THE NUANCES OF U.S. LAW AND REGULATION GOVERNING POST-TRADE MECHANICS IN DTC-ELIGIBLE EQUITIES

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ABSTRACT

This article advances a formal account of the architecture of U.S. equity ownership within the indirect holding system, situated at the intersection of statutory property law, regulatory mandates, clearinghouse procedure, and customer account recordkeeping. The key contribution is a summary table that catalogues every per-trade effect on security entitlements to equities across two tiers: (1) participants against Depository Trust Company and (2) customers against securities intermediaries, thereby delineating how cross-tier discrepancies may arise as a lawful byproduct of the system's operations. It illustrates how these discrepancies emerge, propagate, and extinguish under financing arrangements, securities loans, and delivery failures. Further, it examines the controls and workflows through which such discrepancies are managed in practice. The discussion is presented in a self-contained manner and does not assume specialized prior knowledge of law or post-trade infrastructure.

INTRODUCTION TO THE TWO-TIERED SYSTEM

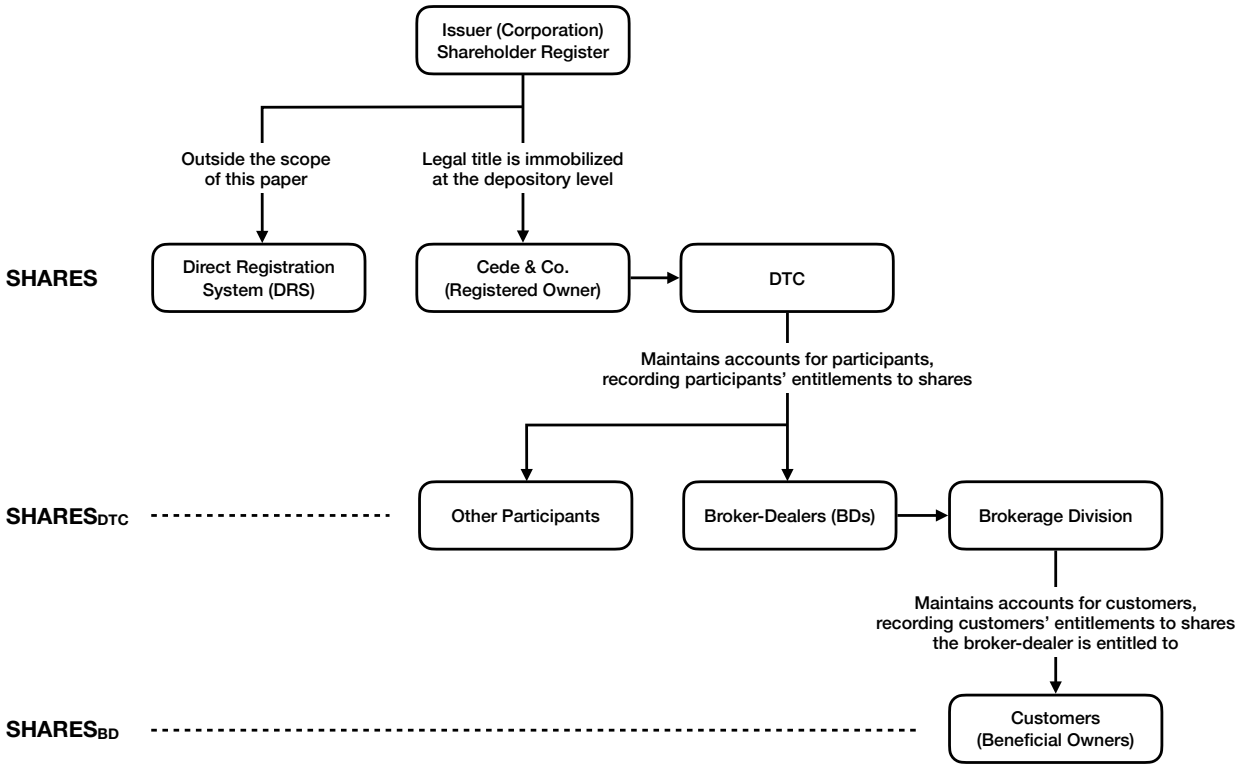
In the U.S., nearly all equity securities are held in "street name" through a chain of intermediaries, rather than directly by investors. At the top sits Cede & Co., a partnership nominee controlled by the Depository Trust Company (DTC). On issuers' shareholder registers, Cede & Co. is the holder of record for almost all U.S. public company shares, so this discussion will focus solely on those shares registered in Cede & Co.'s name[1]. Cede & Co. holds legal title to those shares, in a capacity similar—though not identical—to a trustee holding title in trust for beneficiaries.

DTC keeps an internal ledger of accounts for its participants, which include broker-dealers (BDs) and banks. The stock positions in a participant's DTC account reflect its entitlements to the shares registered in the name of Cede & Co. For ease of reference, these quantities are denoted by "$\text{shares}_{\text{DTC}}$" throughout this article.

In turn, each broker maintains its own customer account records, tracking how many of its $\text{shares}_{\text{DTC}}$ are held for each customer. For simplicity, the basic custody chain is assumed to follow DTC → broker → investor, with no additional entities interposed. The stock positions in a customer's brokerage account reflect her entitlements to the shares at DTC that her broker is entitled to. For ease of reference, these quantities are denoted by "$\text{shares}_{\text{BD}}$" throughout this article. Note that "$\text{share}_{\text{DTC}}$" and "$\text{share}_{\text{BD}}$" are not standard industry terminology; typically, all these positions are simply referred to as "shares".

In short, "owning stock" means holding a series of entitlements to entitlements rather than legal title to shares, since the actual stock certificates or electronic registrations are immobilized at the depository level.

Figure 1. Basic structure of intermediation for DTC-eligible equities.



