire transfers or whether they will end up as a gimmick after the hype about them fades.

⁸⁸Meier/Kotovskaia, 'Das Machtpotenzial der Kryptowährungen von BigTechs: Finanzmarktregulatorische, währungs- und wettbewerbsrechtliche Problemstellungen' (2021) vol 21 BKR, 348-350, 355.

⁸⁹Brauneck, 'Zur heiklen Rolle des Emittenten in der EU-Regulierung von Kryptowerten durch MiCA' (2022) vol 76 WM 1258, 1258.

⁹⁰Steinert/Leifert (n 2), 255.

⁹¹Steinert/Leifert (n 2), 256.