



Private International
Law Aspects of Smart
Derivatives Contracts
Utilizing Distributed Ledger
Technology: New York Law

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INTRODUCTION

This paper considers the private international law, or conflict-of-law, aspects of derivatives contracts governed by New York law involving distributed ledger technology (DLT).

The development and implementation of new technologies such as DLT within the derivatives industry have the potential to create a more robust financial markets infrastructure, achieve operational efficiencies through increased automation and reduce costs for market participants.

As these technologies mature, it is important to understand the evolving legal treatment of derivatives traded on DLT platforms. Given the novel complications over where data, assets and even counterparties are located in a DLT environment, it is useful to examine key questions on how to determine which law applies and how to evaluate conflicts of governing law. While some jurisdictions¹ have produced analysis on areas of perceived legal uncertainty, these issues remain untested in many of the jurisdictions and cross-border environments important to the derivatives industry.

In January 2020, ISDA, R3, Clifford Chance and the Singapore Academy of Law jointly published *Private International Law Aspects of Smart Derivatives Contracts Utilizing Distributed Ledger Technology*². This paper considered the private international law, or conflict-of-law, aspects of derivatives contracts governed by the laws of England and Wales or Singapore involving DLT.

These issues include:

- Whether the introduction of DLT or a DLT platform provider to a traditional trading relationship might create additional legal rights and obligations for the trading parties. These may be governed by different laws to those governing the trading documentation, which could have implications for the resolution of contractual disputes.
- How to identify the legal *situs* of digital assets for effecting payments or exchanging collateral on certain DLT platforms.

These issues are critically important for derivatives market participants that want to ensure the legal enforceability of their contracts and the associated netting and collateral arrangements are not undermined by an unexpected change in governing law or by an inability to enforce judgements. As derivatives are often traded on a cross-border basis, it is important these issues are examined and understood as clearly as possible from the perspective of the governing laws and jurisdictions typically used in ISDA documentation.

As a result, ISDA (in association with R3 and local counsel) has published additional papers that consider these issues from French, Irish, Japanese and New York law perspectives^{3,4}.

¹ See the UK Jurisdiction Taskforce (UKJT) *Legal Statement on Cryptoassets and Smart Contracts*: https://35z8e83m1ih83drye280o9d1-wpengine.netdna-ssl.com/wp-content/uploads/2019/11/6.6056_JO_Cryptocurrencies_Statement_FINAL_WEB_111119-1.pdf

² <https://www.isda.org/a/4RJTE/Private-International-Law-Aspects-of-Smart-Derivatives-Contracts-Utilizing-DLT.pdf>

³ ISDA has published forms of ISDA Master Agreement and associated collateral documentation governed by the laws of England and Wales, New York, Ireland, France and Japan

⁴ These papers can be accessed here: <https://www.isda.org/2019/10/16/isda-smart-contracts/>

Through this analysis, ISDA hopes to support the work of international standard-setting bodies, regulators, judiciaries, market participants and other key stakeholders examining these issues. The papers are also intended to provide greater certainty to participants incorporating DLT into derivatives transactions, strengthening the industry's ability to realize the operational and cost efficiencies that greater automation will provide.

While the focus of this paper is on potential private international law issues arising from the use of smart derivatives contracts utilizing DLT, there may be other issues that need to be considered from a New York law perspective when determining the legal status or characterization of a smart derivatives contract. These might include whether certain types of smart contract are capable of satisfying contract formation requirements under New York law, or whether certain types of digital asset are capable of being treated as property under New York law. Such discussions, along with the applicability of federal and state financial services regulation, are beyond the scope of this paper⁵.

⁵ The UKJT recently published its *Legal Statement on crypto-assets and smart contracts*, which provides a view on these and other issues from an English law perspective. While not having the force of law, the UKJT's statement has been cited in at least one case in the English courts where these or similar issues have been raised. Where areas of legal uncertainty exist under New York law in relation to the use of DLT, smart contracts or digital assets, a similar statement or publication issued by an equivalent New York task force could help create a more robust legal environment for the commercial development of smart derivatives contracts under New York law. The American Bar Association's Derivatives and Futures Law Committee published a whitepaper that, while helpful, is primarily focused on federal and state financial regulatory issues involving digital assets. See American Bar Association Derivatives and Futures Law Committee Innovative Digital Products and Processes Subcommittee Jurisdiction Working Group, *Digital and Digitized Assets: Federal and State Jurisdictional Issues*, March 2019, https://www.americanbar.org/content/dam/aba/administrative/business_law/buslaw/committees/CL620000pub/digital_assets.pdf

UNCOLLATERALIZED DLT TRANSACTIONS

These papers set out two different examples in order to illustrate the relevant issues – an uncollateralized interest rate swap transaction and a collateralized interest rate swap. Both use ISDA documentation and are implemented on Corda, an open-source blockchain and smart contract platform developed by R3 that operates as a private, permissioned ledger (ie, one that only authorized parties may view and use). Types of issues that might arise when entering into derivatives transactions using DLT platforms that have different characteristics from Corda – for example, permissionless ledgers⁶ – are also covered.

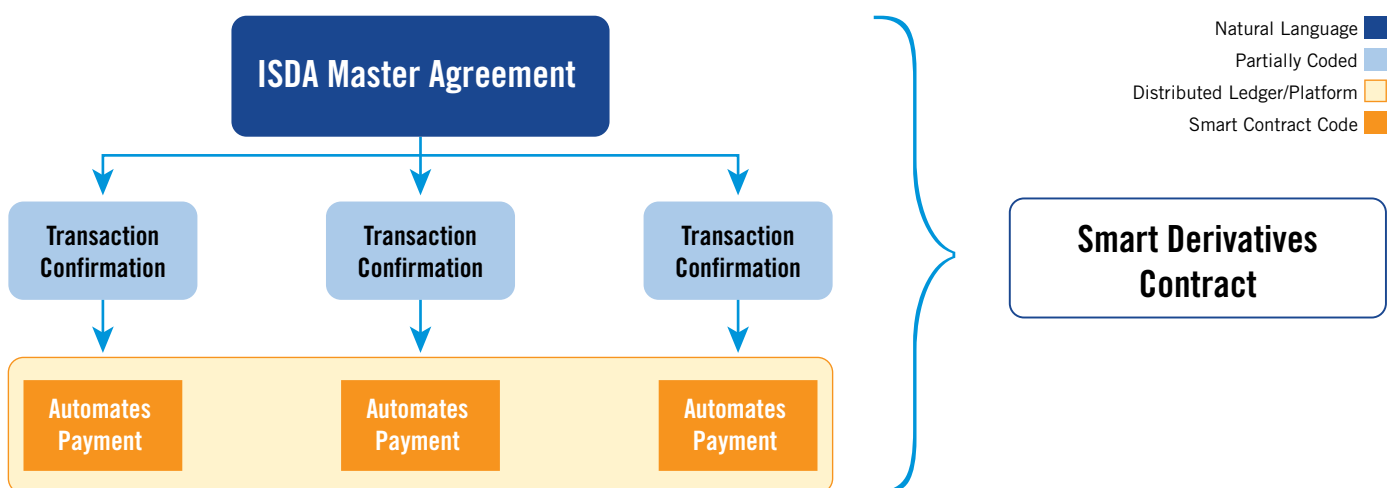
Smart Derivatives Contracts

ISDA has published a series of legal guidelines for smart derivatives contracts⁷, which are intended to explain the core principles of ISDA documentation and raise awareness of important legal terms that should be maintained when a technology solution is applied to derivatives trading.

