



**EUROPEAN COMMISSION**  
DIRECTORATE-GENERAL  
TAXATION AND CUSTOMS UNION  
Indirect Taxation and Tax administration  
**Value added tax**

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**VALUE ADDED TAX COMMITTEE**  
**(ARTICLE 398 OF DIRECTIVE 2006/112/EC)**  
**WORKING PAPER NO 854**

**QUESTION**  
**CONCERNING THE APPLICATION OF EU VAT PROVISIONS**

**ORIGIN:** Commission  
**REFERENCES:** Articles 2(1)(c) and 135(1)(d)  
**SUBJECT:** VAT treatment of Bitcoin (II)

## **1. INTRODUCTION**

The VAT treatment of Bitcoin – and, by extension, other forms of digital currencies<sup>1</sup> – was discussed at the initiative of the UK delegation during the 101<sup>st</sup> meeting of the VAT Committee held in October 2014. In this respect, a Working paper<sup>2</sup> was produced by the Commission services.

From the discussion that took place in that meeting, and the views subsequently collected from the delegations, it is apparent that there is a divergence of views among Member States. Given the need to reach a common and consistent position on the VAT treatment of Bitcoin and similar digital currencies, the Commission services feel the need to revisit this issue.

## **2. SUBJECT MATTER**

As a stateless digital currency outside traditional commerce and finance or supervision, the increasing worldwide popularity of Bitcoin has raised questions about taxation. To avoid uncertainty on the VAT treatment of Bitcoin and similar digital currencies, it is necessary to agree on a common line to be implemented across the EU.

The VAT treatment of Bitcoin and its related activities depends on the legal status of the digital currency. Given that a straightforward approach concerning such legal status seemed to be lacking, the Commission services in its previous Working paper tabled several alternatives to be considered. That Working paper also examined the extent up to which Bitcoin could fit the legal framework concerning each of the alternatives, as well as the characteristics of the Bitcoin system itself.

To avoid duplication, the purpose of this paper is to mainly focus on the challenges which would follow any decision regarding the legal status to be given to Bitcoin. Having in mind the conclusions drawn from the previous discussion, only two options have been taken into account for this analysis: treating Bitcoin as (i) a negotiable instrument; or (ii) a digital product (i.e. an electronically supplied service). The very nature of these concepts will not be re-examined but focus will instead be placed on which challenges may arise depending on how Bitcoin would be treated.

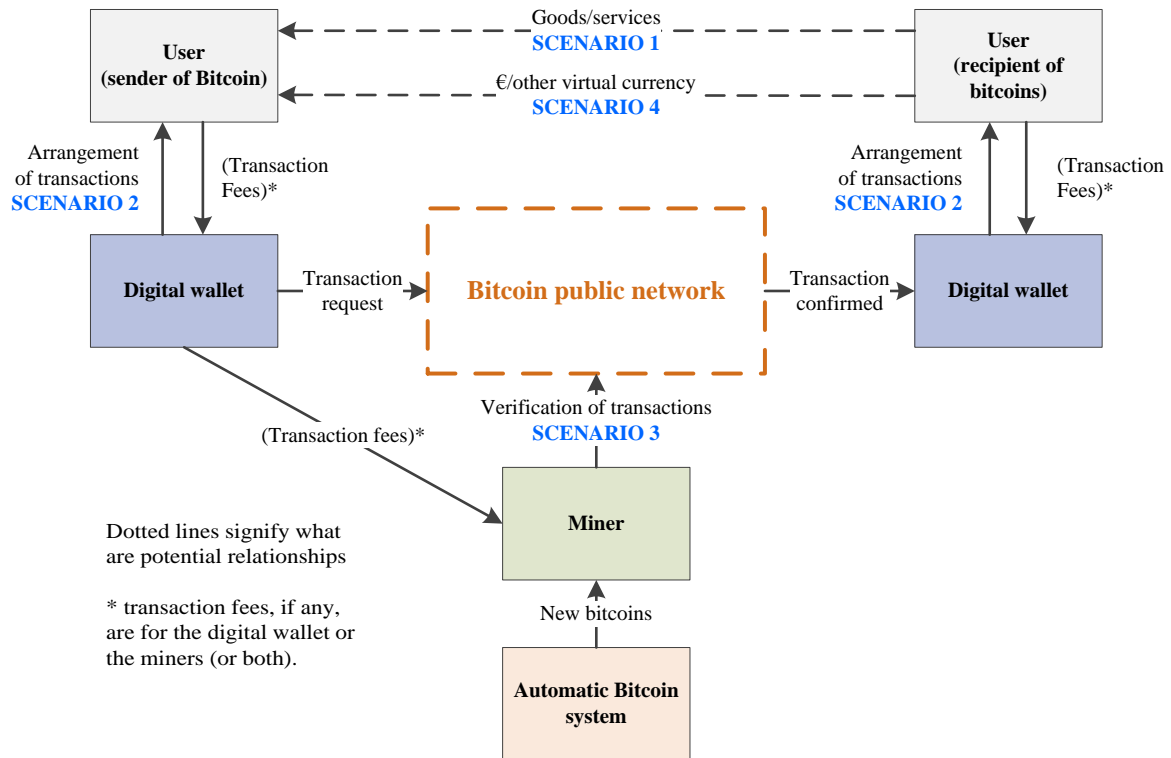
In order to determine the consequences derived from the VAT treatment of Bitcoin, not only payments in this digital currency need to be looked at, but also the activities which revolve around them. Focus will therefore be on: (i) supplies of goods and services, subject to VAT, remunerated by way of Bitcoin; (ii) services concerning the arrangement of transactions in Bitcoin; (iii) services concerning the verification of transactions in Bitcoin (mining activities); and (iv) services concerning the exchange of Bitcoin.

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<sup>1</sup> The analysis focuses on Bitcoin, given that this is today the best-known form of virtual currency, but it is valid to any other form of virtual currency with the same characteristics. It does not, however, extend to virtual currencies whose use is restricted to online computer gaming environments and social networks.

