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The Role of Securities Lending in US Financial Markets

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Our partner in producing this report:

SUNGARD®

Josh Galper
Managing Principal

PO Box 560
Concord, MA 01742 USA
Tel: 1-978-318-0920
http://www. finadium.com

Table of Contents

Executive Summary

Securities lending has emerged from being an operational function to a front office investment activity, and is now a fundamental part of modern finance. Along the way, the market has developed sophisticated risk and data management tools including the ability to monitor loan rates electronically in almost real time. In this report, Finadium presents a data-driven analysis of how securities lending contributes positively to US equity, fixed income and money markets. Highlights from this report include:

- US beneficial owners, including pension plans, mutual funds, insurance companies, endowments and municipalities, earned $5.4 billion from securities lending in 2010.

- Securities lending provides the infrastructure that makes legitimate short selling possible in equity markets. In July 2011, short sales were responsible for 60% of market liquidity in reported NYSE shares where short sales occurred. Legitimate short selling has been recognized as beneficial for price discovery and market liquidity by nearly every major regulator and industry association worldwide.

- Securities lending enhances liquidity in options and futures markets by allowing market makers to hedge their exposures. Academic studies have consistently shown that this liquidity keeps spreads narrow and reduces investor costs.

- Securities lending and repo activities substantially strengthen liquidity in the US treasury and corporate bond markets. A healthy repo market is vital for assisting the Federal Reserve in adjusting US monetary policy and for assisting state and local treasurers in managing their finances.

- Securities lending cash collateral accounts are major investors in US money markets. As of Q1 2011, these accounts held 22.5% of US commercial paper and 7% of US money market mutual fund investments.

- Regulatory change in the securities lending market is likely to result in a range of unintended consequences in the equities, options, futures and fixed income markets if potential disruptions are not considered in advance.

The US Securities Lending Market in 2011

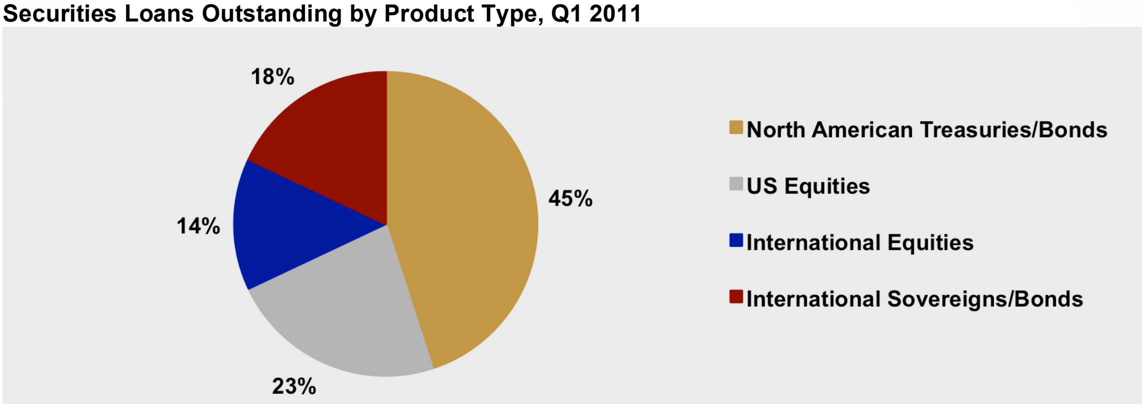
Key Points:

- *Revenues from securities lending are now back at 2006/2007 levels, accompanied by a close re-evaluation of beneficial owner risk and lending guidelines.*
- *US treasuries and bonds comprise 45% of the global securities lending market followed by US equities at 23%.*
- *US asset holders earned an estimated $5.4 billion from securities lending revenues in 2010.*
- *Securities lending operates in a transparent marketplace with multiple data vendors and efficient operations and technology.*

Securities lending, once part of the back office, has emerged in recent years as a critical part of the financial services infrastructure. From supporting hedging and short selling to facilitating collateral movements for other products, securities lending transactions support market liquidity and price discovery for both institutional and retail investors. Revenues from securities lending can also enhance returns for institutional investors and mutual funds especially when compounded over time. As of Q1 2011, there was an estimated $1.8 trillion outstanding in securities loans globally, with 88% of that, or $1.585 trillion, transacted in exchange for US denominated cash collateral.

