

## **SMART CONTRACTS – THE WAY FORWARD**

*Anujay Shrivastava\* & Anubhav Khamroi\*\**

*“We can only see a short distance ahead, but we can see plenty there that needs to be done.” – Alan Turing*

### **I. INTRODUCTION**

The term, *smart contract*, refers to any contract capable of *automatically enforcing* itself, without any third-party interference.<sup>1</sup> The term has gained popularity only in recent years due to the development of Bitcoin cryptocurrency as well as due to blockchain, the technology that underpins Smart Contracts.<sup>2</sup> The term “*Smart Contract*” was created by Nick Szabo, who was a cryptographer and the creator of Bit-Gold, a precursor to Bit-Coin. He wrote about Smart Contracts in 1994 and is rumoured to be the creator of Bit-Coin himself.<sup>3</sup>

This paper attempts to undertake a multidisciplinary glimpse into the concept of Smart Contracts and Blockchain Technology through the lens of Law and Science. It advances the argument that *Smart Contracts* need to be *recognized* and *regulated globally* as a solution to intricacies and conundrums regarding *virtual currency transactions*. In **Part-II** of the paper, it introduces us to the concept of Smart Contracts. Whereas, in **Part-**

---

**\* & \*\* Students, Jindal Global Law School, Sonipat**

The authors thank Mr. Girish S. Nagraj, Former Professor at Jindal Global Law School, and Ms. Shikha Mehra, Professor at Jindal Global Law School for their insights.

<sup>1</sup> Tuesta, David. 2015. “Smart Contracts: The Ultimate Automation of Trust?” *BBVA Research – Digital Economy Outlook*, October 15, 1-5. Available at: [www.bbva.com/en/wpcontent/uploads/2016/11/Digital\\_Economy\\_Outlook\\_Oct15\\_Cap1.pdf](http://www.bbva.com/en/wpcontent/uploads/2016/11/Digital_Economy_Outlook_Oct15_Cap1.pdf)

<sup>2</sup> Troy, Sue. 2016. “What is a smart contract and what’s it good for?” TechTarget. Accessed August 4, 2017. <http://searchcio.techtarget.com/feature/What-is-a-smart-contract-and-whats-it-good-for>

<sup>3</sup> Id.

**III**, the paper discusses the *Blockchain technology* which is the underlying platform for cryptocurrency transactions.

**Part-IV** of the paper briefly sheds some light on *Cryptocurrency* and *Bitcoin*. Further, **Part-V** ventures into the *Enforceability of Smart Contracts*, wherein it discusses: (i) Legal Recognition of Electronic Communication; (ii) Validity of Automated Contract Formation and Performance systems; (iii) A Valid Consideration; and (iv) Technological Neutrality. Lastly, **Part-VI** of the paper elucidates upon the *legality of Cryptocurrency Transactions* in (i) The United States of America(U.S.); (ii) Europe; (iii) The United Kingdom; and (iv) Asian countries, *in particular*, Japan, Singapore and India. The paper finally concludes that *cryptocurrency* needs to be regulated as a pre-requisite to the recognition and regulation of Smart Contracts. The establishment of a legal framework regulating *Smart Contracts* would be a giant leap in the field of Contractual Laws.

## **II. SMART CONTRACTS – A TECHNOLOGICAL ADVANCEMENT**

Smart contracts are computer protocols that facilitate, verify, or enforce the negotiation or performance of a contract, or that make a contractual clause unnecessary. They also have a user interface and often emulate the logic of contractual clauses.<sup>4</sup> Smart contracts are written as computer programs rather than in legal language on a printed document. The program can define strict rules and consequences in the same way that a traditional legal document would, but unlike a traditional contract it can also take

---

<sup>4</sup> Mougayar, William. 2016. *The Business Blockchain: Promise, Practice, and Application of the Next Internet Technology*. New York: John Wiley & Sons.

information as an input, process it through the rules set out in the contract, and take any actions required of it as a result.<sup>5</sup>

Smart contracts can be coded to reflect any kind of data-driven business logic: from actions, as simple as voting for a post in a forum, to the more complex such as loan collateralisation and futures contracts, and to the highly complex such as repayment prioritisation on a structured note. Some of the best financial applications of Smart Contracts can be loans, inheritances, escrow, cryptocurrency wallet controls and in capital markets.<sup>6</sup>

### **III. BLOCKCHAIN TECHNOLOGY – THE UNDERLYING PLATFORM FOR SMART CONTRACTS**

Smart contracts are modular, repeatable and autonomous scripts, usually running on a blockchain, which represent unilateral promises to provide a determinate computation. These scripts are stored in the blockchain at a particular address, which is determined when the contracts are deployed to the blockchain.<sup>7</sup> When an event prescribed in the contract happens, a transaction is sent to that address and the distributed virtual machine executes the script's operation codes (or *clauses*), using the data sent with the transaction.<sup>8</sup>

In Smart Contracts, blockchain transactions occur using cryptocurrency in order to buy or sell something between two or more parties. A Smart Contract is a way of forming agreements using Bitcoin. In a traditional contract, two or more parties trust each other to complete their obligations under the contract. These parties at some point may choose not to oblige by

---

<sup>5</sup> *Ibid*, at 1.