This structure evolved for efficiency and has been universal in U.S. markets for decades, as millions of trades can settle by simply adjusting customer and participant accounts. Each tier of intermediation is governed by Article 8 of the Uniform Commercial Code (U.C.C.), which provides the legal framework for the indirect holding of shares.

Article 8 of the Uniform Commercial Code

To ensure legal precision, U.C.C. Article 8 defines the key concepts used[2]:

- **Security Entitlement – § 8-102(a)(17)**
  "'Security entitlement' means the rights and property interest of an entitlement holder with respect to a financial asset …".

  Explanation: For a particular stock, a broker's shares$_{DTC}$ represent its security entitlement to shares against DTC, and a customer's shares$_{BD}$ represent her security entitlement to shares against her broker.

- **Security – § 8-102(a)(15)**

  "'Security' ... means an obligation of an issuer or a share, participation, or other interest in an issuer or in property or an enterprise of an issuer:
  (i) which is represented by a security certificate in bearer or registered form, or the transfer of which may be registered upon books maintained for that purpose by or on behalf of the issuer [e.g., by a transfer agent] …".

  Explanation: Shares are securities, but security entitlements are not, because only share transfers are recorded in issuers' shareholder registers.

- **Financial asset – § 8-102(a)(9)**

  "'Financial asset' ... means:
  (i) a security; … or
  (iii) any property that is held by a securities intermediary for another person in a securities account if the securities intermediary has expressly agreed with the other person that the property is to be treated as a financial asset under this Article.
  As context requires, the term means either the interest itself or the means by which a person's claim to it is evidenced, including a certificated or uncertificated security, a security certificate, or a security entitlement".

  Explanation: Security entitlements to shares are financial assets, as are $shares_{DTC}$ and $shares_{BD}$ (the book-entries in participant and customer accounts, respectively, that evidence security entitlements).

- **Securities Account – § 8-501(a)**

  "'Securities account' means an account to which a financial asset is or may be credited in accordance with an agreement under which the person maintaining the account undertakes to treat the person for whom the account is maintained as entitled to exercise the rights that comprise the financial asset".

  Explanation: Accounts holding $shares_{DTC}$ or $shares_{BD}$ are securities accounts.

- **Securities Intermediary – § 8-102(a)(14)**
  "'Securities intermediary' means:
  (i) a clearing corporation; or
  (ii) a person, including a bank or broker, that in the ordinary course of its business maintains securities accounts for others and is acting in that capacity".

  Explanation: Brokers and DTC are securities intermediaries, as well as NSCC, introduced later.

Notably, Article 8 broadly defines "financial asset" to include both the actual securities (shares issued by companies) and the security entitlements to those securities (represented by $shares_{DTC}$ and $shares_{BD}$). This means that the law recognizes security entitlements as a form of property, not purely contractual claims.

Property Interest from a Security Entitlement

A significant legal safeguard is U.C.C. § 8-503(a), which provides that, "to the extent necessary for a securities intermediary to satisfy all security entitlements with respect to a particular financial asset [e.g., a stock], all interests in that financial asset held by the securities intermediary are held by the securities intermediary for the entitlement holders, are not property of the securities intermediary, and are not subject to claims of creditors of the securities intermediary"[3]. This can be described as a statutory in-trust carve-out, and it applies to both broker-customer and DTC-participant relationships.

Crucially, a security entitlement encompasses rights and a stake in shares, but not in any specifically identified shares. U.C.C. § 8-503(b) explains that "an entitlement holder's property interest [i.e., legal rights in property] with respect to a particular financial asset under subsection (a) is a pro rata [i.e., proportional] property interest in all interests in that financial asset held by the securities intermediary"[4]. Thus, if a broker has 50,000 $shares_{DTC}$ of ABC stock and a customer has 500 ABC $shares_{BD}$, she holds a property interest in 1% of her broker's property interest in ABC shares at DTC. This structure can be further described as a statutory floating trust: since the broker's holding of ABC $shares_{DTC}$ continually changes in quantity, the customer's proportion continually floats with that pool. At the participant level, § 8-503(b) means that each participant holds a pro rata property interest in the shares held at DTC.

Balance in the Stock Record

Every broker-dealer keeps track of all the positions it carries in its stock record. Under SEC Rule 17a-3(a)(5)(i), it lists the firm's long and short positions for each stock[5]. Typically, the stock record is organized into two sides that must balance[6]:

- **Long side**: indicates entitlement to shares. This includes all customer long positions and any $shares_{DTC}$ the broker-dealer holds for its own account.
- **Short side**: indicates who is obligated to deliver shares. This includes all $shares_{DTC}$ in the broker-dealer's DTC account and all customer short positions.

  Many more long and short positions exist which are outside the scope of this paper.

In today's stock markets, trades do not technically "complete" because the buyer never receives the shares themselves. If completion meant the buyer taking receipt of shares, then from her broker's perspective, a modern-day settled trade ends with the buyer "long" because she is owed shares, and DTC "short" because it owes shares. The stock record relays this logic.

Table 1. Simplified broker-dealer stock record for a given stock.

Stock Record – CUSIP XXXXXXXXX				
LONG SIDE			**SHORT SIDE**	
Customer A – Cash Account	100		DTC	1,000
Customer A – Margin Account	200			
Customer B – Margin Account	300			
Customer C – Cash Account	400			
TOTAL LONG	**1,000**		**TOTAL SHORT**	**1,000**

Maintaining long-short balance is enforced by SEC's Customer Protection Rule. SEC Rule 15c3-3(b)(1) requires "control of all fully-paid securities and excess margin securities carried by a broker or dealer for the account of customers" [7]. As might be expected, a broker's $shares_{DTC}$ are ordinarily treated as the means by which it controls its customers' shares. U.C.C. § 8-504(a) states that "a securities intermediary shall promptly obtain and thereafter maintain a financial asset [e.g., share] in a quantity corresponding to the aggregate of all security entitlements it has established in favor of its entitlement holders with respect to that financial asset. The securities intermediary may maintain those financial assets directly or through one or more other securities intermediaries [e.g., DTC]"[8]. Rule 15c3-3 operationalizes this duty.

