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Emma K. Macfarlane
University of Michigan Law School

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STRENGTHENING SANCTIONS: SOLUTIONS TO CURTAIL THE EVASION OF INTERNATIONAL ECONOMIC SANCTIONS THROUGH THE USE OF CRYPTOCURRENCY

*Emma K. Macfarlane**

I. INTRODUCTION

In March 2020, Chinese nationals Tian Yinyin and Li Jiadong were charged with laundering over \$100 million in cryptocurrency.¹ The source of the funds? A state-sponsored North Korean malicious cyber group.² The process that Tian and Li followed to launder the funds was strikingly simple. First, Tian and Li received the stolen cryptocurrency from North Korean hackers.³ They then transferred the digital assets among various cryptocurrency addresses, muddying the origins of the funds.⁴ This allowed Tian and Li to transfer the cryptocurrency into Chinese bank accounts and exchange the cryptocurrency for prepaid Apple iTunes gift cards.⁵ This simple process allowed a small group of state-sponsored actors to evade heavy United Nations sanctions levied against North Korea.⁶

* J.D. Candidate, University of Michigan Law School (2021); B.A., McGill University (2016). My sincere thanks to Samuel Grone for his invaluable edits on this note and support over the past three years. Thank you also to the editing team of the *Michigan Journal of International Law*, both for your thoughtful suggestions and friendship. Finally, thank you to Karin Thrasher for sharing her extensive insights into this topic throughout the editing process.

1. Spencer S. Hsu & Ellen Nakashima, *Two Chinese Nationals Indicted in Cryptocurrency Laundering Scheme Linked to North Korea*, WASH. POST (Mar. 3, 2020), https://www.washingtonpost.com/local/legal-issues/two-chinese-nationals-indicted-in-cryptocurrency-laundering-scheme-linked-to-north-korea/2020/03/02/b6a286c2-5c8d-11ea-9055-5fa12981bbbf_story.html.

2. *Chinese Remitters Tian Yinyin, Li Jiadong Charged with Laundering US\$100m Cryptocurrency*, STANDARD (Mar. 3, 2020), [https://www.thestandard.com.hk/breaking-news/section/6/143035/Chinese-remitters-Tian-Yinyin,-Li-Jiadong-charged-with-laundering-US\\$100m-cryptocurrency](https://www.thestandard.com.hk/breaking-news/section/6/143035/Chinese-remitters-Tian-Yinyin,-Li-Jiadong-charged-with-laundering-US$100m-cryptocurrency); *Treasury Sanctions Individuals Laundering Cryptocurrency for Lazarus Group*, U.S. DEP'T OF TREASURY (Mar. 2, 2020), <https://home.treasury.gov/news/press-releases/sm924>.

3. *Id.*

4. *Id.*

5. *Id.*; Aruna Viswanatha, Ian Talley & Dustin Volz, *Two Chinese Nationals Indicted in Alleged North Korean Bitcoin Hack*, WALL ST. J. (Mar. 2, 2020), <https://www.wsj.com/articles/two-chinese-nationals-indicted-in-alleged-north-korean-bitcoin-hack-11583170682>.

6. United Nations member states are prohibited from directly or indirectly supplying, selling, or transferring to North Korea funds or assets that would be used to support their nuclear weapons program. See S.C. Res. 1718, ¶ 8 (Oct. 14, 2006). The North Korean state-sponsored entities which transferred the funds to Tian and Li have in the past been linked to

The actions of Tian and Li are the tip of the iceberg. A UN report notes that low levels of governmental oversight in the cryptocurrency sector have enabled North Korea to generate income at an alarming rate.⁷ As of July 2019, an estimated \$2 billion had been raised through the evasion of financial sanctions using cryptocurrencies.⁸ North Korea is not alone in its tactics. Russia⁹ and Venezuela¹⁰ have also dabbled in the use of cryptocurrencies to evade international sanctions. The efficacy of financial sanctions is in this way consistently undermined through illicit transfers of cryptocurrency.¹¹ As the cryptocurrency sector exceeds forty-two million users worldwide,¹² it begs the question: If cryptocurrency is left unregulated in the international sphere, will financial sanctions have *any* power at all?

This note posits that an international regulatory framework is necessary to combat the evasion of financial sanctions.¹³ It further argues that the best way to structure this new framework is through the enactment of a new multilateral treaty. Section II provides an overview of the innerworkings of cryptocurrencies and the state of cryptocurrency regulation today. Section III details the inadequacy of the current patchwork regulation of cryptocurrency and focuses on how cryptocurrencies aid in the evasion of financial sanctions. It concludes that an international regulatory framework is necessary to curtail bad actors' evasion of sanctions through cryptocurrency. Sec-

hacks of other cryptocurrency exchanges to raise funds in support of North Korea's nuclear program. The transfer of funds to Tian and Li were linked to these same reported hacks. In other words, the United Nations suspected these funds would also be used to generate revenue for North Korea's nuclear weapon program. *See* Hsu & Nakashima, *supra* note 1.

7. Rep. of the S.C., at 4/142, U.N. Doc. S/2019/691 (2019).

8. These proceeds are used for the country's weapons of mass destruction programs. *Id.*

9. Russian officials conceded that a primary motivation for the creation of a "cryptorouble" (a new type of cryptocurrency) was to "settle accounts with [Russia's] counterparties all over the world with no regard for sanctions." CONG. RSCH. SERV., IF10825, DIGITAL CURRENCIES: SANCTIONS EVASION RISKS 2 (Feb. 8, 2018).

10. Venezuela attempted to make its own cryptocurrency in 2017. President Nicolas Maduro explicitly defended Venezuela's efforts as a way to circumvent the financial "blockade" created by the U.S. government. Alexandra Ulmer & Deisy Buitrago, *Enter the 'Petro': Venezuela to Launch Oil-Backed Cryptocurrency*, REUTERS (Dec. 3, 2017), <https://www.reuters.com/article/us-venezuela-economy/enter-the-petro-venezuela-to-launch-oil-backed-cryptocurrency-idUSKBN1DX0SQ>.

11. *Id.*

12. Lubomir Tassev, *The Number of Cryptocurrency Wallets is Growing Exponentially*, BITCOIN.COM (Sept. 26, 2019), <https://news.bitcoin.com/the-number-of-cryptocurrency-wallets-is-growing-exponentially/>.

13. Financial sanctions are the "withdrawal of customary trade and financial relations for foreign- and security-policy purposes." They are typically levied by states and supranational bodies such as the United Nations and European Union; targets of sanctions can range from entire countries, to organized groups, to individuals. Jonathan Masters, *What are Economic Sanctions?*, COUNCIL ON FOREIGN RELATIONS (Aug. 12, 2019), <https://www.cfr.org/backgrounder/what-are-economic-sanctions>.

tion IV proposes a new multilateral framework for the regulation of cryptocurrency. It further details why this is the best option for curtailing the evasion of financial sanctions through the use of cryptocurrencies.

II. UNDERSTANDING CRYPTOCURRENCIES AND CRYPTOCURRENCY REGULATION

A. *The Rise of Cryptocurrency*

The use of cryptocurrency has revolutionized international commerce.¹⁴ The first digital currency, Bitcoin, was developed in 2009.¹⁵ As of 2019, an estimated forty-two million users have access to over 2000 digital currencies.¹⁶ The astronomic rise in the popularity of cryptocurrencies may be explained by two key properties.¹⁷ First, digital currencies are typically decentralized.¹⁸ Practically, this means that transactions can be completed without the use of intermediaries such as banks.¹⁹ Decentralization is attractive because, as one commentator opines, it removes the intermediaries who “tell us what to do, tell us what to think, and charge us for the privilege as they gatekeep the juiciest intersections of our economies.”²⁰

Second, cryptocurrencies are mostly “pseudo-anonymous.”²¹ To understand the extent of this anonymity, one must first understand an aspect of blockchain technology that underlies all cryptocurrencies. This technology is called “public key cryptography.” Public key cryptography is a crypto-

14. Ilker Koksall, *The Rise of Crypto as Payment Currency*, FORBES (Aug. 23, 2019, 10:28 AM), <https://www.forbes.com/sites/ilkerkoksall/2019/08/23/the-rise-of-crypto-as-payment-currency/#42d0901b26e9>.

15. Chris McCann, *12 Graphs That Show Just How Early the Cryptocurrency Market Is*, MEDIUM (May 7, 2018), <https://medium.com/@mccannatron/12-graphs-that-show-just-how-early-the-cryptocurrency-market-is-653a4b8b2720>.

16. Reiff, *supra* note 13.

17. Note here the distinction between digital currencies and cryptocurrencies. Digital currencies are the “overall superset” that includes cryptocurrencies. Some digital currencies—such as Central Bank Digital Currencies (“CBDCs”)—have the potential for mass centralization. Because cryptocurrencies rely on cryptography (unlike, for example CBDCs), this leads to greater inherent decentralization. For more on this, see Tommaso Mancini-Griffoli, Marla Soledad Martinez Peira, Itai Agur, Anil Ari, John Kiff, Adina Popescu & Celine Rochon, *Casting Light on Central Bank Digital Currencies*, INT’L MONETARY FUND (Nov. 12, 2018).

18. *Id.* New cryptocurrencies that have a centralized framework (such as Libra) are not included within this analysis.

19. *Id.*; BANK FOR INT’L SETTLEMENTS, CENTRAL BANK DIGITAL CURRENCIES 6 (Mar. 2018).

20. Clem Chambers, *Decentralized Cryptocurrencies are the Future*, FORBES (Sept. 6, 2018), <https://www.forbes.com/sites/investor/2018/09/06/decentralized-cryptocurrencies-are-the-future/#731549f235b1>.

21. Dong He, Karl Habermeier, Ross Leckow, Vikram Haksar, Yasmin Almeida, Mikari Kashima, Nadim Kyriakos-Saad, Hiroko Oura, Tashin Saadi Sedik, Natalia Stetsenko & Concepcion Verdugo-Yepes, *Virtual Currencies and Beyond: Initial Considerations* 9 (Jan. 2016).

graphic system that uses a pair of digital keys.²² Each cryptocurrency user has two keys.²³ One is a public key, and one is private.²⁴ The private key is a randomly generated hexadecimal number.²⁵ As the name suggests, the user must keep their private key private at all times.²⁶ Public keys are another hexadecimal number; they are derived from (and have a mathematical relationship to) the private key.²⁷ A user need not keep their public key private.²⁸

A simple illustration helps demonstrate how public and private keys facilitate anonymity in cryptocurrency transactions.²⁹ Imagine that Sally wants to sell Jake her lawnmower. Jake will pay Sally using Bitcoins encrypted by public key cryptography. Because Sally and Jake are both Bitcoin users, they each have one public key and one private key. Jake sends Bitcoins to Sally. It is best to think of these Bitcoins as being transferred within a small (digital) box. Jake “locks” (encrypts) the box using Sally’s public key. When Sally receives the box, she “unlocks” (decrypts) it using her own private key. This works because Sally’s public and private keys are mathematically related.

One component of this illustration is crucial to understand the nature of cryptocurrency: the identities of Sally and Jake are themselves obscured to third-parties. The only identifiable information within the transaction to other users—Sally’s public key—is itself mathematically scrambled into a number referred to as a “hash.”³⁰ In this way, users in cryptocurrency transactions may retain a high level of anonymity.³¹ The transaction that other users *can* see, then, is informationally equivalent to: User A is sending fifteen coins to User X.

22. *Id.* at 10, fn. 8.

23. *See id.*

24. *See id.*

25. *See* DELOITTE, A MARKET OVERVIEW OF CUSTODY FOR DIGITAL ASSETS 6 (June 2020).

26. *Public and Private Keys*, BLOCKCHAIN.COM (Mar. 29, 2020), <https://support.blockchain.com/hc/en-us/articles/360000951966-Public-and-private-keys>.

