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### ***published in***

The international VAT monitor  
2014

### ***document version***

Publisher's PDF, also known as Version of record

[Link to publication in VU Research Portal](#)

### ***citation for published version (APA)***

Wolf, R. A. (2014). Bitcoin and EU VAT. *The international VAT monitor*, 2014(8), 254-257.

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# Bitcoin and EU VAT

**A relatively new phenomenon is the appearance of cryptocurrencies with bitcoins as their most prominent representative. In this article, the author discusses the VAT aspects of the use, exchange and mining of bitcoins under the EU VAT system.**

## 1. Introduction to Bitcoin

Legislation often fails to keep pace with technological developments. A recent example of regulators lagging behind is the appearance of cryptocurrencies with bitcoins as their most prominent representative. Since the EU VAT Directive<sup>1</sup> does not contain any provisions on cryptocurrencies, there is no certainty about the VAT aspects of this new means of payment. In view of the amount of bitcoins already in “circulation”, this issue definitely requires immediate attention.

Bitcoin<sup>2</sup> is an open-source, peer-to-peer digital currency. It is based on the principles of cryptography (communications through secure channels) for validating transactions and controlling the production of the currency itself.<sup>3</sup> Bitcoin was developed by a programmer (or group of programmers) who used the pseudonym Satoshi Nakamoto and whose identity remains unclear. The unit of the Bitcoin network is bitcoin or BTC (or XBT), which many consider to be a currency or Internet cash.<sup>4</sup> This digital currency has no physical form but only exists as a balance in an electronic bitcoin account (or “wallet”).

Bitcoins are not issued by states, banks or other financial institutions; they are generated by the Bitcoin software itself and can only exist within the Bitcoin system.<sup>5</sup> Bitcoins are not pegged to any real-world currency. The exchange rate is determined by supply and demand in the market. There are several real-time exchange platforms for buying and selling bitcoins.<sup>6</sup>

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1. Council Directive 2006/112/EC of 28 November 2006 on the common system of value added tax, OJ L347 (2006), Corrigendum OJ L335 (2007).
2. “Bitcoin” (with a capital B) refers to the system (the software and the network it runs on) and “bitcoin” (lower case) to the currency itself. This notation is generally adhered to, see M. Bustillos, *The Bitcoin Boom*, *The New Yorker*, (2 April 2013), <http://www.newyorker.com/online/blogs/elements/2013/04/the-future-of-bitcoin.html> (accessed on 31 Jan. 2014).
3. C.K. Elwell, M.M. Murphy & M.V. Seitzinger, *Bitcoin: Questions, Answers and Analysis of Legal Issues*, Washington, Congressional Research Service, p.1 (20 Dec. 2013).
4. Goldman Sachs, *All about Bitcoin*, Global Market Research, Top of Mind, (11 Mar. 2014).
5. An extensive overview of the technical aspects of Bitcoin, the pros and cons of the use of bitcoins and related legal aspects can be found in: J. Britto & A. Castillo, *Bitcoin: A Primer for Policymakers* (Mercatus Center, George Mason University 2013).
6. An overview of such exchanges can be found at: <http://bitcoincharts.com/markets/currency/EUR.html>.

Bitcoins are more and more accepted as means of payment<sup>7</sup> and they offer users the advantages of lower transaction cost and increased privacy. However, the use of bitcoins also involves a number of disadvantages that could hinder wider use. The disadvantages include sizable volatility of the price of bitcoins and lack of security against theft and fraud.<sup>8</sup>

It is generally acknowledged that the Bitcoin technology is revolutionary and can be used for a variety of purposes. This article focuses on the VAT aspects of bitcoins as a means of payment.<sup>9</sup>

## 2. Currencies, Money and Bitcoins

Throughout history, people have used a variety of means (currencies) for paying others for goods or services. In this context, a currency is something that circulates; something that is generally accepted in exchange for goods or services and that can subsequently be used for paying for other goods or services. A currency is a unit that represents a generally accepted standard for purchasing power (money).<sup>10</sup>

