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DECENTRALISED TECHNOLOGY AND TECHNOLOGY NEUTRALITY IN LEGAL RULES: AN ANALYSIS OF *DE VOOGD* AND *HEDQVIST*

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ABSTRACT

This article looks at whether the principle of technology neutrality can be applied to the centralised-decentralised scale in a manner similar to its application to the offline-online scale. The analysis is based on two cases of similar circumstances relating to bitcoin exchanges run by early adopters in Estonia and Sweden. The cases exhibit two different *ex ante* legislative approaches aimed at payments in currencies and the interpretation of the respective legislation by the judiciary in applying these rules to bitcoins and to the activity of exchanging bitcoins. The article examines whether the legal rules applied to the payment infrastructure of currencies were technology neutral and also implemented neutrally or whether, contrary to the principle, there was difference of treatment of decentralised technology outputs – bitcoins – from the centralised technology outputs – legal tender – irrelevant of the functional equivalence of these units of payment.

KEYWORDS

Principle of technology neutrality, bitcoin, means of payment, legal tender

INTRODUCTION

In 2008 a character by the name of Satoshi Nakamoto released a White Paper describing the need for "an electronic payment system based on cryptographic proof instead of trust, allowing any two willing parties to transact directly with each other without the need for a trusted third party".[1] In 2009, supposedly the same character also released an open-source peer-to-peer software code that is based on a complex algorithm and secured by cryptography.[2] The software was called Bitcoin.

The software offered an alternative decentralised e-payment infrastructure operating without a trusted third party such as a bank. The software protocol allows its users to create, record and transfer units of value, now referred to as a virtual currency[3] called bitcoin. In a way, the Bitcoin payment software creates a new global decentralised infrastructure for transferring value similar to money without the involvement of centralised intermediaries.

Blockchain technology underpins the Bitcoin software protocol. Various applications for blockchain technology ranging from Bitcoin and other virtual currencies to shareholder voting, smart contract systems, etc. already exist or are being developed. Blockchain technology is not the end of the line but merely one of many similar technologies that might be referred to as decentralised, trustless or distributed ledger technologies.[4] This article introduces the functioning of blockchain technology only for the purpose of helping to understand the infrastructural difference between centralised and decentralised payment systems and the comparative functions of payment with a fiat currency as opposed to bitcoin.[5]

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[1] Satoshi Nakamoto, "Bitcoin: Peer-to-peer Electronic Cash System" (2008) // https://bitcoin.org/bitcoin.pdf.

[2] Primavera De Filippi and Aaron Wright, *Blockchain and the Law: the rule of code* (Harvard University Press, 2018).

[3] On 30 May 2018 the Directive 2015/849 (4th AML Directive) was amended by Directive 2018/843 (also called 5th AML Directive) for the first time providing a legal definition of virtual currency in EU law, which is provided in the article under Section 1 (*Directive (EU) 2015/849 of the European Parliament and of the Council of 20 May 2015 on the prevention of the use of the financial system for the purposes of money laundering or terrorist financing, amending Regulation (EU) No 648/2012 of the European Parliament and of the Council, and repealing Directive 2005/60/EC of the European Parliament and of the Council and Commission Directive 2006/70/EC*, Official Journal of the European Union L 141, 5.6.2015, p. 73–117 (hereinafter – 4th AML Directive); *Directive (EU) 2018/843 of the European Parliament and of the Council of 30 May 2018 amending Directive (EU) 2015/849 on the prevention of the use of the financial system for the purposes of money laundering or terrorist financing, and amending Directives 2009/138/EC and 2013/36/EU* (hereinafter – 5th AML Directive), Official Journal of the European Union L 156, 19.6.2018, p. 43–74).

[4] Carla L. Reyes, "Moving Beyond Bitcoin to an Endogenous Theory of Decentralized Ledger Technology Regulation: An Initial Proposal," 61 *Vill. L. Rev.* 191 (2016) // https://digitalcommons.law.villanova.edu/vlr/vol61/iss1/5.

[5] For the purposes of this article, 'Bitcoin' means the software protocol, 'bitcoin' means the unit of payment and 'Bitcoin system' means the decentralised payment system as infrastructure. The

The emergence of blockchain technology and the interest of the public in bitcoins and other virtual currencies give rise to various new business models. One of these models involves virtual currency exchange services. These services are very similar to foreign currency exchange services such as, for instance, exchanging euros for pounds. With the former, the only difference is that either a virtual currency is exchanged for another virtual currency (e.g. bitcoin to ether[6]) or a fiat currency is exchanged for a virtual currency or vice versa (e.g. euros for bitcoin).

This article looks at two court cases, one from Estonia and the other from Sweden, which concern the business model of a bitcoin exchange service provider in the context of *ex ante* legislation. Both countries are experiencing the Collingridge dilemma[7] as there is insufficient information regarding potential benefits and risks to regulate the technology and the business models applying it, but the longer they wait to regulate, the more resistant the technology becomes to a regulatory impact. Nevertheless, the Estonian and Swedish legislature largely laid dormant during these proceedings and the executive and the judiciary had to take on the challenge to interpret the *ex ante* legal rules considering the new technology's effect on society. The cases display two different legal strategies taken by the individuals concerned and demonstrate two different paths chosen by the courts in solving the disputes. Based on these cases, the article examines whether the states complied with the principle of technology neutrality in constructing the legal rule and in the implementation phase of the *ex ante* legislation.

Section 1 discusses the use of bitcoin, a decentralised payment infrastructure unit conflicting with the use of established centralised legal tenders. It also covers the Bitcoin system as infrastructure and the role of a virtual currency exchange service provider in the system. Section 2 introduces the facts of the two court cases. Section 3 explores the origins and role of the principle of technology neutrality as well as criticism of the principle. Section 4 examines the application of the principle in the context of the two court cases, synthesising the findings.

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description of the infrastructure is based on previous readings and understanding of it by the author. For more detailed descriptions see Pierluigi Cuccuru, "Beyond bitcoin: an early overview on smart contracts," *International Journal of Law and Information Technology* Volume 25, Issue 3 (1 September 2017) // DOI: https://doi.org/10.1093/ijlit/eax003; Primavera De Filippi and Aaron Wright, *supra* note 2; Andreas M Antonopoulos, *Mastering Bitcoin: Unlocking Digital Cryptocurrencies* (O´Reilly, 2014) or *Handbook of Digital Currencies: Bitcoin, Innovation, Financial instruments, and Big Data* (Elsevier, 2015).

[6] As explained by Primavera De Filippi and Aaron Wright: "Like Bitcoin, Ethereum is a peer-to-peer network governed by a free and open-source protocol. Ethereum implements a native digital currency (ether) …" (Primavera De Filippi and Aaron Wright, *supra* note 2, 28).

[7] David Collingridge in his 1980 book *The Social Control of Technology* coined the term to mean that impacts of technology are difficult to predict until the technology has evolved, yet, by that time it is far more difficult to take control over its impact (Anna Butenko and Pierre Larouche, "Regulation for innovativeness or regulation of innovation?" *Law, Innovation and Technology* 7:1 (2015) // DOI: 10.1080/17579961.2015.1052643).

1. PAYMENT SYSTEMS BASED ON CENTRALISED AND DECENTRALISED TECHNOLOGY

For the purposes of this article 'fiat currency' means the legal tender of a jurisdiction issued under the law by way of a centralised process and authority, while the meaning of 'virtual currency' stems from the 5th AML Directive[8]:

> A digital representation of value that is not issued or guaranteed by a central bank or a public authority, is not necessarily attached to a legally established currency and does not possess a legal status of currency or money, but is accepted by natural or legal persons as a means of exchange and which can be transferred, stored and traded electronically.

Already in June 2014 the Financial Action Task Force (FATF) stated that:

> Virtual currency is distinguished from fiat currency (a.k.a. 'real currency', 'real money', or 'national currency'), which is the coin and paper money of a country that is designated as its legal tender; circulates; and is customarily used and accepted as a medium of exchange in the issuing country. It is distinct from e-money, which is a digital representation of a fiat currency used to electronically transfer value denominated in the fiat currency. E-money is a digital transfer mechanism for fiat currency – i.e., it electronically transfers value that has legal tender status.[9]

The different treatment of a fiat currency[10] and a virtual currency can be attributed to the fact that (i) the fiat currency is also available in its tangible form (the actual coins and cash) and (ii) it is issued by a centralised system - both technological and legal issuance processes are established by law and different from the issuance process of the virtual currencies.

It should be noted that 92% of the world's money is already in a non-physical form.[11] For instance, according to IMF, 86% of banknotes in India were scrapped as recent as in 2017[12] and Korea plans to stop minting and circulating coins already by 2020.[13] As a result of the popularity of e-commerce, credit cards, mobile payments and online banking, the role of money has predominantly diffused to payments. Going even further, the digital world is no longer concerned with money

[8] 5th AML Directive, *supra* note 3.
[9] FATF, "Virtual Currencies Key Definitions and Potential AML/CFT Risks" (June 2014) // http://www.fatf-gafi.org/media/fatf/documents/reports/Virtual-currency-key-definitions-and-potential-aml-cft-risks.pdf.
[10] According to Recital 8 of 5th AML Directive fiat currency is „coins and banknotes that are designated as legal tender and electronic money, of a country, accepted as a medium of exchange in the issuing country" (5th AML Directive, *supra* note 3).
[11] Sue Chang, "Here's all the money in the world, in one chart," *MarketWatch.com* (28 November 2017) // https://www.marketwatch.com/story/this-is-how-much-money-exists-in-the-entire-world-in-one-chart-2015-12-18.
[12] *Ibid*.
[13] *Ibid*.; Alan Wheatley, "Cash Is Dead, Long Live Cash," *Finance & Development* Vol. 54, No. 2 (June 2017) // https://www.imf.org/external/pubs/ft/fandd/2017/06/wheatley.htm

but with the exchange of value between the parties to a transaction. Payments are merely one side of this value exchange, while purchased goods or services are the other side.

