

Global Approaches in Taxation and Regulation of Cryptocurrencies

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ABSTRACT:

In recent years, the use of virtual economies has skyrocketed. There are an estimated 16.7 million bitcoins in use today, valued at up to \$17,000 per bitcoin in 2017. Because these bitcoins can, in some circumstances, be used to purchase goods or services with a monetary value or where they can be converted to legal tender, the proper income tax treatment of bitcoin transactions presents both compliance and substantive questions for regulatory bodies across the world. To date, there remains little legal or academic guidance on the use of bitcoins, or the taxation of bitcoin transactions. This research paper explores the current state of the law as it relates to bitcoins in the various economies of the world.

The virtual universe and electronic commerce will only grow—and where income exists, taxation should follow. Various countries have laid down guidelines and many other are in the process of initiating taxation of cryptocurrencies, India being one among them. Keeping in mind the unfavourable regulatory regime and uncertain tax treatment of cryptocurrencies in India, initiatives that hurt genuine customers and incentivize shifting business outside India would also affect the government in the longer run, as it would be a huge revenue loss to the tax department if trades simply move abroad.

With any new technology, the risk of abuse is always existent. However, keeping in mind the tremendous technology of block chain in the longer run, which can form the backbone of a secure digital infrastructure, it is worth endeavouring to find appropriate means of regulating this ecosystem, rather than out rightly banning it.

Keywords: virtual currency; bitcoin; digital currency; cryptocurrency; tax;

I. INTRODUCTION

In this age of quickly advancing data technology, one of the foremost developments that has taken place is the emergence of virtual currencies. Virtual currencies are currencies in completely electronic form, not having any physical existence, in contrast to the currencies issued by the central bank. Bitcoins were one among the primary decentralised cryptocurrencies that came into existence in 2009. The bitcoin is generated through the block chain system, where the first person/node to verify a block of transactions will be rewarded with the bitcoin. The technology and the features of cryptocurrency are described below followed by a regulatory and tax analysis.

Block chain technology is essentially based on cryptography, within which distributed ledger technology is used for storing data. Distributed ledger technology refers to the flexibility of users to record and store data by themselves in a shared database (the ledger) without the necessity of validation of any central authority. In different words, two parties to a specific network can directly undertake a transaction between themselves without requirement of validation by an intermediary or central authority such as banks. Once data are stored through block chain technology, they become immutable and cannot be tampered with or altered. This is because, unlike in a traditional digital network, where with increasing

participants, each new user is an additional security risk that could compromise or hack the network, in blockchain technology, a transaction is recorded only if more than half the registered nodes on the network record the transaction. Therefore, with increasing participants, the network becomes counter intuitively more secure. This is the key reason why the technology holds great potential for the digital future of the world and could offer the security required for an expansive digital framework in the future. Further, since block-chain technology negates the role of central authorities or intermediaries such as banks and land registries, the complete system is decentralised and cannot be easily or obviously subjected to any supervision.

Blockchain technology has several applications. It can be used to facilitate banking transactions. Further, it is the technology behind smart contracts. In fact, the state bank of India has launched blockchain-based smart contracts recently¹. One of the other prominent uses of this transaction is in the land registration system. One of the other prominent uses of this transaction is in the land registration system. Another important aspect of blockchain technology is the facilitation of bitcoin transactions through the bitcoin network. Once a bitcoin transaction takes place, the blockchain technology ensures that the transaction is recorded and stored in an immutable manner.

There have been subsequent currencies that have tried to emulate the bitcoin and may broadly fall within the parlance of virtual currencies but are entirely different. For instance, while cryptocurrencies do not have a counterparty issuer and are a produce of the blockchain technology, some companies have issued tokens that can then be used or redeemed towards certain services or goods. They may be similar to bitcoins in that they are freely tradeable and that a market exists for that virtual currency.