These guidelines establish the concept of a smart derivatives contract. This is a derivatives contract in which some terms are capable of being automatically performed, either by expressing those provisions using some formal representation that enables their automation, or by referring to the operation of smart contract code that is external to the contract⁸.

While the guidelines are agnostic about the types of technology that could be used to implement smart derivatives contracts, they provide an illustration of a potential smart derivatives contract construct utilizing a DLT platform, where payments under a series of transactions are automated.

Figure 1



⁶ A distributed ledger that is public can be viewed by members of the public, while a permissionless ledger is one that members of the public can make and verify changes to. *Distributed Ledger Technology and Governing Law: Issues of Legal Uncertainty* (London: Financial Markets Law Committee, 2018) at 8, [3.3(a)], http://fmlc.org/wp-content/uploads/2018/05/dlt_paper.pdf (FMLC paper)

⁷ ISDA *Legal Guidelines for Smart Derivatives Contracts: Introduction* (January 2019), <https://www.isda.org/a/MhgME/Legal-Guidelines-for-Smart-Derivatives-Contracts-Introduction.pdf>, and ISDA *Legal Guidelines for Smart Derivatives Contracts: The ISDA Master Agreement* (February 2019), <https://www.isda.org/a/23iME/Legal-Guidelines-for-Smart-Derivatives-Contracts-ISDA-Master-Agreement.pdf>

⁸ For further discussion on these smart derivatives contracts and which provisions might be well suited to automation, see ISDA and Linklaters LLP, *Smart Contracts and Distributed Ledger – A Legal Perspective* (August 2017), www.isda.org/a/6EKDE/smart-contractsanddistributed-ledger-a-legal-perspective.pdf; ISDA and King & Wood Mallesons LLP, *Smart Derivatives Contracts: From Concept to Construction* (October 2018), <https://www.isda.org/a/CHVEE/Smart-Derivatives-Contracts-From-Concept-to-Construction-Oct-2018.pdf>; and Christopher D Clack and Ciáran McGonagle, *Smart Derivatives Contracts: The ISDA Master Agreement and the Automation of Payments and Deliveries, Artificial Intelligence and Law* (forthcoming)

In Figure 1, the parties enter into an ISDA Master Agreement as normal. Commercial terms relating to the transaction continue to be contained in a transaction confirmation. This example assumes none of the transactions will be collateralized.

While those provisions that are automated (ie, those relating to payment obligations) could be represented in code, so that it actually forms part of the legal contract, this is not necessarily required to implement the transactions on a DLT platform.

The Uncollateralized DLT Transaction

Corda is a blockchain platform for recording and processing financial agreements. It is a private permissioned ledger – only authorized parties may view and use it. The system supports smart contracts, which R3 has defined as⁹:

[...] an agreement whose execution is both automatable by computer code working with human input and control, and whose rights and obligations, as expressed in legal prose, are legally enforceable. The smart contract links business logic and business data to associated legal prose in order to ensure that the financial agreements on the platform are rooted firmly in law and can be enforced [...]

In this example, the parties to the uncollateralized DLT transaction have negotiated the terms of their relationship under an ISDA Master Agreement and have documented the economic terms relating to the interest rate swap under a transaction confirmation.

The parties would also be required to enter into an agreement with a platform provider as the operator¹⁰ of the business network that deploys applications that utilize Corda (each application is called a ‘CorDapp’). This agreement requires the parties to accept a business network rule book¹¹. This agreement is governed by the laws of the jurisdiction that the parties agree upon.

When implementing the uncollateralized DLT transaction on Corda, the parties would become ‘nodes’ on the Corda distributed ledger or blockchain, and would use a derivatives CorDapp to execute the transaction.

A CorDapp has a smart legal contract template library, with each smart contract consisting of the following elements:

- **A state object:** This is a digital representation of a real-world fact on the distributed ledger. For example, the ISDA Master Agreement and transaction confirmation entered into between the parties would be a state object.
- **A Corda contract:** This is an element setting out various rules that govern state objects – for example, ‘the trade date must be after today’s date’, ‘the fixed rate amount must be above [a specified percentage]’, and ‘the floating rate amount spread must be [a specified figure]’.
- **A portable document format (PDF) file with parameters:** This is a file containing parameters (for example, the parties’ names, dates and amounts of money) that need to be filled in by the parties. The PDF is inextricably linked to the Corda contract for purposes that are explained later.

⁹ Richard Gendal Brown, James Carlyle, Ian Grigg and Mike Hearn, ‘Corda’ in *Corda: An Introduction* (New York, NY: R3, 2016), https://docs.corda.net/_static/corda-introductory-whitepaper.pdf, at 7, [4] (original emphasis)

¹⁰ Although there is most likely only one platform provider contracting with the parties, it is possible for there to be multiple entities operating the CorDapp

¹¹ A business network rule book is an agreement between the parties governing use of the CorDapps, analogous to agreements that users currently enter into to use electronic trading platforms and financial transaction platforms such as SWIFT

To structure, set up and execute the uncollateralized DLT transaction, the following steps are taken:

- 1) Party A obtains a smart legal contract appropriate to the transaction from the smart legal contract template library on the distributed ledger, and fills in the parameters of the PDF with the information relating to the transactions.
- 2) The CorDapp ‘scrapes’ or obtains the transaction information from the PDF and inputs this into the state object.
- 3) Party A runs a verify function of the Corda contract to ensure the state object does not break any of the Corda contract’s predetermined rules.
- 4) Once the state object has been determined not to break any of the Corda contract’s rules, Party A sends the transaction to Party B.
- 5) Party B reviews the details of the smart legal contract. When Party B has confirmed that the PDF and state object accurately reflect the transaction, Party B runs a verify function of the Corda contract to ensure the state object does not break any of the Corda contract’s rules.
- 6) Once the state object has been determined not to break any of the Corda contract’s rules, Party B digitally signs the transaction and sends it back to Party A.
- 7) Party A digitally signs the transaction and sends it to the notary, which is a server on the distributed ledger operated by one or more entities that execute what is known as the ‘notary function’¹². The notary checks the cryptographic hash of the state object against its record of hashes¹³. When it confirms that the state object is unique, it digitally signs the transaction and sends it back to both parties.
- 8) The parties record a copy of the transaction in their respective vaults on the distributed ledger.

After the uncollateralized DLT transaction has been executed in accordance with these steps, subsequent lifecycle events in respect of the transaction, such as a periodic payment, would be managed as follows:

- 1) On an agreed date, an oracle¹⁴ feeds interest rate data into the smart legal contract that is in Party A and B’s vaults.
- 2) Party A then initiates a new transaction, repeating steps (3) to (8) above. This leads to the smart legal contract being recorded in Party A and Party B’s vaults with an updated record of the transaction – that is, the net amount payable by Party A to Party B or vice versa. The actual payment takes place off the distributed ledger.

