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Distributed ledger technology as a tool for streamlining transactions

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This chapter will provide a high-level overview of the potential applicability of distributed ledger technology (“DLT”) to the transfer of assets represented by “tokens” or other digital assets¹ (which, for the purposes of this chapter, we will call “Transfer Tokens”), and the regulatory environment developing around such tokens. Using a token as a means of representing an underlying asset (colloquially referred to as the “tokenization” of that asset) in order to facilitate transfers of that asset is a relatively new idea, but has its roots in a very old and well understood principle: some things that have value are not easily transferred. Whether because of practical difficulties, regulatory hurdles or imperfect or outdated trading infrastructures, sometimes the easiest way to transfer an asset – whether it be title, an ownership interest, an entitlement, or a beneficial interest in that asset – is by transferring something that represents the asset.²

Tokenization has potentially wide applicability to traditional markets. The trading of securities in the United States, for example, is beset with inefficiencies related to existing trading infrastructures. For example, repurchase transactions (“repos,” whereby one party agrees to sell securities to another party and then buy them back at a later time) traditionally involve transfers of ownership that are recorded on the books of a clearing bank or the Fedwire Securities Service. Recording these transfers takes time and relies on a central intermediary, placing operational bounds on a traditional repo’s minimum duration. Using Tokens to represent the underlying securities can potentially streamline this process, as parties could instead transfer (and have such transfer be reflected in a distributed ledger) Transfer Tokens that represent an interest in the securities, rather than the securities themselves.

Of course, tokenization in this manner faces a number of regulatory hurdles – some inherent to the concept itself, and some particular to each specific implementation. For example, as a general matter, it is of particular import that parties not run afoul of the broad reach of the U.S. securities laws:³ if the purpose of a Transfer Token is to facilitate trading of underlying assets, it is important to establish whether the creation and use of such a token actually creates any of its own barriers – namely, whether the Transfer Tokens could potentially be characterized as “securities,” and whether the entity creating such Transfer Tokens could be considered an “issuer” subject to the securities laws. If Transfer Tokens *were* to be treated as securities, the very purpose of their creation and existence (*i.e.*, to facilitate otherwise cumbersome transactions) is challenged. A further challenge is the essential dependence of many securities law analyses on the particular facts and circumstances of each case, precluding a “one-size-fits-all” approach to compliance. Additionally, applying a layer of tokenization to traditional transactions, such as repos, for which the applicable legal regimes are well-established regarding legal certainty, security interest, and enforceability in

bankruptcy, raises the question of whether tokenized transactions that resemble traditional transactions in all substantive respects should necessarily benefit from the same legal treatment as traditional transactions.

Section I of this chapter will provide a basic overview of DLT and how it can be used to create Transfer Tokens that represent underlying assets. Second, we will describe a “generic” implementation of a Transfer Token, and discuss how we believe such a token should be characterized for the purposes of U.S. securities laws. Third, we will provide a number of examples of the potential uses of Transfer Tokens, along with an overview of certain legal issues germane to each implementation.

Background

While a full overview of DLT is outside the scope of this chapter, DLT (commonly implemented in the form of “blockchain” technology) generally refers to a “decentralized peer-to-peer network that maintains a ledger of transactions that utilizes cryptographic tools to maintain the integrity of transactions and some method of protocol-wide consensus to maintain the integrity of the ledger itself.”⁷⁴ While early implementations of DLT, such as Bitcoin, were limited in scope and intended primarily to facilitate peer-to-peer transfers of value, other implementations of DLT incorporate the ability for parties to “structure and update data on a ledger through robust computer code, known as smart contracts.”⁷⁵ This allows “any asset or thing [to] be modeled on a ledger,” and “parties to run computer functions to interact with the data structures on the ledger.”⁷⁶

One potential application of DLT in this context is the ability to “tokenize” a broad range of traditional assets, which, at least theoretically, can encompass nearly anything. In this way, transfers of the asset “can be tracked automatically on a blockchain platform in the same manner as a cryptocurrency such as Bitcoin is tracked using the same technology.”⁷⁷ By tokenizing an asset and allowing it to be digitally represented on a blockchain or other form of distributed ledger, the process of recording and transferring ownership of the asset can be significantly streamlined. The question of whether such digital assets are “securities” is therefore critical, as the application of the securities laws to the issuance and transfer of digital assets such as the Transfer Tokens would impose onerous, and potentially irrational, requirements on the “issuers” of the Transfer Tokens and hamper the ability of secondary market participants to trade Transfer Tokens amongst each other.