II. KEY FEATURES AND FUNCTIONING

Every currency is backed by a central authority. For example, in India, the Indian Rupee is backed by the Reserve Bank of India. Whenever a currency is backed by a central authority, there is stability in the value of currency, chiefly due to the trust and confidence in the central authority. In case of virtual currencies such as bitcoins, there is no backing of any central authority, making bitcoins highly volatile, as their value is increasingly influenced by the market forces of demand and supply. Further, in a bitcoin network, the identity of the bitcoin holder is anonymous to a great extent since only a web wallet address may be available and, to that extent, there could be difficulties in ascertaining the identity of the beneficial owner of bitcoins.

As the total number of bitcoins present in the bitcoin network are only 21 million, which are expected to be extinguished by 2041, trading of bitcoins as opposed to mining of bitcoins has become popular. Based on the

¹SBI to use blockchain for smart contracts and KYC by next month, ET Bureau, November 2017

success of bitcoins, other virtual currencies such as Ethereum, Litecoin, and Ripple have also increased their market share and popularity.

III. FUNCTIONING OF THE BITCOIN NETWORK

A person can receive bitcoins either

- (i) Through purchase and sale of bitcoins on the bitcoin network
- (ii) Through mining of bitcoins
- (iii) Through purchase from a bitcoin exchange

The participants in a bitcoin network are called nodes. Every node in a bitcoin network holds its bitcoins in e-wallets. Every e-wallet has two keys: public key and private key. While public keys can be made freely available to other participants of the bitcoin network, as they are like email addresses or bank account numbers, a private key is like a password or signature, which is why it is necessary to maintain its secrecy. Therefore, if a participant wishes to send some bitcoins, they can ask the other participants to provide his/her public key. On receipt of the public key, they can transfer the bitcoins using it.

A private key on the other hand is proof that a particular person is the beneficial owner of a transaction. Only a person who has access to private keys can have access to that particular e-wallet. Therefore, only a person having access to a private key can transfer bitcoins from one participant to another by using the recipient's public key. Thus, he/she transfers from his/her e-wallet using his/her private key, by using the recipient's public key. In such a scenario the transaction would take place as follows:

- i. The first step is that a participant intending to transfer bitcoins to another participant will scan the public key of the other participant.
- ii. Upon scanning of the public key of the other participant to whom the bitcoins are intended to be transferred, the said transaction will be broadcasted to all participants of the network. The transaction will be accompanied by a digital signature generated by the private key of the transferor of bitcoins.
- iii. The broadcast of the transaction is followed by the process of authentication by the other participants. The blockchain technology allows all the participants to get access to the records of the previous transactions undertaken by the transferor. Using this information, the participants verify and authenticate the various aspects of the transaction. For example, checking if there are sufficient bitcoins with the transferor to effect the transfer. Further, they will also verify whether the digital signature generated out of the private key of the transferor belongs to the transferor.

- iv. Once the transaction is authenticated, a separate block is created for the transaction. This block is then pooled together with other blocks in the blockchain (Kim and Kang, 2017).
- v. The final step of pooling blocks is rather complicated and requires a nuanced understanding of the technicalities involved. Since the blockchain technology is based on computer codes, one cannot simply validate and add a block to the blockchain. The blockchain requires it to be decrypted for the addition of a new block, which involves solving a complex mathematical puzzle. Only when that puzzle is solved will the blockchain be decrypted and a block added to the blockchain. Solving these complex puzzles requires equipment with high computational power.

Mining of Bitcoins

The job of solving complex mathematical problems to validate transactions is undertaken by miners and the activity of undertaking to solve the problems is known as mining. If a miner is successful in solving the problem first and validating the transactions, only then will that miner be rewarded with bitcoins. Therefore, mining has been the primary method of acquiring bitcoins.

Purchase from bitcoin exchanges

Bitcoin exchanges allow trading of bitcoins for fiat currency and also act as an intermediary between people who hold bitcoins and people who wish to purchase bitcoins. In India, there are various bitcoin exchanges such as Unocoin, Zebpay and Coinsecure. However, with the recent RBI ban on banks facilitating such transactions, the operation of the exchanges that enable legitimate trading in virtual currencies has come into question. (Classification)

IV. CLASSIFICATION OF BITCOINS IN INDIA

As ‘Currency’

According to Section 2(h) of the Foreign Exchange Management Act, 1999, currency includes “all currency notes, postal notes, postal orders, money orders, cheques, drafts, traveler’s cheques, letters of credit, bills of exchange and promissory notes, credit cards or such other similar instruments, as may be notified by the Reserve Bank of India.” This means a particular tender will be considered as fulfilling the definition of currency in India only if it has been notified by the Reserve Bank of India. Till date, bitcoins have not been notified as currency by the RBI. In fact, the RBI has constantly considered bitcoins as a threat and has cautioned consumers about the risks associated with it (RBI, 2013; 2017a; 2017b). Recently, the RBI has banned all institutions that fall under its regulatory framework from rendering services for any activity related to virtual currencies (RBI, 2018).

