# How Blockchain Could Rescue 10b-5 Damages

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(August 24, 2018, 3:10 PM EDT)

Damages distributions to qualified shareholders in 10b-5 matters are impeded in the current indirect share ownership system. While the present arrangement may have been adequate in past eras of low-frequency trading, it is not up to the ownership recording demands created by trading systems now in place. Emergent blockchain technology may provide a solution, but many problems must be solved before this happens. Advocates for equitable and efficient distributions of damages have an important role to play in the evolving trading and regulatory environment.

A critical shortcoming in the current indirect ownership system is how it handles artificial shares created by short sellers. Both the lender of shares and the owner of the same shares that were borrowed and sold may appear qualified to make 10b-5 damage claims. At the core of the issue is a simple fact: There is no master register of the beneficial owners of shares in the current indirect ownership arrangement. Consider the challenged disposition of Dole Food's March 28, 2016, settlement payment of $115,793,059 to qualified shareholders (and plaintiffs attorneys) who had contested Dole's going-private transaction. Although holders of 36,793,758 Dole shares qualified for payments, claims were made for 49,164,415 shares.[1] What happened? A flurry of short sales overwhelmed the system's ability to account for shareholder rights and created an additional 12 million artificial beneficial owners.

In the Dole transaction, the potential for double-counting drove the Delaware Court of Chancery's Vice Chancellor Travis Laster to observe that "the problems raised by short sales … appear endemic to the depository system and hence likely infect every claims process."[2] In 10b-5 settlements, short sales raise the same ambiguous ownership problem that arose in the Dole Foods settlement. Two issues arise: (1) who is the damaged party — the share lender, the buyer of borrowed shares sold by shorts, or both investors?[3] and (2) if both investors are not damaged, how can the damaged party be identified?[4] The two issues are linked through shortcomings in the current indirect ownership system.

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**How Share Ownership Works Now**

The plumbing behind share ownership was designed in the 1970s to alleviate a paperwork crisis on the New York Stock Exchange.[5] The central player is the Depositary Trust and Clearing Corp. and its subsidiary, Depositary Trust Corp. DTCC is owned by the broker-dealer firms that serve public shareholders. Issuers deposit shares at DTC and DTC participants hold accounts at DTC for clearing and netting holdings of their own and of their customers.

Most investors elect to hold their stock certificates in "street name," which means the stock is not delivered to the buyer. Instead, beneficial ownership is recorded by the share custodian DTC in the name of the broker that handled the buy transaction, not the actual beneficial owner. DTC's custodial securities (usually in electronic form) are registered to and thus legally owned by DTC's partnership nominee, Cede & Co (short for certificate depository). In turn, the buyer's name is listed in its brokerage firm's books as the beneficial owner of the shares. Thus, Cede's custodial ownership and the investor's beneficial ownership are separated (unless a nonmargined investor insists on actual delivery to its own account) and ownership records are separated as well. This tiered system of record-keeping creates the short-sale problem highlighted by Vice Chancellor Laster in his Dole ruling.

An investor who shorts a corporation's stock does so by borrowing shares from his or her broker. The broker supplies shares from its own inventory or from the shares it holds for margined investors in street name. The shares provided to the short seller are not identified as supplied by any individual because the broker's street-name securities are held in a fungible bulk at DTC.[6] Although standard share-lending contracts convey all beneficial ownership rights to the borrower and subsequent buyer, both the broker's margined street-name investors (usually unaware that their stock was lent) and purchasers of the shorted stock believe themselves to be the beneficial owner of the stock. Thus, artificial shares are created because two investors believe they are the beneficial owners of the shorted shares.[7] This causes potential identification problems in damages distributions to qualified shareholders. Both sets of long investors can claim damages and no mechanism exists to sort out which set actually deserves direct damages payments from the defendant.

Leading up to a major corporate event like a hostile takeover, DTC may institute a "chill" or "freeze" on a stock.[8] Both chills and freezes can cause issues with properly tracking and identifying ownership of securities and subsequent trades, and rights to the benefits therein. Dole, discussed above, provides a good example: The DTC instituted a chill on tracking Dole shares in the final three trading days up to the closing of the merger, just as almost 3 million shares were shorted. Subsequent trades and shorts did not appear on the DTC books, complicating an already muddied picture of short-shareholder rights, including the rights to damages distributions. So muddied were the waters that the Delaware Chancery Court had to turn to DTC for some sort of resolution.