The main components of the blockchain technology based decentralised Bitcoin system are: (i) the virtual currency bitcoin, (ii) the software protocol Bitcoin and (iii) nodes operating the software protocol (also called 'miners'). The main function of the decentralised Bitcoin system is to facilitate payment transactions between users of the Bitcoin system (those who accept it as a value and means of either payment or exchange). Usually, at least two parties are involved in a payment transaction: the one who makes the payment and the one who receives the payment. Each user of the protocol has a pair of cryptographic keys: a public key that also operates as the "account address" and a private or secret key. The public key encrypts and the private key decrypts. The private key grants the user access to the value recorded in the public ledger and allows for transferring bitcoins to another user. With each payment the sender creates a payment message which is also called 'transaction,' which contains the recipient's public key and the payment amount. The transaction is cryptographically processed by the sender's private key similar to digital signatures.

The transaction is visible in a decentralised public ledger that is available to everyone and copied by each node.[14]

The primary way of participating in the Bitcoin infrastructure is by mining[15] coins. Those who do not mine coins need to get access to the infrastructure by obtaining an entry ticket – a bitcoin – through other means (i) either by buying it from a miner or an exchange service provider who sells bitcoins for a fiat currency or (ii) by earning bitcoins by selling goods or services to those willing to provide bitcoins as a means of payment.

The article looks at two court cases of bitcoin exchange service providers in Estonia and Sweden between 2014-2016, which involve entrepreneurs who can be considered early adopters of bitcoin and bitcoin business operators in Western Europe. Currently, there are various virtual currency exchange service providers operating under various licences. The virtual currencies one can trade on different exchanges may vary. The currencies accepted for trading are determined by the exchange platforms themselves and they all have their own standards and rules for

[14] In the context of Bitcoin system according to https://bitnodes.earn.com/ as of 15 April 2018 there are 10,520 nodes operating the Bitcoin system around the world with the most of these in the US (2600 nodes), Germany (1991 nodes) and China (694 nodes).
[15] Bitcoin mining is done by the full nodes as they verify or confirm the transactions by compiling the transactions into blocks of transactions and thereby adding these to the public ledger of transactions called the blockchain.

accepting currencies for trading. In many ways these exchanges are similar to foreign fiat currency exchange platforms.

For the purpose of understanding the legal challenges arising from centralised and decentralised currencies, the VAT Committee's[16] earlier opinions on bitcoins before the *Hedqvist* case and the *de Voogd* case should be discussed as well.

In the VAT Committee's working papers, the discussions on the qualification of bitcoins under *ex ante* legislation touch upon the following options: (i) currency; (ii) electronic money; (iii) voucher; (iv) negotiable instrument; (v) security, or (vi) digital product (or also referred to as electronically supplied service)[17]. These are all pre-existing legal categories. At the time of *Hedqvist*, no *sui generis* category such as virtual currency had been developed yet.

However, if one compares the functions of a fiat currency and bitcoin as used up to and during *Hedqvist*, the functional equivalence of the two objects is clearly apparent as both were used for payments by their user. In the respective VAT Committee's analysis "electronic money" and "currency" category were disregarded due to the fact that "in electronic money schemes, the link with traditional money forms is preserved, as the stored funds are expressed in the same unit of account (Euro, for example)" and "as bitcoin is not a legal tender". This conclusion was drawn regardless of the fact that Recitals 7 and 8 of the E-money Directive[18] were promoting a technically neutral definition of electronic money "to avoid hampering technological innovation and to cover not only all the electronic money products available today in the market but also those products which could be developed in the future". However, as demonstrated below, the neutrality of the term "electronic money" might need to be revisited soon.

This conclusion of the VAT Committee was the more surprising, as the Committee very clearly stated that:

> From the user's perspective, [bitcoins'] role is equated to the functions traditionally granted to currencies. Bitcoin aims at replacing traditional legal tenders and becoming a generally accepted form of payment similar to cash,

[16] VAT Committee is a committee that aims to promote the uniform application of the provisions of the VAT Directive under Article 398 of the Directive.
[17] VAT Committee (Article 398 of Directive 2006/112/EC), "Subject: CJEU Case C-264/14 Hedqvist: Bitcoin," *Working Paper* No. 892 (4 February 2016): 6 // https://circabc.europa.eu/sd/a/add54a49-9991-45ae-aac5-1e260b136c9e/892%20-%20CJEU%20Case%20C-264-14%20Hedqvist%20-%20Bitcoin.pdf.
[18] *Directive 2009/110/EC of the European Parliament and of the Council of 16 September 2009 on the taking up, pursuit and prudential supervision of the business of electronic money institutions amending Directives 2005/60/EC and 2006/48/EC and repealing Directive 2000/46/EC* (Text with EEA relevance) (E-money Directive), OJ L 267 (10.10.2009): 7–17.

> which provides anonymity and can be transferred to others without involving any other commercial party or regulatory institution.[19]

This means that the Committee identified the functional equivalence between the use of a fiat currency and the use of a bitcoin, yet, disregarding it.

For the purposes of this article the necessity to have a "legal tender" status for a payment unit qualifies as the technology-specific part of the legal rule as it requires for any means of payment to have a centralised issuing and validation process. Furthermore, as the decentralised characteristics of bitcoin are related to its issuing technology (peer-to-peer value issued by a protocol), the ground for non-equivalent treatment of the unit by the legal rules or the implementation of these was based on a technological difference of the payment unit from the legal tender.

2. FACTS OF THE CASES *DE VOOGD* AND *HEDQVIST*

In view of the above, an overview of the factual circumstances of the cases under examination will be provided, along with the exploration of the principle used in analysing these cases.

2.1. *DE VOOGD V FIU*

According to the order of the Estonian Supreme Court,[20] Otto Albert de Voogd (de Voogd), a Dutch citizen residing in Estonia, had registered the domain name *www.btc.ee* and in March 2014 the site offered the possibility to buy and sell bitcoins to third parties. The office of de Voogd was located in Tallinn, Estonia.

On 13 February 2014, the Financial Intelligence Unit of the Estonian Police and Border Guard Board (FIU) contacted de Voogd by e-mail "expressing the wish to meet to explain the requirements of the law and exercise supervision over bitcoin sales and purchase activities".[21] In the email message, the FIU stated that owing to his activities of selling and buying bitcoins, the FIU classified de Voogd "as a provider of alternative means of payment service" (as defined further below) under the Money Laundering and Terrorist Financing Prevention Act of Estonia[22] (MLPA or the Act). Therefore, de Voogd was considered to fall under the supervision

[19] VAT Committee (Article 398 of Directive 2006/112/EC), "Subject: Question concerning the application of EU VAT provisions," *Working Paper* No. 811 (July 29, 2014) // https://circabc.europa.eu/sd/a/4adc83f8-a7ab-48ee-b907-468459c0dad7/49%20-%20VAT%20treatment%20of%20Bitcoin.pdf.

[20] *De Voogd v Police and the Police and Border Guard*, Supreme Court of the Republic of Estonia (2016 RKHKo 3-3-1-75-15).

[21] Priit Lätt, "Complaint of de Voogd's representative" (21 April 2014) // http://btc.ee/documents.html.

[22] *Money Laundering and Terrorist Financing Prevention Act of Estonia*, Rahapesu ja terrorismi rahastamise tõkestamise seadus, RT I 2008, 3, 21.

of the FIU even though he had not registered its activities with the competent authorities. Thereafter, de Voogd and the FIU exchanged emails until on 24 March 2014 the FIU issued a precept by which de Voogd was ordered to submit information about his activities related to bitcoin transactions in order for the FIU to check whether he had complied with anti-money laundering procedures, i.e. identifying customers (CDD) and verifying their identities (EDD).

The legal rule in the centre of the dispute was Section 6(4) of the MLPA.[23] The Act regulated both who qualified as an obligated person under the MLPA and the obligations of the obligated persons. The MLPA in force at the time introduced a *sui generis* category called "alternative means of payment service provider" (hereinafter also referred to as alternative currency service provider), which was defined as:

> A person who in its economic or professional activities through communications, transfer or clearing system buys, sells or mediates funds of monetary value by which financial obligations can be performed or which can be exchanged for an official currency who is not a [credit institution] or a financial institution for the purposes of the Credit Institutions Act.[24]

Neither the term "communications, transfer or clearing system" nor "funds of monetary value" was defined under Estonian law.

As indicated in the explanatory memorandum[25] accompanying the version of the MLPA in force at the time, the *sui generis* category of "alternative means of payment" was introduced on the basis of materials and concerns of FATF's, IMF's and UN office of Drugs and Crime's concerns over "internet money" that enables instantaneous, easy, safe and anonymous transfers of monetary value. The explanatory memorandum even referred to electronic purses (wallets), but also to e-gold or e-silver payment methods. The explanatory memorandum indicates that a meeting between the Ministry of Finance, the Estonian Financial Supervisory Authority (FSA) and the Central Criminal Police was held in late 2006 to discuss "internet money" and a further risk analysis was conducted to understand the risks evolving with its uses.

Under the MLPA in force at the time, where a person was regarded as an alternative currency service provider, the person had the duty to identify the customer (i.e. apply CDD procedures) and verify the customer's identity (i.e. apply

[23] The version of the MLPA is already repealed and a new MLPA entered into force 27 November 2017.
[24] MLPA, Section 6(4).
[25] *137 SE Eelnõu seletuskiri Seletuskiri rahapesu ja terrorismi rahastamise tõkestamise seaduse eelnõu juurde (Explanatory Memorandum of Draft law 137 SE on Money Laundering and Terrorism Financing Prevention Act 2007)* // https://www.riigikogu.ee/tegevus/eelnoud/eelnou/046802d9-335d-415b-c4a1-650aa487eb33/Rahapesu%20ja%20terrorismi%20rahastamise%20t%C3%B5kestamise%20seadus.

EDD procedures) while being present *at the same place as the customer (face-to-face meeting)*[26] (i) upon establishment of a business relationship and (ii) upon carrying out a transaction where the value of the transactions exceeded 1000 euros per calendar month.

Both the provider of fiat currency exchange services and a provider of alternative currency services were obligated persons under the MLPA.[27] The term 'currency exchange service' (only for the purposes of the MLPA) meant the exchange of the *official* currency of one country for the *official* currency of another country[28]. Hereinafter this article refers to the *official* currency as a fiat currency as opposed to a virtual or crypto currency. Under the MLPA in force at the time, a fiat currency exchange service provider needed to apply anti-money laundering rules (CDD and EDD) by meeting the customer face-to-face (i) upon establishment of a business relationship and (ii) upon carrying out transactions exceeding 15,000 euros[29] (in comparison to 1000 euros per calendar month for alternative currency).