¹² The ‘notary function’ can be performed by a collection of servers known as a ‘notary cluster’

¹³ A cryptographic hash is an electronic signature uniquely identifying a state object that is created by running the contents of the state object through a complex mathematical formula

¹⁴ A service provided by a third party that feeds real-world information into a distributed ledger, which can then be used to initiate the execution of smart contracts

In this scenario, it is not envisaged that any intermediaries, such as brokers, central banks, clearing houses and custodians of securities, would be represented on Corda. Where involved in a transaction, they would continue to operate off-ledger. However, it is possible that an intermediary such as a central counterparty could operate as a node on the distributed ledger. This could be as a party to a derivatives transaction, or as an 'observer node' that is able to receive information relating to a transaction in order to clear but is otherwise unable to participate in the transaction.

While the objective of the DLT platform is often to eliminate the need for some or all of these intermediaries, their complete removal is unlikely to be feasible or desirable. Beyond the transacting parties, there are likely to be numerous other entities that act as nodes in the ledger, including the operator(s) of (parts of) the platform and parties that facilitate communication and record maintenance¹⁵. For a collateralized transaction, this would also include custodians, which are required to hold and segregate collateral under initial margin requirements for non-cleared derivatives transactions¹⁶.

The issues arising from such a use of a DLT platform are outside the scope of this paper.

¹⁵ See Thomas Keijser & Charles W Mooney, Jr, *Intermediated Securities Holding Systems Revisited: A View through the Prism of Transparency* (Institute for Law and Economics Research Paper No. 19-13), <https://ssrn.com/abstract=3376873>, at 17-18 (forthcoming in Louise Gullifer & Jennifer Payne (eds), *Intermediation and Beyond* (Oxford: Hart Publishing, 2019))

¹⁶ Further discussion of these regulatory requirements can be found in the ISDA *Legal Guidelines for Smart Derivatives Contracts: Collateral*, <https://www.isda.org/a/VTkTE/Legal-Guidelines-for-Smart-Derivatives-Contracts-Collateral.pdf>

Private International Law Rules Relating to Contracts

Based on numerous cases of derivatives transactions that have come before various courts globally, it is clear they often involve parties that are based in different jurisdictions. This paper therefore begins with a general explanation of the applicable rules of private international law that would apply to determine the governing law of the contract between the parties, the forum for deciding disputes and the applicable rules of evidence. How these rules would apply in the context of the uncollateralized DLT transaction will then be considered.

How a Court Determines the Governing Law of a Contract

In New York, the parties' demonstrated intentions for an agreement to be governed by the law of a particular jurisdiction will typically be honored¹⁷. To determine these intentions, a court will first examine whether the contract contains an express choice-of-law clause.

If the choice-of-law clause asserts New York as the governing law, and the contract relates to a transaction involving an aggregate \$250,000 or more¹⁸, then New York General Obligations Law (GOL) § 5-1401 states that New York law would apply even if there is no reasonable relation to the state¹⁹. In 2012, the Court of Appeals ruled that, under GOL § 5-1401, courts would apply New York substantive law rather than common law conflict-of-law principles²⁰. Subsequently, the Court of Appeals has stated that, even where a contract is outside of GOL § 5-1401, New York substantive law (and not the common law conflict-of-law principles) would still apply if there is a choice-of-law provision expressly selecting New York law²¹.

However, if the choice-of-law clause expressly specifies a foreign governing law, a New York court will generally give effect to that choice. Exceptions exist when that foreign jurisdiction has no reasonable relation to the agreement, or enforcement of the clause would violate a fundamental principle of New York public policy²².

In determining if there is a 'reasonable relation' to the foreign jurisdiction, New York courts typically look at the parties' domiciles, the location of the contract's subject matter or where it was negotiated, executed or performed, or other connections between the facts of the case and the foreign jurisdiction²³. There must also be sufficient interaction between the foreign jurisdiction and the transaction²⁴.

¹⁷ *Freedman v. Chemical Constr. Corp.*, 43 N.Y.2d 260, 265 n. *[1977]

¹⁸ Transactions subject to the New York Uniform Commercial Code (NYUCC) may make use of § 5-1401, unless the choice-of-law rules contained in certain provisions of the NYUCC mandate a different result. See discussion of collateralized DLT transactions below

¹⁹ NY GEN. OBLIG. § 5-1401(1). See *ABB, Inc. v. Havtech, LLC*, 176 A.D.3d 580 [1st Dept 2019]("[T]he parties' agreement falls within the ambit of General Obligations Law § 5-1401, and thus, regardless of whether there is a connection between the transaction and New York, New York will enforce the choice of law clause")

²⁰ *IRB-Brasil Resseguros, S.A. v. Inepar Investments, S.A.*, 20 N.Y.3d 310, 314 [2012]

²¹ *Ministers and Missionaries Benefit Board v. Snow*, 26 N.Y.3d 466, 474-475 [2015]

²² See, for example, *Culbert v. Rols Capital Co.*, 184 A.D.2d 67, 68 [2d Dept 1992]

²³ *General Motors Corp. v. Fiat, S.p.A.*, 2009 WL 5088739, *2 (S.D.N.Y. Dec 17, 2009)

²⁴ See, for example, *Hartford Fire Insurance Co. v. Orient Overseas Containers Lines (UK) Ltd.*, 230 F.3d 549, 556 (2d Cir. 2000)("New York law is clear in cases involving a contract with an express choice-of-law provision: absent fraud or violation of public policy, a court is to apply the law selected in the contract as long as the state selected has sufficient contacts with the transaction")

Once the level of interaction has been deemed sufficient and a reasonable relation to the foreign jurisdiction has been established, then the parties' choice of the foreign jurisdiction's law will be given effect, even if another jurisdiction (including New York) has a greater interest in the litigation²⁵ or a more significant connection than the foreign jurisdiction specified in the choice-of-law clause²⁶.

There is an exception to implementing an otherwise applicable choice-of-law provision when application of the foreign law would contravene the public policy of the state of New York²⁷, based on New York's constitution, statutes and judicial decisions. The proponent of the exception must establish that enforcing the foreign law "would violate some fundamental principle of justice, some prevalent conception of good morals, some deep-rooted tradition of the common weal" expressed in them²⁸. However, this public policy exception is construed narrowly, and is reserved "for those foreign laws that are truly obnoxious", and the party seeking to invoke it bears a "heavy burden"²⁹.

In the event the contract does not contain any express choice-of-law provision, then New York courts would apply New York common law conflict-of-law principles. Under these principles, also known as the 'center of gravity' or the 'grouping of contacts' approach, the courts would seek to determine the jurisdiction "which has the most significant contacts with the matter in dispute"³⁰. In making this determination, New York courts would take into account the factors set out in § 188 of the Restatement (Second) of Conflicts of Laws (1971)³¹. These include:

- The place of contracting;
- The place of negotiation of the contract;
- The place of performance;
- The location of the subject matter of the contract; and
- The domicile, residence, nationality, place of incorporation and place of business of the parties.

The courts would then apply the law of the jurisdiction that satisfies a preponderance of these factors. Although New York courts have not yet had to apply these common law conflict-of-law factors to contract disputes involving DLT, other courts have shed interpretive light on how they might be applied in other legal contexts.

For example, the Northern District of California found that a sale of digital tokens in exchange for virtual currency took place in the US for the purposes of US securities law (as opposed to contract law), in part because a larger concentration of blockchain nodes that processed the transfer of virtual currency used to pay for the digital tokens was located in the US than in any other country³². In a case in Florida, a federal judge rejected a forum non conveniens argument by an Australian defendant, noting that the case was "a localized Florida controversy" as it involved Bitcoins mined in Florida (ie, 'Florida assets')³³.