Characterization of tokens under securities laws

Background of treatment of digital assets

Beginning in 2017, the SEC has, through various avenues, articulated its general stance toward the regulatory classification and treatment of digital assets. In April 2019, the SEC issued its *Framework for “Investment Contract” Analysis of Digital Assets* (the “SEC Framework”). As described in the SEC Framework, any person “engaging in the offer, sale, or distribution of a digital asset” must “consider whether the U.S. federal securities laws apply,” and a threshold issue is “whether the digital asset is a ‘security’ under those laws.”⁷⁸ While the framework is new, its essential underpinning is not: central to the SEC’s analysis has been, and continues to be, the well-worn three-prong test articulated by the Supreme Court in *SEC v. W.J. Howey Co.*, 328 U.S. 293 (1946) (“Howey”). The Howey test “applies to any contract, scheme, or transaction, regardless of whether it has any of the characteristics of typical securities,” and is meant to determine whether a particular asset or arrangement is an “investment contract” (and therefore a security). Under the test established in Howey,

an “investment contract” exists if there is (i) an investment of money, (ii) in a common enterprise, (iii) with a reasonable expectation of profits derived predominantly from the efforts of others.

In analyzing whether something is a security, “form should be disregarded for substance.”⁹ The SEC has primarily applied the Howey test to digital assets because such assets do not otherwise fall into any of the enumerated categories of the definition of “security.” Accordingly, the Howey test focuses not only on the form and terms of the asset or arrangement itself, “but also on the circumstances surrounding the digital asset and the manner in which it is offered, sold, or resold (which includes secondary market sales).”¹⁰ As a result, the question of whether a hypothetical Transfer Token is a “security” is one that resists blanket classification, and that instead depends on both the form and function of the Transfer Token as well as the particular facts and circumstances surrounding the issuance, offering, and secondary market transfers of the Transfer Token.

While “[no] one factor is necessarily dispositive as to whether or not an investment contract exists,”¹¹ the SEC Framework articulates a wide range of factors that would be indicative of the presence of an “investment contract,” mapping these factors to each prong of the Howey test. These factors include, among others:

- An investment of money:
Investors purchase or otherwise acquire the digital asset in exchange for value, whether that value takes the form of fiat currency, another digital asset, or another type of consideration.
- A common enterprise:
While the SEC Framework notes that the SEC does not view the “common enterprise” requirement as a distinct element of the Howey test, the SEC noted that investments in digital assets have generally constituted investments in a common enterprise “because the fortunes of digital asset purchasers have been linked to each other or to the success of the promoter’s efforts.”¹²
- Reasonable expectation of profits derived from efforts of others:
An investor has a reasonable expectation of profits derived from the efforts of others if a promoter, sponsor, or other third party (each, an “Active Participant” or “AP”) provides essential managerial efforts that affect the success of the enterprise, and investors reasonably expect to derive profit from those efforts. While no one factor is determinative, the SEC Framework lists the following factors as indicative of whether this prong is met:
 - the purchaser reasonably expects to rely on the efforts of an AP;
 - the managerial efforts are significant and affect the failure or success of the enterprise, as opposed to efforts that are ministerial in nature;
 - an AP is responsible for the development, improvement, operation, or promotion of the network;
 - where the network or digital asset is still in development or not yet fully functional, investors would reasonably expect an AP to further develop the functionality of the network and/or digital asset;
 - there are essential tasks or responsibilities performed and expected to be performed by an AP;
 - an AP creates or supports a market for, or the price of, the digital asset;