As de Voogd did not deal with two but merely one fiat currency per transaction, while the other was a virtual currency, the CDD and EDD with the obligation to meet face-to-face was triggered at a substantially lower transaction amount than for fiat currency exchange service providers. This meant that fiat currency exchange services and alternative currency service providers were treated differently for no apparent reason.

On 21 April 2014,[30] de Voogd sued the FIU requesting the court to annul the precept made by the FIU. De Voogd challenged the applicability of Estonian law owing to the fact that the servers were outside of Estonia (jurisdictional challenge), arguing the non-compliance of the MLPA with the 3rd AML Directive (failure to correctly transpose EU law), non-compliance with the constitutional principle of legal clarity (the rule of law argument), challenged the classification of a bitcoin trader as an alternative currency service provider under the MLPA (false qualification under MLPA) and violation of the administrative procedure by the FIU (formal procedural challenge).

Two years later, on 11 April 2016, the Estonian Supreme Court ruled in favour of the FIU on all accounts and the legal rule remained standing. Few days after this order FIU terminated the administrative proceedings against de Voogd without

[26] MLPA, Section 15(8) point 1.
[27] MLPA, Section 6(2).
[28] MLPA, Section 6(3).
[29] MLPA, Section 12(2).
[30] The case was covered globally in the media and the case materials are available on the site www.btc.ee maintained by the claimant de Voogd.

issuing any sanctions. A few months after the order on July 16, 2016[31] deletion of the face-to-face requirement entered into force and more than a year after this order all the rules on the alternative currency were repealed by the legislature replacing these with a new *sui generis* category of virtual currency.

2.2. *SKATTEVERKET V HEDQVIST*

David Hedqvist (Hedqvist), a Swedish national, planned to carry out electronic transactions on his company's website in a way that his company would purchase and sell bitcoins directly from and to individuals, companies and exchange sites.[32] He planned to profit on the exchange rate difference of buy and sell orders and did not plan on charging any commission from his clients. Prior to starting with his business activity, Hedqvist requested a preliminary decision from the Swedish Revenue Law Commission[33] to understand his tax obligation on the earnings. The Swedish Revenue Law Commission held in its decision dated 14th October 2013 that, by commencing the business activity, Hedqvist would be providing an exchange service for consideration, but owing to its financial nature the service would be exempt from tax under the Swedish Law on VAT.

The Swedish Revenue Law Commission based its finding on the argument that "the 'bitcoin' virtual currency is a means of payment used in a similar way to legal means of payment".[34] The Swedish Revenue Law Commission was confident that their interpretation was consistent with "the objective of the exemptions laid down in Articles 135(1)(b)-(g) of the VAT Directive[35], namely, to avoid the difficulties involved in making financial services subject to VAT."[36]

However, the Swedish tax authority (*Skatteverket*) did not agree with the Swedish Revenue Law Commission and argued against the Revenue Law Commission's decision before the Supreme Administrative Court, stating that the exemptions did not apply to bitcoin. In reviewing the appeal, the Supreme Administrative Court asked the CJEU for a preliminary ruling on whether the exchange transactions fell under the mentioned exemptions.

The questions that were referred to the CJEU were:

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[31] Section 15(8) of the MLPA, RT I, 06.07.2016, 13. The English translation of the relevant version of the act available here: https://www.riigiteataja.ee/en/eli/511072016001/consolide.
[32] *Skatteverket v David Hedqvist*, CJEU Case C 264/14 (Judgment of the Court (Fifth Chamber) of 22 October 2015), point 16.
[33] Revenue Law Commission is an authority under the Ministry of Finance which issues binding preliminary rulings in tax matters.
[34] *Skatteverket v David Hedqvist*, *supra* note 32, point 17.
[35] *Council Directive 2006/112/EC of 28 November 2006 on the common system of value added tax* (VAT Directive), Official Journal of the European Union, L 347, 11.12.2006, p. 1–118.
[36] *Skatteverket v David Hedqvist*, *supra* note 32, point 17.

> i. Is Article 2(1) of the VAT Directive to be interpreted as meaning that transactions in the form of what has been described as the exchange of virtual currency for traditional currency and vice versa, which is effected for a consideration added by the supplier when the exchange rates are determined, constitute the supply of a service effected for consideration?
> ii. If so, must Article 135 (1) of the VAT Directive be interpreted as meaning that the abovementioned exchange transactions are tax exempt?[37]

The CJEU answered both questions referred to it in the affirmative. According to the CJEU, bitcoin is "a direct means of payment between the operators that accept it"[38] and:

> It must be held, first, that the 'bitcoin' virtual currency with bidirectional flow, which will be exchanged for traditional currencies in the context of exchange transactions, cannot be characterised as 'tangible property' within the meaning of Article 14 of the VAT Directive, given … that virtual currency has no purpose other than to be a means of payment.[39]

Hence, the Court dismissed the possibility that the transactions could constitute the supply of goods, as bitcoin cannot be seen as tangible property but rather as the supply of services pursuant to Article 24 of the VAT Directive.

Regarding Article 135(1)(e) the Court concluded that the legal rule was not clear enough to indicate whether it was meant for "transactions involving traditional currencies" or also quite possibly also new types of currencies such as bitcoins. The Article 135(1)(e) reads as follows: "Member States shall exempt the following transactions: … including negotiation, concerning currency, bank notes and coins used as legal tender, with the exception of collectors' items, that is to say, gold, silver or other metal coins or bank notes which are not normally used as legal tender or coins of numismatic interest; … ."

The Advocate General Kokott observed in her opinion that the various language versions of Article 135(1)(e) of the VAT Directive were inconsistent with one another and consequently, ambiguous. English version used the expression 'currency, bank notes and coins' referring to 'currency' in singular and would therefore be satisfied by an exchange involving legal tender on the one side only. The German version used the term '*Devisen*', meaning only foreign currencies, which meant that the German version required both means of payment involved in the exchange to be legal tenders – e.g. fiat currencies. The Italian and Finnish versions did not even require that any of the currencies be legal tender, meaning

[37] *Ibid.*
[38] VAT Committee, *supra* note 17: 4.
[39] *Skatteverket v David Hedqvist*, *supra* note 32, point 24.

that also non-legal tenders such as virtual currencies could be covered by that Article.[40]

The Court agreed with the AG´s opinion and confirmed the understanding that virtual currencies – without being legal tender – "are a means of payment accepted by the parties to a transaction, and vice versa"[41] and stated that by excluding these from Article 135(1)(e) effect would limit the Article's scope as "'bitcoin' virtual currency has no other purpose than to be a means of payment and that it is accepted for that purpose by certain operators."[42]

3. THE PRINCIPLE OF TECHNOLOGY NEUTRALITY

The principle of technology neutrality is based on the liberalisation of the telecommunications market both in the US and in Europe and on the idea that there should be equality between "offline" and "online" world.[43] The principle is also based on the value and aim to secure "statutory longevity"[44] or sustainability of laws. Yet, the principle is not meant only for the telecoms sector. According to Chris Reed, "the key factor in persuading legislators that technology neutrality should be adopted more widely was the advent of the internet for general public use."

In July 1997, President Bill Clinton and Vice President Al Gore framed the principle in the Framework for Global Electronic Commerce stating that: "rules should be technology neutral (i.e., the rules should neither require nor assume a particular technology) and forward looking (i.e., the rules should not hinder the use or development of technologies in the future)."[45] Soon after that the concept ventured into European law[46] as described below.

3.1. EU LAW AND CASE LAW

As the principle is based on ideas of anti-discrimination and equality, the foundations of the principle can be also found in the general principle of equal treatment provided for in Article 20 of the Charter of Fundamental Rights.[47]

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[40] *Opinion of Advocate General Kokott delivered on 16 July 2015 in Skatteverket v David Hedqvist*, CJEU Case C-264/14, point 34.
[41] *Skatteverket v David Hedqvist*, *supra* note 32, point 50.
[42] *Skatteverket v David Hedqvist*, *supra* note 32, point 51.
[43] Chris Reed, "Taking Sides on Technology Neutrality," *SCRIPTed* Volume 4, Issue 3 (September 2007) // http://heinonline.org/HOL/P?h=hein.journals/scripted4&i=281.
[44] Brad A. Greenberg, "Rethinking Technology Neutrality," *Minnesota Law Review* 100 (2016): 1495.
[45] William J. Clinton and Al Jr. Gore, "Framework for Global Electronic Commerce" // https://clintonwhitehouse4.archives.gov/WH/New/Commerce/read.html.
[46] Chris Reed, *supra* note 43: 264.
[47] *Charter of Fundamental Rights of the European Union*, Official Journal of the European Communities C 326:391–407 (26.10.2012) // http://www.europarl.europa.eu/charter/pdf/text_en.pdf.

Furthermore, the principle of technology neutrality is defined in Recital 18 of the Framework Directive[48]: the "regulation … neither imposes nor discriminates in favour of the use of a particular type of technology..." and supported by Recital 51 of NIS Directive[49], which states that "measures … should not require a particular commercial information and communications technology product to be designed, developed or manufactured in a particular manner."

Technology neutrality is often also part of the principle of fiscal neutrality, requiring (e.g. in *Urbing-Adam*[50], *Commission v Germany*[51], *Linneweber and Akritidis*[52] and *Commission v Sweden*[53]) similar transactions (and consequently, technology use cases) to be taxed similarly[54] for the purposes of competition and equal treatment.