In the future, New York courts could adopt a similar approach when determining the place of performance or the location of the subject matter of contracts relating to DLT in accordance with common law conflict-of-law principles.

²⁵ See, for example, *Finucane v. Interior Construction Corp.*, 264 A.D.2d 618, 620 [1st Dept 1999]

²⁶ *Tripoint Global Equities, L.L.C. v. Fasolino*, 2013 WL 5677126, *4 (S.D.N.Y. Oct. 18, 2013)

²⁷ *Schultz v. Boy Scouts of America, Inc.*, 65 N.Y.2d 189, 202 [1985]

²⁸ *Id*

²⁹ *Brown & Brown, Inc. v. Johnson.*, 25 N.Y.3d 364, 369 [2015]

³⁰ *Auten v. Auten*, 308 N.Y. 155, 160 [1954]

³¹ See, for example, *Zurich Insurance Co. v. Shearson Lehman Hutton, Inc.*, 84 N.Y.2d 309, 317-319 [1994]

³² *In re Tezos Securities Litigation*, 2018 WL 4293341, *8 (N.D.Cal. Aug. 7, 2018)

³³ *Kleiman v. Wright*, 2018 WL 6812914, *11 (S.D.Fla. Dec. 27, 2018)

How a Court Determines the Appropriate Jurisdiction for a Dispute Regarding Contractual Obligations

A forum selection provision is separate and distinct from a choice-of-law provision³⁴. In New York, as a general matter, parties to a contract may freely select a forum to resolve any disputes arising from the contract³⁵. If the forum selected is New York, then GOL § 5-1402³⁶ states that any person may bring an action against a foreign corporation, non-resident or foreign state in a New York court if the contract: (i) contains an express choice-of-law provision selecting New York governing law in accordance with GOL § 5-1401; (ii) relates to a transaction involving an aggregate \$1,000,000 or more; and (iii) includes a provision in which the foreign corporation or non-resident agrees to submit to the jurisdiction of New York's courts.

Where these statutory conditions are satisfied, a New York court may not decline jurisdiction, even if “the only nexus [to New York] is the contractual agreement”³⁷. The effect of GOL § 5-1402 is to prevent a party that has agreed to New York as a forum for dispute resolution from later asserting that the New York courts are inconvenient (*forum non conveniens*) or lack jurisdiction³⁸.

If the statutory conditions under GOL § 5-1402 are not satisfied – for example, where the parties have expressly agreed that a foreign court should have exclusive jurisdiction – then New York courts would apply common law choice-of-forum principles. Under common law in New York, “[c]ontractual forum selection clauses are prima facie valid and enforceable unless it is shown by the challenging party to be [1] unreasonable, [2] unjust, [3] in contravention of public policy, [4] invalid due to fraud or overreaching, or it is shown that [5] a trial in the selected forum would be so gravely difficult that the challenging party would, for all practical purposes, be deprived of its day in court”³⁹.

Parties seeking to invoke an exception must meet a high bar, as it is “the well-settled policy of the courts of this State to enforce forum selection clauses”⁴⁰, including those choosing the courts of foreign countries⁴¹. In particular, forum selection clauses in international business agreements are presumed to be valid, because eliminating uncertainties over the forum in which disputes will be resolved is “an indispensable element in international trade, commerce, and contracting”⁴².

Neither the fact that a party would suffer considerable economic hardship, loss of business time and inconvenience if compelled to litigate in the jurisdiction specified in a choice-of-forum clause it agreed to⁴³ nor that witnesses are located in a different jurisdiction⁴⁴ are necessarily sufficient to support a finding that enforcing the clause would be unreasonable or unjust or would effectively deny the party its day in court.

³⁴ See, for example, *Landmark Ventures, Inc. v. Birger*, 147 A.D.3d 497, 498 [1st Dept 2017]

³⁵ *Brooke Group Ltd. v. JCH Syndicate* 488, 87 N.Y.2d 530, 534 [1996]

³⁶ NY GEN. OBLIG. § 5-1402(1)

³⁷ See, for example, *Carlyle CIM Agent, L.L.C. v. Trey Resources I, LLC*, 148 A.D.3d 562, 564-565 [1st Dept 2017]

³⁸ See, for example, *AIG Financial Products Corp. v. Penncara Energy, LLC*, 83 A.D.3d 495, 497 [1st Dept 2011]

³⁹ *Premium Risk Group, Inc. v. Legion Insurance Co.*, 294 A.D.2d 345, 346 [2d Dept 2002]; *Stravalle v. Land Cargo, Inc.*, 39 A.D.3d 735, 736 [2d Dept 2007]

⁴⁰ *Sydney Attractions Group Pty. Ltd. v. Schulman*, 74 A.D.3d 476 [1st Dept 2010]

⁴¹ See, for example, *Sydney Attractions Group Pty. Ltd.*, *supra* (Australia); *Premium Risk Group, Inc.*, *supra* (Bermuda); *May v. U.S. HIFU, LLC*, 98 A.D.3d 1004 [2d Dept 2012] (Canada); *Brooke Group Ltd.*, *supra* (England); *Landmark Ventures, Inc.*, *supra* (Israel); *Micro Balanced Products Corp.*, *infra* (Israel); *British West Indies Guaranty Trust Co., Ltd. v. Banque Internationale a Luxembourg*, 172 A.D.2d 234 [1st Dept 1991] (Luxembourg)

⁴² *Micro Balanced Products Corp. v. Hlavin Industries Ltd.*, 238 A.D.2d 284, 285 [App Term 1st Dept 1997] (upholding forum selection clause selecting courts in Israel)

⁴³ *Bell Constructors, Inc. v. Evergreen Caissons, Inc.*, 236 A.D.2d 859, 860 [4th Dept 1997]

⁴⁴ *Chiarizia v. Xtreme Rydz Custom Cycles*, 43 A.D.3d 1353, 1354 [4th Dept 2007]

However, New York courts have found express forum selection clauses specifying the courts of other jurisdictions to be unreasonable when none of the parties are located in that jurisdiction, the agreement was not executed there, and performance of the agreement does not take place there⁴⁵. New York courts have also refused to enforce a forum selection choosing the courts of a foreign country on the basis of public policy, when the litigation involved whether the defendant fraudulently misrepresented that it was licensed to offer services in New York⁴⁶. This is due to New York's interest in ensuring that its courts remain open as a venue to police violations of its own laws enacted for the public's welfare⁴⁷.

Admissibility of Evidence in Electronic Form

Electronic signatures and electronic records are broadly legal under both federal and state law. At the federal level, the Electronic Signatures in Global and National Commerce Act (E-SIGN Act) prevents a signature, contract or other record relating to transactions in or affecting interstate or foreign commerce from being denied legal effect, validity or enforceability solely because they are in electronic form. In addition, a contract cannot be denied legal effect, validity or enforceability solely because an electronic signature or electronic record was used in its formation⁴⁸, although this does not apply to most provisions of each state's Uniform Commercial Code (UCC)⁴⁹.

Under the New York Electronic Signatures and Records Act (ESRA), electronic signatures have the same validity and effect as the use of a signature made by hand, and electronic records have the same force and effect as those not produced by electronic means, unless specifically stated otherwise by law⁵⁰. ESRA contains special provisions for negotiable instruments and documents of title⁵¹.