The first currencies were goods with an intrinsic value, such as livestock, seeds, gold or silver, or objects that were generally accepted as having a certain value, such as cowry shells or beads. These currencies were eventually replaced by coins and bank notes that were initially redeemable for goods, in particular for gold.<sup>11</sup>

For a long time, money was a private means of payment in the sense that governments did not claim a formal monopoly over the issue and use of money within their territories.<sup>12</sup> From the 19th century, monetary instruments were standardized and the status of “legal tender” was reserved for official currencies. The official currencies developed into “fiduciary money”, i.e. they could no longer be redeemed for gold or silver. People are willing to accept money in exchange for goods and services simply because they trust the monetary authorities that issue the money.<sup>13</sup> Trust (“fiducia”) is crucial for this kind of money. Should the public lose its trust in the monetary authorities, the money will rapidly lose its value. In the last decades, payments for goods and services are increasingly made by

7. European Central Bank, *Virtual Currency Schemes* (Oct. 2012).
8. Elwell et al., *supra* n. 3.
9. For an overview of the current tax aspects of bitcoins, see A. Bal, *Stateless Money in the Tax System*, 53 *Eur. Taxn.* 7 (2013), *Journals IBFD*; and M. Lambooi, *Retailers accepting Bitcoins: Tricky Tax Issues?*, 16 *Derivs. & Fin. Instrum.* 3 (2014), *Journals IBFD*.
10. F.A. Mann, *The Legal Aspect of Money*, p. 29 (Oxford: At the Clarendon Press 1971).
11. European Central Bank, *Virtual Currency Schemes*, p. 9 (2012).
12. A. Bal, *supra* n. 9.
13. European Central Bank, *Virtual Currency Schemes*, p. 10 (2012).

electronic means (bank transfers or plastic money) but the standard unit is still expressed in the official currencies.

With the creation of the World Wide Web and the ongoing proliferation of the Internet, virtual communities appeared and some of them issued their own virtual currency. In this respect, a digital currency is a type of digital money that is not regulated by the monetary authorities but issued and usually controlled by private parties, and used and accepted as means of payment among the members of a specific community.<sup>14</sup> Bitcoin also falls within this category.

### 3. VAT Aspects of Payments

Although the VAT Directive does not contain a specific provision to that effect, it is generally acknowledged that one of the inherent features of the EU VAT system is that the mere payment of money does not have VAT consequences. VAT is a tax on final consumption of goods and services, and money in its capacity as a means of payment cannot be consumed. In *Mirror*,<sup>15</sup> the Court of Justice of the European Union (ECJ) stated that the mere fact that a landlord pays an amount of money to a potential tenant for taking up the option to rent office space in the landlord's building does not automatically mean that, by taking up the option, the potential tenant provides a service for VAT purposes. Likewise, the mere fact that a hospital makes a lump-sum payment to a supplier for goods referred to in general terms in a list which may be altered at any time by agreement between the hospital and the supplier, and from which the hospital may possibly select articles, on the basis of an agreement from which he may unilaterally resile at any time, is irrelevant for VAT purposes,<sup>16</sup> in the sense that the payment is not consideration (advance payment) for future supplies of goods.

Consequently, in relation to supplies of goods and services, the customer's payment in money is outside the scope of VAT and the same conclusion applies where one type of money is being exchanged for a different type of money. As the ECJ confirmed in *The First National Bank of Chicago*,<sup>17</sup> the values of the currencies exchanged do not constitute turnover for the exchanging institution; in the absence of a commission or fee, the turnover of the exchanging bank is limited to the difference between the purchasing and selling prices of the currency.<sup>18</sup> In her Opinion relating

