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D. Towne Morton

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THE FUTURE OF CRYPTOCURRENCY: AN UNREGULATED INSTRUMENT IN AN INCREASINGLY REGULATED GLOBAL ECONOMY

D. Towne Morton

I. Introduction

a. Scope

Resulting from their dynamic rise of their value and international popularity, cryptocurrencies have unavoidably come under amplified scrutiny and increased pressure from global regimes and a plethora of regulatory bodies. International organizations and governing bodies have taken quite drastic and differing approaches to cryptocurrencies. With questions of jurisdiction and fraud, these entities must ask if multinational policies are beneficial to world markets while trying to carefully balance issues of national capitol control and the perceived downsides to cryptocurrency such as: money laundering and as a mechanism to fund terrorism.

This article seeks to address the enigmatic cybersecurity of cryptocurrencies with inconsistent international regulation to this new international phenomenon regarding scams, anti-money laundering, and combating the financing of terrorism. However, with international regulations already in place, like the European Union (“EU”) General Data Protection Regulation (“GDPR”)¹, blockchain technology must conform their anonymity and adhere to data security regulations or will they become a rogue instrument in our global economy and further used as a tool of fraud and terrorism.

With global markets and national security in jeopardy, countries and international actors must come together to form a uniformed virtual currency framework with regulatory bodies enforcing sanctions and bringing forth criminal charges to enhance cybersecurity and combat illicit activities.

II. Background on Cryptocurrencies and Blockchain Technology

a. Structure of the Cryptocurrency Process

Blockchain and cryptocurrency are two of many bywords used within this growing sector. Internationally, many countries are familiar with the term “Bitcoin.” Bitcoin is the cryptocurrency that relies on blockchain technology. Cryptocurrency offers a peer-to-peer payment option that allows users to securely send or receive electronic payment. Cryptocurrency is a decentralized digital cur-

¹ *EU General Data Protection Regulation (“GDPR”)*: Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation), OJ 2016 L 119/1

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rency secured through encryption techniques to control the creation of monetary units and to verify the transfer of funds.² Cryptocurrency operates on a blockchain, which is merely an archive of digital transactions.³ Fundamentally, when thinking of blockchains, think of a ledger. This digital ledger is a database that stores the transactions and can share it among a distributed network of computers.⁴ Using blockchain technology, users can confirm transactions without the need for a central certifying authority – such as a central bank.⁵

Each time a transfer is initiated, a cryptocurrency holder (i.e. Bitcoin user) combines his or her wallet with a string of data that shows one's access to a virtual currency in a specific wallet; this is analogous and can be thought of as a password.⁶ The network of the cryptocurrency, for example Bitcoin, verifies the transaction and adds it to a blockchain through cryptography. The process of verifying the transaction and adding it to the blockchain is known as “mining,” which is all done through sophisticated computerized software.⁷ Blockchains tracking the transfer of cryptocurrencies maintain a similar ledger, like one of a central certifying authority would keep, that keeps track of the transfer from a transferor to a transferee.⁸ The difference lies in the blockchain technology, and in contrast to the central certifying authority. A blockchain ledger is considered decentralized, thus lacking a controlling party, because all the transactions are stored on thousands of computers that connect to the cryptocurrency network via the Internet.⁹ Since these transactions are distributed, decentralized and highly encrypted, it is near impossible to trace the funds used in the cryptocurrency to the buyer or the seller.¹⁰

b. History: The Start of the Original Cryptocurrency to Today

Bitcoin, the original cryptocurrency, came to fruition in 2009. Invented, under the pseudonym Satoshi Nakamoto, Bitcoin's value has exponentially increased since the commencement. At the start of 2019, a single Bitcoin is valued around \$4,000.¹¹ Before Bitcoin, digital currencies and cryptocurrencies were controlled by a central authority and always centralized.¹² Nakamoto was not the first per-

² SHAWN AMUIAL ET AL., *THE BLOCKCHAIN: A GUIDE FOR LEGAL & BUSINESS PROFESSIONALS GLOSSARY/BLOCKCHAIN TERMINOLOGY* (2016).

³ Justin E. Hobson, *Blockchain and Cryptocurrency—Two Road Converge*, 28 J. MULTISTATE TAX'N & INCENTIVES 40 (2018).

⁴ AMUIAL et al., *supra* note 2.

⁵ *Id.*

⁶ *Id.*

⁷ Hobson, *supra* note 3.

⁸ AMUIAL et al., *supra* note 2.

⁹ *Id.*

¹⁰ Conor Desmond, *Bitcoins: Hacker Cash or the Next Global Currency?* 19 PUB. INT. L. REP. 30, 32 (2013).

¹¹ *All Cryptocurrencies*, COINMARKETCAP., <https://coinmarketcap.com/all/views/all/> (last visited Mar. 7, 2018).

¹² Robert Viglione, *Does Governance Have a Role in Pricing? Cross-Country Evidence From Bitcoin Markets*, SSRN 1–31 (Sept. 2015).