<sup>6</sup> *Id.*

<sup>7</sup> *Id.*

<sup>8</sup> *Id.*



the contract or to only partially fulfil their agreement in the contract.<sup>9</sup> However, this need for trust is removed as the codes and algorithms execute automatically without discretion. Blockchain exchanges make Smart Contracts more self-sufficient and autonomous. Smart Contracts are decentralized as they are distributed and self-executing across nodes and not subsisting on a single centralized server.<sup>10</sup>

A classic example of a primitive Smart Contract would be a vending machine. The machine has various pre-existing algorithms and codes which execute automatically. Whenever an individual enters money into the machine and presses a button in order to obtain an item assigned a specific code, the machine does not have the will to reject or partially comply with the order. It directly provides the item to a user with the specified code.<sup>11</sup> This brings both some advantages and disadvantages with it. One of the major disadvantages is that once a code or an algorithm is executed, there is no way to reverse the transaction done without human intervention.

In July 2017, Datarella claims to have conducted the world's first arbitration proceeding based on a smart contracts blockchain. They conducted a mock arbitration in a simple setting to showcase their project called CodeLegit.<sup>12</sup> According to them, “*Two parties agree on doing business that is defined in a Smart Contract. This Smart Contract includes an Arbitration Library. In*

---

<sup>9</sup> Swan, Melanie. 2015. *Blockchain: Blueprint for a New Economy*. Amsterdam: 1<sup>st</sup> ed. O'Reilly Media Inc. 16-18.

<sup>10</sup> *Id.*

<sup>11</sup> *Ibid*, at 4.

<sup>12</sup> Trust Nodes(TN). 2017. “World’s First Smart Contract Based Arbitration Proceedings Conducted.” TN. Accessed August 5, 2017. [www.trustnodes.com/2017/07/17/worlds-first-smart-contract-based-arbitration-proceedings-conducted](http://www.trustnodes.com/2017/07/17/worlds-first-smart-contract-based-arbitration-proceedings-conducted)



*parallel, both parties conclude a legal contract which includes an arbitration clause referencing the Blockchain Arbitration Rules.”<sup>13</sup>*

#### **IV. CRYPTOCURRENCY AND BITCOIN**

Cryptocurrency is the platform on which Smart Contracts are built. Cryptocurrency is a medium of exchange Dollars, Rupees or any normal currencies. However, it is designed for Individuals interact with contracts and transfer money by using transactions, which are digitally signed data from the individuals. It is a process made possible due to certain principles of cryptography which is used to secure these transactions and to control the creation of new coins.<sup>14</sup>

Bitcoin was the first form of cryptocurrency, created in 2009 by a pseudonymous designer named Satoshi Nakamoto. The term bitcoin which is used for cryptocurrencies and by most such new cryptocurrencies is synonymous to the original cryptocurrency developed in 2009. Bitcoin utilizes SHA-256, which is an arrangement of cryptographic hash functions created by the U.S National Security Agency. Bitcoin is a cryptocurrency which is based on the proof-of-work framework. There are currently hundreds of other cryptocurrencies known as Altcoins. Originally, bitcoins were designed to decrease production of currencies and had a market cap on them. No more than 21 million bitcoins were in circulation.<sup>15</sup> Bitcoins are fully decentralized and out of the control of the government unlike the centralized Federal Banks of U.S., Bank of England or Reserve Bank of

---

<sup>13</sup> Reuter, Von Michael. 2017. “CodeLegit Conducts First Blockchain-based Smart Contract Arbitration Proceeding.” Datarella. Accessed August 4, 2017. <http://datarella.com/codelegit-conducts-first-blockchain-based-smart-contract-arbitration-proceeding>

<sup>14</sup> Graydon, Carter. 2016. “What is Cryptocurrency?” Crypto Coins News. Accessed August 5, 2017. <https://www.cryptocoinsnews.com/cryptocurrency>

<sup>15</sup> Id.

India. Bitcoin used to be the highest valued and most used cryptocurrency. However, it has been overtaken by Ethereum(Ether).<sup>16</sup>

## V. **ENFORCEABILITY OF SMART CONTRACTS**

The main question that is put forth on this regard, is the question of enforceability. A number of authors contend that as negotiations in Smart Contract happen on an electronic platform, they cannot be enforced due to lack of clarity with regards to the elements of contract i.e. offer, acceptance and consideration. At this juncture, it is of vital importance to understand the various manifestations of the term “Enforceability” in this case:

### i. **Legal Recognition of Electronic Communication:**

The *UN Convention on the Use of Electronic Communications in International Contracts* [hereinafter the “Electronic Communications Convention”], defines “Electronic communication” as any communication that the parties make by means of information generated, sent, received or stored by electronic, magnetic, optical or similar means, including, but not limited to, electronic data interchange, electronic mail, telegram, telex or telecopy.<sup>17</sup>

It can be duly noted, that the Working Committee by using the phrase “*but not limited to*” intended to widen the ambit of the definition, by encapsulating a broad range of “electronic” techniques.<sup>18</sup> Although, this mainly governs the E-contracts, the

---

<sup>16</sup> Marinoff, Nick. 2016. “Altcoin Report: Ether Outranks Bitcoin as Highest-Performing Cryptocurrency.” Bitcoinist. Accessed July 31, 2017. <http://bitcoinist.net/altcoin-report-ether-outranks-bitcoin-as-highest-performing-cryptocurrency>

<sup>17</sup> UN Convention on the Use of Electronic Communications in International Contracts, Art. 4(b)-(c).

