



NORTHERN
TRUST

TRANSITION AND EVOLUTION IN
THE SECURITIES LENDING MARKET:
A Briefing for Beneficial Owners

May 2023

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FROM 2008 TO 2022 — A STRONGER MARKET

The securities lending market entered 2023 in a robust position. The industry has successfully responded to regulatory and market challenges over the last decade, including new balance sheet and capital requirements from Basel III, Dodd-Frank, the Capital Requirements Regulation and more. Many agent lenders are increasingly investing in their businesses to improve efficiency, automate manual tasks and deliver transparency for the benefit of their clients, counterparties and regulators.

The lending side of the market is comprised largely of beneficial owners, including pensions, government entities and insurance companies as well as asset owners, and the agent lenders who act as their representatives when negotiating loans to borrowers, typically large banks and brokers. The agency lending market consists of custodian banks, including Northern Trust, with a number of other bank-affiliated and non-bank-affiliated agents. Agent lenders can lend for their custody clients and bank fund complexes or for non-custody clients in third-party lending programs. However, institutional beneficial owners are not the only source of inventory for securities loans: retail lending programs for fully paid assets, securities purchased on margin, hedge funds and even robo-advisors can lend in the market.

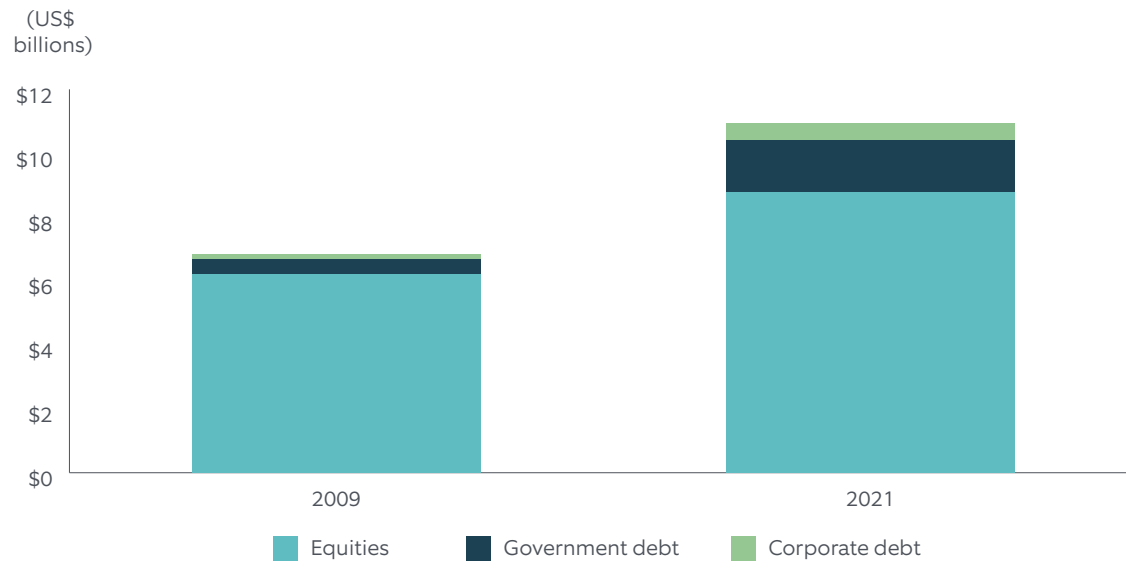
Agent lenders and their beneficial owner clients have had to reimagine their businesses on several occasions in recent years and were pressed to do so again during the global COVID-19 pandemic, when technology and its use took on greater significance. Market participants are responding to a growing list of requirements by regulators and meeting the challenges of a more technology-enabled capital markets environment, both inside and external to securities lending. Agent lenders must be able to continually assess the needs of beneficial owners and adapt to industry changes. In recent years, even the titles of those who lead asset owners' programs has changed. In 2008, client securities lending was led by a head of operations and portfolio managers, but in 2023 it is likely to be someone in a treasury function or in a newly titled Head of Securities Lending or Head of Funding. Mark Jones, head of securities finance EMEA at Northern Trust, says that "being a lender of choice, including flexibility in types of collateral, counterparties and the attractiveness of supply, has become extremely important. Therefore, being able to adapt to industry changes and consistently respond to those changes with new and enhanced capabilities is increasingly important."