According to the Risk Management Association (RMA), the most utilized assets in the securities lending market are US treasuries and corporate bonds with 45% of loans outstanding by dollar value (see Exhibit 1). US equities are the next most utilized assets with 23% of loans outstanding. Together, securities issued in the US market account for 68% of all securities lending globally. Given this dominant position, market trends that affect US securities lending activities have a disproportionate impact on securities lending practices worldwide.

Exhibit 1:
Securities Loans Outstanding by Product Type, Q1 2011



Source: RMA

Securities loans are made in response to another action in the market, whether a hedge from an options trade, a short sale, a risk management hedge or some other investment strategy. Loans can also be made to facilitate institutions obtaining the right collateral for different types of products altogether, to support trade settlement or to help broker/dealers finance their own inventory. In equities, securities loans are never proactive: a loan cannot be made without a specific need from a borrower.

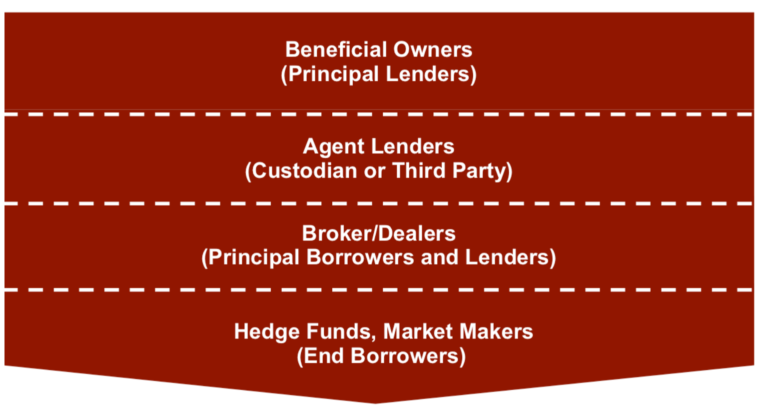
Securities lending is predominantly a bilateral market. Loans are made by a securities lending agent (either a division of a bank holding company or a standalone third party entity) or an asset manager to a broker/dealer, which in many cases is also part of a bank holding company. The facilities exist for Central Counterparty (CCP) transactions in the US securities lending market, although these currently account for an estimated 1% to 2% of transactions. Given the incremental costs and uncertain benefits to institutional investors, the securities lending industry is unlikely to fully migrate towards CCPs in the near future.

Securities lending is governed by the capital and credit risk rules that affect all banks, and will be increasingly affected by Dodd-Frank, money market reform and subsequent rule-makings including US interpretations of Basel III. While institutions themselves have been held to extensive banking supervision rules, Section 984 of Dodd-Frank mandates that the US Securities and Exchange Commission (SEC) will produce specific rules for increasing transparency in securities lending by July 2012.

Major Participants

The securities lending marketplace typically has four actors, although variations can occur by firms taking on more than one role (see Exhibit 2).

Exhibit 2:
Actors in the Securities Lending Marketplace



Source: Finadium

Beneficial Owners

At the top of the chain are beneficial owners, also called principal lenders, including public and private pension plans, mutual funds, insurance companies, endowments and municipalities. Securities lending income is seen by these organizations as helpful in paying for operational services and for differentiating returns against a competitive peer group, particularly for index funds. Some public organizations have no budget for custody or administration of their assets, and use securities lending as the sole means of paying for these activities. In some cases securities lending revenues can offset or pay for investment management fees as well.

