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TRANSNATIONAL TRANSACTIONS ON CRYPTOASSET EXCHANGES: A CONFLICT OF LAWS PERSPECTIVE

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Cryptoassets, now in the mainstream with significant retail and institutional ownership, can be purchased on cryptoasset exchanges online from around the world. Correspondingly, disputes involving transnational cryptoasset transactions—which have already begun to crop up in the US—are likely to become increasingly common in Singapore given its status as a global financial hub. The problem, however, is that there is no global consensus on how to determine the applicable law for transnational transactions on cryptoasset exchanges. This lack of consensus engenders unnecessary uncertainty as to the disputing parties' rights and obligations, which in turn has significant implications for issuers, potential investors, regulators, and even the entire financial system. Building on the shortcomings of existing conflict of laws solutions in other jurisdictions, this article proposes a conflict of laws solution to this problem for the Singapore courts. The solution entails (1) recognising that the problem should be dealt with using a choice-of-law approach, (2) creating a new category of issues, 'market issues', as which issues may be collectively characterised, and (3) choosing only the *lex mercatus* for issues characterised as market issues.

I. Introduction

At the height of the 2018 Initial Coin Offering ("ICO") boom, leading cryptoasset data aggregator CoinMarketCap listed the 2,000th cryptoasset on its website;[1] as of August 2022, that number has soared to over 20,500.[2] Accompanying this exponential cryptoasset listing growth is a commensurate increase in the volume of cryptoassets traded on cryptoasset exchanges. In 2021, US$14.68 trillion of

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1 Sam Ouimet, "CoinMarketCap Hits a New All-Time High (But Not for Price)" *CoinDesk* <https://www.coindesk.com/markets/2018/10/23/coinmarketcap-hits-a-new-all-time-high-but-not-for-price/> (24 October 2018).

2 *CoinMarketCap* <https://coinmarketcap.com/>.

cryptoassets was transacted on the 24 largest cryptoasset exchanges globally—a staggering 711% increase from the US$1.81 trillion transacted in 2020.[3]

Lawsuits involving cryptoasset transactions have unsurprisingly begun to surface worldwide. Most take place in the US, perhaps due to its strong securities laws[4] and the fact that it leads the world in terms of blockchain company presence.[5] The causes of action pursued are diverse, spanning contract,[6] tort,[7] trust,[8] fiduciary duties,[9] unjust enrichment,[10] and state or federal regulations.[11] And given the recent cryptoasset market turmoil, even more actions relating to cryptoassets are being prepared and filed.[12]

Among these actions, it is those involving *transnational* cryptoasset transactions that demand our attention. Such disputes, which are likely to become increasingly common given the accessibility of online cryptoasset exchanges worldwide, bring up pressing conflict of laws issues. The following hypothetical illustrates these issues.[13]

D-Coins are cryptoassets originally issued by *D-Found*, a foundation organised under Swiss law with offices in Israel. *P*, resident in Wisconsin, purchases *D-Coins* on a Singapore-based exchange. The exchange's servers are housed in Germany,

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3 "Cryptocurrency Exchange Volume (The Block Legitimate Index)" *The Block* <https://www.theblockcrypto.com/data/crypto-markets/spot> (26 Jan 2021).

4 See, *eg*, John C Coffee Jr, "Law and the Market: The Impact of Enforcement" (2007) 156(2) U Pa L Rev 229 at 268.

5 Shanhong Liu, "Number of blockchain companies worldwide as of April 2019, by country" *Statista* <https://www.statista.com/statistics/1015489/worldwide-blockchain-companies-country/> (19 October 2021).

6 Such claims include breach of contract and contractual mistake: see, *eg*, *Quoine Pte Ltd v B2C2 Ltd* [2020] 2 SLR 20 [*Quoine v B2C2*]; *Crypto Asset Fund, LLC v MedCredits, Inc.*, Case No. 19cv1869-LAB (MDD) (S.D. Cal. Mar. 30, 2020).

7 Such claims include conversion, misrepresentation, civil conspiracy to commit fraud, and product liability: see, *eg*, *Johnson v Maker Ecosystem Growth Holdings*, Case No. 20-cv-02569-MMC, (N.D. Cal. Jan. 4, 2021); *Dos Bowies, LP v Ackerman*, 20 Civ. 2479 (LGS), (S.D.N.Y. Jan. 29, 2021) [*Dos Bowies v Ackerman*]; *James v Valo*, Civil Action No. 4:19-cv-00801 (E.D. Tex. Dec. 10, 2020).

8 See, *eg*, *Quoine v B2C2*, *supra* note 6; *Dos Bowies v Ackerman*, *ibid*.

9 *Ibid*.

10 *Ibid*.

11 See, *eg*, *Holsworth v BProtocol Found.*, 20 Civ. 2810 (AKH) (S.D.N.Y. Feb. 22, 2021) [*Holsworth v BProtocol*]; *Zakinov v Ripple Labs, Inc.*, Case No. 18-cv-06753-PJH (N.D. Cal. Feb. 26, 2020). Indeed, regulators have also started closely scrutinising cryptoasset issuers. Most recently, in December 2020, the US Securities and Exchange Commission filed an action against Ripple Labs – the corporation behind the popular cryptocurrency XRP launched in 2013 – alleging that Ripple had raised over US$1.3 billion "through an unregistered, ongoing digital asset securities offering". Ripple's failure to register "deprived potential purchasers of adequate disclosures about XRP … and other important long-standing protections that are fundamental to [the] robust public market system": "SEC Charges Ripple and Two Executives with Conducting $1.3 Billion Unregistered Securities Offering United States Securities and Exchange Commission" *United States Securities and Exchange Commission* <https://www.sec.gov/news/press-release/2020-338> (22 Dec 2020).

12 Edward Helmore, "Trillion-dollar crypto collapse sparks flurry of US lawsuits—who's to blame?" *The Guardian* <https://www.theguardian.com/technology/2022/jun/18/cryptocurrency-collapse-bitcoin-kim-kardashian-floyd-mayweather> (18 June 2022).

13 This hypothetical is realistic, having been adapted from the facts of *Holsworth v BProtocol*, *supra* note 11.

and nodes[14] of *D-Coin*'s blockchain are primarily found in Canada. *P* brings claims against *D-Found* in the District Court for the Southern District of New York ("SDNY"). What law should govern issues arising from this transaction? Should it be that of the issuer's nationality (Switzerland) or place of operation (Israel), forum where the dispute is brought (New York), exchange's location (Singapore), buyer's residence (Wisconsin), location of the exchange's servers (Germany), or place where the blockchain's nodes are primarily found (Canada)?

These complications are exacerbated by the nascent technology on which cryptoassets are based. Many preliminary issues are likely to arise in litigation apropos the cryptoassets' nature. Are the cryptoassets intangible property?[15] For the purposes of regulatory statutes in different jurisdictions, are the cryptoassets securities,[16] commodities,[17] payment tokens,[18] or even all the above? Can the cryptoassets properly be regarded as binding contracts?[19] The law that governs these preliminary issues directly affects the rights and obligations of transacting parties.

There is regrettably no global consensus on how to determine the applicable law in transnational cryptoasset disputes.[20] The implications are five-fold. First, issuers and other intermediaries involved in cryptoasset transactions may struggle to identify the substantive laws with which to comply, incurring significant compliance costs.[21] Second, prospective investors may find it challenging to pinpoint the substantive laws under which they are protected, which may deter them from transacting altogether. Third, differing conflicts approaches could potentially result in issuers and other intermediaries being subject to either no or multiple regulatory regimes, resulting in either under- or over-regulation. Fourth, the lack of predictability as to applicable law could perpetuate market failures, misallocations of capital, and management inefficiencies.[22] Fifth, there may be knock-on effects on the financial system's stability, since over 52% of institutional investors globally have portfolio exposure to cryptoassets.[23] Inadequacies in legal protections arising

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[14] Nodes are devices comparable to small servers on which data is held. Together, nodes not only form "a critical component of a blockchain's infrastructure", in that a blockchain's data is inaccessible without notes, but could also be said to be the blockchain itself: Jimi S, "Blockchain: What are nodes and masternodes?" *Medium* <https://medium.com/coinmonks/blockchain-what-is-a-node-or-masternode-and-what-does-it-do-4d9a4200938f> (5 September 2018).

[15] *Quoine v B2C2*, *supra* note 6 at [137]–[144].

[16] For instance, for the purposes of the *Securities and Futures Act* (Cap 289, 2006 Rev Ed).

[17] For instance, for the purposes of the *Commodity Trading Act* (Cap 48A, 2009 Rev Ed).

[18] For instance, for the purposes of the *Payment Services Act 2019* (No 2 of 2019, Sing).

[19] UK Jurisdiction Taskforce, "Legal statement on cryptoassets and smart contracts" <https://lawtechuk.io/explore/cryptoasset-and-smart-contract-statement> (November 2019) at [135]–[148].

[20] Wolf-Georg Ringe & Alexander Hellgardt, "The International Dimension of Issuer Liability—Liability and Choice of Law from a Transatlantic Perspective" (2011) 31(1) Oxford J Leg Stud 23 at 24 [Ringe & Hellgardt, "The International Dimension of Issuer Liability"].

[21] In relation to traditional equities, compliance costs are estimated to add up to about 2% of common stock offering proceeds. See William J Grant Jr, "Overview of the Underwriting Process" in Kenneth J Bialkin & William J Grant Jr, eds. *Securities Underwriting: A Practitioners' Guide* (New York: Practising Law Institute, 1985) 25 at 32, 33.

[22] Merritt B Fox, "Securities Disclosure in a Globalizing Market: Who Should Regulate Whom" (1997) 95(8) Mich L Rev 2498 at 2502.

[23] Jack Neureuter, "The Institutional Investor Digital Assets Study" *Fidelity Digital Assets* <https://www.fidelitydigitalassets.com/bin-public/060_www_fidelity_com/documents/FDAS/2021-digital-asset-study.pdf> (September 2021).

from deficient conflicts rules could cause significant losses[24] to cryptoasset-holding institutions, causing a 'domino effect' on institutions that hold no cryptoassets, with potential to destabilise the global financial system.[25]

It is only a matter of time before courts in Singapore, a financial centre with a "booming crypto economy, positive legislation, and the world's second-highest percentage of the crypto-owning population",[26] face such cases. Unfortunately, conflicts scholarship on transnational cryptoasset transactions is barren—and understandably so, given the subject's incipient nature. Nor is there an exemplar conflicts regime for Singapore to emulate. As will be demonstrated, existing conflicts approaches in Singapore and other jurisdictions like the US and UK are ill-equipped to handle the novel complications presented by transnational cryptoasset disputes. The Singapore courts will therefore be presented with an unsolved problem: How should the applicable law for issues arising from transnational cryptoasset transactions be determined?

This article does not purport to solve the entire problem. Rather, it more modestly aims to begin untying the Gordian knot on this front by proposing a solution for the issues arising from transnational transactions *on cryptoasset exchanges*. The discussion is presented in six parts. Following upon the introduction in Part I, Part II reviews four crucial objectives any respectable approach to determining the applicable law must accomplish: conflicts justice, substantive justice, investor protection, and financial stability. The former two are normative principles that underlie the conflict of laws, while the latter two are content-specific principles derived from the field of securities regulation with especial relevance in the context of cryptoassets. Part III outlines pre-existing conflict of laws approaches to determining the applicable law for issues arising from transnational cryptoasset transactions. These approaches are divided into jurisdictional approaches and choice-of-law approaches. Both are shown to undermine the four objectives.

In light of the flaws of the pre-existing conflict of laws approaches, Part IV will address the proverbial elephant in the room. If so many cryptoassets purport to be decentralised with the goal of taking control out of the hands of powerful individuals, groups, or institutions, should they not be allowed to be 'self-regulated' by a law of the collective's design—that is to say, a non-state, a-national law of the community's making (*ie*, the *lex cryptographia*)? It will be demonstrated, however, that despite the claims of 'decentralisation' being thrown around idealistically, the reality is that most cryptoassets are *far from decentralised*. Accordingly, allowing

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[24] Losses can be expected to be significant given that the price volatility of cryptoassets alone has caused concern, especially since "[t]wo public companies, electric-car maker Tesla and software developer MicroStrategy, collectively own around 169,000 Bitcoin": Tristan Bove, "Tesla and other major public companies sunk billions into crypto and now they're taking a big hit" *Fortune* <https://fortune.com/2022/01/28/tesla-public-companies-crypto-and-loss/> (29 January 2022).

[25] Armour *et al*, "The Goals and Strategies of Financial Regulation" in Armour *et al*, eds. *Principles of Financial Regulation* (Oxford, United Kingdom: Oxford University Press, 2016) 51 at 57, 65 [Armour *et al*, "Goals and Strategies"].

[26] Eileen Brown, "Singapore is the world's top crypto country in latest world crypto rankings" *ZDNet* <https://www.zdnet.com/article/singapore-is-the-worlds-top-crypto-country-in-latest-world-crypto-rankings/> (10 December 2021).

such 'self-regulation' would amount to putting power into the hands of self-interested intermediaries, which would be far too damaging to the crucial objectives, especially investor protection and financial stability, enumerated in Part II.

Finally, building on the choice-of-law methodology established in *The Mount I*[27] and adopted by Singapore courts,[28] Part V proposes a two-step choice-of-law framework. First, courts should collectively characterise certain issues arising from transnational on-exchange cryptoasset transactions as 'market issues', for the purpose of having them decided under the same law. This characterisation is appropriate for issues that (a) are in connection with an on-exchange cryptoasset transaction and (b) fall within that exchange's reasonably expected functions. Second, the law of the exchange's location (the *lex mercatus*) should govern all market issues. To locate the exchange, courts should (a) enumerate the jurisdictions from which the exchange is accessible, and (b) from that list, determine multifactorially the jurisdiction most closely connected to the exchange. Part VI concludes the article with reflections on the way forward as regards the conflict of laws in the cryptoasset context.

II. The Four Crucial Objectives

Transnational cryptoasset transactions lie on the intersection of the conflict of laws and securities regulation.[29] Each area of law comes with values that the ideal approach to selecting the applicable law in transnational cryptoasset disputes must uphold.

The conflict of laws is a system of meta-justice that allocates transnational disputes between private parties to appropriate legal systems for resolution.[30] Being a dispute allocation system, the conflict of laws values 'conflicts justice':[31] having similar disputes consistently decided under the same law to achieve uniformity of result, regardless of the forum in which disputes are adjudicated.[32] This indifference to adjudicating forum discourages the practice of forum shopping, thereby promoting

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27 *Raiffeisen Zentralbank Österreich AG v Five Star Trading LLC* [2001] QB 825 (EWCA) [*The Mount I*].

28 *The Republic of the Philippines v Maler Foundation* [2014] 1 SLR 1389 (SGCA) at [81] [*Philippines v Maler*]; *Lew, Solomon v Kaikhushru Shiavax Nargolwala* [2021] SGCA(I) 1 at [71] [*Lew, Solomon v Kaikhushru*].

29 Admittedly, not all cryptoassets are securities. Nevertheless, the same considerations apply for reasons explained below.

30 Alex Mills, *The Confluence of Public and Private International Law* (Cambridge, United Kingdom: Cambridge University Press, 2009) at 10–23; Alex Mills, "Connecting Public and Private International Law" in D French, K McCall-Smith & V Ruiz Abou-Nigm, eds. *Linkages and Boundaries in Private and Public International Law* (United Kingdom: Hart Publishing, 2018) at 22–23 [Mills, "Connecting Public and Private International Law"].