The CJEU has referred to the principle of technology neutrality in cases concerning mostly electronic communications (*Poland v Parliament*[55] or *Belgacom SA v Belgium*[56]*)*, telecommunications networks (the Opinion of Advocate General Wathelet in *Comunidad Autónoma del País Vasco*[57]*),* broadcasting organisations (*Commission v Council*[58]*)* and technical requirements related to the gambling industry (*Opinion of Advocate General Bobek in Anklagemyndigheden v Falbert*[59]*)*. An exemplary case in the principle's application to a wider perspective was *eDate*

[48] *Directive 2002/21/EC of the European Parliament and of the Council of 7 March 2002 on a common regulatory framework for electronic communications networks and services* (Framework Directive), Official Journal of the European Union, L 108, 24.4.2002, p. 33–50.
[49] *Directive (EU) 2016/1148 of the European Parliament and of the Council of 6 July 2016 concerning measures for a high common level of security of network and information systems across the Union* (NIS Directive), Official Journal of the European Union, L 194, 19.7.2016, p. 1–30
[50] *Christiane Urbing-Adam, and Administration de l'enregistrement et des domaines*, CJEU Case C-267/99 (Judgment of 11 October 2001), paragraph 36.
[51] *European Commission v Federal Republic of Germany*, CJEU Case C 109/02 (Judgment of 23 October 2003), paragraph 20.
[52] *Finanzamt Gladbeck v Edith Linneweber and Finanzamt Herne-West v Savvas Akritidis*, CJEU Joined Cases C-453/02 and C-462/02 (Judgment of the Court (Second Chamber) of 17 February 2005).
[53] *European Commission v Kingdom of Sweden*, CJEU C 480/10 (Judgment of the Court (Fourth Chamber) of 25 April 2013), paragraph 17.
[54] *European Commission v Federal Republic of Germany*, *supra* note 51.
[55] *Republic of Poland v European Parliament and Council of the European Union*, CJEU Case C-5/16 (Judgment of the Court (Second Chamber) of 21 June 2018).
[56] *Belgacom SA and Others v État belge*, CJEU Case C-375/11 (Judgment of the Court (Fourth Chamber) of 21 March 2013).
[57] *Comunidad Autónoma del País Vasco, Itelazpi SA (C-66/16 P), Comunidad Autónoma de Cataluña, Centre de Telecomunicacions i Tecnologies de la Informació de la Generalitat de Catalunya (CTTI) (C-67/16 P), Navarra de Servicios y Tecnologías SA (C-68/16 P), Cellnex Telecom SA, formerly Abertis Telecom SA, Retevisión I SA (C69/16 P) v European Commission, SES Astra SA*, Joined CJEU Cases C-66/16 P to C-69/16 P and Cases C-70/16 P and C-81/16 P (Judgment of the Court (Fourth Chamber) of 20 December 2017).
[58] *European Commission, European Parliament v Council of the European Union*, CJEU C-114/12 (Judgment of the Court (Grand Chamber) of 4 September 2014).
[59] *Criminal proceedings against Bent Falbert and Others Request for a preliminary ruling from the Københavns Byret*, CJEU Case C-255/16 (Judgment of the Court (First Chamber) of 20 December 2017).

Advertising [60] in which the principle was analysed in relation to a question concerning jurisdiction.[61]

However, wider application of the principle is not so apparent in some of the CJEU case law as it is not directly mentioned or discussed, but simply part of the debate. It is safe to say that the principle is also relevant to the Digital Single Market as digital goods [62] that are clearly distinct from physical goods are sometimes treated very differently from their physical or analogue counterparts or treated as services that cannot be stored or owned. According to Adam Smith, "goods have an exchangeable value and one of the main characteristics of a good is that its ownership rights can be established and exchanged". [63] Nowadays the digital goods are also attaining these characteristics described by Smith. Money, securities, literature and music have all moved largely to the digital domain and are no longer easily divisible into physical goods and digital services. There should be no differentiation of treatment of money owned as physical cash and money owned on the bank account – these are merely different media.

The CJEU case law on these issues is inconsistent and the Court does not mention the principle of technology neutrality in these debates. The most noteworthy case where the CJEU upheld the principle of technology neutrality (without referring to it specifically) was *UsedSoft*.[64] In it the CJEU recognised the consumer's ownership right to downloaded software extending the principle of exhaustion from physical products to also digital goods under the Software Directive.[65] As the CJEU stated:

> It makes no difference, in a situation such as that at issue in the main proceedings, whether the copy of the computer program was made available to the customer by the rightholder concerned by means of a download from the rightholder's website or by means of a material medium such as a CD-ROM or DVD.[66]

[60] *EDate Advertising GmbH and Others v X and Société MGN Limited*, Joined Cases C-509/09 and C-161/10 (Judgment of the Court (Grand Chamber) of 25 October 2011).
[61] *Article 5(3) of Regulation (EC) No 44/2001 on jurisdiction, recognition and enforcement of judgments in civil and commercial matters*, Official Journal of the European Union, L 12, 16.1.2001, p. 1–23.
[62] Janja Hojnik defines digital goods as "a broad and rapidly expanding term in view of the variety of 'goods' actually covered, referring to all goods that are stored, delivered and used in its electronic format, such as smartphone applications, digital music and books, computer design files for 3D printed products, for instance houses, medical devices and food" (Janja Hojnik, "Technology neutral EU law: digital goods within the traditional good/services distinction," *International Journal of Law and Information Technology* Volume 25, Issue 1 (1 March 2017) //https://doi.org/10.1093/ijlit/eaw009.).
[63] *Ibid*.
[64] *UsedSoft GmbH v Oracle International Corp*, CJEU Case C 128-11 (Judgment of the Court (Grand Chamber) of 3 July 2012).
[65] *Directive (EU) 2009/24/EC of the European Parliament and of the Council of 23 April 2009 on the legal protection of computer programs* (Codified version) (Text with EEA relevance), Official Journal of the European Union, L 111, 5.5.2009, p. 16–22.
[66] *UsedSoft GmbH v Oracle International Corp*, *supra* note 64, point 47.

As stated by Frank Diedrich,[67] excluding digital goods from the scope of goods simply due to their medium "would be the same as excluding beer…if it is being sold in a bottle and from the tap."[68] On the contrary, the CJEU did not uphold the principle for digital books in *Commission v Luxembourg and France*[69] where the Court: "denied affording digital books the same Value Added Tax (VAT) status as afforded to the 'supply of books on all physical means of support' for which Member States may apply a reduced rate of VAT."[70] Similarly, in *Allposters*[71], the CJEU also treated the physical medium different from the digital medium, tying the principle of copyright exhaustion to only the physical medium and not allowing the InfoSoc Directive[72] to apply to the digital medium.[73]

However, in *Darmstadt* [74] the CJEU did not differentiate "between the photocopying of books that are physically present in a library and in printing a digital copy of the same book."[75] Furthermore, Advocate General Szpunar found in *VOB v Stichting Leenrecht*[76] that the lending of electronic books similar to printed books should be treated equally, as the electronic books are the modern equivalent to printed books. Lastly, it remains to be seen what will be CJEU´s position in the *Tom Kabinet*'s[77] e-books digital exhaustion case recently referred for preliminary ruling under the InfoSoc Directive and what the future of the Digital Single Market will hold for the equal treatment of digital and physical goods.

[67] Commenting on whether digital goods similarly to physical goods are in the scope of UN Convention on the International Sale of Goods (CISG).
[68] Janja Hojnik, *supra* note 62:72.
[69] *European Commission v Republic of France*, CJEU Cases C-479/13 (Judgment of the Court (Fourth Chamber) of 5 March 2015), and *European Commission v Grand Duchy of Luxembourg*, CJEU Case C-502/13 (Judgment of the Court (Fourth Chamber) of 5 March 2015).
[70] Janja Hojnik, *supra* note 62: 72.
[71] *Art & Allposters International BV v Stichting Pictoright*, Request for a preliminary ruling from the Hoge Raad der Nederlanden, CJEU Case C-419/13, (Judgment of the Court (Fourth Chamber) of 22 January 2015).
[72] *Directive 2001/29/EC of the European Parliament and of the Council of 22 May 2001 on the harmonisation of certain aspects of copyright and related rights in the information society* (InfoSoc Directive), Official Journal of the European Union, L 167, 22.6.2001, p. 10–19.
[73] Janja Hojnik, *supra* note 62.
[74] *Technische Universität Darmstadt v Eugen Ulmer KG*, CJEU Case C-117/13 (Judgment of the Court (Fourth Chamber) of 11 September 2014).
[75] Janja Hojnik, *supra* note 62:77.
[76] *Advocate General's Opinion of 16 June 2016 in Vereniging Openbare Bibliotheken v Stichting Leenrecht Request for a preliminary ruling from the Rechtbank Den Haag*, CJEU Case C-174/15 (Judgment of the Court (Third Chamber) of 10 November 2016).
[77] *Request for a preliminary ruling from the Rechtbank Den Haag (Netherlands) lodged on 16 April 2018 Nederlands Uitgeversverbond, Groep Algemene Uitgevers v Tom Kabinet Internet BV, Tom Kabinet Holding BV, Tom Kabinet Uitgeverij BV*, CJEU Case C-263/18. Tom Kabinet is operating a marketplace www.tomkabinet.nl, where people can sell or buy used e-books.

3.2. THE THEORETICAL BACKGROUND OF THE PRINCIPLE

Some scholars[78] are convinced that the principle is widely misunderstood and that there are several misunderstandings regarding the principle and that legislators are promoting the principle "in an almost complete absence of any clear understanding what the term 'technology neutrality' might actually mean". This can perhaps also be seen from the case law of the CJEU where the judiciary is failing to apply the principle as most of the references to this principle are still in relation to only electronic communication, although the principle's reach is actually much broader in substance.

Trying to figure out what the principle actually entails one should take notice that the principle of technology neutrality is by no means a principle that needs to be taken into account only in the domain of information and communication technology legislation. On the contrary, the principle has to be applied in all fields of life where there is legislation. According to Kamecke and Körber, the principle of technology neutrality "limits regulation by emphasising that the market rather than the state should decide about the success or failure of technologies."[79] They find that the principle prohibits the state to maintain or create legislation the effect of which would be to "eliminate the (evolutionary) selection function of the market mechanism"[80] and are convinced that the technology neutrality of a legal rule cannot be also established without "an effects-based economic analysis of the policy measures".

One key point is that the principle does not call for extending the legislation applicable to any pre-existing technology to a "new" technology that achieves the same purpose service-wise.[81] According to Kamecke and Körber, the principle actually argues for self-regulation as much as possible and does not force the judiciary or the executive to extend the *ex ante* legal rules to any new technology simply because it achieves a similar purpose. This idea has been included also in Recital 27 of the EU Framework Directive and urges states to take "a cautious approach to *ex ante* regulation of newly emerging markets which 'should not be subjected to inappropriate obligation'."[82]

[78] Ulrich Kamecke and Torsten Körber, "Technological Neutrality in the EC Regulatory Framework for Electronic Communications: A Good Principle Widely Misunderstood. Technological Neutrality in the EC Regulatory Framework," *E.C.L.R.* (2008): 335 // http://www.uni-goettingen.de/de/document/download/65b9d0d841b831596888f8fb208e838b.pdf/Kamecke-Koerber_ECLR08_29%285%29_330-339.pdf.
[79] *Ibid.*: 331.
[80] *Ibid*.
[81] *Ibid*.
[82] *Ibid.*: 335.

