

GLOBAL STANDARDS FOR SECURITIES HOLDING INFRASTRUCTURES: A SOFT LAW/FINTECH MODEL FOR REFORM

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I. INTRODUCTION

This Article outlines a “soft-law-to-hard-law” approach for the development and implementation of reforms to systems for the holding of publicly traded securities. It proposes the development of global standards for securities holding systems (“Global Standards”), to be led by the International Organization of Securities Commissions (the “IOSCO”).¹ This approach contemplates that States would be encouraged and expected to implement the Global Standards by adopting “hard law” reforms through statutory and regulatory adjustments to their securities holding systems as well as modifications of the architecture of their securities holding systems. The successes of past IOSCO initiatives inspire this Article’s proposal, as do the relatively successful development and implementation of harmonized standards for supervision and capital adequacy for depository institutions (for example, banks) through the operation of the Basel Committee.²

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1. For background on the International Organization of Securities Commissions (“IOSCO”), see generally OICV-IOSCO, <https://www.iosco.org> (last visited Mar. 8, 2019). For discussions of the nature of and distinctions between “soft” and “hard” law see, e.g., Susan Block-Lieb, *Soft and Hard Strategies in the Crafting of International Commercial Law*, 40 MICH. J. INT’L L. 433 (2019); Henry Deeb Gabriel, *The Use of Soft Law in the Creation of Legal Norms in International Commercial Law: How Successful Has It Been?*, 40 MICH. J. INT’L L. 413 (2019); John A. E. Pottow, *The Dialogic Aspect of Soft Law in International Insolvency: Discord, Digression, and Development*, 40 MICH. J. INT’L L. 479 (2019); Irit Mevorach, *A Fresh View on the Hard/Soft Law Divide: Implications for International Insolvency of Enterprise Groups*, 40 MICH. J. INT’L L. 505 (2019).

I refer to the Global Standards discussed here as “soft” law to indicate that they would not have the force of law unless and until implemented by a State. See *infra* note 51 (discussing soft law aspects of the proposed Global Standards).

2. The Basel Committee operates under the auspices of the Bank for International Settlements in Basel, Switzerland. For background, see MICHAEL S. BARR ET AL., FINANCIAL REGULATION: LAW AND POLICY 272–74 (2016). For later developments, see *id.* at 285–331. For additional discussion of the Basel Committee, see *infra* Part V.

Intermediaries play central—indeed essential—roles in the holding systems addressed in this Article and in the securities markets more generally. In particular, they are necessary players in existing systems for trading (for example, on exchanges and other trading platforms) and settling trades of securities.³ In most financial markets, the systems for holding securities after trades have settled are *intermediated* holding systems. Securities are transferred to and acquired by investors, as beneficial owners, through electronic credits to their securities accounts held with intermediaries such as stockbrokers and banks.

Intermediated holding systems are amalgams of information technology, regulatory constraints, contractual terms, and private law. For present purposes, the relevant private law embraces respect for contractual obligations, legally imposed rights and duties, and proprietary rights and interests in securities.⁴ In general, this private law is embodied in laws governing shares in corporations and in the laws governing debt securities. It also encompasses the rights and interests—if any—of an investor vis-a-vis the issuer of securities and the rights and interests acquired by an account holder upon the credit of securities to a securities account. All intermediated holding systems necessarily involve some degree of intermediation between issuers of securities and investors holding securities as account holders.⁵ This intermediation necessarily imposes some risk—intermediary risk—consisting of the risk of loss or damage to an investor arising out of the default or insolvency of an intermediary. Intermediary risk is a function of the structure of a particular holding system, including the holding infrastructure and its relevant technology, the relevant private law of property and contract, legal and contractual duties that underpin the holding structure, the regulatory framework, and the relevant insolvency laws.

IOSCO has recently addressed intermediary risk in two important reports on the protection of client assets (“Client Asset Reports”).⁶ While it

3. The settlement of trades involves the transfer, generally referred to as a “delivery,” of securities against payment for the securities.

4. One standard definition of “private law” is: “That portion of the law that defines, regulates, enforces, and administers relationships among individuals, associations, and corporations. As used in distinction to public law, the term means that part of the law that is administered between citizen and citizen, or that is concerned with the definition, regulation, and enforcement of rights in cases where both the person in whom the right inheres and the person upon whom the obligation rests are private individuals.” West’s Encyclopedia of American Law (2d ed. 2008), <https://legal-dictionary.thefreedictionary.com/private+law> (last visited Mar. 28, 2019).

5. In general, references to an “investor” mean the beneficial owner holding in an intermediated holding system as an account holder. References to an “account holder” also encompass those who hold in an intermediated system as an intermediary or otherwise on behalf of investors.

6. IOSCO, RECOMMENDATIONS REGARDING THE PROTECTION OF CLIENT ASSETS (2014), <https://www.iosco.org/library/pubdocs/pdf/IOSCOPD436.pdf> [hereinafter 2014 IOSCO REPORT]; IOSCO, THEMATIC REVIEW OF THE ADOPTION OF THE PRINCIPLES SET FORTH IN IOSCO’S REPORT: RECOMMENDATIONS REGARDING THE PROTECTION OF CLIENT

seems clear that intermediary risk should be an important focus of the proposed Global Standards, the proposal here contemplates an approach to holding systems that is broader and more holistic than that taken in the Client Asset Reports. The analysis of intermediary risk should consider the information technology infrastructure employed for the operation of a holding system, the relevant regulatory regime, the applicable private law, and insolvency laws.⁷ It should also consider the potential for disintermediation that would essentially eliminate intermediary risk from securities holding systems. The principal goal of this Article is to make the case for Global Standards pursuant to an IOSCO-led soft-law-to-hard-law enterprise. However, a detailed explication of the appropriate specific content of the Global Standards is beyond the scope of this Article.