<sup>18</sup> A/CN.9/571, para. 80

convention can also govern the working of Smart Contracts, which meets all the criteria under the Convention and has proper safeguards installed<sup>19</sup>.

Also Article 8 of the Electronic Communications Convention, recognizes the formation of a contract with the help of electronic communication of any form, and ensures that there is no disparity of treatment between electronic communications and paper documents. Moreover, Article 5 of the *UNCITRAL Model Law on Electronic Commerce* holds any information in the form of “data”, embodying the intent of parties in form of data message to be legally valid and enforceable<sup>20</sup>. The UNCITRAL Working Committee evidently intended to bring in “Electronic Communication” in form of “data message” under the regulatory framework of International Sales and Contract law<sup>21</sup>. Also a number of jurisdictions have enacted similar provisions in their domestic legislation on electronic commerce<sup>22</sup>.

**ii. Validity of Automated Contract Formation and Performance systems:**

Article 12 of the Electronic Communications Convention, recognizes the facts Contracts can be formed by automated performance systems, without any involvement of any natural person<sup>23</sup>. The same principle is embodied in Article 2.1.1 of the

---

<sup>19</sup> A/CN.9/546, para. 41

<sup>20</sup> UNCITRAL Model Law on Electronic Commerce, Art. 5

<sup>21</sup> Official Records of the General Assembly, Fifty-first Session, Supplement No. 17 (A/51/17), annex I; UNCITRAL Yearbook, vol. XXVII:1996 (United Nations publication, Sales No. E.98.V.7), part three, annex I)

<sup>22</sup> A/CN.9/546, paras. 124-126

<sup>23</sup> UN Convention on the Use of Electronic Communications in International Contracts, Art. 12

*UNIDROIT Principles of 2010*<sup>24</sup>, and Article 11 of the Model Law on Electronic Commerce<sup>25</sup>. Also, the General Assembly in resolution 40/71, paragraph 5(b), of 11 December 1985 recommended that all Governments and International Organisations should ensure legal security so as to facilitate the widest possible use of automated data processing in international trade<sup>26</sup>.

Moreover, Dr. Wang in her book *Law of Electronic Commercial Transactions*, noted that automated contract formation, with proper legal safeguards, should be encouraged.<sup>27</sup>

**iii. A Valid Consideration:**

Another massive challenge to the enforceability of Smart Contracts is the issue of “consideration” element. Generally, in smart contracts there is either an absence of any consideration, or the consideration is in form of cryptocurrency.

In Common Law jurisdictions, the “consideration” is considered as pre-condition for the validity or enforceability of the Contract. However, as per Article 29(1) of the UN Convention on Contracts for the International Sale of Goods<sup>28</sup> [hereinafter “CISG”] and Article 3.1.2 of the UNIDROIT Principles, the mere agreement of the party is sufficient to make an enforceable contract and dispenses off the element of “consideration.”

---

<sup>24</sup> UNIDROIT Principles 2010, Art. 2.1.1.

<sup>25</sup> UNCITRAL Model Law on Electronic Commerce, Art. 11.

<sup>26</sup> Resolution 40/71 was reproduced in United Nations Commission on International Trade Law Yearbook, 1985, vol. XVI, Part One, D. (United Nations publication, Sales No. E.87.V.4)

<sup>27</sup> Wang, Faye Fangfei. 2014. *Law of Electronic Commercial Transactions*. 2nd ed. London: Routledge.

<sup>28</sup> The United Nations Convention on Contracts for the International Sale of Goods, Art. 29(1).



On other hand, Cryptocurrency is the electronic currency that is released on the conclusion of the contract, but there's an ongoing debate as to the validity of cryptocurrency as a valid consideration for the contract. Scholars like Joshua A.T. Fairfield<sup>29</sup> and Dr. Faye Fangfei Wang, consider cryptocurrency as valid consideration for a contract. The European Court of Justice in *Skatteverket* case<sup>30</sup>, expressly accepted Cryptocurrency transactions to be valid ones.

**iv. Technological Neutrality:**

The principle of technological neutrality means that the Electronic Communications Convention is intended to provide for the coverage of all factual situations where information is generated, stored or transmitted in the form of electronic communications, irrespective of the technology or the medium used.

Technological neutrality is particularly important in view of the speed of technological innovation and development, and helps to ensure that the law is able to accommodate future developments and does not quickly become outdated. The concern to promote media neutrality raises other important points. In the world of paper documents, it is impossible to guarantee absolute security against all kinds of fraud and transmission errors.<sup>31</sup>

---

<sup>29</sup> Joshua A.T. Fairfield. 2014. "Smart Contracts, Bitcoin Bots, and Consumer Protection." *Wash. & Lee L. Rev. Online* 36. <http://scholarlycommons.law.wlu.edu/wlulr-online/vol171/iss2/3>

<sup>30</sup> *Skatteverket v. David Hedqvist* (C-264/14), EU:C:2015:718; [2016] S.T.C. 372; [2015] B.V.C. 34; [2015] S.T.I. 3240.