Today, securities lending has been rebranded as Securities Finance at many agent lenders, including Northern Trust, reflecting the broader diversity of services that agents can offer to provide holistic solutions to beneficial owners' needs. Many agents provide a full suite of financing/liquidity products alongside traditional securities lending. There is a move to utilize assets as efficiently as possible whether in securities lending, as collateral for over-the-counter (OTC) derivatives, to lend and/or raise cash or, in some cases, provide additional leverage. The agent lender of today functions as much in a quasi-treasury function to meet the needs of their clients as they do as an intermediary to generate lending income.

WHERE REVENUE IS GENERATED

After falling to record lows of \$6.8 billion in 2009, beneficial owners closed 2021 with record high revenues of nearly \$11 billion, according to S&P Global/IHS Markit (see Exhibit 1). Lendable assets have grown at a faster clip than revenue, now standing at \$27 trillion across international and domestic equities, corporate and government bonds, exchange traded products (ETPs) and other products, with around \$2.7 trillion on loan at any given time.

EXHIBIT 1: SECURITIES LENDING REVENUES OF BENEFICIAL OWNERS



Source: S&P Global/IHS Markit

Revenue is primarily driven by lenders holding US small caps, international equities and corporate high yield bonds. Average fees vary according to asset class and market conditions; in S&P Global/IHS Markit’s October 2022 Securities Finance Snapshot, ADRs were in high demand with a small number of securities on loan, while government bonds and global equities had high values on loan for lower returns. Demand for securities on loan may change in days, weeks or months, often with short notice. ETPs continue to grow in demand as hedge funds develop ways to better manage the risk of their exposures—one example, iShares iBoxx High Yield Corporate Bond ETF (HYG) gave broad market exposure to an asset class that could be prohibitively expensive to duplicate by buying underlying positions. Individual securities may generate outsized demand with little notice; as a result, beneficial owners typically allow lending on their entire portfolios to take advantage of opportunities as they arise.

THE RISK PROFILE OF LENDERS

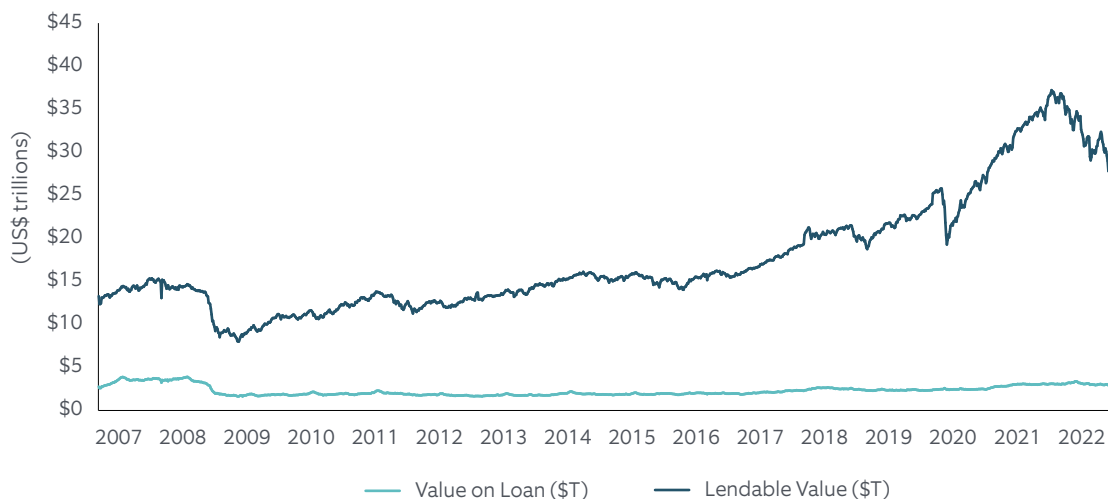
After the 2008 financial crisis, many lenders and their agents took a fresh look at their risk profile. A focus on cash collateral acceptance led some lenders to move cash collateral assets to more conservative government bond money market funds or overnight repo pools, while others retained 2a-7-like structures in either commingled funds or separately managed accounts. Today, beneficial owners around the world receive at minimum 100% in collateral (102% or higher is standard) for the value of their loans, but recognize that this is where the risk in securities lending lies: a focus on collateral is key in assessing careful program management.