Finally, development of Global Standards should take account of the rapidly evolving financial technology, or Fintech.⁸ As George Walker has summarized this phenomenon:

[FinTech] has emerged as a powerful new market force as a result of the coming together of a number of disconnected trends. Significant advances have occurred in the areas of computer and digital technology, the Internet, mobile telecommunications, and economics and finance, which have transformed traditional areas of study and created important potential new business structures and operations.⁹

ASSETS (2017), <https://www.iosco.org/library/pubdocs/pdf/IOSCOPD577.pdf> [hereinafter 2017 IOSCO REPORT]. References to the “client” in this context refer to an investor/account holder holding through an intermediated holding system.

7. See *infra* Part IV (discussing intermediary risk and the potential scope of the Global Standards). Recognizing this possibility of disintermediation, in general, references here are to “holding systems” instead of “intermediated holding systems.” By focusing here on holding systems, I do not intend to suggest that reforms that would reduce risk and enhance efficiency in trading platforms and settlement systems should not also be addressed—they should.

8. As described in Investopedia: “Fintech is used to describe new tech that seeks to improve and automate the delivery and use of financial services. At its core, fintech is utilized to help companies, business owners and consumers better manage their financial operations, processes and lives by utilizing specialized software and algorithms that are used on computers and, increasingly, smartphones. . . . When fintech emerged in the 21st Century, the term was initially applied to technology employed at the back-end systems of established financial institutions. Since then, however, there has been a shift to more consumer-oriented services and therefore a more consumer-oriented definition. Fintech has expanded to include any technological innovation in — and automation of — the financial sector, including advances in financial literacy, advice and education, as well as streamlining of wealth management, lending and borrowing, retail banking, fundraising, money transfers/payments, investment management and more.” Julia Kagan, *Fintech*, INVESTOPEDIA, <http://www.investopedia.com/terms/f/fintech.asp#ixzz4aZxr0YMG> (last updated Mar. 13, 2019).

9. George Walker, *Financial Technology Law: A New Beginning and a New Future*, 34 GPSOLO 76, 76 (2017). For an interesting and thorough analysis of Fintech that “takes a deeper and more encompassing *systemic* view of fintech, both as a financial market phenomenon and as a regulatory challenge,” see Saule T. Omarova, *New Tech v. New Deal: Fintech as*

Indeed, the potential of distributed ledger technology (“DLT,” also known as “blockchain”) has assumed an important, even dominant, role in the current discussions of the evolution of the financial markets.¹⁰

Following this Introduction, Part II of this Article provides an overview of various typical types of securities holding infrastructures as they exist today. Part III summarizes the roles of private law and the regulation of markets and market participants as they relate to securities holding systems. It also describes certain reform efforts in recent years. Part IV outlines a case for reforming securities holding infrastructures. Although a full analysis is beyond the scope of this Article, Part IV explains that the prospect for reducing intermediary risk and the emerging role of Fintech provide support for the approach advocated here. Part V considers the possible content of Global Standards for securities holding infrastructures that would be developed by an IOSCO-led soft-law-to-hard-law project and the need for a mission statement for the project. Part VI concludes.

II. OVERVIEW OF INTERMEDIATED SECURITIES HOLDING INFRASTRUCTURES

There are many different types of intermediated securities holding infrastructures. The International Institute for the Unification of Private Law (“UNIDROIT”) Legislative Guide on Intermediated Securities (“Legislative Guide”) identifies five general models of holding systems.¹¹ While the models have much in common, they reflect variations on the proprietary rights in securities and the legal relationships among account holders,¹² their rele-

a Systemic Phenomenon 4 (Cornell Law Sch. Legal Res. Paper Series, Paper No. 18-39, 2018), http://papers.ssrn.com/sol3/papers.cfm?abstract_id=3224393.

10. See, e.g., Philipp Paech, *The Governance of Blockchain Financial Networks*, 80 MOD. L. REV. 1073 (2017) (discussing adaptation of private law, regulatory regimes, and private international law (choice of law) to financial markets consisting of distributed ledger technology (“DLT”)-based networks). Neither of the Client Asset Reports discusses Fintech or the potential role of DLT and other emerging technologies as potential tools for managing or eliminating intermediary risk. However, given the discrete goal of recommending improvements to holding systems as they exist, these Fintech issues and developments may appropriately be considered beyond the scope of those reports.

11. Unidroit Legislative Guide on Intermediated Securities 16–22 (2017), <https://www.unidroit.org/instruments/capital-markets/legislative-guide> [hereinafter Legislative Guide]. The following description of these holding structures is drawn from the discussion in the Legislative Guide. The descriptions are general and illustrate the principal differences among the various systems that are relevant to this discussion but do not cover all of the many details of each system. I omit discussion here of one of the models, the “contractual model,” because it does not confer on an account holder a private-law proprietary interest, and its effectiveness as a holding structure depends largely on the treatment of account holders in the insolvency of a relevant intermediary. See *id.* at 21–22.

12. The Legislative Guide’s Glossary provides helpful definitions. It defines “[a]ccount holder” as “[a] person in whose name an intermediary maintains a securities account, whether that person is acting for its own account or for others (including in the capacity of intermediary).” *Id.* at xxi.

vant intermediaries,¹³ and a central securities depository (“CSD”).¹⁴ The *individual ownership model*, used in countries such as France, contemplates that the investor (that is, the ultimate account holder at the bottom tier) has complete ownership of the securities credited to its account.¹⁵ Correspondingly, neither the CSD nor any other intermediaries in the holding chain has any interest in the securities. Other countries such as Austria and Germany use the *co-ownership model*, which involves the deposit of a global security certificate with the CSD.¹⁶ The CSD credits the accounts of its account holders (its “participants”) with their respective units of the relevant security, and the participants in turn credit the accounts of their account holders.¹⁷ The ultimate account holder has a co-ownership of its share of the pooled securities held at the CSD.