<sup>31</sup> United Nations Commission on International Trade Law, United Nations Convention on the Use of Electronic Communications in International Contracts, United Nations Publications, 2007, page 26.

## VI. LEGALITY OF CRYPTOCURRENCY TRANSACTIONS

### A) THE U.S. STATE PRACTICE

Bitgold, bitcoin and cryptocurrency transactions have existed since 2009. However, the legal recognition of Bitcoin from the U.S. courts, came five years later.

In 2014, a US Court in *SEC v. Trenton T. Shavers*<sup>32</sup> recognized that Bitcoin is a currency and that transactions through the use of Bitcoin are similar to currency transactions and that the Courts have the jurisdiction to hear the cases involving cryptocurrency transactions. As held by Magistrate Judge Amos Mazzant, “cryptocurrency (expressly bitcoin) can be used as money (it can be used to purchase goods and services, pay for individual living expenses, and exchanged for conventional currencies), it is a currency or form of money. This ruling allowed for the SEC to have jurisdiction over cases of securities fraud involving cryptocurrency.” It was a case where the owner, Trenton Shavers had solicited funds from his investors on the false pretence that an interest of 7 percent per week would be provided to them. In pre-trial motions, the court addressed whether the interests in BTCST were investment contracts under the federal securities law. Because investors paid for the interest in bitcoins, Shavers argued that bitcoins were not currency and the interests did not involve an investment of money. The SEC argued that the use of bitcoins constituted an investment of money. In an August 6, 2013 ruling, the court agreed and held that the investments in BTCST were in fact securities. This judgement has changed the way cases regarding Bitcoin or cryptocurrency are perceived in the U.S.

---

<sup>32</sup> Securities and Exchange Commission v. Trenton T. Shavers and Bitcoin Savings and Trust: Civil Action No. 4:13-CV-416, (E.D. Tex. Sept. 18, 2014);



In the month August, 2014, US District Judge, Jed Rakoff in *Faiella*<sup>33</sup> case, held that bitcoin is money during a case which sought to assess whether Charlie Shrem, CEO of defunct bitcoin exchange Bit-Instant, allegedly acted with Robert Faiella to supply bitcoins to Silk Road users. The two were charged with two counts of operating an unlicensed money transmitting business, one count of money laundering conspiracy and one count of wilful failure to file a suspicious activity report. Rakoff rejected Faiella's reasoning that bitcoins are not money and that his money transmission charges should therefore be cleared, saying: "*Money in ordinary parlance means 'something generally accepted as a medium of exchange, a measure of value, or a means of payment'. It was further noted that, Bitcoin clearly qualifies as 'money'.*" Both defendants plead guilty to the charges, ultimately agreeing to pay nearly \$1-Million in fines. This judgement further enhanced the scope of considering Bitcoin as money in U.S. and recognizing its day-to-day practice.

The Financial Crimes Enforcement Network (FinCEN) of the US government classified bitcoin as a convertible decentralized virtual currency in 2013.<sup>34</sup> FinCEN had issued guidelines for cryptocurrencies in 2014. The issued guidelines contain an important caveat for Bitcoin miners: it warns that anyone creating bitcoins and exchanging them for fiat currency are not necessarily beyond the reach of the law. It states: "*A person that creates units of convertible virtual currency and sells those units to another person for real currency or its equivalent is engaged in transmission to another*

---

<sup>33</sup> United States of America v. Faiella et al., Criminal 14 Cr. 243 (JSR).

<sup>34</sup> Financial Crimes Enforcement Network(FinCEN). 2013. "Statement of Jennifer Shasky Valvery, Director, Financial Crimes Enforcement Network, United States Department of the Treasury." FinCEN. Accessed November 14, 2016. [https://www.fincen.gov/news\\_room/testimony/html/20131119.html](https://www.fincen.gov/news_room/testimony/html/20131119.html)

*location and is a money transmitter.*<sup>35</sup> Furthermore, U.S. Internal Revenue Service (IRS) in the same year had ruled that bitcoin will be treated as property for tax purposes as opposed to currency. This means bitcoin will be subject to capital gains tax. One benefit of this ruling is that it clarifies the legality of bitcoin. No longer do investors need to worry that investments in or profit made from bitcoins are illegal or how to report them to the IRS.<sup>36</sup> Global Advisors Bitcoin Investment Fund (GABI) is the first regulated bitcoin hedge fund to receive regulatory approval from the Jersey Financial Services Commission (JFSC).<sup>37</sup>

On March 25, 2014, Internal Revenue Service(IRS) of U.S. issued a notice stating that virtual currency is treated as property for US Federal Tax purposes. The notice provides that virtual currency is treated as property for U.S. federal tax purposes. General tax principles that apply to property transactions apply to transactions using virtual currency.<sup>38</sup> This means that:

- Wages paid to employees using virtual currency are taxable to the employee, must be reported by an employer, and are subject to federal income tax withholding and payroll taxes.