- an AP has a lead or central role in the direction of the ongoing development or management of the network or the digital asset;
- investors would reasonably expect the AP to undertake efforts to promote its own interests and enhance the value of the network or digital asset, such as where the AP has the ability to realize capital appreciation from the value of the digital asset, the AP distributes the digital asset as compensation to management, or the AP monetizes the value of the digital asset;
- the digital asset gives the holder rights to share in the enterprise's income or profits or to realize gain from capital appreciation of the digital asset;
- the digital asset is transferable or traded on a secondary market or platform;
- purchasers reasonably would expect the AP's efforts to result in capital appreciation of the digital asset;
- the digital asset is offered broadly to potential purchasers or in quantities indicative of investment intent;
- the AP is able to benefit from its efforts as a result of holding the same class of digital assets as those being distributed to the public;
- the potential profitability of the operations of the network or the potential appreciation in the value of the digital asset is emphasized in marketing or other promotional materials; and
- the availability of a market for the trading of the digital asset.

In contrast, the SEC Framework highlights a number of factors that, while not necessarily determinative, would support the notion that the Howey test is not met,¹³ including:

- the distributed ledger network and digital asset are fully developed and operational;
- holders of the digital asset are immediately able to use it for its intended functionality on the network;
- the digital assets' creation and structure is designed and implemented to meet the needs of its users, rather than to feed speculation as to its value or development of its network;
- prospects for appreciation in the value of the digital asset are limited;
- any economic benefit that may be derived from appreciation in the value of the digital asset is incidental to obtaining the right to use it for its intended functionality;
- the digital asset is marketed in a manner that emphasizes its functionality rather than the potential for the increase in market value of the digital asset;
- potential purchasers have the ability to use the network and the digital asset for its intended functionality;
- restrictions on the transferability of the digital asset are consistent with the asset's use and not facilitating a speculative market; and
- if the AP facilitates the creation of a secondary market, transfers of the digital asset may only be made by and among users of the platform.

Application of the securities laws and the SEC framework to transfer tokens

As noted above, the question of whether the Transfer Token is a "security" depends on both the form and function of the Transfer Token as well as the particular facts and circumstances surrounding the issuance, offering, and secondary market transfers of the Transfer Token. In general, of course, the aim is to design a Transfer Token such that (i) the hallmarks of a

“security” described in the SEC Framework are generally not present, in either form or substance, and (ii) the factors that would indicate that a digital asset is *not* a security *are* present. For the purposes of this chapter, therefore, we imagine a generic Transfer Token with a number of essential characteristics that we believe should, when analyzed through the prism of the factors articulated by the SEC above, cause that Transfer Token to fall outside the definition of security. These characteristics include:

- The Transfer Tokens are issued to represent a specific underlying asset, and are designed for the express purpose of facilitating a transfer of that asset.

Discussion: In general, the more narrowly tailored the design of the Transfer Token, the less likely it would be to fall under the auspices of the securities laws. For example, in a hypothetical implementation, a holder of a Transfer Token (a “Token Holder”) may deposit assets, such as cash or securities, with a custodian, and receive Transfer Tokens representing those cash or securities in return.¹⁴ The Transfer Tokens could then be used to facilitate transfers of the underlying cash or securities to other market participants who maintain accounts at that custodian. Recipients of Transfer Tokens (or the original acquirer of the Transfer Tokens, in the case of an acquirer who retains the tokens or repurchases them under a repo) could, in turn, “redeem” the Transfer Tokens with the custodian in order to receive the underlying cash or securities. Under this model, the Transfer Tokens’ creation and use – tied solely to facilitating a transfer of the underlying assets – would more likely be considered to have been designed and structured to meet the needs of users, rather than to feed speculation.

Note that given the SEC’s broad interpretation of an “investment” of money under the Howey test, such an acquirer of Transfer Tokens may nevertheless be considered to be making an “investment” of value. However, the acquirer is not obtaining the Transfer Tokens for investment *purposes*; rather, the acquirer is *exchanging* some form of property for a Transfer Token that represents that property, and subsequently using the resulting Transfer Token to effect a transfer of that property to another party (who will redeem, and therefore destroy, the Transfer Token). Crucially, the Transfer Token itself is not purchased because of its value; rather, the Transfer Token should be envisioned as having no value in and of itself, and more akin to a book-entry representing some underlying asset rather than an asset itself.¹⁵

- Because Transfer Tokens are created to represent specific underlying assets and have no value distinct from those assets, there is no “common enterprise” linking the fortunes of the entity issuing Transfer Tokens to Token Holders, or the fortunes of Token Holders to each other.