While asset managers report an increased appreciation of borrower default indemnification¹, other client types such as large pension funds, have decided to forgo indemnification for the revenue advantages this provides. Borrower default indemnification has rarely been used in practice but bears a capital cost for bank-affiliated agent lenders. Basel III regulation requires agents providing borrower indemnification to calculate Risk Weighted Assets to set aside assets on their balance sheet, an additional cost that is borne by the agent and potentially impacts fee splits provided to clients.

Institutions (and their Boards) that see it as necessary appreciate that it provides a level of insurance protection for their programs. Clients without indemnification note that they may receive a better fee split from their agent lender while they are able to lend to specific counterparties with strong credit ratings. Clients may have relationships with specific counterparties outside of securities lending that allow them to gain comfort in forgoing borrower default indemnification.

Following the 2008 global financial crisis, some beneficial owners in the securities lending market elected to pause their programs. As a result, available inventory fell from US\$15 trillion in early 2008 to US\$8 trillion by April 2009 (see Exhibit 2). Afterward, the market position rebounded, with an influx of new inventory due to clients returning as well as new participants enrolling in securities lending for the first time. While market appreciation played a role in the expanding value of inventory, anecdotally, stories of firms entering the market for the first time are widespread. At the same time, however, demand has not kept pace; utilization levels have fallen from 21% before 2008 to 11% in 2022 as leverage was taken out of the market.

EXHIBIT 2: HISTORICAL LENDABLE ASSETS AND SECURITIES ON LOAN



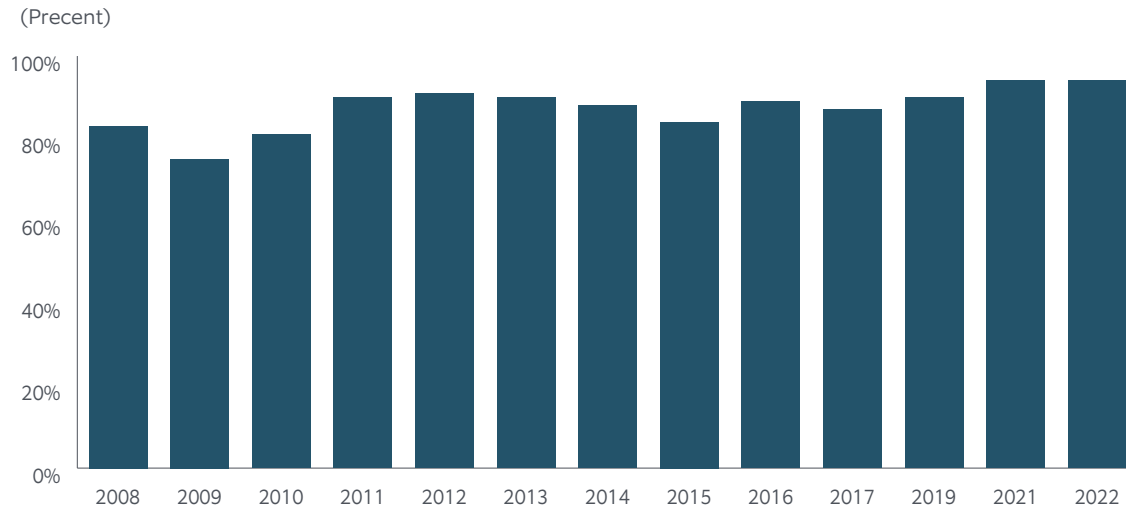
Source: S&P Global/IHS Markit

1 <https://finadium.com/finadium-report-desc/asset-managers-on-securities-lending-2022-a-finadium-survey/>

BENEFICIAL OWNER FOCUS: US '40 ACT FUNDS

US '40 Act regulated funds (mutual funds and ETPs) are significant participants in the securities lending market; over 94% of large asset managers report a program in some part of their organization (see Exhibit 3). While participation declined in 2008 and 2009 along with the broader market, it picked up again by 2011 and has stayed roughly constant since that time.

EXHIBIT 3: ASSET MANAGEMENT FIRMS ACTIVELY LENDING SECURITIES



Source: Finadium

The securities lending activities of '40 Act Funds are restricted as to acceptable collateral, percent on loan, use of affiliates and cash guidelines. Many funds add their own policies including minimum spreads, borrower concentrations, country limits and possibly trading limits based on short interest, average daily trading volume or float.