Investors are Beneficial Owners

The key takeaway thus far is worth reiterating: an investor holds a pro rata property interest in shares her broker holds a pro rata property interest to, rather than owning shares directly.

LIFECYCLE OF AN EQUITY TRADE

This section traces the post-trade mechanics for trades arising from long sales (not short sales) of shares immobilized at DTC, from execution through clearing to final T+1 settlement. Short sales are addressed in the following section.

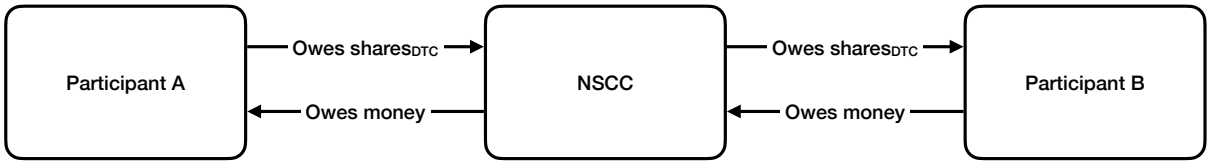
Trade Execution and Capture

When a buy and sell order match on an exchange or alternative trading system, the trade is submitted to the National Securities Clearing Corporation (NSCC) and validated by Universal Trade Capture[9]. The trade is locked-in, but nothing will move until settlement. On customers' account statements, brokers may also display a trade date position so that, prior to settlement, new trades can be included as pending entries[10].

Clearing (Novation and Netting)

Once reported, the original trade (Participant A sells to Participant B) is discharged and superseded by: Participant A sells to NSCC, and NSCC sells to Participant B. NSCC becomes the buyer to each seller and the seller to each buyer.

Figure 2. NSCC acts as the central counterparty.



After market close, NSCC's Continuous Net Settlement System (CNS) nets each participant's activity into a single position per CUSIP, and a single end-of-day money figure for settlement[11].

Table 2. CNS Accounting Summaries reflect net trading activity.

CNS Accounting Summary – Participant ABC				
CUSIP	**Shares to Receive**	**Shares to Deliver**	**Net Shares**	**Net Money**
XXXXXXXXX	1,000	600	**400**	($2,800)
YYYYYYYYY	300	900	**(600)**	$10,500
ZZZZZZZZZ	1,500	1,500	**0**	($3,300)
				$4,400

T+1 Settlement for Participants

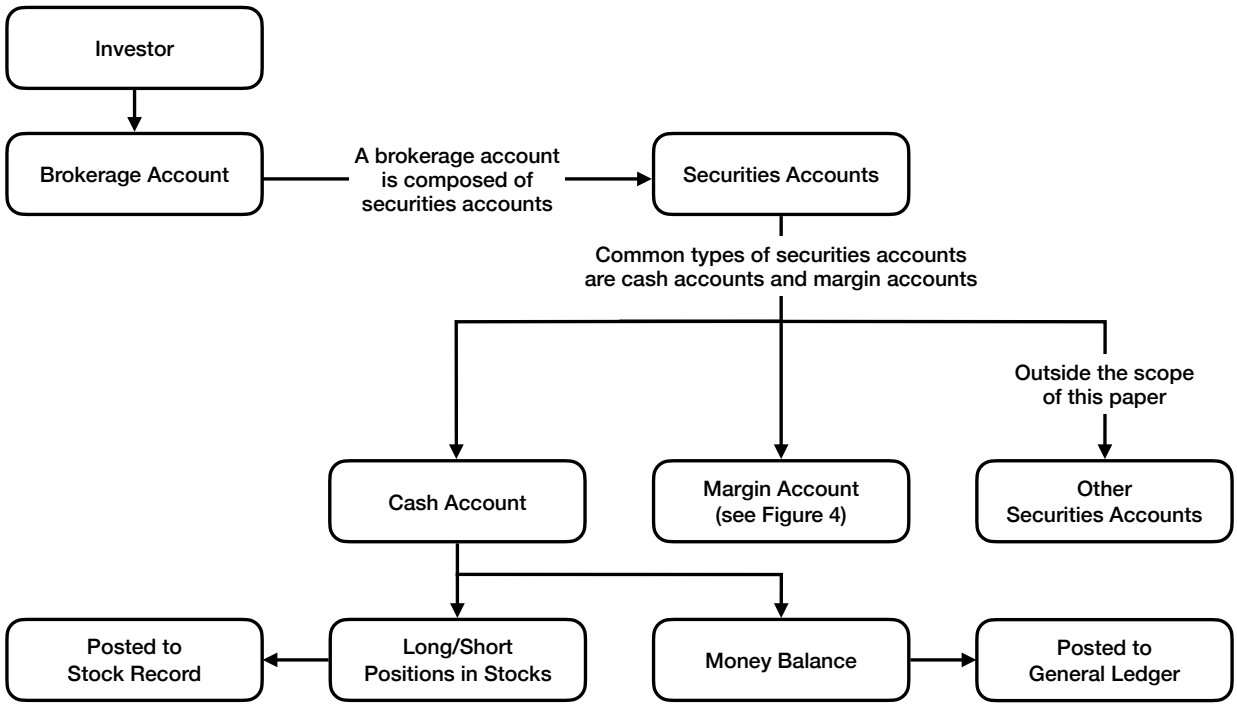
On T+1, DTC processes CNS instructions: shares$_{DTC}$ are transferred from net short participants' DTC accounts to NSCC's "888" account at DTC, and then transferred from 888 to net long participants' DTC accounts. Money settles later via the National Settlement Service (NSS)[12].