<sup>2</sup> Working paper No 811.

For the sake of clarity, we reproduce the diagram which summarises the functioning of the Bitcoin system<sup>3</sup>:



### 3. THE COMMISSION SERVICES' OPINION

#### 3.1. Setting the scene

As it will be known, a case is pending before the Court of Justice of the European Union (CJEU) which deals with the VAT treatment of a particular type of economic activity performed in relation to Bitcoin<sup>4</sup>. Some delegations may therefore be reluctant to take a position on the issue of Bitcoin, preferring to await the decision of the CJEU in this case.

We must stress, however, that the questions submitted in the case are rather specific and the reply to those questions is not expected to resolve the wider issue of Bitcoin. In our view, as the case only deals with a very specific aspect of the Bitcoin sphere (services provided by an exchange platform), the judgment is unlikely to offer a comprehensive solution to the VAT treatment of Bitcoin transactions.

The questions submitted are: *"Is Article 2(1) of the VAT Directive to be interpreted as meaning that transactions in the form of what has been designated as the exchange of virtual currency for traditional currency and vice versa, which is effected for consideration added by the supplier when the exchange rates are determined, constitute the supply of a service effected for consideration? If the answer to the first question is in*

<sup>3</sup> For a more detailed explanation about the functioning of the Bitcoin system, see section 3.2 of Working paper No 811.

<sup>4</sup> Preliminary question in case C-264/14 *Skatteverket v David Hedqvist*, lodged on 2 June 2014.

*the affirmative, is Article 135(1) to be interpreted as meaning that the abovementioned exchange transactions are tax exempt?"*.

It is worth noticing that the application of the exemption pursuant to Article 135(1) of the VAT Directive<sup>5</sup> is asked to the CJEU in respect of exchange transactions only. Although the answer may of course offer some guidance, it is not necessarily so that the CJEU in its ruling will define the legal status of Bitcoin.

Besides, it would still be necessary to assess the VAT treatment of other Bitcoin-related activities, such as mining; as well as some practical problems, such as the Bitcoin exchange rate.

The Commission services therefore find that deliberations should continue and would be looking to conclude on the legal status of Bitcoin.

### **3.2. Initial discussions**

In the initial Working paper, the Commission services tabled several alternatives to be considered: treating Bitcoin as (i) electronic money; (ii) a currency; (iii) a negotiable instrument; (iv) a security; (v) a voucher; or (vi) a digital product.

It was concluded that Bitcoin could not be seen as electronic money, a currency, a security or a voucher. Although in the way it functions Bitcoin equates to traditional currencies (it is used as a means of payment), it could not be given the same VAT treatment as a legal tender currency. The exemption provided for under Article 135(1)(e) of the VAT Directive which covers *"transactions, including negotiation, concerning currency, bank notes and coins ..."* is limited to currency used as legal tender, a characteristic that Bitcoin fails to meet.

That is consistent with the approach taken by the European Central Bank (ECB) in its most recent analysis of virtual currency schemes (VCS): *"Even if the terms "virtual currency" and "virtual currency schemes" are used in this report, Eurosystem central banks do not recognise that these concepts would belong to the world of money or currency as used in economic literature, nor is virtual currency money, currency or a currency from a legal perspective. (...) From a legal perspective, money is anything that is used widely to exchange value in transactions. The term currency is used for "minted" forms of money; nowadays usually taking the form of coins and banknotes. In a more conceptual sense, a (particular) currency refers to the specific form of money that is in general use within a country. Given that VCS are not used widely to exchange value, they are not legally money, and – in the absence of minted versions – they are not currency either, and no virtual currency is a currency"*<sup>6</sup>.

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<sup>5</sup> Council Directive 2006/112/EC of 28 November 2006 on the common system of value added tax (OJ L 347, 11.12.2006, p. 1).

<sup>6</sup> European Central Bank (ECB): *Virtual currency schemes – a further analysis* (February 2015), p. 23. <https://www.ecb.europa.eu/pub/pdf/other/virtualcurrencyschemesen.pdf>  
On how VCS fits with the legal status of money and currency, it is further stated that: *"When further exploring the legal nature of virtual currency and VCS, the following concepts and notions are important as well. For the acceptance of money for payments, only euro banknotes and coins are legal tender in the countries of the euro area and therefore, by law, must be accepted as payment for a debt within those countries. Scriptural money, or bank money, in euro and electronic money (e-money) in*

### 3.3. Focus of this discussion

Picking up from the discussions already had, it is apparent that with regard to the legal status of Bitcoin certain alternatives can be put aside.

Hence, in this paper, only the following two options shall be considered: treating Bitcoin as (i) a negotiable instrument or (ii) a digital product (i.e. an electronically supplied service). Those are also the options which seem to have gathered the widest support.

### 3.4. Implications

First, we will have a look at the implications of each of these options.

#### 3.4.1. Option 1: Bitcoin seen as a negotiable instrument

One option would be for Bitcoin to be seen as a negotiable instrument<sup>7</sup>. That could imply the application of Article 135(1)(d) of the VAT Directive, whereby Member States shall exempt “*transactions, including negotiation, concerning deposit and current accounts, payments, transfers, debts, cheques and other negotiable instruments, but excluding debt collection*”, related to the sphere of financial transactions.

If this is the option taken, the VAT treatment of certain scenarios<sup>8</sup> would be as follows.

Scenario	VAT treatment (Bitcoin = negotiable instrument)
1. <i>Supplies of goods or services, subject to VAT, remunerated by way of Bitcoin</i>	The supply of goods and services subject to VAT, remunerated by way of Bitcoin, would for VAT purposes be treated in the same way as any other supply. Therefore, VAT would be levied on the goods or services provided, but not on the transfer of bitcoins themselves, which would be exempt.
2. <i>Services concerning the arrangement of transactions in Bitcoin (digital wallets)</i>	The supply of such services could fall within the exemption of Article 135(1)(d) of the VAT Directive.  Note in this respect that one of the challenges would be to determine the scope of the exemption, which may not cover all services provided by digital wallets <sup>9</sup> .