Today's market requires US mutual funds and ETPs to comply with a greater range of regulatory requirements than even a few years ago, with more to come. Securities lending information is required to be reported in fund manager annual reports, statements of additional information, N-Port, N-CEN and N1A reporting packages. Starting in 2024, funds must report when securities are on loan over proxy voting dates in form N-PX.

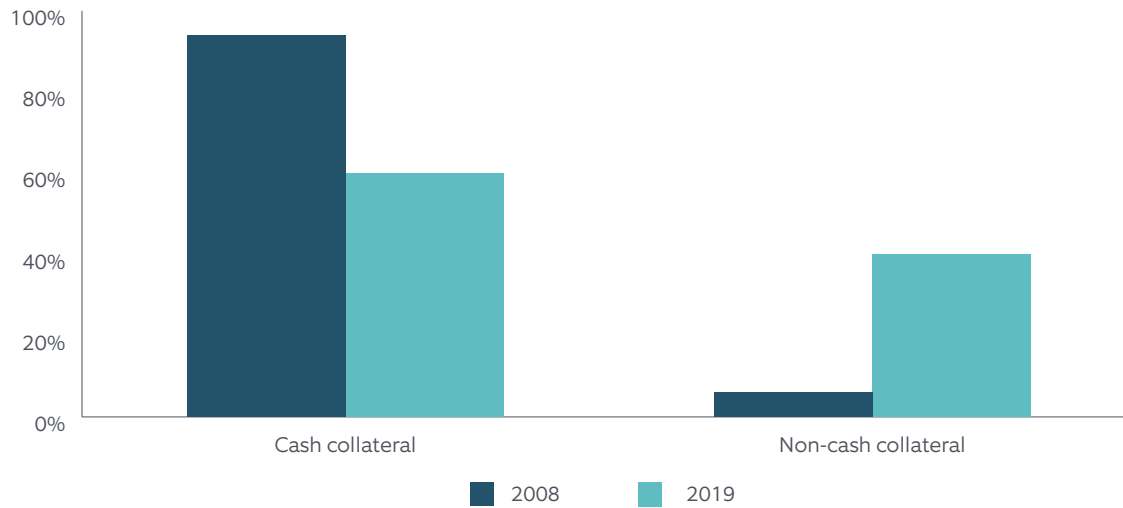
These legal and self-selected restrictions have not stopped regulated funds from entering the market in recent years. Almost all new ETP launches include the ability to lend, with many looking for lending revenue to keep their low-cost structures in place and compete in Morningstar and other rankings. There have been some trillion-dollar ETP entrants into this space in recent years.

BENEFICIAL OWNER FOCUS: US PENSION PLANS

The US pension market, particularly public plans, has been a long-time participant in securities lending. Out of the top 100 Defined Benefit plans representing over \$6 trillion in AUM, more than 80% participate in lending, according to cross-referenced Pensions & Investments and Finadium data. The public pension market has historically used securities lending to reduce or even eliminate their custody expenses; some funds have no budget allocated to custody and must use securities lending revenue to offset this cost. Public plans have historically been able to accept more diverse collateral types than other lenders, which has enabled them to increase lending utilization rates and revenues.

Over the past decade, a low-to-zero interest rate environment meant that cash collateral portfolios generated low or no returns. While lenders were not going to expand their cash reinvestment risk, they did expand their non-cash collateral acceptance policies. From 2008 to 2019, public reporting of US pension plans showed that the non-cash collateral holdings expanded from 6% to 40% (see Exhibit 4).