In the Dole matter, DTC represented that it could sort out the beneficial ownership problem for a nominal fee. The payment scheme presented by DTC and approved in the Dole ruling reversed the way dividend distributions are made. Qualified owners of shares lent by brokers to shorts were authorized for direct settlement payments for damages while apparently qualified investors who bought shorted shares instead must make compensation claims on the shorts who sold the shares.[9] In effect, the ruling made the lent shares sold by the shorts artificial ones and made the shorts, as issuers of the artificial shares, the party responsible for paying damages to the buyers of the shares. Tracking down individual shorts associated with a buyer's long position and then extracting a payment seems difficult or functionally impossible. This is an especially important deficiency these days with some investors' high-frequency trading across various trading venues that occurs in response to news events.

To illustrate the current problem, consider when an investor buys shares at 10:30 a.m. in New York from a seller who borrowed the shares from its broker. Suppose a news event at 11 a.m. causes the shares' price to fall by 20 percent almost immediately. The decline in the share price then causes the investor to sell the shares at 11:30 a.m. At day's end, the investor has no net position and the broker that lent the shares does not know whose shares were lent. Now suppose that litigation later ensues about the issue revealed in the news event and that a settlement provides for damages payments to qualified investors of record. Although settlement agreements usually recognize only investors who hold positions overnight, no rule requires this standard. It would take a substantial effort to qualify this brief investor because the shares purchased were in a sense artificial and at the end of day, the investor's holding was zero. Nevertheless, the investor was damaged by the issue behind the news and should qualify for consideration.

**Blockchain to the Rescue?**

A blockchain-based transactions record system might solve a lot of the recording problems in the current indirect system tiered between DTC and brokers.[10] In a blockchain distributed ledger technology (DLT) setup, every share of stock would have its own token blockchain record history. Every transaction of the token share would be recorded in a block that contains data such as price, action (buy, sell, lend, borrow, payment made and received), along with a time stamp. Having this record would allow a court to know who owned the beneficial shares at any time and so would qualify for damages resulting from some corporate event. The Dole payment plan could parallel closely the way dividend payments are made. In addition, share lenders would be able to identify share borrowers to claim equivalent damages payments.

To imagine a switch from the current DTC ownership record system to a blockchain-based record system, DTC could issue blockchain tokens for trading while holding physical stock shares. Each share would be uniquely represented by one token that represents beneficial ownership, and each token would have its own individual blockchain structure. Initially, the total supply of tokens available to trade would equal the number of physical shares held by DTC. Thus tokens would replace the current indirect ownership system by splitting physical ownership from beneficial ownership. When a trade happens between a buyer and a seller, the buyer would enter the trade in the token's blockchain and the seller could confirm it. When both sides agree with the time, price and quantity, payment would be made by the buyer and confirmed by the seller and the transaction would be finalized and recorded on the blockchains of each traded token.

Unlike current DLT-based cryptocurrency schemes, there would be no "mining" of new tokens to compensate participants in the distributed ledger system to update ledgers after each transaction. Instead, verifying a block of token transactions would be rewarded by a compensation scheme designed to incentivize participants to maintain the whole network in an accurate and timely fashion. Virtually instantaneous settlement would occur without "chill" periods or "freezes." Similar records would be generated for borrowed tokens so a unique assignment of borrowers and lenders would allow damage payments to be paid to qualified beneficial owners without the confusion of artificial shares.

Despite having apparent advantages compared to the current way DTC and brokers record trades and ownership, DLT technology is still in development and faces many challenges and limitations. One issue is how to design an incentive-compatible compensation scheme to encourage a changeover from the current system and to provide an incentive for network participation and node maintenance in a DLT-based system. Another issue is that most DLT-based platforms today do not support the reversal or

cancellation of transactions. This makes it difficult to correct mistakes and structure complex transactions where the ability to reverse the transaction based on contractual stipulation is a desirable feature. Another issue concerns confidentiality and the continuous networkwide recording of investors' positions.[11] The surreptitious assembly of large positions underlies many hedge fund and corporate control trading strategies.