31 As comparative studies show, conflicts justice is a crucial objective that conflicts systems worldwide work towards: Symeon Symeonides, ed. *Private International Law at the End of the 20th Century, Progress or Regress?* (The Netherlands: Kluwer Law International, 1999) at 73–74 [Symeonides, "Progress or Regress?"]. For the origin of the term, see Gerhard Kegel, "The Crisis of Conflict of Laws" (1964) 112 Rec des Cours 93 at 185. Also called "decisional harmony" in Mills, "Connecting Public and Private International Law", *ibid* at 26.

32 Kegel, *ibid* at 122, 185–189; Marcus Teo, "Public law adjudication, international uniformity and the foreign act of state doctrine" (2020) 16(3) J Priv Intl L 361 at 372.

certainty and procedural fairness in transnational disputes.[33] As comparative studies show, conflicts justice is a crucial objective that conflicts systems worldwide work towards.[34]

Substantive justice answers the analytically subsequent question of what makes a system of law appropriate to govern an issue. Substantive justice is the upholding of fairness and private justice through, *inter alia*, protection of the parties' reasonable expectations (objectively ascertained).[35] Commitment to substantive justice is reflected in conflicts systems globally through their preference for the law most closely connected to the occurrence and parties[36] and their correlative reticence to apply fortuitous or unforeseeable systems of law.[37]

Both conflicts and substantive justice must be kept in mind when evaluating approaches to determining the applicable law for issues arising from transnational cryptoasset disputes. Concurrently, however, the fact that cryptoassets are the subject-matter of the disputes we are concerned with brings the content-specific objectives of securities regulation to the fore. Although not all cryptoassets are securities, they are similar to securities in one important respect: like securities,[38] cryptoassets are "used more [by individuals] for investment purposes than for day-to-day transaction purposes",[39] traded by financial institutions like hedge funds for both investment and speculation,[40] and treated by investors as a giving them a 'stake' in the blockchain project's success.[41] Although cryptoassets have sometimes been touted as a replacement for fiat currency, they are far more analogous to securities because:

> most of those invested in cryptocurrency now don't want to replace the dollar. Indeed, they fear its replacement. *What they want is to get rich in dollar terms*.

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33 Kegel, *ibid* at 122; Teo, *ibid* at 372.

34 Symeonides, "Progress or Regress?", *supra* note 31 at 73, 74.

35 Joseph W Singer, "Multistate Justice: Better Law, Comity, and Fairness in the Conflict of Laws" (2015) U Ill L Rev 1923 at 1925–1926; Lord Collins of Mapesbury & Jonathan Harris, eds. *Dicey, Morris & Collins on the Conflict of Laws*, 15th ed (London, United Kingdom: Sweet and Maxwell, 2012) at para 1-006 [*Dicey*]; *Lew, Solomon v Kaikhushru*, *supra* note 28 at [79] ("… recognise the role of the law in giving effect to reasonable expectations, objectively ascertained. This role is as relevant and defensible in circumstances outside contract, or where the existence of a contract is in dispute, as it is once the existence of a contract is agreed or established.").

36 See, *eg*, *Red Sea Insurance Co Ltd v Bouygeus SA* [1995] 1 AC 190 (UKPC) at 198 [*Red Sea v Bouygeus*]; American Law Institute, *Restatement of the Law (2d) of Conflict of Laws*, § 145 [*Restatement (Second)*].

37 See, *eg*, *Rickshaw Investments Ltd v Nicolai Baron v Uexkull* [2007] 1 SLR(R) 377 (SGCA) [*Rickshaw v Nicolai*].

38 Take as reference the definition of a security under the *Securities Act of 1933*, 15 U.S.C. § 77b *et seq*, which is "a contract, transaction or scheme whereby a person invests his money in a common enterprise and is led to expect profits solely from the efforts of the promoter or a third party": *SEC v W.J. Howey* Co., 328 U.S. 293, 298-299, 66 S.Ct. 1100, 90 L.Ed. 1244 (1946) [*Howey*].

39 Based on the literature review in Hiroshi Fujiki, "Crypto asset ownership, financial literacy, and investment experience" (2021) 53(39) Appl Econ 4560 at 4560, 4561.

40 PricewaterhouseCoopers, "3rd Annual Global Crypto Hedge Fund Report 2021" <https://www.pwc.com/gx/en/financial-services/pdf/3rd-annual-pwc-elwood-aima-crypto-hedge-fund-report-(may-2021).pdf> (May 2021) at 8, 9.

41 This 'stake' may be in the form of ownership rights, entitlements similar to dividends, or access to a specific product or service: "Investor Education on Crypto-Assets: Final Report" *International Organization of Securities Commissions* <https://www.iosco.org/library/pubdocs/pdf/IOSCOPD668.pdf> (December 2020) at 10.

> So cryptocurrency prices are typically quoted in dollars, most crypto transactions involve stablecoins pegged to dollars, and dollar-pegged stablecoins are widely used as safe collateral for crypto lending.[42]

Two objectives are salient. The first is investor protection, which is especially important because the business models of many cryptoassets are "unusually opaque" and "particularly prone to abuse".[43] As Azgad-Tromer observes:

> With [cryptoassets], the terms of investment are typically embedded in code, and while theoretically, purchasers can view the code, *they are rarely in a position to assess its contents due to the highly complex and technical language*. Literacy in coding language *requires technical training*, and even for those who possess skill, coding languages vary from one blockchain to another and *require technical versatility* from their readers.[44]

Indeed, the cryptoasset landscape is rife with crime. In 2021, US$7.8 billion worth of cryptoassets was scammed from investors. US$2.8 billion came from 'rug pulls', a type of scam where issuers develop fraudulent but apparently legitimate cryptoassets projects and subsequently disappear with the invested money.[45] Separately, Finiko, a Russia-based Ponzi Scheme, netted over US$1.1 billion from its victims, funnelling the cryptoassets through multiple exchanges in the process.[46] Aside from scams, theft from individuals, exchanges, and other platforms has also plagued cryptoassets.[47] In 2021 alone, US$3.2 billion worth of cryptoassets was stolen.[48] Part of the allure of cryptoassets to financial criminals, explained succinctly by Lou, is that:

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[42] Frances Coppola, "Why This Crypto Crash Is Different" *CoinDesk* <https://www.coindesk.com/layer2/futureofmoney/2022/06/29/why-this-crypto-crash-is-different/> (30 Jun 2022).

[43] Armour *et al*, "Goals and Strategies", *supra* note 25 at 63.

[44] Schlomit Azgad-Tromer, "Crypto Securities: On the Risks of Investments in Blockchain-Based Assets and the Dilemmas of Securities Regulation" (2018) 68(1) Am U L Rev 69 at 109 [Azgad-Tromer, "On the Risks of Investments"] [emphasis added].

[45] "The 2022 Crypto Crime Report" *Chainalysis* <https://go.chainalysis.com/rs/503-FAP-074/images/Crypto-Crime-Report-2022.pdf> (February 2022) at 5.

[46] *Ibid* at 79.

[47] In this regard, see Kelvin Low, "Bitcoin users should not overlook cryptocurrency's fundamental flaw" *Nikkei Asia* <https://asia.nikkei.com/Opinion/Bitcoin-users-should-not-overlook-cryptocurrency-s-fundamental-flaw> (14 June 2022):

> When the cryptocurrency industry describes the blockchain as a secure, decentralized ledger, it is important to note that the security is concerned exclusively with ex-post-ledger edits because that is what double-spending entails. But anyone studying frauds involving ledgers, whether bank ledgers or land registers, will know that no fraudster targets the ledger itself. Rather, they target the end-users directly. This means that blockchain security is akin to the infamous Maginot Line built by France to deter invasion by Germany before World War II, except that it would be pointed in the wrong direction at Dover. This is why we see hacks on a regular basis for what is advertised as secure. Even worse, because blockchains are immutable, the way in which we would normally address such frauds by reversing the fraudulent transfer is rendered highly impractical.

[48] Chainalysis, *supra* note 45 at 70.

> A lost bitcoin is usually gone for good. Misplacing a private key isn't like losing a debit card. There is no bank to call, no bitcoin customer-service line to contact. And crypto transactions are generally irreversible, so coins that are stolen are often impossible to claw back. That's partly what has attracted cybercriminals to this world.[49]

The shocking prevalence of financial crime in cryptoassets necessitates laws that provide sufficient investor protection.

The second is financial stability.[50] The "use of cryptoassets in payment and settlement, exposure of systematically important financial institutions to cryptoassets, and links between cryptoasset markets and systematically important markets" threaten financial stability and necessitate regulation.[51] The threat of destabilisation triggered by cryptoassets is more real than ever given the increasing (a) correlation between cryptoassets and other traditionally 'risky' assets like the equities of technology companies[52] especially in times of market volatility, (b) use of cryptoasset-backed fiat loans,[53] and (c) adoption of cryptoassets by institutions.[54] These developments may perhaps be viewed as the beginning of an inextricable link between cryptoassets and the traditional financial markets.

At this juncture, it should be highlighted that the content-specific objectives of investor protection and financial stability are not to be regarded in any way subservient to the normative principles of conflicts and substantive justice. Indeed, although the conflict of laws is a system of meta-justice, its dispute allocation has real consequences on the content-specific goals of other areas of law. To acknowledge these content-specific goals as being equally important is to recognise conflicts law's facilitative role in cautiously aiding the development of those other areas of law.

Accordingly, approaches to determining the applicable law in transnational cryptoasset disputes should maximise conflicts justice, substantive justice, investor protection, and financial stability. As shall be demonstrated below, existing conflicts approaches undermine them, giving Singapore courts good reason to eschew these sub-optimal approaches to determining the applicable law.

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49 Ethan Lou, "The Case of the Missing $46 Million" *Toronto Life* <https://torontolife.com/city/the-case-of-the-missing-46-million/> (22 June 2022).

50 Armour *et al*, "Goals and Strategies", *supra* note 25 at 72.

51 Robin Huang *et al*, "The Development and Regulation of Cryptoassets: Hong Kong Experiences and a Comparative Analysis" (2020) 21 EBOR 319 at 325.

52 Helene Braun, "Crypto Market's Direction During a Recession Might Depend on Nasdaq" *CoinDesk* <https://www.coindesk.com/markets/2022/04/26/crypto-markets-direction-during-a-recession-might-depend-on-nasdaq/> (27 Apr 2022).

53 See, *eg*, Yueqi Yang, "Goldman Offers Its First Bitcoin-Backed Loan in Crypto Push" *Bloomberg* <https://www.bloomberg.com/news/articles/2022-04-28/goldman-offers-its-first-bitcoin-backed-loan-in-crypto-push> (29 April 2022).

54 See, *eg*, Rosemarie Miller, "Goldman Sachs Bitcoin Survey Shows Insurers Beginning To Warm To Crypto Investing" *MSN* <https://www.msn.com/en-us/money/personalfinance/goldman-sachs-bitcoin-survey-shows-insurers-beginning-to-warm-to-crypto-investing/ar-AAXYnJg?ocid=uxbndlbing> (2 June 2022); Nina Bambysheva, "JPMorgan Says Bitcoin Is Undervalued By 28%, Cryptocurrencies Are Now A 'Preferred Alternative Asset'" *Forbes* <https://www.forbes.com/sites/ninabambysheva/2022/05/25/jpmorgan-says-bitcoin-is-undervalued-by-28-says-cryptocurrencies-are-now-its-preferred-alternative-asset/?sh=346c3b6d1d70> (25 May 2022).

III. The Flaws of Existing Conflicts Approaches

Existing conflicts approaches may be categorised into jurisdictional and choice-of-law approaches. The following sections outline how each approach has been applied in transnational cryptoasset disputes before analysing how it undermines the crucial objectives.

A. *Jurisdictional approaches*

Courts apply a jurisdictional approach where they (1) assert mandatory jurisdiction over a subject-matter and (2) skip over the choice-of-law analysis and default to applying the *lex fori* for claims involving that subject-matter. Jurisdictional approaches are most often adopted in cases where plaintiffs bring claims based on forum mandatory statutory provisions, which apply "irrespective of any foreign elements in the case".[55]

While jurisdictional approaches have been applied in many contexts, their application to the US securities regulation context is especially relevant since transnational cryptoasset dispute claimants often seek to rely on the stringent US securities laws. In the seminal securities regulation case of *Morrison v National Australian Bank*,[56] the US Supreme Court adopted a jurisdictional approach to claims based on § 10(b) of the *Securities Exchange Act*[57] and SEC Rule 10b-5[58] (collectively, "§ 10(b)"), the primary securities anti-fraud provision. The plaintiffs were Australian purchasers of common stock issued by the Australian defendant bank and listed on the Australian Stock Exchange.[59] In response to the plaintiffs' § 10(b) claims, the defendants challenged the US court's subject-matter jurisdiction, arguing that the alleged fraudulent scheme had culminated abroad.[60] The court disagreed and held that US courts had mandatory subject-matter jurisdiction over all *Securities Exchange Act* claims,[61] in effect overruling forty years of precedent set by various circuit courts who considered the question of extraterritoriality to be one of subject-matter jurisdiction.[62] According to the US Supreme Court, § 10(b)'s

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55 *Halsbury's Laws of Singapore* vol 6(2) (Singapore: LexisNexis Singapore, 2021) at para 75.288.

56 *Morrison v National Australia. Bank Ltd.*, 561 U.S. 247 (2010) [*Morrison*].

57 *Securities Exchange Act of 1934*, 15 U.S.C.S. §§ 78j(b), 78t(a) [*Securities Exchange Act*].

58 17 CFR 240.10b-5.

59 *Morrison*, *supra* note 56 at 252.

60 *In re National Australia Bank Securities Litigation*, No. 03 Civ. 6537 (BSJ), 2006 WL 3844465, *8 (S.D.N.Y., Oct. 25, 2006).

61 *Morrison*, *supra* note 56 at 254.

62 Richard Painter, Douglas Dunham & Ellen Quackenbos, "When Courts and Congress Don't Say What They Mean: Initial Reactions to *Morrison v National Australia Bank* and to the Extraterritorial Jurisdiction Provisions of the Dodd-Frank Act" (2011) 20 Minn J Intl L 1 at 3 and 5 [Painter, "Courts and Congress Don't Say What They Mean"]. Even after *Morrison*, Congress remained under the impression that extraterritoriality was a matter of subject matter jurisdiction. In drafting the Dodd-Frank Act to allow US securities law to apply to certain extraterritorial cases post-*Morrison*, Congress attempted to do so "by expressly giving federal courts [subject matter] jurisdiction in certain circumstances over SEC and DOJ suits concerning securities transactions outside the United States". See also note 77 *infra* and accompanying text.

extraterritorial reach was not a question of jurisdiction but merits, to be determined under US law, the *lex fori*.[63] Applying the presumption against extraterritoriality—a "principle of *American law*"[64]—the court held that § 10(b) could only found claims in connection with transactions in securities "registered on a national securities exchange" or "domestic transactions in other securities".[65] Since the securities were neither listed on US exchanges nor transacted in the US, the plaintiffs had failed to state a claim on which relief could be granted.[66]

The *Morrison* jurisdictional approach of asserting mandatory subject-matter jurisdiction over § 10(b) claims and determining § 10(b)'s extraterritorial reach under US law has been adopted in transnational cryptoasset disputes. In *Barron v Helbiz*,[67] the defendants launched an ICO for HelbizCoin. The ICO's terms and conditions prohibited the purchase of HelbizCoin in the US or by US residents and provided that "the governing law shall be that of Singapore whose courts shall have exclusive jurisdiction over any disputes". The plaintiffs brought common law claims in contract, tort, trust, and property, as well as statutory claims under § 349 of the *New York General Business Law*.