As 'Goods'

The definition of goods according to Section 2(7) of the Sale of Goods Act, 1930 is “every kind of movable property other than actionable claims and money, and includes stock and shares, growing crops, grass, and things attached to or forming part of the land which are agreed to be severed before sale or under the contract of sale”. Therefore, ‘goods’ include every kind of moveable property that is agreed to be sold under a contract of sale. A contract of sale is nothing but purchase of goods by the buyer from the seller for a price (Section 4), i.e., monetary consideration [Section 2(10)]. Thus, every kind of moveable property that is sold for a monetary consideration is considered as goods.

Considering the wide ambit of the definition of goods under the Sale of Goods Act, 1930, there exists a possibility of characterising bitcoins as goods provided they are sold for a monetary consideration. However, if bitcoins are used as a medium of exchange to purchase other items, then they may not be characterised as goods, as no monetary consideration will be involved in the transaction. In such situations, it would amount to barter or, in other words, a mutual exchange of goods.

V. TAXATION REGIME FOR BITCOINS IN INDIA

Direct Tax Implications

Under Section 45 of the Income-tax Act, 1961 (the Act), any profits or gains arising out of transfer of capital assets is chargeable to capital gains tax. The essential condition for applicability of Section 45 is that there should be a transfer of ‘capital assets’, which is defined under sub-section 14 of Section 2 of the Act. ‘Capital asset’ under the Act has a wide ambit and includes both tangible as well as intangible material (Haji Abdul Kader Sahib v. CIT, 1961²). The bitcoin, being intangible in nature, may be considered as a capital asset provided it does not fall under the exceptions provided under the said section.

One of the exceptions that can have wide applicability in the case of bitcoins is that of stock-in-trade. Stock-in-trade means all assets that are used for the purpose of buying and selling in the course of one’s business activities. These are assets that are held by individuals in the form of investments for a short period with an intention of deriving sufficient returns (Fort Properties Pvt Ltd v. CIT, 1994).³ The determination of whether an asset is a capital asset or stock-in-trade depends on the facts and circumstances of the case. There is no straightjacket formula to arrive at a conclusion (CIT v. Gangadhar Baijnath, 1972).⁴

If bitcoins are considered as stock-in-trade, they will not be considered as a capital asset. This means that income generated from the transfer of these bitcoins will not be considered as capital gains, as it will be

² Haji Abdul Kader Sahib v. Commissioner of Income-Tax, Madras (1961) 042 ITR 0296

³ Fort Properties Pvt. Ltd. v. CIT (1994) 208 ITR 232 (Bom)

⁴ CIT v. Gangadhar Baijnath [1972] 86 ITR 19 (SC)

considered as business income and will be taxed accordingly. If a person is involved in trading bitcoins, then there exists a possibility that the transfer of bitcoins held by him/her may be considered as stock-in-trade. However, if a person holds bitcoins as an investment, then it may be considered as a capital asset.

Taxability of Bitcoins as Capital Asset

If bitcoins fall under the ambit of capital assets, then any gains generated from their transfer will be subject to capital gains tax under Section 45 of the Act. However, before taxation of gains, it is necessary to ascertain the quantum of capital gains on which tax should be charged. Under Section 48 of the Act, capital gains is the total amount left after deducting the cost of acquisition, cost of improvement and any expenses incurred in relation to the transfer from the total value of consideration. Similarly, in the computation of capital gains upon the transfer of bitcoins as well, all the aforesaid expenses should be deducted from the total value of consideration. Only the amount that is left after deducting the said expenses from the total value of consideration should be subject to tax. Thus, in order to determine the quantum of capital gains, it is necessary to first determine the quantum of the aforesaid expenses.