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son to attempt to create a form of digital currency structure; however previous digital currency often failed because they were unable to combat double spending.¹³ Currency owners would spend the same digital currency twice, so digital currencies were centralized to make sure double spending did not occur. Nakamoto created a system for cryptocurrencies, that requires a complete consensus from all parties and if there are any disagreements between the parties the whole transaction breaks down.¹⁴ Bitcoin demonstrates that there is need for any kind of central authority to control digital currencies if there is total agreement from all the parties involved.¹⁵ Cryptocurrencies have value as long as the users trust that if they accept it as a payment, they can then use it to purchase something else.¹⁶

As of November 30, 2018, there were 2073 cryptocurrencies, with Bitcoin accounting for roughly half of the total cryptocurrency market capitalization.¹⁷ Cryptocurrencies have been getting worldwide attention and a handful of central banks have started implementing options to adopt these blockchain technologies as a mode of payment for retail and large-value purchases.¹⁸ With their dynamic rise, cryptocurrencies have come under heightened scrutiny from regulatory bodies. This rise has induced an international debate on jurisdiction and analysis of whether cryptocurrency is true currency, a security, or a commodity.

III. International Authorities and Cryptocurrencies

Due to the international reach of cryptocurrencies: regulation, policies, and enforcement jurisdiction are vague and muddled throughout the world. Governments, therefore, must find ways to cooperate in establishing at least some mutually agreeable regulations that govern the use of cryptocurrency and give international jurisdiction for illicit activities. The debate surrounding cryptocurrency and their benefit to the global economy is nowhere close to finding a uniformed solution. Online anonymity is a double-edged sword, and laissez-faire users and authorities must be handled delicately. As policy-makers and governing bodies address these issues, they must address the dynamic and innovated field of cryptocurrencies with a new mindset to ensure that enforcement agencies have the resources and legal support to create uniformed regulatory bodies, policies, and enforcement protocols to be able to police illicit activities that arise from cryptocurrency usage. Blockchain technology policy, like all good policy,

¹³ Usman W. Chohan, *The Double-Spending Problem and Cryptocurrencies*, UNIV. NEW SOUTH WALES 1–7 (Dec. 19, 2017).

¹⁴ *Id.*

¹⁵ *Id.*

¹⁶ BRIAN KELLY, *THE BITCOIN BIG BANG: HOW ALTERNATIVE CURRENCIES ARE ABOUT TO CHANGE THE WORLD* (2014).

¹⁷ *All Cryptocurrencies*, *supra* note 11.

¹⁸ Jonathan Chiu & Thorsten Koeppel, *The Economics of Cryptocurrencies – Bitcoin and Beyond*, CHAPMAN UNIV. 1–40 (Apr. 2017), available at https://www.chapman.edu/research/institutes-and-centers/economic-science-institute/_files/ifree-papers-and-photos/koeppel-april2017.pdf.

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must be nuanced and thoughtful to strike the balance between the needs of privacy-minded users and the government's responsibility to stop illegal activity.

a. International Actor's Stances on Cryptocurrency Regulation

As authorities around the world change policies that effect digital assets, cryptocurrencies can be greatly affected and major, positive or negative, impacts on the market can ensue. A common theme is confusion; no major international actor is confident what laws apply, how much government influence is needed, when taxes must be paid, whether cryptocurrency is an asset or an investment or a security or something that is to be determined. Legal classifications of cryptocurrencies are imperative in defining regulatory policies, addressing domestic legal certainties and applying rule of law. With licensed cryptocurrency exchange platforms that perform exchange of hard currencies to cryptocurrencies and vice-versa, we see the emergence of a new type of intermediary.¹⁹ These intermediaries' rights are dependent on how cryptocurrencies are classified, further the issue of taxation, and policy issues all vary on the classification of cryptocurrencies.²⁰

i. USA, EU & Canada

With increased scrutiny from global regulatory bodies, many countries will look to the United States ("U.S."), the EU, and Canada in their regulation and views on digital assets.

The U.S. has varying perceptions of cryptocurrencies across their federal entities and laws vary state to state. The U.S. has the second largest volume of Bitcoin, nearly twenty-six percent.²¹ However, the U.S. government, in comparison to other major powers, has retrospectively set up no regulatory guidelines.²² This lack of uniform regulatory framework has not made the country well suited to welcome the global phenomenon of cryptocurrencies. Without a compact uniformed system of rules, many blockchain startups avoid the U.S. due to implications of future taxations.²³ In observing some regulatory bodies, we see that the Financial Crimes Enforcement Network ("FinCEN") does not consider cryptocurrencies to be legal tender.²⁴ However, FinCEN has considered exchanges as money transmitters on the basis that tokens are "other value that sub-

¹⁹ Dr. Asress Adimi Gikay, *Regulating Decentralized Cryptocurrencies Under Payment Services Law: Lessons from European Union Law*, 9 CASE W. RESERVE J.L. TECH. & INTERNET 1, 35 (2018).

²⁰ *Id.*

²¹ CRYPTOCOMPARE, <https://www.cryptocompare.com/> (last visited Oct. 24, 2018).

²² *Id.*

²³ Rachel McIntosh, *The Good, the Bad, and the Ugly: Crypto Regulation in the USA*, FINANCE MAGNATES (Sept. 1, 2018), <https://www.financemagnates.com/cryptocurrency/news/good-bad-ugly-crypto-regulation-usa/>.

²⁴ APPLICATION OF FINCEN'S REGULATIONS TO PERSONS ADMINISTERING, EXCHANGING, OR USING VIRTUAL CURRENCIES, FINANCIAL CRIMES ENFORCEMENT NETWORK (Mar. 18, 2013), available at <https://www.fincen.gov/resources/statutes-regulations/guidance/application-fincens-regulations-persons-administering>.