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*euro are not legal tender. Nevertheless, these forms of money are widely accepted for all kinds of payments by choice. The euro as a currency may therefore take the form of banknotes, coins, scriptural money and electronic money. This is not the case for virtual currencies. VCS, such as Bitcoin, use their own denomination (e.g. Bitcoin). VCS are not scriptural, electronic, digital or virtual forms of a particular currency. They are something else, different from known currencies. No virtual currency has so far been declared the official currency of a state, nor do any physical formats, backed by law, have a legal tender capacity. Therefore, no creditor is obliged to accept payment with it to discharge a debtor of its debt. This means that virtual currencies can be used only as contractual money, when there is an agreement between buyer and seller in order to accept a given virtual currency as a means of payment" (see p. 24).*

<sup>7</sup> For a detailed analysis concerning the concept of a negotiable instrument and whether Bitcoin can be considered to fall within this category, we refer to section 3.1.3 of Working paper No 811.

<sup>8</sup> For a more detailed explanation of the VAT treatment of each scenario we refer to section 3.2 of Working paper No 811.

<sup>9</sup> See section 3.5.2.

3. <i>Services concerning the verification of Bitcoin transactions (mining)</i>	<p>The supply of such services could fall within the exemption of Article 135(1)(d) of the VAT Directive. This assumes that mining activities could be considered to constitute a supply of services for consideration for VAT purposes.</p> <p>However, one of the challenges would be to determine the scope of the exemption, which may not cover all services provided by miners<sup>10</sup>.</p>
4. <i>Services concerning the exchange of bitcoins</i>	<p>The transfer of bitcoins resulting from an exchange – for another virtual currency, or a legal tender currency – could fall within the exemption of Article 135(1)(d) of the VAT Directive. Exchange services provided by exchange platform operators could also be exempt.</p> <p>In this respect, one of the challenges would be to determine the scope of the exemption, which may not cover all services provided by exchange platform operators<sup>11</sup>.</p>

#### 3.4.2. Option 2: Bitcoin seen as a digital product

Another option would be for Bitcoin to be seen as a commodity or a product (intangible property such as software, music, text, pictures, video and sound) that can be stored in digital form. If so, it would for VAT purposes be considered to be an electronically supplied service<sup>12</sup>.

In that respect, Article 7(1) of the VAT Implementing Regulation<sup>13</sup> states that: "*electronically supplied services as referred to in Directive 2006/112/EC shall include services which are delivered over the Internet or an electronic network and the nature of which renders their supply essentially automated and involving minimal human intervention, and impossible to ensure in the absence of information technology*".

EU VAT legislation further provides illustrative examples of supplies which are, and which are not, regarded as electronically supplied services. The (positive) list of the services included in this group is to be found in Article 7(2) and Annex I of the VAT Implementing Regulation as well as in Annex II of VAT Directive<sup>14</sup>. The (negative) list of

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<sup>10</sup> *Ibid*

<sup>11</sup> *Ibid*

<sup>12</sup> On the basis of Article 25 of the VAT Directive, the assignment of intangible property is considered to be a supply of a service. Also according to the Communication from the Commission on electronic commerce and indirect taxation (COM(98) 374 final), guideline 2: "*All types of electronic transmissions and all intangible products delivered by such means are deemed, for the purposes of EU VAT, to be services*".

<sup>13</sup> Council Implementing Regulation (EU) No 282/2011 of 15 March 2011 laying down implementing measures for Directive 2006/112/EC on the common system of value added tax (OJ L 77, 13.3.2011, p. 1).

<sup>14</sup> Article 7(2) of the VAT Implementing Regulation lists a few different types of electronically supplied services and refers to Annex I. That Annex I should be read together with Annex II of the VAT Directive which lists five types of electronically supplied services (with some in part covered by Article 7(2) of the VAT Implementing Regulation and with Annex I thereof providing more detailed examples for each of those five groups).

the supplies not regarded as electronically supplied services is contained in Article 7(3) of the VAT Implementing Regulation.

Regarding Bitcoin, it is relevant to note that Article 7(2)(c) of the VAT Implementing Regulation considers "*services automatically generated from a computer via the Internet or an electronic network, in response to specific data input by the recipient*" to be electronically supplied services.

It should be noted that the notion of electronically supplied services is an issue discussed in the 102<sup>nd</sup> meeting of the VAT Committee where some guidance on the interpretation of this notion was provided<sup>15</sup>.

If Bitcoin is seen as a digital product, it follows that its supply would qualify as an electronically supplied service. Indeed, the supply of bitcoins themselves seems to meet the four elements required for there to be an electronically supplied service: (i) Bitcoin is delivered over the Internet or an electronic network; (ii) the service is essentially automated; (iii) the service involves minimal human intervention; and (iv) the service is impossible to ensure in the absence of information technology. Besides, the Bitcoin system in its functioning strongly resembles the activity referred to in Article 7(2)(c) of the VAT Implementing Regulation, with bitcoins being generated from a computer via the Internet or an electronic network in response to specific data input by the recipient.

Other Bitcoin services, such as those provided by digital wallet providers, miners or exchange platforms, could also be seen as falling within the definition of an electronically supplied service. In this respect, it is worth noting the reflections on crowdfunding online platforms, which in their functioning are comparable to digital wallet providers or online exchange platforms: "*when the platform is run in an automated manner with minimal human intervention and the provision of the service is impossible without information technology, then the access to such platform supplied for consideration should be seen as covered by the definition of electronically supplied service*"<sup>16</sup>.

If this is the option taken, the VAT treatment of certain scenarios<sup>17</sup> would then be as follows.