The New York UCC also allows many types of documents to be executed by electronic signature, including agreements creating security interests in personal property⁵², contracts for the sale and purchase of a security⁵³, entitlement orders to securities intermediaries and instructions to issuers to transfer uncertificated securities⁵⁴. However, certain others – such as Article 3 negotiable instruments (including promissory notes) – may need to be executed by 'wet ink' signatures⁵⁵.

⁴⁵ *U.S. Merchandise, Inc. v. L & R Distributors, Inc.*, 122 A.D.3d 613, 614 [2d Dept 2014] (refusing to uphold Delaware forum selection clause). See also *Northern Leasing Sys., Inc. v. French*, 48 Misc.3d 43 [App Term 1st Dept 2015] (finding a New York forum selection clause unreasonable where facts of the case demonstrated effectively no New York nexus and party challenging enforcement was 86-year-old man who lived in California)

⁴⁶ *Misako Yoshida v. PC Tech U.S.A. & You-Ri, Inc.*, 22 A.D.3d 373 [1st Dept 2005](courts of Japan)

⁴⁷ *Yoshida v. PC Tech U.S.A. & You-Ri, Inc.*, 2005 WL 6234523 [Sup Ct, New York Cty 2005], *affd*, 22 A.D.3d 373 [1st Dept 2005] (“sufficient ground exists to deny enforceability of the forum selection clause as being contrary to our public policy....Defendant's alleged masquerade as an authorized educational institution in this state, while not being licensed, is a matter of public importance which merits review by the courts of this state. Relegating this matter to the courts of a foreign jurisdiction does injury to this state's ability to police violations of its own laws enacted for the public welfare”)

⁴⁸ 15 U.S.C. § 7001(a)

⁴⁹ 15 U.S.C. § 7003(a)(3). The E-SIGN Act contains special provisions for “transferable records” (electronic mortgage notes), which would otherwise be negotiable instruments governed by UCC Article 3 if they were in writing. See 15 U.S.C. § 7021

⁵⁰ N.Y. State Tech. Law § 301 et seq

⁵¹ See ESRA § 307(2). Article 7 of the New York UCC was amended in 2014 to allow for electronic documents of title. To the extent N.Y.U.C.C. Article 7 conflicts with ESRA, Article 7 governs. See N.Y.U.C.C. § 7-103(d)

⁵² See N.Y.U.C.C. §§ 9-203(b)(3)(A) and 9-102(a)(7)(B)

⁵³ See N.Y.U.C.C. § 8-113(a). While this provision makes the statute of frauds inapplicable to such contracts, it would not render a contract executed by electronic signatures unenforceable

⁵⁴ See N.Y.U.C.C. §§ 8-102(a)(6), (8), (12)

⁵⁵ See N.Y.U.C.C. §§ 3-104(“any writing”) and § 1-201(b)(43)(“Writing” includes printing, typewriting, or any other intentional reduction to tangible form”). But see ESRA § 307(2) and E-SIGN Act's “transferable records” exception

Electronic records are admissible as evidence under both federal law and ESRA. Although the E-SIGN Act does not expressly state that electronic records and signatures are admissible as evidence, electronic evidence is admissible under the Federal Rules of Evidence (FRE) if it complies with traditional evidentiary principles (ie, it must be relevant, authenticated and not subject to exclusion on hearsay or other grounds)⁵⁶.

Under FRE 902(13), a record generated by an electronic process or system that produces an accurate result, as demonstrated by certification by a qualified person meeting certain conditions, is self-authenticating and requires no extrinsic evidence of authenticity in order to be admitted, such as the testimony of a foundation witness⁵⁷.

Machine-generated information is not ordinarily considered hearsay because it is not the ‘statement’ of a ‘person’ under FRE 801(a)⁵⁸. To the extent entries in a distributed ledger are considered machine-generated information, it could be argued they are not hearsay given the automatic operation of the distributed ledger’s consensus validation function and smart contract logic. However, if distributed ledger entries are considered ‘statements’ of a ‘person’⁵⁹, courts have noted in the context of FRE 803(6) that the “business record exception is one of the hearsay exceptions most discussed by courts when ruling on the admissibility of electronic evidence”⁶⁰.

In New York, ESRA § 306 states that an electronic record or electronic signature may be admitted into evidence in accordance with the provisions of Article 45 of the New York Civil Practice Law and Rules (CPLR). CPLR § 4518 states that an electronic record made in the regular course of business at the time a transaction or event occurred is admissible as a tangible exhibit that is a true and accurate representation of the electronic record.

In determining whether the exhibit is a true and accurate representation, the court may consider the method or manner by which the electronic record was stored, maintained or retrieved. An electronic business record is admissible under CPLR § 4518 if a foundation is laid by someone with personal knowledge of the maker’s business practices and procedures, and it is authenticated⁶¹.

While no New York court to date has considered the admissibility of entries in a distributed ledger maintained by a platform provider under CPLR § 4518, there would seem to be a strong argument that such entries should be capable of admission under that provision. Other provisions of the CPLR may also allow admissibility of electronic records⁶².

⁵⁶ See *Lorraine v. Markel American Insurance Co., Inc.*, 241 FRD 534 (D. Md. 2007)

⁵⁷ See also Advisory Committee Notes to Fed. R. Evid. 902(13) (“Rule 902(13) is solely limited to authentication, and any attempt to satisfy a hearsay exception must be made independently”)

⁵⁸ See, e.g., *United States v. Lizarraga-Tirado*, 789 F.3d 1107, 1109-10 (9th Cir. 2015); *United States v. Lamons*, 532 F.3d 1251, 1261-65 (11th Cir. 2008); *United States v. Hamilton*, 413 F.3d 1138, 1142-43 (10th Cir. 2003)

⁵⁹ For example, in a proof-of-work blockchain like Bitcoin, it is conceivable that the miner who mined a block of transactions could be considered a ‘person’ and the hash value of the block of transactions could be considered a ‘statement’ for purposes of the hearsay rules, although we are unaware that any court to date has so ruled

⁶⁰ *Lorraine*, 241 FRD at 572

⁶¹ *Vrlaku v. Plaza Construction Corp.*, 57 Misc.3d 643, 647 [Sup Ct, Richmond Cty 2017]

⁶² See, for example, CPLR § 4539. *But see People v. Kangas*, 28 N.Y.3d 984, 985-86 [2016] (holding that, where a record is originally created in electronic form, CPLR § 4518 and not § 4539 governs admissibility)

Disputes Involving the Parties to the Uncollateralized DLT Transaction

The ISDA Master Agreement provides an explicit choice of governing law by the contracting parties, and the implementation and execution of the uncollateralized DLT transaction on Corda is premised on the existence of this agreement. In addition, the Corda platform is premised on the legal identity of the parties being tied to the nodes transacting on a trading platform. Whether a court in New York would give effect to the parties' express choice of law under the ISDA Master Agreement if any disagreement arises between them over a transaction will depend on the application of New York's choice-of-law and choice-of-forum rules, as set out in the previous sections.

Where there is a specific selection of New York as the governing law in the ISDA Master Agreement, it is unlikely a New York court would refuse to give effect to the parties' choice. Where there is an explicit selection of a foreign governing law, a New York court will generally give effect to the choice-of-law clause unless the foreign jurisdiction has no reasonable relation to the agreement, or the enforcement of the clause would violate a fundamental principle of New York public policy. While it is unlikely that enforcement of an express choice-of-law clause in an ISDA Master Agreement would violate the public policy of the state of New York, there will need to be some nexus to the foreign jurisdiction to satisfy the requirement that it bear a reasonable relation to the transaction.