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stitutes for currency”²⁵ In contrast, the Internal Revenue Services (“IRS”), regards cryptocurrencies as property and, in March 2018, issued a formal statement to remind taxpayers to report virtual currency transactions.²⁶ Furthermore, multiple federal bodies in cryptocurrency exchange regulations sphere have claimed jurisdiction. The Securities and Exchange Commission (“SEC”) reported that they consider cryptocurrencies to be securities.²⁷ While on the other side of the coin, the Commodities Futures Trading Commission (“CFTC”) considers Bitcoin to be a commodity.²⁸ The U.S., due to their limited uniformed federal legal framework and confusion of what cryptocurrencies are, have put crypto users and their citizens at risk of illicit activities. Without sweeping federal laws, states are left to make their own regulations on the usage and classification of cryptocurrencies. When analyzing each state’s laws, there is distinct divide on the approach of regulation which can be separated into three groups: (1) flexible approach states; (2) strict regulators; and (3) states without regulations (these states have yet to embrace virtual currency and do not have regulations). The Uniform Law Commission (“ULC”) created, the Uniform Regulation of Virtual-Currency Businesses Act (“URVCBA”), a restatement like template that state governments may use to integrate cryptocurrency companies into the regulatory framework.²⁹

The EU Parliament published an in-depth analysis of virtual currencies stating, “Policy makers and regulators should not ignore VCs, nor should they attempt to ban them. Both extreme approaches are incorrect.”³⁰ This report defines virtual currencies (“VCs”) as private digital monies and that they should be treated by regulators as any other financial instrument.³¹ Furthermore, it expresses the importance to harmonize regulations across jurisdiction due to their global nature and trans-border character.³² The authors recommend that cryptocurrencies should be taxed in a similar fashion to investment in other financial assets.³³ According to European Central Bank President, Mario Draghi, no member

²⁵ *Id.*

²⁶ IRS reminds taxpayers to report virtual currency transactions, INTERNAL REVENUE SERVICE (Mar. 23, 2018), <https://www.irs.gov/newsroom/irs-reminds-taxpayers-to-report-virtual-currency-transactions>.

²⁷ Jay Clayton, *Statement on Cryptocurrencies and Initial Coin Offerings*, U.S. SECURITIES AND EXCHANGE COMMISSION (Dec. 11, 2017), <https://www.sec.gov/news/public-statement/statement-clayton-2017-12-11>.

²⁸ *Bitcoin*, U.S. COMMODITY FUTURES TRADING COMMISSION, <https://www.cftc.gov/Bitcoin/index.htm> (last visited Apr. 20, 2019).

²⁹ NATIONAL CONFERENCE OF COMMISSIONERS ON UNIFORM STATE LAWS, *Uniform supplemental Commercial Law for the Uniform Regulation of Virtual-Currency Businesses Act (2018)*. See also Ballard Spahr, *Uniform Act to Regulate Virtual Currency Businesses Ready for State Adoption*, JDSUPRA (Jan. 10, 2018), <https://www.jdsupra.com/legalnews/uniform-act-to-regulate-virtual-68645/> (explaining the proposed act and stating the act “contains a three-tiered regulatory structure that is designed to provide legal stability to virtual currency transactions while accommodating innovation.”).

³⁰ MAREK DABROWSKI & LUKASZ JANIKOWSKI, *VIRTUAL CURRENCIES AND CENTRAL BANKS MONETARY POLICY: CHALLENGES AHEAD* (European Parliament June 2018), available at http://www.europarl.europa.eu/cmsdata/149900/CASE_FINAL%20publication.pdf (emphasis added).

³¹ *Id.* at 26.

³² *Id.* at 5.

³³ *Id.*

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state can introduce its own currency in the EU.³⁴ Many EU leaders, including Vice President of the European Commission Valdis Dombrovskis, have expressed concern about how digital assets can be used for money laundering and the financing of illicit activities.³⁵ On December 15, 2017, the European Council and the European Parliament agreed amend the 4th Anti-Money Laundering (“AML”) Directive,³⁶ and thus the 5th AML Directive³⁷ was brought to fruition. This directive will bring virtual currency exchanges and custodian wallet providers under the umbrella of the existing European AML legislation.³⁸ Once incorporated into national legislation of the EU member states, these exchanges and custodians will be obligated to register with the appropriate authority within their jurisdiction and must comply with a set of guidelines that will give national investigators greater access to information, in their fight against illicit activities.³⁹ The 5th AML Directive contains the first legally binding definition of VCs for EU member states and is the most significant regulatory action implemented in the rules of VCs on the supranational level.⁴⁰ The European Court of Justice (“ECJ”) has held⁴¹ that for tax purposes, VCs should be treated as a currency rather than a commodity; having exemption from the Value Added Tax (“VAT”) according to the current EU laws and regulations.⁴² The ECJ has been recognized without objection by the totality of EU member states and their courts, thus VCs will be exempt from taxation across all jurisdictions of the EU.⁴³ The EU, very publicly and in the international lens, have been working hard on creating a uniformed set of guidelines and laws within the EU that work to create an optimal environment for cryptocurrencies.

Canada, being the first country in the world to establish tax laws that apply to virtual currencies, perhaps has the most cohesive and developed system of regu-

³⁴ Mario Draghi, President of the ECB & Vítor Constâncio, Vice-President of the ECB, Press Conference at Frankfurt am Main (Sept. 7, 2017) (transcript available at European Central Bank, <https://www.ecb.europa.eu/press/pressconf/2017/html/ecb.is170907.en.html>).