Globally, beneficial owners earned over $6.1 billion for their investors and shareholders from securities lending in 2010. US investors earned the majority of this figure, roughly $5.4 billion, owing to the amount of assets held and the broad-based participation in securities lending at leading US pension plans and mutual fund complexes. The fees earned from lending vary depending on the demand for the underlying assets; funds that hold the most diverse portfolios, including small cap or international securities, generate a higher return from lending than funds with mostly S&P 500 equities that have more supply than demand.

According to data collected by Finadium, securities lending revenues across 45 US public pension plans, including states, cities and municipalities, contributed an average four basis points (bps) to returns in 2007, increased to 12 bps in 2009, and have since declined again due to low leverage volumes and more conservative reinvestment portfolios. Part of this sharp growth was due to unusual spreads between the Federal Funds rate and LIBOR during this period that led to higher than usual reinvestment returns, but as spreads narrowed returns fell as well.

Data from 164 mutual funds, which by law may lend only a limited portion of their assets, show average securities lending returns of three bps in 2010. Mutual funds lending small cap and international securities saw returns of six bps over the same period. Average returns from securities lending across all funds in the sample more than paid for custodial and other fund services resulting in positive returns to shareholders.

Although revenues have declined since 2008, the general opinion of beneficial owners is to stay in securities lending following a careful review of the risk profile and objectives of their programs. Finadium survey data from 2008 to 2011 show that while some pension plans and mutual funds suspended their programs in 2008 and 2009, the majority have now returned to the market.

Generally speaking, the securities lending industry operated without client losses during the 2007-2009 financial crisis. Losses did occur in some cash collateral pools linked to securities lending programs for the same reasons as losses in money market funds. A combination of misconceptions about securities lending and the popular press have contributed to the idea that the securities lending market was to blame for these losses, but this is incorrect. There has also been little to no discussion about the exceptional revenues earned by some beneficial owners during the recent crisis from lending out treasury and equity securities, driven in part by reinvestment opportunities, and coming into 2011 it has become clear that many other collateral asset values have recovered.

Agent Lenders

Beneficial asset holders generally hire an agent lender, also called a securities lending agent, to make loans on their behalf. Securities lending agents are primarily affiliated with banks, although unlike 25 years ago, agents can operate as part of large custodians or act as third-party, non-custodial firms. Whether part

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of a custodial bank or otherwise, all securities lending agents today have the ability to lend for internal custody clients or to lend on behalf of another custodian's clients. Due to the application of technology to operating processes, risks relative to non-custodial and custodial lending have become extremely low.

Beneficial owners have a choice of their securities lending provider. While custodial securities lending programs remain popular, third-party non-custodial lenders offering unbundled services have gained market share in recent years by differentiating service offerings, reporting tools and client service levels. Custodial lenders have responded by increasing the customization of their programs to retain existing clients and attract new ones.

In some cases beneficial owners retain the ability to make loans themselves by operating an internal securities lending desk. Internal desks can be found at some of the US's largest mutual fund complexes and at several insurance companies. This option is not widespread nor is it growing due to operational costs and the need for extensive risk controls, but the continued existence of these desks suggests that they remain economically and commercially viable. The regulations that apply to the securities lending program of a beneficial owner vary according to the type of organization; programs may be regulated by the Department of Labor under ERISA, the SEC under the Investment Company Act of 1940, or by State law.

Regardless of whether a custodial lending agent, a third party agent or an asset manager's internal desk is used, once a loan is negotiated the lender's custodian receives instructions for the movement of securities to the borrower. These loans are typically over-collateralized by 102% to 105%, although counterparties may agree to higher collateralization rates in some circumstances. The lending agent or asset manager is responsible for managing collateral and payment instructions.