Discussion: While the SEC “does [not] view a ‘common enterprise’ as a distinct element of the term ‘investment contract,’” the SEC Framework notes that “investments in digital assets have constituted investments in a common enterprise because the fortunes of digital asset purchasers have been linked to each other or to the success of the promoter’s efforts.” In particular, the SEC Framework notes that investors in a digital asset that is a security would reasonably expect capital appreciation in the value of the digital asset based on the efforts of an AP. This is not the case with respect to the Transfer Tokens; Token Holders’ fortunes are neither linked to the fortune of the “issuer” of the token nor to the fortunes of other Token Holders. Rather, Token Holders’ fortunes are tied only to the value of the underlying asset represented by the Transfer Token, which value should not be affected by the tokenization of the asset.

- Additionally, because Transfer Tokens are tied to specific underlying assets and designed to facilitate a transfer of those assets, market participants would not acquire the *tokens themselves* with a reasonable expectation of profits predominantly from the efforts of others.

Discussion: In contrast to scenarios described in the SEC Framework, there is no AP in the transactions imagined in this chapter that would retain the digital asset, or that would support the price of the digital asset, undertake efforts to enhance the value of the digital asset, or have the ability to realize capital appreciation from the value of the digital asset. The Transfer Tokens are created merely to streamline the process by which market participants may transact in certain types of assets and transfer interests among each other. Participants acquire Transfer Tokens not to profit from the efforts of others, but to more easily effectuate the envisaged transaction(s) in the underlying asset.

- The Transfer Tokens imagined would be issued on a functioning network, be designed to replicate and streamline the process normally associated with transacting in the asset represented, and be distributed only among people or institutions that comprise the existing market for the underlying asset.

Discussion: As noted above, the Howey test is less likely to be met if a digital asset's creation and structure is designed and implemented to meet the needs of its users and the restrictions on the transferability of the digital asset are consistent with the asset's use. This would generally mean, for example, that to the extent that purchasers of an underlying asset would be limited to individuals or institutions that meet certain criteria, the issuance and transfer of Transfer Tokens should also be so limited.

- Because the Transfer Tokens are meant to replicate “traditional” interests in the underlying assets represented by the Transfer Tokens, one of the primary policy purposes of the securities laws articulated by the SEC – *i.e.*, compelling disclosure in order to reduce informational asymmetries between promoters and investors – would be inapplicable to the use of Transfer Tokens imagined by this chapter, because no informational asymmetry is produced by the tokenization of an asset. No part of the “traditional” transaction in the asset is in substance altered by tokenization, and as noted above, the creation of Transfer Tokens can be more properly envisioned as the creation of an electronic book-entry representing an underlying asset, rather than the creation of a new asset itself.

Potential applications of transfer tokens

Within the model articulated in the foregoing section, Transfer Tokens may be used to streamline transactions in a potentially wide range of assets, although different legal considerations may apply to each. This section reviews the potential applicability of Transfer Tokens to three distinct markets: the repo market; the syndicated loan market; and the market for artwork, and briefly discusses certain relevant considerations with respect to each.

Repos

As indicated in the introduction, one possible application of Transfer Tokens is to the repo market. Typically, repos have been conducted on, at a minimum, an overnight basis, due in part to operational constraints regarding how quickly ownership changes may be reflected on the books and records of a clearing bank or the Fedwire Securities Services. By permitting securities held by a central custodian to be represented by Transfer Tokens,

however, a DLT-based platform could potentially allow market participants to settle repurchase transactions on an intraday basis, in a timeframe that would not otherwise be operationally feasible. Although the application of DLT and Transfer Tokens to these markets is novel, the economic substance of the underlying transactions would be unchanged from that of traditional repurchase transactions conducted on the underlying securities: *i.e.*, a “tokenized” repo would involve a purchase and sale of the underlying securities, except conducted with Transfer Tokens and reflected on a distributed ledger, rather than with the securities themselves and reflected on a set of centrally maintained books.