<b>Scenario</b>	<b>VAT treatment (Bitcoin = digital product)</b>
1. <i>Supplies of goods or services, subject to VAT, remunerated by way of Bitcoin</i>	Using Bitcoin would have consequences for every activity carried out, but in particular when used as payment for goods or services. The use of Bitcoin would result in a separate supply and bring about barter.
2. <i>Services concerning the arrangement of transactions in Bitcoin (digital wallets)</i>	The supply of such services would fall within the scope of VAT and no exemption would apply.

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<sup>15</sup> Working paper No 843.

<sup>16</sup> Working paper No 843 (section 3.1.5).

<sup>17</sup> For a more detailed explanation of the VAT treatment of each scenario, we refer to section 3.2 of Working paper No 811.

3. <i>Services concerning the verification of bitcoin transactions (mining)</i>	The supply of such services would fall within the scope of VAT and no exemption would apply.
4. <i>Services concerning the exchange of bitcoins</i>	Exchange services would fall within the scope of VAT and no exemption would apply. The service of transfer of bitcoins themselves is provided by the sender of the virtual currency who could be an exchange platform, but also a private user.

### **3.5. Challenges**

Second, we will turn to various challenges arising from these options.

#### *3.5.1. Exchange rate of Bitcoin*

One challenge would be the lack of an exchange rate. That would be so regardless of whether Bitcoin is seen as a negotiable instrument or as a digital product.

The taxable amount of the goods or services shall, according to Article 73 of the VAT Directive, be everything which constitutes consideration obtained or to be obtained by the supplier, in return for the supply, from the customer or a third party. Where goods or services are remunerated by way of Bitcoin, the only likely value of the goods or services will be represented in Bitcoin.

As stated in section 3.2, although Bitcoin should not be seen as currency from the legal perspective, under the given circumstances its treatment would be assimilated to that granted to currencies (means of exchange).

It is unlikely that accounting records expressed in Bitcoin would be acceptable for any regulatory or tax obligations and all transactions would therefore systematically have to be converted into Euro (or any other legal tender currency equivalent). Using Bitcoin is also in practical terms hampered by the fact that usually, bitcoins are divisible up to 8 decimal points<sup>18</sup>, a level of detail which is not currently sustainable for existing accounting or tax software.

The VAT invoicing rules contained in the VAT Directive confirm that, while amounts on an invoice may be expressed in any currency, the amount of tax to be paid must be expressed in the national currency of the Member State where the supply takes place.

More specifically, according to Article 230 of the VAT Directive "*the amounts which appear on the invoice may be expressed in any currency, provided that the amount of VAT payable or to be adjusted is expressed in the national currency of the Member State, using the conversion rate mechanism provided for in Article 91*".

In turn, for the taxable amount, Article 91(1) of the VAT Directive envisages that "*Where the factors used to determine the taxable amount (...) are expressed in a currency other*

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<sup>18</sup> <https://en.bitcoin.it/wiki/FAQ> (section 1.9)



*than that of the Member State in which assessment takes place, the exchange rate shall be determined in accordance with the Community provisions governing the calculation of the value for customs purposes”.*

Article 91(2) of the VAT Directive further provides that<sup>19</sup>: *“Where the factors used to determine the taxable amount of a transaction other than the importation of goods are expressed in a currency other than that of the Member State in which assessment takes place, the exchange rate applicable shall be the latest selling rate recorded, at the time VAT becomes chargeable, on the most representative exchange market or markets of the Member State concerned, or a rate determined by reference to that or those markets, in accordance with the rules laid down by that Member State”.* It also provides that *“Member States shall accept instead the use of the latest exchange rate published by the European Central Bank at the time the tax becomes chargeable. Conversion between currencies other than the euro shall be made by using the euro exchange rate of each currency. Member States may require that they be notified of the exercise of this option by the taxable person”.*

Therefore, other than with importation of goods, there are two alternatives for converting the taxable amount into the national currency of the Member State where the supply takes place, using either (i) the exchange rate corresponding to the last selling rate recorded on the most representative exchange market of the Member State concerned; or, alternatively, (ii) the latest exchange rate published by the ECB.

It follows from this that, where a consideration is expressed in Bitcoin, the taxable amount on which VAT is levied should be the equivalent value in a legal tender currency – the currency of the Member State where the supply takes place – of that consideration.

The particularities of the Bitcoin system may render the application of Article 91(2) of the VAT Directive particularly difficult:

- (i) Existing exchange markets for Bitcoin, as well as their relevance, are under constant change. Exchange platforms are used worldwide, and their influence extends beyond the limits of Member States. So it may be difficult to determine which is the “most representative” exchange market of a Member State.
- (ii) Bitcoin does not depend on a central authority and there is no foreign exchange reference rate<sup>20</sup> comparable to the ones published in respect of legal tender currencies<sup>21</sup>, which are the ones referred to in Article 91(2) of the VAT Directive. Since it is traded on multiple exchange platforms, its value in other currencies (such as Euro) varies<sup>22</sup> at any given moment depends on the exchange platform.

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<sup>19</sup> For clarification, see also the comments made in the Explanatory Notes (document reference: C-4) on Council Directive 2010/45/EU of 13 July 2010 amending Directive 2006/112/EC on the common system of value added tax as regards the rules on invoicing.  
[http://ec.europa.eu/taxation\\_customs/resources/documents/taxation/vat/traders/invoicing\\_rules/explanatory\\_notes\\_en.pdf](http://ec.europa.eu/taxation_customs/resources/documents/taxation/vat/traders/invoicing_rules/explanatory_notes_en.pdf)

<sup>20</sup> Bitcoin Price Index (BPI) attempts to become a reference rate <http://www.coindesk.com/price/bitcoin-price-index/>. See also <https://openexchangerates.org/>.