The quantum of cost of acquisition has been prescribed under Section 55 of the Act. Under the said section, the cost of acquisition in case of intangible capital assets is restricted to goodwill, trademark, right to manufacture, right to carry on business, tenancy rights, stage carriage permits and loom hours. Bitcoins may not fall within the scope of the aforementioned intangible assets. Consequently, arguably it may not be possible to ascertain its cost of acquisition in the event it is obtained through mining. In case it was bought, then the price at which the bitcoin was bought would be the cost of acquisition. In this light, if the cost of acquisition of bitcoins cannot be calculated as per the law laid down by the Hon'ble Supreme Court in the case of CIT v. B.C. SrinivasaSetty⁵, arguably no capital gains tax may be levied at all in some circumstances.

Indirect Tax Implications

If bitcoins are considered as goods, their transfer may have goods and services tax (GST) implications. Under the GST regime, GST is levied on the supply of goods. Supply includes sale as well as barter.⁷ For that reason, GST may be levied in both scenarios-(i) where bitcoins are sold for cash and (ii) where bitcoins are given as a consideration for other goods and services, such that the value on which the tax may be levied will be the open market value of the goods or services for which the bitcoins are given as consideration.⁸ However, such sale should be in furtherance of business, or else it will not be treated as a taxable supply under Section 7 of the Central Goods and Services Tax (CGST) Act. Further, in the case of barter, it could be considered as dual supplies that occur simultaneously and therefore the overall GST impact could be significant.

⁵ CIT v. B. C. SrinivasaSetty, 128 ITR 294.

Additionally, other anomalies exist under the GST regime. Under the Integrated Goods and Services Tax (IGST) Act, the point of taxation or the point at which IGST is levied is at the point that the goods are imported into the country. In the case of bitcoins, being a digital good, unless it is stored in a wallet that is in a physical medium such as a pen drive or a hard drive, it is unlikely to actually cross the customs border of India, in which case, even if it is technically taxable, the IGST would practically not be levied due to the failure of the taxation mechanism. Further, for a transaction to be subject to either IGST or CGST, it is required to determine whether it is an intra-state or an interstate supply. The two reference points are the location of the supplier of goods and the location of supply. The location of supply for some cases is where the good is actually located. Unfortunately, due to the nature of cryptocurrencies, they are effectively a location-less good, unless some reference can be made to a tangible medium they are stored in. Further, to make matters worse, while there is a definition in relation to the location of the supplier of services in the CGST Act, there is no provision in relation to the location of a supplier of goods. Arguably, no GST should be levied on any supply of good, as it should be impossible, short of creating our own legal fiction, to determine whether IGST or CSGT applies!

Since the RBI notification barring lenders from dealing in virtual currencies, a recent news report (Ohri, 2018a) has disclosed that a proposal for levying 18% GST on cryptocurrency trading is presently being considered by the Central Board of Indirect Taxes and Customs. Cryptocurrency may be classified as an intangible good, comparable to software, to bring it under the purview of GST. According to the proposal, the purchase or sale of cryptocurrencies would be considered as a supply of goods, and those facilitating transactions such as mining of cryptocurrencies and their supply, transfer, storage and accounting would be treated as suppliers of services. Tax on mining would be collected from the miner on transaction fees or reward and if the value of reward exceeds INR 20 lakh, the individual miners have to register under GST. The valuation of cryptocurrencies may be determined on the basis of the transaction value in rupees or equivalent of a freely convertible foreign currency.

To determine the place of supply, if the buyer and seller are in India, the buyer's location shall be the place of supply, as is the case with the supply of software. In the case of transfer or sale, the location of the registered person shall be the place of supply. However, if the sale is to a non-registered person, the location of the supplier shall be regarded as the place of supply. For transactions beyond the territory of India, IGST shall be applicable and their nature would be import or export of goods, such as cross-border supplies.