At first instance, the SDNY thought it so undisputed that the *Morrison* jurisdictional approach was to be adopted that it (1) made no mention of subject-matter jurisdiction, ignoring the exclusive jurisdiction clause pointing to the Singapore courts, and (2) applied the *lex fori* despite the choice-of-law clause choosing Singapore law. Although there was no § 10(b) claim, the SDNY *sua sponte* applied *Morrison*'s test for the extraterritorial application of § 10(b) to determine the actionability of all the claims, presumably because it viewed the plaintiffs' claims as federal securities anti-fraud claims in substance.[68] Applying this test, HelbizCoin was neither listed on a national exchange nor transacted domestically off-exchange; at the time of purchase, the plaintiffs resided outside the US. The fact that HelbizCoin's website was housed on Kansas servers was immaterial. So too that transactions in HelbizCoin were conducted on the Ethereum blockchain, "a global network of decentralized [nodes]" mostly located in the US which "must jointly agree to cause the coin to transfer from one owner's address to another". Accordingly, the SDNY dismissed the plaintiffs' claims.

On appeal, the Court of Appeals for the Second Circuit vacated the SDNY's judgment *only* on the ground that the *Morrison* test for the extraterritorial application of § 10(b) should not have been applied to claims not brought under §10(b).[69] This demonstrates implicit approval of the SDNY's jurisdictional approach. The court also emphasised that the *lex fori* would apply to determine the extraterritorial

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63 *Morrison*, *supra* note 56 at 250–254.

64 *Ibid* at 255 [emphasis added].

65 *Ibid* at 266–267.

66 *Ibid* at 273.

67 *Barron v Helbiz Inc.*, 20 Civ. 4703 (LLS) (S.D.N.Y. Jan. 22, 2021) [*Barron v Helbiz (SDNY)*], rev'd No. 21-278 (2d Cir. Oct. 4, 2021) [*Barron v Helbiz (Second Circuit)*] [collectively, *Barron v Helbiz*].

68 The SDNY did not state why it thought § 10(b) was applicable; this presumption was the Second Circuit's educated guess in *Barron v Helbiz (Second Circuit)*, *ibid* at 5.

69 *Ibid*.

reach of each claim.[70] The court remanded the case, granting the plaintiffs leave to amend their complaint to include § 10(b) claims.

Aside from illustrating how jurisdictional approaches have been applied in transnational cryptoasset disputes, the facts of *Barron v Helbiz* demonstrate three ways in which jurisdictional approaches undermine conflicts justice and substantive justice—two of the four crucial objectives stated in Part II. First, jurisdictional approaches incentivise forum shopping, the judicially condemned practice[71] of 'shopping' around for the most claimant-friendly forum irrespective of the forum's connection to the dispute. Indeed, the plaintiffs in *Barron v Helbiz* brought claims in the SDNY despite the lack of connection between the US courts and the dispute: Nine of the ten plaintiffs were non-US residents; the plaintiffs had made their HelbizCoin purchases outside the US; and the ICO terms and conditions prohibited purchase by US citizens or residents, chose Singapore law as governing law, and granted the Singapore courts exclusive jurisdiction.

A likely explanation for the plaintiffs' choice[72] is that the New York courts would automatically assert subject-matter jurisdiction and apply US law as "an extraterritorial extension of the law of the forum".[73] Even if partially limited by the presumption against extraterritoriality, the plaintiffs would see a markedly higher chance of their statutory claims being heard and succeeding. Contrariwise, other jurisdictions' courts would be reluctant to even assert subject-matter jurisdiction, let alone apply US law. This reluctance stems from the public law taboo.[74] Courts have no jurisdiction over actions to enforce, directly or indirectly, a foreign state's public laws.[75] Enforcing foreign public law would "amount to an unwarranted extension of the sovereign power … by one state within the territory of another".[76]

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[70] *Ibid* at 5–6 ("While Plaintiffs' various claims might eventually fail for lacking adequate domesticity, that determination must be made pursuant to a more tailored approach that analyzes any Section 10(b) claims under *Morrison*, and separately, any state law claims under New York's rules for the extraterritorial application of its law.").

[71] See, *eg*, *Wells v Simonds Abrasive Co.*, 345 U.S. 514, 521–522 (1953) ("The Court's decision, in contrast with our position, would enable shopping for favorable forums… The life of her cause of action is then determined by the fortuitous circumstances that enable her to make service of process in a certain state or states."); *Goh Suan Hee v Teo Cher Teck* [2010] 1 SLR 367 (SGCA) at [21] [*Goh Suan Hee v Teo Cher Teck*] ("[T]he traditional approach is likely to encourage forum shopping, a development which is hardly desirable especially in this day and age of globalisation and easy communications… [T]he whole question of whether he would be entitled to a higher or lower award would become one of chance, depending on whether the factors (often fortuitous) favour a trial in the foreign land or his own country.").

[72] Christopher Whytock, "The Evolving Forum Shopping System" (2011) 96(3) Cornell L Rev 481 at 487, observes that forum shopping "depends on plaintiffs' expectations about two types of court decisions: court access decisions [*ie*, whether the court will assert subject-matter jurisdiction] and choice-of-law decisions".

[73] *Tolofson v Jensen* [1994] 3 SCR 1022 at 1045 [*Tolofson v Jensen*].

[74] For Singapore, see *Philippines v Maler*, *supra* note 28; for the UK, see *United States Securities and Exchange Commission v Manterfield* [2009] EWCA Civ 27 [*USSEC v Manterfield*]; for Australia, see *Her Majesty's Attorney-General in and for the United Kingdom v Heinemann Publishers Australia Proprietary Limited* (1988) 165 CLR 30 (HCA); for the EU, see *Hellenic Republic v Nikiforidis*, C-135/15, EU:C:2016:774.

[75] *Dicey*, *supra* note 35 at para 5R-019.

[76] *USSEC v Manterfield*, *supra* note 74 at [11].

Consequently, claims under regulatory statutes are much more easily enforced when brought in courts of the jurisdiction to whom they belong. Only these 'home' courts would assert mandatory subject-matter over transnational disputes and apply the *lex fori*'s regulations. Accordingly, outcomes would differ greatly depending on the jurisdiction in which claims are brought, frustrating conflicts justice. This variance in outcomes incentivises plaintiffs to forum shop. Since the forum is chosen *ex post* and may not be connected to the dispute, cryptoasset issuers and other intermediaries cannot reasonably expect to have to comply with that forum's regulatory laws. Substantive justice is thereby compromised.

This criticism may be thought unfair. It may seem intuitive that courts would (and even ought to) *prima facie* have subject-matter jurisdiction over an action which is based on a domestic statute. After all, it might be asked, which court, other than the local court, has the best claim to hear actions concerning a domestic statute? But to take this as a matter of course is to ignore the reality that the lines between the artificial legal constructs of jurisdiction and substantive scope are often blurred.[77] A contrary rule that the subject-matter over which domestic courts assert jurisdiction must be sufficiently domestic—thereby shifting the inquiry to the jurisdiction stage—is equally reasonable and conceivable. In fact, the circuit courts had adopted the latter view for forty years before *Morrison*,[78] and the SEC attorneys behind the Dodd-Frank Act had drafted the now-enacted provisions with the intention to codify the latter view.[79] Other jurisdictions like the UK and Singapore also acknowledge that extraterritoriality falls to be considered in the inquiry of asserting subject-matter jurisdiction.[80] These points lend credence to the view that legal minds may

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[77] Indeed, this brings to mind criticism of the historical procedure-substance divide in the conflict of laws. As Walter Wheeler Cook, "'Substance' and 'Procedure' in the Conflict of Laws" (1933) 42(3) Yale LJ 333 at 335 explains on the distinction between matters of substance and matters of procedure:

> Nearly every discussion seems to proceed on the tacit assumption that the supposed "line" between the two categories has some kind of objective existence, so to speak, and that the object is to find out, as one writer puts it, "on which side of the line a set of facts falls." … *[T]here is no such "line", but rather a "no-man's land", the points of which can be assigned by the one making the classification* … [S]ince our problem turns out to be not to discover the location of a pre-existing "line" but to decide where to draw a line, we can make up our minds about the matter only by asking and answering the question, what difference does it make where we draw it? [emphasis added]

As an illustration of the point Cook makes, see *Goh Suan Hee v Teo Cher Teck*, *supra* note 71 at [14]–[24].

[78] See *supra* note 62.

[79] *Ibid* at 21 ("In preparing this article, we spoke with the attorneys in the SEC Office of the General Counsel who, along with the Solicitor General's Office, drafted the Government's *Morrison* amicus briefs (both at the certiorari and merits stage). They explained to us that throughout the legislative process they were substantially involved in providing technical assistance to members of Congress that included, among other things, explaining *the provisions' intended effect of codifying the courts of appeals' approach to extraterritoriality* with respect to SEC and DOJ enforcement actions." [emphasis added]).

[80] For the UK, see *Mackinnon v Donaldson, Lufkin and Jenrette Securities Corporation* [1986] Ch 482 at 493C–F ("I think that this argument confuses personal jurisdiction, i.e., who can be brought before the court, with *subject matter jurisdiction, i.e., to what extent the court can claim to regulate the conduct of those persons. It does not follow from the fact that a person is within the jurisdiction and liable to be served with process that there is no territorial limit to the matters upon which the court may properly apply its own rules or the things which it can order such a person to do.*" [emphasis added]). For Singapore, see *Burgundy Global Exploration Corp v Transocean Offshore International Ventures*

reasonably differ on where extraterritoriality fits into the picture. It is in recognition of the artificiality of this distinction that US law gives Congress "the final say on what is a question of subject matter jurisdiction".[81]

Second, jurisdictional approaches result in the often-inappropriate fragmentation of the legal dispute, where different laws apply to the rights and obligations arising from a single legal relationship.[82] In *Barron v Helviz*, the statutory claims were mandatorily governed by US law, while contractual, tortious, or proprietary claims arising from the same legal relationship would likely be decided under other laws, like Singapore law. Objectively, absent exceptional circumstances, parties would not reasonably expect contractual, tortious, proprietary, and statutory issues to each be governed by different laws. However, jurisdictional approaches insist on an application of the *lex fori* only vis-à-vis the forum's regulatory statutes, without regard for the governing law of other claims. This insistence frustrates the parties' reasonable expectations, undermining substantive justice. Indeed, although legally erroneous, the SDNY's application of the *Morrison* test for extraterritorial reach to all claims reflects the court's understandable instinct that the same law should govern all claims.

It may be objected that this fragmentation is no different from the fragmentation engendered by Singapore's general choice of law methodology, which breaks down a case into issues, analyses each issue, and resolves each issue under the system of law most closely connected to that issue.[83] Three responses are in order. The first is that the rigidity of jurisdictional approaches is a far cry from the flexible, consequence-sensitive nature of choice of law. In choice of law, courts (a) have the discretion to characterise an issue one way or another to achieve an appropriate outcome,[84] and (b) after characterising the issue, courts may be able to invoke exceptions to the established connecting factors to choose the more closely connected law.[85] Courts therefore have the leeway to unify the issues under a single governing

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[2014] 3 SLR 381 (SGCA) at [78]–[81] ("… the question of subject-matter or substantive jurisdiction is concerned with giving effect to the presumption against extra-territoriality") [*Burgundy*].

81 Painter, "Courts and Congress Don't Say What They Mean", *supra* note 62 at 21, 22. Painter, Dunham & Quackenbos reason that the language in the Dodd-Frank Act, in including extraterritoriality in the statutory subject matter provisions, arguably "turns the extraterritorial issue [of whether US securities law applies] into a question of jurisdiction rather than the merits" post-*Morrison*.

82 Academics have made similar remarks in the context of whether a choice-of-law agreement should encompass issues not characterised as contractual: see, *eg*, Yeo Tiong Min, "The Effective Reach of Choice of Law Agreements" (2008) 20 SAcLJ 723 at [8] ("The result of the concurrent existence of different juridical obligations is the potential fragmentation of the legal dispute: different domestic laws potentially apply to different obligations arising out of a single legal relationship, sometimes the same (but concurrent) obligation can be governed by different laws depending on whether it is characterised as contract, tort, restitution, or even equity, or one or more of the above.").

83 *Philippines v Maler*, *supra* note 28 at [81].

84 *The Mount I*, *supra* note 27 at [27] ("The classes or categories of issue which the law recognises at the [characterisation] stage … have no inherent value, beyond their purpose in assisting to select the more appropriate law. A mechanistic application, without regard to the consequences, would conflict with the purpose for which they were conceived.").

85 An example of the courts' inclination to give effect to parties' reasonable expectations even after characterisation is *The "Rainbow Joy"* [2005] 3 SLR(R) 719 (SGCA) at [31]–[36], where the Singapore Court of Appeal held that the governing law clause in an employment contract applied to a tort committed on board a vessel in the high seas (although the diction used in that judgment was less than precise).

law where appropriate. In stark contrast, the rigidity of jurisdictional approaches means that fragmentation is all but guaranteed. Secondly, the extent to which fragmentation is tolerable must depend on the relative importance of certainty and predictability in the context of each case. It could reasonably be argued, for instance, that in a case where the defendant tortiously injures the claimant in an accident between vessels on the high seas, achieving a just outcome between the parties may take precedence over ensuring the certainty and predictability of the applicable law. In such cases, fragmentation or even dépeçage may be permissible or even desirable. Conversely, it is submitted that the context of commercial interactions on cryptoasset exchanges between exchange participants demands a high degree of certainty and predictability—and therefore as little fragmentation as possible—as to applicable law. Certainty and predictability could be said to form the core of commercial parties' reasonable expectations, without which commercial activity would be severely inhibited. Accordingly, failure to ensure certainty and predictability would undermine substantive justice. Lastly, and in any case, it will be shown in Part III.B(5) that the fragmentation problem also plagues existing choice-of-law approaches, albeit to a lesser extent.

Third, the mandatory nature of jurisdictional approaches would likely result in cryptoasset exchange participants (such as issuers, intermediaries, or the exchange itself) being subject to multiple regulatory regimes against their reasonable expectations. In *Barron v Helbiz*, the SDNY correctly[86] observed that there were no off-exchange domestic transactions in HelbizCoin for the purposes of § 10(b), but *only because* the plaintiffs resided outside the US at time of purchase.[87] The implication is that issuers would be subject to requirements and liabilities under the *Securities Exchange Act* as long as their securities are purchased and delivered in the US, even without other connections to the US.[88] It is conceivable that other exchange participants, including the exchange itself, could find themselves in the same unadmirable position.

Put differently, because jurisdictional approaches apply the *lex fori* regardless of whether more closely connected laws are already regulating the exchange participants, they could be subject to multiple regulatory regimes. This overlapping of regulatory regimes is exacerbated by the fact that a cryptoasset may be classified

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See also *Rickshaw v Nicolai*, *supra* note 37 (equitable claims for breach of fiduciary duty and breach of confidence founded on underlying contractual relationship governed by law of the contract); *Thahir Kartika Ratna v PT Pertambangan Minyak dan Gas Bumi Negara (Pertamina)* [1994] 3 SLR(R) 312 (SGCA) (restitutionary claims arising in connection with a contract governed by law of the contract); *Ong Ghee Soon Kevin v Ho Yong Chong* [2017] 3 SLR 711 (SGHC) (expressing a tentative preference for giving effect to an *ex ante* choice of law clause that covers tortious obligations). For tortious issues, the court may also utilise the flexible exception to the double actionability rule to disapply fortuitous or unconnected laws in favour of a more closely connected law: *Rickshaw v Nicolai*, *supra* note 37 at [58]; *Red Sea v Bouygues*, *supra* note 36.