Broker/Dealers

Broker/dealers can act as either principal borrowers or lenders in a securities lending transaction. Broker/dealers borrow from agent lenders on either their own behalf or for a hedge fund, correspondent clearer or other end client. Broker/dealers have their own DTCC clearing numbers and are able to take delivery of shares. In many cases the broker/dealer is a prime broker borrowing on behalf of a hedge fund. However, the broker/dealer may also be a market maker looking to borrow shares for its own account or an affiliate of a large hedge fund complex. A broker/dealer may also need a securities loan to facilitate trade settlement.

As lenders, broker/dealers can use securities loans to secure cash for financing their own positions. Retail brokers may lend out securities bought on margin in their clients' accounts or may engage in fully paid securities lending programs if clients elect to participate. Broker/dealers affiliated with bank holding companies may lend excess securities in the repo market for their short or long-term financing needs.

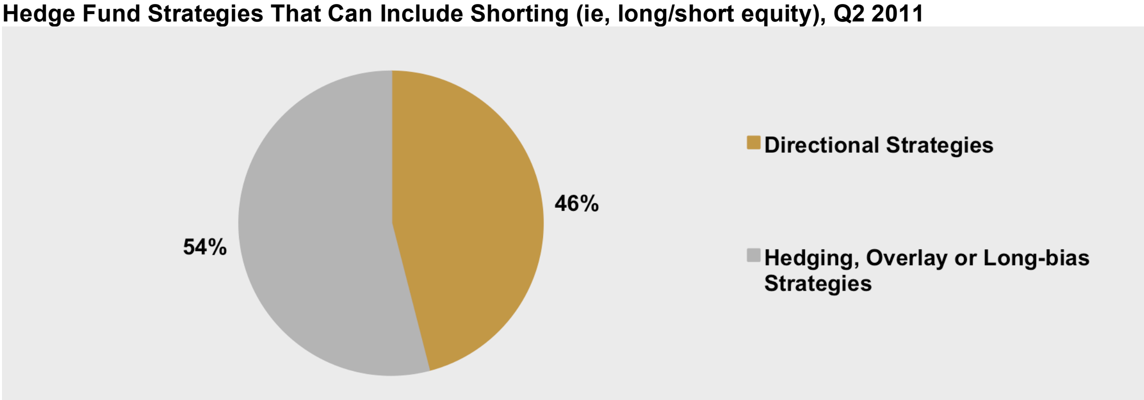
In the US, all equity borrows executed by a broker/dealer are subject to Regulation T of the Board of Governors of the Federal Reserve, which requires that they be for a permitted purpose. Permitted purposes are typically defined as a valid delivery requirement to settle a sell transaction. Securities loans may not be made for other purposes such as securing ownership or voting rights ahead of a corporate proxy event. So-called "empty voting" is illegal in all major regulatory jurisdictions.

Hedge Funds, Market Makers and Other End Borrowers

Hedge funds and market makers are the primary end borrowers of securities loans. While a short sale is always involved, the stereotype of a hedge fund betting against a stock's price is outdated; loans are made for a broad diversity of uses including hedging, risk management and managing dealer inventory. Besides hedge funds and market makers, insurance companies and corporations use securities loans to manage collateral or finance their own liquidity.

The growth of short selling as an investment tool is driven by the desires of institutional investors looking for overlay strategies, risk management and diversification in their asset allocation. Using hedge fund strategy data from Barclay Hedge, Finadium estimates that 54% of hedge fund assets are currently in strategies that may rely on short sales for hedges or risk management but are not betting against the price of an individual security (see Exhibit 3).

Exhibit 3:
Hedge Fund Strategies That Can Include Shorting (ie, long/short equity), Q2 2011



Source: Finadium

Securities Lending and Market Transparency

Securities lending operates in a transparent marketplace, with multiple vendors providing data and reporting to all levels of market participants including beneficial owners, securities lending agents, broker/dealers and the ultimate borrowers of securities. Several trading platform vendors sell their execution data commercially in a model analogous to the New York Stock Exchange selling its daily Trade and Quote (TAQ) file. Data are also available to consultants working on behalf of their institutional clients. Securities lending transparency is available on a near real-time basis, or daily, monthly or quarterly for interested parties.