As applied to participants, U.C.C. § 8-501(b) states that "a person [e.g., participant] acquires a security entitlement if a securities intermediary [e.g., DTC]: (1) indicates by book entry that a financial asset has been credited to the person's securities account"[13]. Therefore, participants credited shares$_{DTC}$ create or increase their security entitlements, whereas participants debited shares$_{DTC}$ reduce or extinguish their security entitlements.

Posting to Customers' Brokerage Accounts

For customers, settlement also occurs at T+1. As applied to customers, U.C.C. § 8-501(b) states that "a person [e.g., customer] acquires a security entitlement if a securities intermediary [e.g., broker]: (1) indicates by book entry that a financial asset has been credited to the person's securities account [e.g., $share_{BD}$]; (2) … or acquires a financial asset [e.g., $share_{DTC}$] for the person and… accepts it for credit to the person's securities account"[14]. Therefore, buyers are credited $shares_{BD}$ (creating or increasing their security entitlements) and sellers are debited $shares_{BD}$ (decreasing or extinguishing their security entitlements), with cash credited or debited based on net buys and sells. The stock record is updated accordingly.

Figure 3. Breakdown of a customer brokerage cash account.



In Brief

To summarize, a matched trade on day T leads to a series of security entitlement adjustments on T+1. Brokers credit and debit their customers' brokerage accounts in line with the per-CUSIP net credits and debits that occurred in their DTC accounts.

LENDING, MARGIN, REHYPOTHECATION AND SHORT SELLING

Lending, margin, rehypothecation, and short selling each introduce additional complexity to the chain of security entitlements.

Mechanics of Share Lending (Cash Accounts)

Share lending takes the form of $shares_{DTC}$ transferred from the lender's DTC account to the borrower's DTC account, since the shares themselves remain immobilized at DTC. In the Prefatory Note to U.C.C. Article 8, within "Application of Revised Articles 8 and 9 to Common Investments and Investment Arrangements", it reads that[15]:

> "The securities lender does not retain any property interest in the securities that are delivered to the borrower… The whole point of securities lending is that the borrower needs the securities to transfer them to someone else. It would make no sense to say that the lender retains any property interest in the securities it has lent".

Therefore, the lending participant loses its right to vote. Its continued economic ownership (receipt of payments in lieu of dividends) arises from the terms of the loan agreement, not from any enduring security entitlement.

Interestingly, when a customer authorizes share lending and her position is lent, her brokerage account remains credited with $shares_{BD}$; her security entitlement therefore persists against her broker, subject to the lending terms. Normally, the terms include a suspension of voting rights[16]. Recall that SEC Rule 15c3-3(b)(1) requires "control of all fully-paid securities… carried by a broker or dealer for the account of customers". However, Rule 15c3-3(b)(3) waives control when a broker obtains customer consent[17]. In a cash account, the broker first borrows the position from the customer on a fully collateralized basis, because the $shares_{DTC}$ are "held by the securities intermediary for the entitlement holder" and "are not property of the securities intermediary" (U.C.C. § 8-503(a))[18]. Then, the $shares_{DTC}$ are lent to the borrowing participant.

Consider a grain silo in which the grain in the silo is equivalent to $shares_{DTC}$ held by a broker. Multiple farmers possess receipts, each for a stated amount of grain. No farmer's grain is kept in a separate pile; all grain is commingled. Akin to U.C.C. § 8-503(b), each farmer owns a pro rata property interest in the grain in the silo at that moment – each claim is to the pool, not to any specific kernels. Suppose one farmer lends 300 bushels against collateral to the silo operator to re-lend. The operator opens the chute and a truck carries those bushels away. The height of grain in the silo falls for everyone, but the authorizing farmer's receipt does not get clipped. Outside the silo, the operator holds the borrower's contractual promise and typically receives full collateral back, enabling the operator to either recall the loan or buy enough grain to refill the silo and honor all receipts in full. Two conclusions follow. First, every farmer's stake points to the now-diminished pool. Second, the system tolerates this imbalance by design, because the collateral involved can be used to fund replacement grain if necessary. The operator's profit stems from the interest rate spread between borrowing and lending.

Turning back to stocks, recall that U.C.C. § 8-504(a) is clear in that "a securities intermediary shall promptly obtain and thereafter maintain a financial asset in a quantity corresponding to the aggregate of all security entitlements it has established in favor of its entitlement holders with respect to that financial asset". The key lies in § 8-504(c): "a securities intermediary satisfies the duty in subsection (a) if: (1) the securities intermediary acts with respect to the duty as agreed upon by the entitlement holder and the securities intermediary"[19]. "As agreed" is what matters. For each customer, a broker is deemed to satisfy its maintenance duty if it performs as agreed with that customer.

Put simply, brokers must maintain $shares_{DTC}$ equivalent to the $shares_{BD}$ in customers' cash accounts unless a customer has agreed otherwise, in which case collateral of equal value is substituted.