<sup>21</sup> For Euro, see <http://www.ecb.europa.eu/stats/exchange/eurofxref/html/index.en.html>

<sup>22</sup> For an overview of the price of Bitcoin on several online exchange platforms (or “markets”), see: <http://bitcoincharts.com/markets/currency/EUR.html>

Some may take the view that variations in the price of Bitcoin among several exchange platforms, at any given moment, are negligible. Besides, in traditional markets prices tend to converge due to the law on supply and demand: identical items should be traded at nearly identical prices, when transaction costs are low. For instance, if an exchange platform suddenly started to sell bitcoins at a price significantly lower than the rest of its competitor platforms, it is likely that potential Bitcoin purchasers would turn to that exchange platform to buy cheap bitcoins, thereby increasing the demand for bitcoins and driving up their price within that platform, so that the price gap<sup>23</sup> between platforms would be narrowed.

However, it should be noticed that the spread in prices of Bitcoin does not seem to be temporary and is larger compared to the spread usually registered in other asset markets (for example, with regard to legal tender currencies; or financial products, such as commodities or securities).

### *3.5.2. Scope of the exemption*

Treating Bitcoin as a negotiable instrument could imply the application of Article 135(1)(d) of the VAT Directive, whereby Member States shall exempt "*transactions, including negotiation, concerning deposit and current accounts, payments, transfers, debts, cheques and other negotiable instruments, but excluding debt collection*".

Given that the use of virtual currencies typically involves several economic activities – (i) supplies of goods and services, subject to VAT, remunerated by way of Bitcoin; (ii) services concerning the arrangement of transactions in Bitcoin; (iii) services concerning the verification of transactions in Bitcoin (mining activities); and (iv) services concerning the exchange of Bitcoin – the challenge is to draw the line as to which activities should be exempt on the grounds of constituting a "*transaction, including negotiation, concerning (...) other negotiable instruments*". Some may have misgivings about the exemption being drawn so widely that it could possibly cover all services provided by digital wallet providers, exchange platforms or miners.

The eventual existence of a taxable supply of services, and the application of exemption pursuant to Article 135(1)(d) of the VAT Directive, should be assessed on a case-by-case basis.

Having said so, and without prejudice to any individual analysis, it seems clear that the supply of bitcoins themselves would in any event be exempt pursuant to Article 135(1)(d) of the VAT Directive.

Also some of the services supplied by digital wallet providers and exchange platform operators could possibly be seen as "*transactions, including negotiation, concerning (...) other negotiable instruments*", as envisaged by Article 135(1)(d) of the VAT Directive, and would therefore fall within that exemption. To establish whether this is the case, a more detailed analysis of the conditions under which those services are provided should be carried out.

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<sup>23</sup> The concept "price gap", or "spread", is typically used for referring to a price difference in the financial sphere. In the stock market, for example, the spread is the difference between the highest price bid and the lowest price asked.

Concerning the activity performed by miners, it should be clear that the application of the exemption presupposes the existence of a taxable supply of services for VAT purposes. This is the question that needs to be examined in the first place, keeping in mind that assessing the nature of mining services is not straightforward; notably, it is difficult to determine with certainty the existence of a legal relationship and mutual performance between the user and the miner<sup>24</sup>.

Only if a service provided by a miner is considered to fall within the scope of VAT will it be pertinent to examine the applicability of the exemption pursuant to Article 135(1)(d) of the VAT Directive. To establish whether this is the case, a more detailed analysis of the conditions under which those services are provided should be carried out.

### 3.5.3. *Barter*

Another challenge could be barter. That is a challenge that would primarily be relevant if Bitcoin is treated as a digital product.

The use of bitcoins for payment would in that case be an electronically supplied service for VAT purposes and their exchange for goods or services could then be regarded as barter. Barter implies the existence of two reciprocal supplies, each of which is considered to be remuneration for the other: (i) the customer acquires goods or services from the company; and (ii) the company accepts Bitcoin from the customer.

The asymmetric nature of such trading (taxable person versus non-taxable person) would create practical issues in terms of VAT, generating an extra administrative burden for the business participant.

### 3.5.4. *Anonymity*

A particular challenge would be the anonymity which comes with Bitcoin. That challenge is mainly an issue if Bitcoin is treated as a digital product resulting in taxation.

The transaction history of Bitcoin is held in a publicly available blockchain<sup>25</sup>, making it possible to find a trail of all the transactions of any user. However, the blockchain only identifies users by their Bitcoin address which acts as a pseudonym<sup>26</sup>. As it is virtually impossible to link the pseudonym with the actual person or organisation behind it, it can be concluded that Bitcoin users are anonymous.

Anonymity is not a problem *per se*, but it may hamper the possible VAT taxation of Bitcoin-related transactions and raises the following issues:

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<sup>24</sup> From the settled case-law of the CJEU, a supply of services is effected for consideration within the meaning of Article 2(1)(c) of the VAT Directive, and hence is taxable, only if there is a legal relationship between the provider of the service and the recipient pursuant to which there is reciprocal performance, the remuneration received by the provider of the service constituting the value actually given in return for the service supplied to the recipient. In this regard, see CJEU, judgment of 3 March 1994 in case C-16/93 *Tolsma*, paragraphs 13 and 14.

<sup>25</sup> A blockchain is a public ledger that records all Bitcoin transactions that have ever been executed.

<sup>26</sup> On its own this information cannot identify anyone because the addresses are just random numbers.

*(i) Users seen as taxable persons*

According to Article 2(1)(c) of the VAT Directive, the supply of services for consideration by a taxable person acting as such falls within the scope of VAT. In turn, Article 9 defines "taxable person" as any person who, independently, carries out in any place any economic activity, whatever the purpose or results of that activity. It should be noted that the second subparagraph of Article 9(1) of the VAT Directive regards as economic activity the exploitation of tangible or intangible property for the purposes of obtaining income therefrom on a continuing basis.