86 This observation is correct because the prevailing test for a domestic transaction is whether the "purchasers had incurred the liability to take and pay for securities" and the "sellers had incurred the liability to deliver securities" in the US: *Stoyas v Toshiba Corp.*, 896 F.3d 933, 949 (9th Cir. 2018) [*Stoyas v Toshiba*].

87 The plaintiffs had failed to plead that Ryan Barron, the final plaintiff, was a US citizen and resident at the time of purchase.

88 *Stoyas v Toshiba*, *supra* note 86 at 949–950.

and regulated as a commodity by one law,[89] payment token by another,[90] and security by a third.[91] Where the cryptoasset is transacted in these jurisdictions without the exchange participants' direct involvement—which is made likely by the fact that most cryptoasset exchanges are globally accessible through the Internet[92] and utilise automatic systems for facilitating transactions[93]—being subject to these regulatory regimes would run counter to the exchange participants' reasonable expectations, inhibiting substantive justice. Put differently, exchange participants would not reasonably expect to have to comply with the law of *every single state through which the cryptoassets flow*. As much as cryptoassets must be strictly regulated to maintain the stability of the global financial system, it seems too harsh—and, given the potential for substantial conflicts in regulatory standards, highly inefficient—to subject exchange participants to potential global regulation.

The worries of overregulation (and therefore the compromising of substantive justice) are not merely academic. Indeed, being subject to multiple mandatory regulatory regimes is already the reality for securities issuers whose unsponsored American Depository Receipts ("ADRs") are traded in the US. In *Stoyas v Toshiba*,[94] the US Court of Appeals for the Ninth Circuit held that § 10(b) could apply to Toshiba Corporation, a Japanese corporation with securities publicly traded on the Tokyo Stock Exchange, because its securities had been converted into unsponsored ADRs that were purchased on an over-the-counter market in the US. Downplaying the concern of § 10(b) being "impermissibly extraterritorial", the court reasoned that the issuer must still have fraudulently induced the purchase in question. The consequence of the court's holding is that Toshiba Corporation, already subject to the securities laws of Japan, must now concern itself with complying also with the securities laws of a country in which its unsponsored ADRs are traded.

The above discussion focused on US caselaw because most transnational cryptoasset disputes are brought there. Nevertheless, the shortcomings identified apply generally to jurisdictional approaches. While the undermining of conflicts justice

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89 See, *eg*, *Commodity Futures Trading Comm'n v. My Big Coin Pay, Inc.*, 334 F. Supp. 3d 492, 498 (D. Mass. 2018).

90 See, *eg*, the Singapore *Payment Services Act*, *supra* note 18.

91 As defined in *Howey*, *supra* note 38 at 298–299. See the above cited cases for examples of cryptoassets that qualify as securities. See Jonas Koh, "Crypto Conundrum Part I: Navigating Singapore's Regulatory Regime" (2020) SAL Prac 3 at [16], [19], [20], [25], [29]–[31], [33]–[36] where Koh drives home the point that cryptoasset exchanges may be required to obtain multiple licenses, thereby "pos[ing] a rather difficult cryptocurrency conundrum for companies, regulators and the financial technology industry".

92 Cryptoasset exchanges are so accessible that they have, instead of stipulating the countries from which their service is accessible, turned to banning users from only select countries. See, *eg*, "Exchange Terms—Terms of Service" *Bitfinex* <https://www.bitfinex.com/legal/exchange/terms> at clause 1.1.44 ("'Prohibited Jurisdiction' means any of: Cuba, Democratic People's Republic of Korea (North Korea), Iran, Syria, Crimea (a region of Ukraine annexed by the Russian Federation), the self-proclaimed Donetsk People's Republic (a region of Ukraine), or the self-proclaimed Luhansk People's Republic (a region of Ukraine)"), 1.1.45 ("'Prohibited Person' means any U.S. Person; any Ontario Person; the Government of Venezuela; any resident of, or Government or Government Official of, any Prohibited Jurisdiction; and any Sanctioned Person."), 2.1 ("Every Prohibited Person is strictly prohibited from directly or indirectly holding, owning or operating an Account or any subaccount or Digital Tokens Wallet in any way or otherwise transacting on or using the Services or the Site.").

93 See, *eg*, the facts of *Quoine v B2C2*, *supra* note 6.

94 *Stoyas v Toshiba*, *supra* note 86.

and substantive justice is inherently problematic, it would be especially detrimental for Singapore. Adopting a jurisdictional approach could mean deterring cryptoasset companies from setting up branches in Singapore and deterring investors from transacting on Singapore-based cryptoasset exchanges. These ramifications would be crippling for Singapore's aspiration to become a "Smart Financial Centre" given the Monetary Authority of Singapore's view that cryptoassets are "enablers … likely to transform finance".[95] For Singapore lawmakers, the takeaway is that the ideal approach to determining the applicable law for transnational cryptoasset transactions is necessarily not jurisdictional. For the courts to put this takeaway into practice could entail, *inter alia*, expanding already recognised limitations on asserting subject-matter jurisdiction.[96] Such reform, however, is beyond the scope of this paper.

B. *Choice-of-law approaches*

Choice-of-law approaches abstain from presumptive application of the *lex fori* in favour of applying the most closely connected law. They entail breaking down a dispute into distinct issues, with separate analyses to determine the applicable law for each issue.[97] Each analysis has two steps. First, in civil and commercial matters, courts will characterise the issue as, *inter alia*, proprietary, tortious, contractual, or corporate.[98] Second, based on this characterisation, courts will identify relevant connecting factors which will determine the law that governs the issue.[99]

There has not been judicial discussion on choice of law in relation to transnational cryptoasset disputes. Nevertheless, most jurisdictions' choice-of-law methodologies are established enough for us to predict how their courts would apply choice-of-law approaches. Most courts are unlikely to have problems with the first step of fitting issues arising from transnational cryptoasset transactions into the existing characterisations. However, the various choice-of-law rules pegged to these existing characterisations are unsuited for application to disputes involving

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95 Sopnendu Mohanty, "Singapore's Smart Financial Centre Vision" (2017) 2(1) Nomura J Asian Cap Markets 19 at 19. Deputy Prime Minister Heng Swee Keat has since reiterated Singapore's commitment to work with blockchain and digital asset companies. In a speech at the opening of the Point Zero Forum in Switzerland, Minister Heng commented that Singapore is "committed to partnering innovative and responsible players to grow the Web 3.0 ecosystem and community in Singapore", and explained that the regulators and the fintech industry would work together to "promote the ecosystem responsibly … by encouraging the upsides of Web3 while minimising downsides.": Claudia Chong, "MAS issues 3 crypto licence in-principle approvals, including to Crypto.com" *The Business Times* <https://www.businesstimes.com.sg/garage/mas-issues-3-crypto-licence-in-principle-approvals-including-to-cryptocom> (22 June 2022).

96 *Burgundy*, *supra* note 80. The author broadly agrees with the suggestions made in Zhuang WenXiong, "*Burgundy*, the Bifurcation of Jurisdiction and its Future Implications" (2015) 27 SAcLJ 207.

97 For a deep-dive into issue-by-issue analysis and dépeçage in choice of law, see Symeon Symeonides, "Issue-by-issue Analysis and Dépeçage in Choice of Law: Cause and Effect" (2014) 45 U Tol L Rev 751.

98 For the UK, see *The Mount I*, *supra* note 27 at [26]–[29]. For Singapore, see *Philippines v Maler*, *supra* note 28 at [81]. For the EU, see *ERGO Insurance SE v If P&C Insurance AS*, C-359/14, EU:C:2016:40 at [32], [43]–[46]. For the US, see *Restatement (Second)*, *supra* note 36 at § 7. Other choice-of-law categories include unjust enrichment and equitable actions.

99 *Ibid*.

transactions on cryptoasset exchanges because they undermine conflicts justice, substantive justice, investor protection, and financial stability. Each existing characterisation is examined in turn.

1. *Proprietary characterisations*

Preliminarily, there is no obstacle to characterising issues involving cryptoassets as proprietary. Regardless of whether national laws recognise cryptoassets as property,[100] it is trite that the subject matter of the issue in question need not be recognised as a form of property under any particular national law for the issue to be characterised as proprietary, since characterisation must be undertaken in a "broad internationalist spirit", without being "constrained by particular notions or distinctions of the domestic law of the *lex fori*, or that of the competing system of law".[101] Where the issue raises concerns of the third-party rights to cryptoassets, it may be appropriate for the issue to be characterised as proprietary.[102]

The problem with a proprietary characterisation of issues involving cryptoassets surfaces at the second step, where the connecting factor to be applied is the property's *situs*. Under common law, this *lex situs* rule is applied to all property—immovable or movable, tangible or intangible[103]—including intellectual property,[104] debt,[105] and securities.[106] In these latter types of property, the rules locating their *situs* are arbitrary and controversial. As Ng explains, "once we move beyond land and tangible movables, the reality is that *any situs of each type of intangible property is notional*, and the label does little more that to obscure the true connecting factor."[107]

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[100] Jurisdictions are divided on whether to recognise cryptoassets as property. Common law jurisdictions are likely to do so; the UK, Singapore, and New Zealand are examples of jurisdictions that recognise cryptoassets as property: see, *eg*, *AA v Persons Unknown* [2020] 4 WLR 35 (EWHC) at [58]–[61]; *Quoine v B2C2*, *supra* note 6 at [137]–[144]; *CLM v CLN* [2022] SGHC 46 at [40]–[46]; *Ruscoe v Cryptopia Ltd (in liq)* [2020] 2 NZLR 809 (NZHC) at [102]–[120]. French civil law jurisdictions, with their recognition that assets as objects of ownership include corporeal and incorporeal things, are also likely to recognise cryptoassets as property: see *eg*, *Conseil d'État*, 26 avr. 2018, nº 417809, 418030, 418031, 418032 et 418033, M. G. et a. On the other hand, Germanic civil law jurisdictions like Japan are unlikely to recognise cryptoassets as property: see *eg*, Tokyo District Court, Heisei 26 (Year of 2014), (Wa)33320, translated version accessible online: <https://www.law.ox.ac.uk/sites/files/oxlaw/mtgox_judgment_final.pdf>. For further discussion, see generally Low & Hara, "Cryptoassets and Property" in van Erp and Zimmermann, eds. *Edward Elgar Research Handbook on EU Property Law* (forthcoming).

[101] *The Mount I*, *supra* note 27 at [26], [28].

[102] TC Hartley, *International Commercial Litigation: Text, Cases and Materials on Private International Law*, 2nd ed (Cambridge, United Kingdom: Cambridge University Press, 2015) at 788.

[103] *Dicey*, *supra* note 35 at paras 22R-001, 23R-062, 24R-001, 22-025–22-051.

[104] *Ibid* at para 22-051.

[105] *Ibid* at para 22-026.

[106] *Ibid* at para 22-044.

[107] Michael Ng, "Choice of law for property issues regarding Bitcoin under English law" (2019) 15(2) J Priv Intl L 315 at 326 [Ng, "Choice of law"] [emphasis added]. See also PJ Rogerson, "The Situs of Debts in the Conflict of Laws—Illogical, Unnecessary and Misleading" (1990) 49(3) Cambridge LJ 441 at 441 ("… any suggestion that the *lex situs* should be adopted for matters relating to debts has to face the obvious logic that that which cannot be touched or moved cannot be said to be capable of a position or a situation. This is, of course, self-evident but apart from an occasional assertion the courts have not

Since many cryptoassets are regulated as securities, it is tempting to accept the sub-rules that apply to securities and adapt them *mutatis mutandis* to cryptoassets. However, it is difficult to identify *which type* of securities is most closely analogous. This matters because the sub-rules on identifying the *situs* of securities are highly fragmented:[108] the *situs* of registered shares has been held to be the place of their register or incorporation;[109] bearer shares, the place where the certificates were negotiated;[110] intermediated shares, the place of last relevant transfer;[111] and share certificates, the place of transaction.[112] Even if these rules were undisputed—which they are not[113]—none are close analogues to cryptoassets. Indeed, "[s]tripped to its elements, the [cryptoasset] consists of a string of data, manifested as a readable sequence of characters, which has been generated by a transaction on the system"[114] and recorded on the blockchain, a transaction ledger maintained across devices on a peer-to-peer network.[115] Put differently, the cryptoasset *is* "the recorded network of transactional links".[116] It would be artificial even to try to locate its *situs*; any attempt is doomed to unparalleled arbitrariness.

For Singapore, the practical consequences if a proprietary characterisation were adopted are as follows. First, parties involved in disputes over transnational transactions on cryptoasset exchanges would not be able to predict with confidence the applicable law. Second, between courts of the same jurisdiction, it would be difficult to agree upon the cryptoassets' *situs*, let alone between courts of different jurisdictions. Third, with such great variance in outcomes, investors who transact in cryptoassets on an exchange would not have much reassurance that their interest in cryptoassets would be recognised and protected. Fourth, the lack of uniform regulation may entail loopholes that issuers and other intermediaries can exploit such that they are partially or even completely unregulated. Such under-regulation would threaten financial stability. Therefore, a proprietary characterisation does not serve the needs of substantive justice, conflicts justice, investor protection, or financial stability, and does no favours for Singapore's dreams of becoming a Smart Financial Hub.

2. *Tortious characterisations*

Tortious characterisations are inappropriate for issues arising from on-exchange cryptoasset transactions due to (a) the difficulty in locating the tort and (b)

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felt constrained by the logic of the matter and for a number of purposes they have stated rules to give a debt that characteristic which it lacks: a physical location.").

108 Maisie Ooi, "The ramifications of fragmentation in the choice of law for shares" (2016) 12(2) J Priv Intl L 411 [Ooi, "The Ramifications of Fragmentation"].

109 *Macmillan Inc v Bishopsgate Investment Trust plc (No 3)* [1996] 1 WLR 387 (EWCA) [*Macmillan (No 3)*].

110 *Ibid*.

111 *Ibid*.

112 *Colonial Bank Ltd. v Cady and Williams, London Chartered Bank of Australia v Cady* (1890) L.R. 15 App. Cas. 267.

113 Ooi, "The Ramifications of Fragmentation", *supra* note 108.

114 David Fox & Sarah Green, eds. *Cryptocurrencies in Public and Private Law* (Oxford: Oxford University Press, 2019) at para 6.13.

115 *Ibid* at para 6.14.

116 *Ibid* at para 6.16.

Singapore's obsolete double actionability rule, which in turn undermine all four crucial objectives.

Apropos locating the tort, there are two possible rules. The first is that the tort is located at the *locus damni*, the country in which damage occurs. This option, favoured by the EU's *Rome II Regulation*,[117] may be summarily dismissed. In *Kolassa v Barclays Bank*,[118] the Court of Justice of the European Union held that the damage in prospectus liability cases was financial loss, which would be located at *each investor's* bank account.[119] If the same rule for locating financial loss applied in the context of cryptoasset transactions, the obvious consequence for issuers and other intermediaries is that they would be subject to multiple laws with which they would not reasonably expect to have to comply, causing substantive injustice.