The principle of technology neutrality is by no means a principle that needs to be taken into account only in the domain of information and communication technology (ICT) legislation. On the contrary, the principle has to be applied in all fields of life where there is legislation.[83]

According to Reed[84] and Koops[85], the principle has the following aims:

1. *Functional equivalence* – the state should not discriminate between different modes of activity or technology (e.g. offline and online modes) in case these modes have the same or similar functions.

2. *Effects equivalence* – legal rules introduced must have a substantively equivalent effect across technologies even if there is technology-specific legislation in place (according to Reed this is also called "implementation neutrality"[86]).

An additional criterion of the principle is the aim of transparency, which dictates that legislation must be understandable to the ordinary person, and may not be full of technical jargon or specifications, yet at the same time the more abstract the laws become, the less transparent these are as it becomes unclear what technology falls within the scope of legislation.

Furthermore, an additional aim of the principle is the sustainability or sometimes also referred to as the futureproofing or statutory longevity of the law, the purpose of which is that laws should be drafted in a way that they are flexible enough in order not to impede future development of technology and that laws should not require over-frequent revision by the state in order to cope with technological change. A characteristic of these additional aims and criteria is that "higher"-level laws can be more abstract and sustainable than "lower"-level gap-filling decrees, guidelines, orders, etc. that may be less sustainable (subsidiarity principle).[87]

However, one should also keep in mind that the principle is not relevant solely for the legislature. The executive and the judiciary must also keep the principle in mind when implementing and interpreting legal rules. According to Koops, neutrality can also be advanced through purposeful or teleological and functional interpretation of the existing rules. As elaborated by Deborah Tussey,[88] in case there are no functionally equivalent technologies yet, "the application of text to

[83] Bert-Jaap Koops, "Should ICT Regulation be Technology neutral?":2,4,7; in: Bert-Jaap Koops, et al., *Starting Points for ICT Regulation. Deconstructing Prevalent Policy One-Liners* (The Hague: TMC Asser, 2006).
[84] Chris Reed, *supra* note 43: 267.
[85] Bert-Jaap Koops, *supra* note 83: 4.
[86] Chris Reed, *supra* note 43: 270.
[87] Bert-Jaap Koops, *supra* note 83: 23.
[88] Carys J. Craig, "Technological Neutrality: (Pre)Serving the Purposes of Copyright Law," *Osgoode Legal Studies Research Paper Series* 45 (2014): 275–276 // https://digitalcommons.osgoode.yorku.ca/cgi/viewcontent.cgi?referer=https://www.google.com/&httpsredir=1&article=1044&context=olsrps.

technology should be accompanied by full and fair review of policy concerns and consideration of likely market impacts." [89] Thus, technology neutral legislation appears to have such primary aims as functional and effects equivalence, encouraging competition and innovation of technology.

3.3 CRITICISM OF THE PRINCIPLE

The obvious criticism of the principle is the tendency of neutral rules to be too vague and general to the extent that their meaning and intent remains unclear to its subjects, making the application of the rule "a matter of guesswork"[90] and the rule non-transparent. Considering, for example, the definition of electronic money in the E-money Directive using semi-neutral terminology such as "stored on electronic device" resulted in a long-standing debate on what exactly constitutes an electronic device: is it a smart card, software wallet on the user's PC, merchant's wallets, etc.?[91]

Some scholars[92] have expressed serious doubts that any foresight legislation – keeping in mind the aim of sustainability – could be effective, as it is unforeseeable how legislation could and would impact the future technology and whether it brings about undesirable consequences up to limiting its use or depriving the new technology of its intended benefits and advantages.

Another interesting point to consider is whether language can be technology neutral at all. Bennett Moses finds that it is impossible to draft precise and clear laws that are also futureproof as the language tends to be based on the existing reality and express what is there in the present and not in the future.[93]

Perhaps most importantly, the understanding of technology by the legislature affects the implementation of the principle in drafting the legal rule. Reed[94] warns that the legislature should not try to regulate a technology if the technology is so new that use cases and functions are unclear. Without a proper understanding of the technology and its uses there can be no good legislation which is specific and neutral.

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[89] *Ibid*.: 276.
[90] Chris Reed, *supra* note 43: 280. Reed refers to Escudero-Pascual and Hosein statement that when laws try to use so neutral wording that it seems either that these texts aim to portray that the legislature is ignorant of the status quo technology or that it is pretending that no technology exists at all.
[91] Chris Reed, *supra* note 43: 281.
[92] Daniel J. Gervais, "Towards a new core international copyright norm: the reverse three-step test," *Marquette International Property Law Review* 9 (2005) // https://papers.ssrn.com/sol3/papers.cfm?abstract_id=499924.
[93] Lyria Bennett Moses, "Understanding legal responses to technological change: the example of in vitro fertilization," *Minnesota Journal of Law, Science and Technology* Volume 6, Issue 2 (2005) // https://scholarship.law.umn.edu/cgi/viewcontent.cgi?article=1337&context=mjlst.
[94] See Chris Reed, *supra* note 43: 279–280.

This point should be looked at through the prism of the Collingridge dilemma.[95] On the one hand, it is pointless to regulate too early as the harms and benefits are still to reveal themselves; on the other hand, if the legislature fails to react, any later corrective legislation might not be efficient as "the technology has matured, diffusion has taken place and it has become an innovation … and 'more resistant to regulatory prodding'."[96] Lastly, as Butenko and Larouche put it: "[i]f regulators want to achieve results, they should act early."[97]

4. EMPIRICAL RESULTS: MEASURING AND DISCUSSING THE INTER-MUNICIPAL COOPERATION CAPACITY

In the following section the principle of technology neutrality is applied to the text of the provisions under dispute in *de Voogd* and *Hedqvist*, and to the interpretation of these provisions in these cases by the executive and the judiciary.

At the time when Europe was struggling under the Digital Single Market agenda to establish equal treatment to digital and physical goods[98] (offline-online spectrum equality), the main question in *de Voogd* and *Hedqvist* was whether a virtual currency should be treated equally to a fiat currency.

The analysis of the two cases below will be based on the following two questions:

1. Was the text of the legal rule technology neutral?

2. Was the interpretation and implementation of the legal rule technology neutral?

4.1. APPLICATION OF THE PRINCIPLE IN *HEDQVIST*

In this section, the principle of technology neutrality is applied to the legal rule applied and the arguments used by the CJEU in the *Hedqvist* case.

a) Was the text of the legal rule technology neutral?

For this purpose, the text of Article 135(1)(e) of the VAT Directive needs to be looked at. It follows from the facts of the case that the wording of the referred provision was ambiguous and the meaning was not transparent. In some language versions the text was neutral to "currencies" issued using centralised or decentralised technology and in some language versions it was not neutral.

[95] Anna Butenko and Pierre Larouche, *supra* note 7.
[96] *Ibid*.
[97] *Ibid*.
[98] Janja Hojnik, *supra* note 62.

Therefore, it was unclear in the context of the neutrality of the "means of payment" whether the provision covered only centralised means of payment or also decentralised ones.

b) Was the interpretation and implementation of the legal rule technology neutral?

According to the Advocate General Kokott[99] (AG) in *Hedqvist*:

> Currencies currently used as legal tender — unlike gold or cigarettes, for instance, which also are or have been used directly or indirectly as means of payment — have no other practical use than as a means of payment. Their function in a transaction is simply to facilitate trade in goods in an economy; as such, however, they are not consumed or used as goods.
>
> That which applies for legal tender should also apply for other means of payment with no other function than to serve as such. Even though such pure means of payment are not guaranteed and supervised by law, for VAT purposes they perform the same function as legal tender and as such must, in accordance with the principle of fiscal neutrality in the form of the principle of equal treatment, be treated in the same way."[100]

This means that the *Hedqvist* decision was based on the functional equivalence of virtual currency (bitcoin) and fiat currency (legal tender). Hence, the *ex ante* legislation was implemented in a technology neutral manner. The rule, i.e. Article 135(1)(e),[101] is not necessarily worded neutrally in the English version, but the implementation of the rule by the CJEU in this particular case was technology neutral. The AG argued that this interpretation was also consistent with treatment of other non-traditional "means of payment" such as voucher or loyalty "points" (used in purchasing flight tickets, accommodation, etc).

The AG concluded that "it follows that the objective of Article 135(1)(e) of the VAT Directive is to ensure that, in the interests of the smooth flow of payments, the conversion of currencies is as unencumbered as possible."[102] Consequently, the AG did not distinguish legal tenders from non-legal tenders and accepted that, as long as these are payment transactions which fulfil a payment function, these transactions fell under the exemption of Article 135(1)(e) of the VAT Directive. The AG clearly advocated for functional equivalence of the objects (fiat currency and virtual currency), effects equivalence (the technologies are aiming at the same

[99] *Opinion of Advocate General Kokott in Skatteverket v David Hedqvist*, *supra* note 40.
[100] *Ibid*., point 3.
[101] "… transactions, including negotiation, concerning currency, bank notes and coins used as legal tender, with the exception of collectors' items, that is to say, gold, silver or other metal coins or bank notes which are not normally used as legal tender or coins of numismatic interest …".
[102] *Opinion of Advocate General Kokott in Skatteverket v David Hedqvist*, *supra* note 40, p. 39.

function and the legislations effect should be the same) and transparency – all these arguments are also part of the technology neutrality principle. This meant the equal treatment of a fiat currency and a virtual currency on the grounds of neutrality[103] as "both forms of means of payment, provided … accepted in the course of trade, perform the same payment function."[104] The principle of technology neutrality stipulated that a user not government must make the choices on the market and this function-based implementation of VAT Directive achieving equivalence in effects is arguing exactly for that.

The Court agreed with the AG´s opinion and arguments, and also emphasised that it "follows from the context and the aims of Article 135(1)(e) that to interpret that provision as including only transactions involving traditional currencies would deprive it of part of its effect."[105]

4.2. APPLICATION OF THE PRINCIPLE IN *DE VOOGD*

This section addresses the application of technology neutrality principle to the *ex ante* rules and the interpretation of these rules in *de Voogd.*

a) Was the text of the legal rule technology neutral?