³⁵ Valdis Dombrovskis, Vice-President Eur. Comm’n, Remarks at the Roundtable on Cryptocurrencies at Brussels (Feb. 26, 2018) (transcript available at European Commission, http://europa.eu/rapid/press-release_SPEECH-18-1242_en.htm).

³⁶ Directive of the European Parliament and of the Council, EUR. PARL. DOC. (EU 2015/849) (2015), available at https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=OJ:JOL_2015_141_R_0003&from=ES.

³⁷ Directive of the European Parliament and of the Council, EUR. PARL. DOC. (COM 2016/028) (2016), available at <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52016PC0450&from=EN>.

³⁸ Stefan Stankovic, *Cryptocurrency Regulation in the European Union*, CRYPTO BRIEFING (Aug. 23, 2018), <https://cryptobriefing.com/cryptocurrency-regulation-european-union/>.

³⁹ *Id.*

⁴⁰ *Id.*

⁴¹ Case C-264/14, *Skatteverket v. Hedqvist*, 2015 E.C.R. 718, available at <http://curia.europa.eu/juris/document/document.jsf?docid=170305&doclang=EN>.

⁴² Directive of the European Parliament and of the Council, EUR. PARL. DOC. (COM 2016/028) (2016).

⁴³ *Id.*

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lations.⁴⁴ Cryptocurrencies are not considered legal tender in Canada, but the usages of digital currencies are allowed.⁴⁵ The Canada Revenue Agency publicly stated and characterized cryptocurrency as a commodity.⁴⁶ Further, the agency asserted that the use of cryptocurrency to pay for goods or services should be treated as a barter transaction.⁴⁷ The Canada Revenue Agency added that,

. . . [w]here digital currency is used to pay for goods or services, the rules for barter transactions apply. A barter transaction occurs when any two persons agree to exchange goods or services and carry out that exchange without using legal currency. For example, paying for movies with digital currency is a barter transaction. The value of the movies purchased using digital currency must be included in the seller's income for tax purposes. The amount to be included would be the value of the movies in Canadian dollars.⁴⁸

As noted above, because cryptocurrencies are a commodity under Canadian law, Canadian citizen must report any gains or losses generated from the disposition of cryptocurrency, and cryptocurrency should be treated as capital when filing taxes.⁴⁹ Companies dealing with cryptocurrencies are required to register with the Financial Transactions and Reports Analysis Centre of Canada ("Fintrac") and must comply with record keeping, reporting, and a variety of other compliance programs under Bill C-31, which was given the Royal Assent in 2014.⁵⁰ This law also applies to virtual currency exchanges operating outside of Canada that their service effects persons or entities in Canada.⁵¹ However, because of Canada's parliamentary system, Bill C-31 and its changes were never "commenced."⁵² Examined further, Parliament passes legislation, the Governor General gives it Royal Assent and it becomes a law. However, the law does not go into force until it "commences."⁵³ Bill C-31's virtual currency amendments are currently classified as "Amendments Not in Force." Thus, corporations that deal in cryptocurrencies are not regulated money services businesses ("MSBs") under the law.⁵⁴

⁴⁴ Mariam Al-Shikarchy et al., *Canadian Taxation of Cryptocurrency . . . So Far*, LEXOLOGY (Nov. 14, 2017), <https://www.lexology.com/library/detail.aspx?g=6283077e-9d32-4531-81a5-56355fa54f47> (stating that in Canada digital currencies are subject to the Income Tax Act and the Exercise Tax Act).

⁴⁵ *Digital Currency*, FINANCIAL CONSUMER AGENCY OF CANADA, <https://www.canada.ca/en/financial-consumer-agency/services/payment/digital-currency.html> (last visited Apr. 20, 2019).

⁴⁶ Mariam Al-Shikarchy et al., *supra* note 44.

⁴⁷ *Id.*

⁴⁸ *Guide for cryptocurrency users and tax professionals*, CANADA REVENUE AGENCY, <https://www.canada.ca/en/revenue-agency/programs/about-canada-revenue-agency-cra/compliance/digital-currency/cryptocurrency-guide.html> (last visited Apr. 20, 2019).

⁴⁹ *Id.*

⁵⁰ Economic Action Plan, R.S.C. 2014, c. 31 (Can.).

⁵¹ *Id.* at § 255(2).

⁵² Christopher Casper, *Bitcoin and Cryptocurrency Laws in Canada - A Comprehensive Guide*, COINQ (JULY 23, 2018), <https://coinq.com/bitcoin-and-cryptocurrency-laws-in-canada/>.

⁵³ *Id.*

⁵⁴ *Id.*

ii. *China & Japan*

China has not passed any legislation in relation to the regulation of cryptocurrencies and regulators are not recognizing cryptocurrencies as legal tender.⁵⁵ In 2013, the People's Bank of China ("PBOC") ruled that cryptocurrencies are not currency, but rather a VC.⁵⁶ The practice of acquiring a profit through initial coin offerings ("ICOs") is completely banned in China.⁵⁷ Chinese central government regulators issued the "ICO Rules", which state, ICOs that promote cryptocurrencies through the sale and circulation of tokens are, in essence, engaging in the illegal acts of public financing without official authorization.⁵⁸ The ICO Rules prohibit cryptocurrency trading platforms from: engaging in the conversion of legal tender into cryptocurrencies or vice versa, purchasing or selling cryptocurrencies, setting prices, or providing any other related agent services.⁵⁹ Financial institutions are prohibited from, in any form, providing any type of service to cryptocurrencies.⁶⁰ Cryptocurrencies have been highly regulated, and even recently, China has moved to discourage Bitcoin mining.⁶¹ In January 2018, China's Leading Group of Internet Financial Risks Remediation requested that local governments remove existing, preferential policies for Bitcoin mining companies and actively direct the withdrawal of such companies from the Bitcoin mining business.⁶² Due to these increased regulations by local governments, many Bitcoin mines in China have stopped operating. On July 6, 2018 the People's Bank of China reported that eighty-eight VCs trading platforms and eighty-five ICO platforms, have all withdrawn from the market.⁶³ China was once the

⁵⁵ Laney Zhang, *Regulation of Cryptocurrency: China*, THE LAW LIBRARY OF CONGRESS, https://www.loc.gov/law/help/cryptocurrency/china.php#_ftn1 (last updated July 13, 2018).