27. *What is Public-Key Cryptography?*, GLOB. SIGN (2020), <https://www.global-sign.com/en/ssl-information-center/what-is-public-key-cryptography>.

28. *Id.*

29. For an in-depth and accessible explanation of the workings of public key cryptography, *see Surveillance Defense*, SURVEILLANCE SELF-DEFENSE (Nov. 29, 2018), <https://ssd.eff.org/en/module/deep-dive-end-end-encryption-how-do-public-key-encryption-systems-work>.

30. Ed Felten, *Does Hashing Make Data “Anonymous”?*, FED. TRADE COMM’N. (April 22, 2012), <https://www.ftc.gov/news-events/blogs/techftc/2012/04/does-hashing-make-data-anonymous>.

31. *Id.*

B. *The Regulation of Cryptocurrency*

The proliferation of cryptocurrency has raised the need for cross-border regulation.³² The overall cryptocurrency market size is projected to reach \$1.4 billion USD by 2024;³³ this is complemented by the increasing willingness of certain countries to move toward cashless economies.³⁴ Moreover, not only has the number of cryptocurrency users grown, but also the nature of cryptocurrency transactions has evolved. Cryptocurrencies are not only used for private monetary exchanges, but for investments in start-ups,³⁵ traveling into space,³⁶ and for buying goods such as Lamborghinis on the luxury marketplace.³⁷

Cryptocurrencies are also used for illicit activities. The transactional anonymity that comes alongside the use of cryptocurrencies like Bitcoin attracts users who engage in a host of illegal behaviors.³⁸ Bitcoin is frequently

32. Ralph Auer & Stijn Claessens, *Regulating Cryptocurrencies: Assessing Market Reactions*, BIS QUARTERLY REV. (Sept. 23, 2018), <https://www.bis.org/publ/qtrpdf/rqt1809f.htm>; Ana Alexandre, *New Study Reveals Countries with Most Registered Crypto Exchanges*, COINTELEGRAPH (Sept. 11, 2019), <https://cointelegraph.com/news/new-study-reveals-countries-with-most-registered-crypto-exchanges> (“In 2018, the total volume of bitcoin directly transferred between exchanges was almost \$92.6 billion. A total of \$65.1 billion was transferred by exchanges from G20 countries, Hong Kong, and Singapore.”).

33. *Cryptocurrency Market by Offering*, MARKETS & MARKETS (Feb. 28, 2020), <https://www.marketsandmarkets.com/Market-Reports/cryptocurrency-market-158061641.html>.

34. Elena Perez, *Crypto vs. Cash: Which Countries Expect to Go Digital Soon?*, COINTELEGRAPH (Aug. 12, 2019), <https://cointelegraph.com/news/crypto-vs-cash-which-countries-expect-to-go-digital-soon> (noting, for example, that Sweden uses cash for only 2% of payment transactions and that by 2030 “it is expected that only 10% of the money spent in Canada will be completed with cash transactions.”); see also Ryan Browne, *People in Sweden Barely Use Cash – and That’s Sounding Alarm Bells for the Country’s Central Bank*, CNBC (May 3, 2018), <https://www.cnbc.com/2018/05/03/sweden-cashless-future-sounds-alarm-bells-for-the-central-bank.html>.

35. See Justin O’Connell, *Venture Capital’s View of DeFi*, FORBES (March 5, 2020).

36. Roger Huang, *Cryptocurrency Is Strengthened By Space Exploration*, FORBES (June 29, 2020), <https://www.forbes.com/sites/rogerhuang/2020/06/29/cryptocurrency-is-strengthened-by-space-exploration/#5ac493143c5b>.

37. Ali Montag, *This Cryptomillionaire Bought a Lamborghini for \$115 Thanks to Bitcoin*, CNBC (Feb. 7, 2018), <https://www.cnbc.com/2018/02/07/bitcoin-millionaires-are-buying-lamborghini-with-cryptocurrency.html>.

38. As of 2018, close to one-half of bitcoin transactions were associated with illegal activity. Further, “the estimated 24 million bitcoin market participants that use bitcoin primarily for illegal purposes (as at April 2017) annually conduct around 36 million transactions, with a value of around \$72 billion, and collectively hold around \$8 billion worth of bitcoin.” Sean Foley, Jonathan R. Karlsen & T. Iis J. Putninš, *Sex, Drugs, and Bitcoin: How Much Illegal Activity is Financed Through Cryptocurrencies?*, UNIV. OF OXFORD BUS. L. (Feb. 19, 2018), <https://www.law.ox.ac.uk/business-law-blog/blog/2018/02/sex-drugs-and-bitcoin-how-much-illegal-activity-financed-through>; Emanuele Borgonovo, Stefano Caselli, Alessandra Cillo, Donato Masciandaro & Giovanni Rabitti, *Cryptocurrencies, Central Bank Digital Cash, Tra-*

identified as a method for financing terrorism,³⁹ money laundering,⁴⁰ illicit weapons procurement,⁴¹ and large-scale drug deals,⁴² among other illegitimate uses.⁴³

Cryptocurrencies today are regulated sporadically on a nation-by-nation basis.⁴⁴ It is striking that despite the ubiquity of cryptocurrency the world over,⁴⁵ no international uniform regulatory system exists. Cryptocurrency is anomalous in this respect. In our globalized society, international organizations have gone to great lengths to regulate activities with high cross-border implications. The flight of aircrafts,⁴⁶ the transfer of goods,⁴⁷ various financial services,⁴⁸ and environmental emissions⁴⁹ are all regulated through the

ditional Money: Does Privacy Matter?, 7 (Ctr. Applied Rsch. on Int'l Mkts, Banking, Fin. & Reg., Working Paper N. 95, 2018)

39. Cynthia Dion-Schwarz, David Manheim & Patrick B. Johnston, *Terrorist Use of Cryptocurrencies*, RAND CORP. ix (2019), https://www.rand.org/content/dam/rand/pubs/research_reports/RR3000/RR3026/RAND_RR3026.pdf.

40. See, e.g., Mike Orcutt, *Criminals Laundered \$2.8 Billion in 2019 Using Crypto Exchanges, Finds a New Analysis*, MIT TECH. REV. (Jan. 16, 2020), <https://www.technologyreview.com/f/615064/cryptocurrency-money-laundering-exchanges/>.

41. See, e.g., Foley et. al., *supra* note 38.

42. *Id.*

43. *Investor Alert: Bitcoin and Other Virtual Currency-Related Investments*, SEC. EXCH. COMM'N (May 7, 2014), https://www.sec.gov/oiea/investor-alerts-bulletins/investoralertsia_bitcoin.html; Adam Barone, *The Future of Cryptocurrency in 2019 and Beyond*, INVESTOPEDIA (June 25, 2019), <https://www.investopedia.com/articles/forex/091013/future-cryptocurrency.asp>. Although Bitcoin is often the target of public ire for illegal behaviors—likely due at least in part to its public visibility and popularity—other cryptocurrencies such as Ethereum, Ripple, and Litecoin have the same potential for the illegitimate uses mentioned here. See, e.g., Joseph Young, *Why a Mysterious Ethereum User Paid \$2.6 Million to Send \$130 of Crypto*, FORBES (June 10, 2020), <https://www.forbes.com/sites/youngjoseph/2020/06/10/why-a-mysterious-crypto-user-paid-26-million-to-send-merely-130-in-ethereum/#79c73993588a>; Gertrude Chavez-Dreyfuss, *Roughly \$400 Million of Ripple Tokens Tied to Illegal Activity: Elliptic*, U.S. NEWS (Nov. 20, 2019), <https://www.usnews.com/news/technology/articles/2019-11-20/roughly-400-million-of-ripple-tokens-tied-to-illegal-activity-elliptic>; Rakesh Sharma, *Litecoin Gains Ground on Bitcoin in the Dark Web*, INVESTOPEDIA (June 25, 2019), <https://www.investopedia.com/news/litecoin-gains-ground-bitcoin-dark-web/>.

44. See Global Legal Research Center, *Regulation of Cryptocurrency Around the World*, L. LIBR. CONG. 8–9 (June 2018), <https://www.loc.gov/law/help/cryptocurrency/cryptocurrency-world-survey.pdf>.

45. See Helen Partz, *19% of World Population Bought Crypto Before 2019: Kaspersky Report*, COINTELEGRAPH (June 21, 2019), <https://cointelegraph.com/news/19-of-world-population-bought-crypto-before-2019-kaspersky-report>.

46. See Convention on International Civil Aviation, Dec. 7 1944, 15 U.N.T.S. 295.

47. See General Agreement on Tariffs and Trade 1994, Apr. 15, 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex 1A, 1867 U.N.T.S. 187, 33 I.L.M. 1153 (1994) [hereinafter GATT 1994].

48. See, e.g., James Chen, *Basel Accord*, INVESTOPEDIA (July 22, 2019) https://www.investopedia.com/terms/b/basel_accord.asp.

49. See Hans W. Micklitz, *International Regulation on Health, Safety and the Environment - Trends and Challenges*, J. OF CONSUMER POL. 23 (Mar. 2000).

force of international agreements. Commentators believe that the regulation of cryptocurrency is within reach.⁵⁰ However, there is scant agreement on a framework or method of implementation that would function as an effective international regulatory solution.⁵¹

III. THE PROBLEMATIC ABSENCE OF INTERNATIONAL REGULATIONS FOR CRYPTOCURRENCIES

State-by-state regulation of cryptocurrencies has problematic implications for cross-border investigations and predictability in application. Moreover, this regulatory framework leaves open opportunities for actors worldwide to violate international sanctions with impunity. Section III.A details the upswing in enforcement efforts as well as the lack of a formal, uniform mechanism to regulate cryptocurrency. It also explores the unwelcome consequences that come hand-in-hand with a dearth of international regulation. Section III.B details how cryptocurrencies are used to evade international sanctions and explains why the lack of overarching regulation is especially problematic in the sanctions context. Finally, Section III.C identifies both the conceptual and ethical problems associated with a scarcity of international cryptocurrency regulation.

A. *Repercussions of Declining to Regulate Cryptocurrency on an International Level*

Cryptocurrencies cannot be effectively regulated by a patchwork of laws which vary from nation to nation. Two problems arise without an international regulatory framework. First, the interaction of national laws results in a framework that is both over- and under-inclusive for investigations and prosecutions. Second, enforcement mechanisms are unpredictable. This scares away institutional investment in cryptocurrency and inhibits the development of cryptocurrency in areas that matter most, such as emerging economies.

50. Kate Rooney, *Your Guide to Cryptocurrency Regulations Around the World and Where They Are Headed*, CNBC: MARKETS (March 27, 2018, 6:00 AM), <https://www.cnbc.com/2018/03/27/a-complete-guide-to-cyprocurrency-regulations-around-the-world.html>.

51. Compare Ed Howden, *The Crypto-Currency Conundrum: Regulating an Uncertain Future*, EMORY INT'L L. REV. 742 (2015) (arguing that regulatory bodies must undertake the regulation of all cryptocurrencies), with Hossein Nabilou, *How to Regulate Bitcoin? Decentralized Regulation for a Decentralized Cryptocurrency*, INT'L J. OF L. & INFO. TECH. 266 (2019) (arguing that cryptocurrencies such as bitcoin cannot be regulated in a centralized fashion because of their decentralized structure, and that regulation must occur at their code or protocol layer).