VI. POSITION OF TAXATION OF BITCOINS AROUND THE WORLD: SYNOPSIS

The EU treats bitcoin and other cryptocurrencies as 'foreign' currency. Cryptocurrency transactions are exempt from GST. In Japan, the bitcoin is officially recognized as a payment method. The sale of bitcoins is exempted

from consumption tax as of July 1, 2017. However, the regulator follows a middle ground approach by defining the bitcoin as an 'asset-like value.'

Taxation in USA

The Internal Revenue Service (2014) issued a notice providing answers to frequently asked questions (FAQs) on Virtual currencies such as bitcoins. These FAQs provide basic information on the US federal tax implications of transactions in, or transactions that use, virtual currency.

In some environments, virtual currency Operates like 'real' currency; i.e., the coin and paper money of the United States or of any other country that is designated as legal tender, circulates, and is customarily used and accepted as a medium of exchange in the country of issuance, but it does not have legal tender status in any jurisdiction.

The notice provides that virtual currency is treated as property for US federal tax purposes. General tax principles that apply to property transactions apply to transactions using virtual currency. Among other things, this means that:

- Wages paid to employees using virtual currency are taxable to the employee, must be reported by an employer on Form W-2, and are subject to federal withholding tax and payroll taxes.
- Payments using virtual currency made to independent contractors and other service providers are taxable, and self-employment tax rules generally apply. Normally, payers must issue Form 1099.
- The nature of gain or loss from the sale or exchange of virtual currency depends on whether the virtual currency is a capital asset in the hands of the taxpayer.
- A payment made using virtual currency is subject to information reporting to the same extent as any other payment made in property.

Taxation in Australia

The guidance paper (Australian Taxation Office, 2018) provides an overview of the tax treatment for transactions associated with cryptocurrencies, specifically bitcoins. This guidance also applies to other digital currencies that have the same characteristics as a bitcoin:

- The usage of bitcoins to purchase goods or services for personal use or consumption and any capital gain or loss from the disposal of the bitcoin will be disregarded (as a personal use asset) provided the cost of the bitcoin is Australian dollars 10,000 or less.
- Bitcoins received for goods or services as part of the business will have to be recorded in Australian dollars at its fair market value.

- Purchases of goods/services with bitcoins are entitled to a deduction based on the arm's length value of the item acquired.
- When receiving bitcoins in return for goods and services, a business may be charged GST on bitcoins. If the supply of the goods and services was a taxable supply, the business will be able to claim input tax credits on the GST charged on the bitcoins they received as payment.
- Likewise, GST is payable on the supply of bitcoins for purchases. GST is calculated on the market value of the goods or services. This is ordinarily equal to the fair market value of the bitcoin at the time of the transaction.
- There may also be capital gains tax consequences resulting from the disposal of bitcoins as part of carrying on a business. However, any capital gain is reduced by the amount that is included in the assessable income as ordinary income. Bitcoins held as investment are generally taxable as capital gains.
- Where an employee has a valid salary sacrifice arrangement with their employer to receive bitcoins as remuneration instead of Australian dollars, the payment of bitcoins is a fringe benefit and the employer is subject to the provisions of the Fringe Benefits Tax Assessment Act. In the absence of a valid salary sacrifice agreement, the remuneration is treated as normal salary or wages and the employer will need to meet their 'pay as you go' obligations as usual.
- In the business of mining bitcoins, any income derived from the transfer of the mined bitcoins to a third party will be included in assessable income. Any expenses incurred in respect to the mining activity will be allowed as a deduction. Losses from the mining activity may also be subject to non-commercial loss provisions.
- Bitcoins held by a taxpayer carrying on the business of mining and selling bitcoins will be considered to be trading stock.
- GST is payable on the supply of bitcoins made in the course or furtherance of the bitcoin mining enterprise. Input tax credits may be available for acquisitions made in carrying on the bitcoin mining enterprise.

Taxation in the UK

- Income received from bitcoin mining activities will generally be outside the scope of VAT based on the fact that the activity does not constitute an economic activity for VAT purposes because there is insufficient link between any services provided and any consideration received.