Under a hypothetical DLT-based implementation, for example, a market participant could obtain Transfer Tokens by transferring securities to an account maintained by a custodian (or alternatively, sending a digital instruction that would effectively “lock” a basket of identified securities already held in that custodial account) and in return receive Transfer Tokens representing the underlying securities. That market participant could then enter into repos on the underlying securities with eligible counterparties, *as represented by* the Transfer Tokens issued with respect to such securities. The holder of the Transfer Tokens would then have the unconditional right to “redeem” the tokens in exchange for receiving the underlying assets from the custodian at any time, thereby allowing a non-defaulting buyer to exercise remedies in the event of the default of the seller. At the conclusion of a successful transaction, the original participant could redeem the Transfer Tokens and receive the underlying assets, or potentially enter into further repo transactions. Any issuance, redemption, or transfer of Transfer Tokens could be reflected and verified in real time on a distributed ledger.

One threshold question with respect to the applicability of DLT to the repo markets is whether this additional layer of tokenization would affect the essential legal characterization of repos – namely, whether the documents governing such tokenized repo transactions would nevertheless be considered “securities contracts” within the meaning of title 11 of the United States Code (the “Bankruptcy Code”).¹⁶ Without going into detail, provided the underlying documentation qualifies as a securities contract, a debtor’s bankruptcy avoidance rights and the automatic stay of section 362 of the Bankruptcy Code should not apply to the applicable transactions.

Certainty in this area is critical, as market participants may understandably be hesitant to engage in a tokenized repo transaction without assurance that the legal protections afforded to them under traditional repos are present. As defined in section 741(7) of the Bankruptcy Code, a “securities contract” includes, in relevant part:

(i) a contract for the purchase, sale, or loan of a security, ... or interests therein (including an interest therein or based on the value thereof), or option on any of the foregoing, including an option to purchase or sell any such security, ... or option, and including any repurchase or reverse repurchase transaction on any such security, ... or option (whether or not such repurchase or reverse repurchase transaction is a “repurchase agreement”, as defined in section 101);

...

(vii) any other agreement or transaction that is similar to an agreement or transaction referred to in this subparagraph;

(viii) any combination of the agreements or transactions referred to in this subparagraph;

...

(x) a master agreement that provides for an agreement or transaction referred to in clause (i), (ii), (iii), (iv), (v), (vi), (vii), (viii), or (ix), together with all supplements to any such master agreement, without regard to whether the master agreement provides for an agreement or transaction that is not a securities contract under this subparagraph, except that such master agreement shall be considered to be a securities contract under this subparagraph only with respect to each agreement or transaction under such master agreement that is referred to in clause (i), (ii), (iii), (iv), (v), (vi), (vii), (viii), or (ix);...

One simple argument that tokenized repos should be treated as securities contracts is policy-based: because a tokenized repo mirrors, in practical and economic substance, a traditional repo, it should logically benefit from the same legal treatment. However, ample support for this notion also comes from the text of the statute itself (and in particular, the prong capturing any “repurchase...transaction” and the broad catch-all capturing “any other agreement or transaction that is similar” to any other securities contract) and the Bankruptcy Code’s legislative history.

More specifically, it is well-established that the terms “repurchase or reverse repurchase transaction” in section 741(7)(A)(i) should be given their ordinary meaning¹⁷ – that is, an agreement that provides for the sale of a security against the transfer of funds by the recipient of such security, with a simultaneous agreement by such recipient to sell such security on demand or on a date certain against the payment of funds. Notwithstanding the additional layer of tokenization, a tokenized repo facilitates the substantive purchase and sale of *securities* and reflects the parties’ intent to engage in such transactions, and should be considered to satisfy this standard. Even if a court were to be unpersuaded by this argument, however – for example, if a court were to characterize the repo as a purchase and sale of *Transfer Tokens* rather than securities – courts have noted that “the text of § 741(7)(A)(vii) . . . expands the definition of ‘securities contract’ to include ‘any other agreement or transaction that is similar to’” an agreement or transaction referred to in Bankruptcy Code § 741(7)(A), and “[f]ew words in the English language are as expansive as ‘any’ and ‘similar.’”¹⁸ Tokenization does not change any of the essential characteristics of the transaction and, in any case, should not be considered to transform the character of the transaction beyond one that remains “similar to” a securities contract.