⁵⁶ TipRanks, *Crypto In China: Past, Present, And Future*, NASDAQ (Dec. 17, 2018), <https://www.nasdaq.com/article/crypto-in-china-past-present-and-future-cm1070028>.

⁵⁷ PBOC, CAC, MIIT, SAIC, CBRC, CSRC, and CIRC, *Announcement on Preventing Financial Risks from Initial Coin Offerings* (Sept. 4, 2017), <http://www.pbc.gov.cn/goutongjiaoliu/113456/113469/3374222/index.html> (in Chinese), archived at <https://perma.cc/N88N-5CV5> (hereinafter *Announcement on ICOs*). Saheli Roy Choudhury, *China bans companies from raising money through ICOs, asks local regulators to inspect 60 major platforms*, CNBC (Sept. 4, 2017), <https://www.cnbc.com/2017/09/04/chinese-icos-china-bans-fundraising-through-initial-coin-offerings-report-says.html>. See Greg Pilarowski & Lu Yue, *China Bans Initial Coin Offerings and Cryptocurrency Trading Platforms*, PILLAR LAW (Sept. 21, 2017), <http://www.pillarlegalpc.com/en/news/2017/09/21/china-bans-initial-coin-offerings-and-cryptocurrency-trading-platforms/> (describing the end of Bitcoin in China and noting that BTCCChina, world's second largest Bitcoin exchange by volume as of October 2014, completed shutdown by September 30, 2017 giving its customers less than two weeks notice).

⁵⁸ *Announcement on ICOs*, *supra* note 57.

⁵⁹ *Id.*

⁶⁰ Xie Xu, *China to Stamp Out Cryptocurrency Trading Completely with Ban on Foreign Platforms*, S. CHINA MORNING POST (Feb. 7, 2018), <http://www.scmp.com/business/banking-finance/article/2132009/china-stamp-out-cryptocurrency-trading-completely-ban>.

⁶¹ Bitcoin Mining is used interchangeably with cryptocurrency mining throughout this paragraph.

⁶² Wu Yujian et al., *China Clamps Down on Preferential Treatment for Bitcoin Mines*, CAIXIN (Jan. 4, 2018), <https://www.caixinglobal.com/2018-01-04/china-clamps-down-on-preferential-treatment-for-bitcoin-mines-101193622.html>.

⁶³ Laney Zhang, *China: Government Indicates All Virtual Currency Platforms Have Withdrawn from Market*, THE LAW LIBRARY OF CONGRESS (July 12, 2018), <https://www.loc.gov/law/foreign-news/article/china-government-indicates-all-virtual-currency-platforms-have-withdrawn-from-market/>.

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most active market for cryptocurrency trading on exchanges (mainly Bitcoin). Further, Bitcoin that was traded with Chinese Yuan, at one point, accounted for over ninety percent of the global trading in Bitcoin and now has plummeted to near extinction at a mere one percent of global trading.⁶⁴

In Contrast to China, Japan arguably has the world's most progressive regulatory climate for cryptocurrencies. Since April 2017, cryptocurrency exchange businesses operating in Japan have been regulated by the Payment Services Act ("PSA").⁶⁵ Under the PSA, cryptocurrency exchange businesses must be registered, keep records, take security measures, and take measures to protect customers⁶⁶ Further, the PSA defines "cryptocurrency" as a property value and not legal tender.⁶⁷

In December 2018, the Financial Services Agency ("FSA") published a draft report which outlined the newest framework for addressing cryptocurrencies and ICOs.⁶⁸ In the report, the FSA addresses the fact that technological advancements are transborder and reflects on the importance of collaboration with other international regulatory bodies in the world of cryptocurrencies.⁶⁹ The FSA, in regards to ICO regulation, explained that specific tokens are subject to regulation based on how they are structured.⁷⁰ ICOs would be under the purview of the Financial Instruments and Exchange Act.⁷¹ As of now there is little to no opposition to the proposed measures and the draft is expected to form the new regulations. In August 2018, the FSA commissioner, explained that the agency has no plans to hinder to shut down the cryptocurrency sector and would like to see this sector grow under appropriate regulation.⁷²

b. Issues of the Current Non-uniformity & Recap on Classifications

As we have seen, the growth of cryptocurrencies has been met with countless, different, legislative and regulatory frameworks. Many international bodies respond with approval of the functionality of cryptocurrencies, while other national jurisdictions prohibit and restrict the use of blockchain technology and cryptocurrencies. The array of different perspectives shines light on the inadequate governance and oversight of a uniformed authority. Given the decentralized nature over cryptocurrencies, international bodies struggle with the idea of independent ver-

⁶⁴ *Id.*

⁶⁵ Payment Services Act, Act No. 59 of 2009, amended by Act No. 62 of 2016.