The *trust model*—used in Australia, England and Wales, and Ireland—provides that the CSD acts as the register for the issuers of securities.¹⁸ The CSD itself has no interest in the securities, but it credits its participants with their respective units of the securities. The participants are the legal owners of the securities, either for their own accounts or for the benefit of their account holders. The participants credit securities to their account holders’ accounts and act as trustees for their account holders. As trust beneficiaries, the account holders have a beneficial, equitable interest in the securities. In Canada and the United States, the *security entitlement model* provides that every account holder in the holding chain, including participants of the CSD, acquires a security entitlement.¹⁹ A security entitlement confers *sui generis* rights against the relevant intermediary and to the securities held by the intermediary.²⁰ Account holders (“entitlement holders”) do not have direct rights against the issuers of securities.

Securities holding systems are also classified as “transparent” or “non-transparent” systems.²¹ As described in the Legislative Guide, in a transparent system,

an investor’s holdings are identified by, or known to, the CSD primarily because the role of maintaining a securities account is shared between the CSD (which is the relevant intermediary . . .)

13. See *id.* at xxvii (defining “[r]elevant intermediary” as “[t]he intermediary that, in relation to a securities account, maintains that securities account for the account holder.”).

14. See *id.* at xxii (defining “[c]entral securities depository (CSD)” as “[a]n entity that provides the initial recording of securities in a book-entry system or that provides and maintains the securities accounts at the top tier of the intermediated holding chain.”).

15. *Id.* at 17.

16. *Id.* at 18.

17. *Id.*

18. *Id.* at 19.

19. *Id.* at 20.

20. *Id.*

21. *Id.* at 22.

and other persons often called account operators, who are securities firms maintaining commercial relationships with investors.²²

The Legislative Guide identifies three general types of transparent systems. In the first type, each investor holds securities in a separate account with the CSD.²³ Intermediaries (referred to as “account operators”) operate the accounts and act as interfaces between the investor and the CSD. In a second type of transparent system, an investor holds securities in an account with an intermediary at the CSD level.²⁴ The intermediary’s account with the CSD has a sub-account for each investor that reflects the investor’s holdings. A third type of transparent system involves an omnibus account of the intermediary with the CSD.²⁵ The intermediary maintains a separate account for each of its investors. Information as to the investor accounts is consolidated as between the CSD and the intermediary so that the CSD can ascertain each investor’s holdings. In a forthcoming chapter, Thomas Keijser and I advance and defend our claim that the adoption and implementation of a transparent information technology system for securities holding could provide substantial benefits, even without any change in law.²⁶ We also argue that implementing a transparent information technology system could serve as a catalyst and a roadmap for law reforms affecting securities holding systems.²⁷

Each of these securities holding systems takes a different approach to the relevant private law. In particular, they vary as to who holds proprietary rights and as to the nature of those rights. But each also generally protects the rights of account holders against claims of general creditors in case of the insolvency of a relevant intermediary. Even so, a relevant intermediary’s insolvency proceeding nonetheless could impose material risks with respect to the prompt realization of an account holder’s rights in respect of securities.²⁸

22. *Id.*

23. *Id.* at 22–24.

24. *Id.* at 23–24.

25. *Id.* at 24–25.

26. Thomas Keijser & Charles W. Mooney, Jr., *Intermediated Securities Holding Systems Revisited: A View Through The Prism Of Transparency*, in INTERMEDIATION AND BEYOND 309 (Louise Gullifer & Jennifer Payne eds., 2019).

27. *Id.* at 331–35. As a corollary, we explain that non-transparent information technology systems are sources of or contributors to various problems in securities holding systems. *Id.*

28. *See, e.g.*, Charles W. Mooney, Jr. & Guy Morton, *Harmonizing Insolvency Law for Intermediated Securities: The Way Forward*, in TRANSNATIONAL SECURITIES LAW 193 (Thomas Keijser ed., 2013) (explaining *inter alia* the difficulties and complexities presented for account holders in the event of a relevant intermediary insolvency, with examples and lessons drawn from the insolvency proceedings in New York for Lehman Brothers Holdings, Inc. (holding company of the Lehman group) and Lehman Brothers, Inc. (the United States broker-dealer) and in London for Lehman Brothers International (Europe) (Lehman’s primary European broker)).

III. THE ROLES OF PRIVATE LAW AND MARKET REGULATION IN SECURITIES HOLDING INFRASTRUCTURES AND INITIATIVES FOR REFORM

Private law features of the various securities holding systems summarized above play a paramount role in the operation of the securities markets and the securities holding infrastructures on which such markets are based. The same is also true for the levels of transparency in the various types of holding systems. Whether an investor holds directly with an issuer or through an intermediary, there necessarily exists a relationship of some market participant—whether a CSD, another intermediary, or an investor—with the issuer. For equity (for example, shares) in a corporation, this involves corporation or company law, and for debt securities (for example, bonds or notes), it involves the law governing the issuer's obligations and the contractual terms of the securities. Most significantly, of course, an investor expects to acquire a proprietary interest in the securities.

Each of the prototypical intermediated holding structures summarized above contemplates in some fashion the existence and nature of an account holder's proprietary interest. But the structures vary enormously as to the location and nature of the proprietary interests of the various market participants. Moreover, these applicable private law rules achieve much more than a determination of private rights. They provide the “plumbing” on which the infrastructure for trading, settlement, and holding securities are grounded.²⁹ These private law regimes “can play a significant role in reducing not only legal risks of market participants but *systemic risk* as well.”³⁰ This metaphor conceiving of private law as the “plumbing” for securities holding structures is necessarily and importantly supplemented by regulatory regimes for securities markets and market participants that provide a framework for linking together the operational components of holding systems. This is due in large part to the ubiquitous presence and important role of regulated intermediaries such as securities firms (for example, stockbrokers and dealers) and banks in securities holding systems as well as the generally accepted need for regulation and supervision of securities markets more generally.