1. Over- and Under-Inclusivity

A nation-by-nation legal framework has the two-pronged weakness of being both over- and under-inclusive. The framework is underinclusive because it allows those using cryptocurrency for illicit purposes to slip through the cracks and remain untouched by any country's law. Consider, for instance, those users who intend to exploit cryptocurrency for the purpose of tax evasion.⁵² In August 2019, the Portugal Tax Authority announced that neither cryptocurrency trading nor payments made through the use of cryptocurrency would be taxed within the country.⁵³ Conversely, Sweden applies a capital gains tax of thirty percent to all forms of cryptocurrency, taking the view that digital coins are assets rather than cash.⁵⁴ These radically differing policies combined with the "default privacy features" that define digital assets have effectively made cryptocurrency "the new Swiss bank account":⁵⁵ Without an overarching regulatory authority, there is little to prevent a Swedish coin holder from storing, trading, and profiting from cryptocurrency held in Portugal, all without paying the taxes mandated by Swedish law.⁵⁶ A mechanism is needed to identify those actors that seek to evade their countries' taxes. Without international coordination, this remains near impossible.⁵⁷

Legal inconsistencies from nation to nation also results in the potential for over-inclusive regulation. The paucity of supranational regulation invites a high likelihood of overlapping liability. This risks the violation of the

52. See António Madeira, *No Tax for You: Why Crypto Traders and Miners Might Head to Portugal*, COINTELEGRAPH (Mar. 28, 2020), <https://cointelegraph.com/news/no-tax-for-you-why-crypto-traders-and-miners-might-head-to-portugal>.

53. Kelly Phillips Erb, *Portugal Tax Authorities Clarify That Buying or Selling Cryptocurrency is Tax-Free*, FORBES (Sept. 19, 2019), <https://www.forbes.com/sites/kellyphillipserb/2019/09/19/portugal-tax-authorities-clarify-that-buying-or-selling-cryptocurrency-is-tax-free/#3fa72b9277e3>.

54. Blockpit.io, *How are Cryptocurrencies Regulated in Sweden?*, MEDIUM (Nov. 18, 2019), <https://medium.com/the-capital/how-are-cryptocurrencies-regulated-in-sweden-8beffcce80fa>.

55. Kieran Smith, *How Crypto Could Bring Tax Evasion to the Masses*, ONEZERO (July 18, 2019), <https://onezero.medium.com/how-crypto-could-bring-tax-evasion-to-the-masses-bb4060766147>.

56. As a counterpoint to this which demonstrates the importance of an overarching regulatory body, consider countries typically classified as "tax havens." Although there is not a comprehensively defined standard for the classification of a tax haven country, there are several regulatory bodies that monitor those countries that may qualify as tax havens. These organizations, such as the Organisation for Economic Cooperation and Development ("OECD"), act as intergovernmental mediators so as to stimulate economic progress and world trade. See Julia Kagan, *Tax Haven*, INVESTOPEDIA (Aug. 8, 2019), <https://www.investopedia.com/terms/t/taxhaven.asp>. See also *Who We Are*, OECD (2020), <https://www.oecd.org/about/>.

57. Convention for the Avoidance of Double Taxation and the Prevention of Fiscal Evasion with Respect to Taxes on Income, U.S.-Austl., art. 1, Aug. 6, 1982, 35 U.S.T. 1999.

common law concept of double jeopardy⁵⁸ and its civil law counterpart *ne bis in idem* (“not twice in the same thing”).⁵⁹ Let us use Hamas, a militant Palestinian group, and their cryptocurrency fundraising campaigns as an illustration.⁶⁰ Hamas is regarded as a terrorist organization by the European Court of Justice.⁶¹ Transfers of funds to Hamas are prohibited by countries within the European Union and the United States.⁶² Hypothesize a case in which a Spanish citizen transfers digital coins to an agent of Hamas located in Texas. Both the United States and Spain wish to prosecute; each country has jurisdiction over the perpetrator in question; both states have different laws which apply to “the same common nucleus of operative facts.”⁶³ Without the aid of international regulations to guide questions of jurisdiction regarding illicit cryptocurrency transfers, a high risk of “carbon copy prosecutions” emerges.⁶⁴

Carbon copy prosecutions refer to duplicative prosecutions brought in different foreign jurisdictions for the same conduct.⁶⁵ Countries have a substantial incentive to vindicate their own laws at the best of times.⁶⁶ With respect to Bitcoin transactions, of which an estimated forty-six percent in-

58. *Double Jeopardy*, BLACK’S LAW DICTIONARY (10th ed. 2014) (defining double jeopardy as “[t]he fact of being prosecuted or sentenced twice for substantially the same offense.”); see also U.S. CONST. amend. V. (stating that “[N]or shall any person be subject for the same offence to be twice put in jeopardy of life or limb . . .”).

59. Robin Geiss, *Ne Bis In Idem*, OXFORD PUB. INT’L L. (July 2013) (defining *ne bis in idem* as “. . . the principle that nobody should be judged twice for the same offence.”).

60. Nathaniel Popper, *Terrorists Turn to Bitcoin for Funding, and They’re Learning Fast*, NY TIMES (Aug. 18, 2019), <https://www.nytimes.com/2019/08/18/technology/terrorists-bitcoin.html>; Jason Brett, *Israel Counter-Terrorism Institute Reports Hamas Using Bitcoin as A Funding Source*, FORBES (Jan. 21, 2020), <https://www.forbes.com/sites/jasonbrett/2020/01/21/israeli-counter-terrorism-institute-reports-hamas-using-bitcoin-as-a-funding-source/#4bc5a73d4994>.

61. Lizzie Dearden, *Hamas Declared a Terrorist Organisation by the European Court of Justice*, INDEPENDENT (July 26, 2017), <https://www.independent.co.uk/news/world/europe/hamas-terrorist-organisation-ecj-european-court-of-justice-eu-uk-palestinian-israel-a7860301.html>.

62. *Id.*; Max Greenwood, *US Adds Hamas Leader to Terror Blacklist, Imposes Sanctions*, HILL (Jan. 31, 2018), <https://thehill.com/policy/international/371657-us-adds-hamas-leader-to-terror-blacklist-imposes-sanctions>.

63. This is a fixture of redundant or “carbon copy” prosecutions. Andrew S. Boutros & T. Markus Funk, “Carbon Copy” Prosecutions: A Growing Anticorruption Phenomenon in a Shrinking World, U. CHI. LEGAL F. 259, 269 (2012) [hereinafter “Carbon Copy” Prosecutions].

64. *Id.*

65. See Andrew S. Boutros & T. Markus Funk, *The Evolution and Status of ‘Carbon Copy Prosecutions’: An Anticorruption Phenomenon Here to Stay*, BLOOMBERG L. (Feb. 12, 2018), <https://news.bloomberglaw.com/white-collar-and-criminal-law/the-evolution-and-status-of-carbon-copy-prosecutions-an-anticorruption-phenomenon-here-to-stay>.

66. *Id.*

volve illicit goods, this interest is particularly salient.⁶⁷ Carbon copy prosecutions typically apply to enforcement actions brought under the Foreign Corrupt Practices Act,⁶⁸ but there is reason to believe that they may be used more broadly within the context of cryptocurrency. Just as a number of nations have passed “enhanced” anti-corruption laws,⁶⁹ so too is the trend with respect to national laws regulating the use of digital currencies.⁷⁰ Over the past four years, an upswing in legal regulations of digital currencies has been accompanied by an increase in laws providing for enhanced extraterritorial application.⁷¹ This closely mimics the legal landscape which allowed for redundant prosecutions of foreign bribery to proliferate.⁷²

2. Unpredictability

There exists a second unwelcome consequence of nation-by-nation regulation. Without a homogeneous approach to the regulation of cryptocurrency, laws and enforcement mechanisms are unpredictable.⁷³ The implications of this are twofold.

First, regulatory uncertainty is keeping institutional investors out of the cryptocurrency marketplace.⁷⁴ Without consistent, clear guidance on how cryptocurrencies are treated in cross-border transactions, institutional investors will likely remain sidelined from the market.⁷⁵ Cryptocurrencies need

67. Foley et. al., *supra* note 38, at 1798 (“... around \$76 billion of illegal activity per year involves bitcoin (46% of bitcoin transactions), which is close to the scale of the U.S. and European markets for illegal drugs.”).

68. See generally Richard L. Cassin, ‘Carbon Copy Prosecutions’ Change the Rules of the Game, FCPA BLOG (Nov. 9, 2012), <https://fcpablog.com/2012/11/09/carbon-copy-prosecutions-change-the-rules-of-the-game/>.

69. “Carbon Copy” Prosecutions, *supra* note 63, at 270.

70. See Global Legal Research Center, *supra* note 44, at 1 (“This report covers 130 countries as well as some regional organizations that have issued laws or policies on the subject. The past four years have seen cryptocurrencies become ubiquitous, prompting more national and regional authorities to grapple with their regulation.”).

71. See *id.* at 1–2.

72. “Carbon Copy” Prosecutions, *supra* note 63, at 271.

73. See generally Douglas J. Cumming, Sofia Johan & Anshum Pant, *Regulation of the Crypto-Economy: Managing Risks, Challenges, and Regulatory Uncertainty*, J. RISK & FIN. MGMT (July 2019).

74. See *id.*; Danny Nelson, *More than Half of Financial Advisors Want Better Regulation Before Investing in Crypto*, COINDESK (Jan. 14, 2020), <https://www.coindesk.com/more-than-half-of-financial-advisors-want-better-regulation-before-investing-in-crypto>; see also Rachel Wolfson, *Self-Regulatory Advancements to Crypto Market Will Spark Interest From Institutional Investors*, FORBES (Aug. 13, 2018), <https://www.forbes.com/sites/rachelwolfson/2018/08/13/self-regulatory-advancements-to-crypto-market-will-spark-interest-from-institutional-investors/>.

75. See Stephen J. Obie & Mark W. Rasmussen, *How Regulation Could Help Cryptocurrencies Grow*, HARVARD BUS. REV. (July 2018), <https://hbr.org/2018/07/how-regulation-could-help-cryptocurrencies-grow>; see also Michael Liftik, Dave Grable & Heather Christenson, *The Pitfalls of SEC’s Crypto Regulation by Enforcement*, LAW360 (Jan. 10, 2020),

institutional investors because a market that rests solely on retail investors is subject to extreme volatility.⁷⁶ International regulations that promote the predictability of enforcement mechanisms would have the effect of stabilizing the cryptocurrency market by appeasing institutional investors' fear of "regulation by enforcement."⁷⁷

Second, the reticence of institutional investors to invest in cryptocurrency has an outsized effect on emerging economies. Cryptocurrency is an efficient method to bring financial inclusion and financial sector development to developing countries.⁷⁸ The lack of brick-and-mortar banks in large swaths of sub-Saharan Africa is a problem that experts believe might be resolved with the advent of mobile money services such as cryptocurrency.⁷⁹ Further, citizens in countries with corrupt or unstable governments may find relief through investment in digital assets.⁸⁰ Populations in developing countries who miss out on these unrealized benefits are those who need them the most. The international regulation of cryptocurrency would act as a step toward encouraging institutional investment in digital coin technology without the underlying fear of violating a patchwork of incompatible national laws.

<https://www.law360.com/articles/1231846/the-pitfalls-of-sec-s-crypto-regulation-by-enforcement>.

76. See Liam Kelly, *Regulatory Uncertainty Keeps Institutional Money Sidelined*, CRYPTO BRIEFING (Dec. 5, 2019), <https://cryptobriefing.com/regulatory-uncertainty-institutional-money/>.

77. Liftik, Grable & Christenson, *supra* note 75.

78. Financial inclusion means that, "individuals and businesses have access to useful and affordable financial products and services that meet their needs – transactions, payments, savings, credit and insurance – delivered in a responsible and sustainable way." *Financial Inclusion Overview*, WORLD BANK (Oct. 2, 2018), <https://www.worldbank.org/en/topic/financialinclusion/overview>. See also Olusegun Vincent & Olaniyi Evans, *Can Cryptocurrency, Mobile Phones, and Internet Herald Sustainable Financial Sector Development in Emerging Markets?*, J. OF TRANSNAT'L MGMT. 259, 270 (2019). Note that internet access is a necessary component of cryptocurrency and this poses more of a difficulty in developing than developed countries. But as mobile connectivity becomes increasingly widespread within emerging economies, this problem will slowly dissipate.