⁶⁶ *Id.*

⁶⁷ *Id.*

⁶⁸ *Japan Reveals Expectations for Crypto Industry Self-Regulation*, CRYPTOCURRENCY, <https://cripto.globalcurrency.com/2018/12/27/japan-reveals-expectations-for-crypto-industry-self-regulation/> (last visited Dec 12, 2018).

⁶⁹ *Id.*

⁷⁰ *Id.*

⁷¹ *Id.*

⁷² Samburaj Das, *No 'Excessive' Regulation: Japan's New FSA Chief Backs Crypto Industry Growth*, CCN (Aug. 24, 2018), <https://www.ccn.com/no-excessive-regulation-japans-new-fsa-chief-backs-crypto-industry-growth/>.

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sus dependent oversight. The lack of clear legal class for cryptocurrencies could lead to differential treatment and repercussions of different International financial institutions, governments and authorities.

While analyzing the international perspective of classifications, since cryptocurrencies are used for exchanges of goods and services online and fulfilling all the characteristics of the economic definition of money, many argue cryptocurrencies should be treated as money.⁷³ Institutions like the CFTC and the Central bank of Finland have classified cryptocurrencies as commodities.⁷⁴ Many believe classifying cryptocurrencies as commodities rather than money avoids anti-money laundering laws.⁷⁵ The emergence of complex ICOs, where investors who invest in a new token (cryptocurrency) are given numerous rights, such as dividends from investment and voting rights, have been ruled as investment contracts.⁷⁶ The U.S., SEC in particular, have stated these contracts are under securities and the European Securities Law Market Authority have stated, depending on how the token is structured, it may fall under their securities laws.⁷⁷

In sum, the discussion around legal classification is extremely polarized, within and across borders causing extreme chaos and confusion for international regulations and governance. Many countries have tried to implement regulations to better address blockchain technology and strengthen data security.

IV. GDPR Fosters Conversations for a Uniformed Regulatory System on Data Security

The EU's new GDPR will be applied to every company across the continent.⁷⁸ This top-down set of regulations, that addresses individual data privacy concerns, repeals and replaces the European Commissions' ("EC") Data Protection Directive 95/46/EC.⁷⁹ The GDPR treats digital privacy as a fundamental right, thus the law is extended to any business or consumer that exchanges data within the EU.⁸⁰ The GDPR went into effect on May 25, 2018.⁸¹

⁷³ Gikay, *supra* note 19.

⁷⁴ *Id.*

⁷⁵ *Id.*

⁷⁶ *Id.*

⁷⁷ *Id.*

⁷⁸ Michael Roque, *Why GDPR Matters for Cryptocurrencies*, CRYPTOLERANCE (Mar. 25, 2018), <https://www.cryptolerance.com/why-gdpr-matters-for-cryptocurrencies/>.

⁷⁹ Dalmacio V. Posadas, Jr., *The Internet of Things: The GDPR & the Blockchain may be incompatible*. 21 NO. 11 J. INTERNET LAW 1 (May 2018) (explaining that as the Internet of Things ("IoT") continues to rapidly expand one of the many concerns is data-security and privacy. The author further suggests that some believe that Blockchain Technology can provide adequate data-security and privacy, in the same way it has provided data-security and privacy for Bitcoin while others believe the GDPR provides sufficient protections).

⁸⁰ *Id.*

⁸¹ GDPR, *supra* 1

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a. Background, Territorial Scope & Compliance

After three years of negotiations, on December 17, 2015, the European Parliament came to an agreement on the final draft of the GDPR.⁸² The GDPR has a far-reaching effect in that it: “applies to the processing of personal data of data subjects who are in the [EU] by a controller or processor not established in the [EU].”⁸³

The GDPR embodies this international push for a more unified framework of addressing individual’s privacy concerns due to emergent technology and the use of the internet. The GDPR’s reach is far beyond the EU because many data processors reach the EU, subsequently being subject to their laws.⁸⁴ Further, extraterritorial applicability in the framework of the GDPR means that data processors within the blockchain related service providers will be affected by the regulations due to the transnational nature of blockchains and cryptocurrency engagements.⁸⁵

GDPR compliance is costly. Small data-driven businesses within the EU may be doomed due to the cost of compliance, and then non-compliance fees.⁸⁶ Worldwide companies based outside the EU, which are subject to EU law, may decide to block Europeans from using their services or even terminate their EU operations.⁸⁷ A recent survey, of U.S. businesses, shows that seventy percent of businesses will spend anywhere between \$50,000 to \$1 million to comply with the GDPR standards.⁸⁸ Interestingly enough, compliance is much cheaper than non-compliance and the infringement penalties can reach as high as \$22 million.⁸⁹ However, the financial consequences do not outweigh the societal benefits of the GDPR. Under this new framework, EU citizens have fundamental rights to their data, to rectify, to object, and access at will.⁹⁰

b. GDPR vs. Blockchain Technology

Blockchains immutability, as an inherent characteristic, makes it not compatible with the GDPR. The right to be forgotten is a major concept that comes from the rights given to consumers from the GDPR. Article 17 of the GDPR mandates that the data subject . . .”shall have the right to obtain from the controller the

⁸² *Id.*

⁸³ General Data Protection Regulation 2016/679, art. 3(2).

⁸⁴ Posadas, *supra* 79.