From an operational perspective, the securities lending market is on as equal a footing as equity or options markets and is substantially ahead of the OTC derivatives markets. Several technology vendors as well as proprietary bank systems enforce mechanisms for daily settlement of transactions through the Depository Trust Company (DTC). Daily collateralization marks to market are almost fully automated through industry utilities in the US, as opposed to the OTC derivatives markets where a processing backlog of several days or a week may be deemed acceptable.

Securities lending provides substantial contributions to US financial markets, including equities and equity-linked derivatives, fixed income products and short-term credit markets. Whether intentional or otherwise, any changes to the securities lending markets will affect liquidity and investments in other areas; these ramifications should be evaluated as policy makers seek to improve efficiencies and decrease risk in financial markets.

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Short Selling and US Equity Markets

Key Points:

- *Short selling supported by securities lending has been acknowledged as beneficial for market liquidity and price discovery by nearly every major international regulatory body.*
- *Academic research strongly supports the idea that short selling is beneficial to price discovery and liquidity in equity, options and futures markets. Research has also shown that the ability of a derivatives market maker to hedge positions keeps costs low for investors.*
- *Securities lending is necessary to facilitate short selling on US and international equity markets.*
- *Short sale volumes on securities reported by the NYSE to FINRA in July 2011 averaged 60% of total trading volume; this figure appears uncorrelated to changes in the S&P 500 index over the same period.*

Short selling has been publicly acknowledged as a beneficial and important activity in financial markets. In a June 2009 report, the International Organization of Securities Commissions (IOSCO) noted that "short selling plays an important role in the market for a variety of reasons, such as providing more efficient price discovery, mitigating market bubbles, increasing market liquidity, facilitating hedging and other risk management activities."[1] Other international organizations including the World Federation of Exchanges and the International Monetary Fund have agreed with this position. While the risks of abusive short selling have also been cited, few serious US market participants or regulators want to curtail

[1] IOSCO, "Regulation of Short Selling, Final Report," June 2009. Available at http://www.iosco.org/library/ pubdocs/pdf/IOSCOPD292.pdf.

legitimate short selling in today's markets. Regulators in Europe appear more willing to intervene in their national markets albeit with potential repercussions for market liquidity and stability.

Academic studies agree with the benefits of short selling. In an August 2011 paper in the Journal of Finance, authors Alessandro Beber and Marco Pagano produced the most definitive study of short-selling bans during the 2007-2009 crisis. They found that short-selling bans "(i) were detrimental for liquidity, especially for stocks with small capitalization and no listed options; (ii) slowed down price discovery, especially in bear markets, and (iii) failed to support prices, except possibly for US financial stocks."[2] Similar findings have been presented by a series of research reports from the EDHEC-Risk Institute in Europe, from industry associations and in a September 2011 research note released by the Federal Reserve Bank of New York.[3]

Securities lending is intimately linked to short selling in every market where shorting occurs. With the exception of "naked" short selling, an illegal market

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[2] Beber, Alessandro and Pagano, Marco, Short-Selling Bans Around the World: Evidence from the 2007-09 Crisis (August 19, 2011). Journal of Finance. Available at SSRN: http://ssrn.com/abstract=1502184.

[3] The EDHEC reports include analyses from Professors Ekkehart Boehmer, Julie Wu, Charles Jones, Xiaoyan Zhang and Abraham Lioui. A list of reports is available at http://www.edhec-risk.com/about_us/Press%20Releases/RISKArticle1048860368688218576/attachments/Press_release_Short_Selling_Ban_120811.pdf.