79. Jean-Phillippe Stijns, *Banking in Sub-Saharan Africa: Interim Report on Digital Financial Inclusion*, EUR. INV. BANK 1 (2017) https://www.eib.org/attachments/efs/economic_report_banking_africa_interim_2017_en.pdf. Note that other financial instruments such as MPESA have also made great strides in improving financial access and inclusion in developing countries. See Kieron Monks, *M-Pesa: Kenya's Mobile Money Success Story Turns 10*, CNN (Feb. 24, 2017), <https://www.cnn.com/2017/02/21/209frica/mpesa-10th-anniversary/index.html>.

80. See Pavithra Rao, *Africa Could Be the Next Frontier for Cryptocurrency*, U.N.: AFR. RENEWAL (Apr. 2018), <https://www.un.org/africarenewal/magazine/april-2018-july-2018/africa-could-be-next-frontier-cryptocurrency>.

B. Cryptocurrencies and the Evasion of International Financial Sanctions

The evasion of international financial sanctions through the use of cryptocurrency is a well-documented phenomenon and perhaps one of the most problematic practices facilitated by cryptocurrencies.⁸¹ There are a number of actors who take advantage of cryptocurrency to evade international financial sanctions. Chief among these are countries themselves. Iran,⁸² Russia, Venezuela, and North Korea have each turned to different forms of cryptocurrency as a method of skirting around harsh financial sanctions leveled against them by the United States and United Nations.⁸³ The second tranche of users who employ cryptocurrencies as a method of sanctions evasion are commercial businesses and individuals.⁸⁴ There are two features which contribute to users' capabilities in the realm of sanctions evasion, both of which might be solved by international regulation.⁸⁵

1. Pseudo-Anonymity

First, cryptocurrencies have an inherently high degree of anonymity.⁸⁶ This is well illustrated by the inner workings of Bitcoin. Each Bitcoin user's public key is scrambled to produce a public Bitcoin address.⁸⁷ The public may see who sends and receives transactions, because both users' Bitcoin addresses are made public in the course of these transactions.⁸⁸ The public may also see the amount of cryptocurrency transferred within the transac-

81. See, e.g., HM Treasury, *Digital Currencies: Response to the Call for Information 11-12* (2015) [hereinafter *HM Treasury Report*]; Deane R. Konowicz, *The New Game: Cryptocurrency Challenges US Economic Sanctions*, (Feb. 8, 2018) (unpublished Ph.D. dissertation, U.S. Navy War College) (on file with the Defense Technical Information Center).

82. Jason Brett, *Trend Continues for Countries Looking to Evade U.S. Sanctions Using Crypto*, FORBES (Jan. 29, 2020), <https://www.forbes.com/sites/jasonbrett/2020/01/29/trend-continues-for-countries-looking-to-evade-us-sanctions-using-crypto/#4f20e5a159ff>; Anthony Cuthbertson, *Sanction*, INDEPENDENT (Aug. 29, 2018), <https://www.independent.co.uk/life-style/gadgets-and-tech/news/iran-national-cryptocurrency-us-sanctions-bitcoin-trump-a8512596.html>.

83. See Ian Munroe, *Venezuela, Russia Aim to Dodge Sanctions with Cryptocurrency but Experts Aren't Buying It*, CBC NEWS (Jan. 14, 2018), <https://www.cbc.ca/news/world/cryptocurrency-bitcoin-russia-venezuela-sanctions-1.4477323>.

84. See, e.g., Thomas Erdbrink, *How Bitcoin Could Help Iran Undermine U.S. Sanctions*, N.Y. TIMES (Jan. 29, 2019), <https://www.nytimes.com/2019/01/29/world/middleeast/bitcoin-iran-sanctions.html>.

85. See *infra* Part IV.

86. HM Treasury, *supra* note 81, at 12; see also *Monetarists Anonymous; Bitcoin*, ECONOMIST (Sept. 29, 2012).

87. Felten, *supra* note 30.

88. See *Is Bitcoin Anonymous?*, BITCOIN MAG. (2020), <https://bitcoinformagazine.com/guides/bitcoin-anonymous>.

tion.⁸⁹ However, that is where the identification ends: The Bitcoin addresses do not include any information that personally identifies the individuals on either end of the transaction.⁹⁰ This results in what the industry refers to as “pseudo-anonymity.”⁹¹ In practice, this anonymity has permitted businesses in sanctioned countries to exploit Bitcoin and other cryptocurrencies to evade financial sanctions.⁹²

2. Third-Party Intermediaries

Second, there are limited third-party authorities with the capabilities to freeze, cancel or reverse digital currency payments.⁹³ Further, those that *do* exist are unlikely to exercise their powers to monitor digital exchanges.⁹⁴ Financial intermediaries profit off of their users’ cryptocurrency transactions.⁹⁵ To halt any exchange is to disrupt the intermediaries’ flow of income. This is underscored by the intermediaries’ customer agreements which absolve them of liability for any manipulative market activities.⁹⁶ In the context of financial sanction evasions, this is problematic for two reasons. First, even if an intermediary is cognizant of an illicit exchange of digital currency, the incentives to halt the exchange are minimal. Second, financial intermediaries may be incentivized to cater to users located in sanctioned countries. In part because of U.S. sanctions, Iran has become a hotspot for Bitcoin;⁹⁷ intermediaries have capitalized on this trend by matching buyers in Iran to sellers in countries around the world.⁹⁸

89. *Id.*

90. *See Bitcoin Transactions Aren’t as Anonymous as Everyone Hoped*, MIT TECH. REV. (Aug. 23, 2017), <https://www.technologyreview.com/s/608716/bitcoin-transactions-arent-as-anonymous-as-everyone-hoped/>.

91. *See id.*

92. Erdbrink, *supra* note 84.

93. HM Treasury, *supra* note 81, at 12.

94. Kelly Funderburk, *Regulating Cryptocurrency*, REGULATORY REV. (July 31, 2019), <https://www.theregview.org/2019/07/31/funderburk-regulating-cryptocurrency/>.

95. *Id.*

96. Timothy Massad, *It’s Time to Strengthen the Regulation of Crypto-Assets*, BROOKINGS UNIV. 21 (Mar. 2019).

97. *See* Bradley Keoun, *Bitcoin as a Safe Haven? US-Iran Tensions Rekindle Debate*, COINDESK (Jan. 6, 2020, 9:19 PM), <https://www.coindesk.com/bitcoin-as-a-safe-haven-us-iran-tensions-rekindle-debate>.

98. Billy Bambrough, *Iran Sanctions: People Are Turning to Bitcoin to Get Money Out*, FORBES (May 10, 2018), <https://www.forbes.com/sites/billybambrough/2018/05/10/iran-sanctions-people-are-turning-to-bitcoin-to-get-money-out/#2beb7e50613a>.

C. *Curtailling the Evasion of Financial Sanctions through Cryptocurrency: A Practical and Theoretical Analysis*

1. The Doctrine of Clean Hands

As a matter of legal theory, curtailing the evasion of financial sanctions through cryptocurrency may be justified through the concept of “clean hands.” In this analysis, the doctrine of clean hands is interpreted through both an ethical and legal lens; the moral doctrine informs the application of its legal counterpart.

First, the ethical theory of clean hands implies that states have a moral obligation to cease trading with bad actors within the international sphere.⁹⁹ Under this ethical doctrine, the objective of economic sanctions is to do more than change the offending state’s behavior or punish the state for its transgressions. Instead, the focus is turned inward. The aim of economic sanctions is to avoid complicity with the targeted state’s unlawful actions.¹⁰⁰ The same analysis may be extended to the *evasion* of financial sanctions. When bad actors evade sanctions, the international community assumes an obligation to quash this bad behavior or otherwise risk complicity.

This analysis dovetails with the legal doctrine of clean hands in international law. The legal principle of clean hands states that an actor who has violated equitable norms “may be deprived of the necessary *locus standi in judicio* for complaining of corresponding illegalities on the part of other States.”¹⁰¹ An evaluation follows as to how this compels an international regulatory framework for cryptocurrency.

One manifestation of the clean hands doctrine within customary international law is the principle of *nullus commodum capere de sua injuria propria* (“no advantage may be gained from one’s wrong”).¹⁰² The wrong in this instance is the failure to regulate cryptocurrency or regulation in a manner that is wholly inadequate. This constitutes a wrong because the absence of regulation is a catalyst for the evasion of international sanctions.¹⁰³ As in-

99. For an in-depth discussion of this philosophical argument, see Noam J. Zohar, *Boycott, Crime, and Sin: Ethical and Talmudic Responses to Injustice Abroad*, CAMBRIDGE UNIV. PRESS 39 (2012).

100. *Id.* at 46, 52.

101. Rahim Moloo, *A Comment on the Clean Hands Doctrine in International Law*, GIBSON, DUNN & CRUTCHER 39 (2013). *Locus standi in judicio* refers to “the right to bring an action, to be heard in court, or to address the Court on a matter before it.” *Locus Standi Law and Legal Definition*, U.S. LEGAL (2019).

102. Ori Pomson & Yonatan Horowitz, *Humanitarian Intervention and the Clean Hands Doctrine in International Law*, ISRAEL L. REV. 219, 231 (2015).

103. An obligation exists under customary international law to enforce international sanctions. States must apply all signed treaties in good faith, and to violate one’s obligation of good faith is to violate customary international law. The requirement of good faith means that a party may not avoid an obligation under an agreement by a literal interpretation of a clause. See Draft Articles on the Vienna Convention on the Law of Treaties with Commentaries,

formed by the ethical theory of clean hands, failing to combat the evasion of sanctions is a moral wrong.

All states that fail to combat the evasion of sanctions profit from this wrong. The effective regulation of cryptocurrency is an expensive, bureaucratic, and time-consuming endeavor.¹⁰⁴ Thus, states gain an advantage (by freeing obligated state resources) from their wrong (declining to effectively regulate cryptocurrencies in a manner that curtails the evasion of sanctions). From this analytical exercise, it follows that states are violating the legal clean hands doctrine. As such, states risk their judicial standing should they wish to litigate an issue arising from the evasion of sanctions through cryptocurrency.

2. Just War Theory

The two conceptual analyses of “clean hands” obligations are underpinned by the assumption that economic sanctions are themselves legally and ethically justified. A theoretical counterpoint to the clean hands arguments may therefore be raised by attacking the legality of economic sanctions themselves.¹⁰⁵ Commentators have leveled this critique through the lens of just war theory,¹⁰⁶ which justifies acts of aggression only under certain conditions.¹⁰⁷ A core tenet of just war theory is the requirement of proportionality.¹⁰⁸ Legal theorists have derided economic sanctions as disproportional and thereby in violation of the proportionality principle.¹⁰⁹ If one accepts this argument as true, then the theoretical justifications underpinning responses to the evasion of economic sanctions falls apart. Any response to evasions of sanctions is not justified if the sanctions themselves were illegal from the outset.

This argument falls short upon examination of the methods by which international sanctions are implemented. When a multi-state body such as the United Nations institutes economic sanctions against a state, it undergoes a

A/CONF. 39/11 Add. 2, 30-31 (1969) (comment on principle of *pacta sunt servanda*); see also J. Curtis Henderson, *Legality of Economic Sanctions Under International Law: The Case of Nicaragua*, WASH. & LEE L. REV. 167, 190 (1986).

104. See *Regulation of Cryptocurrency: Switzerland*, LIB. OF CONG. (July 24, 2020), <https://www.loc.gov/law/help/cryptocurrency/switzerland.php>.

105. See, e.g., MARK R. AMSTUTZ, *INTERNATIONAL ETHICS: CONCEPTS, THEORIES AND CASES IN GLOBAL POLITICS* (4th ed. 2016); Lori Fisler Damrosch, *The Collective Enforcement of International Norms Through Economic Sanctions*, ETHICS & INT'L AFF. 7 (1999); Joy Gordon, *Economic Sanctions, Just War Doctrine, and the “Fearful Spectacle of the Civilian Dead”*, CROSSCURRENTS 387 (1999).