The Client Asset Reports of IOSCO reflect this crucial role of regulation. However, the Reports generally fail to address the reductions of intermediary risk that could result from improvements in intermediated holdings systems in the areas of private law, technological infrastructures, transparency (or non-transparency), and insolvency law. They generally accept the fundamental characteristics of the various holding systems and private law regimes essentially as they exist. On this assumption, the Client Asset Reports propose and defend a variety of sound prophylactic measures for pro-

29. Charles W. Mooney, Jr. & Hideki Kanda, *Core Issues Under the UNIDROIT (Geneva) Convention on Intermediated Securities: Views from the United States and Japan*, in *INTERMEDIATED SECURITIES: LEGAL PROBLEMS AND PRACTICAL ISSUES* 69, 76 (Louise Gullifer & Jennifer Payne eds., 2010).

30. *Id.* (citing and quoting draft recommendations prepared by a group organized by the European System of Central Banks and the Committee of European Securities Regulators).

tecting client assets. The Global Standards proposed here would abandon that assumption and extend their reach to the private law and to all other aspects of holding infrastructures.³¹

The past several decades have witnessed numerous efforts—on national and international levels—to harmonize, rationalize, and reform both the private law principles and the infrastructures for the settlement of trades and the holding of securities.³² The wide variety of intermediated holding structures described in Part II reflect the results of some of these efforts on the national levels. But efforts for harmonization and reform on the international level have been met with very limited success. This is so notwithstanding enormous efforts in connection with three significant projects—the Hague Securities Convention (“HSC”),³³ the Geneva Securities Convention (“GSC”),³⁴ and the European Legal Certainty project.³⁵ Of course, each of these projects contributed substantially to knowledge and common understanding; declaring them to be failures would be too harsh a judgment. That none of them has resulted in meaningful harmonization results in part from the widely differing securities holding systems, regulatory philosophies, and private law traditions. This suggests the need for a fresh approach that differs from these “traditional” processes for the development and harmonization of hard law (such as international conventions, EU directives or regulations, or model law texts). The development of Global Standards advocated in Part V reflects such a new approach.

IOSCO’s Client Asset Reports were inspired in part by “[e]vents in recent years including the Lehman Brothers and MF Global insolvencies [that] have placed client asset protection regimes in the spotlight.”³⁶ The 2014 IOSCO Report provided eight principles intended to apply as between an intermediary and its clients (that is, account holders) and to provide pro-

31. See text at *supra* nn. 29–30 (discussing role of private law in reducing risks of market participants as well as systemic risk). The approach of the Geneva Securities Convention and the European Legal Certainty project generally assumed the continuation of existing structures for securities holding, but the Global Standards advocated here would not be so constrained.

32. See MATTHIAS HAENTJENS, HARMONISATION OF SECURITIES LAW 217 (Martijn Hesselink et al. eds., 2007) (discussing harmonization initiatives).

33. Convention on the Law Applicable to Certain Rights in Respect of Securities Held with an Intermediary, Intermediary, July 5, 2006, T.I.A.S. No. 17-401401.

34. Convention on Substantive Rules for Intermediated Securities, Oct. 9, 2009, <http://www.unidroit.org/instruments/capital-markets/geneva-convention> [hereinafter GSC]; see also Legislative Guide, *supra* note 11. The Legislative Guide recognizes that there are many gaps in the GSC’s scope and substance that were left to the non-Convention law. *Id.* at 35–36. It offers guidance to states as to areas in need of legislative and regulatory treatment, which were not fully addressed and harmonized in the GSC. *Id.*

35. See Legal Certainty Group, *Second Advice of the Legal Certainty Group: Solutions to Legal Barriers Related to Post-Trading Within the EU*, (2008), https://ec.europa.eu/info/system/files/legal-certainty-group-2nd-advice_en.pdf.

36. 2014 IOSCO Report, *supra* note 6, at 1.

tections for assets (for example, securities) held in securities accounts.³⁷ The principles relate to matters including record keeping, account statements, safeguarding clients' rights and minimizing risks of loss and misuse of assets, understanding and dealing with assets in foreign jurisdictions, clear disclosures of protections regimes and risks involved, arrangements relating to client waivers of protections, regulatory oversight of intermediary compliance, and regulatory oversight of domestic rules concerning foreign assets.³⁸ These principles reflect the crucial roles played by intermediaries and the related regulatory regimes. For example, the operative language of six of the principles includes the phrase "intermediary should" in them.³⁹ For two of the principles, the language includes a "regulator should" in them.⁴⁰ A final principle addresses what "arrangements should" provide in connection with client waivers or modifications of protections.⁴¹

The 2017 IOSCO Report documents the success of the recommendations and the enormous influence of IOSCO in respect of the thirty-six participating jurisdictions. It concluded that "the majority of participating jurisdictions have generally adopted a client asset protection regime described by the Principles."⁴²

For present purposes, the Client Asset Reports support each of two ostensibly—but not actually—conflicting claims made here. The first claim is quite obvious: The Client Asset Reports and the various States' actions based on and in response to the Client Asset Reports represent important steps in reducing the most significant risk imposed by currently existing securities holding structures—intermediary risk.⁴³ Along this path toward risk reduction, the Client Asset Reports also provide an excellent example among many⁴⁴ of the expertise and quality of analysis that IOSCO is capable of marshaling. Second, while the Client Asset Reports and States' responses reflect some improvements and reduction of intermediary risk, they also clearly demonstrate the continued *existence* of intermediary risk and, I would argue, the need to address it.⁴⁵ Part IV, next, reconciles and explains these claims.