---

<sup>35</sup> Rizzo, Pete. 2014. "FinCEN Declares Bitcoin Miners, Investors Aren't Money Transmitters." CoinDesk. Accessed August 5, 2017. <http://www.coindesk.com/fincen-bitcoin-miners-investors-money-transmitters>

<sup>36</sup> Benzinger. 2014. "3 Reasons The IRS Bitcoin Ruling Is Good For Bitcoin." NASDAQ. Accessed August 4, 2017. <http://www.nasdaq.com/article/3-reasons-the-irs-bitcoin-ruling-is-good-for-bitcoin-cm339333>

<sup>37</sup> BBC. 2014. "Jersey approves first regulated Bitcoin fund." BBC. Accessed August 4, 2017. <http://www.bbc.com/news/world-europe-jersey-28247796>

<sup>38</sup> Internal Revenue Service(IRS). 2014. "RS Virtual Currency Guidance: Virtual Currency Is Treated as Property for U.S. Federal Tax Purposes; General Rules for Property Transactions Apply." IRS. Accessed August 5, 2017. <https://www.irs.gov/uac/newsroom/irs-virtual-currency-guidance>



- Payments using virtual currency made to independent contractors and other service providers are taxable and self-employment tax rules generally apply.
- The character 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.<sup>39</sup>

However, in 2016, Justice Teresa Mary Pooler of Miami Court in the case of *Espinoza*,<sup>40</sup> held that Bitcoin or cryptocurrencies are not real currency. Elucidating on the facts of the case, the defendant Michel Abner Espinoza was on trial for illegally transmitting and laundering \$1,500 worth of bitcoins to undercover agents who intended to use them to purchase stolen credit cards. His attorney argued that the charges should be dismissed because, under Florida state law, the cyber-currency could not be considered money. After extended deliberation, Judge Teresa Mary Pooler agreed in a ruling issued on Monday. She stated that “*Bitcoin has a long way to go before it is equivalent of money.*”

Many eminent U.S. practitioners and scholars have criticized the *Espinoza* judgement as an anti-progressive ruling as it allows fraudsters to escape both the civil and criminal legal liabilities and is itself contrary to where the federal regulators and the FinCEN are headed. However, some individuals have also appreciated the judgement since it prevents the law enforcement

---

<sup>39</sup> Id.

<sup>40</sup> The State of Florida v. Michel Abner Espinoza, Criminal Division Case no. F14-2923, Section: 13

organization from overstepping their boundaries and protects individuals from criminal charges.<sup>41</sup>

In stark contrast, *in the Ulbricht judgement*,<sup>42</sup> there was a contrary view to the issue in *Espinoza judgement*. Ulbricht was accused of heading the now-defunct online black market Silk Road. In February, he was indicted on charges of computer hacking, drug trafficking, money laundering and engaging in a criminal enterprise. Ulbricht cited flaws in the legal definition of money laundering stating that bitcoin is not money. Judge Forrest rejected the argument that bitcoin is not money, stating: “*Bitcoins carry value – that is their purpose and function – and act as a medium of exchange. Bitcoins may be exchanged for legal tender, be it US dollars, euros, or some other currency. Accordingly, [the defense’s] argument fails.*” She further rejected the contention that bitcoin doesn’t fall under the category of legal money and added that “*There is no doubt that if a narcotics transaction was paid for in cash, which was later exchanged for gold, then converted back to cash, that would constitute a money laundering transaction. One can launder money using bitcoin.*”<sup>43</sup> This is another progressive stance on the legal validity of Bitcoin and Smart Contracts.

Another famous implementation of Smart Contracts, in the U.S, was by DAO, a distributed autonomous organization for venture capital funding, which uses Ether as their cryptocurrency. It was launched with US\$150 million in crowd-funding in May 2016 and was hacked and drained of approximately US\$50 million in cryptocurrency three weeks later.<sup>44</sup> The

---

<sup>41</sup> Sidahmed, Mazin. 2016. “Bitcoin 'not real money' says Miami judge in closely watched ruling.” The Guardian. Accessed on August 4, 2017. [www.theguardian.com/technology/2016/jul/26/bitcoin-not-real-money-miami-judge](http://www.theguardian.com/technology/2016/jul/26/bitcoin-not-real-money-miami-judge)

<sup>42</sup> *United States v. Ross William Ulbricht*, 14 Cr. 68 (KBF).