106. See Elizabeth Ellis, *The Ethics of Economic Sanctions*, 2013 (unpublished Ph.D. thesis, The University of Edinburgh) (on file with The University of Edinburgh).

107. James T. Johnson, *Just War*, ENCYCLOPAEDIA BRITANNICA, <https://www.britannica.com/topic/just-war> (last visited Oct. 5, 2020).

108. Ellis, *supra* note 106, at 75–76.

109. See, e.g., Gordon, *supra* note 105, at 389.

complex series of legal and diplomatic processes which culminate in a vote taken by the UN Security Council.¹¹⁰ Fifteen states vote on the sanctions in each instance, nine of which must vote in favor for any sanction to take effect.¹¹¹ Adjustments to sanctions are then informed by monitoring groups, smaller teams, and various panels that support the work of sanctions committees.¹¹² Sanctions under the authority of the European Union are subject to a similar process.¹¹³ These supranational bodies would be hard-pressed to enact a more thorough process without risking outsized bureaucratic encumbrances before and during the implementation of the sanctions. In this way, these international conglomerates satisfy the just war proportionality requirement.¹¹⁴

3. Practical Implications

Curtailing the evasion of financial sanctions through cryptocurrency is imperative. First, to do without regulation allows unstable regimes to raise money they would not have otherwise had access to. A prime example is that of Kim Jong-un's government in North Korea.¹¹⁵ North Korea is currently using revenues derived from cryptocurrency to bolster its nuclear weapons program.¹¹⁶

110. *UN Sanctions: What They Are, How They Work, and Who Uses Them*, U.N. NEWS (May 4, 2016), <https://news.un.org/en/story/2016/05/528382-un-sanctions-what-they-are-how-they-work-and-who-uses-them>.

111. *Id.*; U.N. Charter art. 27, ¶ 2.

112. *UN Sanctions: What They Are, How They Work, and Who Uses Them*, *supra* note 110.

113. *Adoption and Review Procedure for EU Sanctions*, EUR. COUNCIL, <https://www.consilium.europa.eu/en/policies/sanctions/adoption-review-procedure> (last visited Oct. 9, 2020).

114. International bodies such as the European Union have similar vetting requirements regarding the institution of sanctions and are at least equally cognizant of sanctions' proportionality. See *Sanctions: How and When the EU Adopts Restrictive Measures*, EUR. COUNCIL, <https://www.consilium.europa.eu/en/policies/sanctions> (last visited Oct. 9, 2020). Of course, sanctions may also be imposed through the unilateral force of a single state. The proportionality critique has more force in this second scenario. Conceding this, a strength of the international framework proposed in Section IV is that it depends on the multilateral cooperation of states. Other states will feasibly be less willing to cooperate in investigations to enforce a sanction by which they feel a state has unilaterally violated the just war proportionality requirement. Therefore, even though unilateral sanctions *may* be enforced under the framework outlined in Section IV, it will require the cooperation of other states through which the proportionality of the sanctions in question may then be evaluated.

115. Mike Orcutt, *This is How North Korea Uses Cutting-Edge Crypto Money Laundering to Steal Millions*, MIT TECH. REV. (Mar. 5, 2020), <https://www.technologyreview.com/s/615324/north-korean-hackers-cryptocurrency-money-laundering>.

116. *Id.*

Organizations like the United Nations and European Union have also placed broad prohibitions on transactions with people and companies.¹¹⁷ Sanctions are imposed as a last resort and are typically used to address only the gravest international concerns.¹¹⁸ The United Nations lists curtailing the efforts of extremist groups, ending “massive human rights violations,” and halting illegal smuggling as examples of sanctions’ legitimate uses.¹¹⁹

To allow the use of cryptocurrency to go unchecked is to seriously undermine the efficacy of financial sanctions. Perhaps the most alarming aspect is that the public is unaware of the scale of the problem. Due to the pseudo-anonymity that many digital currencies afford their users, the public is often blind to the number of sanctioned countries, businesses, groups, and individuals who continuously bypass sanctions through cryptocurrency transactions.¹²⁰ The growing number of cryptocurrency users also contributes to the problem: the more accessible that cryptocurrency becomes throughout the world, the greater the access that those evading sanctions have to global financial markets.¹²¹ Without the imposition of an international regulatory framework, these problems will only continue to propagate.¹²²

IV. A FRAMEWORK FOR THE INTERNATIONAL REGULATION OF CRYPTOCURRENCY

A formal international regulatory mechanism for cryptocurrencies would have numerous benefits, foremost among them limiting the evasion of international sanctions. An international regulatory mechanism would also promote predictability in the regulation of cryptocurrencies. This would in turn entice institutional investors to build out the field of crypto users and

117. Anahita Thoms, *Cryptocurrencies and Sanctions*, FIN. TIMES (Mar. 9, 2018), <https://ftalphaville.ft.com/2018/03/09/2199186/guest-post-cryptocurrencies-and-sanctions>; United Nations Security Council Consolidated List, U.N. S.C. (Oct. 31, 2020) <https://scsanctions.un.org/fop/fop?xml=htdocs/resources/xml/en/consolidated.xml&xslt=htdocs/resources/xsl/en/consolidated.xsl>.

118. *UN Sanctions: What They Are, How They Work, and Who Uses Them*, supra note 110.

119. *Id.*

120. See generally Andrew Bloom, *Enforcing Sanctions in the Age of Cryptocurrency*, GBA GLOB. (June 27, 2019), <https://www.gbaglobal.org/enforcing-sanctions-in-the-age-of-cryptocurrency>.

121. Ana Alexandre, *FDD Assesses Risks of Crypto Use by Countries Under US Sanctions*, COINTELEGRAPH (July 11, 2019), <https://cointelegraph.com/news/fdd-assesses-risks-of-crypto-use-by-countries-under-us-sanctions>.

122. Cf. YAYA J. FANUSIE & TREVOR LOGAN, CRYPTO ROGUES: U.S. STATE ADVERSARIES SEEKING BLOCKCHAIN SANCTIONS RESISTANCE (2019), <https://www.fdd.org/wp-content/uploads/2019/07/fdd-report-crypto-rogues.pdf> (showcasing the varying arenas of difficulty among national crypto regulatory regimes in Venezuela, Russia, Iran, and China).

encourage stability in an otherwise volatile marketplace.¹²³ Section IV.A describes the features required of an international regulatory framework for cryptocurrency. Section IV.B describes why an oft-proposed regulatory solution—the application of the IMF, WTO and CISG to cryptocurrencies—is an inadequate answer for an international regulatory framework. Section IV.C proposes a solution based on a multilateral treaty framework. This framework draws upon existing and effective regulatory mechanisms.

A. *Requirements of an International Regulatory Framework*

The introduction of an international regulatory framework for cryptocurrency is hardly a novel idea. Commentators have debated its merits¹²⁴ since the arrival of cryptocurrency but rarely agree on an ideal form,¹²⁵ substance,¹²⁶ or method of implementation.¹²⁷ This note adds to the existing body of literature by focusing on three perceived problems of the nation-by-nation framework, each of which contributes to the evasion of international financial sanctions through cryptocurrency. The first deficiency stems from the current levels of pseudo-anonymity in cryptocurrency transactions.¹²⁸ The second problem is the patchwork framework which restricts coordina-

123. See generally Cumming et al., *supra* note 73, at 132 (“Recognizing the inability of enforcement within existing regulatory frameworks, we discuss the importance of regulation of the crypto asset class . . . in the establishment of an ecosystem that integrates investor protection and investments”); Kelly, *supra* note 76.

124. Compare Howden, *supra* note 51, at 745–56 (arguing that regulatory bodies must undertake the regulation of all cryptocurrencies), with Nabilou, *supra* note 51, at 272–90 (arguing that cryptocurrencies such as bitcoin cannot be regulated in a centralized fashion because of their decentralized structure, and that regulation must occur at their code or protocol layer).

125. Compare Howden, *supra* note 51, at 746 (“Differing regulations across nations concerning cryptos are not necessarily problematic, and some countries may have valid reasons for asserting more stringent regulations. However, an international forum must be provided so countries can work together in order to avoid the possible dangers that may face less economically developed nations and their interaction with the growing use and popularity of cryptos.”), with Nabilou, *supra* note 51, at 275 (arguing for “decentralized indirect regulation”).

126. The Bank for International Settlements’ focuses regarding key regulatory issues (citing “moral suasion,” regulation of intermediaries, and the “interpretation of existing regulations,” among other points) differs radically from those of the European Central Bank (citing “co-ordinated governmental efforts from national authorities” as key to any regulatory approach). ROSARIO GIRASA, REGULATION OF CRYPTOCURRENCIES & BLOCKCHAIN TECHNOLOGY: NATIONAL AND INTERNATIONAL PERSPECTIVES 199–201 (2018).

127. Compare Irina Cvetkova, *Cryptocurrencies Legal Regulation*, 5 BRICS L.J. 128, 152 (2018) (arguing that only progressive jurisdictional and state regulation of cryptocurrency activity will allow for the implementation of legitimate and safe cryptocurrency relations), with Andres Guadamuz & Chris Marsden, *Blockchains and Bitcoin: Regulatory Responses to Cryptocurrencies*, FIRST MONDAY (2015), <https://firstmonday.org/article/view/6198/5163> (arguing for five different proposals that might be effective in regulating cryptocurrency, none of which rely uniformly on state regulation).

128. See *supra* Section III.B.

tion across nations and allows for unpredictable results across jurisdictions.¹²⁹ The patchwork framework also permits offending actors to slip through the cracks and raises the spectre of double jeopardy when perpetrators *are* identified and punished.¹³⁰ The third and final deficiency is the absence of trustworthy third-party authorities with the power to examine the legitimacy of cryptocurrency transactions.¹³¹ These three problems may be summarized respectively as anonymity, coordination, and oversight.

1. Adjustments on the Spectrum of Pseudo-Anonymity

With these considerations in mind, a successful international regulatory framework of cryptocurrency should have two characteristics. First, it should provide governments with the identities of their nations' cryptocurrency users.¹³² This preserves a level of "pseudo-anonymity" whilst permitting the implementation of regulatory functions:¹³³ users' identities will remain anonymous to all but certain governmental actors. This is important as a frequent concern raised in response to the prospect of an international regulatory regime is the erasure of cryptocurrency users' anonymity.¹³⁴

Regulations exposing aspects of a user's identity should be viewed as a shift on the spectrum of anonymity instead of an obliteration of user anonymity altogether. The recently implemented Know Your Customer ("KYC") laws in the European Union demonstrates one way this shift might

129. *See supra* Section III.A.

130. *Id.*

131. *See supra* Section III.B.

132. It's worthwhile to acknowledge that should this solution be implemented in a cashless society, this would result in a society without *entirely* anonymous payments, even for benign actors. The focus of this note, however, is the more realistic and immediate solution: the regulation of cryptocurrency in a world that is dependent on traditional payment forms with cryptocurrency being used as an alternative alongside. This has the advantage of taking into account the current payments landscape. As of publication, no country in the world is entirely dependent upon cryptocurrency payments, nor meaningfully close to being so. *See* Perez, *supra* note 34. (detailing the countries that are close to becoming cashless societies—this is largely facilitated by the widespread use of credit and debit cards *alongside* the use of cryptocurrency. Notably, no country is close to becoming entirely dependent upon cryptocurrencies.)