EXHIBIT 4: CASH AND NON-CASH SECURITIES LENDING COLLATERAL HELD AT US PENSIONS, 2008 AND 2019



Source: US Pension Annual Report, Finadium analysis

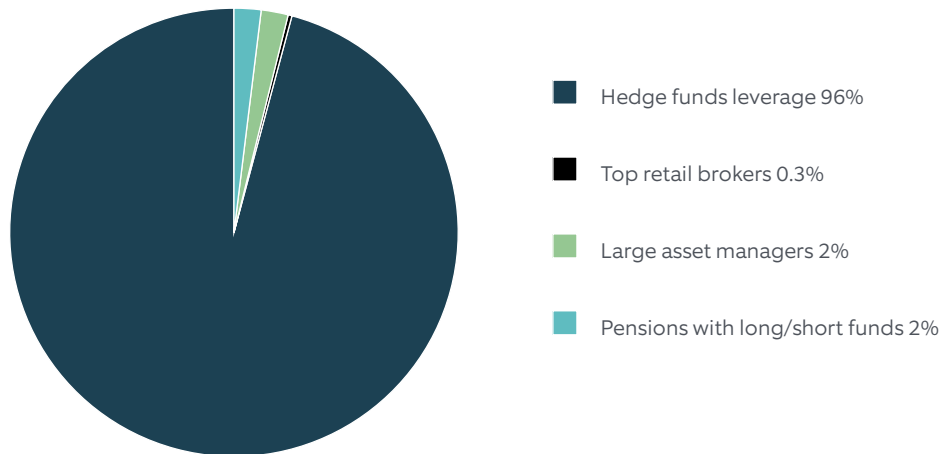
This shift to non-cash collateral was also a result of regulatory constraints with borrowers as they migrated their book to lower capital trades, freeing up capital for risk ratios and other trades as described below.

THE BORROWER PROFILE

Beneficial owners lend securities through agent lenders to banks and prime brokers, which in turn lend to clients that need assets for operational settlement. Many lenders think that the borrowing community consists of major banks and brokers, but true industry demand for securities loans is driven by end-borrowers including hedge funds, pensions running long/short portfolios, retail brokers like Robinhood who can be both borrower and lender, and some very large new entrants in the traditional asset management space. There are an estimated 2,421 firms that have demand for securities loans, 96% of which are hedge funds that use leverage (see Exhibit 5).

EXHIBIT 5: END-BORROWERS OF SECURITIES LOANS

Total = 2,412



Source: Finadium

Hedge funds generally borrow through their prime brokers, except for a small group of funds that have their own affiliated brokerage firms. The top 10 prime brokers account for 80% of all borrow activity, and the market has become increasingly concentrated with the exit of Credit Suisse and the purchase of Deutsche Bank’s equity finance business by BNP Paribas (January 2022). Finadium research shows that prime brokers J.P. Morgan, Goldman Sachs and Morgan Stanley generated 56% of the prime brokerage industry’s securities lending and margin financing revenues in 2021, up from 50% in 2019. Other banks and brokers, including UBS, Bank of America and Barclays, are also important counterparties. Agent lenders have worked to broaden their list of potential borrowers: Jonathan Lacey, global head of securities finance equity trading at Northern Trust, notes that “the counterparty basis has shifted, but agent lenders have also diversified to expand their own distribution routes, and this gets easier and safer with better vendor support for counterparties of all sizes.” Northern Trust is not a prime broker and does not currently lend directly to hedge funds as approved borrowers.

BORROWERS AND BASEL III

The how, when and why of borrowing has changed over the last decade, driven by Basel III and related regulatory capital rules. Borrowers have responded by:

- Shifting to non-cash collateral as much as possible, given the lower capital footprint. A reduced cash outlay means more capital available for important leverage and risk ratios.
- Moving borrowing to offshore entities to take advantage of better regulatory capital rules. Agent lenders may have 100 borrower relationships, but this often includes two to three of the same names in different jurisdictions.
- Focusing on borrowing from beneficial owners with the lowest risk-weighted asset (RWA) possible. While Sovereign Wealth Funds may carry an RWA of 0% for the borrower, a US mutual fund is assigned 100%. This makes certain clients preferable to the borrower. This “smart bucketing” has given rise to strategies like borrowing GC from low RWA clients but specials from higher RWA lenders.
- Internalizing supply, which is the use of fully-paid and margined securities bought by clients to meet another client’s short selling demand. By some estimates, 70% of prime brokerage securities and margin loans are made with internal inventory rather than borrowed from an agent lender.
- Expanding their use of synthetic financing, typically Total Return Swaps, in place of securities loans (physical financing). In studies from 2017 and 2021, Finadium found that the percent of revenues from synthetic financing at equity prime brokers grew from 49% to 55% of total earnings.
- Using securities lending central counterparties (CCPs). The Options Clearing Corporation has run a successful equities securities lending CCP since 1993 but only for broker-dealer clearing members. A recent expansion by DTCC into securities lending for buy-side and sell-side participants has generated interest as well. Jeff Benner, product manager at Northern Trust, said that “clearing securities loans through a CCP with a beneficial owner allows borrowers to capture RWA relief and possible balance sheet relief. This is the best RWA treatment that a broker can get, after borrowing from a government entity.”