Syndicated loans

Syndicated term loans are traded by a range of sophisticated financial institutions, including commercial banks, investment banks, hedge funds, broker-dealers, and other institutions. One potential application of DLT using Transfer Tokens involves “tokenizing” an interest in a syndicated loan that has been purchased by a lender or secondary market participant pursuant to an assignment or participation. In this way, “[t]he loans held by lenders in a syndicate can be tracked automatically on a blockchain platform in the same manner as a cryptocurrency such as Bitcoin is tracked using the same technology.”¹⁹ By tokenizing an asset and allowing it to be digitally represented on a blockchain or other form of distributed ledger, the process of recording and transferring ownership of the asset should be significantly streamlined.

The syndicated loan market is perhaps an ideal candidate for the application of DLT: loans are currently originated (and trades conducted) pursuant to a complicated suite of documentation, which can theoretically be simplified and made more transparent by reflecting the essential terms of such documentation on a blockchain. Additionally, the underlying assets – loan interests – are generally not considered securities, and so the trading of loan interests among financial institutions has not been considered subject to the securities

laws.²⁰ The tokenization of loan interests, then, should not be considered to jeopardize that characterization, *provided* that the tokenization is designed solely to facilitate efficient transfer and record-keeping with respect to secondary market transactions in the interests.

For example, a Transfer Token should be designed such that a Token Holder would own an assignment or participation interest in a syndicated term loan in the same manner as the holder of a “traditional” assignment or participation interest, and the rights and obligations of that Token Holder would likewise be identical to that of a lender purchasing a traditional assignment or participation interest. Furthermore, such Transfer Tokens should be subject to certain restrictions on transfer, such that they could be traded only among the same sophisticated financial institutions that currently participate in the secondary market for loans, and transfer should be subject to the same restrictions (*e.g.*, the consent of the borrower) that currently apply to the sale and transfer of loan interests. Lastly, we would expect that the Tokens would be issued by the originating financial institutions (or affiliates thereof), transferred through a fully functioning private or public blockchain (which may be developed, operated, and/or maintained by the financial institutions originating or participating in the loan), and would not be made freely available to the public on a secondary market trading platform in a manner inconsistent with the current marketing and sale process applicable to syndicated loans. Such a design should, consistent with the objectives discussed above, minimize the hallmarks of a “security” described in the SEC Framework.

Notwithstanding the foregoing, the Howey test *may* be met if the Tokens possessed additional characteristics inconsistent with traditional limitations on the marketing and sale of loan interests. For example, if the Tokens were to be freely tradeable on a secondary market platform among the public or participants who did not have the ability to request information from, or conduct due diligence on, the borrower, such transferability would implicate certain of the important policy considerations of the securities laws and may cause the Tokens to be considered securities. As always, the facts and circumstances are crucial.

Artwork

One perhaps novel use of Transfer Tokens would be for the transfer of artwork. Transacting in certain types of property under American law can be a complicated exercise, and artwork falls under a category of property that faces certain practical obstacles to transfer. Contemporary art transfers typically involve a trusted intermediary (such as an art dealer or gallery) who agrees to store and present the artwork to potential buyers for a hefty fee.²¹ At the same time, these traditional intermediaries offer a necessary legitimizing function, whether it is in reviewing art pieces for authenticity, evaluating the quality of art presented and sold, or collecting artwork under a centralized clearinghouse which makes it easier for art buyers and sellers to find the pieces they want. As a result, traditional intermediaries create markets for art transactions that otherwise would not exist.

DLT could be used to create more efficient artwork markets. For example, a company dedicated to compiling registries for unique assets recently partnered with a start-up company to auction digital and physical artworks associated with what could be characterized as Transfer Tokens on the Ethereum blockchain platform, with each Transfer Token associated with a unique piece of art.²² Based on the early success of DLT-facilitated artwork transfers, traditional art houses and galleries have reportedly started experimenting with auctions using blockchain technology to move artwork between interested parties.²³ The benefits of publicly verifiable and secure digital transactions in the art space can be echoed across industries, and the success of DLT as applied to artwork might trigger other innovative uses of Transfer Tokens for other difficult-to-transfer goods.²⁴

Conclusion

Transfer Tokens offer a wide range of possibilities when it comes to streamlining transactions in traditional assets. As reviewed herein, there are strong arguments that the model Transfer Tokens described in this chapter are not securities (or even, in themselves, assets), and that tokenizing an asset to facilitate its transfer should not change the legal or economic substance of the transaction. While the potential applicability of Transfer Tokens is vast, however, market participants must carefully review each implementation – especially when highly regulated financial markets are involved – to ensure that the attendant legal issues are properly addressed.