to *Granton Advertising*,<sup>19</sup> Advocate General Kokott stated that transactions concerning "negotiable instruments"<sup>20</sup> are rights which are regarded in the course of trade as being similar to money and which are to be treated for VAT purposes in the same way as payments of money. According to the AG, payments of money are admittedly not taxed as such, but are rather simply consideration for a taxed supply, either because they are neither a supply of goods nor a supply of services or because they are non-taxable (exempt from VAT). Consequently, "rights" with the same use as money should also be treated as money for VAT purposes. The AG concluded that the transfer of such rights should be treated as the mere transfer of money and, therefore, should remain outside the scope of VAT. The ECJ did not specifically address this issue because it found that the Granton Cards at issue were discount cards, not payment instruments.<sup>21</sup>

### 4. Paying with Bitcoins

As regards the VAT aspects of bitcoins, the first question is whether paying with bitcoins constitutes payment in money or payment in kind.

In what is considered to be the first landmark case involving bitcoins, the United States Magistrate Judge Amos Mazzant concluded that bitcoins are a form of money: they can be used to purchase goods or services. The only limitation of bitcoins is that their use is limited to those places that accept them as payment. However, they can also be exchanged for conventional currencies, such as US dollars, euro, yen and yuan.<sup>22</sup>

In my view, for the purposes of VAT, bitcoins should be qualified as money or at least as a means of payment, which means that paying for supplies of goods or services with bitcoins does not have VAT consequences. This approach is currently officially accepted by the UK tax authorities.<sup>23</sup>

Treating payments with bitcoins as payments in kind would have the effect that final consumers who regularly pay their suppliers with bitcoins would have to be treated as taxable persons for VAT purposes for supplying bitcoins to their suppliers of goods and services. Since the VAT Directive does not contain an exemption for supplies of bitcoins, such supplies would be subject to VAT and final consumers would have to charge VAT on their supplies of bitcoins. This approach was recently advocated by the

14. Id., p. 13.

15. E2: ECJ, 9 Oct. 2001, Case C-409/98, *Commissioners of Customs and Excise v. Mirror Group plc*, [2001] ECR I-7175; ECLI:EU:C:2001:524, ECJ Case Law IBFD, para. 26.

16. UK: ECJ, 21 Feb. 2006, Case C-419/02, *BUPA Hospitals Ltd and Goldsbrough Developments Ltd v. the Commissioners of Customs and Excise*, [2006] ECR I-1685; ECLI:EU:C:2006:122, ECJ Case Law IBFD.

17. E2: ECJ, 14 July 1998, Case C-172/96, *Commissioners of Customs & Excise v. First National Bank of Chicago*, [1998] ECR I-4387; ECLI:EU:C:1998:354, ECJ Case Law IBFD.

18. In its written observations in this case, the UK government took the view that, in the absence of a commission or a fee, foreign exchange transactions are simply the exchange of one means of payment for another and do not constitute a supply of goods or services. The ECJ largely adopted the UK position, albeit that, according to the ECJ, the bank's margin constitutes remuneration for an exempt exchange service.

19. Opinion of Advocate General J. Kokott of 24 October 2013, Case C-461/12, *Granton Advertising*.

20. Art. 135(1)(d) VAT Directive contains an exemption for transactions concerning deposit and current accounts, payments, transfers, debts, cheques and other negotiable instruments.

21. NL: ECJ, 12 June 2014, Case C-461/12, *Granton Advertising BV v. Inspecteur van de Belastingdienst Haaglanden/kantoor Den Haag*, ECLI:EU:C:2014:1525 – Not yet officially published, ECJ Case Law IBFD.

22. US: United States District Court for the Eastern District of Texas, Memorandum opinion regarding the Courts subject matter jurisdiction, 6 Aug. 2013, Judge Amos Mazzant, Case 4:13-cv-00416, *U.S. Securities and Exchange Commission v. Trendon T. Shavers et al.*

23. This approach was put forward in HRMC, *Tax treatment of activities involving Bitcoin and other similar cryptocurrencies*, Revenue & Customs Brief 09/14, (3 Mar. 2014), <http://www.hmrc.gov.uk/briefs/vat/brief0914.htm> (accessed 25 July 2014).