A newer change that may increase securities lending demand is the rise of non-traditional borrowers in OTC derivatives markets that are required to post collateral under Uncleared Margin Rules (UMR). UMR is forcing many market participants to source specific collateral that they may not own to meet their derivative margin obligations. Selling assets for cash is one way to get this collateral, as witnessed in the fall of 2022 Liability-Driven Investment (LDI) scheme selling of Gilts, but another way is securities borrowed in exchange for non-cash collateral. The need for collateral across product types is an example of agent lenders providing an expanded array of Treasury-like services to clients. As Northern Trust product manager Judson Baker comments, “we are building the ecosystem to help clients make optimal decisions about the use of their assets post-trade.”

TOP TRENDS IN THE MARKET

Market trends can be evaluated by geography and asset class and have been shifting regularly since early 2021. Long-expected patterns that persisted under zero or near-zero interest rate regimes are changing as a result of rising interest rates and Quantitative Tightening. What may be true for agent lenders and their clients today may not hold in a few months, with the exception of macro themes like technology investment and the expansion of agent lender services.

TRENDS BY GEOGRAPHY

The North American market continues to respond to the Federal Reserve's interest rate decisions and the US Securities and Exchange Commission's (SEC) new rules and proposals for securities lending transparency. Facing the same pressures, a growing number of hedge funds are converting to family offices or shifting to long-only strategies. We are also seeing consolidation of public pension plans as the need to manage costs and generate revenue is paramount for underfunded plans. Rising interest rates present more opportunities for beneficial owners that are comfortable with the term funding that broker-dealers prefer.

The European landscape also continues to contend with a full regulatory agenda, including faster steps than elsewhere to approve the Basel III endgame, albeit with exceptions that cause friction between elected policymakers, central bankers and regulators. A growth in corporate actions opportunities including scrips and rights issues has developed as a revenue opportunity across Dutch, French, Spanish and German names. The securities lending programs of European UCITS funds continue to be hampered by restrictive collateral requirements.

The Asia-Pacific markets have seen steady growth for securities lending, helped both by an increase in the number of local hedge fund borrowers and the increasing needs to finance assets from markets such as Korea and Taiwan. In Australia, market participants remain interested in securities lending and financing due to the consolidation in pension funds and pressure to generate alpha. The addition of China into MSCI indices has also prompted a lot of interest in market participants to look into ways to finance Chinese assets.

TRENDS BY ASSET CLASS

US small cap and international equities continue to dominate beneficial owner returns, although 2022 has seen record demand for high yield corporate bonds. Agents report slowing demand for single-stock names and an increase in ETPs as hedge funds move away from individual short selling and towards shorting the market as a whole. The 2022 calendar lacked robust IPO issuance and M&A has been muted, both of which are traditional drivers of single stock shorting activity.

There has been increased demand for corporate bonds in the leisure, travel, airline, cruise and hotel industries during the COVID-19 pandemic with the thought that these industries could suffer the most during global lockdowns. As inflation increases, and bond prices fall, the breadth of bonds in demand has grown to include technology, real estate and other sectors where rising rates could have a negative impact. Holders of US Treasuries have seen a consistently good trade by swapping their short-dated issues for longer dated US Treasuries. The collateral upgrade trade, where borrowers pledge equities, corporate bonds or other securities and receive back government bonds, has been a steady driver of business activity.

BROADER MARKET DYNAMICS

The near-zero rate environment in the US and negative rates in Europe over the last decade made cash collateral unattractive in many instances, but this has now reversed. As rates have risen and borrowers are looking for more term funding, cash trades have begun to increase, and cash collateral investors are now seeing attractive returns from even conservative portfolios.