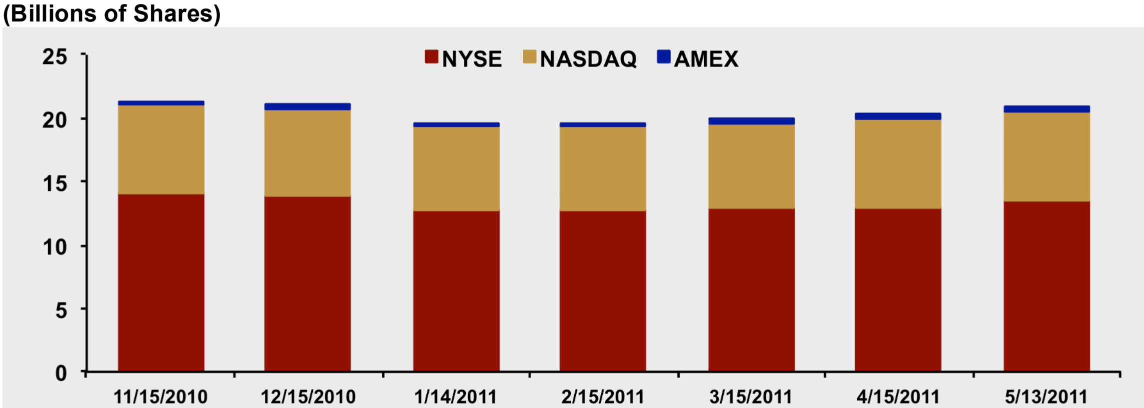
The Alternative Investment Management Association (AIMA) response to recent European short selling bans can be found here: http://www.aima.org/en/media_centre/press-releases.cfm/id/EAA34FCE-0036-4D93-A6CE684CA77CA2CE.

Battalio, Robert, Mehran, Hamid and Schultz, Paul, Market Declines: Is Banning Short Selling the Solution? Federal Reserve Bank of New York Staff Reports, no. 518. September 2011. Available at http://www.newyorkfed.org/research/staff_reports/sr518.pdf.

practice where a stock is shorted without a corresponding securities loan, there can be no short sales without a securities loan of some kind. In this way, securities loans directly contribute to increased market liquidity and improving price discovery.

In US equity markets, roughly 20 billion short shares are outstanding on any given day on the NYSE and NASDAQ Stock Exchange, according to exchange short interest figures (see Exhibit 4). These shares have a market value of about $600 billion, or 3% of the combined market capitalization of the NYSE and NASDAQ exchanges of $18 trillion.

Exhibit 4:
Short Interest on NYSE, NASDAQ and AMEX Stock Exchanges, November 2010 to May 2011 (Billions of Shares)