The second is that the tort is located at the *locus delicti*, the place where the tort was committed, because "he who travels to a foreign land must comply and accept the law of that land".[120] To determine the *locus delicti*, Singapore and Canadian courts consider "the events constituting the tort and ask […] where, in substance, the cause of action arose";[121] UK courts, in cases where the UK's amended version of the *Rome II Regulation*[122] does not apply, seek the place where "the most significant element or elements" of the events constituting the tort occurred;[123] and US courts look for the state with "the most significant relationship to the occurrence", considering the contacts of the injury, wrongful conduct, parties' domicile, and centre of the parties' relationship.[124] These tests are "rather broad and open-ended", with much "room for debate as to whether [one place] is more significant than [another]".[125] Such open-ended tests are problematic when there is no underlying principle guiding them. Unfortunately, no underlying principle guides Singapore courts as to how 'substance' should be defined or measured; nor UK courts on what the 'most significant element or elements' are; nor US courts on how to balance the incommensurable contacts considered.

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[117] Regulation (EC) No. 864/2007 of the European Parliament and of the Council on the law applicable to non-contractual obligations, Art 4(1) [*Rome II Regulation*].

[118] *Kolassa v Barclays Bank*, Case C-375/13, ECLI:EU:C:2015:37 [*Kolassa*]. Although a decision on jurisdiction, *Kolassa* is highly persuasive for the interpretation of the *Rome II Regulation*: see *Rome II Regulation*, *ibid*, Recital 7 ("The substantive scope and the provisions of this Regulation should be consistent with [the Brussels Ia Regulation] on jurisdiction…"); Matthias Lehmann, "Prospectus liability and private international law—assessing the landscape after the CJEU's *Kolassa* ruling (Case C-375/13)" (2016) 12(2) J Priv Intl L 318 at 329 [Lehmann, "Prospectus liability and private international law"].

[119] *Kolassa*, *ibid* at [54], [55].

[120] *Goh Suan Hee v Teo Cher Teck*, *supra* note 71 at [21]. See also *Tolofson v Jensen*, *supra* note 73 at 1050, 1051.

[121] *JIO Minerals FZC v Mineral Enterprises Ltd* [2011] 1 SLR 391 (SGCA) at [90] [*JIO Minerals v Mineral Enterprises*]; *Tolofson v Jensen*, *ibid*.

[122] *Rome II Regulation, supra* note 117, retained with amendments by *The Law Applicable to Contractual Obligations and Non-Contractual Obligations (Amendment etc.) (EU Exit) Regulations 2019*, made in exercise of the powers conferred by the *European Union (Withdrawal) Act 2018*, c 16 (UK), s 8(1) read with Schedule 7, para 21(b).

[123] *Private International Law (Miscellaneous Provisions) Act 1995*, c 42 (UK), s 11(2).

[124] *Restatement (Second)*, *supra* note 36 at § 145.

[125] *JIO Minerals v Mineral Enterprises*, *supra* note 121 at [93].

Although there have been attempts to lay down concrete rules pointing to particular places for specific torts,[126] these rules are in reality porous. Courts can discretionally circumvent them on several bases, including that (1) the cases do not "fall[] comfortably within [the] suggested (and more specific) rule";[127] (2) the places chosen by these rules are "purely fortuitous";[128] or (3) "some other state has a more significant relationship".[129] Again, there is no underlying principle to guide courts as to how these exceptions should be applied. As Symeonides cogently argues:

> To intelligently employ [these exceptions], one must know the reasons for which the drafter made the choices embodied in the rule and the values and goals the rule seeks to promote. To simply say that one should look for a "closer" connection gives courts little meaningful guidance and entails the risk of degenerating into a mechanical counting of physical contacts.[130]

In the end, the *locus delicti* tests grant too much leeway to courts to choose between competing systems of law. It was this uncertainty and unpredictability that led the British Columbia Court of Appeal in *Pearson v Boliden Ltd*[131] to reject a tortious characterisation for misrepresentations contained in the prospectus for a securities offering.[132]

Between jurisdictions, each strikes a different balance between their unique policy objectives and therefore locates the *locus delicti* differently. Within each jurisdiction, given the discretionary nature of the tests, each coram would have a different view of which place is the most significant or has the closest contact with the tortious claim. As Yeo observes:

> Australian courts stress the defendant's acts in its characterisation of the tort. The English approach gravitates towards the consequences of the defendant's acts, and even when it does stress the defendant's acts, it also recharacterises the tort to bring the acts and consequences together. *Ultimately, it is a matter of what the judges conceive to be the characteristics and nature of, and what are the important policy considerations in, each kind of tort. A certain amount of subjectivity is probably inevitable.*[133]

Parties would not reasonably expect their transactions to be governed by laws discretionarily determined only upon commencement of proceedings. Therefore, conflicts justice and substantive justice are frustrated. A lack of reassurance that investors

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[126] See *eg*, *JIO Minerals v Mineral Enterprises*, *ibid* at [93]; *Restatement (Second)*, *supra* note 36 at § 148.

[127] *JIO Minerals v Mineral Enterprises*, *ibid*.

[128] *Rickshaw v Nicolai*, *supra* note 37 at [58]; *Red Sea v Bouygues*, *supra* note 36.

[129] See, *eg*, *Restatement (Second)*, *supra* note 36 at § 148.

[130] Symeon C Symeonides, "Rome II and Tort Conflicts: A Missed Opportunity" (2008) 56(1) Am J Comp L 173 at 198 [emphasis added]. These remarks were made in the context of *Rome II Regulation* but apply with equal force here.

[131] *Pearson v Boliden Ltd* (2002) BCCA 624.

[132] *Ibid* at [66] ("In an industry in which certainty and predictability are important, it avoids the complexity and uncertainty of rules such as the *lex loci delicti* rule applied to torts…").

[133] Yeo Tiong Min, "Jurisdiction Issues in International Tort Litigation: A Singapore View" (1995) 7 SAcLJ 1 at 13 [emphasis added].

would be protected against tortious acts is engendered, compromising investor protection and financial stability the same way proprietary characterisations do.

Finally, even if the tort were locatable with certainty, there is another problem. Unlike other jurisdictions,[134] Singapore courts apply the double actionability rule to tortious issues. This rule provides that the alleged wrongful act must be actionable under both the *lex loci delicti* and *lex fori*.[135] As a matter of both conflicts substantive justice, parties would reasonably expect their activities to be governed by the law of the place of those activities (*lex loci delicti*),[136] *not* a law that *may* apply depending on the forum in which the claimant chooses to bring proceedings (*lex fori*).

3. *Contractual characterisations*

At first blush, it seems appropriate to characterise issues arising from transnational transactions on cryptoasset exchanges as contractual. These transactions often take place between willing parties dealing at arm's length, and one might view disputes between parties as involving the breach of obligations freely assumed, thereby inviting a contractual characterisation. Further, most transnational transactions have related contracts containing choice-of-law clauses, such as a cryptoasset exchange's terms and conditions of use or an ICO's white paper. The choice-of-law rule applied to contractual issues, which gives precedence to parties' express choice of governing law, arguably directs the courts' attention to the key principle that should be respected in such commercial transactions: party autonomy.

However, contractual characterisations are a poor conceptual fit because they fail to account for the presence of intermediaries in transactions on cryptoasset exchanges. These transactions are not merely between two parties. They always involve one or more intermediaries, including: the exchange, its subsidiaries or affiliated companies; brokerages;[137] dealers;[138] market makers;[139] custodians;[140]

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[134] See, *eg*, *Tolofson v Jensen*, *supra* note 73. For a review of this case and a proposal for reform of the double actionability rule in Singapore, see Tan Ming Ren, "Revisiting the Double Actionability Rule: Time for a Change" (2021) Sing JLS 155.

[135] *Rickshaw v Nicolai*, *supra* note 37 at [53].

[136] *Goh Suan Hee v Teo Cher Teck*, *supra* note 71 at [21].

[137] Adam Hayes, "Brokerage Company" *Investopedia* <https://www.investopedia.com/terms/b/brokerage-company.asp> (28 April 2021) ("A brokerage company's main duty is to act as a middleman that connects buyers and sellers to facilitate a transaction. Brokerage companies typically receive compensation by means of commissions or fees that are charged once the transaction has successfully completed.").

[138] Adam Hayes, "Dealer" *Investopedia* <https://www.investopedia.com/terms/d/dealer.asp> (25 September 2021) ("Dealers are people or firms who buy and sell securities for their own account, whether through a broker or otherwise. A dealer acts as a principal in trading for its own account, as opposed to a broker who acts as an agent who executes orders on behalf of its clients.").

[139] Andrew Bloomenthal, "Market Maker" *Investopedia* <https://www.investopedia.com/terms/m/market-maker.asp> (31 August 2021) ("The term market maker refers to a firm or individual who actively quotes two-sided markets in a particular security, providing bids and offers (known as asks) along with the market size of each. Market makers provide liquidity and depth to markets and profit from the difference in the bid-ask spread. They may also make trades for their own accounts, which are known as principal trades.").

[140] Adam Barone, "Custodian" *Investopedia* <https://www.investopedia.com/terms/c/custodian.asp> (6 December 2021) ("A custodian or custodian bank is a financial institution that holds customers' securities for safekeeping to prevent them from being stolen or lost. The custodian may hold stocks or other assets in electronic or physical form on behalf of their customers.").

depositories;[141] clearinghouses;[142] underwriters;[143] miners;[144] lenders, lawyers, accountants, and advisors. Therefore, there may not always be a direct contractual nexus between the claimant and defendant. While it may be possible to construe this chain of contracts as one multilateral contract for the purposes of determining the applicable law, that presents its own complications. The court will be faced with the intractable problem of deciding which choice-of-law clause should be given effect.[145] Outcomes differ depending on how courts choose to deal with the related choice-of-law clauses, undermining conflicts and substantive justice.

It may be objected that, for the rare cases where a direct contractual nexus *and* an express choice-of-law clause exist, courts should treat parties' express choice as *conclusive*. But under Singapore conflicts law, an express choice-of-law clause is "a statement of non-promissory intention *lacking in direct contractual force*" that serves as "prima facie *evidence* of the proper law",[146] rebuttable where the choice is against public policy or not *bona fide* or legal.[147] While the scope of these rebuttals is unclear,[148] Tan forcefully argues that they should be interpreted to promote "party justice" by "curtailing … the inflicting of injustice or hardship" on

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[141] Will Kenton, "Depository" *Investopedia* <https://www.investopedia.com/terms/d/depository.asp> (10 October 2021) ("The term depository refers to a facility in which something is deposited for storage or safeguarding or an institution that accepts currency deposits from customers such as a bank or a savings association.").

[142] Akhilesh Ganti, "Clearinghouse" *Investopedia* <https://www.investopedia.com/terms/c/clearinghouse.asp> (31 December 2021) ("A clearinghouse is a designated intermediary between a buyer and seller in a financial market. The clearinghouse validates and finalizes the transaction, ensuring that both the buyer and the seller honor their contractual obligations.").

[143] Caroline Banton, "Underwriter" *Investopedia* <https://www.investopedia.com/terms/u/underwriter.asp> (8 January 2022) ("An underwriter is any party that evaluates and assumes another party's risk for a fee, which often takes the form of a commission, premium, spread, or interest.").

[144] See, *eg*, Jake Frankenfield, "Bitcoin Mining" *Investopedia* <https://www.investopedia.com/terms/b/bitcoin-mining.asp> (14 March 2022) ("By solving computational math problems, bitcoin miners also make the cryptocurrency's network trustworthy by verifying its transaction information. They verify 1 megabyte (MB) worth of transactions—the size of a single block.").

[145] Incidentally, a similar criticism has been made of contractual characterisations for issues arising from transactions in intermediated securities and depository receipts. See Maisie Ooi, "Rethinking the characterisation of issues relating to securities" (2019) 15(3) J Priv Intl L 575 at 595, 596:

> *A contractual characterisation does invoke the governing law of the contract as the choice-of-law rule, but in the case of securities the writer would contend that there is a need to ask, which contract?* It does not matter whether it is asked at the second or third stage of the choice-of-law process, but it has to be asked as *the outcome is likely to be quite different if it is the proper law of the intermediated securities instead of the underlying securities* … Acquirers of depository receipts may have their entitlement to the depository receipts and the rights arising therefrom *determined by the governing law of the foreign securities and not that of the depository receipts as the securities market expects where the connecting factor is the underlying securities*. [emphasis added]

[146] Tan Yock Lin, "Good Faith Choice of a Law to Govern a Contract" (2014) Sing JLS 307 at 310–314 [Tan, "Good Faith Choice of a Law"] [emphasis added] provides a thorough explanation of why choice-of-law clauses are not free-standing promissory terms, based on a thorough analysis of *Vita Food Products Inc v Unus Shipping Co Ltd* [1939] AC 277 (PC) [*Vita Food*], *Ace Insurance Ltd v Moose Enterprise Pty Ltd* [2009] NSWSCR 724, and *Akai Pty Ltd v People's Insurance Co Ltd* (1996) 188 CLR 418 (HCA). *Peh Teck Quee v Bayerische Landesbank Girozentrale* [1999] SGCA 79 at [12]–[14] [*Peh Teck Quee*] affirms that the *Vita Food* conception of choice-of-law clauses applies in Singapore.

[147] *Peh Teck Quee*, *ibid* at [12]–[14].

[148] Tan, "Good Faith Choice of a Law", *supra* note 146 at 314–316.

one party by another.[149] This must be right. The law cannot treat party autonomy as the overriding consideration at the expense of investor protection.[150] It must recognise limitations to party autonomy through "rules aimed at protecting the weaker party in contractual relationships characterized by a systemic disparity in bargaining power".[151] Such limitations are especially crucial in cryptoasset transactions given Azgad-Tromer's observations on the opacity of cryptoassets above.[152] Further, unlike complex securities or derivatives, investors need not acknowledge risk warnings[153] or have sufficient educational qualifications, relevant work experience, or investment experience[154] to trade cryptoassets. Worse still, investors are presented standard form contracts on a 'take-it-or-leave-it' basis delivered in browse-wraps—electronic agreements "provided on the website in which the users can browse the terms and make a [transaction] without expressly manifesting assent to the terms".[155] Institutions can and will take advantage of the fact that most accept conditions without reading them[156] by incorporating choice-of-law clauses

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[149] *Ibid* at 317 ("… the rule's limits on freedom of choice will be grounded in adjustments that befit the policies and objectives of private international law, applied with full sensitivity to the substantive context. The exercise by the protagonist of a rule of private international law is not in good faith and legal if it results in injustice or creates undue hardship to the non-relying party. Put another way, the rules of private international law are accorded to parties to help them transact without unfair detriment in a multiplicity of legal orders, and the rule reinterpreted shifts the focus from national interests to party justice, as should be the case. The reinterpretation ensures that the heart of the matter is the curtailing of a more private kind of abuse, namely the inflicting of injustice or hardship that can threaten and derail the international order.").

[150] It was for this reason that EU scholars have argued for the conflict of laws to recognise securities transactions as consumer contracts: see Hans van Houtte, *The Law of Cross-border Securities Transactions* (United Kingdom: Sweet & Maxwell, 1998) at paras 4.04, 4.13 ("Even where the proper law may have been validly agreed upon by the parties, consumer protection or, more generally, important public interests… may limit the reach of the contractually agreed law, and the court may give effect to these notwithstanding contractual agreements to the contrary.").

[151] Catherine Walsh, "Party Autonomy in International Contracts" (2009) 60 UNBLJ 12 at 15.

[152] As quoted above: Azgad-Tromer, "On the Risks of Investments", *supra* note 44 ("With [cryptoassets], the terms of investment are typically embedded in code, and while theoretically, purchasers can view the code, they are rarely in a position to assess its contents due to the highly complex and technical language. Literacy in coding language requires technical training, and even for those who possess skill, coding languages vary from one blockchain to another and require technical versatility from their readers.").