Rehypothecation of Shares Purchased on Margin

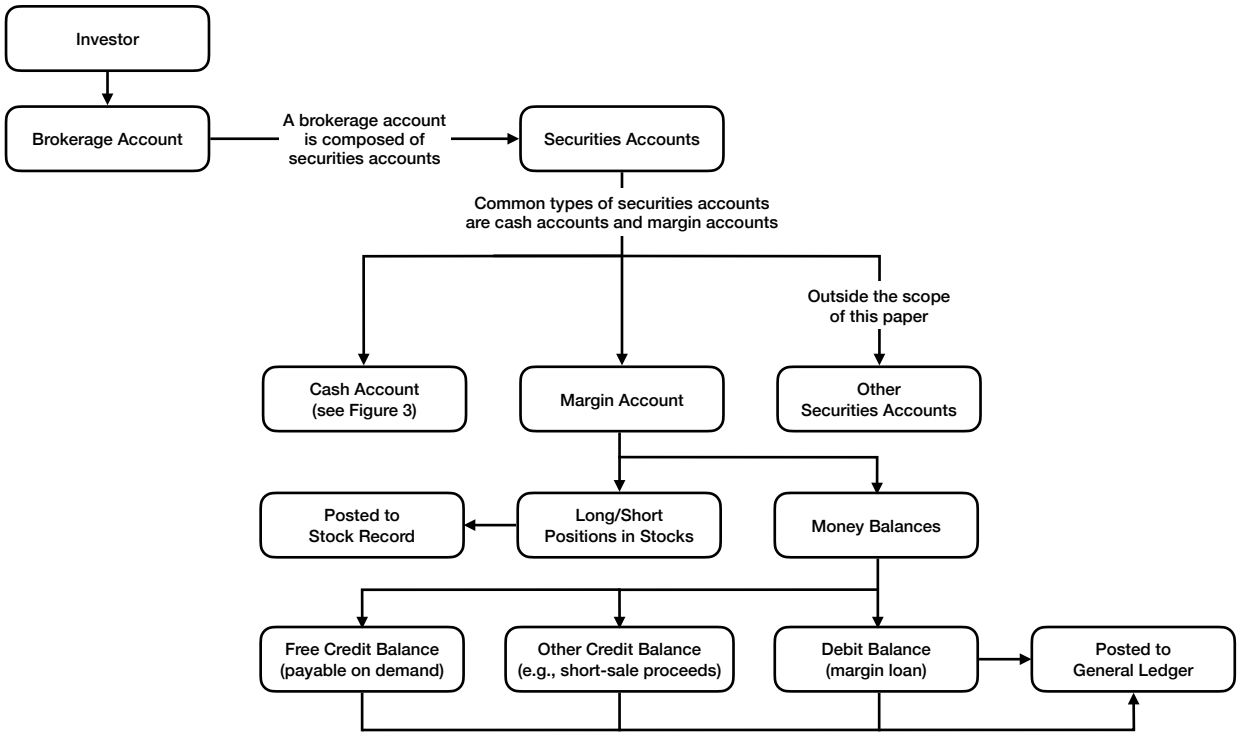
A margin account is a securities account in which a broker may extend credit to a customer[20]. Recall SEC Rule 15c3-3(b)(1) once again: "control of all fully-paid securities and excess margin securities carried by a broker or dealer for the account of customers"[21]. Note that ordinary margin shares are omitted. Thus, they may be hypothecated (pledged to the broker as collateral for the margin loan) and subsequently rehypothecated (reused). Consistent with FINRA Rule 4330(a) & Supplementary Material .02, the standard margin agreement includes the customer's written authorization, thereby satisfying the "as agreed" provision in U.C.C. § 8-504(c)[22].

What are fully paid, margin and excess margin shares? Shares are fully paid unless "purchased in transactions for which the customer has not made full payment" (SEC Rule 15c3-3(a)(3)). Accordingly, all shares purchased in a margin transaction are margin shares (Rule 15c3-3(a)(4)). Supplementally, if the margin shares' market value exceeds 140% of the net debit balance, the shares beyond that threshold are sub-classified as excess margin shares (Rule 15c3-3(a)(5))[23]. The net debit balance is calculated across all of a customer's securities accounts, as:

Net Debit Balance = Debit Balances (Margin Loans) – Credit Balances + Marked-to-Market Credit Balances from Short Sales (FINRA Interpretation 15c3-3(a)(5)/01)

Brokers decide which shares "within the permissible limits constitute margin securities and which securities constitute excess margin securities"[24] (FINRA Interpretation 15c3-3(d)(1)/01).

Figure 4. Breakdown of a customer brokerage margin account.



Why might a broker rehypothecate $shares_{DTC}$ held for a customer? To fund the cash it advanced. A purchase on margin is paid for by the broker, hence creating a debit balance. For the broker, cash held to back the customer's credit balances excluding short-related credits can be applied against the purchase price. Only the remainder (the net debit) needs financing, which is why the broker may rehypothecate the $shares_{DTC}$. Rehypothecation can take several forms[25]:

1. Lending $shares_{DTC}$ and receiving cash collateral;
2. Selling $shares_{DTC}$ temporarily in a repurchase agreement (repo); or
3. Pledging $shares_{DTC}$ as collateral to borrow funds.

Because the rehypothecation cap is 140% of the net debit balance, the cash replenishment may at times be ~40% greater than the margin loan extended, and slightly higher in lending. However, SEC Rule 8c-1 prohibits rehypothecation beyond all customers' indebtedness in aggregate[26]. As always, the customer's brokerage account remains credited with $shares_{BD}$.

Mechanics of Short Selling

When a customer sells short, no debit balance is created. If the broker borrows $shares_{DTC}$ to deliver (as opposed to using $shares_{DTC}$ from firm inventory), cash collateral is usually provided to the lender, temporarily funded by the broker, to be reimbursed by the short sale proceeds flowing in at T+1. Since customer account records are often kept on a settlement date basis, there is no longer any debit balance to record upon receipt of the short sale proceeds.

In the customer's margin account, a short sale may show as a negative $share_{BD}$ quantity[27]. However, this does not represent a negative security entitlement, only a contractual obligation to return shares to her broker. Returning shares is done by buying to close, in which the broker receives $shares_{DTC}$. The short sale proceeds are credited to the customer but are not usable or withdrawable, since they secure the obligation to buy-to-cover. When the short is covered, $shares_{DTC}$ can be returned to the lender. Any net cash credit becomes free for the customer, and the short position line item or negative $share_{BD}$ quantity is extinguished.