37. 2014 IOSCO Report, *supra* note 6, at 3–9.

38. 2014 IOSCO Report, *supra* note 6, at 3–9.

39. 2014 IOSCO Report, *supra* note 6, at 3–6.

40. 2014 IOSCO Report, *supra* note 6, at 7–9.

41. 2014 IOSCO Report, *supra* note 6, at 6.

42. 2017 IOSCO Report, *supra* note 6, at 32.

43. *See supra* Part I (discussing intermediary risk).

44. A listing of IOSCO's public reports may be found at *Public Reports*, INT'L ORG. SEC. COMMISSIONS https://www.iosco.org/publications/?subsection=public_reports (last visited Mar. 28, 2019).

45. I should acknowledge (but without apologies) that I have changed my views as to the inevitability of intermediary risk in this context. Once upon a time, I supported reforms of the intermediated holding systems under prevailing law in the United States that centered on the identification and management of intermediary risk. The reforms that I proposed, support-

IV. THE CASE FOR REFORMING SECURITIES HOLDING
INFRASTRUCTURES: REDUCTION OR ELIMINATION OF INTERMEDIARY
RISK AND THE EMERGENCE OF FINTECH

Making and supporting the case for further reforms of securities holding structures is beyond the modest scope and permissible length of this Article. Instead, a brief but (hopefully) clear and straightforward outline must suffice. In other work, Kumiko Koens and I suggest that Fintech may offer an avenue for eliminating intermediary risk in securities holding systems.⁴⁶ While the Client Asset Reports and the principles that they advance address and evaluate the reduction of intermediary risk, each of the principles is a mirror image of the *persistence* of the risks that continue to exist. In the absence of such risks, these principles would be unnecessary. The fundamental sources of this risk are the indispensable roles of intermediaries in securities transactions and settlement. Because connecting investors directly with issuers as direct holders under legacy systems is cumbersome, time-consuming, and relatively expensive, for many investors, the only practical choice is to *hold* securities through an intermediary.⁴⁷ The securities thereby

ed, and accepted assumed the existence of intermediary risk as a given in the securities market infrastructure. Charles W. Mooney, Jr., *Beyond Negotiability: A New Model for Transfer and Pledge of Interests in Securities Controlled by Intermediaries*, 12 CARDOZO L. REV. 305, 388 (1990) (“It appears that the single, most powerful, control that a market participant can employ to reduce intermediary risk is to exercise precaution by selecting an intermediary that will not fail.”). That article had considerable influence, which persists almost three decades later. Philipp Paech has cited this work as “the first . . . to analyse the legal consequences of” the emergence of “the concept of securities intermediation through banks and brokers” in the United States. Philipp Paech, *Securities, Intermediation and the Blockchain: An Inevitable Choice Between Liquidity and Legal Certainty?*, 21 UNIFORM L. REV. 612, 617 (2016). Francis Facciolo has noted the significance of the work in the development of law in the United States. See Francis J. Facciolo, *Father Knows Best: Revised Article 8 and the Individual Investor*, 27 FLA. ST. U. L. REV. 615, 635 (2000) (“Professor Charles W. Mooney, Jr., the legal academic whose ideas form the intellectual underpinnings of Revised [Uniform Commercial Code] Article 8 . . .”) (footnote omitted); *id.* at 664 (“Professor Mooney proposed the model of ‘upper-tier priority,’ which became the intellectual foundation of Revised Article 8 . . .”) (footnote omitted); *id.* at 669 (“Professor Mooney, the intellectual progenitor Revised Article 8’s general approach . . .”); *id.* at 697 n.473 (“Professor Mooney’s influential article advocating a complete revision of 1977 Article 8 . . . Professor Mooney brought his own well thought out approach to the process of revising 1977 Article 8, one congruent enough to that of the federal regulators to be included in the Bankers Trust Company report.”).

46. Professor Koens and I propose a “new platform” holding structure that would eliminate intermediary risk in securities holding systems. It would connect ultimate account holders/investors with issuers of securities—a direct holding structure. This connection, as the last step in the settlement process and possibly employing DLT, would replace the credit of securities to a securities account held with an intermediary. See Charles W. Mooney, Jr., *Beyond Intermediation: A New (Fintech) Model For Securities Holding Infrastructures* (unpublished presentation) (outlining “new platform” securities holding structure and arguing that modern technology has eliminated the need for intermediation in securities holding structures) (on file with author).

47. CSDs in the United States (The Depository Trust Company) and the United Kingdom and Ireland (CREST) provide for connecting investors to direct registration systems for

remain in the intermediated system so as to be readily available for trading and settlement. The intermediary risk arises because holding securities through an intermediary necessarily confers on the intermediary some degree and character of power and control over the securities maintained in a securities account. This is so under all of the various holding systems summarized above, whether the intermediary, for example, is the actual or nominal holder of securities in the chain of title, as under law applicable in the United States and under English law, or has no such interest, as under French law.⁴⁸ It follows that the only reasons for maintaining this sort of intermediation that causes this intermediary risk are the prevailing characteristics of existing holding systems themselves (including cumbersome legacy systems of direct holding).