[153] See, *eg*, Monetary Authority of Singapore, "Notice No. SFA 04-N12: Notice on the Sale of Investment Products" (8 July 2011, updated 4 January 2019), Annex 4.

[154] *Ibid*, Annexes 2 & 3.

[155] Mo Zhang, "Contractual Choice of Law in Contracts of Adhesion and Party Autonomy" (2008) 41(1) Akron L Rev 123 at 125.

[156] European Commission, *Study on consumers' attitudes towards Terms and Conditions (T&Cs): Final report* (Luxembourg: Publications Office of the European Union, 2016) at 15–16 ("… the mere fact that T&Cs are long and complex may give some traders the possibility to hide unfavourable terms in the T&Cs, knowing that the vast majority of consumers accept Terms and Conditions (T&Cs) without even reading them. As a telling case in point, on April Fool's Day in 2010, the online game store Gamestation.co.uk added text to its click-through license that asked customers to surrender their immortal souls to the company, though it offered a checkbox to opt out if the customer wanted to keep its soul. In total, 7,500 customers did not tick the box. Blind acceptance of T&Cs was also apparent from the stunt by computer software maker PC Pitstop, which buried a clause in their terms and conditions offering a $1000 reward to the first person who sent an email to a certain email address. It took five months and 3000 software downloads until someone emailed to claim the money.").

selecting the most relaxed law. In these circumstances, contractual characterisations result in deference to the whims of institutions at the expense of weaker investors, compromising investor protection. It is only by ensuring investor protection that the law can effectively hold institutions like issuers and intermediaries accountable, in the process preserving financial stability.

4. *Corporate characterisations*

Issues characterised as corporate generally pertain to the status, capacity, internal management, or dissolution of a company.[157] Since these are less likely to arise from transnational transactions on cryptoasset exchanges, the evaluation here will be brief.

There are four reasons why corporate characterisations are generally inappropriate.[158] First, most claims on an exchange would pertain to the company's *external* relationships with other parties on the exchange (be they the issuer, exchange, transacting counterparties, or intermediaries), as opposed to internal relationships between the company and shareholders, employees, or management, making corporate characterisations a poor conceptual fit.

Second, corporate characterisations select either the *lex incorporationis* (law of the place of incorporation)[159] or *lex societatis* (law of the society).[160] While the *lex incorporationis* is easily determined, the rules selecting the *lex societatis* are especially uncertain. As Gerner-Beuerle observes, in the EU where Member States apply the *lex societatis* rule, there is "significant legal variation and uncertainty in the conflict of laws rules applicable to companies", with significant division on both coarse-grained issues like the theory undergirding the *lex societatis*[161] and the fine-grained details like the solutions to specific legal questions.[162] This variation and uncertainty undermine conflicts and substantive justice respectively. This prompted Gerner-Beuerle to propose a unification across Member States to select the *lex incorporationis* instead.[163]

Third, even if the *lex incorporationis* were the unifying rule, cryptoasset issuers would not reasonably expect to have to comply with those laws when raising capital

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[157] *Dicey*, *supra* note 35 at ch 30.

[158] Of course, this depends on the relevant issue. It is undisputed that issues of status, capacity, internal management, or dissolution of a corporate exchange participant would be appropriately characterised as corporate. The proposal in Part V does not detract from this, since such issues would not fulfil the proposed criteria for market issue characterisation.

[159] Which generally applies in Commonwealth jurisdictions. See *JX Holdings v Singapore Airlines Ltd* [2016] 5 SLR. 988 (SGHC) at [21]; *Dicey*, *supra* note 35.

[160] Which generally applies in civil law jurisdictions. See European Commission, *Study on the Law Applicable to Companies: Final Report* (2017), s 4.

[161] The main divide is between the incorporation theory and the real seat theory: Gerner-Beuerle *et al*, "Making the Case for a Rome V Regulation on the Law Applicable to Companies" 39(1) YB Eur L 459 at 461 [Gerner-Beuerle *et al*, "Making the Case"].

[162] *Ibid* at 461; Massimo Benedettelli, "Five Lay Commandments for the EU Private International Law of Companies" (2015/16) 17 Yrbk Priv Intl L 209 at 217–218.

[163] Gerner-Beuerle *et al*, "Making the Case", *supra* note 161 at 495.

in an unrelated foreign market.[164] Likewise, other exchange intermediaries would not reasonably expect to have to comply with those laws while they are facilitating transactions on an unrelated foreign market. As such, corporate characterisations leave substantive justice unfulfilled.

Fourth, investor protection would be lacking, as cryptoasset issuers, exchanges, and other otherwise regulated intermediaries would be incentivised to incorporate their companies in jurisdictions with relaxed regulatory laws.

5. *Cumulative effect of multiple characterisations*

Aside from illustrating how these characterisations are independently unsuitable for application to transnational cryptoasset disputes, the discussion above makes clear that, depending on how courts determine the "true issue or issues thrown up by the claim and defence"[165] and how those issues are characterised, the claims' outcomes could be vastly different. This variation in outcomes is deliberate and usually desirable. Choice-of-law rules are intended to be flexible, with courts expressly considering the consequences of characterising an issue one way or another,[166] to do justice in individual cases and achieve domestic policy objectives.[167] However, without modification of the existing characterisations, choice-of-law approaches—like jurisdictional approaches—lead to the incoherent result of cryptoasset exchange participants having their transactions governed by multiple laws.[168]

IV. Decentralisation and the Application of an a-national law

Given the flaws in the pre-existing conflict of laws approaches, one may reasonably question whether the conflict of laws should even try to grapple with the complications of cryptoasset transactions, or whether it would ultimately be a futile endeavour. Guillaume accurately describes these difficulties:

> The traditional approach used for connecting a legal situation to a legal order aims to determine the seat of the legal situation. The rules of private international law are designed to make it possible to determine the State with which the issue

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[164] Relatedly, in the context of an acquirer of international securities, see Ooi, "The Ramifications of Fragmentation", *supra* note 108 at 418.

[165] *Macmillan (No 3)*, *supra* note 109 at 407.

[166] *The Mount I*, *supra* note 27 at [27].

[167] Alex Mills, "The Dimensions of Public Policy in Private International Law" (2008) 4(2) J Priv Intl L 201 at 204 ("From this perspective, choice-of-law rules and rules governing the recognition and enforcement of foreign judgments are discretionary for the local legal system – optional, serving domestic policy objectives, and subject only to internal political constraints.").

[168] In the context of securities litigation, see Roberta Romano, "Empowering Investors: A Market Approach to Securities Regulation" (1997–1998) 107 Yale LJ 2359 at 2404 ("[C]hoice-of-law rules establish the application of one state's (the incorporation state's) standard to fiduciary duties in corporate law but leave the latter decision on disclosure to vary with the investor's domicile, even though a duty of full and fair disclosure is at the heart of the fiduciary duties of state corporate law. Such intellectual incoherence concerning fiduciary conduct is the fallout of current choice-of-law doctrine.").

> at hand has the closest connection. The objective is therefore to establish the geographical location of legal relationships. *The method does not appear appropriate, insofar as the Internet—like the blockchain—is an inherently intangible and transnational phenomenon. It is therefore extremely difficult to establish the location of a transaction made on the Internet, let alone the blockchain*.[169]

On one view, the way to address this difficulty should be to disapply national laws altogether, leaving dispute resolution to the consensus mechanism of the blockchain in question.[170] This presumably requires the creation of a novel characterisation of 'blockchain issues'. Issues characterised as blockchain issues would be governed by the *lex cryptographia*:[171] the non-state, a-national 'law' of the blockchain. Advocates of the *lex cryptographia* approach would likely argue that the law must keep up with the development of technology and eschew the antiquated conflicts rules that stand in the way, including (a) the rule that only choices of State law are valid[172] and (b) the rule that parties must "sufficiently identif[y] specific 'black letter' provisions of a foreign law or an international code".[173] Supposing we overcome these obstacles, the choice of the *lex cryptographia* would, on this highly idealistic view:

> present […] a world where ideals of individual freedom and emancipation might come true. The blockchain could offer people access to alternative currencies, global markets, automated and trustless transactions systems, self-enforcing smart contracts, smart property and cryptographically activated assets, and innovative models of governance based on transparency and corruption-free voting. Combined, these elements could be used to promote individual freedoms and user autonomy. Regardless of nationality, people could be granted equal access to basic digital institutions and infrastructure such as decentralized laws, markets, judiciaries, and payment systems, which can be customized to each country's, group's, and individual's needs. Decentralized institutions and governance models could be designed and constructed iteratively, through use and experimentation of emergent blockchain-based applications, rather than being imposed by centralized legal edicts. This could significantly contribute to the process of disintermediation that has characterized the online world.

A reality check, unfortunately, crushes these lofty aspirations. These envisioned end states are all contingent on decentralisation being possible. However, decentralisation is often nothing more than an illusion, given "the inescapable need for

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169 Florence Guillaume, "Aspects of private international law related to blockchain transactions" in Daniel Kraus, Thierry Obrist & Olivier Hari, eds. *Blockchains, Smart Contracts, Decentralised Autonomous Organisations and the Law* (Cheltenham, UK: Edward Elgar, 2019) at 61.

170 Ng, "Choice of law", *supra* note 107 at 335.

171 Aaron Wright & Primavera De Filippi, "Decentralized Blockchain Technology and the Rise of *Lex Cryptographia*" *SSRN Electronic J* <https://ssrn.com/abstract=2580664> (10 March 2015).

172 *Amin Rasheed Shipping Corporation v Kuwait Insurance Co* [1984] AC 50 (UKHL).

173 *Shamil Bank of Bahrain EC v Beximco Pharmaceuticals Ltd* [2004] 4 All ER 1072 (EWCA) at [47]–[54].

centralised governance and the tendency of blockchain consensus mechanisms to concentrate power".[174] This need arises from two sources. First, centralised intermediaries will evolve wherever "there are opportunities to profit from streamlining unwieldy decentralized services for users".[175] Such centralised intermediaries include the cryptoasset exchanges with which this paper is chiefly concerned. Although some exchanges may have more decentralised governance structures, they are in the minority, with much lower transaction volumes than centralised exchanges.[176] Further, to transact on exchanges, most users also rely on another intermediary—wallet providers—to store and manage their cryptoassets, since most users cannot access the blockchain directly.[177] Other intermediaries perform 'know your client' diligence on these cryptoasset wallet providers to ensure that cryptoassets are not being used to perpetuate money laundering or fraudulent activity.[178] These are just some examples amongst many of the intermediaries involved in transactions on cryptoasset exchanges. Cryptoasset users are, by virtue of their transactions, putting their trust in many intermediaries with centralised governance structures.

Second, "an intermediary is often needed to resolve unanticipated situations (for example, reversing erroneous or problematic transactions)".[179] For instance, when an early decentralised autonomous organisation was hacked and US$60 million of Ether was stolen, the Ethereum developers, exchanges, and other intermediaries had the power to successfully execute a 'hard fork', which "effectively rolled back the Ethereum network's history to before [the] attack and reallocated [the] ether to a different smart contract so that investors could withdraw their funds".[180] Similarly, in *Quoine v B2C2*,[181] the centralised cryptoasset exchange run by Quoine was able to unilaterally cancel trades made at "highly abnormal" exchange rates between B2C2 and two other exchange participants. Further evidence that decentralisation is merely an illusion has emerged in the recent cryptoasset market turmoil, with major 'decentralised' finance groups "stepp[ing] in with emergency plans to protect their projects and users from economic pain in the face of tumbling cryptocurrency prices".[182] These emergency plans include,

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[174] Aramonte *et al*, "DeFi Risks and the Decentralization Illusion" (2021) BIS Q Rev at 22.

[175] Hilary J Allen, "DeFi: Shadow Banking 2.0?" (2022) William & Mary L Rev (forthcoming) at 17 [Allen, "DeFi: Shadow Banking 2.0?"].

[176] *Ibid* at 20.

[177] *Ibid*.

[178] *Ibid* at 21.

[179] *Ibid* at 17.

[180] Cryptopedia, "What Was The DAO?" *Gemini* <https://www.gemini.com/cryptopedia/the-dao-hack-makerdao#section-the-response-to-the-dao-hack> (17 March 2022).

[181] *Supra* note 6.

[182] Scott Chipolina, "Cryptocurrency fallout delivers sharp kick to decentralised finance dreams" *Financial Times* <https://www.ft.com/content/3d1a2409-4030-4a26-be27-dbcb25f6fd75> (22 June 2022); Tim Hakki, "What Is Celsius and Why Is It Crashing?" *Decrypt* <https://decrypt.co/102769/what-is-celsius-and-why-is-it-crashing> (14 June 2022); Casey Wagner, "CoinFLEX Halts Withdrawals, Citing 'Uncertainty' Around Unnamed Counterparty" *Blockworks* <https://blockworks.co/coinflex-halts-withdrawals-citing-uncertainty-around-unnamed-counterparty/> (23 June 2022); Oliver Knight, "Babel Finance Suspends Withdrawals, Citing 'Unusual Liquidity Pressures'" *CoinDesk* <https://www.

among others, (a) the suspension of all withdrawals, swaps, and transfers between accounts; (b) the temporary pausing of an impermanent loss protection service "that meant users were no longer protected if their deposited tokens were subject to big market swings"; and (c) the freezing of a link to a third-party lending platform, which prevents users from engaging in lending and borrowing operations on that platform.[183] The centralisation of power in all these cases involving supposedly decentralised cryptoassets is obvious.

The need to rely on centralised intermediaries means that, ultimately, "[cryptoasset] users have to trust in some combination of ISPs, core software developers, miners, wallets, exchanges, stablecoin issuers, oracles, providers of client APIs used to access distributed ledgers, and concentrated owners of governance tokens".[184] Allen therefore accurately remarks that cryptoassets and blockchain technology do not "so much disintermediate finance as replace trust in regulated banks with trust in new intermediaries who are often unidentified and unregulated".[185]

Indeed, due to the lack of regulation and identification, centralised intermediaries like miners have already been abusing their power with impunity. Unlike traditional financial markets in which user transactions are executed by an identifiable and regulated intermediary in the order they are received, cryptoassets based on proof-of-work require miners to compete in solving a puzzle that allows only one of them to add whichever transactions they want to the next block.[186] The 'winning' miner's ability to select and order transactions to be executed opens up much potential for abuse:

> [The way miners operate] can hence resemble illegal front-running by brokers in traditional markets: if a miner observes a large pending transaction in the mempool that will substantially move market prices, it can add a corresponding buy or sell transaction just before this large transaction, thereby profiting from the price change (at the expense of other market participants). Miners can also engage in "back-running" or placing a transaction in a block directly after a user transaction or market-moving event. This could entail buying new tokens just after they are listed, *eg* in automated strategies from multiple addresses, to manipulate prices. Finally, miners can engage in "sandwich trading", where they execute trades both before and after a user, thus making profits without having to take on any longer-term position in the underlying assets.[187]

As of July 2022, it is estimated that miners have made over US$660 million in gross profit from engaging in such forms of market manipulation.[188] This problem

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coindesk.com/business/2022/06/17/babel-finance-suspends-withdrawals-citing-unusual-liquidity-pressures/?> (17 June 2022).

183 *Ibid*.

184 Allen, "DeFi: Shadow Banking 2.0?", *supra* note 175 at 3.

185 *Ibid*.

186 Raphael Auer, Jon Frost & Jose Maria Vidal Pastor, "Miners as intermediaries: extractable value and market manipulation in crypto and DeFi" (16 June 2022) BIS Bulletin No 58 at 1.