German Federal Ministry of Finance<sup>24</sup> and has also been adopted by the Austrian Ministry of Finance.<sup>25</sup>

Apart from the fact that, from a theoretical perspective, the German and Austrian positions do not hold water, taxing supplies of bitcoins would make many commercial transactions unattractive and create a breeding ground for carousel fraud.<sup>26</sup>

## 5. Accepting Bitcoins as Payment

When a retailer accepts bitcoins as payment for taxed supplies of goods or services, VAT will be due on the consideration for the underlying supply, i.e. the taxable amount is the value of the bitcoins. The problem is that, where the factors used to determine the taxable amount of a transaction are expressed in a currency other than that of the Member State in which the VAT is due, the other currency must be converted on the basis of the latest selling rate recorded on the most representative exchange market(s) of the Member State concerned, or on the basis of the latest exchange rate published by the European Central Bank.<sup>27</sup> It is clear that there is no such official exchange rate for bitcoins. The “official exchange rates” relate to legal tender, which bitcoins are not. The question is whether bitcoins qualify as a “currency” as mentioned in this provision. In its judgment in the criminal proceedings against *Thompson, Johnson and Woodiwiss*,<sup>28</sup> the ECJ observed that, although doubts may be entertained as to the question of whether krugerrands are to be regarded as legal means of payment, it should nevertheless be noted that, on the money markets of those Member States which permit dealings in these coins, krugerrands are treated as being equivalent to currency. This judgment did not relate to VAT but may still be of interest in ascertaining the VAT position of bitcoins.

Regardless of whether or not they are a currency, bitcoins received by suppliers of goods and services must be valued. Following a method of conversion comparable to those laid down by article 91(2) of the VAT Directive seems a sensible approach. Exchange rates for bitcoins are readily available on the Internet, albeit that there is no single “official” exchange rate.<sup>29</sup>

## 6. Exchanging Bitcoins for Regular Currencies

Once it is accepted that the supply of bitcoins constitutes a mere payment, the exchange of bitcoins against a “regular”

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24. In a letter of 24 Apr. 2014 from Dr Michael Meister (*Parlamentarischer Staatssekretär beim Bundesminister der Finanzen*) on *Umsatzsteuerliche Behandlung von Bitcoins*; see also <http://www.bundesverband-bitcoin.de/wp-content/uploads/2014/05/140512-Antwort-PStS-Meister.pdf> (accessed 25 July 2014).
  25. Letter GZ. BMF-310205/0115-1/4/2014 from *Bundesminister* Dr Michael Spindelegger to the Austrian Parliament, 22 July 2014.
  26. By using the same mechanisms that were previously used in the trade of carbon rights; see R.A. Wolf, *The Sad History of Carbon Carousels*, 21 *Intl. VAT Monitor* 6 (2010), *Journals IBFD*.
  27. Art. 91(2) VAT Directive.
  28. ECJ, 23 Nov. 1978, Case 7/78, *Regina v. Ernest George Thompson, Brian Albert Johnson and Colin Alex Norman Woodiwiss*, [1978] ECR – 2247, ECLI:EU:C:1978:209. Thompson, Johnson and Woodiwiss were accused of being knowingly involved in a fraudulent evasion of the prohibition on importation of gold coins into the United Kingdom and on the exportation of silver alloy coins from the United Kingdom.
  29. See, for example, <http://www.coindesk.com/price-cny/>.

currency constitutes a reciprocal payment. Money in a specific form (or denomination) is traded in for money in a different form but representing the same “purchasing power”. Such exchanges of currencies remain outside the scope of VAT to the extent that the value of the money traded in equals the value of the money received in return or, in other words, if the “purchasing power” does not change. As the UK tax authorities put it: when bitcoins are exchanged for sterling or for foreign currencies, such as euro or dollars, no VAT will be due on the value of the bitcoins themselves.<sup>30</sup>