⁸⁵ Stefan Stankovic, *GDPR vs. Blockchain - Technology Against The Law*, CRYPTO BRIEFING (June 19, 2018), <https://cryptobriefing.com/gdpr-vs-blockchain-technology-against-the-law/>.

⁸⁶ *Id.*

⁸⁷ *Id.*

⁸⁸ Robert Abela, *Netsparker Surveys US Based C-Levels on GDPR Compliance Find vulnerabilities in your websites before hackers do*, NETSPAKER (Apr. 12, 2018), <https://www.netsparker.com/blog/web-security/gdpr-compliance-2018-survey-results/>.

⁸⁹ *Id.*

⁹⁰ Stankovic, *supra* 85.

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erasure of personal data concerning him or her without undue delay and the controller shall have the obligation to erase personal data without undue delay.”⁹¹

The GDPR’s right to be forgotten is evidently designed for a system where data is centrally stored and processed. Thus, this right to be forgotten is incompatible with decentralized blockchains and cryptocurrencies.⁹² To break this down, decentralized blockchains do not rely on a central authority (like the World Bank) to process data, therefore, this idea of a third party or data controller to erase personal data from a blockchain is not accomplishable and doesn’t comply with GDPR regulations. Further, the backlash from laissez fair minded citizens would be detrimental to society, and pro GDPR authorities, due to the fundamental ideology of blockchain technology. The question begs: does the transnational transfer of data due to the blockchain of the cryptocurrency directly oppose the provisions of the GDPR? If the answer is yes, then jurisdiction and compliance issues come directly into effect. Consequently, blockchains and the GDPR cannot work under the same framework.

V. Cryptocurrency Fosters Criminality

Cryptocurrencies non-compliance with the GDPR is not the only obstacle in their way. Many national authorities have targeted cryptocurrencies as a tool that enables illicit activities. Cryptocurrencies, just by their design, makes it very attractive for parties to perform illicit transactions. Criminals and terrorist can use cryptocurrencies as a mechanism to move and store illicit funds while evading regulatory and criminal guidelines in place. With no central authority there is no oversight to properly police the perpetrators. Tracking and tracing funds to the criminals creates heavy burdens on law enforcement as there are no uniformed or easy way to properly pinpoint the acts of money laundering and other criminal activities.

Cryptocurrencies, intrinsically, have a pseudonymous nature to them, which means that it is wholly anonymous other than the owner’s public key on the blockchain⁹³There are an array of complex methods of camouflaging transactions through “tumbling” and “mixing” that further safeguards the user’s privacy and makes the transacting untraceable on the blockchain.⁹⁴ Individual’s identities remain anonymous due to these peer-to-peer transactions.⁹⁵

a. Virtual Terrorism- Dark web

To date, there has been no indication that cryptocurrencies have been used to fund criminal activity, but independent acting terrorists that have used cryptocur-

⁹¹ General Data Protection Regulation 2016/679, art. 17.

⁹² Stankovic, *supra* 85.

⁹³ Joan Murphy et al., *Silk Road 101: How the “Darknet” Works*, USA TODAY (last updated Jan. 27, 2015), <https://www.usatoday.com/story/tech/2015/01/16/silk-road-ross-ulbricht/21824475>.

⁹⁴ *Id.*

⁹⁵ *Id.*

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rencies. These actions foreshadows frightening possibilities of transnational crimes in the future.⁹⁶

A 2015 Europol report highlights the fact that Bitcoin has been a tool in “high-profile” investigations involving payments of criminals. Further, cryptocurrencies were used in over forty percent of illicit transactions in the EU.⁹⁷ Users of cryptocurrencies may access dark websites, which is a publicly downloadable router network implanted to conceal Internet Protocol (“IP”) addresses for the users.⁹⁸ Thus, the network conceals the identity and location of those using cryptocurrencies on the dark web. Marketplaces, like the Silk Road, are used as a forum to buy and sell illicit goods and services.⁹⁹ In many of these marketplaces cryptocurrencies are the only acceptable currency used.¹⁰⁰ To convert these funds from cryptocurrencies to dollars, users must seek the services of a crypto exchanger. There is a plethora of unlicensed money transmitters which allows users further anonymity during the transaction through the exchange.¹⁰¹ Consequently, these unlicensed money transmitters and the users are subject to criminal prosecution.¹⁰²

VI. Proposed Steps for a Uniformed Regulatory Framework

There are no norms, or *jus cogens*, regarding the use of cryptocurrencies in international law. Thus, it is key that countries and international actors come together to expose options for regulatory frameworks to address rise in concern of criminal activities and transnational compliance issues. With varying views to regulating Bitcoin, with countries like Japan fully supporting the digital market currency to countries like China who have led countless strikes against the market, regulation becomes increasingly difficult.

Already we are seeing initiatives of international collaboration to combat the threat of cryptocurrency tax crimes.¹⁰³ Countries such as the U.S., Australia, Canada, the United Kingdom, and the Netherlands, have come together to form the Joint Chiefs of Global Tax Enforcement (J5).¹⁰⁴ This initiative is incredibly im-

⁹⁶ Nikita Malik, *How Criminals And Terrorists Use Cryptocurrency: And How To Stop It*, FORBES (Aug. 31, 2018), <https://www.forbes.com/sites/nikitamalik/2018/08/31/how-criminals-and-terrorists-use-cryptocurrency-and-how-to-stop-it/#7b04821f3990>.

⁹⁷ EUROPOL, THE INTERNET ORGANISED CRIME THREAT ASSESSMENT (IOCTA) (2015), available at <https://www.europol.europa.eu/activities-services/main-reports/internet-organised-crime-threat-assessment-iocta-2015> (last visited Jan 1, 2019).