- Income received by miners for other activities such as for the provision of services in connection with the verification of specific transactions for which specific charges are made will be exempt from VAT.
- When bitcoins are exchanged for sterling or for foreign currencies, such as euros or dollars, no VAT will be due on the value of the bitcoins themselves.
- Charges (in whatever form) made over and above the value of the bitcoin for arranging or carrying out any transactions in bitcoins will be exempt from VAT.
- However, in all instances, VAT will be due in the normal way from the suppliers of any goods or services sold in exchange for bitcoins or other similar cryptocurrencies. The value of the supply of goods or services on which VAT is due will be the sterling value of the cryptocurrency at the point at which the transaction takes place.
- Whether any profit or gain is chargeable or any loss is allowable will be looked at on a case-by-case basis, taking into account the specific facts.
- The profits or losses on exchange movements between currencies are taxable. For the tax treatment of virtual currencies, the general rules on foreign exchange and loan relationships apply. The profits and losses of a company entering into transactions involving bitcoins will be reflected in their accounts and will be taxable under normal tax rules.
- If a profit or loss on a currency contract is not within trading profits or otherwise within the loan relationship rules, it would normally be taxable as a chargeable gain or allowable as a loss for company tax (if it accrues to a company) or capital gain tax (if it accrues to capital gains) purposes.

[Source: GOV.UK (2014)]

Taxation in South Africa

The South African Revenue Service (SARS) has not issued any guidance paper on the tax treatment of virtual currency exchange transactions. However, SARS, together with the Financial Services Board and the Financial Intelligence Centre, issued a user alert to the South African public on 18 September 2014. In essence, according to the alert, no legal protection or recourse will be afforded to the users of virtual currencies.

SARS is considering addressing concerns regarding the taxation of virtual currencies relating, inter alia, to the characterization of it as an asset, a currency, or legal tender with respect to the South African Income Tax Act.

VII. THE OECD VIEW

The OECD issued the BEPS Action Plan, which dealt with the taxation of virtual currencies. It established that

the main policy issue countries need to address is the tax treatment of capital gains on bitcoins, as well as tax evasion through the anonymity of bitcoin transactions.

An inquiry into the OECD Action Plan indicated that the place of supply for digital business to consumer services should follow the destination principle. Alternatively, the concept of ‘virtual Permanent Establishment (“PE”’) could be created and declined in order to create a connection that would apply to electronic commerce operations.

VIII. MEASURES UNDERTAKEN TO PREVENT MONEY LAUNDERING AND ILLICIT ACTIVITIES

One of the unique features about bitcoins is the anonymity of a bitcoin holder. The identity of a bitcoin holder is kept completely confidential so there is no mechanism to ascertain the beneficial owner of bitcoins. This may give rise to the apprehension of a wide range of illegal activities and, in fact, this apprehension has come true in the past. No concrete measures have been taken by India till date except the measure of banning banks from providing services for facilitating cryptocurrency transactions as stated above. However, purchase of bitcoins using cash in the past, prior to its price going up significantly, could have potentially been seen as being funded through black money unless the purchasers are able to show the source of funds clearly, and this continues to be a huge risk even for genuine purchasers. In many cases, the exchanges through which they bought such coins do not exist anymore. Additionally, it may be a challenge to prove the date of acquisition as well in such cases since even though the blockchain may record the fact that a particular web wallet address was credited with bitcoins on a certain date, the possession of the hard wallet containing such bitcoins could be transferred for cash to another party potentially.

IX. CONCLUSION

Many jurisdictions have undertaken measures to provide clarity in relation to the tax implications of bitcoin transactions in a domestic economy. In order to curb the repercussions arising out of the anonymity of bitcoins, various obligations and regulations have been imposed, with some countries effectively banning them as well. Clearly, the domain of cryptocurrencies is currently in a nascent stage and the number of issues related to it are increasing on a daily basis. This fact, clubbed with the unfavourable regulatory regime and uncertain tax treatment, is not good for securing digital India’s future in the long term. However, keeping in mind the tremendous technology of block chain in the longer run, which can form the backbone of a secure digital infrastructure, it is worth endeavouring to find appropriate means of regulating this ecosystem, rather than outrightly banning it. The sooner the Government accepts that banning will not work in the long run and comes up with measures to regulate cryptocurrencies, the better it will be for customers, businesses and the Government.