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* * *

Endnotes

1. It should be noted that the use of the term “digital assets” is somewhat of a misnomer, as assets are typically understood as things which have value. Ideally, the Transfer Token should be conceptualized as akin to a book-entry that has no value in and of itself, but merely represents an underlying asset. Even the use of the word “token” is problematic, as it can both imply value and carry negative connotations associated with the raft of tokens issued pursuant to “initial coin offerings” in recent years. Here, we use the word token to mean that it is *symbolic*.
2. One archetypal example of this concept drawn from traditional markets, of course, is the framework that has developed around the indirect ownership of securities under the Uniform Commercial Code (“UCC”). In response to a “paperwork crisis” on Wall Street during the 1960s and 1970s, when the burden of reconciling trades using the traditional certificate-based system overwhelmed brokerage firms and transfer agents, the Depository Trust Company (“DTC”) was created to act as a central securities depository and hold immobilized share certificates on behalf of its participants. The regulatory scheme that governs transfers of interests in the securities held by DTC is Article 8 of the UCC, which provides that persons holding securities through brokers or custodians hold “security entitlements,” rather than direct ownership of the underlying securities. Article 8 describes the package of rights held by the holder of a security entitlement (the “entitlement holder”), and provides that an entitlement holder may issue an “entitlement order” in respect of a financial asset that directs an intermediary to transfer or redeem the financial asset to which the entitlement holder has a security entitlement.
3. The use of “securities laws” in this chapter generally refers to the Securities Act of 1933 (the “Securities Act”) together with the Securities Exchange Act of 1934 (“Exchange Act”) and the regulations and interpretations issued thereunder.

4. See *Blockchain and Distributed Ledger Technology: An Analysis of its Impact on the Syndicated Loan Market, Part One: Generation Considerations and Blockchain Primer*, LSTA (2018).
5. *Id.*
6. *Id.*
7. See *Blockchain and Distributed Ledger Technology: An Analysis of its Impact on the Syndicated Loan Market, Part Three: Application of Blockchain Technology to the Loan Market*, LSTA (2018).
8. SEC Framework, Section I.
9. *Tcherepnin v. Knight*, 389 U.S. 332, 336 (1967).
10. *Id.*
11. SEC Framework, footnote 4.
12. SEC Framework, footnote 11.
13. The SEC issued, concurrently with the SEC Framework, a no-action letter addressed to an air charter service company proposing to issue “blockchain-based digital assets in the form ‘tokenized’ jet cards.” In that letter, the SEC stated that it would not recommend enforcement against the company for issuing tokens without registration under the securities laws, because (i) the company would not use the proceeds from its token sale to develop a platform or network, which would be fully developed and operational by the time any tokens were sold, (ii) the tokens would be immediately usable for their intended functionality (*i.e.*, purchasing air charter services) at the time of the sale, (iii) transfers of the tokens would be restricted to the company’s wallets, (iv) tokens would be sold at one USD per token throughout the life of the program, and each token represented an obligation by the company to supply air charter services at a value of one USD per token, (v) the company would only offer to repurchase tokens at a discount to their face value, and (vi) the tokens would be marketed in a manner that would emphasize their functionality, rather than the potential for increase in its market value. See <https://www.sec.gov/divisions/corpfin/cf-noaction/2019/turnkey-jet-040219-2a1.htm>. On July 25, 2019, the SEC issued a second no-action letter to a gaming platform operator that proposed to sell “Quarters” to gamers for use in online video games. In that letter, the SEC noted the presence of factors similar to those cited in its previous letter, including that the platform would be fully operational immediately upon its launch (and before the sale of any Quarters), that Quarters would be immediately usable for their intended purpose and transferable only among other wallets on the platform, that Quarters would be made continuously available at a fixed price, and that Quarters would be sold solely for consumptive use as a means of accessing and interacting with participating games. See <https://www.sec.gov/corpfin/pocketful-quarters-inc-072519-2a1>.
14. A custodian, for these purposes, would be a financial institution licensed or chartered to provide custodial services. However, the token *issuer* may (but is not necessarily required to be) the custodian itself; for example, we envision that token issuances and redemptions may be handled by a third-party company or by a platform maintained and operated by a consortium of institutions. While we generally do not believe the identity of the token issuer should, in itself, alter the analysis or conclusion regarding whether the issued tokens are securities, additional analysis may be required regarding whether the activities of such a company or platform would cause it to fall within the