Securities lending exists in the context of broader financial markets, and as such, may benefit from the macro environment. Divergent interest rate policies around the world are a case in point: Joseph Gillingwater, global head of securities finance fixed income trading at Northern Trust, points out that differences between US and Japan's monetary policies "have provided significant cross-currency arbitrage opportunities, with borrowing counterparts increasingly keen to use Japanese Government Bonds (JGBs) as collateral at wider fees than is typical. We have seen this trend before over regulatory sensitive periods, such as year-ends, given the large dollar premium, but it is now present following heightened market risk sensitivity and geopolitical risk."

While cash collateral has been attractive for overnight loans, there has been an increasing interest in term loans versus non-cash collateral. The introduction of the Basel III Net Stable Funding Ratio has made banks look to enter into more term funding trades out to 12 months. For beneficial owners comfortable lending on term, there may be additional earnings to be generated.

Technology

Securities lending is a technology-driven business, and much of the borrowing and lending is conducted without human interaction over systems like Equilend's NGT. While many agent lenders employ artificial intelligence (AI) and machine learning (ML) to automate low-touch trading and post-trade activities today, a new wave of change from technology is likely just beginning. Companies like Sharegain are introducing large numbers of new retail clients to the industry, while Provable Markets has launched an Alternative Trading System for securities loans that incorporates access to the DTCC's National Securities Clearing Corporation (NSCC) Securities Finance Transactions (SFT) Central Counterparty (CCP). Central counterparty clearinghouses play a critical role in the reduction of systemic risk in the markets they serve, improve market efficiency and reduce balance sheet capital incurred by traditional agent lenders. The industry is engaged in thinking about Distributed Ledger Technology (DLT) applications for tokenization and post-trade reconciliations, although this emerging trend remains in the planning stages.

Impact of Regulation

The global regulatory regime that started after the financial crisis has continued to accelerate and will, in all likelihood, change the shape of the securities lending market in the next five to ten years. Regulators have added and are proposing multiple new regulations that will have a direct impact on lending, including:

- Central Securities Depository Regulation (CSDR), which is currently being rolled out to ensure settlement discipline in Europe, including fines for failing to deliver securities for trade settlement.
- A US SEC proposal for securities lending transparency, including the delivery and publication of loan activity in a 15-minute window.
- The US and Canadian market-wide move to T+1 settlement expected in the first half of 2024, which will require agents and their beneficial owner clients to speed up recalls and may increase buy-ins.
- A long-awaited action by the US SEC to allow broker-dealers to deliver equities as collateral. While additional approvals or No Action letters will be required by beneficial owners, the ability of lenders to accept equities could expand balance sheet capacity for the industry.

TRANSITION AND EVOLUTION IN THE SECURITIES LENDING MARKET

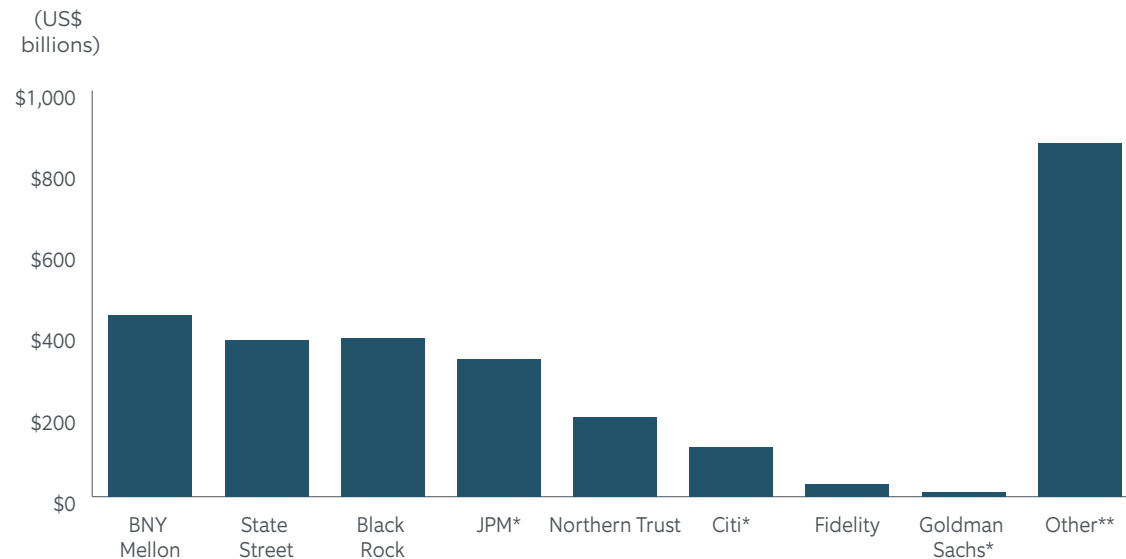
- A combination of government regulation and societal attitudes towards Environmental, Social and Governance (ESG) investing, where the need to vote on material proxies could remove inventory from the market on key dates, or could have no future impact at all. Except in specific high profile ESG instances, beneficial owners are expected to keep their securities on loan over proxy dates as the best way to exercise their fiduciary obligations for investment clients.