The relevant rule was worded rather broadly, containing practically no legal definition or defined terms. The rule aimed at encompassing all possible "Internet money" and was therefore worded in a neutral and sustainable manner. However, the effect of placing bitcoin in the *sui generis* category of alternative currency had a discriminatory impact on its treatment in comparison with a fiat currency under the MLPA.

In the context of transfers of "Internet money," the legislature had chosen to restrict transactions with this means of payment, although the legislature recognised its similar functions with fiat currency different characteristics. The legislation was simply aimed at limiting, restricting and prohibiting these transactions as these were seen carrying a risk of criminal activity.

The MLPA was in force in 8 different versions during the period from the start (in February 2014) to the end of the proceedings in the *de Voogd* case (in April 2016). The most relevant amendments to the MLPA came shortly after the final decision in *de Voogd*, although not as a result of *de Voogd* case, but due to the

[103] In her opinion AG also argues this point on the basis of general neutrality under equal treatment rules of Article 10 of the Charter of Fundamental Rights and stressing neutrality for competition of different means of payment and fiscal neutrality (*Opinion of Advocate General Kokott in Skatteverket v David Hedqvist*, *supra* note 40, p. 41).
[104] *Ibid.*
[105] *Skatteverket v David Hedqvist*, *supra* note 32, p. 51.

lobbying by the e-residency programme team.[106] This indicates that the provision was not sustainable and was repeatedly rectified and adjusted.

The rules on "alternative means of payment" in the MLPA were repealed along with the entire legal act and a new MLPA with new rules regulating a narrower concept of virtual currency as *sui generis* entered into force 27 November 2017. The rules in the new MLPA on virtual currency were based on the proposal to amend the 4th AML Directive (Proposal)[107], which was adopted on 30 May 2018, and also referred to the 5th AML Directive[108], which is, among other things, aimed at designating virtual currency exchange platforms as obliged entities. The Proposal stated: "Virtual currency transfers are currently not monitored in any way by public authorities within the EU, as no specific binding rules have been laid down, neither at Union level *nor by the individual Member States*, to set out conditions for such monitoring."[109]

This means that the drafters of the 5th AML Directive were convinced that virtual currency exchange platforms were previously not within the scope of the 4th AML Directive[110] or that no Member State had any legislation to that end.

The legislature was tuned into the harms of money laundering and wished to address only these potential harms without exploring the potential benefits of the use of the technology. Consequently, the impact assessment on the existing MLPA rule's effect on bitcoin received its first analysis by the FIU (as an executive branch) and then by the judiciary in *de Voogd*.

One could conclude that, given the Collingridge dilemma and the knowledge the legislature had at the time of drafting the legal rules, the legislation suffered from information failure as the legislature clearly did not have sufficient information. The legislature wanting to control and influence the development of this innovation took the reins early and actually did put a warning sign in place – this is regulated and will be regulated in the future as well. Although it can be argued that the communication (and perhaps also internal know-how by the

[106] The E-residency programme was lobbying alternatives to face-to-face meetings to ease the opening of bank accounts in Estonian commercial banks for e-residents and these amendment to MLPA originate from that package (*232 SE Eelnõu seletuskiri Isikut tõendavate dokumentide seaduse, krediidiasutuste seaduse ning rahapesu ja terrorismi rahastamise tõkestamise seaduse muutmise seaduse juurde (Explanatory Memorandum of Draft law 232 SE on the Act Amending Identification Documents Act, Credit Institutions Act and Money Laundering and Terrorism Financing Prevention Act 2016)* // https://www.riigikogu.ee/tegevus/eelnoud/eelnou/954a096c-722d-4e9a-8000-e292026f8156/Isikut%20t%C3%B5endavate%20dokumentide%20seaduse,%20krediidiasutuste%20seaduse%20ning%20rahapesu%20ja%20terrorismi%20rahastamise%20t%C3%B5kestamise%20seaduse%20muutmise%20seadus.

[107] *Proposal for a Directive of the European Parliament and of the Council amending Directive (EU) 2015/849 on the prevention of the use of the financial system for the purposes of money laundering or terrorist financing and amending Directive 2009/101/EC* (Proposal) // https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52016PC0450&from=EN.

[108] 5th AML Directive, *supra* note 3.

[109] *Proposal*, *supra* note 106, 12.

[110] *Ibid*.

authorities) of the rule's existence was poor (not to say, inadequate). In the spirit of the transparency and subsidiarity benefits of the principle of technology neutrality, there could have been more specific guidelines issued at "lower" level by the relevant authorities to clarify the legislation prior to "stage-hanging" of *de Voogd*.

b) Was the interpretation and implementation of the legal rule technology neutral?

The police authorities and the Supreme Court took the view that under Estonian law bitcoin fell in the *sui generis* category of "alternative means of payment". However, before the *de Voogd* case the state authorities (predominantly the Estonian central bank and the FSA) had been constantly reassuring consumers and entrepreneurs that the area of activity (virtual currency schemes, exchanging cryptocurrencies, exchanging bitcoins) was unregulated.[111] This was so until Estonian foreign exchange company Tavid contacted the authorities with an inquiry seeking legal certainty as it was difficult for the company to understand what law, if at all, applied to bitcoin exchange business.[112] Tavid's steps were comparable to those of Hedqvist who had also contacted the authorities in order to clarify the situation and the interpretation of legislation.

Shortly after Tavid's inquiry on 13 February 2014, the FIU contacted de Voogd by email, demanding compliance with anti-money laundering rules. Exactly nine days after Tavid's inquiry, the FIU for the first time stated publicly on its website[113] that: "The FIU is of the opinion that trading in cryptocurrencies (incl. bitcoins) *constitutes* the provision of alternative means of payment within the meaning of § 6(4) of MLPA".

According to Kamecke, the principle of technology neutrality requires refraining from extending legislation applicable to any pre-existing technology, such as the MLPA's pre-bitcoin rule, to a "new" technology that achieves the same

[111] The statement was repeated in the media on several occasions. On 18th December 2013 the payments and settlement department head of the Bank of Estonia Mr. Mihkel Nõmmela stated: "First of all, with virtual currency schemes we have an area which, thus far, is unregulated and no authority is supervising the area of activity" (Rainer Saad, "Mida arvab Eesti Pank bitcoinist?" (What does the Bank of Estonia think of bitcoin?), *Äripäev* (18 December 2013) // https://www.aripaev.ee/uudised/2013-12-18/mida_arvab_eesti_pank_bitcoinisthttps); Financial Supervisory Authority, "Virtuaalraha pakkujad ei kuulu järelevalve alla" (Providers of virtual currency do not fall under supervision), Website of Financial Supervisory Authority (05 February 2014) // http://www.fi.ee/index.php?id=21561.

[112] Kadri Inselberg, "Tavid kaalub Bitcoiniga kauplemise alustamist" (Tavid is considering trading bitcoins), *Postimees.ee* (23 January 2014) // https://majandus24.postimees.ee/2671592/tavid-kaalub-bitcoiniga-kauplemise-alustamist.

[113] Mr de Voogd also inquired from the FIU why have not they informed the public of their interpretation of the law earlier and the response was: "We will public [sic] our opinion regarding the matter of bitcoins on our website soon.[...] and for your information we have not kept our opinion in [sic] secret – we just did not saw [sic] the need for composing something like that earlier" (*Court documents* // http://btc.ee/appeal.html).

function as the pre-existing technology. Kamecke argued for self-regulation to the extent possible and one can make the argument that the principle of technology neutrality should discourage the judiciary from extending the *ex ante* legal rules to any new technology (not available during the adoption of the rule). This means that the term "Internet money" did not refer to virtual currencies such as bitcoin, as bitcoin was non-existent at the time of the introduction of the rule in late 2007.

One could also argue that the application of the relevant rule to *de Voogd* showed that the rule's effect was disproportionate to its aim – *the face-to-face meeting requirement* at a lower threshold disproportionately harmed the practical use of the technology. Therefore, even though the rule had a legitimate aim (to address threats related to bitcoins), the effects of the rule were discriminatory towards any global transactions in the Bitcoin decentralised network and favoured centralised infrastructure payments. Consequently, the MLPA rules favoured centralised technologies and disproportionately discriminated against decentralised technologies.

Indirectly, these issues were addressed in the *de Voogd* order *post scriptum*[114] in which the Supreme Court stated:

> The effects the identification requirement (face-to-face) has on bitcoin sale-purchase transactions are not clear enough and it is also not clear whether an individual who is a provider of this service has any sufficient means at all for the identification, collection and recording of this data.[115]

In essence this means that the Supreme Court is applying the principle of technology neutrality in the *post scriptum* assessing transparency, subsidiarity, effects equivalence, etc.

In the final point[116] in the *de Voogd* order, instead of taking any action itself, the Court urged the legislature to consider amending the duties of alternative currency service providers so that these would take into account the cross-border characteristics of bitcoin transactions (i.e. the technological features) and ensure sufficient flexibility of the legislation. This means that the Supreme Court was asking the legislature to apply the principle of technology neutrality upon redrafting the rule but did not apply the principle itself in *de Voogd*.

Finally, looking at the chronological development of the MLPA, one can conclude that the Supreme Court's *post scriptum* was well received by the legislature who in 2017 repealed the *sui generis* category of virtual currencies

[114] In the court order as text after the resolution, the Supreme Court offered an opinion and suggestions for consideration by the legislature.
[115] *De Voogd v Police and the Police and Border Guard*, *supra* note 20, point 27.
[116] *Ibid*., point 28.

replacing it with another more limited *sui generis* category on the basis of the Proposal for the 5th AML Directive.

CONCLUSIONS

This article discusses whether the rules developed for centralised payment infrastructure could also be applied to decentralised payment infrastructure on the basis of the principle of technology neutrality. Developing an understanding of how *ex ante* rules apply to the vastly different reality of Bitcoin's decentralised infrastructure under tax law or money laundering rules is not an easy task for any state authority, let alone an individual or entrepreneur.