⁹⁸ Nina Marino, Jennifer Lieser, Casey Clark, *The Dark Side of Bitcoin*, 41-SEP L.A. LAW 36, 38 (2018) (referring to the U.S. DEP'T OF HOMELAND SEC., RISKS AND THREATS OF CRYPTOCURRENCY (2014); FIN. ACTION TASK FORCE, VIRTUAL CURRENCIES: KEY DEFINITIONS AND POTENTIAL AML/CFT RISKS (2014)).

⁹⁹ *Id.*

¹⁰⁰ *Id.*

¹⁰¹ *Id.*

¹⁰² *Id.*

¹⁰³ Jimmy Aki, *International Coalition Set to Tackle Cryptocurrency Tax Crime*, BITCOIN MAGAZINE (July 3, 2018), <https://bitcoinmagazine.com/articles/international-coalition-set-tackle-cryptocurrency-tax-crime/>.

¹⁰⁴ *Id.*

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portant as the world has seen a rapid increase in cybercrimes especially at the hands of cryptocurrencies. Through the Joint Chiefs of Global Tax Enforcement, countries can share information to reduce the likelihood of organized criminals and tax evaders using new technology to manipulate the system and exploit vulnerable persons for their illegal gain. Cryptocurrencies enables a new global criminal community that transcends boundaries. Thus, global leaders must come together to increase pressure and reach to inhibit illegal activity.

The effect of regulations, such as the GDPR, has been felt all around the world in the cryptocurrency community. The EU with the GDPR places emphasis on the individual rights to privacy. Data protection in the EU is considered a fundamental right. On the other side of the coin, the U.S. looks at personal data as property of the entity holding said data; thus, making data transfer between different countries and their entities much more complex.

A solution to counteract this apparent incongruity is to determine a suitable framework for blockchain technology itself since the regulatory and legal issues with cryptocurrencies are governed by existing domestic frameworks. In this new wave of cyber currency, with transnational differences on the topic, global harmonization is vital for this global market. Common policy is needed to prevent risk of criminal activities and to empower predictability and common practices between all parties involved in the transaction to avoid jurisdiction issues in this borderless market.

An international agreement on blockchain principles would allow for uniformity across jurisdictions and require countries to adhere to the newly created international regulatory norms. An international agreement would establish common standards while allowing each signatory to impose additional regulations as desired. Without an international agreement, money launderers, tax evaders, and terrorist can take advantage of the definitional challenges and different views on regulation internationally. As cryptocurrency is a global concept with exchanges possible in any country, without uniformity, mass confusion exists and the marketplace remains out of control.

Ultimately there needs to be guidance and conversation of uniformed regulations at the G20 level. These regulations need to cover the issuance of digital money by ICOs and create rules to protect against market manipulation. Organizations like the Financial Action Task Force (“FATF”), an intergovernmental body formed to fight money laundering and terrorist financing, must take the lead to regulate cryptocurrencies. While many actors in the virtual currency industry oppose regulation because of the costs of compliance and fears that regulation will hinder innovation, the complex relationship between technology and governance is much more than innovation and statutory definitions.

Developing countries around the world have passed stringent regulations on blockchain and cryptocurrency solutions. Many countries around the world have banned ICOs and cryptocurrencies, while the U.S. regulates ICO’s in the same manner that they regulate other securities. These approaches have only served as a mode of removing the benefits of ICO’s while not fully addressing the criminal aspects.

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a. The Solution Broken Down

International policymakers at all levels of governments must consider utilizing new solutions, such as blockchain technology, to prevent future data breaches. These legislators should enact a uniformed data-breach notification and data protection statute that preempts an international data-breach law. This statute should be designed and implanted by an array of hybrid international authorities in cryptocurrencies, money laundering, terrorist financing and ICO's. This statute would act as the promulgator of regulation concerning data collection, blockchain regulation on anonymity and right of erasure, and would create a specific department for international cybersecurity. A specialized Department for International Cybersecurity could promote international compliance, harmonization on laws and jurisdiction, and serve as an information clearinghouse for businesses regarding data-breach related issues. Like the GDPR regulations, the statute must require businesses to notify all affected consumers of a data-breach occurrence that results in personal information disclosure, within a reasonable time of no more than thirty days from breach. With no international means of uniformed jurisdiction, this statute should suggest significant civil procedures and penalties against companies who do not comply with data-breach regulations.

VII. Conclusion

While countries continue to express ambivalence about cryptocurrency technology and struggle to come to grip with blockchain regulatory solutions, we see an increase worry in data security protection. The main question arises: will international regulators work together? As blockchain technology and cryptocurrencies transcends borders, domestic regulators must tackle breaches of their laws by facilitating global coordination and harmonizing a uniformed set of regulations regarding data security. Figuring out how to regulate and enforce laws in a virtual currency world that can operate anonymously across borders causes severe issues. These issues include using cryptocurrency to: (1) illicit crimes, such as, financing terrorism, and money laundering; (2) promote tax evasion by hiding income; and (3) defraud individuals and companies through market manipulations. Regulation is needed, not to change the decentralized nature, but to increase security levels. The aim of a uniformed set of regulatory practices is to bring legal order to a currently unregulated market. The uniformed framework needs to be implemented to oversee the main service provider activities, ICO's, as well as intermediaries, wallet providers, exchanges and other bodies or individuals in these digital financial regulations.