With respect to choice of forum, New York courts may not decline jurisdiction if the ISDA Master Agreement meets the statutory criteria in GOL § 5-1402. However, if the statutory criteria are not satisfied (if, for example, the courts of a jurisdiction other than New York are selected), a court will apply common law rules to express choice-of-forum clauses.

Under the common law approach, a New York court will enforce an express forum selection clause unless enforcement would be unreasonable, unjust, in contravention of public policy, invalid due to fraud or overreaching, or it is shown that a trial in the selected forum would be so gravely difficult that the challenging party would, for all practical purposes, be deprived of its day in court. Each of these exceptions presents a high bar – mere economic hardship or inconvenience, or the fact that the party challenging enforcement of the clause and the witnesses are located in a different jurisdiction, are not enough by themselves.

However, if there are no meaningful connections with a foreign jurisdiction other than the forum selection clause, but connections exist with New York, then a New York court might decline to enforce the forum selection clause and could allow the litigation to proceed in New York.

If the transaction takes place on a permissionless distributed ledger, it is not backed by an off-ledger agreement and the parties are domiciled in different jurisdictions, then there may be no express choice-of-law or choice-of-forum clauses for a New York court to enforce. Under these circumstances, a New York court would apply the 'center of gravity' or the 'grouping of contacts' approach, which attempts to determine which jurisdiction has the most significant connection with the transaction.

The outcome of this analysis is difficult to predict, creating uncertainty for the parties over where disputes relating to the transaction will be resolved. If the permissionless distributed ledger is pseudonymous, based on public-private key cryptography, then there may even be doubts about the real-world identities of the participants. As a result, this type of DLT model raises significant issues over the certainty of the choice of governing law for cross-border derivatives transactions.

Disputes Involving Parties to the Uncollateralized DLT Transaction and the Platform Provider

Another category of disputes might arise from the functioning of the platform used for the derivatives transaction. Corda, like other DLT platforms, sits at the 'bottom of the stack'. This means application builders utilize Corda to build their CorDapps, with such CorDapps commonly referred to as sitting at the 'top of the stack'. It is important to note that parties using CorDapps interface with platform providers operating CorDapps at the 'top of the stack.'

It is conceivable that, due to software programming bugs or hardware issues, corrupted or otherwise incorrect data might be fed into smart contracts, or smart contracts might not function as envisaged. This would then give rise to a potential dispute between one or both of the parties to a derivatives transaction that have suffered a loss when using the CorDapp.

To participate in a Corda-enabled derivatives transaction using a CorDapp, the parties would have entered into written agreements with the platform provider containing express choices of governing law. There would generally be two types of agreements governing use of the CorDapp:

- A platform-level licensing agreement between each party and the platform provider operating the trading platform; and
- A rule book that governs the transactions.

A New York court would apply the same choice-of-law and choice-of-forum rules set out in previous sections to disputes between the parties to the derivatives transaction and disputes between one of the parties and the platform provider. In most cases, express choice-of-law and choice-of-forum clauses would be enforced.

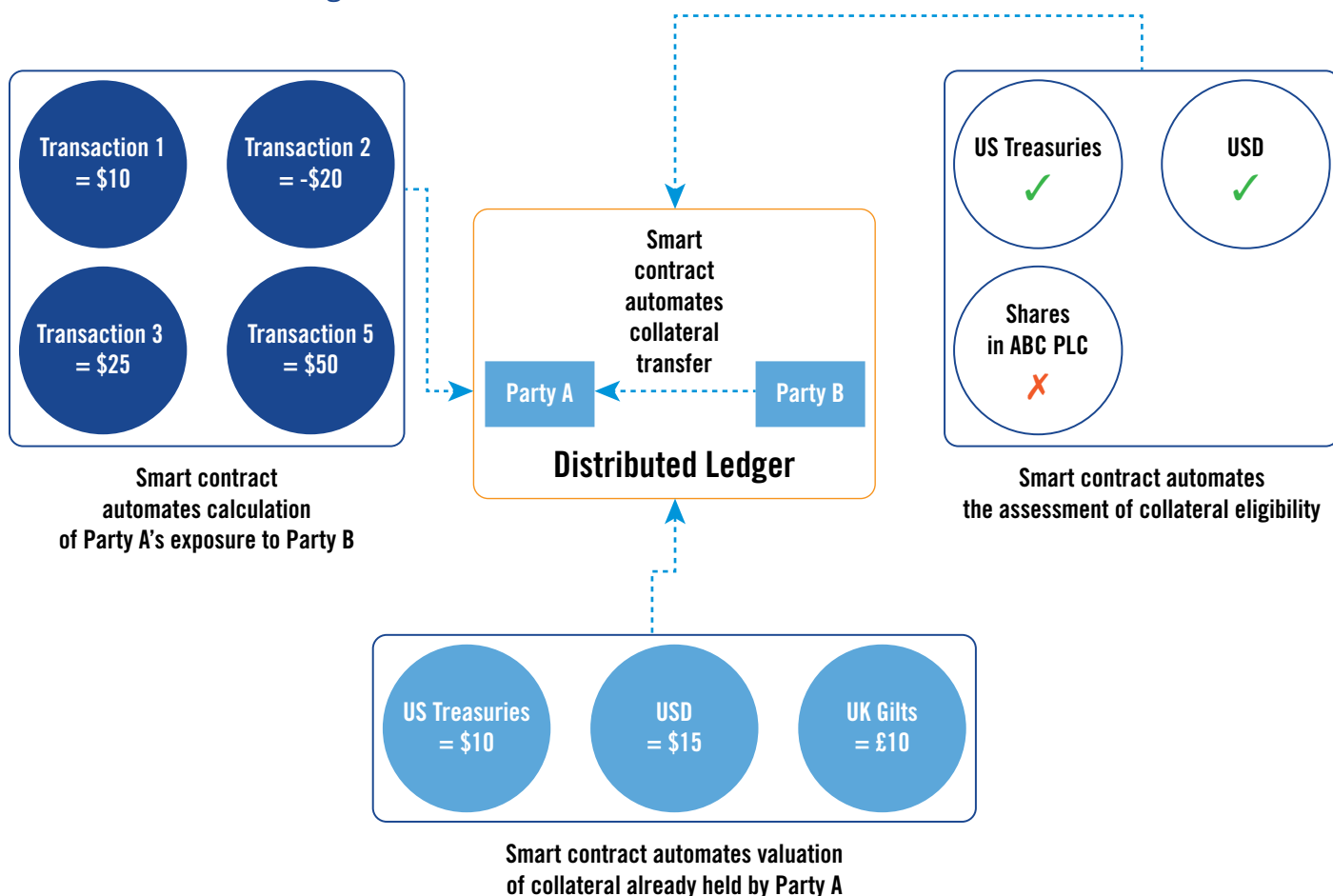
COLLATERALIZED DLT TRANSACTIONS

Smart Derivatives Contracts – Collateral

In September 2019, ISDA published *Legal Guidelines for Smart Derivatives Contracts: Collateral*⁶³. These guidelines provide an overview of current legal standards that exist within the collateral management process, and how they can be more effectively applied to assist technology developers, collateral operations, risk management and other key stakeholders in developing technology solutions that are consistent with applicable legal and regulatory standards that govern and regulate collateral relationships and processes.