133. *Id.*

134. Jerry Brito, *China intends to launch a national digital currency that will let the government easily surveil spending. Following in their footsteps would be a mistake*, COIN CENTER (Oct. 21, 2019), <https://www.coincenter.org/china-intends-to-launch-a-national-digital-currency-that-will-let-the-government-easily-surveil-spending-following-in-their-footsteps-would-be-a-mistake/> ("Any . . . American-led effort [to regulate cryptocurrencies] must . . . mak[e] anonymity and censorship-resistance core network features."); Rakesh Sharma, *What Does Government Regulation Mean for Privacy-Focused Cryptocurrencies?*, INVESTOPEDIA (June 25, 2019), <https://www.investopedia.com/news/what-does-increased-government-regulation-mean-privacy-focused-coins> (quoting the CEO of Digital Dash, an open source alternative cryptocurrency: "Privacy is important for many practical reasons including user safety, so we believe it is an important aspect to incorporate into our solutions.").

be accomplished.¹³⁵ The cornerstone of KYC regulations is the requirement that European financial institutions duly identify and verify their clients' identities.¹³⁶ This law has impacted cryptocurrency exchanges throughout Europe, each of whom are now required to peel back layers of anonymity to uncover their users' identities.¹³⁷ The KYC laws do not unveil crypto users' identities to the public at large.¹³⁸ Rather, users' identities are mandatorily disclosed to a select sphere of institutional actors as identified in the KYC regulations.¹³⁹ This system remains encumbered by several of the deficiencies identified by this note: untrustworthy third-party intermediaries still act as gatekeepers to sensitive data¹⁴⁰ and the risk remains of double jeopardy violations between countries within and outside the European Union.¹⁴¹ However, the KYC laws do illustrate that cryptocurrency regulations need not strip away users' pseudo-anonymity altogether. Regulatory solutions can exist on the spectrum between complete anonymity and none at all.¹⁴²

2. International Coordination

Second, the framework should be organized in a way that encourages coordination between states while remaining flexible enough to allow for individual state implementation and national oversight. This tenet borrows from organizations such as the International Civil Aviation Organization ("ICAO"), a specialized agency of the United Nations.¹⁴³ ICAO develops recommended aviation practices followed by signatories of the Convention on Civil Aviation (the "Chicago Convention").¹⁴⁴ One such practice is the

135. For an extensive discussion on Know Your Customer laws, see *The Impact of Rising KYC & AML Regulations in Europe*, KNOW YOUR CUSTOMER, <https://knowyourcustomer.com/impact-rising-kyc-aml-regulations-europe> (last visited Oct. 11, 2020).

136. FEDOR POSKRIAKOV, MARIA CHIRIAEVA, & CHRISTOPHE CAVIN, *Cryptocurrency Compliance and Risks: A European KYC/AML Perspective*, in BLOCKCHAIN & CRYPTOCURRENCY REGULATION (Josias N. Dewey ed., 2nd ed. 2020), <https://www.globallegalinsights.com/practice-areas/blockchain-laws-and-regulations/11-cryptocurrency-compliance-and-risks-a-european-kyc-aml-perspective>.

137. See generally Craig Adeyanju, *What Crypto Exchanges Do to Comply with KYC, AML and CFT Regulations*, COINTELEGRAPH (May 17, 2019), <https://cointelegraph.com/news/what-crypto-exchanges-do-to-comply-with-kyc-aml-and-cft-regulations>; Darren Kleine, *Crypto Regulation is Coming to Europe: Are Exchanges Ready for New Rules?*, COINTELEGRAPH (Dec. 18, 2019), <https://cointelegraph.com/news/crypto-regulation-is-coming-to-europe-are-exchanges-ready-for-new-rules>.

138. *Id.*

139. *Id.*

140. See *supra* Section III.B.

141. See *supra* Section III.A.

142. See *infra* Section IV.C.

143. See *Convention on International Civil Aviation—Doc 7300*, ICAO, <https://www.icao.int/publications/pages/doc7300.aspx> (last visited Oct. 11, 2020).

144. See generally *Convention on International Civil Aviation*, *supra* note 46.

Traveller Identification Programme (“TRIP”).¹⁴⁵ The objective of TRIP is for all U.N. Member States to have the ability to “uniquely identify individuals.”¹⁴⁶ To facilitate the TRIP objective, the ICAO issues recommendations that help nations develop repositories to hold credible evidence of identification.¹⁴⁷ Additionally, the ICAO facilitates the creation of globally interoperable protocols which link passports to their holders.¹⁴⁸ The program outlined in TRIP affords nations autonomy and flexibility in meeting these goals.¹⁴⁹ Crucially, the TRIP program simultaneously maintains a global network in which passports—and thereby individuals—can be identified at any international juncture.¹⁵⁰

The multilateral nature of ICAO allows for flexibility and the continuous development of travel protocols.¹⁵¹ This is also a desirable asset for the regulation of cryptocurrency. Cryptocurrencies are a fast-developing market¹⁵² which national governments do not yet fully understand.¹⁵³ The ability to review and revise the international regulatory structure is paramount to leave room for improvements and ensure that any regulatory framework does not become stale.¹⁵⁴

145. *Traveller Identification Programme*, ICAO, <https://www.icao.int/Security/FAL/TRIP/Pages/default.aspx> (last visited Oct. 11, 2020).

146. *Id.*

147. *Id.*

148. *Id.*

149. For example, TRIP permits nations flexibility in the identifying information held in each national passport database. Some nations such as Argentina maintain biometric data accessible by a wide variety of Argentinian governmental agencies; others, such as Canada, are in the process of eliminating the development of centralized databases containing biometric information. *Biometric Data Retention for Passport Applicants and Holders*, L. LIBR. CONG. (Mar. 2014), <https://www.loc.gov/law/help/biometric-data-retention/biometric-passport-data-retention.pdf> [hereinafter *Biometric Data Retention*]. TRIP also provides recommendations for Machine Readable Travel Documents (“MRTD” or passports) which allows for flexibility in their form and substance. See *Machine Readable Travel Documents (Doc 9303)*, ICAO (7th ed. 2015), https://www.icao.int/publications/Documents/9303_p3_cons_en.pdf.

150. *Traveller Identification Programme*, *supra* note 145.

151. For example, ICAO has recently begun to engage with the United Nations’ sustainable development goals (“SDGs”) and has linked its strategic objectives to these goals. It continuously monitors the effects of these goals and develops its framework as appropriate. *Aviation Development*, ICAO, <https://www.icao.int/about-icao/aviation-development/Pages/default.aspx> (last visited Oct. 11, 2020); *ICAO and the United Nations Sustainable Development Goals*, ICAO, <https://www.icao.int/about-icao/aviation-development/pages/sdg.aspx> (last visited Oct. 11, 2020).

152. Over 2000 cryptocurrencies are currently available for purchase and this number is growing. See Reiff, *supra* note 12.

153. The mechanisms underlying cryptocurrencies are frequently posited to be shrouded in an aura of mystery and branded as “hard, even [for] smart people.” See Michael Arrington, *It Will Take Years for Smart People to Understand Cryptocurrencies*, NAKAMOTO (Jan. 3, 2020), <https://nakamoto.com/it-will-take-years-for-smart-people-to-understand-cryptocurrencies>.

154. Massad, *supra* note 96, at 42.

B. Past Proposals for the International Regulation of Cryptocurrency

One proposal that frequently surfaces within the literature on crypto regulation repurposes provisions within current international regulatory bodies to police digital assets. The World Trade Organization (“WTO”),¹⁵⁵ the International Monetary Fund (“IMF”),¹⁵⁶ and the Convention on the International Sale of Goods (“CISG”)¹⁵⁷ have each been cited as different regulatory possibilities to control for the use and abuse of cryptocurrencies. These organizations assert control by classifying cryptocurrencies in ways that force conformity with the international organizations’ slates of regulatory measures.

These proposals have the advantage of working within international systems that already exist. The WTO,¹⁵⁸ IMF,¹⁵⁹ and CISG¹⁶⁰ each have 164, 189, and 84 participating countries, respectively. Moreover, provisions exist within each organization or regime that could conceivably be applicable to cryptocurrencies. For example, cryptocurrencies could arguably constitute a sale of a good under the CISG.¹⁶¹ If classified as such, the exchange of cryptocurrencies would be regulated in every contract of sale made under the CISG.¹⁶² This would have implications for issues such as the breach of cross-border cryptocurrency contracts, the mitigation of damages in failed transactions, and responsibility for the substitution of subpar goods purchased with crypto coins.¹⁶³ Indeed, one commentator dubbed the applicabil-

155. Howden, *supra* note 51, at 780.

156. Wolfie Zhao, *IMF Chief Lagarde: Global Cryptocurrency Regulation is ‘Inevitable,’* COINDESK (Feb. 12, 2018), <https://www.coindesk.com/imf-chief-lagarde-global-cryptocurrency-regulation-is-inevitable>.

157. Sebastian Omlor, *The CISG and Libra: A Monetary Revolution for International Commercial Transactions?*, STANFORD J. BLOCKCHAIN L. & POL’Y 83, 94 (2020).

158. *WTO: Members and Observers*, WORLD TRADE ORG. [“WTO”], https://www.wto.org/english/thewto_e/whatis_e/tif_e/org6_e.htm (last visited Oct. 11, 2020).

159. *List of Members*, INT’L MONETARY FUND [“IMF”] (Apr. 15, 2020), <https://www.imf.org/external/np/sec/memdir/memdate.htm>.

160. *CISG: Table of Contracting States*, CISG (Jan. 8, 2016), <https://www.cisg.law.pace.edu/cisg/countries/cntries.html>.

161. Although the convention does not explicitly define “goods,” neither is the definition derived from domestic law. Instead, the definition of what constitutes a good is “subject to the autonomous interpretation of the CISG in its international character.” See Omlor, *supra* note 157, at 87. See also COMMENTARY ON THE UN CONVENTION ON THE INTERNATIONAL SALE OF GOODS (CISG) Art. 1 para. 16 (Ingeborg Schwenzer & Peter Schlechtriem eds., 2nd ed. 2005); FRANCO FERRARI & MARCO TORSSELLO, INTERNATIONAL SALES LAW—CISG IN A NUTSHELL 95 (1st ed. 2014).

162. Koji Takahashi, *Applicability of CISG*, BLOCKCHAIN, CRYPTOCURRENCY, CRYPTO-ASSET & L. (Nov. 2, 2015), <http://cryptocurrencylaw.blogspot.com/2015/11/applicability-of-cisg.html>.

163. Albert H. Krtizer, *General Principles of the CISG*, PACE L. SCH. INST. OF INT’L COM. L. (Sept. 7, 1999), <https://www.cisg.law.pace.edu/cisg/text/principles7.html>.

ity of the CISG to cryptocurrencies as nothing short of a “monetary revolution.”¹⁶⁴

Alternatively, the argument that regulation should take place under the WTO suggests that cryptocurrencies should be classified as a good that may be traded between nations.¹⁶⁵ If classified as such, cryptocurrencies would become subject to various restrictive trading provisions of the WTO.¹⁶⁶ One such provision is Most-Favored-Nation clause: With certain exceptions, this clause requires that all nations treat each other equally in trade.¹⁶⁷ Under this interpretation, a country could choose to regulate digital assets by banning cryptocurrency “imports” into their domestic market entirely.¹⁶⁸

The WTO’s classification of cryptocurrency as a good could also lead to IMF oversight.¹⁶⁹ To classify cryptocurrency as a good would catalyze the IMF’s jurisdiction over exchange controls relating to the payment and transfer of cryptocurrencies.¹⁷⁰ This would also give the IMF discretion over cryptocurrency exchange rate restrictions, although how this might work in practice is anyone’s guess.¹⁷¹

Each of these approaches has distinct benefits.¹⁷² However, the various weaknesses apply across the board. The first fundamental weakness of the aforementioned approaches is that each regulatory mechanism suffers from a structural disadvantage. The IMF, WTO and CISG each require the classification of cryptocurrency as a good.¹⁷³ The merits of this classification have been oft-debated,¹⁷⁴ but the fact remains that cryptocurrency is unlike any commodity, service or currency that international organizations regulate. In each instance, this translates into a structural weakness. To illustrate: the

164. Omlor, *supra* note 157, at 83.

165. Howden, *supra* note 51, at 783.

166. *Id.* at 784.