Where the exchange of bitcoins is for consideration, in the form of a separate exchange fee or the use of different buying and selling rates, the question may arise of whether the related exchange service attracts VAT. Following the reasoning that, for VAT purposes, bitcoins are money, the exchange of bitcoins should fall under the exemption for “transactions concerning, inter alia, deposit and current accounts, payments, transfers and other negotiable instruments” laid down by article 135(1)(d) of the VAT Directive. This view is shared by the UK tax authorities.<sup>31</sup> However, other EU Member States may adopt a different approach. For example, Austria is of the opinion that exchanging virtual currencies for legal tender by taxable persons in the course of their business is subject to VAT.<sup>32</sup>

In about a year, the ECJ will resolve this matter because the Swedish Supreme Court has recently referred to the ECJ a request for a preliminary ruling in *David Hedqvist*.<sup>33</sup> David Hedqvist is an individual who was planning to engage in bitcoin exchange services. By an advance ruling, the *Skatterättsnämnd* had concluded that these activities are exempt from VAT because, for the purposes of VAT, bitcoins should be considered as a currency.<sup>34</sup> However, the *Skatteverket* (tax authorities) appealed against the ruling. Considering that the ECJ’s judgment in *The First National Bank of Chicago* does not necessarily apply to virtual currencies, the Supreme Court asked the ECJ whether transactions in the form of what has been designated as the exchange of virtual currency for traditional currency, and vice versa, which are effected for consideration added by the supplier when determining the exchange rates, constitute a service and, if the answer is in the affirmative, whether that service is exempt under article 135(1) of the VAT Directive.

By answering these questions, the ECJ will probably resolve the most fundamental VAT issues concerning Bitcoin.

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30. Revenue & Customs Brief 09/14, *supra* n. 23, para. 3.
  31. Id., para. 4: Charges (in whatever form) made over and above the value of the bitcoins for arranging or carrying out any transactions in bitcoins will be exempt from VAT under art. 135(1)(d).
  32. Letter from *Bundesminister* Spindelegger, *supra* n. 25. Para. 19 of the letter reads: “Der Umtausch von virtuellen Währungen in gesetzliche Zahlungsmittel kann einen steuerbaren und steuerpflichtigen Umsatz darstellen, wenn der Umtauschende Unternehmer ist, der diesen Umsatz im Rahmen seines Unternehmens ausführt.”
  33. SE: ECJ, request for a preliminary ruling from the *Högsta förvaltningsdomstolen* (Sweden), 2 June 2014, Case C-264/14, *Skatteverket v. David Hedqvist*, ECJ Case Law IBFD.
  34. *Mervärdesskatt: Handel med bitcoins. Förhandsbeskedet meddelat*: 2013-10-14 (dnr 32-12/1), <http://skatterattsnamnden.se/skatterattsnamnden/forhandsbesked/2013/forhandsbesked2013/mervardesskatthandelmedbitcoins.546ae6b26141980f1e2d29d9.html> (accessed 27 July 2014).

## 7. Bitcoin Mining

Not addressed in *Hedqvist* is the VAT treatment of “bitcoin mining”. Bitcoin mining is the process of having a computer make mathematical calculations for the Bitcoin network. Bitcoin mining requires the use of advanced hardware (ASICs) and specialized software. Once the calculations are completed, “a new block of bitcoins is mined”, i.e. the network itself awards 25 newly generated bitcoins to the miner. The number of bitcoins that can be mined per day is limited and the total number of bitcoins “in circulation” is limited to 21 million in 2040.<sup>35</sup>

For the purposes of VAT, mining bitcoins does not seem to be a relevant activity. Bitcoin mining does not lead to a situation in which there is a legal relationship between a provider and a recipient of a service pursuant to which there is reciprocal performance and in which the remuneration received by the provider of the service constitutes the value actually given in return for the service supplied to the recipient, as the ECJ declared in its judgment in *Tolsma*.<sup>36</sup> There is no specific customer for the mining activities. New bitcoins are automatically generated by the network itself.