FAILS CREATE DEFICITS IN SETTLEMENT

A fail-to-deliver (FTD) occurs when a participant fails to deliver $shares_{DTC}$ to NSCC.

Allocation Algorithm for CNS Longs

To understand how a fail affects the system, it helps to know how NSCC allocates $shares_{DTC}$. Recall that NSCC novates every trade, so settlement is counterparty-blind. If a participant fails to deliver $shares_{DTC}$, NSCC cannot deliver the full amount of $shares_{DTC}$ to every net long participant. How does NSCC decide who receives $shares_{DTC}$ and who is left waiting with a fail-to-receive (FTR)? Initially, the priority queue for CNS long positions is governed by NSCC's allocation algorithm[28]:

1. **Reorganization Longs**
   Long positions in stocks subject to voluntary corporate reorganizations (e.g., tender offer) that have been protected for "reorg" processing.

2. **Buy-In Intent Longs (expiring today)**
   If a participant has been waiting on $shares_{DTC}$ and files a Buy-In Intent (a warning that "if I do not get $shares_{DTC}$, I will buy them myself"), that position is given high priority for two settlement days. These buy-in intent longs expire today and were not filled the previous day.

3. **Buy-In Intent Longs (expiring the following day)**

4. **ETF Component Longs**
   Long positions in stocks required to create or redeem ETF shares.
   ETF shares (registered in the name of Cede & Co.) are created when an authorized participant delivers a specified basket of component $shares_{DTC}$ and cash through NSCC to the fund's custodian, and receives ETF $shares_{DTC}$ in exchange. Redemptions reverse the flow and reduce ETF shares outstanding.

5. **Standing Priority Requests and Priority Overrides**
   A participant may submit a Standing Priority Request which elevates the priority of its long positions in all stocks. For a single stock, a participant may submit a one-day Priority Override if it has an urgent need.

6. **Ordinary Longs**

In essence, participants allocated FTRs are simply holding the next longs in line when 888 runs dry.

Fails-to-Deliver Create Fails-to-Receive

Suppose in CNS, Broker A fails to deliver 500 $shares_{DTC}$ of ABC stock into 888.
What happens when Broker B fails to receive 500 $shares_{DTC}$?

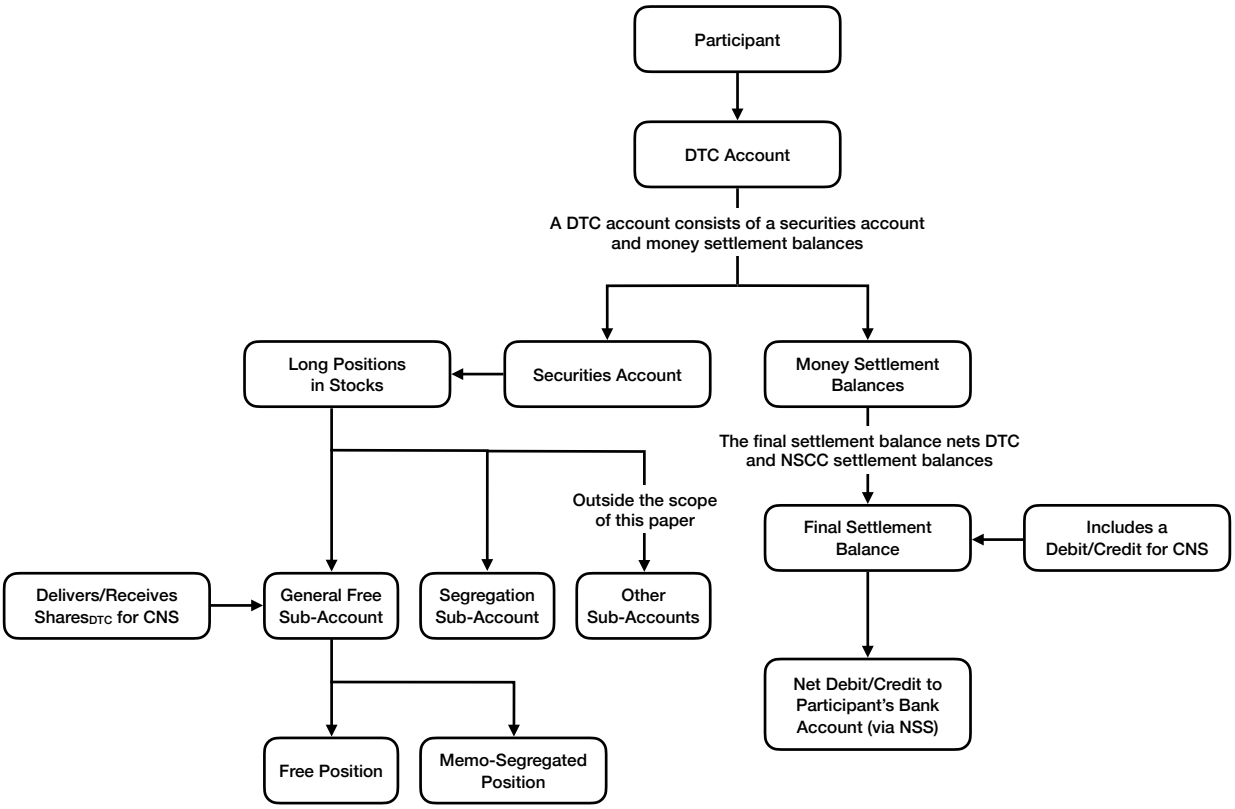
Mechanics at the Participant Level

In this example, Broker A owes NSCC 500 $shares_{DTC}$ and NSCC owes Broker B 500 $shares_{DTC}$.
Broker B is still charged the purchase price, which NSCC withholds from Broker A.
Then, NSCC marks the open fail to market each settlement day, charging Broker A whenever the price rises to continue covering the cost of closing it out. As well, NSCC levies a separate charge that escalates over time, equal from 5% to 100% of the fail's current market value. These charges are collected as part of Broker A's Required Fund Deposit to NSCC's Clearing Fund[29].