167. General Agreement on Tariffs and Trade art. I, Oct. 30, 1947, 61 Stat. A—11, 55 U.N.T.S. 194 [hereinafter GATT].

168. Howden, *supra* note 51, at 784; Omlor, *supra* note 157.

169. *Id.*

170. Deborah Siegel, *Legal Aspects of the IMF/WTO Relationship: The Fund’s Articles of Agreement and the WTO Agreements*, 96 AM. J. INT’L L. 561, 563 (2002).

171. Exchange restrictions are typically tied to state-centric factors such as private and public debt, trade, and monetary reserves. Howden, *supra* note 51, at 771. Because cryptocurrencies are not tied to a single state it is unclear how the IMF might enforce or restrict an exchange rate on digital assets.

172. *See, e.g.*, Howden, *supra* note 51, at 770—93.

173. *Id.* at 783; Omlor, *supra* note 157, at 87—88.

174. *See, e.g.*, Jake Ryan, *Crypto Classification: Security vs. Commodity*, HACKER NOON (Aug. 2, 2018), <https://hackernoon.com/crypto-classification-security-vs-commodity-decf2d78c4a1>; *see also* *Cryptocurrency: The Top Things You Need to Know*, BDO (Jan. 2019), [https://www.bdo.com/getattachment/9a49abf0-c90a-453c-81ef-e50f758e136a/attachment.aspx?Cryptocurrency-The-Top-Things-You-Need-To-Know-\(1\).pdf](https://www.bdo.com/getattachment/9a49abf0-c90a-453c-81ef-e50f758e136a/attachment.aspx?Cryptocurrency-The-Top-Things-You-Need-To-Know-(1).pdf).

CISG is not equipped for the extreme volatility of cryptocurrencies.¹⁷⁵ The IMF would have immense difficulty enforcing an exchange rate on digital assets untethered to any state.¹⁷⁶ The WTO would need to devise a way to determine the cryptocurrency's country of origin to make for effective regulation (a standard that is already unclear without the added layer of cryptocurrency).¹⁷⁷ No doubt there are short-term fixes to each of these problems,¹⁷⁸ but they amount to mere band-aids on enormous structural deficits that cannot be solved by mere language tweaks or newly applied methods of textual interpretation.

The second fundamental weakness of using pre-existing conventions to regulate cryptocurrencies is that the conventions' terms do not address the heart of the problem. Each of these organizations was designed to eliminate specific regulatory dilemmas that existed well before the development of cryptocurrency.¹⁷⁹ Challenges unique to digital currencies—pseudo-anonymity,¹⁸⁰ untrustworthy third-party intermediaries,¹⁸¹ volatility in their worth¹⁸²—are not included within these conventions and will remain unaddressed should the international community resort to regulation through any of these pre-existing organizations.

C. International Regulation: A New, Multilateral Treaty

The creation of a new multilateral treaty is the most realistic way to implement international regulatory standards on the use of cryptocurrency. It is also the most effective method of preventing the evasion of financial sanc-

175. Miklós Király, *The Vienna Convention on International Sales of Goods and the Bitcoin*, U.S.—CHINA L. REV. 182 (2019) (“The crux [of the problem] is that the CISG refers . . . to the price charged at the time of the conclusion of the contract, while the dramatic change in Bitcoin’s value might have happened just after it.”).

176. Exchange restrictions imposed by the IMF are typically tied to state-centric factors such as private and public debt, trade, and monetary reserves. *See* Howden, *supra* note 51, at 771.

177. *Id.* at 788.

178. For example, Howden proposes a solution to the WTO “place of origin” dilemma: “A simple measure to determine a crypto’s country of origin would be to identify the origin country as that country from which the crypto was last sent.” *Id.*

179. Indeed, the WTO was designed with the goal of *liberalizing* trade, an objective that some might characterize as somewhat antithetical to the goals of regulation. *See id.* at 781. The CISG was designed to unify commercial law and alleviate obstacles to international trade. Harry M. Flechtner, *The United Nations Convention on Contracts for the International Sale of Goods*, U.N. AUDIOVISUAL LIBR. INT’L L. (2009), <https://legal.un.org/avl/ha/ccisg/ccisg.html>. The IMF served “to overcome the collective action problem of allowing individual countries to enact self-interested economic policies without jeopardizing the global economy.” Nicholas A. Plassaras, *Regulating Digital Currencies: Bringing Bitcoin Within the Reach of the IMF*, 14 CHI. J. INT’L L. 377, 390–91 (2013).

180. *See supra* Section III.B.

181. *See id.*

182. *See supra* Section III.A.

tions through the use of digital currencies.¹⁸³ This is because a new multilateral treaty can be structured to address challenges unique to the regulation of cryptocurrency from the outset.¹⁸⁴

The following proposal goes beyond standard legal justifications for a multilateral mechanism. It drills down into the substantive mechanisms that an effective treaty must include. The levels of specificity to this end are perhaps uncommon in a typical legal analysis. At first, this might even seem beyond the scope of a legal proposal. However, this analysis is essential to explain why a new, multilateral treaty is required. The current structures in place could not begin to grapple with the complex underlying issues which are so crucial to the regulation of cryptocurrency. As such, the substantive components of the proposed treaty undergird the very reason why a new multilateral treaty is necessary.

1. Public Key Cryptography

The proposed multilateral framework should consist of three equally important dimensions. The first dimension implicates the technology which underlies all cryptocurrencies: public key cryptography.¹⁸⁵ Public key cryptography is the crux of cryptocurrency users' pseudo-anonymity.¹⁸⁶ It is also a fundamental way in which cryptocurrencies may themselves be regulated.¹⁸⁷ The identification of cryptocurrency users is important because it is the gateway to additional, future regulation. States cannot regulate users who cannot be identified.¹⁸⁸ Deanonimizing users also has intrinsic value: If countries can identify the users conducting cryptocurrency transactions, they will be better able to identify those users, governments, or agents that defy international financial sanctions.

To accomplish these objectives, the new international regulatory framework should require the establishment of national databases of public keys linked to personal identifying information. If public keys are identified within a central national system, each cryptocurrency transaction may be traced

183. See *supra* Section III.C.

184. This is in contrast to the WTO, CISG, and IMF which were all created for varied and distinguishable challenges that cryptocurrency either does not face or that are tangential to the real issues at hand. See Király, *supra* note 175.

185. *Public and Private Keys*, *supra* note 26.

186. *Id.*

187. See, e.g., Dan Ryan, *FinCEN: Know Your Customer Requirements*, HARVARD L. SCH. F. ON CORP. GOVERNANCE (Feb. 7, 2016), <https://corpgov.law.harvard.edu/2016/02/07/fincen-know-your-customer-requirements> (outlining the Know Your Customer requirements, created to "help financial institutions avoid illicit transactions").

188. See Elizabeth Rosenberg & Neil Bhatiya, *Busting North Korea's Sanctions Evasion*, CTR. FOR A NEW AM. SEC. (Mar. 4, 2020), <https://www.cnas.org/publications/commentary/busting-north-koreas-sanctions-evasion> (documenting strategies to undercut North Korean financing of proliferation, the authors recommend a "culture of collaboration to identify and halt the money trail for the nuclear threats emanating from North Korea" [emphasis added]).

to its source by that nation's government.¹⁸⁹ Similar to KYC regulations, this framework decreases anonymity of cryptocurrency users by revealing their identities to a central database.¹⁹⁰ However, a level of pseudo-anonymity does remain intact: The identities of cryptocurrency users would be anonymous to all non-governmental users without access to this central database. Simply put, a central database of public keys is similar to a central database of bank account numbers, yet without the problematic risks: Unlike bank account numbers,¹⁹¹ public keys are intended to be made public.¹⁹² There is no risk of fraud or unauthorized withdrawals from a user's digital wallet as a bad actor cannot access these funds without the user's corresponding private key.¹⁹³

This framework draws upon the ICAO structure for the storage of passport information.¹⁹⁴ Under ICAO, each participating country maintains a national database of passport numbers and corresponding identifying information.¹⁹⁵ Similar to ICAO's passport database requirements,¹⁹⁶ the cryptocurrency treaty should require states to maintain certain standards of public key identification while allowing for flexibility regarding methods of implementation. This eliminates a problem that frequently vexes multilateral treaties: unwieldy rules that large groups of states can rarely agree upon.¹⁹⁷

2. International Public Key Directory

Public key identification within a national database is helpful for discrete states. However, by itself it does little to aid in international regulation. To be fully effective, the multilateral framework must also include a mechanism that enables cross-border information-sharing. Again, ICAO provides a

189. See *Surveillance Defense*, *supra* note 29.

190. See *supra* Section IV.A.

191. See *What Can Someone Do With Your Bank Account Number?*, BANKS (Oct. 16, 2018), <https://banks.org/what-can-someone-do-with-your-bank-account-number>.

192. See Jake Frankenfield, *Public Key*, INVESTOPEDIA (July 30, 2018), <https://www.investopedia.com/terms/p/public-key.asp>.

193. *Id.*

194. See *Traveller Identification Programme*, *supra* note 145.

195. Some states such as Argentina, Mexico, and the United States have opted to use biometric identification such as fingerprints and photographs to identify travelers, while countries such as Japan use databases that store application forms for passports without the biometric data of all passport applicants. See, e.g., *Biometric Data Retention*, *supra* note 149.

196. Narjess Abdennebi, *ICAO Traveller Identification Programme (TRIP) Strategy*, ICAO SKY TALKS WORKSHOPS 18—19 (2016), <https://www.icao.int/Meetings/a39/workshops/Documents/A39%20Workshops%20-%20TRIP%20Strategy.pdf>.

197. See *Bilateral or Multilateral: Which Trade Partnerships Work Best?*, KNOWLEDGE@WHARTON (Apr. 27, 2017), <https://knowledge.wharton.upenn.edu/article/bilateral-multilateral-trade-partnerships-work-best>.

useful blueprint. ICAO maintains a Public Key Directory (“PKD”)¹⁹⁸ which functions as a central repository of cryptographic public keys.¹⁹⁹ This allows for the exchange of information required to authenticate the digital signatures of ePassports.²⁰⁰ Notably, the ICAO PKD does not contain any personal information about the passport holder.²⁰¹ This public key information is available to all participating countries.²⁰²

Similarly, a cryptocurrency PKD should be established which shares the national origin of each public key without further identifying data. This would allow states to crack down on the evasion of international sanctions without compromising the personal information of cryptocurrency users. Further, should states wish to open an investigation, the PKD would act as a springboard from which further negotiations could ensue between countries. ICAO acts as a collaborative fulcrum around which states work to reach their objectives in civil aviation and international security;²⁰³ the cryptocurrency treaty would do the same to prevent digital currency transactions that evade financial sanctions.

An alternative proposition to a multilateral PKD is the enactment of bilateral treaties which enable the exchange of public key information.²⁰⁴ However, the downsides of this proposal are numerous. Not only would this mechanism prove exponentially more expensive,²⁰⁵ but the coordination efforts would prove inordinately cumbersome.²⁰⁶ To illustrate, if eight states wished to conduct exchanges of public key information using bilateral trea-

198. For a detailed explanation on the technical underbelly of the ICAO PKD, see MARKUS HARTMANN, STEPHAN KÖRTING, & OLGA KÄTHLER, A PRIMER ON THE ICAO PUBLIC KEY DIRECTORY (2009), http://www.securitydocumentworld.com/creo_files/upload/client_files/hjp_pkd_promotion-paper_v1_5_20090520.pdf.

199. *Public Key Directory*, ICAO, <https://www.icao.int/Security/FAL/PKD/Pages/default.aspx> (last visited Oct. 11, 2020).