Two related circumstances offer the prospect of eliminating intermediary risk from securities holding systems. First, Fintech offers the potential for new systems of securities holding that could eliminate, reduce, or materially alter intermediated holding. Second, Fintech developments have placed the prospect for fundamental changes in the structure of financial markets—including securities trading, settlement, and holding—squarely on the table.⁴⁹ It follows that arguments based on the rationale that “this is the way our systems work” may no longer be persuasive, if they ever were. The mindsets of major market participants may be evolving.⁵⁰

Global Standards developed by an IOSCO-led working group would of course be soft law, inasmuch as the standards would not be formulated within a legislative body or a governmental agency and would not have any binding force until adopted by States.⁵¹ But the standards would be “soft

equity (but not debt) securities. See *Direct Registration System*, DEPOSITORY TR. & CLEARING CORP., <http://www.dtcc.com/settlement-and-asset-services/securities-processing/direct-registration-system> (last visited Mar. 28, 2019); *Euroclear UK & Ireland: Personal Membership*, EUROCLEAR, <https://www.euroclear.com/dam/Brochures/Personal-membership-EUI.pdf> (last visited Mar. 28, 2019). But associated delay and costs of these systems generally make them impractical for use by active investors.

48. See *supra* Part II (discussing models for intermediated securities holding systems).

49. See, e.g., DTCC, *EMBRACING DISRUPTION: TAPPING THE POTENTIAL OF DISTRIBUTED LEDGERS TO IMPROVE THE POST-TRADE LANDSCAPE* 9–17 (2016), <http://hub.digitalasset.com/hubfs/Industry%20Reports/dtcc-embracing-disruption.pdf> [hereinafter DTCC REPORT]; IOSCO, *IOSCO RESEARCH REPORT ON FINANCIAL TECHNOLOGIES (FINTECH)* 52–58 (2017), <https://www.iosco.org/library/pubdocs/pdf/IOSCOPD554.pdf> [hereinafter IOSCO FINTECH REPORT].

50. It is notable, however, that the various explorations of Fintech/DLT by major institutions do not appear to have focused on the potential for the reduction or elimination of intermediary risk. For example, neither the DTC Report nor the IOSCO Fintech Report addresses that potential benefit. DTCC REPORT, *supra* note 49; IOSCO FINTECH REPORT, *supra* note 49.

51. See Andrew T. Guzman & Timothy L. Meyer, *International Soft Law*, 2 J. LEGAL ANALYSIS 171, 187–88 (2010) (“Examples of this type of soft law abound.”). Of course, an international convention also is not binding until such time as it enters into force. But unlike a convention (or model law), the Global Standards contemplated here would not consist of harmonized (or model) statutory text or specific doctrinal rules.

law” of a special character. Not only would the Global Standards be developed by an intergovernmental organization, IOSCO, but by an organization whose members are the very governmental regulators responsible for administering the standards. Global Standards developed by IOSCO would be *sui generis* in another aspect. Private law reforms generally have been left to other bodies and not seen as a central aspect of *regulatory* reform. But in the context of securities holding infrastructures, this should change. Efforts at relevant harmonization and modernization of private law within Europe and through UNIDROIT (the GSC) generally have not been met with success. This may be contrasted with the success of IOSCO in connection with the Client Asset Reports and the success of Basel Committee in the area of bank prudential regulation.⁵² Moreover, the increasing significance of Fintech and the potential for DLT to influence future developments make this an appropriate time for bold initiatives.⁵³

V. SOFT LAW GLOBAL STANDARDS FOR HARD LAW REFORM: A CENTRAL ROLE FOR IOSCO AND A TENTATIVE MISSION STATEMENT

This Part advocates the development of “soft law” Global Standards for the infrastructure for the holding of publicly traded securities. It argues that a process led by IOSCO would provide the optimal environment for the development of these standards. These Global Standards would be available for the adoption by States (“hard law”) as core components of States’ relevant regulatory, technological, and private law infrastructure for securities holding.

Two preliminary points should be made clear: first, the proposal for IOSCO-led development of Global Standards is supported by, *but not dependent upon*, the case for reform just made. That reform proposal is an example, albeit an important one in my view, of how adjustments in private law and holding structures could reduce intermediary risk in securities holding systems. But the overarching point is that adjustments in the private law as well as in regulatory and technological aspects of holding structures could improve holding systems. As noted above, the Client Asset Reports do not embrace that approach.⁵⁴

Second, Global Standards could provide guidance and structure for Fintech in the context of the securities markets. Experts possessing experience and knowledge of the securities markets, the legal and regulatory environments, and the components of safe and efficient operations are the best actors for setting standards for technology to meet. Instead, it seems that, in

52. See *infra* Part V.

53. See *infra* at pp. 18–21 (discussing timeliness of developing the Global Standards).

54. See *supra* Part III (discussing role of private law in reducing risks of market participants as well as systemic risk). The approach of the GSC and the European Legal Certainty project generally assumed the continuation of existing infrastructures for securities holding. But the Global Standards advocated here would not be so constrained.

some respects, the legal establishment is following technological developments and structures like apocryphal lemmings jumping off of cliffs.⁵⁵ This approach should be modified and balanced. In many contexts, those with market expertise should establish standards and goals and call upon Fintech to find solutions.

Several considerations lend strong support for the leading role of IOSCO in the soft-law-to-hard-law Global Standards approach proposed here and for the timeliness of the proposed reforms of securities holding infrastructures. No doubt the strongest data point supporting this central role is the success of the implementation of the principles articulated in the Client Asset Reports.⁵⁶ Another is the analogous role and exemplary cooperation of bank regulators in the work of the Basel Committee on capital requirements for commercial banks.⁵⁷ The 1988 Basel I accord⁵⁸ has been described as “the first major success for international regulatory cooperation,” and it was “widely followed” by bank regulators.⁵⁹ While subsequent iterations (Basel II and III) have encountered a more checkered route, cluttered with political realities and fallout from the 2008-09 financial crisis, the level of cooperation among regulators has remained strong.⁶⁰

The Global Standards based on a consensus of relevant State regulators would provide a powerful incentive for States to adopt compliant hard law.⁶¹ Because the Global Standards would reflect a consensus of governmental actors (regulators),⁶² one might expect much less resistance to adoptions by

55. Current efforts to assess and deal with legal issues arising out of the custody of digital assets and problems associated with access through private keys provide an illustration. See, e.g., Moe Adham, *Crypto Custody Explained*, FORBES COMMUNITY VOICE (Dec. 18, 2018), <https://www.forbes.com/sites/forbesfinancecouncil/2018/12/18/crypto-custody-explained/#2a3b2f9e1379>. I do not suggest that lawyers should not be called upon to grapple with these issues; indeed, they must. But, ideally, counsel would be involved in the process of *creating* systems for acquiring, holding, and transferring financial assets to the end that these functions could occur without (or with minimal) problems of accessibility or intermediary risk.