These guidelines are agnostic about the types of technology and solutions that may ultimately be used. However, they do provide an illustration of a potential smart derivatives contract construct using DLT that is designed to automate certain aspects of the collateral management process.

Figure 2



³⁴ ISDA *Legal Guidelines for Smart Derivatives Contracts: Collateral*, <https://www.isda.org/a/VTkTE/Legal-Guidelines-for-Smart-Derivatives-Contracts-Collateral.pdf>

In considering the use of DLT in this context, it is useful to recall the distinction made in the ISDA *Legal Guidelines for Smart Derivatives Contracts: Introduction*⁶⁴ between different types of potential DLT implementation that could support smart derivatives contracts. In the context of collateral management, a system designed as a ‘light chain’ would not house any collateral, whereas a system designed as a ‘heavy chain’ would be able to support the key operational mechanisms of the ISDA collateral documentation. Figure 2 illustrates how, under a heavy chain implementation, the platform could house tokenized collateral assets that are native to a DLT platform and could support the transfer of such assets between the parties.

The guidelines note the importance of understanding the precise nature and location of these digitized assets, as well as any security or ownership rights attached to them. The paper also observes that achieving legal certainty in this area will be vital in assessing the efficacy of any system that supports the key operational mechanisms of the collateral management process.

This paper will explore the relevant private international law issues relating to the situs of digital assets by reference to a collateralized DLT transaction.

The Collateralized DLT Transaction

Implementation of the collateralized DLT transaction on Corda would be achieved in much the same way as the uncollateralized DLT transaction⁶⁵.

In this example, the parties to the collateralized DLT transaction will have again negotiated the terms of their relationship under the ISDA Master Agreement and documented the economic terms relating to the interest rate swap under a transaction confirmation. The parties would also have entered into a form of credit support annex (CSA) published by ISDA⁶⁶.

In addition, the parties would enter into a platform agreement with the platform provider as the operator of the CorDapp.

As with the uncollateralized DLT transaction, the parties would become ‘nodes’ on Corda and would use a CorDapp to execute the transaction and any collateral obligation arising from it.

In this example, the CSA would be a state object in addition to the ISDA Master Agreement and transaction confirmation. A separate Corda contract would be required, setting out the various rules governing the CSA state object. For example:

“Eligible collateral must be [a specified asset].”

The structure, set-up and execution of the collateralized DLT transaction would happen in much the same way as for the uncollateralized DLT transaction, except it is likely that collateral settlement would take place on a much more frequent basis.

⁶⁴ See *supra*, n 7

⁶⁵ See Uncollateralized DLT Transaction section, *supra*

⁶⁶ Discussion of the different types of ISDA collateral documentation can be found in the ISDA *Legal Guidelines for Smart Derivatives Contracts: Collateral* paper, <https://www.isda.org/a/VTkTE/Legal-Guidelines-for-Smart-Derivatives-Contracts-Collateral.pdf>

It is also possible that the collateral assets could be documented as tokens⁶⁷ – whether as the representation of a real-world collateral asset that is held and transferred off-ledger, or some form of digital asset that could possess value in and of itself and could therefore be used as collateral without any corresponding real-world asset. Tokens possessing intrinsic value could be used to settle transactions without the need for any off-ledger fund transfers. This paper will explore potential issues arising under each of these scenarios.

Private International Law Rules Relating to Property Interests in Securities

Due to their common usage in collateralized derivatives transactions, this section considers the law applicable to book-entry securities held indirectly through a securities intermediary. Parties to derivatives transactions typically use securities intermediaries rather than holding securities directly. Holding securities through these intermediaries facilitates transfers and increases their liquidity.

The Hague Convention on the Law Applicable to Certain Rights in Respect of Securities Held with an Intermediary came into force in the US in April 2017⁶⁸. The convention is applicable to transactions and disputes involving intermediated securities when there is a choice between the laws of different countries, and governs issues involving perfection and priority of claims, among other things⁶⁹.

The convention specifies that the applicable law under these circumstances is the law of the jurisdiction that governs the account agreement for the securities account maintained by a securities intermediary for the account holder. If the account agreement specifies another law, then that other law would apply⁷⁰. To qualify for this treatment, the convention requires the securities intermediary to have an office that maintains securities accounts in the country of the law that is being applied.

For the US (a country considered to be a ‘multi-unit state’ under the convention), this requirement is met as long as the securities intermediary maintains an office somewhere in the US, and the law of whichever US state is specified in the account agreement will apply⁷¹. Under the convention, the express choice-of-law provisions in the contract between the securities intermediary and account holder will therefore be honored, provided the securities intermediary maintains an office in the chosen jurisdiction.

New York’s choice-of-law rules for intermediated securities generally reach the same result, although there is no requirement to maintain a qualifying office. Articles 8 and 9 of the New York UCC apply to book-entry securities held indirectly through a securities intermediary, termed ‘securities entitlements’, and rule that the local law of the securities intermediary’s jurisdiction governs the perfection and priority of a security interest in a security entitlement or securities account⁷².

For the purposes of determining the securities intermediary’s jurisdiction, the New York UCC gives effect to any express agreement between the securities intermediary and the entitlement holder that governs the securities account⁷³.

⁶⁷ A ‘token’ is a type of state object that is classified as a digital asset and that has an owner

⁶⁸ See Office of Treaty Affairs, US Department of State, Multilateral (17-401), Convention on the Law Applicable to Certain Rights in Respect of Securities Held with an Intermediary, “Treaties and Other International Acts Series”, available online at <https://www.state.gov/17-401/>

⁶⁹ Convention Article 2(1)

⁷⁰ Convention Article 4(1)

⁷¹ Convention Article 12(1)

⁷² N.Y.U.C.C. § 9-305(a)(3)

⁷³ N.Y.U.C.C. § 8-110(e)

- If the agreement specifies a particular jurisdiction is the securities intermediary's jurisdiction for purposes of UCC Article 8, or the UCC generally, then that choice will be honored.
- If that does not apply, but the agreement stipulates that the agreement is governed by the law of a particular jurisdiction, then that jurisdiction is determined to be the securities intermediary's jurisdiction.
- If neither apply, but the agreement specifies that the securities account is maintained at an office in a particular jurisdiction, then that jurisdiction is determined to be the securities intermediary's jurisdiction.

Other rules apply if the securities intermediary and the entitlement holder do not have an express agreement governing the securities account. However, under the New York UCC, the securities intermediary's jurisdiction is not determined by the jurisdiction of the issuer of the securities, the physical location of any securities certificate, or the location of facilities for data processing or other record keeping for the securities account⁷⁴.

If, by virtue of the foregoing rules, the securities intermediary's jurisdiction is determined to be New York, and the New York UCC applies, then a secured party that perfects a security interest in securities entitlements by 'control' is entitled to the highest priority⁷⁵.

A secured party has control if, among others, the securities intermediary has agreed that it will comply with entitlement orders originated by that person without further consent by the entitlement holder⁷⁶. Perfection can also be achieved by filing a financing statement covering the securities with the relevant state filing office, but perfection by filing is subordinate to perfection by control.