In addition, there are still doubts on how far a DLT-based trading system can scale up as it will need to process large volumes of transactions from high-frequency traders. For example, IBM has over 918 million shares outstanding with a daily trading volume averaging 4.6 million shares. Tracking almost a billion tokens in real time through millions of transactions will require a very substantial network speed capacity for just this one issuer. Another complication is that the clocks across trading venues and networks are not perfectly in sync, which can cause trade record mismatches as transactions are completed in millionths of a second today.[12] In addition, any new blockchain-based system must clarify data ownership rights, allow for integration with investors' data management tools, and provide high-speed access to data for data analytics purposes. While blockchain-based DLT may be up to such challenges, hacks of some cryptocurrency exchanges indicate that a lot of work needs to be done to replace the current system of exchanges and indirect share ownership.

**Conclusion**

While the present method of recording share trades and ownership solved many problems that arose with the paper-based systems that crashed at the end of the 1960s, the current structure of the indirect ownership system is not adequate for the way markets work today. In particular, the current system creates ambiguity in ownership and the potential for inaccurate damages claims in 10b-5 settlements. As it develops, blockchain technology may provide a compact way to trade and record beneficial ownership in the future, but much work needs to be done to make a blockchain DLT-based trading system commercially viable for securities trading.

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[1] In re Dole Food Co., No. 8703-VCL, 2017 Del. Ch. LEXIS 25, at *2 (Del. Ch. Feb. 15, 2017). The underlying 2015 Delaware court decision combined class action fraud and appraisal claims. A separate federal 10b-5 class action decision awarded plaintiffs an additional $74 million in damages.

[2] In re Dole Food Co., No. 8703-VCL, 2017 Del. Ch. LEXIS 25, at *19 (Del. Ch. Feb. 15, 2017).

[3] Case law on the question is sparse, but one case in particular provides secondary insight by citing rulings on securities standing and applying it to the relatively arcane "artificial shares" issue. The district court in In re PolyMedica comes out strongly on the side of granting standing to both the lender and the buyer of borrowed shares, regardless of which party holds the "artificial share." In re PolyMedica Corp. Secs. Litig., No. 00-12426-REK, 2004 U.S. Dist. LEXIS 17985, at *48-*52 (D. Mass. Sept. 7, 2004). [Vacated and remanded on appeal on separate grounds. Bowe v. PolyMedica Corp. (In re PolyMedica Corp. Sec. Litig.), No. 05-1220, 2005 U.S. App. LEXIS 27173 (1st Cir. Dec. 13, 2005)]. In PolyMedica, the defendants

had argued class certification should not be granted to parties who had "artificial shares" because they "will need to be distinguished from those who did not have artificial shares." Id. at 45. The court found this "wholly without merit" and that the proposed class members who had "artificial shares" were nonetheless purchasers of "securities" within the meaning of the securities fraud statutes, and would not need to be separated from the class for lack of standing. Id. Once standing is established, damages are just a factual matter of the difference between fraudulently inflated prices (if any) at the times that the party purchased and sold the share.

[4] Short sellers can influence total damage calculations in another unrelated way. Although short sellers are not beneficial owners of shares (they borrowed them and then sold them), they can be affected by fraudulent corporate disclosures made to shareholders. Based upon their trading dates, short sellers who cover their positions with later purchases can lose when long shareholders win and vice versa. Thus, as a subclass of potential claimants, short sellers may claim damages for positions held during periods when long investors cannot make such claims. Although a short sellers' standing for damage claims was denied in an earlier district court decision (Zlotnick v. Tie Commc'ns Inc., No. 85-1364, 1988 U.S. Dist. LEXIS 13606 (E.D. Pa. Dec. 2, 1988)), more recent decisions have affirmed their potential to qualify for damage compensation based upon the facts of a case. For example, see In re W. Union Sec. Litig., 1988 U.S. Dist. LEXIS 6737 (D.N.J. May 24, 1988) (Same circuit as Zlotnick, argues that subsequent Supreme Court ruling in Basic intervenes to challenge Zlotnick limitations on standing).

[5] Robert C. Apfel, John E. Parsons, G. William Schwert and Geoffrey S. Stewart, "Short sales, damages and class certification in 10b-5 actions," NBER Working Paper 8618 (2001), accessed July 23, 2018, http://www.nber.org/papers/w8618; Thomas Ward, "How the Indirect Holding System Affects Investor Suits," Law360 (Sept. 29, 2016), accessed June 27, 2018, https://www.law360.com/articles/708861/how-the-indirect-holding-system-affects-investor-suits; and Wyatt Wells, "The Remaking of Wall Street, 1967 to 1971," Harvard Business School (October 2, 2000), accessed July 23, 2018, https://hbswk.hbs.edu/archive/the-remaking-of-wall-street-1967-to-1971.