Industry participants view new regulations as a mix of positive and negative. While some new rules will increase costs and possibly require lenders to enhance their oversight, others will decrease failed trades, increase transparency and provide market participants with enhanced data to run profitable, risk-controlled businesses.

HOW BENEFICIAL OWNERS CAN APPROACH THE MARKET

The majority of the agency securities lending business is managed by custodial bank lenders. According to public filings, Northern Trust, BNY Mellon, Citi, J.P. Morgan and State Street lend 53% of assets in the market, as reported by indemnified business (see Exhibit 6). As part of large global institutions, custodians have sound balance sheets to back their indemnities and can fund continued investment in technology. A key benefit of lending via a custodian bank is internal coordination with settlement, corporate actions, tax, accounting, regulatory and foreign exchange functions, which can often reduce operational lag times around lending. Custodial lenders have the advantage of connecting into the larger bank for services that are adjunct to lending, including collateral management, liquidity and financing.

EXHIBIT 6: SECURITIES LOANS OUTSTANDING DECEMBER 2021



Sources: bank annual reports, mutual fund reporting, IHS Markit, Finadium surveys, Finadium analysis

* Indemnified business only

** Includes unindemnified business not reported by other agent lenders

At the same time, every large agent lender can support third-party lending, where the entity lending securities is different than the custodian. This model began over two decades ago and is now a well-established part of the securities lending business. The largest, most complex funds are more likely to partake in third party lending as they look for market expertise, preference in customization or to diversify their business. All of these trading scenarios are possible with a custodian as well; finding the right fit depends on the beneficial owner. Non-custody lenders must also interface with the custodial accounts they are lending from; this additional level of interaction can increase custodial costs for a beneficial owner and may be seen as a burden for a small staff.

Beneficial owners and agent lenders have been increasingly working together to build additional Treasury services that agent lenders can provide to complement beneficial owner needs for optimizing cash or collateral. This may include lending to generate cash for other investment purposes; supporting the

operations and valuation of Peer to Peer or swap transactions; providing indemnification to non-traditional market participants or for customized transactions, and providing collateral optimization across securities lending, repo and OTC derivatives to generate additional alpha and reduce costs. Ryan Barrett, Head of Securities Finance, North America at Northern Trust, says that “our clients have come to us asking what else they can do to take advantage of their assets. We are showing clients where their portfolio can best generate alpha, then helping them execute, whether that happens on FICC Sponsored Repo, Peer to Peer liquidity (in development) or traditional securities finance.” As the idea of becoming your own bank has generated greater interest at asset owners and asset managers, and borrowers remain cautious to commit their balance sheet, partnering with an agent lender’s treasury services can create more opportunities from assets already held by the beneficial owner.

The evolution of the securities lending business is ongoing, with beneficial owners and agent lenders working cooperatively to develop new and modular solutions to meet their liquidity and financing needs while generating revenues. Securities lending continues to generate reliable, risk-adjusted revenues for clients, while the technology and trading infrastructure behind it supports a range of new requirements in financing with or without indemnification and across products. Northern Trust looks forward to the next era of expanding the securities financing business in partnership with our beneficial owner clients.

IMPORTANT INFORMATION AND DISCLOSURES – MARKETING COMMUNICATION

Northern Trust Capital Markets is comprised of a number of Northern Trust entities that provide trading and execution services on behalf of institutional clients, including foreign exchange, institutional brokerage, securities finance and transition management services. Foreign exchange, securities finance and transition management services are provided by The Northern Trust Company globally, and Northern Trust Global Services SE in the EEA.

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