In the absence of a clear legal relationship and mutual performance, there is no supply for VAT purposes.

The subsequent exchange of bitcoins for regular currency or goods or services does not constitute a taxable event either (see section 5.), assuming that bitcoins are a mere means of payment (and not a payment in kind).

The activities of miners also consist of validating payments in bitcoins. The Bitcoin system is designed to prevent parties from paying with bitcoins that they do not actually own or with false bitcoins. Therefore, bitcoin transactions will only be processed by the Bitcoin network if they have been validated by a miner.

Parties who want to transfer bitcoins may include a transaction fee in their payment order to entice the miner to process the transaction with priority. However, the party placing the payment order does not know which miner will validate the transaction and does not have recourse against this miner if something goes wrong. There is no contractual obligation to pay a transaction fee and miners are not entitled to receive such a fee. The validation fees can be compared with a tip or gratuity for the miner,<sup>37</sup> and

35. See <http://bitcoinfo.com/>.

36. E2: ECJ, 3 Mar. 1994, Case 16/93, *R.J. Tolsma v. Inspecteur der Omzetbelasting, Leeuwarden*, [1994] ECR I-743; ECLI:EU:C:1994:80, ECJ Case Law IBFD.

37. J.A. Kroll, I.C. Davey, E.W. Felten, *The Economics of Bitcoin Mining, or Bitcoin in the Presence of Adversaries* (11–12 June 2013), The Twelfth

the validation activities should therefore remain outside the scope of VAT. Should the validation fee be considered as consideration for a service, the question arises of whether that service is an exempt “transaction concerning payments” (article 135(1)(d) of the VAT Directive). In its decision in *SDC*,<sup>38</sup> the ECJ held that payment services must have the effect of transferring funds and that they must entail changes in the legal and financial situation of the parties involved. The validating activities of miners seem to do just that and, therefore, could also be considered as being exempt from VAT. The latter position is advocated by the UK tax authorities.<sup>39</sup> In any event, bitcoin miners are not engaged in any taxed activities.

## 8. Conclusions

Bitcoins are an alternative means of payment. For the purposes of VAT, the use of this payment instrument should be treated as the use of any other means of payment, which implies that paying with bitcoins constitutes a mere payment and is not a transaction for VAT purposes.

When receiving bitcoins as payment, VAT is due on the underlying supply, and the taxable amount for that supply is the value of the bitcoins based on exchange rates which are readily available on the Internet.

In exchanging bitcoins for regular currencies, the value of the bitcoins should remain outside the scope of VAT. Any commission received for such exchange transactions should be treated as consideration for an exempt financial service.

The mining and validation activities of bitcoin miners fall outside the scope of VAT.

Despite its innovative and revolutionary nature, Bitcoin should not cause too many VAT complications in practice. However, the ECJ will have the final say in this matter when it answers the questions referred to it in *David Hedqvist*.

Workshop on the Economics of Information Security (WEIS 2013): “If the value paid out of a transaction (in bitcoins) is less than the amount put in, the difference is treated as a transaction fee that can be collected by whoever manages to mine a block containing that transaction.” See <http://www.weis2013.econinfosec.org/papers/KrollDaveyFeltenWEIS2013.pdf> (accessed 28 July 2014).

38. E2: ECJ, 5 June 1997, Case C-2/95, *Sparekassernes Datacenter (SDC) v. Skatteministeriet*, [1997] ECR I-3017; ECLI:EU:C:1997:278, ECJ Case Law IBFD, para. 66.

39. Revenue & Customs Brief 09/14, *supra* n. 23, para. 2.