200. *Id.*; Christiane DerMarkar, *ICAO Public Key Directory – State of Progress*, ICAO 2 (2019), [https://www.icao.int/Meetings/TRIP-Symposium-2019/PublishingImages/Pages/Presentations/ICAO%20Public%20Key%20Directory\(PKD\)-State%20of%20Progress.pdf](https://www.icao.int/Meetings/TRIP-Symposium-2019/PublishingImages/Pages/Presentations/ICAO%20Public%20Key%20Directory(PKD)-State%20of%20Progress.pdf).

201. The public key information only serves to confirm that “the ePassport has been issued by a bona fide authority and that it has not been tampered with. *ePassports: Digital Signatures and the Public Key Directory*, GOV’T CAN. (May 13, 2014), <https://www.canada.ca/en/news/archive/2014/05/epassports-digital-signatures-public-key-directory.html>.

202. *Id.* See also *ICAO PKD Participants*, ICAO, <https://www.icao.int/Security/FAL/PKD/Pages/ICAO-PKDParticipants.aspx> (last visited Oct. 11, 2020).

203. *Cooperation Delivers Enhanced ICAO Compliance and Sustainable Aviation Development*, ICAO (Aug. 1, 2019), <https://www.icao.int/Newsroom/Pages/Cooperation-delivers-enhanced-icao-compliance-and-sustainable-aviation-development.aspx>.

204. See Roman Vanek, *ICAO Public Key Directory*, KEESING PLATFORM (June 1, 2013), <https://platform.keesingtechnologies.com/icao-public-key-directory>.

205. *Id.*

206. Christine DerMarkar, *ICAO Public Key Directory (PKD)*, ICAO SKY TALKS WORKSHOPS 6 (2016), <https://www.icao.int/Meetings/a39/workshops/Documents/A39%20Workshop%20-%20PKD.pdf>.

ties, this would require fifty-six information exchanges.²⁰⁷ Under the PKD, only two exchanges of information are required—one from each country to the central repository.²⁰⁸ If 191 states wished to conduct exchanges of information, 36,290 bilateral exchanges of information would be necessary.²⁰⁹ Under the PKD, the number of exchanges remains at two.²¹⁰ A multilateral treaty establishing a PKD is an elegant solution that avoids encumbering the regulation of cryptocurrencies with bureaucratic red tape.

3. Prosecution Guidelines & Foreign Fine Credits

The third aspect of the proposed multilateral cryptocurrency treaty is the inclusion of prosecution guidelines²¹¹ and the establishment of a mechanism permitting foreign fine credits.²¹² This will further cement the norm of international cooperation between states—both in investigations and prosecutions—and will leave oversight in the hands of governmental actors instead of self-interested third-party intermediaries.²¹³

The inclusion of a commitment to prosecution guidelines within the multilateral treaty is an important step toward preventing instances of double jeopardy.²¹⁴ The evasion of financial sanctions is a cross-border endeavor, and the use of cryptocurrencies to do so has the potential to implicate countless jurisdictions.²¹⁵ To avoid placing individuals and businesses in

207. *Id.*

208. *Id.*

209. *Id.*

210. *Id.*

211. *See, e.g., Guidelines for Deciding 'Which Jurisdiction Should Prosecute?'* EUROJUST (2016), https://www.anti-corruption.com/files/2018/08/30/2016_jurisdiction-guidelines_en.pdf [hereinafter *Eurojust Guidelines*].

212. Foreign fine credits are a tool that government enforcers typically use to prevent double jeopardy issues in multinational settlements. They are repurposed here to provide relief not only for multinational corporations, but individuals and small businesses that may also find themselves subject to violations of double jeopardy. *See* Megan Zwiebel, *Is the Pie Getting Bigger? Double Jeopardy in the Age of International Cooperation*, ANTI-CORRUPTION REP. (Sept. 5, 2018), <https://www.anti-corruption.com/2619506/is-the-pie-getting-bigger-double-jeopardy-in-the-age-of-international-cooperation.html>.

213. *See supra* Section III.B.

214. Double jeopardy (or *non bis in idem*) is defined as “[t]he fact of being prosecuted or sentenced twice for substantially the same offense.” *Double Jeopardy*, BLACK’S LAW DICTIONARY (10th ed. 2014).

215. The technology underlying the use of cryptocurrency and blockchain allows for the possibility of transactions touching computer servers (“nodes”) all over the world before their completion. Under the legal principle of *jurisdiction loci*, this allows any number of nations to assert jurisdiction over an illicit transaction should it touch one of their computer servers—the physical territory that an entity’s authority covers—in passing. *See Spatial Jurisdiction*, BLACK’S LAW DICTIONARY (11th ed. 2019); Jaak Poldma, *Dragged to the U.S. Courts (Part 1): Jurisdiction & the Location of Blockchain Nodes*, ORRICK (Nov. 28, 2018), <https://blogs.orrick.com/blockchain/dragged-to-the-u-s-courts-part-1-jurisdiction-and-the-location-of-blockchain-nodes>.

double jeopardy for the same alleged crimes, prosecution guidelines should be used to ensure a just outcome. The Eurojust guidelines are an excellent starting point.²¹⁶ These guidelines place an emphasis on factors that might be considered in a multi-jurisdictional case, including the protection of witnesses; the costs and resources which will be allocated to the investigation; and the location of suspects.²¹⁷

In determining jurisdiction over the evasion of financial sanctions, some factors may prove more helpful than others. Territoriality is one such factor.²¹⁸ Under the Eurojust guidelines, a presumption is made that the prosecution will take place in the jurisdiction in which the majority of the criminal action occurred.²¹⁹ As applied to the evasion of financial sanctions, if a North Korean actor buys goods from a Japanese vendor using cryptocurrency, Japan has presumptive jurisdiction. This should remain the case even if the transaction was communicated across hundreds of different servers the world over; the most important aspect of the crime—the unlawful purchase of goods—took place in Japan.²²⁰

A second mechanism to prevent violations of double jeopardy is the institution of foreign fine credits.²²¹ Foreign fine credits are a method used in contemporaneous, multi-jurisdictional investigations.²²² To the extent that disgorgement or restitution is imposed during the course of one nation's investigations, another would give "dollar-for-dollar credit" for fines in connection with related actions.²²³ This has the effect of reducing duplicative payments, or "piling on."²²⁴ In the cryptocurrency treaty, this should be incorporated as a failsafe mechanism should the prosecution guidelines fail to prevent multiple investigations for the same criminal action. Foreign fine credits ensure that if multiple jurisdictions prosecute a single actor, that actor's cooperation with and payment to all authorities is credited.²²⁵

216. See *Eurojust Guidelines*, *supra* note 211.

217. Zwiebel, *supra* note 212.

218. See *Eurojust Guidelines*, *supra* note 211, at 3.

219. See *id.*

220. See *Eurojust Guidelines*, *supra* note 210, at 3. See also Poldma, *supra* note 215. The territoriality factor would also work in Japan's favor in this instance as the location of one of the parties under investigation is physically within Japanese territory.

221. See Zwiebel, *supra* note 212.

222. See Nathaniel Edmonds, Tara K. Giunta, Michael L. Spafford, & Daren F. Stanaway, *A New Enforcement Agency Joins the World of International Corruption Enforcement*, PAUL HASTINGS (Mar. 13, 2019), https://www.paulhastings.com/publications-items/details/?id=9955a96c-2334-6428-811c-ff00004cbded#_edn30.

223. See James M. McDonald, Dir. of Enf't, Commodity Futures Trading Comm'n ["CFTC"], Remarks of CFTC Director of Enforcement James M. McDonald at the American Bar Association's National Institute on White Collar Crime (Mar. 6, 2019), <https://www.cftc.gov/PressRoom/SpeechesTestimony/opamcdonald2>.

224. Edmonds et al., *supra* note 222.

225. *Id.*

In sum, the dual mechanisms proposed within the multilateral treaty prioritize cross-border cooperation and altering the levels of pseudo-anonymity to which cryptocurrency users are entitled.²²⁶ The framework will require international buy-in and no doubt will take both time and trial-and-error to implement. However, a new multilateral framework remains the best option for the regulation of cryptocurrency. Digital currencies are unlike any technology currently regulated by the international system. To rely on options such as the WTO, CISG or IMF to provide effective regulatory mechanisms is tantamount to fitting a circle into a square. A new regulatory regime may be tailored from its beginning to the unique properties of cryptocurrencies that allow for the evasion of international sanctions. With this goal in mind from the outset, an effective framework might be built which allows the world to use and benefit from cryptocurrencies to their full extent.

V. CONCLUSION

Cryptocurrencies began as a niche technology in 2009.²²⁷ A mere decade later, cryptocurrencies are firmly entrenched within our global financial system.²²⁸ Their benefits are numerous. It is hard to overstate the impact that cryptocurrencies may have on emerging economies.²²⁹ Transactions using cryptocurrency can prove easier and faster than those conducted through banks,²³⁰ and transaction fees are usually nonexistent.²³¹ The risk of identity theft is much lower than when using traditional lines of payment such as

226. This proposal necessarily entails more power in government's agencies hands in viewing the content of individuals' transactions. For reasons explained within this note, however, the system would still be sufficiently airtight. Further guidelines would also be necessary which lay out how and which agencies have the ability to use and access this data. This system is warranted for the reasons explained within this note.

227. Rosemary Bigmore, *A Decade of Cryptocurrency: From Bitcoin to Mining Chips*, TEL. (May 25, 2018), <https://www.telegraph.co.uk/technology/digital-money/the-history-of-cryptocurrency>.

228. *Id.*

229. See Chris Grundy, *The Impact of Cryptocurrency in Emerging Markets*, COIN OFFERING (Sept. 21, 2018), <https://thecoinoffering.com/learn/cryptocurrency-emerging-markets>.

230. Audrey Conklin, *What Are the Benefits of Cryptocurrency?*, FOX BUS. (Feb. 6, 2020), <https://www.foxbusiness.com/money/what-are-the-benefits-of-cryptocurrency>.

231. Ameer Rosic, *7 Incredible Benefits of Cryptocurrency*, HUFFPOST (Dec. 6, 2017), https://www.huffpost.com/entry/7-incredible-benefits-of-_1_b_13160110.

credit cards.²³² Finally, cryptocurrencies are the great equalizer: If you have access to the internet, you have access to cryptocurrency.²³³

Along with cryptocurrencies' benefits, however, comes a host of issues. Many stem from the pseudo-anonymity afforded to users and the dearth of international regulatory cooperation.²³⁴ Without an international regulatory framework, sanctioned actors may conduct international transactions with impunity.²³⁵ Functionally, this permits terrorists, unstable governmental regimes, and extremist groups access to funds from which they would otherwise be deprived.²³⁶ This is untenable in a global financial system growing at an exponential pace.²³⁷

An international regulatory framework for cryptocurrency is therefore vital. The only viable framework is through the enactment of a new, multilateral treaty with distinct features applicable only to cryptocurrencies. The dual components of an international public key directory and mechanisms which underscore international cooperation are essential to preventing the evasion of financial sanctions. Moreover, a new multilateral treaty can provide a gateway to future regulatory efforts that address different aspects of cryptocurrency regulation. Preventing financial sanctions solves only a small component of the challenges that cryptocurrencies present. Nonetheless, the solution presented in this note is a crucial step in the right direction. Perhaps most importantly, it may provide a blueprint for future regulations yet to come.

232. *Id.* (“When you give your credit card to a merchant, you give him or her access to your full credit line, even if the transaction is for a small amount. Credit cards operate on a “pull” basis, where the store initiates the payment and pulls the designated amount from your account. Cryptocurrency uses a “push” mechanism that allows the cryptocurrency holder to send exactly what he or she wants to the merchant or recipient with no further information.”).

233. Approximately 2.2 billion individuals have access to the internet or mobile phones without access to traditional monetary exchanges. *Id.*

234. *See supra* Section III.A.

235. *See supra* Section III.B.

236. *See supra* Section III.C.

237. *See supra* Section II.