<sup>43</sup> *Id.*

<sup>44</sup> Prince, Rob. 2016. “Digital currency Ethereum is cratering amid claims of a \$50 million hack.” Business Insider. Accessed August 4, 2017. <http://www.businessinsider.in/Digital->

hacker has still not been identified and it is reported that the hacker has come many steps ahead, close to converting Ether to real currency.<sup>45</sup>

In June 2016 case of Dailey involving Bitcoin transactions, where the Complainant had challenged the subject jurisdiction of the District Court, it was ruled by Judge Joseph Rodriguez that the court had the authority to hear the case.<sup>46</sup>

During September 2016, it was ruled by Justice Alison Nathan of the Manhattan District Court, that bitcoin qualifies as money, in the *Murgio* case.<sup>47</sup> The court rejected a bid by Anthony Murgio to dismiss two charges related to his alleged operation of Coin.mx, which prosecutors have called an unlicensed bitcoin exchange. It also ruled that “*Bitcoins can be accepted as a payment for goods and services or bought directly from an exchange with a bank account. They therefore function as pecuniary resources and are used as a medium of exchange and a means of payment.*”<sup>48</sup>

A new US bill titled 115th Congress Senate Bill as per S. 1241 requires Travelers to disclose their Bitcoin and other virtual assets.<sup>49</sup> Introduced by Senator Chuck Grassley, it specifically targets Bitcoin and other cryptocurrencies and ties them in with terrorist financing and money laundering, making demands on subordinate agencies to find methods of

---

currency-Ethereum-is-cratering-amid-claims-of-a-50-million-hack/articleshow/52795138.cms

<sup>45</sup> Hertig, Alyssa. 2016. “The Plot Thickens As DAO Attacker Trades Stolen Funds for Bitcoin.” CoinDesk. Accessed August 4, 2017. <http://www.coindesk.com/dao-attack-hacker-trades-funds-bitcoin>

<sup>46</sup> *Gordon v. Dailey*, Civil Action No. 14-7495.

<sup>47</sup> *United States of America v. Anthony R. Murgio, et al.*, Case no. No. 15-CR-769.

<sup>48</sup> *Id.*

<sup>49</sup> US Congress. 2017. "S.1241 - Combating Money Laundering, Terrorist Financing, and Counterfeiting Act of 2017." US Congress. Accessed August 5, 2017. <https://www.congress.gov/bill/115th-congress/senate-bill/1241/text/>

blocking certain cryptocurrencies and digital assets allegedly tied to so-called terrorism.<sup>50</sup>

While there have been several District Level Judgements in US both in favour of and against recognizing cryptocurrency, until a Supreme Court ruling arrives, the States would have to comply with the rulings of their respective courts. However, the US Legislature needs to improve their laws regulating Bitcoin and other cryptocurrency in order to disentangle various rulings and Anti-money laundering as well as Tax Laws.

## **B) EUROPE**

In May 2015, Sweden introduced laws imposing a Value Added Tax(VAT) on Bitcoin transactions. This was challenged in a Swedish Court which subsequently ruled that Bitcoin transactions were exempt from VAT. This was challenged by Skatteverket, the Swedish Tax Authority in the European Court of Justice(ECJ).<sup>51</sup> In the Skatteverket case, it was held by Judge von Danwitz, the President of ECJ (Fifth Chamber), that *“the bitcoin virtual currency with bidirectional flow, which will be exchanged for traditional currencies in the context of exchange transactions, could not be characterised as “tangible property” within the meaning of Directive 2006/112 art.14, given that the virtual currency had no purpose other than to be a means of payment, just like traditional currencies.”*<sup>52</sup>

The importance of this ruling is that it has considered cryptocurrency transactions to be valid ones and held that VAT would not be applicable for

---

<sup>50</sup> Madore, P.H. 2017. “New US Legislation Would Force Travelers to Declare Bitcoin, Digital Assets.” CryptoCoinNews. Accessed August 5, 2017. <https://www.cryptocoinsnews.com/new-us-legislation-force-travelers-declare-bitcoin-digital-assets/>

<sup>51</sup> Skatteverket v. David Hedqvist (C-264/14), EU:C:2015:718; [2016] S.T.C. 372; [2015] B.V.C. 34; [2015] S.T.I. 3240.

<sup>52</sup> Id.



Bitcoin Exchanges. This judgement impacts how the European Bitcoin exchanges would operate. Eventually Sweden, Norway, United Kingdom and other European Countries began exempting Bitcoin transactions from VAT in compliance of the ECJ ruling.

### C) THE UNITED KINGDOM

In the 2016 case of *Coinstar*<sup>53</sup>, First-tier Tribunal (Tax Chamber), a two judge bench of Richard Thomas, J., and Elizabeth Bridge, J., had ruled that “*issue or encashment of travellers' cheques was exempt from VAT, and an exchange of one currency for units of a virtual currency, such as "Bitcoin", was also exempt as analogous to a foreign exchange transaction,*” and had considered the ECJ ruling in *Skatteverket*.<sup>54</sup> They also followed the judgement in *Wiltonpark*<sup>55</sup> which ruled that “*a transaction involving an exchange of money for the same currency in a different form was not excluded from exemption simply because the exchange involved the same currency.*” Later in June 2017 during the Upper Tribunal hearing, the bench of Timothy Herrington, J., and Guy Brannan, J., affirmed the rulings of *Coinstar* by the First-tier Tribunal.<sup>56</sup>

In 2016, The Government of Jersey, an autonomous island and a dependent of the British Crown had introduced regulation for virtual currency exchanges. The new legislation, titled “*Proceeds of Crime (Supervisory Bodies) (Virtual Currency Exchange Business) (Exemption) (Jersey) Order*

---

<sup>53</sup> *Coinstar Ltd. v. The Commissioners for Her Majesty's Revenue & Customs*, [2016] UKFTT 610 (TC); [2017] S.F.T.D. 177; [2016] S.T.I. 2607.