56. See *supra* Part III.

57. See *infra* nn. 59–60.

58. Basel Committee on Banking Supervision, *International Convergence of Capital Measurement and Capital Standards* (July 1988), <https://www.bis.org/publ/bcbs04a.pdf>.

59. MICHAEL S. BARR ET AL., *supra* note 2, at 285.

60. For a survey of these developments and various related commentary, see MICHAEL S. BARR ET AL., *supra* note 2, at 285–332.

61. See Part III (discussing influence of Client Asset Reports and Basel Committee).

62. Given the specialized nature of securities holding infrastructures, buy-in by a state’s securities regulators would be important, probably essential, for a state’s adoption of the Global Standards. The IOSCO pedigree could encourage such support. Moreover, the roles of commercial banks, bank regulators, and central banks are also important in the setting of the securities markets and, in particular, in connection with settlement and holding structures. One would hope that the Basel Committee, central banks, and other representatives of the banking industry would play a role in the development of the Global Standards by IOSCO. There are many examples of such cooperation between banking interests and IOSCO in past

States than would typically be the case with a convention or model law or principles adopted by a more generalist, less specialized intergovernmental organization. The expertise, reputation, and past successes of IOSCO products (such as the Client Asset Reports) also would contribute to the influence of the Global Standards. Moreover, unlike the GSC, the Global Standards would not dictate a harmonized, uniform text but would instead offer general principles that could accommodate the prevailing wide variations in legal traditions, regulatory approaches, and holding infrastructures. This may be contrasted with the absence of success of the GSC (at least as measured by the absence of adoptions) and the breakdown of harmonization and modernization efforts within the EU.⁶³ That said, IOSCO would not be embarking on the project on a clean slate. Its own work, reflected by the Client Asset Reports, as well as the prior efforts leading to the GSC, the Legislative Guide, and the European Legal Certainty project provide enormously useful points of departure.

Professor Cally Jordan recently criticized IOSCO's international standard-setting role as well as its process for the formulation of standards. She argued that IOSCO's role as a "quasi-regulator" is "on a collision course with powerful state-level regulators."⁶⁴ While I take exception with several aspects of Jordan's assessment and conclusions, this Article does not engage that debate. It is sufficient to note that the IOSCO role in developing the Global Standards, which is advocated here, could escape the principal criticisms that Jordan has advanced. For example, consider the goal of reducing, or perhaps eliminating, intermediary risk in securities holding structures. The Global Standards should eschew the "one-size-fits-all" approach that Jordan assails.⁶⁵ Moreover, the Global Standards should focus on the content of the standards, which should not be subordinated to the goal of harmonization.⁶⁶ In addition, the development of the Global Standards should

projects. *See, e.g.*, IOSCO, *Analysis of Central Clearing Interdependencies*, FR12/2017(July 5, 2017), <https://www.iosco.org/library/pubdocs/pdf/IOSCOPD570.pdf> (Released by: the Bank for International Settlements (Basel Committee on Banking Supervision and Committee on Payments and Market Infrastructures), the Financial Stability Board, and IOSCO).

63. *See supra* Part III.

64. CALLY JORDAN, *THE NEW INTERNATIONALISM? IOSCO, INTERNATIONAL STANDARDS AND CAPITAL MARKETS REGULATION 1* (Ctr. for Int'l Governance Innovation Papers No. 189, 2018), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3257800 [hereinafter *NEW INTERNATIONALISM*]; *see also* CALLY JORDAN, *BEYOND INTERNATIONAL STANDARDS: MAPPING THE FUTURE OF CAPITAL MARKETS REGULATION 5* (Ctr. for Int'l Governance Innovation Policy Brief No. 136, 2018), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3258456 [hereinafter *MAPPING*]. For a more positive view of international financial regulatory coordination, *see* HADAR YOANA JABOTINSKY & BARAK YARKONI, *THE NETWORK EFFECTS OF INTERNATIONAL FINANCIAL REGULATION* (Hebrew U. Legal. Stud. Res. Paper Series No. 19-04, 2018), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3298597 (explaining positive network effects that induce States to adopt global financial regulatory standards).

65. *NEW INTERNATIONALISM*, *supra* note 64, at 6.

66. *NEW INTERNATIONALISM*, *supra* note 64, at 5.

involve participation by a broadly representative group of stakeholders and experts, including in particular academics, research institutions, and other intergovernmental organizations.⁶⁷

This is a propitious time for the development of Global Standards, as explained above. This is so in part because of the prominence of Fintech interests in the current discourse within the financial markets.⁶⁸ The emerging significance of DLT-based technology and its potentially disruptive impact are particularly important. A diverse group of players are considering the ways that DLT might be applied in the context of securities trading, settlement, and holding.⁶⁹ Minds—and purses—may be opening to the possibilities of fundamental changes in financial market architectures.