These court cases demonstrate that in the midst of legal uncertainty arising from innovation, individuals and enterprises seek clarity in very different ways in similar situations and the authorities react to their conduct in very different ways: by issuing a binding opinion (like Revenue Law Commission in *Hedqvist*), challenging a binding opinion (like *Skatteverket* in *Hedqvist*), filing a request for a preliminary ruling (like Swedish Administrative Court in *Hedqvist*), issuing a clarifying private opinion (like the FIU to Tavid in Estonia), issuing a clarifying public opinion (like the FIU on its website), commencing supervision proceedings against private persons (like the FIU in *de Voogd*), and not requesting a preliminary ruling when the authority is sued by a private person (like the Supreme Court in *de Voogd*).

In *Hedqvist* the *Skatteverket* and the Revenue Law Commission's understanding of the applicable rule was different and that the Supreme Administrative Court in Sweden did not consider the VAT Directive to be *acte clair* on the matter. The correct course of action, therefore, was to ask the regional authority to make it clear on the basis of a request for a preliminary ruling. The CJEU's ruling in the *Hedqvist* case clarified the legal practise and created more legal certainty in relation to virtual currencies in EU.[117]

Considering the proceedings in the *Hedqvist* case where even different tax authorities had a very different understanding of what the law meant and how it could be applied, the question of why in *de Voogd* the Estonian Supreme Court, considering (i) the public communication on the matter in Estonia and (ii) the fact that even Tavid (who certainly was able to afford legal advice on the matter) could not figure out the correct application of the *ex ante* rules to a reality vastly different

[117] The order made also the Estonian Tax and Customs Board reverse its position on the applicability of VAT on bitcoin exchange transactions (see "Euroopa Kohus: bitcoinidega kauplemine on maksuvaba" (European Court: trading with bitcoins is tax free), *Äripäev.ee* (23 October 2015) // https://www.aripaev.ee/uudised/2015/10/23/euroopa-kohus-bitcoinidega-kauplemine-on-maksuvaba).

from that of the time when the rules was first introduced, failed to be considerate of the capabilities of an individual such as de Voogd to operate on the basis of legal clarity. The *de Voogd* order is the embodiment of Benjamin Cardozo´s sombre words of warning: "Law never is, but is always about to be. It is realised only when embodied in a judgment, and in being realised, expires. There are no such things as rules or principles: there are only isolated dooms."[118]

The Estonian Supreme Court did not expressly apply the principle of technology neutrality in analysing the MLPA rules in *de Voogd* nor did it expressly analyse whether there was any legitimate aim or ground for different treatment of currency and bitcoin in *de Voogd*. The Supreme Court also did not state any extraordinary reasons as to why the legislation applying to the exchange of virtual currencies such as bitcoins should be different from legislation to applicable to the exchange of fiat currencies.

In *de Voogd*, fiat currency exchange was treated differently from alternative currency exchange, but in *Hedqvist* these were treated exactly the same. In *de Voogd* there was a technology neutral rule for a *sui generis* category of alternative means of payment; however, it was not technology neutral, given the centralised-decentralised scale. Although it can be argued that this was in line with Koops' idea of "higher" legislation such as legal acts having to be more technology neutral and abstract, the MLPA actually lacked the "lower" implementation guidelines, case law, executive branch explanations, etc., which could have increased legal clarity and perhaps adjusted proportionality to the respective rule.

The function of bitcoin was the same in both cases, yet, in *Hedqvist* there was no differentiation of treatment between these analysed means of payment and in *de Voogd* there was clear differentiation.

De Voogd also demonstrates that an active legislature trying to pre-empt harm that could be caused by innovative new means of payment while not being able to assess the risks and benefits might have good intentions to create a sustainable general rule, but instead its actions may result in discrimination and hinder innovation.

Finally, the application of the principle of technology neutrality in *Hedqvist* demonstrates that even a rule that is not constructed in a technology neutral way can be applied neutrally (implementation neutrality) when sufficient impact assessment and research is dedicated to the matter. This means that the general *ex ante* rules (either technology neutral or not) could remain in place, as long as

[118] Luca Anderlini, Leonardo Felli, and Alessandro Riboni, "Statute Law or Case Law?" *LSE STICERD Research Paper* No. TE/2008/528 (August 2008) // https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1401783.

the executive and judiciary accept this shift of the burden of application of the principle onto them and do not take the back seat in understanding innovation, technology, and characteristics of different use cases. In *de Voogd*, the Estonian Supreme Court understood the need for action, but shifted the responsibility for taking action back to the legislature, thereby failing to ensure implementation neutrality of a legal rule.

BIBLIOGRAPHY

1. Anderlini, Luca, Leonardo Felli, and Alessandro Riboni. "Statute Law or Case Law?" *LSE STICERD Research Paper* No. TE/2008/528 (August 2008) // https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1401783.
2. Antonopoulos, Andreas M. *Handbook of Digital Currencies: Bitcoin, Innovation, Financial instruments, and Big Data* (Elsevier, 2015).
3. Antonopoulos, Andreas M. *Mastering Bitcoin: Unlocking Digital Cryptocurrencies* (O´Reilly, 2014).
4. Bennett Moses, Lyria. "Understanding legal responses to technological change: the example of in vitro fertilization." *Minnesota Journal of Law, Science and Technology* Volume 6, Issue 2 (2005) // https://scholarship.law.umn.edu/cgi/viewcontent.cgi?article=1337&context=mjlst.
5. Butenko, Anna, and Pierre Larouche. "Regulation for innovativeness or regulation of innovation?" *Law, Innovation and Technology* 7:1 (2015): 52–82 // DOI: 10.1080/17579961.2015.1052643.
6. Chang, Sue. "Here's all the money in the world, in one chart." *MarketWatch.com* (28 November 2017) // https://www.marketwatch.com/story/this-is-how-much-money-exists-in-the-entire-world-in-one-chart-2015-12-18.
7. Clinton, William J., and Jr. Albert Gore. "Framework for Global Electronic Commerce" // https://clintonwhitehouse4.archives.gov/WH/New/Commerce/read.html.
8. Carys J. Craig. "Technological Neutrality: (Pre)Serving the Purposes of Copyright Law." *Osgoode Legal Studies Research Paper Series* 45 (2014): 275–276 // https://digitalcommons.osgoode.yorku.ca/cgi/viewcontent.cgi?referer=https://www.google.com/&httpsredir=1&article=1044&context=olsrps.

9. Cuccuru, Pierluigi. "Beyond bitcoin: an early overview on smart contracts." *International Journal of Law and Information Technology* Volume 25, Issue 3 (1 September 2017): 179–195 // DOI: https://doi.org/10.1093/ijlit/eax003.
10. De Filippi, Primavera, and Aaron Wright. *Blockchain and the Law: the rule of code* (Harvard University Press, 2018).
11. "Euroopa Kohus: bitcoinidega kauplemine on maksuvaba" (European Court: trading with bitcoins is tax free). *Äripäev.ee* (23 October 2015) // https://www.aripaev.ee/uudised/2015/10/23/euroopa-kohus-bitcoinidega-kauplemine-on-maksuvaba.
12. FATF. "Virtual Currencies Key Definitions and Potential AML/CFT Risks" (June 2014) // http://www.fatf-gafi.org/media/fatf/documents/reports/Virtual-currency-key-definitions-and-potential-aml-cft-risks.pdf.
13. Financial Supervisory Authority. "Virtuaalraha pakkujad ei kuulu järelevalve alla" (Providers of virtual currency do not fall under supervision), Website of the Financial Supervisory Authority (05 February 2014) // http://www.fi.ee/index.php?id=21561.
14. Gervais, Daniel J. "Towards a new core international copyright norm: the reverse three-step test." *Marquette International Property Law Review* 9 (2005) // https://papers.ssrn.com/sol3/papers.cfm?abstract_id=499924.
15. Greenberg, Brad A. "Rethinking Technology Neutrality." *Minnesota Law Review* 100 (2016): 1495–1562.
16. Hojnik, Janja. "Technology neutral EU law: digital goods within the traditional good/services distinction." *International Journal of Law and Information Technology* Volume 25, Issue 1 (1 March 2017): 63–84 // https://doi.org/10.1093/ijlit/eaw009.
17. Inselberg, Kadri. "Tavid kaalub Bitcoiniga kauplemise alustamist" (Tavid is considering trading bitcoins). *Postimees.ee* (23 January 2014) // https://majandus24.postimees.ee/2671592/tavid-kaalub-bitcoiniga-kauplemise-alustamist.
18. Kamecke, Ulrich, and Torsten Körber. "Technological Neutrality in the EC Regulatory Framework for Electronic Communications: A Good Principle Widely Misunderstood. Technological Neutrality in the EC Regulatory Framework." *E.C.L.R.* (2008): 330–339 // http://www.uni-goettingen.de/de/document/download/65b9d0d841b831596888f8fb208e838b.pdf/Kamecke-Koerber_ECLR08_29%285%29.

19. Koops, Bert-Jaap. "Should ICT Regulation be Technology neutral?": 77–108. In: Bert-Jaap Koops, et al. *Starting Points for ICT Regulation. Deconstructing Prevalent Policy One-Liners*. The Hague: TMC Asser, 2006.
20. Lätt, Priit. "Complaint of de Voogd´s representative" (21 April 2014) // http://btc.ee/documents.html.
21. Nakamoto, Satoshi. "Bitcoin: A Peer-to-peer Electronic Cash System" (2008) // https://bitcoin.org/bitcoin.pdf.
22. Saad, Rainer. "Mida arvab Eesti Pank bitcoinist?" (What does the Bank of Estonia think of bitcoin?). *Äripäev* (18 December 2013) // https://www.aripaev.ee/uudised/2013-12-18/mida_arvab_eesti_pank_bitcoinist.
23. Reed, Chris. "Taking Sides on Technology Neutrality." *SCRIPTed* Volume 4, Issue 3 (September 2007): 263–284 // http://heinonline.org/HOL/P?h=hein.journals/scripted4&i=281.
24. Reyes, Carla L. "Moving Beyond Bitcoin to an Endogenous Theory of Decentralized Ledger Technology Regulation: An Initial Proposal." 61 *Vill. L. Rev.* 191 (2016) // https://digitalcommons.law.villanova.edu/vlr/vol61/iss1/5.
25. VAT Committee (Article 398 of Directive 2006/112/EC). "Subject: CJEU Case C-264/14 Hedqvist: Bitcoin." *Working Paper* No. 892 (February 4, 2016) // https://circabc.europa.eu/sd/a/add54a49-9991-45ae-aac5-1e260b136c9e/892%20-%20CJEU%20Case%20C-264-14%20Hedqvist%20-%20Bitcoin.pdf.
26. VAT Committee (Article 398 of Directive 2006/112/EC). "Subject: Question concerning the application of EU VAT provisions." *Working Paper* No. 811 (July 29, 2014) // https://circabc.europa.eu/sd/a/4adc83f8-a7ab-48ee-b907-468459c0dad7/49%20-%20VAT%20treatment%20of%20Bitcoin.pdf.
27. Wheatley, Alan. "Cash Is Dead, Long Live Cash." *Finance & Development* Vol. 54, No. 2 (June 2017) // https://www.imf.org/external/pubs/ft/fandd/2017/06/wheatley.htm.