<sup>54</sup> *Skatteverket v. David Hedqvist (C-264/14)*, EU:C:2015:718; [2016] S.T.C. 372; [2015] B.V.C. 34; [2015] S.T.I. 3240.

<sup>55</sup> *Wiltonpark Ltd. v. Revenue and Customs Commissioners*, [2015] UKUT 343 (TCC); [2016] S.T.C. 189.

<sup>56</sup> *Coinstar Ltd. v. Revenue and Customs Commissioners*, Upper Tribunal (Tax and Chancery), [2017] UKUT 256 (TCC); 2017 WL 02672282.



2016”, came as an effort to combat money laundering and other forms of financial crime committed through virtual currency.<sup>57</sup>

After the separation of the United Kingdom from the European Union in 2016, there have been predictions of ramifications such as imposition of VAT on Virtual Currency Transactions. However, after the Upper Tribunal’s ruling in Coinstar, virtual currency transactions are exempt from VAT akin to Foreign Currency exchange transactions.

## **D) ASIA**

### **a. Japan**

The Japanese Cabinet, approved a set of bills<sup>58</sup> to help banking groups expand their information technology businesses and to recognize virtual currencies as having a function similar to real money, with-effect-from April 1, 2017.<sup>59</sup> The latest bills on virtual currencies in Japan, recognize them as asset-like values that can be used in making payments and be transferred digitally. By requiring registration of exchanges that handle them and designating the Financial Services Agency of Japan as their regulator, the government hopes to prevent money laundering and enhance protection of the virtual currency users.<sup>60</sup>

---

<sup>57</sup> Government of Jersey. 2016. “Proceeds of Crime (Supervisory Bodies) (Virtual Currency Exchange Business) (Exemption) (Jersey) Order 2016”. Government of Jersey. Accessed August 5, 2017. <https://www.jerseylaw.je/laws/enacted/PDFs/RO-101-2016.pdf>

<sup>58</sup> Garber, Jonathan. 2017. “Bitcoin spikes after Japan says it's a legal payment method.” Business Insider. Accessed August 5, 2017. <http://www.businessinsider.in/Bitcoin-spikes-after-Japan-says-its-a-legal-payment-method/articleshow/57990540.cms>

<sup>59</sup> Financial Services Agency of Japan(FSA). 2017. “Regarding the result of public comment on "Cabinet Order etc. (draft), etc. revising part of enforcement orders of banking law etc.” FSA. Accessed August 5, 2017. [www.fsa.go.jp/news/28/ginkou/20170324-1.html](http://www.fsa.go.jp/news/28/ginkou/20170324-1.html)

<sup>60</sup> Japan Times. 2016. “Japan OKs recognizing virtual currencies as similar to real money.” Japan Times. Accessed August 5, 2017. <http://www.japantimes.co.jp/news/2016/03/04/business/tech/japan-oks-recognizing-virtual-currencies-similar-real-money/#.WYXCuW5LeUn>

## b. Singapore

In Singapore, businesses that choose to accept virtual currencies such as bitcoins for their remuneration or revenue are subject to normal income tax rules. They will be taxed on the income derived from or received in Singapore. Tax deductions will be allowed, where permissible, under its tax laws. These are as per the guidelines issued by Inland Revenue Authority of Singapore, for taxation on bitcoins.<sup>61</sup>

Virtual Currencies have been accepted as payment for goods or services. Businesses are required to record the sale based on the open market value of the goods or services in Singapore dollars. The same applies for businesses which pay for goods or services using virtual currencies. If the open market value of the goods or services that would have otherwise been exchanged in Singapore dollars cannot be determined (e.g. the good or service is only traded with virtual currencies), the virtual currency exchange rate at the point of the transaction may be used.<sup>62</sup> This is a big step forward towards regulation of bitcoins.

Businesses that buy and sell virtual currencies in the ordinary course of their business will be taxed on the profit derived from trading in the virtual currency. Profits derived by businesses which mine and trade virtual currencies in exchange for money are also subject to tax in Singapore. Capital gains will not be taxed in Singapore as per their existing laws.<sup>63</sup>

---

<sup>61</sup> Inland Revenue Authority of Singapore (IRAS). 2017. "Income Tax Treatment of Virtual Currencies" IRAS. Accessed 5, 2017. <https://www.iras.gov.sg/irashome/Businesses/Companies/Working-out-Corporate-Income-Taxes/Specific-topics/Income-Tax-Treatment-of-Virtual-Currencies/>

<sup>62</sup> Id.

<sup>63</sup> Id.