The implications of considering Bitcoin to be a digital product could be that private individuals using Bitcoin as a means of payment on a continuing basis could be seen as carrying out an economic activity – *e.g.*, on the grounds of it constituting the exploitation of intangible property – and, therefore, become taxable persons for VAT purposes. They would then need to register for VAT purposes once the annual turnover threshold is exceeded.

Anonymity of traders would represent an added difficulty in identifying them as taxable persons.

*(ii) Place of supply of Bitcoin if seen as digital product*

As from 1 January 2015<sup>27</sup> telecommunications, broadcasting and electronic services supplied to non-taxable persons (B2C supplies) have, following changes to Article 58 of the VAT Directive, become subject to VAT at the place where the customer is located, *i.e.*, the place where that person is established, has his permanent address, or usually resides<sup>28</sup>.

Apart from the issues raised by barter, the anonymous nature of Bitcoin users may also hamper VAT taxation of the services related to this virtual currency which themselves qualify as electronically supplied services, since it is practically impossible for the supplier of those services to know where the customer is located. Such services would be the ones rendered by digital wallet providers or online exchange platforms to users; and also those rendered by users to other users (transfer of bitcoins). Determining the location of the final customer could also be cumbersome for electronically supplied services consisting in the verification of transactions, supplied by miners to users, since both miners and users work on an anonymous basis.

A situation which seems not to create a problem is the supply of bitcoins by a person who is using the virtual currency as a payment for goods or services received in exchange. In this case, the supplier of bitcoins should know the place where the "customer" of the electronically supplied services (the recipient of the bitcoins) is located as that is reflected in the place at which the goods or services received in return are supplied by the merchant.

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<sup>27</sup> For comprehensive guidance, see the Explanatory notes on the EU VAT changes to the place of supply of telecommunications, broadcasting and electronic services that entered into force in 2015 published on 3 April 2014 (Council Implementing Regulation (EU) No 1042/2013).  
[http://ec.europa.eu/taxation\\_customs/resources/documents/taxation/vat/how\\_vat\\_works/telecom/explanatory\\_notes\\_2015\\_en.pdf](http://ec.europa.eu/taxation_customs/resources/documents/taxation/vat/how_vat_works/telecom/explanatory_notes_2015_en.pdf)

<sup>28</sup> VAT will need to be charged at the place where the final consumer is 'established' (if it is a legal person) or at the place where he has his 'permanent address' or 'usually resides' (when the customer is a natural person). On the meaning of these three concepts, see the Explanatory notes (section 4).

Concerning the IP address of the device used by the Bitcoin user, the public Bitcoin blockchain only shows the user's address, but does not record the IP address of the device from which a transaction is operated. Besides, technology allows the IP address to be concealed, something encouraged within certain spheres of the Bitcoin community: "*You might want to consider hiding your computer's IP address with a tool like Tor so that it cannot be logged*"<sup>29</sup>. It may be that the user's IP address could be revealed by hackers<sup>30</sup> but that is not anything on which to base oneself.

It follows that for a miner it is unworkable to identify the IP address of the Bitcoin user from the blockchain<sup>31</sup>. If any, the only IP address that could be identified in the blockchain is the one of the digital wallet provider through whom the Bitcoin user is operating but the digital wallet provider and the Bitcoin user may not necessarily be located in the same place. It would also be impossible for a Bitcoin user sending bitcoins to another user, a transaction which is comparable to a banking transfer, to know the IP address of the recipient of such bitcoins, since the operation would have been carried out anonymously through the Bitcoin system.

In contrast, it seems that a digital wallet provider or an online exchange platform could know the IP addresses of their customers, since users are usually required to log in in order to use the services available to them.

Finally, it must be noted that even if the IP address of the device used by the Bitcoin user would be known, it is not in itself sufficient to determine the location of the customer.

*(iii) Carousel fraud risk*

Taxing supplies of bitcoins could create a breeding ground for missing trader fraud, also known as carousel fraud, which is not to be confined to transactions involving only tangible goods but also intangibles. Indeed, a large-scale VAT-fraud episode related to the market of carbon rights (EU Emission Trading System, ETS) took place in recent times<sup>32</sup>.

Concerning the ETS fraud, in 2004 the VAT Committee<sup>33</sup> agreed unanimously that "*the transfer of greenhouse-gas-emission allowances, (...) when made for consideration by a taxable person is a taxable supply of services falling within the scope of Article 9(2)(e) of Directive 77/388/EEC. None of the exemptions provided for in Article 13 of Directive 77/388/EEC can be applied to these transfers of allowances*".

Transfers of emission rights between parties established in the same Member State were subject to VAT in that Member State. On the other hand, cross-border transfers were subject to VAT in the Member State of the customer who had to account for VAT under the reverse charge mechanism. However, the tax authorities could not effectively control

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<sup>29</sup> <https://bitcoin.org/en/protect-your-privacy>

<sup>30</sup> <http://www.welivesecurity.com/2014/11/26/bitcoin-hack-can-reveal-ip-addresses-anonymous-transactions/>

<sup>31</sup> The only circumstance where it seems the blockchain is able to record a user's IP address directly is where an offline wallet provider is used.

<sup>32</sup> <https://www.europol.europa.eu/content/press/further-investigations-vat-fraud-linked-carbon-emissions-trading-system-641>

<sup>33</sup> Guidelines resulting from the 75<sup>th</sup> meeting of 14 October 2004 (Working paper No 443 Rev. 1). [http://ec.europa.eu/taxation\\_customs/resources/documents/taxation/vat/key\\_documents/vat\\_committee/guidelines-vat-committee-meetings\\_en.pdf](http://ec.europa.eu/taxation_customs/resources/documents/taxation/vat/key_documents/vat_committee/guidelines-vat-committee-meetings_en.pdf)

compliance with that obligation by the customer (the trader recipient of the rights). The trader then resold the carbon rights to domestic customers and, after having collected the VAT from the customers, he went missing without remitting the VAT to the tax authorities. So, the combination of this VAT-free purchase, and a subsequent taxed supply by the trader made the trade in emission allowances susceptible to carousel fraud<sup>34</sup>.