187 *Ibid* at 3.

188 MEV-Explore v1, <https://explore.flashbots.net/>.

is likely to be equally prevalent among cryptoassets based on proof-of-stake. Under proof-of-stake, cryptoasset holders can stake their coins to get a chance to 'win' the right to validate transactions. Accordingly, power is concentrated in persons with significant cryptoasset holdings who are more likely to 'win' the right to validate transactions. This concentration of power facilitates collusion because, in a similar fashion to proof-of-work miners, "a small number of large validators can gain enough power to alter the blockchain for financial gain".[189] As Allen acutely notes, the proof-of-stake validation system is "not expected to address transaction validators' conflicts of interest".[190]

Without regulation by a national law, investor protection is greatly undermined given the unilateral decision-making power that these unidentified centralised intermediaries hold over investors. Worse still, these intermediaries may take advantage of the complexities of cryptoassets for profit, without care for the potentially destabilising effects on the global financial system that may follow.[191] Many intermediaries, for instance, practise rehypothecation,[192] *ie*, reusing collateral posted by clients to finance additional loans.[193] An infamous practitioner of rehypothecation is Celsius Network, the cryptocurrency lending platform, who "required its business borrowers to post only an average of about 50% collateral on its $2.7 billion of loans", and "used some of that collateral to borrow more money itself".[194] Unsurprisingly, given the precipitous and unrelenting plunge in cryptoasset prices, Celsius Network has since filed for bankruptcy.[195] As the plight of Celsius Network illustrates, rehypothecation "introduce[s] more leverage into the system, potentially outstripping the leverage associated with credit default swaps in the lead-up to the 2008 [Global Financial Crisis]".[196] When these loans are based on smart contracts, which are "designed to execute their preprogrammed instructions instantly, without waiting for input from the parties (or a regulator, or a court)", a default on one loan could cause a chain reaction through the automatic liquidation of multiple other

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[189] Sirio Aramonte, Wenqian Huang & Andreas Schrimpf, "DeFi risks and the decentralisation illusion" (Dec 2021) BIS Q Rev 21 at 28, 29.

[190] Allen, "DeFi: Shadow Banking 2.0?", *supra* note 175 at 19.

[191] Destabilisation due to overleveraging has already begun within the cryptoasset markets but does not seem to be sufficiently interconnected (yet) to bring down banks or non-cryptoasset businesses: Matt Levine, "Crypto Debt Can Be Trouble" *Bloomberg* <https://www.bloomberg.com/opinion/articles/2022-06-15/crypto-debt-can-be-trouble> (16 June 2022). See also Ian Allison, "Lido Finance Warns Leverage Is a 'Hell of a Drug'" *CoinDesk* <https://www.coindesk.com/business/2022/06/17/lido-finance-warns-leverage-is-a-hell-of-a-drug/> (17 June 2022).

[192] "An Introduction to Rehypothecation with Cryptocurrency" *BlockFi* <https://blockfi.com/an-introduction-to-rehypothecation-with-cryptocurrency> (19 March 2019). The defences of rehypothecation by institutions with vested interests such as BlockFi are unconvincing.

[193] Julia Kagan, "Rehypothecation" *Investopedia* <https://www.investopedia.com/terms/r/rehypothecation.asp> (27 May 2020).

[194] Eliot Brown and Caitlin Ostroff, "Behind the Celsius Sales Pitch Was a Crypto Firm Built on Risk" *The Wall Street Journal* <https://www.wsj.com/articles/behind-the-celsius-sales-pitch-was-a-crypto-firm-built-on-risk-11656498142> (29 June 2022).

[195] Maria Ponnezhath & Tom Wilson, "Major crypto lender Celsius files for bankruptcy" *Reuters*, <https://www.reuters.com/technology/crypto-lender-celsius-files-bankruptcy-2022-07-14/> (14 July 2022).

[196] Allen, "DeFi: Shadow Banking 2.0?", *supra* note 175 at 10.

loans.[197] Without the flexibility to "release the largest entities from obligations to respond to margin calls or repay loans", the whole financial system may be dragged down, resulting in a worse financial crisis than the 2008 Global Financial Crisis.[198] Against this backdrop, it is understandable why Lael Brainard, Vice Chair of the Federal Reserve, remarked that "[w]hile touted as a fundamental break from traditional finance, the crypto[asset] financial system turns out to be susceptible to the same risks that are all too familiar from traditional finance, such as leverage, settlement, opacity, and maturity and liquidity transformation".[199] Clearly, there is a need for at least one national law to regulate issues arising from on-exchange cryptoasset transactions.

V. Proposed Framework

Drawing the strands together, Singapore courts should reject a jurisdictional approach to determining the applicable law for issues arising from transnational on-exchange cryptoasset transactions. Put differently, Singapore courts should not mandatorily assert subject-matter jurisdiction and apply the *lex fori*, but should instead apply the law most closely connected to the issue in dispute.

At the same time, Singapore courts should also refrain from utilising *existing* choice-of-law characterisations. It bears emphasising that courts must have regard for the consequences of their characterisations under the choice-of-law methodology adopted in Singapore:

> The classes or categories of issue which the law recognises at the [characterisation] stage … have no inherent value, beyond their purpose in assisting to select the more appropriate law. *A mechanistic application, without regard to the consequences, would conflict with the purpose for which they were conceived.*[200]

Existing characterisations and their attendant choice-of-law rules lead to unsatisfactory consequences arising from (a) their individual failings and (b) the fragmentation of selecting different governing laws for related causes of action arising from the same transaction. The novel choice-of-law approach of characterising issues as 'blockchain issues' and governing them under the *lex cryptographia* is also highly undesirable due to its inability to protect investors and ensure financial stability.

To this end, a two-step framework is proposed. First, Singapore courts should be open to collectively characterising issues arising from transnational on-exchange cryptoasset transactions as 'market issues'. The rationale and details are canvassed

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[197] *Ibid* at 12, 13.

[198] *Ibid*.

[199] Lael Brainard, "Crypto-Assets and Decentralized Finance through a Financial Stability Lens" (8 July 2022) *Federal Reserve* <https://www.federalreserve.gov/newsevents/speech/brainard20220708a.htm>.

[200] *The Mount I*, *supra* note 27 at [27] [emphasis added in italics]; *Philippines v Maler*, *supra* note 28 at [81]; *Lew, Solomon v Kaikhushru*, *supra* note 28 at [71].

in Section A. Second, the law of the exchange's location—the *lex mercatus*—should govern all market issues, as detailed in Section B. To address concerns of rigidity, the in-built flexibility of the proposed framework will be explicated in Section C.

A. *Step 1: Collective characterisation as market issues*

The first step envisages a novel characterisation of issues as 'market issues'. This step builds on Lord Mance's *dicta* in *The Mount I* that "new categories may have to be recognised accompanied by new rules [to select the connecting factor which will identify the applicable law], if this is necessary to achieve the overall aim of identifying the most appropriate law".[201]

This market characterisation is collective. It envisions characterising multiple related on-exchange issues as market issues to have them decided under the same law, for the purpose of avoiding the fragmentation of governing laws. Nevertheless, not all issues involving cryptoassets should be characterised as market issues. Two criteria must be fulfilled. The issue should (1) be in connection with an on-exchange cryptoasset transaction and (2) fall within that exchange's reasonably expected functions.

1. *Connection with an on-exchange cryptoasset transaction*

This first criterion is a threshold question of fact that must be fulfilled for a market characterisation. This criterion is satisfied where the court can find a link between the issue and transaction that is:

(a) causal, where the transaction gives rise to the issue (*eg*, breach of term in purchase contract), or where the issue gives rise to the transaction (*eg*, formation of purchase contract);
(b) relational, where there exists a relationship between the parties related to the transaction (*eg*, between cryptoasset exchange and market maker);
(c) circumstantial, where there is a metaphysical closeness between alleged acts and the transaction (*eg*, hacking into an exchange's servers before the transaction, or a conspiracy regarding the transaction); or
(d) conditional, where the issue in question is one upon which other issues already characterised as market issues are contingent (*eg*, nature of the cryptoasset transacted).[202]

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[201] *The Mount I*, *ibid* at [27].

[202] Heavily inspired by the proximity factors enumerated in *Spandeck Engineering (S) Pte Ltd v Defence Science & Technology Agency* [2007] SGCA 37 at [78].

This criterion is phrased generally to include potentially related issues regardless of the type of liability sought to be imposed. The goal is to avoid the incoherence of having different applicable laws for claims arising from the same transaction.

2. *Falling within the exchange's reasonably expected functions*

From the set of issues that satisfy the above threshold requirement, the court must determine which issues fulfil the second criterion of falling within the exchange's reasonably expected functions. These functions are, from the perspective of exchange participants, functions the exchange serves or purports to serve. Basing the characterisation of issues on the reasonable expectations of exchange participants ensures substantive justice.

The functions the exchange serves are those in fact experienced by exchange participants. Examples include the dissemination of price information for cryptoassets trading on the exchange, faithful fulfilment of orders based on the investor's specification, and provision of access to capital for cryptoasset issuers.[203] These functions may easily be proved by adducing evidence of these experiences.

The functions the exchange purports to serve is also a question of fact to be determined based on representations, communications, or other information the exchange has made publicly available. For instance, most reputable exchanges would purport to offer the function of investor protection.[204] Coinbase announced its goal of being "the most trusted, safest and most secure venue with which to access the cryptoeconomy" with a focus on "[c]ompliance, market integrity and surveillance", employing a specialised team to monitor prohibited trading activities like insider trading and market manipulation.[205] Other cryptoasset exchanges like Circle, Anchorage, and Huobi formed a coalition pledging to ensure market integrity, acknowledging "the potential for fraud in the cryptocurrency space and the need for the industry to protect investors".[206] Where investors bring claims against an issuer for fraudulent disclosure, or where regulators bring enforcement actions against a cryptoasset fund for market manipulation, the issues raised would likely be part of the exchange's reasonably expected functions.

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[203] Will Kenton, "Exchange" *Investopedia* <https://www.investopedia.com/terms/e/exchange.asp> (31 July 2020).

[204] See, *eg*, "NYSE Regulation" *New York Stock Exchange* <https://www.nyse.com/regulation> ("NYSE Regulation ("NYSER") is responsible for monitoring activities on the NYSE's equities, options, and bonds markets… By performing these duties, NYSER supports the NYSE Exchanges' efforts to promote just and equitable principles of trade, encourage free and open markets, and protect investors and the public interest.").

[205] "How Coinbase thinks about market integrity and trade surveillance" *Coinbase* <https://blog.coinbase.com/how-coinbase-thinks-about-market-integrity-and-trade-surveillance-f3d4c7a53d0> (12 October 2021).

[206] Hannah Lang, "Crypto firms launch coalition to promote market integrity" *Reuters* <https://www.reuters.com/technology/crypto-firms-launch-coalition-promote-market-integrity-2022-02-07/> (7 February 2022).

Conversely, most exchanges would not purport to protect benefits offered in the form of cryptoassets[207] to their employees.[208] Most risks would likely be assumed by the employee because cryptoasset payment programmes are likely to be "optional and authorized in writing by the employee (on a form clearly acknowledging the risks of doing so)" and "anyone comfortable enough with cryptocurrency to opt in to receiving it as part of their wages would be very familiar with [the volatility] risk [of cryptoassets]".[209] Therefore, such issues between employee and exchange would generally not be characterised as market issues.

Adapting the facts of the English case of *Secure Capital v Credit Suisse*[210] on immobilised securities illustrates how this concept should be applied. Suppose that cryptoassets issued by a Swiss issuer are "held on a permanent basis by a custodian".[211] Derivative interests in these cryptoassets are then traded on a Luxembourgian cryptoasset exchange. The cryptoassets' code, publicly available on the exchange, contains its terms of use, including a term stipulating that the issuer undertakes responsibility to the cryptoasset holders for any misleading statements made in respect of the cryptoassets. Purchasers of derivative interests in the cryptoassets on that exchange sue the issuer for breach of this misleading statements term. In these circumstances, the court is likely to prefer a contractual characterisation over a market characterisation[212] because exchange participants "*know* that they are trading in interests, not in the underlying [cryptoasset]".[213] In other words, it is not a reasonably expected function of that Luxembourg exchange to allow accountholders to

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[207] This practice is rapidly becoming widespread: see, *eg*, Joyce Yang, "Tokens can better incentivize startup employees than equity" *TechCrunch* <https://techcrunch.com/2018/09/09/tokens-can-better-incentivize-startup-employees-than-equity/> (9 September 2018) ("These changes to employee compensation have already become popular in places like China, where a number of Chinese blockchain companies have started on the foundation of distributing tokens as compensation. Companies like Ontology, NEO, Huobi, and Binance pay their employees in their own tokens."); Tanaya Macheel, "PayPal Launches Blockchain-Based Reward System for Employees" *Cheddar* <https://cheddar.com/media/paypal-launches-employee-experiment-into-blockchain> (7 December 2018); Elliot Hill, "Fidelity creates blockchain token to reward employees" *Yahoo Finance* <https://finance.yahoo.com/news/fidelity-creates-blockchain-token-reward-210032878.html> (30 November 2019); "In depth: A look at current financial reporting issues" *PricewaterhouseCoopers* <https://www.pwc.com/gx/en/audit-services/ifrs/publications/ifrs-16/cryptographic-assets-related-transactions-accounting-considerations-ifrs-pwc-in-depth.pdf> (December 2019) at 14, 15 ("Some issuers of ICO tokens might choose to keep some tokens generated through the ICO, to use as a means of payment for goods or services. Examples of the use of such ICO tokens include obtaining services in developing or operating the entity's platform, or to remunerate/incentivise employees… Some ICO entities might reward their employees in the form of a specific number of tokens generated through the ICO.").

[208] To the author's knowledge, there has not been any information or communications disseminated by any cryptoasset exchange promising to protect employee benefits.

[209] Hassan Aburish, Nicholas Hulse & Erica Wilson, "Cryptocurrency Clamor: Paying Employees in Bitcoin Has Reached the Mainstream" *JDSupra* <https://www.jdsupra.com/legalnews/cryptocurrency-clamor-paying-employees-1276795/> (3 May 2021).

[210] *Secure Capital SA v Credit Suisse AG* [2018] 1 BCLC 325 (EWCA) [*Secure Capital v Credit Suisse*].

[211] *Ibid* at [9].

[212] Note that the purchaser in the actual English case did not use the term 'market characterisation' as such, choosing instead a more general phrasing: *ibid* at [54] ("Secure Capital submitted that exceptionally in the case of immobilised securities a new and different characterisation was needed, fixing the law of the settlement system as the appropriate law to determine the parties entitled to sue on the Notes.").

[213] *Ibid* at [55]–[57] [emphasis added].

directly sue the cryptoasset issuer for breach of a coded term, so a market characterisation is inappropriate.

B. *Step 2: Selecting the lex mercatus*

Issues characterised as market issues should be decided under the law of the exchange's location: the *lex mercatus*. In the context of securities transactions, the *lex mercatus* has been applied to prospectus and informational liability under German conflicts rules, and has gained favour among *Rome II Regulation* scholars as being the law of place where damage occurred[214] or the most closely connected law[215] for these types of liability. This article takes it further, applying the *lex mercatus* to all market issues. This section will canvass the (1) justifications for using the exchange's location as a connecting factor; (2) test for locating the exchange; and (3) contents of the *lex mercatus*.