### c. India

India has no explicit laws which regulate, restrict, or ban bitcoins. On December, 2013, the Reserve Bank of India(RBI) issued a public notice to “users, holders and traders of virtual currencies(VCs), including Bitcoins,” regarding the potential “financial, operational, legal, customer protection and security related risks that they are exposing themselves to.”<sup>64</sup> The Reserve Bank of India(RBI) had declared that it neither regulates nor supports bitcoins. However, it also declared bitcoins to be unauthorized and advised investors and individuals to be cautious.<sup>65</sup> In December 27, 2013, RBI had ordered arrest of an individual bitcoin owner in Gujarat alleging that the use of bitcoins or cryptocurrency was a violation of Foreign Exchange Management Act(FEMA) rules.<sup>66</sup>

On February 1, 2017, RBI reiterated that “it has not given any licence/authorisation to any entity/ company to operate such schemes or deal with Bitcoin or any virtual currency. As such, any user, holder, investor, trader, etc. dealing with Virtual Currencies will be doing so at their own risk.”<sup>67</sup> The RBI has avoided regulating virtual currency for a long time.

One legal issue regarding the regulation of companies transacting in Bitcoin is whether the RBI has the authority or jurisdiction to regulate Bitcoin in the

---

<sup>64</sup> Reserve Bank of India(RBI). 2013. “RBI cautions users of Virtual Currencies against Risks.” RBI. Accessed August 5, 2017. [https://rbi.org.in/scripts/BS\\_PressReleaseDisplay.aspx?prid=30247](https://rbi.org.in/scripts/BS_PressReleaseDisplay.aspx?prid=30247)

<sup>65</sup> Id.

<sup>66</sup> The Times of India(ToI). 2013. “First time in India bitcoin traders raided in Ahmedabad.” TOI. Accessed August 5, 2017. <http://timesofindia.indiatimes.com/business/india-business/First-time-in-India-bitcoin-traders-raided-in-Ahmedabad/articleshow/28008526.cms>

<sup>67</sup> Reserve Bank of India(RBI). 2017. “RBI cautions users of Virtual Currencies – Jose J. Katoor.” RBI. Accessed August 5, 2017. [https://rbi.org.in/Scripts/BS\\_PressReleaseDisplay.aspx?prid=39435](https://rbi.org.in/Scripts/BS_PressReleaseDisplay.aspx?prid=39435)

first place.<sup>68</sup> A report by *Nishith Desai Associates* argues that RBI Act, 1934, does not apply to bitcoins on three counts. Firstly, it states that bitcoin “does not come under the ambit of “Currency”. Virtual currency is not included in the definition under S.2(h), (m) and (q) of FEMA which define “currency”, “foreign currency”, and “Indian Currency”.<sup>69</sup> Secondly, as it does not come under the ambit of “legal Tender”. According to the S. 26 of the RBI Act, 1934 bank notes can be considered as “Legal Tender”. Since, the term “Virtual Currency” is neither expressly included nor has any Indian court considered it to include virtual currency, it does not come under the ambit of “Legal Tender”.<sup>70</sup> Thirdly, as it does not come under the ambit of “Foreign Exchange” under S. 2(n) of FEMA, 1999. Since, it does not fall under currency, it cannot fall under credits and balances payable in any foreign currency.<sup>71</sup>

Kharbanda argues that “an easy way in which the RBI could ensure it has the authority to regulate Bitcoin would be to prescribe mandatory registration, capital adequacy provisions, corporate governance conditions, minimum security protocols, Know Your Customer (KYC) requirements, and most importantly provide for regular and ongoing reporting requirements as well as supervision of the Reserve Bank of India over the activities of Bitcoin companies.”<sup>72</sup> He also states that increased security of consumer’s property, changes in the Indian Exchange Control laws, and regulations against illegal activities are a challenge which needs to be

---

<sup>68</sup> Kharbanda, Vipul. 2017. “Regulating Bitcoin in India.” Centre for Internet & Society. Accessed August 5, 2017. <https://cis-india.org/internet-governance/blog/regulating-bitcoin-in-india>

<sup>69</sup> Nishith Desai Associates(NDA). 2015. “Bitcoins- A Global Perspective April 2015: Indian Legal and Tax Considerations.” NDA. Accessed August 5, 2017. [http://www.nishithdesai.com/fileadmin/user\\_upload/pdfs/Research%20Papers/Bitcoins\\_A\\_Global\\_Perspective.PDF](http://www.nishithdesai.com/fileadmin/user_upload/pdfs/Research%20Papers/Bitcoins_A_Global_Perspective.PDF)

<sup>70</sup> Id.

<sup>71</sup> Id.

<sup>72</sup> *Ibid*, at 68.



tackled before Bitcoin becomes regulated in India.<sup>73</sup> Therefore, there is a need for the Indian legislation to create statutes in order to regulate cryptocurrency transactions.

## VII. CONCLUSION

Bitcoins and other forms of cryptocurrency have entered the domain of currency exchange throughout the globe. However, there are a lot of challenges that cryptocurrency transactions face in various countries. As a pre-requisite to recognition and regulation of Smart Contracts, there is a stringent need for countries to establish a legal framework regulating cryptocurrency and virtual currency transactions. Once this pre-requisite is completed, Smart Contracts would bring flexibility to the way contracts are created throughout the globe. We do recognize that regulation of cryptocurrency would not be a panacea to understand the intricacies and solve the problems regarding Smart Contracts. For the time being, we do agree that it will be a giant leap in the field of Contractual Laws.

---

<sup>73</sup> Id.