With regard to Bitcoin, in some circumstances the missing trader scheme explained above could be reproduced; notably, where the recipient of bitcoins has to account for the VAT under the reverse charge mechanism.

If Bitcoin is qualified as an electronically supplied service and the customer is a taxable person located in a Member State other than that of the supplier, the customer would need to account for the VAT under the reverse charge mechanism. This could leave the door open for the exploitation by a missing trader of VAT-free purchases and subsequent taxed supplies.

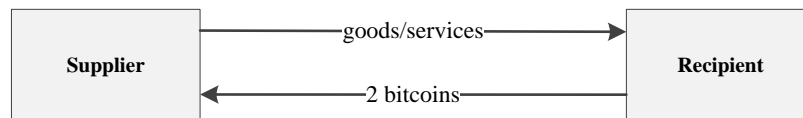
Anonymity of the users in the Bitcoin system could therefore contribute to the proliferation of such schemes in Bitcoin-related transactions.

### **3.6. Potential solutions**

One would need to keep these challenges in mind when looking for solutions. With regard to the lack of an exchange rate, the following could perhaps serve as a solution<sup>35</sup>. Elements of guidance issued by several tax administrations around the globe can also be found in annex.

#### **(i) Open market value of goods or services**

From a tax administration point of view, a solution could be to define the tax base of goods or services remunerated by way of Bitcoin as the open market value of the goods or services, determined under the responsibility of the taxpayer.



- open market value of the goods/services: €450
- exchange rate (open market value): 1 bitcoin = €210
- **taxable amount: open market value of goods/services = €450**

This approach assumes that the same item is put up for sale in both Bitcoin and national currencies, allowing for an equivalent value between them to be established. However, it could also be the case that goods or services are marketed only via the Internet and remunerated only by means of Bitcoin in which case there would be no open market value of such goods or services expressed in legal tender currency.

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<sup>34</sup> R.A. Wolf, *The Sad History of Carbon Carousels*, 21 Intl. VAT Monitor 6 (2010), Journals IBFD.

<sup>35</sup> Note that the value of the goods or services in the examples presented has been randomly chosen, and the numerical outcome concerning each of the potential solutions should not be seen as a fair reflection of its application in reality.

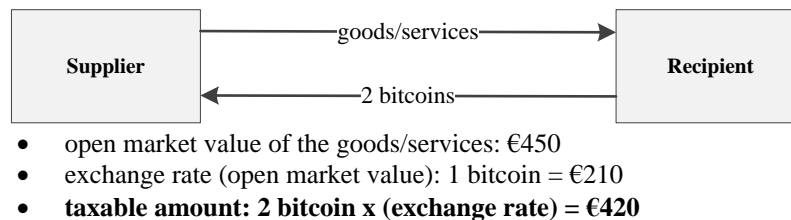
In considering this option, the case-law of the CJEU<sup>36</sup> which states that the taxable amount for a supply of goods or services is represented by the consideration actually received for them must also be borne in mind. It is thus the subjective value, that is to say the value actually received and not a value estimated according to objective criteria (*i.e.*, the open market value of the goods or services) which make up the consideration.

Article 80(1) of the VAT Directive comprises a list of circumstances under which a Member State may levy VAT on a transaction on the basis of its open market value rather than of the consideration actually paid. However, that does not authorise a Member State to take such an approach where the supplier or customer, as the case may be, has a full right of deduction. The CJEU has in its doctrine<sup>37</sup> interpreted Article 80(1) of the VAT Directive as an "exhaustive list" and, consequently, national legislation cannot on the basis of that provision provide that the taxable amount is to be the open market value of the transaction in cases other than those listed in that provision.

It must be noted that in cases of barter – this could be relevant if Bitcoin is seen as a digital product – the CJEU has made recourse to the cost of the goods supplied ("the price paid by the supplier of an article")<sup>38</sup> in order to determine the corresponding taxable amount.

(ii) Open market value of Bitcoin

Alternatively, the tax base of goods or services remunerated by way of Bitcoin could be the equivalent value in a legal tender currency of that consideration, using as an exchange rate the open market value of the virtual currency, determined under the responsibility of the taxpayer.



The open market value of Bitcoin could be seen as an attempt to replicate the inexistent reference exchange rate, which is referred to in Article 91(2) of the VAT Directive. Therefore, the VAT treatment of goods or services remunerated by means of Bitcoin would be similar to that of goods or services remunerated with a foreign currency.

It is the opinion of the Commission services that this seems a more sensible approach, which would also be in line with the concept of consideration defined by the CJEU as the value actually received.

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<sup>36</sup> Among others, *Coöperatieve Aardappelen*, paragraph 13; *Naturally Yours*, paragraph 16; and CJEU, judgment of 29 July 2010 in case C-40/09 *Astra Zeneca*, paragraph 28.

<sup>37</sup> CJEU, judgment of 26 April 2012 in joined cases C-621/10 *Balkan and Sea Properties* and C-129/11 *ProvaInvest*, paragraph 51; and CJEU, judgment of 19 December 2012 in case C-549/11 *Orfey Bulgaria*, paragraph 49.

<sup>38</sup> CJEU, judgment of 2 June 1994 in case C-33/93 *Empire Stores*, paragraph 20.

### **3.7. Final considerations**

A common agreement on the VAT treatment of Bitcoin transactions is highly desirable, in order to ensure legal certainty for the users of this instrument, as well as a common and consistent approach across the EU.

The VAT treatment of Bitcoin depends on its nature, and it seems unlikely that Bitcoin could be seen as e-money, a currency, a security or a voucher. Therefore, the two remaining options to be examined are treating Bitcoin as (i) a negotiable instrument; or (ii) a digital product – an electronically supplied service.