[6] A broker may also borrow shares from another broker if it has none in inventory or shares available from margined "street name" customers. This merely shifts the identification problem to the lending broker.

[7] As an example of the current beneficial owner identification problem, consider proxy overvoting. Overvoting can occur when broker-dealers lend stock they hold in "street name" for customers who buy stock on margin, and some margin customers' right to vote their securities may be transferred to the borrower. Critics of the current proxy voting system believe the overvote is an indicator that in fact broker-dealers are failing to make determinations as to which of their customers are actually entitled to a vote and to ensure that only those customers entitled to vote receive a vote. A master register of transactions might relieve broker-dealers of this burden, while enabling an accurate accounting of proxy voting rights and other shareholder rights. The U.S. Securities and Exchange Commission, "Roundtable on Proxy Voting Mechanics" (Washington D.C., May 23, 2007), accessed July 23, 2018, https://www.sec.gov/spotlight/proxyprocess/proxyvotingbrief.htm.

[8] DTC may at times place temporary or permanent restrictions on certain transactions, such as deposits or withdrawals of certificates. Such a restriction is known a "chill." For example, DTC may impose a temporary chill that restricts deposit or withdrawal of securities, effectively closing the books and stabilizing existing positions until a merger or other reorganization has been completed. A "freeze," by contrast, ceases all DTC services for a particular security. This is also referred to as a "global lock." If

the underlying issue can't be corrected, the security will likely be removed from DTC, and no transactions will be eligible to be cleared at any registered clearing agency. The SEC provides a more detailed overview here: The U.S. Securities and Exchange Commission, "Investor Alerts and Bulletins: DTC Chills and Freezes" (Washington D.C., May 1, 2012), accessed July 23, 2018, https://www.sec.gov/oiea/investor-alerts-bulletins/ib_dtcfreezes.html.

[9] With borrowed shares, the borrower must send an equivalent dividend payment to the lender even if the shares have been sold. The borrower's broker deducts the payment from the borrower's margin account and credits it to the lender. Thus, enough dividend payments are created for all actual and artificial beneficial owners. With damages payments, brokers cannot actually require borrowers to make such payments. Steven Davidoff Solomon, "Dole Case Illustrates Problems in Shareholder System," The New York Times, March 21, 2017, accessed April 19, 2018, https://www.nytimes.com/2017/03/21/business/dealbook/dole-case-illustrates-problems-in-shareholder-system.html.

[10] The state of Delaware itself has contracted with IBM to design a blockchain-based corporate filing system to better secure the state's massive corporate franchise business. Karl Baker, "Delaware awards $738,000 single-bid blockchain contract to IBM," Delaware Online, July 3, 2018, accessed July 23, 2018, https://www.delawareonline.com/story/news/2018/07/03/state-awards-738-000-single-bid-blostate-awards-738-000-single-bid-blockchain-cckchain-contract-ibm/751001002/.

DTCC also plans to go live with its blockchain-powered credit default swaps (CDS) reporting platform in 2018. "DTCC selects IBM, AXONI, and R3 to Develop DTCC's Distributed Ledger Solution for Derivative Processing," The Depository Trust & Clearing Corporation, Jan. 9, 2017, accessed May 9, 2018, http://www.dtcc.com/news/2017/january/09/dtcc-selects-ibm-axoni-and-r3-to-develop-dtccs-distributed-ledger-solution.

[11] A closed blockchain system could be established so that only qualified participants (i.e., brokers) could see individual positions. Note that identifying specific shares with specific investors could lead to demands for brokers to pay fees to lenders for borrowed shares. Some investors with segmented accounts occasionally receive fees now for shares in high demand by short sellers.

[12] John Markoff, "Time Split to the Nanosecond Is Precisely What Wall Street Wants," The New York Times, June 29, 2018, accessed July 6, 2018, https://www.nytimes.com/2018/06/29/technology/computer-networks-speed-nasdaq.html?rref=collection%2Fissuecollection%2Ftodays-new-york-