Broker A may have failed solely because the $shares_{DTC}$ were misallocated within its DTC account. Not all $shares_{DTC}$ are free to deliver. Typically, a DTC account is segmented into several sub-accounts. General Free holds the deliverable balance, while Segregation ring-fences $shares_{DTC}$ held for customers. DTC also supports Memo Segregation to protect anticipated $shares_{DTC}$ entering General Free[30].

NSCC Accounting Summaries (see Table 2) help participants monitor their net CNS obligations and adjust their quantities of free $shares_{DTC}$ accordingly. Here, Broker A's insufficient free position resulted in a fail-to-deliver.

Figure 5. Breakdown of a participant's DTC account.



Nothing Changes for Customers

Despite failing to receive shares$_{DTC}$ from NSCC, Broker B credits its customers' brokerage accounts for the full amounts of shares$_{BD}$ purchased. The customers purchased the shares$_{BD}$ in good faith and expect to see them in their brokerage account on settlement day. Hence, Broker B debits their cash balances, consistent with its net payment to NSCC. U.C.C. § 8-501(c) states that a person can have "a security entitlement even though the securities intermediary does not itself hold the financial asset", and Official Comment 3 to U.C.C. § 8-501 provides more information[31]:

> "It is, for example, entirely possible that a securities intermediary might make entries in a customer's account reflecting that customer's acquisition of a certain security at a time when the securities intermediary did not itself happen to hold any units of that security. The person from whom the securities intermediary bought the security might have failed to deliver and it might have taken some time to clear up the problem, or there may have been an operational gap in time between the crediting of a customer's account and the receipt of securities from another securities intermediary. The entitlement holder's rights

> against the securities intermediary do not depend on whether or when the securities intermediary acquired its interests. Subsection (c) is intended to make this point clear. Subsection (c) does not mean that the intermediary is free to create security entitlements without itself holding sufficient financial assets to satisfy its entitlement holders. The duty of a securities intermediary to maintain sufficient assets is governed by Section 8-504 and regulatory law. Subsection (c) is included only to make it clear the question whether a person has acquired a security entitlement does not depend on whether the intermediary has complied with that duty".

Suppose that Broker B is carrying more $shares_{BD}$ than $shares_{DTC}$. With regards to control, SEC Rule 15c3-3(d)(2) treats its FTR as an acceptable pending location for 30 calendar days. Thereafter, Broker B must "take prompt steps to obtain… control of securities so failed to receive through a buy-in procedure or otherwise"[32].

As to Broker A, it failed to deliver $shares_{DTC}$ yet debits its customers for the full 500 $shares_{BD}$ sold and credits the full proceeds, even though payment has not been received from NSCC. An SEC interpretative release concerning Rule 17a-3(a) notes that "transactions involving the purchase and sale of securities should be posted to the customer's ledger accounts… no later than settlement date"[33].

MATRIX OF PER-TRADE MECHANICS

In a 2008 amicus curiae brief, the SEC clarified that "while the operation of the U.C.C. may result in more shares being credited to customer accounts in the form of security entitlements than have been issued, that fact is a recognized feature of the statutory scheme, arising from the fact that broker-dealers are permitted to credit accounts with security entitlements even though the firm is not holding an equivalent number of shares"[34].

In this intermediated holding system, both failed and settled trades processed through CNS either increase, decrease, or leave unchanged the system-wide number of $shares_{BD}$ credited to customers. The following matrix summarizes each trade's effect based on the counterparties involved. First, recall that in a short sale, a negative $share_{BD}$ balance shown in a customer's margin account reflects her contractual obligation to return shares to her broker, not a negative security entitlement, so it is omitted from this section.

Table 3. Impact on customer security entitlements by trade type.

Ultimate seller and order mark	Ultimate buyer and pre-trade position	Effect on system-wide customer security entitlements	Explanation	Failed or settled trade
Customer long sale	**Customer** (long or flat)	**Unchanged**	The seller's security entitlement decreases and the buyer's increases.	**Both:** customer brokerage accounts are adjusted regardless.
Customer long sale	**Short customer**	**Subtractive**	The seller's security entitlement decreases while the buyer solely closes her short position.	**Both**
Customer long sale	**Participant** (long, flat or short)	**Subtractive**	The seller's security entitlement decreases but no customer on the buy side.	**Both**
Customer short sale	**Customer** (long or flat)	**Additive**	The buyer's security entitlement increases. In a covered short sale, no customer of the lender has her security entitlement reduced. In a naked short sale, no lender exists.	**Both**
Customer short sale	**Short customer**	**Unchanged**	The buyer solely closes her short position. In a covered short sale, no customer of the lender has her security entitlement reduced. In a naked short sale, no lender exists.	**Both**
Customer short sale	**Participant** (long, flat or short)	**Unchanged**	No customer on the buy side. In a covered short sale, no customer of the lender has her security entitlement reduced. In a naked short sale, no lender exists.	**Both**
Participant (long sale or short sale)	**Customer** (long or flat)	**Additive**	The buyer's security entitlement increases but no customer on the sell side.	**Both**
Participant (long sale or short sale)	**Short customer**	**Unchanged**	The buyer solely closes her short position and no customer on the sell side.	**Both**
Participant (long sale or short sale)	**Participant** (long, flat or short)	**Unchanged**	No customer on either side, so no customer brokerage accounts change.	**Both**

Importantly, whether a trade settles or fails has no effect on customer security entitlements. Furthermore, as the SEC explained, customers' security entitlements to shares can exceed the number of shares outstanding[35].