Application of Private International Law Rules to the Collateralized DLT Transaction

Where Tokens Merely Record Real-world Assets

Under the most straightforward implementation of the collateralized DLT transaction, the real world collateral assets (such as cash or securities) are not replaced with on-ledger tokens or digital assets that possess intrinsic value. Instead, these collateral assets, including securities, would retain their original form and would be held in custody and transferred off-ledger. The smart legal contract associated with the derivatives transaction would record what the parties owe each other, but the actual exchange of the collateral would occur outside the smart contract. In accordance with existing practice, the parties to a derivatives transaction would most likely employ securities intermediaries to maintain custody of the securities used as collateral.

If there was a dispute between the parties to the derivatives transaction over their respective rights to the intermediated securities used as collateral, a New York court would look to the rules in the Hague Convention on the Law Applicable to Certain Rights in Respect of Securities Held with an Intermediary and the New York UCC. Under either of these approaches, the substantive law that determines the respective rights of the parties to the derivatives transaction to the intermediated securities is the law specified in the account agreement with the securities intermediary.

⁷⁴ N.Y.U.C.C. § 8-110(f)

⁷⁵ N.Y.U.C.C. § 9-328

⁷⁶ N.Y.U.C.C. § 8-106

The convention requires the securities intermediary to have an office in the jurisdiction of the law that is to be applied. If that jurisdiction is New York, then the requirement is satisfied if the securities intermediary maintains an office anywhere in the US. Under New York substantive law, the party with ‘control’ of the intermediated securities has the highest-ranking claim to them.

Where Tokens Possess Intrinsic Value

A more complex implementation of the collateralized DLT transaction could involve the replacement of the real-world collateral assets with a form of token or digital asset that possesses intrinsic value, such as a tokenized form of the existing collateral currently used in derivatives transactions (ie, tokenized cash or securities). In this case, the derivatives transaction would be associated with a smart legal contract, and the smart legal contract would handle the exchange of collateral (in the form of digital assets) between the parties, all of which would take place on-ledger.

Where parties to collateralized DLT transactions conducted entirely on-ledger continue to employ a securities intermediary to custody and transfer the collateral on their behalf, rather than directly holding the collateral themselves, the same rules should apply as for off-ledger collateral exchanges.

If the appropriate contractual provisions are in place with the securities intermediary, then the location of the securities intermediary should determine the law that governs the respective rights and obligations of the parties to the collateral. Where the New York UCC applies, the account agreement between the securities intermediary and the relevant party governing the collateral will need to be drafted in a way that takes the concept of ‘control’ into account in a DLT environment generally, as well as the automated exchange of collateral via smart contract.

As a general matter, securities intermediaries appear more likely to grow comfortable with using a permissioned DLT system such as Corda, where the contracting parties and other participants are known and trusted and the relevant transactional variables can be controlled. A permissionless system involving pseudonymous participants that is based on an infrastructure maintained by an amorphous decentralized collective of unknown persons around the world may provide less comfort. It may be difficult to determine whether this form of permissionless DLT system meets the operational resiliency and other regulatory requirements to which securities intermediaries are subject given the persons responsible for maintaining the infrastructure are not always known with certainty.

Where the parties to collateralized DLT transactions conducted on-ledger do not use a securities intermediary and instead hold and exchange the collateral directly, different rules could apply.

For example, if the adoption of tokenized securities becomes widespread, it is conceivable that the New York UCC could be amended to reflect the realities of DLT, which may differ from existing practices involving more traditional securities.

Wyoming, for instance, has recently adopted amendments to Article 9 of its UCC to accommodate digital assets, including digital securities⁷⁷. Instead of ‘control’ of a digital security arising from a traditional tri-party securities account control agreement, where a securities intermediary agrees to comply with the secured party’s orders, ‘control’ under the Wyoming amendments can arise from a bilateral arrangement where the secured party (or its designee) has the legal authority, based on a security agreement, to freely transfer a digital security, including by means of a private key or multi-signature arrangement⁷⁸. A full exploration of this approach is outside the scope of this paper.

⁷⁷ See generally Robert T. Isham III, *Wyoming’s Digital Asset Amendments: Marked Out or Missed Out? A Review of Recent Amendments to Article 9 in Wyoming*, American Bar Association Business Law Today, October 2019, available at https://www.americanbar.org/groups/business_law/publications/blt/2019/10/digital-assets/

⁷⁸ W.S. § 34-29-103(e)

CONCLUSION AND RECOMMENDATIONS

This paper has considered a number of private international law aspects of derivatives contracts governed by New York law and involving DLT.

Considering the most straightforward implementations of the DLT-based transaction examples set out in this paper, it is unlikely that either implementation would result in a New York court disapplying an express choice of law, whether in the ISDA Master Agreement or any agreement between the parties and a platform provider.

This is consistent with the position in England and Wales, Singapore, Ireland, and France⁷⁹. ISDA has published additional papers that consider these issues from the perspective of these jurisdictions⁸⁰.

In each of these jurisdictions, there may be additional conflict-of-laws issues arising from a potential lack of legal certainty around the *situs* of tokens that are used to effect payments or exchanges of collateral on a DLT platform. These issues are more likely to arise where a public and permissionless DLT system establishes an entirely disintermediated form of securities holding system or trading platform.

These challenges could be overcome by allowing for all parties to agree that all on-ledger transactions or collateral arrangements taking place on a DLT platform are subject to a uniform choice of law. Such common law of the platform could then also be used to determine the *situs* of any tokens that are native to that DLT system.

Adopting this approach will require national governments, judiciaries, regulators and international standard-setting bodies to work on adapting or developing global legal standards aimed at ensuring the safe, transparent and consistent regulation of DLT-based financial transactions. It will be important, for example, to consider the appropriate mechanism for ensuring the system administrator or provider, the issuer of any tokenized assets and the parties to any transactions that take place on the DLT platform continue to be subject to sufficient legal and regulatory oversight.

Achieving greater legal certainty across these areas will provide an important foundation for the development and implementation of innovative new technology within the derivatives industry, creating a more robust, efficient and cost-effective financial markets infrastructure.

⁷⁹ ISDA has published forms of ISDA Master Agreement and associated collateral documentation governed by the laws of England and Wales, New York, Ireland, France and Japan

⁸⁰ These papers can be accessed here: <https://www.isda.org/2019/10/16/isda-smart-contracts/>

ABOUT ISDA

Since 1985, ISDA has worked to make the global derivatives markets safer and more efficient. Today, ISDA has more than 925 member institutions from 75 countries. These members comprise a broad range of derivatives market participants, including corporations, investment managers, government and supranational entities, insurance companies, energy and commodities firms, and international and regional banks. In

addition to market participants, members also include key components of the derivatives market infrastructure, such as exchanges, intermediaries, clearing houses and repositories, as well as law firms, accounting firms and other service providers. Information about ISDA and its activities is available on the Association's website: www.isda.org. Follow us on [Twitter](#), [LinkedIn](#), [Facebook](#) and [YouTube](#).

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Developed in collaboration with our ecosystem, our enterprise blockchain platform Corda is transforming entire industries by digitalizing the processes and systems that firms rely on to connect and transact with each other. Our blockchain ecosystem is the largest in the world with more than 350 institutions deploying and building on Corda

Enterprise and Corda. Our customers and partners have access to a network of leading systems integrators, cloud providers, technology firms, software vendors, corporates and banks.

To ensure our customers derive the greatest value from their investment, we provide services and support to shorten time-to-market, as well as guidance on implementation, integration and building ecosystems based on a blockchain platform. Learn more at www.r3.com and www.corda.net.