1. *Exchange's location as a connecting factor*

The exchange's location is conceptually attractive as a connecting factor for four reasons. First, for issues arising from on-exchange transactions, many alleged acts would have been performed on the exchange, providing a strong connection between the exchange and the issues.

Second, the value of cryptoassets is determined on the exchange. Cryptoassets possess no intrinsic value, only extrinsic value equal to their price last traded by exchange participants. For instance, where investors claim against cryptoasset issuers for prospectus liability, they are in substance arguing that they had relied on the information in the prospectus to determine the cryptoassets' expected extrinsic value. When the prospectus is revealed to be false or misleading, the price at which exchange participants trade the cryptoassets falls. Thus, investors suffer financial detriment in the form of a loss of extrinsic value on the exchange.[216] Similarly, the compensatory aspect of many private law claims would be based on the cryptoassets' extrinsic value, which brings focus onto the exchange.

Third, the parties involved voluntarily chose to participate on the exchange, so the exchange's location would be reasonably known to them.

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[214] See, *eg*, P Mankowski, "Finanzmarktverträge" in CH Reithmann & D Martiny, eds. *Internationales Vertragsrecht*, 7th ed (Cologne: Verlag Dr. Otto Schmidt, 2010) 1037 at 1082; Francisco Garcimartín, "The law applicable to prospectus liability in the European Union" (2011) 5 LFMR 449 at 453 [Garcimartín, "Prospectus liability in the European Union"]; *cf Kolassa*, *supra* note 118, which held that the place of damage for financial loss is the place of the investor's domicile where the bank account is established.

[215] Philipp Hacker & Chris Thomale, "Crypto-Securities Regulation: ICOs, Token Sales and Cryptocurrencies under EU Financial Law" (2018) 15 ECFR 645 at 658, 663 ("The basic principle is that the default connecting factor for the choice of tort law, which is the *locus damni*, can be trumped by a closer connection with a different legal order. For reasons of efficiency and legal certainty, the law of the market is such a legal order").

[216] Garcimartín, "Prospectus liability in the European Union", *supra* note 214 at 453.

Lastly, where fraud or other serious wrongdoing is alleged, the exchange itself suffers harm to its reputation as a result, and the laws at its location should serve the public function of protecting the exchange.[217]

2. *Locating the exchange*

Having established the justifications for using the exchange's location as a connecting factor, the next question is how the exchange may be located. Unlike stock exchanges which are located and run in only one jurisdiction, many cryptoasset exchanges operate in multiple jurisdictions through subsidiaries or affiliated companies. Binance Group, the world's biggest cryptoasset exchange by trading volume,[218] has an opaque corporate structure with a holding company registered in the Cayman Islands.[219] It operates through its own website, Binance.com, as well as affiliated companies like *BAM Trading Services* in the US,[220] *Binance Markets* in the UK, *Binance Canada Capital Markets* in Canada ("BCCM"), and *Binance Asia Services* ("BAS") in Singapore.[221] A cryptoasset buyer in Singapore could therefore conceivably be dealing through BAS with a seller in Canada dealing through BCCM. Where then is the exchange located?

To surmount this difficulty, it is suggested that courts should first determine the jurisdictions from which the exchange is accessible. From that list, courts should choose the jurisdiction most closely connected to the exchange through a multifactorial approach. The guiding principle for this inquiry is to protect the reasonable expectations of exchange participants. The following factors should be considered, *in order of importance*:

(a) Whether the jurisdiction is one in which the exchange is believed to be, or is in fact, regulated. Belief may arise from communications of the exchange or the jurisdiction's regulators. This factor is weighty since no exchange participant would reasonably expect the laws of jurisdictions that they know do not regulate the exchange to apply to issues arising from their transactions.

(b) Whether the exchange has a permanent establishment in the jurisdiction—*ie*, a fixed place of business which the exchange has effective power of use over, where operations (as opposed to preparatory or auxiliary activities)

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[217] P Mankowski in CH Reithmann & D Martiny, eds. *Internationales Vertragsrecht*, 8th ed (Cologne: Verlag Dr. Otto Schmidt, 2015) at para 6.1773; Lehmann, "Prospectus liability and private international law", *supra* note 118 at 340.

[218] "Biggest cryptocurrency exchanges" *Statista* <https://www.statista.com/statistics/864738/leading-cryptocurrency-exchanges-traders/> (2021).

[219] Tom Wilson & Huw Jones, "Explainer: Binance, the giant crypto exchange under regulatory scrutiny" *Reuters* <https://www.reuters.com/world/china/binance-giant-crypto-exchange-under-regulatory-scrutiny-2021-07-01/> (1 July 2021).

[220] "Binance Announces Partnership with BAM to Launch US Exchange" *Binance* <https://www.binance.com/en/blog/all/binance-announces-partnership-with-bam-to-launch-us-exchange-346119082624540672> (14 June 2019).

[221] "Binance Asia Services takes strategic stake in Singapore-based Hg Exchange (HGX)" *Binance* <https://www.binance.com/en/blog/ecosystem/binance-asia-services-takes-strategic-stake-in-singaporebased-hg-exchangehgx-421499824684903142> (10 December 2021).

are conducted.[222] A permanent establishment is significant because it not only establishes presence and connection to the jurisdiction and its laws, but also allows exchange participants to easily access and contact the exchange.

(c) Whether the terms of service on the exchange's website stipulates the jurisdiction's law as governing law. Where an exchange has multiple websites run not only by the parent entity but also its subsidiaries or affiliated companies, the terms of the parent entity's website should be given most weight, since it is the website which exchange participants are most likely to check.

(d) Whether the exchange's communications target the jurisdiction. Communications, including announcements, marketing, and other publicly available notices, are relevant because they influence the exchange participants' expectations.

While this list is non-exhaustive, it is emphasised that courts must keep the exchange participants' reasonable expectations at the forefront of their minds when devising and ranking new factors for this test. Courts should also be cautious against giving undue weight to the location of the exchange's headquarters. Binance, for instance, has shifted its headquarters from Hong Kong to the Cayman Islands after China banned the trading of cryptoassets, and may announce a "proper headquarters" again soon as it "strives to fend off regulators".[223] During these shifts, however, it is unlikely that the exchange participants' reasonable expectations would have changed, especially when Binance describes itself as having "decentralised" ownership and has terms of use that refer to Binance as "an ecosystem".[224] In locating Binance, therefore, the significance of the location of its headquarters should be *de minimis*. Accordingly, even if a cryptoasset exchange were seeking to structure its organisation in such a way as to avoid the application of certain laws, the court should adopt a substance over form approach in determining its 'true' location and proceed to apply the laws of that location.

It may be objected that this test for determining the exchange's location is uncertain and unpredictable.[225] However, the uncertainty and unpredictability is

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[222] Inspired by the *Agreement Between the Government of the Republic of Singapore and the Government of the Republic of India for the Avoidance of Double Taxation and the Prevention of Fiscal Evasion with Respect to Taxes on Income*, Singapore and India, 24 January 1994 (entered into force 27 May 1994), Art 5.

[223] Jessica Mathews, "Crypto exchange Binance is picking a headquarters location 'very soon' as it strives to fend off regulators" *Fortune* <https://fortune.com/2022/04/01/crypto-exchange-binance-picking-headquarters-location-regulators/> (2 April 2022).

[224] Dan Milmo and Alex Hern, "Changpeng Zhao: tech chief in the eye of the cryptocurrency storm" *The Guardian* <https://www.theguardian.com/technology/2022/jun/25/changpeng-zhao-tech-chief-in-the-eye-of-the-cryptocurrency-storm> (25 June 2022); Binance Terms of Use, *Binance* <https://www.binance.com/en/terms> (last revised 24 June 2022).

[225] See, *eg*, Herbert Kronke, "Capital Markets and Conflict of Laws" (2000) 286 RdC 245 at 300 ("Legislative guidance as to what is to be considered the relevant market is the exception rather than the rule… Absent such guidance the situation is by no means satisfactory. Only in one instance is the term "market" a clear, unambiguous and immediately operational connecting factor, namely when it refers to a physical place of organized trading, i.e. a stock or commodity exchange."); Ringe & Hellgardt, "The International Dimension of Issuer Liability", *supra* note 20 at 54 ("It is obvious that the emergence of such trading venues poses factual problems on the determinability of the 'place of the market'—be it

alleviated in three ways. First, in contradistinction to the open-ended inquiries criticised above, this multifactorial approach includes both a guiding principle and the order of importance of the factors. These guidelines ensure that the inquiry does not degenerate into an arbitrary counting of contacts. Second, the determination of the exchange's location is intended, as far as possible and barring significant changes in external circumstances, to be a one-time affair. The reasoning and facts considered in both domestic and foreign judgments on a specific exchange's location are persuasive data which subsequent courts should take into account. Third, just as the exchange participants' reasonable expectations influence a court's finding on the exchange's location, the court's judgment would also shape the exchange participants' reasonable expectations. This cycle reinforces the certainty and predictability of the exchange's location, thereby preserving both conflicts and substantive justice.

3. *Contents of the lex mercatus*

After locating the exchange, courts should proceed to apply to all market issues the *lex mercatus*, including its private and public law. The application of private law is uncontentious; it must feature prominently in on-exchange transactions to protect investors against, *inter alia*, misrepresentations, fraudulent conduct, or non-disclosure. The inclusion of public law is more controversial, since the public law taboo could block the application of foreign public law.[226] Nevertheless, there is doctrinal support for the application of foreign public laws that (a) are facilitatory and (b) form a crucial part of the *lex causae*.

In *Kahler v Midland Bank*,[227] the House of Lords applied the foreign currency regulations of Czechoslovakia as part of the *lex causae* (the law of Czechoslovakia). These regulations were facilitatory, and not "of such a penal or confiscatory nature that it should be disregarded".[228] Far from being foreign public laws that English courts were "traditionally disposed to ignore", the currency regulations affected the sustainment, modification, and dissolution of the parties' contractual bond and were therefore integral to "the full complex of substantive law that must be applied".[229] This holding is consistent with the idea that the public law taboo should not bar

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that the market is simply unknown or that there has been a multitude of orders across a variety of marketplaces, each with an unknown volume.").

226 *Cf* the extensive criticisms of the public law taboo across jurisdictions: see, *eg*, William S Dodge, "The Public-Private Distinction in the Conflict of Laws" (2008) 18 Duke J Comp & Intl L 371 (arguing that the public-private law distinction is unworkable and unprincipled); *Ammon v Royal Dutch Co* (1954) 80 BGE II 53 at 61–62 [*Ammon*] (noting that public laws are part of the "complete, integral legal order of a state"); Institut de Droit International, "Public law claims instituted by a foreign authority or a foreign public body" (1977) 57 AIDI II at 187–188 (noting that the convergence of state interests calls for "increased [international] cooperation and mutual assistance" in enforcing public law claims); *Williams & Humbert Ltd v W & H Trade Marks Ltd* (1985) 1986 App. Cas. 368 at 428 (forcefully arguing that rendering public law claims unenforceable facilitates "fraudulent practices which damage all states and benefit no one").

227 *Kahler v Midland Bank* [1950] AC 24 (UKHL).

228 *Ibid* at 27, per Lord Simonds.

229 *Ibid* at 56, 57, per Lord Radcliffe.

foreign public laws that "reinforc[e] the purpose of the governing rule of private law"[230] as a "determinative element of the *lex causae*".[231]

In on-exchange transactions, public law complements private law by ensuring the proper functioning of the exchange through the regulation of on-exchange order flow, settlement, delivery of cryptoassets, and issuer corporate governance, thereby enhancing investor protection. Since the organisation of the web of private legal relationships between exchange participants is heavily reliant on the proper functioning of the exchange, public law must be accepted as a crucial part of the *lex mercatus*. Parties who voluntarily choose to transact on the exchange should reasonably expect both the private and public law of the exchange's location to determine their rights and obligations.

C. *In-built flexibility of the proposed framework*

The proposed framework may read like it is meant to be a rigid, absolute rule to be applied to all on-exchange cryptoasset transactions. This is not so. It bears highlighting that there is some flexibility, albeit limited for the purposes of ensuring certainty and predictability, built into this proposed framework in two areas.

First, under the characterisation step, courts have some flexibility in determining what is and is not a reasonably expected function of the exchange. For instance, where there is a cryptoasset transaction between two parties of equal bargaining power and who enter into the transaction after serious deliberation over the contract's terms, including its choice-of-law clause, the courts may feel compelled to characterise issues arising from this contract as contractual issues and not market issues. The proposed framework adequately deals with such exceptional situations. Properly construed, although the transaction took place on the exchange, the exchange's role was merely ministerial and facilitatory. Generally speaking, no reasonable exchange participant would expect the exchange to interfere with such mutually drafted non-standard form contracts. It would therefore be inappropriate for the court to characterise issues arising from this contract as market issues.

Second, no choice-of-law rule is absolute. The *lex mercatus* rule should be subject to a limited double-barrelled exception that applies where (a) the *lex mercatus* is fortuitous and unforeseeable by the parties, and (b) there is another law that is manifestly more closely connected to the dispute.[232] This exception must be narrowly construed and guided by substantive justice. Presently, however, it must be confessed that no realistic situation where this exception should be applied comes to mind.

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[230] As was held by the Federal Supreme Court of Switzerland in *Ammon*, *supra* note 226 at 62.

[231] Hans W Baade, "The Operation of Foreign Public Law" (1995) 30 Tex Intl LJ 429 at 462, observing that there is "an emerging consensus in favor of the general application (to the extent compatible with forum public policy) of foreign public law as an incidental but determinative element of the *lex causae*".

[232] Inspired by the forthcoming *Asian Principles of Private International Law*, General Rules of Choice of Law, Art 6 ("Having regard to all the circumstances of a particular case, if the case has only a very loose connection with the legal system to which a choice of law rule of an APPIL-Jurisdiction refers, but has a much closer connection with the legal system of another country, the legal system of the other country is, by way of exception, applicable.").

VI. Conclusion

With the proliferation of cryptoasset transactions on online exchanges, Singapore courts will be faced with an increasing number of related transnational disputes. As an aspiring global dispute resolution and financial hub, Singapore must maximise the values of conflicts justice, substantive justice, investor protection, and financial stability. Failure to do so would significantly hurt Singapore's chances at achieving its aspirations. The most urgent question to be answered is: How should Singapore courts determine the applicable law for issues arising from transnational on-exchange cryptoasset transactions?

This article has proposed a choice-of-law framework to answer this question, involving a novel collective characterisation of issues as market issues, followed by the application of the *lex mercatus* to all market issues. This framework is justified by the Part II crucial objectives. First, unlike jurisdictional approaches, this framework does not encourage forum shopping. It advocates for a uniform rule to be applied and for Singapore courts to consider not only local but also foreign judgments on the exchange's location, promoting conflicts justice. Second, it maximises substantive justice by protecting the exchange participants' reasonable expectations that the same law will govern issues arising from the same transaction, so long as the issues fall within the functions of the exchange as they understand it. The determination of the exchange's location and accordingly the law to be applied is also based on exchange participants' reasonable expectations. Lastly, this framework ensures financial stability and investor protection. It subjects cryptoasset issuers and other intermediaries on the platform to a single regulatory regime, ensuring investor protection by preferring a uniform application of the *lex mercatus*, which is determined objectively and not at the choice of the issuer or other institutions with strong bargaining power.

This proposed framework is a starting point for Singapore courts to develop incrementally as such disputes arise, to help Singapore achieve its dispute resolution and financial hub aspirations. Although more work must be done on the cryptoasset front, beginning with the issue of determining the applicable law for *off-exchange* cryptoasset transactions, that is beyond the scope of this article.