Finally, what matters should the Global Standards address? What should be their substantive content? What level of detail should they embrace? In short, what should be the mission statement? This Article does not aspire to provide comprehensive and detailed answers to these questions, but the somewhat abstract proposal advanced thus far would benefit from some further explication. What I do *not* have in mind is any duplication of initiatives of the Fintech community or of the various initiatives of market participants and regulators in the Fintech sphere. Instead, the Global Standards would provide normative and functional guidance for what it is that Fintech should achieve and the results to which it should aspire.

I also do not envision the need for any sharp dichotomy between “regulatory” and “private law” approaches to the standards. In general, however, earlier projects would provide useful points of departure. For example, the principles embodied in the GSC and the alternatives outlined in the Legislative Guide represent plausible baselines for discussion from the perspective of private law. That the rules reflected in the GSC text are not “new” does not offer a plausible objection to including them (as appropriate and as may be agreed) in the Global Standards. The point is that they have not been universally implemented, and the Global Standards could be a more successful means of implementation than an international convention. The Client Asset Reports offer similar reference points on important regulatory aspects. A significant challenge could be to encourage IOSCO to take on the task of considering the need to modify private law and the standards for securities holding infrastructures as integral components of the Global Standards. Another challenge would be the development of Global Standards that incorporate functional standards and sufficient flexibility for the evolution of infrastructures to take advantage of emerging (and evolving) technology while also providing sufficiently concrete guidance as to the outcomes and performance required for holding systems to be compliant. A third challenge would be to preserve the flexibility and nimbleness of existing inter-

67. See MAPPING, *supra* note 64, at 6 n.22 (noting criticism of absence of broad participation in IOSCO projects).

68. See *supra* Part IV.

69. See *supra* Part IV.

mediated systems so as to accommodate existing and future transactional patterns of financing and collateralization.⁷⁰

To be more specific, one standard already discussed—and by far the most important one in my view—relates to intermediary risk.⁷¹ The standard might provide that investors should not be exposed to any risks arising out of post-settlement failure or default of an intermediary. But this standard would benefit from a penumbra of corollaries. For example, eliminating intermediary risk by connecting an investor directly with an issuer (that is, by disintermediation of holding) should not involve any sacrifice of transactional flexibility when compared to current systems. And an investor should have access to and control over its securities for purposes of trading and collateralization in a secure and user-friendly manner.⁷² As already suggested, that current systems cannot meet such a standard is an inadequate response. Meeting the Global Standards would be a job for Fintech to solve and for States to facilitate by making any necessary changes in private laws and regulations.

VI. CONCLUSION

Intermediaries such as stockbrokers and banks are ubiquitous in global securities markets. They play essential roles in all aspects of the markets, including trading, settling trades, and post-settlement holding of securities. This Article focuses in particular on the roles of intermediaries in securities holding systems. It proposes an IOSCO-led “soft-law-to-hard-law” approach to the development of Global Standards for reforms to these holding systems. The reforms would embrace not only important standards of a functional and regulatory nature, such as the principles addressed in IOSCO’s Client Asset Reports, but also would address holistic standards relating as well to the private law, insolvency law, and the technical aspects of infrastructures for securities holding systems. The Global Standards envisioned here, however, would not propose model text or even doctrinal rules. Instead, they would establish the results that holding systems should achieve, such as the elimination of intermediary risk.

70. See Joanna Benjamin, *Stewardship and Collateral*, 12 CAP. MKTS. L.J. 312 (2017).

71. See *supra* Part IV.

72. For example, the crude forms of intermediation that have grown up around cryptocurrencies (“wallets,” “cold storage,” and the like) would be unacceptable for a holding system for publicly traded securities. See Adham, *supra* note 55 (discussing such intermediation). For a good first step toward the licensing and regulation of non-bank, non-broker-dealer intermediaries for crypto-currency, see UNIFORM REGULATION OF VIRTUAL-CURRENCY BUSINESSES ACT (UNIF. LAW. COMM’N 2017); see also UNIFORM SUPPLEMENTAL COMMERCIAL LAW FOR THE UNIFORM REGULATION OF VIRTUAL-CURRENCY BUSINESSES ACT (UNIF. LAW. COMM’N 2018) (adapting U.C.C. art. 8 (AM. LAW INST. & UNIF. LAW COMM’N 2018) for crypto-currency held by securities intermediaries). For an overview of these uniform laws, see Fred Miller, *A New Payment Method and More*, 72 CONSUMER FIN. L.Q. REP. 119 (2019).

As the principal organization for the coordination and cooperation among securities market regulators, and with a track record of producing excellent and important studies and reports, IOSCO is singularly well suited to lead the development of Global Standards. Ideally, it would do so with the participation and cooperation of bank regulators and central banks as well as the securities and banking industries. But the development of holistic Global Standards for securities holding systems would face challenges.

One challenge would be to confront the need for reforms to the private law. Here, cooperation of legal professionals (practitioners, judges, and academics) would be essential. Involvement of organizations with relevant experience such as UNIDROIT and the European Commission also would be crucial. Another set of challenges would arise from the importance of considering reforms to the holding infrastructures (for example, increased transparency in holding systems). But the ongoing and increasing role of Fintech in the financial markets means that securities (and other) regulators must face these challenges in any event. Possibly the most difficult challenges would arise from within the securities industry. One could expect resistance from market participants who (quite understandably) wish to preserve their positions and roles in the securities markets and their current and future business plans. But this is one of the principal reasons that regulators (through IOSCO in particular) should play a leading role in the process, although participation of industry obviously would be important.

Finally, a useful next step might be a high level, broadly representative, working conference to discuss prospects for Global Standards and to plan and organize their development. The past efforts of UNIDROT in the area of capital markets, in particular in the adoption of the GSC and the promulgation of the Legislative Guide, would commend it as an organizer and sponsor of such a conference. I hope that this Article might provoke further discussions and ultimately affirmative steps toward the development of Global Standards for securities holding systems.

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