If Bitcoin is seen as a negotiable instrument, several challenges could arise: (i) the exchange rate of Bitcoin to be applied for the conversion of transactions whose value is expressed in bitcoins, given that its value may vary depending on the Bitcoin exchange platform; and (ii) determining the scope of the exemption contained in Article 135(1)(d) of the VAT Directive, and which activities performed in relation to Bitcoin may be covered.

Treating Bitcoin as a digital product could also imply the emergence of some challenges: (i) which exchange rate of Bitcoin is to be applied for the conversion of transactions whose value is expressed in bitcoins, given that its value may vary depending on the Bitcoin exchange platform; (ii) the use of bitcoins for payment for goods or service could be seen as a barter, increasing the costs for participating businesses; (iii) users using bitcoins on a continuing basis could be seen as taxable persons carrying out an economic activity; (iv) it could be difficult to identify the place where the customer is located, which is the place of supply of the electronically supplied service; and (v) there is a risk that fraudulent schemes could be designed in order to embezzle collected VAT.

**From the analysis carried out in the present document, the Commission services are of the opinion that treating Bitcoin as a negotiable instrument represents at this moment the most suitable solution from a VAT perspective.**

## **4. DELEGATIONS' OPINION**

The delegations are requested to give their opinion on the issues raised.

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### Other perspectives concerning the exchange rate

Other jurisdictions have already laid down rules or published guidance with regard to the taxation of Bitcoin that may inspire the approach to be taken in the EU with regard to the issue of exchange rate<sup>39</sup>. Please find a non-exhaustive summary of such guidance below, which may point towards either of the potential solutions described in section 3.6.1.

- *The United States of America*<sup>40</sup>

*"Q-3: Must a taxpayer who receives virtual currency as payment for goods or services include in computing gross income the fair market value of the virtual currency?"*

*Yes. A taxpayer who receives virtual currency as payment for goods or services must, in computing gross income, include the fair market value of the virtual currency.*

*Q-4: What is the basis of virtual currency received as payment for goods or services?"*

*The basis of virtual currency that a taxpayer receives as payment for goods or services is the fair market value of the virtual currency in U.S. dollars as of the date of receipt.*

*Q-5: How is the fair market value of virtual currency determined?"*

*For U.S. tax purposes, transactions using virtual currency must be reported in U.S. dollars. Therefore, taxpayers will be required to determine the fair market value of virtual currency in U.S. dollars as of the date of payment or receipt. If a virtual currency is listed on an exchange and the exchange rate is established by market supply and demand, the fair market value of the virtual currency is determined by converting the virtual currency into U.S. dollars (or into another real currency which in turn can be converted into U.S. dollars) at the exchange rate, in a reasonable manner that is consistently applied".*

- *Australia*<sup>41</sup>

*"If you receive bitcoin for goods or services you provide as part of your business, you will need to record the value in Australian dollars as part of your ordinary income. This is the same process as receiving non-cash consideration under a barter transaction. The value in Australian dollars will be the fair market value which can be obtained from a reputable bitcoin exchange, for example".*

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<sup>39</sup> Such guidance should not be taken into account for the purposes of determining the legal nature of Bitcoin and its VAT treatment given the differences in the legal framework; but seeing how other countries overcome the practical problem of converting bitcoins into legal tender currencies could be useful. The guidance has, in some cases, been issued for direct taxes purposes.

<sup>40</sup> Guidance issued by the federal Internal Revenue Service (IRS):

<http://www.irs.gov/pub/irs-drop/n-14-21.pdf>

<sup>41</sup> Guidance issued by the Australian Taxation Office (ATO):

[https://www.ato.gov.au/general/gen/tax-treatment-of-crypto-currencies-in-australia---specifically-bitcoin/?page=1#Transactions using Bitcoin in business](https://www.ato.gov.au/general/gen/tax-treatment-of-crypto-currencies-in-australia---specifically-bitcoin/?page=1#Transactions%20using%20Bitcoin%20in%20business)

- *Canada*<sup>42</sup>

*"In those transactions where a taxable supply of a good or service is made and the consideration for that supply is Bitcoins, the consideration for the supply is deemed to be equal to the fair market value of the Bitcoins at the time the supply is made for the purposes of determining the GST/HST payable for the supply.*

*Example: For example, if a GST/HST registrant sells a good for 10 Bitcoins and the sale is subject to GST/HST, the registrant will be required to collect the GST/HST calculated on the fair market value of the 10 Bitcoins at the time of the sale. The registrant will be required to include in its net tax remittance the GST/HST collectible and the recipient, if a registrant, would be eligible to claim an input tax credit for the GST/HST to the extent the good is for consumption, use or supply in the recipient's commercial activities".*

- *Singapore*<sup>43</sup>

*"Generally, businesses that accept virtual currencies as payment for goods or services should record the sale based on the open market value of the goods or services in Singapore dollars. Similarly, businesses which pay for goods or services using virtual currencies should record their purchases based on the open market value of the goods or services in Singapore dollars.*

*If the open market value of the goods or services that would have otherwise been exchanged in Singapore dollars cannot be determined (for example the good or service is only traded with virtual currencies), the virtual currency exchange rate at the point of the transaction may be used".*

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<sup>42</sup> Guidance issued by the Canada Revenue Agency (CRA):  
[http://www.canadiantaxlitigation.com/wp-content/uploads/2014/01/2013-0514701I7.txt?utm\\_source=Mondaq&utm\\_medium=syndication&utm\\_campaign=inter-article-link](http://www.canadiantaxlitigation.com/wp-content/uploads/2014/01/2013-0514701I7.txt?utm_source=Mondaq&utm_medium=syndication&utm_campaign=inter-article-link)  
<http://www.mondaq.com/canada/x/287988/sales+taxes+VAT+GST/Bitcoins+More+Guidance+From+The+CRA>

<sup>43</sup> Guidance issued by the Inland Revenue Authority of Singapore (IRAS):  
<https://www.iras.gov.sg/irasHome/page04.aspx?id=15471>