LEGAL REFERENCES

1. *137 SE Eelnõu seletuskiri Seletuskiri rahapesu ja terrorismi rahastamise tõkestamise seaduse eelnõu juurde (Explanatory Memorandum of Draft law 137 SE on Money Laundering and Terrorism Financing Prevention Act 2007) //*

https://www.riigikogu.ee/tegevus/eelnoud/eelnou/046802d9-335d-415b-c4a1-650aa487eb33/Rahapesu%20ja%20terrorismi%20rahastamise%20t%C3%B5kestamise%20seadus.

2. *232 SE Eelnõu seletuskiri Isikut tõendavate dokumentide seaduse, krediidiasutuste seaduse ning rahapesu ja terrorismi rahastamise tõkestamise seaduse muutmise seaduse juurde (Explanatory Memorandum of Draft law 232 SE on the Act Amending Identification Documents Act, Credit Institutions Act and Money Laundering and Terrorism Financing Prevention Act 2016)* // https://www.riigikogu.ee/tegevus/eelnoud/eelnou/954a096c-722d-4e9a-8000-e292026f8156/Isikut%20t%C3%B5endavate%20dokumentide%20seaduse,%20krediidiasutuste%20seaduse%20ning%20rahapesu%20ja%20terrorismi%20rahastamise%20t%C3%B5kestamise%20seaduse%20muutmise%20seadus.
3. *Advocate General's Opinion of 16 June 2016 in Vereniging Openbare Bibliotheken v Stichting Leenrecht Request for a preliminary ruling from the Rechtbank Den Haag,* CJEU Case C-174/15 (Judgment of the Court (Third Chamber) of 10 November 2016).
4. *Art & Allposters International BV v Stichting Pictoright,* Request for a preliminary ruling from the Hoge Raad der Nederlanden, CJEU Case C-419/13, (Judgment of the Court (Fourth Chamber) of 22 January 2015).
5. *Article 5(3) of Regulation (EC) No 44/2001 on jurisdiction, recognition and enforcement of judgments in civil and commercial matters*. Official Journal of the European Union, L 12, 16.1.2001, p. 1–23.
6. *Belgacom SA and Others v État belge*. CJEU Case C-375/11 (Judgment of the Court (Fourth Chamber) of 21 March 2013).
7. *Bolagsupplysningen OÜ and Ingrid Ilsjan v Svensk Handel AB*. CJEU Case C-194/16 (Judgment of the Court (Grand Chamber) 17 October 2017).
8. *Charter of Fundamental Rights of the European Union*. Official Journal of the European Communities C 326:391–407 (26.10.2012) // http://www.europarl.europa.eu/charter/pdf/text_en.pdf.
9. *Christiane Urbing-Adam v Administration de l'enregistrement et des domaines*. CJEU Case C-267/99 (Judgment of 11 October 2001), paragraph 36.
10. *Comunidad Autónoma del País Vasco, Itelazpi SA (C-66/16 P), Comunidad Autónoma de Cataluña, Centre de Telecomunicacions i Tecnologies de la Informació de la Generalitat de Catalunya (CTTI) (C-67/16 P), Navarra de Servicios y Tecnologías SA (C-68/16 P), Cellnex Telecom SA, formerly Abertis*

Telecom SA, Retevisión I SA (C69/16 P) v European Commission, SES Astra SA. Joined CJEU Cases C-66/16 P to C-69/16 P and Cases C-70/16 P and C-81/16 P (Judgment of the Court (Fourth Chamber) of 20 December 2017).

11. *Council Directive 2006/112/EC of 28 November 2006 on the common system of value added tax* (VAT Directive). Official Journal of the European Union, L 347, 11.12.2006, p. 1–118 //
ELI: http://data.europa.eu/eli/dir/2006/112/oj.
12. *Court documents* // http://btc.ee/appeal.html.
13. *Criminal proceedings against Bent Falbert and Others Request for a preliminary ruling from the Københavns Byret*. CJEU Case C-255/16 (Judgment of the Court (First Chamber) of 20 December 2017).
14. *De Voogd v Police and the Border Guard*. Estonian Supreme Court ruling RKHKo 3-3-1-75-15 (2016).
15. *Directive 2001/29/EC of the European Parliament and of the Council of 22 May 2001 on the harmonisation of certain aspects of copyright and related rights in the information society* (Copyright Directive). Official Journal of the European Union, L 167, 22.6.2001, p. 10–19.
16. *Directive 2002/21/EC of the European Parliament and of the Council of 7 March 2002 on a common regulatory framework for electronic communications networks and services* (Framework Directive). Official Journal of the European Union, L 108, 24.4.2002, p. 33–50 //
ELI: http://data.europa.eu/eli/dir/2002/21/oj.
17. *Directive 2009/110/EC of the European Parliament and of the Council of 16 September 2009 on the taking up, pursuit and prudential supervision of the business of electronic money institutions amending Directives 2005/60/EC and 2006/48/EC and repealing Directive 2000/46/EC* (Text with EEA relevance) (E-Money Directive). Official Journal of the European Union, L 267 (10.10.2009): 7–17.
18. *Directive (EU) 2009/24/EC of the European Parliament and of the Council of 23 April 2009 on the legal protection of computer programs* (Codified version) (Text with EEA relevance). Official Journal of the European Union, L 111, 5.5.2009, p. 16–22.
19. *Directive (EU) 2015/849 of the European Parliament and of the Council of 20 May 2015 on the prevention of the use of the financial system for the purposes of money laundering or terrorist financing, amending Regulation (EU) No 648/2012 of the European Parliament and of the Council, and repealing Directive 2005/60/EC of the European Parliament and of the Council*

and Commission Directive 2006/70/EC (4th AML Directive). Official Journal of the European Union L 141, 5.6.2015, p. 73–117.

20. *Directive (EU) 2016/1148 of the European Parliament and of the Council of 6 July 2016 concerning measures for a high common level of security of network and information systems across the Union* (NIS Directive). Official Journal of the European Union, L 194, 19.7.2016, p. 1–30 // ELI: http://data.europa.eu/eli/dir/2016/1148/oj.
21. *Directive (EU) 2018/843 of the European Parliament and of the Council of 30 May 2018 amending Directive (EU) 2015/849 on the prevention of the use of the financial system for the purposes of money laundering or terrorist financing, and amending Directives 2009/138/EC and 2013/36/EU* (5th AML Directive). Official Journal of the European Union L 156, 19.6.2018, p. 43–74.
22. *EDate Advertising GmbH and Others v X and Société MGN Limited*. Joined Cases C-509/09 and C-161/10 (Judgment of the Court (Grand Chamber) of 25 October 2011).
23. *European Commission, European Parliament v Council of the European Union*. CJEU C-114/12 (Judgment of the Court (Grand Chamber) of 4 September 2014).
24. *European Commission v Federal Republic of Germany*. CJEU Case C 109/02 (Judgment of the Court (Fifth Chamber) of 23 October 2003).
25. *European Commission v Grand Duchy of Luxembourg*. CJEU Case C-502/13 (Judgment of the Court (Fourth Chamber) of 5 March 2015).
26. *European Commission v Kingdom of Sweden*. CJEU C 480/10 (Judgment of the Court (Fourth Chamber) of 25 April 2013).
27. *European Commission v Republic of France*. CJEU Case C-479/13 (Judgment of the Court (Fourth Chamber) of 5 March 2015).
28. *Finanzamt Gladbeck v Edith Linneweber and Finanzamt Herne-West v Savvas Akritidis*. CJEU Joined Cases C-453/02 and C-462/02 (Judgment of the Court (Second Chamber) of 17 February 2005).
29. *Money Laundering and Terrorist Financing Prevention Act of Estonia*. Rahapesu ja terrorismi rahastamise tõkestamise seadus, RT I, 06.07.2016, 13.
30. *Money Laundering and Terrorist Financing Prevention Act of Estonia*. Rahapesu ja terrorismi rahastamise tõkestamise seadus, RT I, 17.11.2017, 2.
31. *Money Laundering and Terrorist Financing Prevention Act of Estonia*. Rahapesu ja terrorismi rahastamise tõkestamise seadus, RT I 2008, 3, 21.
32. *Opinion of Advocate General Kokott in Skatteverket v David Hedqvist.* CJEU Case C-264/14 (16 July 2015).

33. *Proposal for a Directive of the European Parliament and of the Council amending Directive (EU) 2015/849 on the prevention of the use of the financial system for the purposes of money laundering or terrorist financing and amending Directive 2009/101/EC* (Proposal). COM/2016/0450 final - 2016/0208 (COD).
34. *Republic of Poland v European Parliament and Council of the European Union. CJEU Case C-5/16 (Judgment of the Court (Second Chamber) of 21 June 2018).*
35. *Request for a preliminary ruling from the Rechtbank Den Haag (Netherlands) lodged on 16 April 2018 Nederlands Uitgeversverbond, Groep Algemene Uitgevers v Tom Kabinet Internet BV, Tom Kabinet Holding BV, Tom Kabinet Uitgeverij BV*. CJEU Case C-263/18.
36. *Skatteverket v David Hedqvist*. CJEU Case C-264/14 (Judgment of the Court (Fifth Chamber) of 22 October 2015).
37. *Technische Universität Darmstadt v Eugen Ulmer KG*. CJEU Case C-117/13 (Judgment of the Court (Fourth Chamber) 11 September 2014).
38. *UsedSoft GmbH v Oracle International Corp*. CJEU Case C 128-11 (Judgment of the Court (Grand Chamber) 3 July 2012).