definition of a “clearing agency” subject to registration with the SEC, and if so, whether an exemption from registration would be available.

15. The model Transfer Tokens described in this Chapter are distinguishable from cryptocurrencies which are purchased because of their value and which are not typically representative of any underlying asset. Such cryptocurrencies do often bear the hallmarks of investment vehicles. The relatively nascent Libra cryptocurrency, however, breaks with the more traditional formulation of blockchain-based cryptocurrencies because it is backed by a reserve of low-volatility assets, which the creators call the Libra Reserve. While a full discussion of the Libra is beyond the scope of the chapter, the Libra is envisioned by its creators as a new type of cryptocurrency which has the potential to bring access to low cost means of transferring money to much of the population currently living with little or no access to financial services. In order to be successful, the creators of the Libra note that it must be more widely adopted than other cryptocurrencies have been to date, citing volatility as one of the major impediments to adoption. In order to alleviate the volatility often associated with blockchain-based cryptocurrencies, it will be backed by assets including bank deposits and short-term government securities. Because of this, the Libra could be errantly described as being representative of the assets which support its value. However, the assets that make up the reserve are merely a tool to decrease volatility and thereby increase rates of adoption. The Libra *itself* is intended to have value, and the underlying assets are merely intended to give comfort to early adopters. The Libra differs in a way that is crucial to the analysis of the applicability of securities law: it is intended to have value in and of itself, while a Transfer Token is intended to be merely representative of an underlying valuable asset. See <https://libra.org/en-US/white-paper/>. Federal Reserve Chairman Jerome Powell has also indicated that the Federal Reserve is concerned the Libra may raise financial stability issues in the United States given the scope of the planned implementation of the cryptocurrency. See <https://www.wsj.com/articles/feds-jerome-powell-faces-senators-after-rate-cut-signal-11562837403>.
16. 11 U.S.C. §§ 101 *et seq.*
17. See, e.g., *United States v. Hampton*, 633 F.3d 334, 337 (5th Cir. 2011).
18. *In re Bernard L. Madoff Investment Securities LLC*, 773 F.3d 411 (2d Cir. 2014).
19. See *Blockchain and Distributed Ledger Technology: An Analysis of its Impact on the Syndicated Loan Market*, Part Three: Application of Blockchain Technology to the Loan Market, LSTA (2018).
20. See *Banco Espanol de Credito v. Security Pac. Nat’l Bank*, 973 F.2d 51 (2d Cir. 1992).
21. See “How to Approach Selling Art as a Collector,” *Artwork Archive* (2019), available at <https://www.artworkarchive.com/blog/how-to-approach-selling-art-as-a-collector>.
22. See R. O’Dwyer, “A Celestial Cyberdimension: Art Tokens and the Artwork as Derivative,” *Circa Art Magazine* (accessed July 21, 2019), available at <https://circaartmagazine.net/a-celestial-cyberdimension-art-tokens-and-the-artwork-as-derivative/>.
23. H. Neuendorf, “Christie’s Will Become the First Major Auction House to Use Blockchain in a Sale,” *ArtNet News* (2018), available at <https://news.artnet.com/market/christies-artory-blockchain-pilot-1370788>.
24. See “Blockchain in Oil & Gas,” *Deloitte* (accessed July 21, 2019), available at <https://www2.deloitte.com/us/en/pages/consulting/articles/blockchain-digital-oil-and-gas.html>.



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