To illustrate this, consider a stock with 100 shares outstanding registered to Cede & Co, with all shares ultimately held for customers. Suppose Broker A holds 10 $\text{shares}_{\text{DTC}}$ for Customer A, whose brokerage account is credited with 10 $\text{shares}_{\text{BD}}$. If 5 $\text{shares}_{\text{DTC}}$ are rehypothecated to settle a short sale, Customer A retains 10 $\text{shares}_{\text{BD}}$. If the short sale is matched to a buy order from non-short Customer B, customers taken together now hold 105 $\text{shares}_{\text{BD}}$. If the short seller later buys to cover against a long sell order, 5 $\text{shares}_{\text{BD}}$ are extinguished and the system-wide total returns to 100 $\text{shares}_{\text{BD}}$.

By contrast, the system-wide number of $\text{shares}_{\text{DTC}}$ can never deviate from the number of shares Cede & Co. holds legal title to, because every adjustment in DTC's ledger is a balanced debit-credit entry: any $\text{shares}_{\text{DTC}}$ debited from one DTC account are credited to one or more other DTC accounts.

As a reminder, NSCC novates and nets trades for settlement; this section simply draws out the per-trade mechanics that accumulate within CNS. In practice, the indirect holding system is not limited to two tiers, which significantly complicates a more granular analysis of U.S. equity ownership[36]. In light of this, simplified terms like "$\text{share}_{\text{DTC}}$" and "$\text{share}_{\text{BD}}$" do not map one-to-one onto all real-world custody chains (e.g., DTC → clearing broker → introducing broker → investor), but are used rather than "shares" to clearly distinguish between securities accounts of customers and those of participants.

ECONOMIC AND GOVERNANCE RIGHTS IN FAILS

Where an FTR exists, all long customers still receive full security entitlements which carry the same economic and governance rights that would flow through a fully settled position, though the mechanics differ.

Stock, Cash, and Cash-in-Lieu Dividends

At record-date close, NSCC documents each participant's open long or short position in CNS and, on the payable date, adjusts CNS positions accordingly. For a stock dividend, participants which failed to deliver have their obligation to deliver $\text{shares}_{\text{DTC}}$ increased. Participants which failed to receive have their right to receive $\text{shares}_{\text{DTC}}$ increased. For a cash or cash-in-lieu dividend, it is debited or credited, respectively, to their money settlement balances at NSCC and settled via the National Settlement Service[37]. As expected, customers' brokerage accounts are credited.

Voting Rights

Since DTC caps each participant's voting power at the number of $shares_{DTC}$ in its DTC account, over-voting is a possibility. At the 2007 SIFMA Proxy Symposium, Erik R. Sirri remarked that brokers "can either (1) allocate to each of its customers one vote for each share credited to the customer's account and if too many votes are submitted, the broker will have to decide which votes will count, or (2) decide which customers (or itself as a holder of securities) will get to vote and how many shares they get to vote"[38].

Operationally, brokers have full discretion over the reconciliation and allocation methodology they use. They may pre-reconcile before mailing, limiting ballots to the number of $shares_{DTC}$ held, or post-reconcile after instructions arrive. The scale-down is typically a lottery or pro rata method (e.g., 10 votes become 8). Many brokers prioritize fully paid customer positions and forgo proprietary votes first, but there is no requirement to do so[39].

That said, retail participation is thin: Broadridge puts voting participation by shares owned at 28% for retail and 76.6% for institutional investors in 2025[40]. Thus, while brokers with institution-heavy books may face greater reconciliation pressure, it is generally not a material challenge.

As set out in U.C.C. § 8-506, "a securities intermediary [e.g., broker, or DTC] shall exercise rights [e.g., voting rights] with respect to a financial asset if directed to do so by an entitlement holder. A securities intermediary satisfies the duty if: (1) the securities intermediary acts with respect to the duty as agreed upon by the entitlement holder and the securities intermediary"[41]. Once again, "as agreed" becomes significant. In 2005, the Securities Industry Association Ad-Hoc Committee on Proxy Over-Reporting noted that "firms have been relying on their margin agreements, which allow a firm to reduce customer votes based on that firm's determination that the shares have been hypothecated"[42].

CONCLUSIONS

To align this conclusion with standard industry discussion, "shares_{DTC}" and "shares_{BD}" are set aside in favor of the ordinary term "shares".

In the U.S. indirect-holding system, investors do not hold legal title to specific shares. Instead, they hold security entitlements—rights and pro rata property interests to shares—against their broker. Brokers, in turn, hold security entitlements against DTC, while legal title sits with DTC's nominee, Cede & Co. Brokers therefore balance the number of shares credited to customers with the number credited to their participant account at DTC. This is enforced through the concept of control, which protects fully paid and excess margin customer positions.

For buys of long sales, clearing and settlement follow a standardized flow: buyers' security entitlements are created or increased, and sellers' security entitlements are reduced or extinguished. What is less apparent is that lending a customer's position leaves her security entitlement intact even as her broker's security entitlement at DTC is reduced or extinguished. Indeed, the legal and regulatory framework accommodates this. Consequently, both naked short sales and short sales borrowing customer positions can give rise to excess shares being credited to customers.

Net long participants in CNS receive shares from NSCC pursuant to an allocation algorithm, under which those allocated FTRs are simply next in line when net short participants lack sufficient deliverable shares. Whether a trade settles or fails is immaterial to the aggregate number of shares credited across customer brokerage accounts, and holding an FTR is treated as control for up to 30 calendar days. Moreover, NSCC appropriately allocates dividends to participants which failed to receive; however, no such mechanism exists for proxy voting. Nevertheless, as a practical matter, the need to reconcile an over-vote is typically minimal given generally low voter turnout.

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