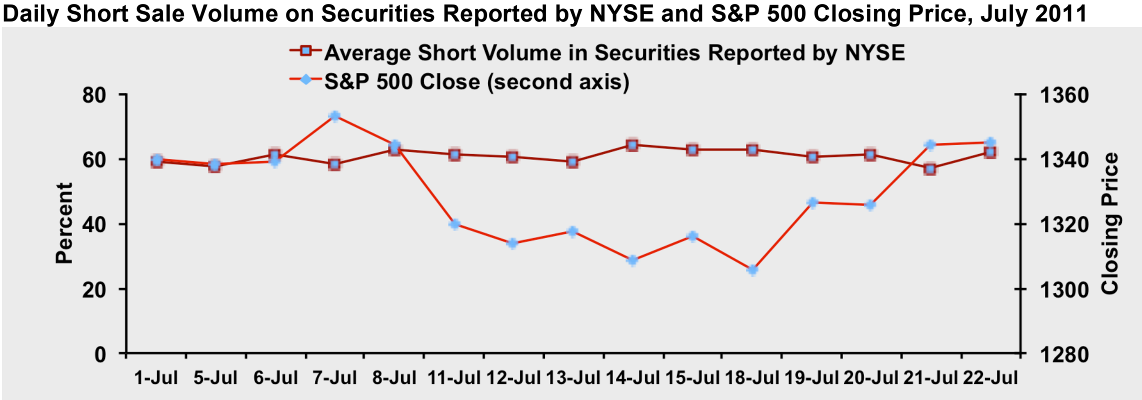


Source: NASDAQ, NYSE Euronext

While the market value of short holdings may appear low, short selling contributes a substantial portion of daily market liquidity to US equity markets. As an example of an average trading day, on July 21, 2011, short sales on the NYSE accounted for 57% of shares traded across 3,790 reported securities, according to FINRA. The figure for NASDAQ securities was 39% across 6,441 reported securities. While individual days vary, these figures are indicative of general trading patterns on US markets. Securities lending supports these transactions by affirming the ability of a trader to borrow shares to meet their short sale delivery obligations, which in turn supports price discovery according to academic research.[4]

The percentage of short sales on reported securities does not necessarily correlate to the direction of major stock indices; in the first three weeks of July 2011, short sale transactions on stocks reported by the NYSE held at roughly 60% of all trades while the S&P 500 closing price sank by 3% then rose again (see Exhibit 5). This reflects the fact that short sales and their corresponding securities loans are used for a variety of purposes well beyond expecting a decline in securities prices.

Exhibit 5:
Daily Short Sale Volume on Securities Reported by NYSE and S&P 500 Closing Price, July 2011



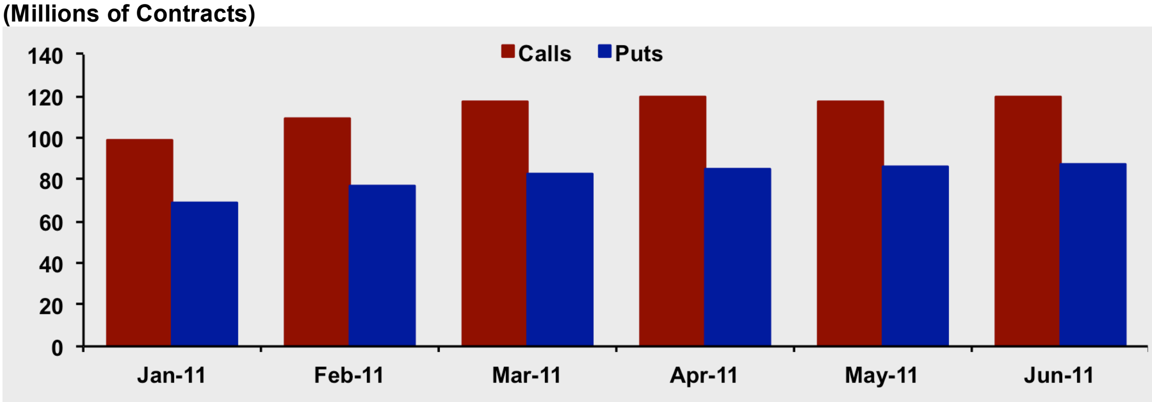
Sources: FINRA, Yahoo Finance

Similar to the equity markets, securities lending provides an important piece of operational infrastructure for equity-linked options and futures markets. Options

[4] Saffi, Pedro A. C. and Sigurdsson, Kari, Price Efficiency and Short Selling (August 30, 2010). AFA 2008 New Orleans Meetings Paper; IESE Business School Working Paper No. 748; Review of Finance Studies, Vol. 24, No. 3, pp. 821-852, 2011. Available at SSRN: http://ssrn.com/abstract=949027.

and futures market makers frequently seek to hedge their short exposures in the equity markets; this requires a short sale and again necessitates a securities loan. In 2011, open interest in US call options was roughly 40% greater than open interest in put options (see Exhibit 6). For market makers, keeping a balanced book without purchasing more put options typically requires shorting equities, and a failure to hedge positions requires market makers to assume more risk in their portfolios. This risk gets translated into wider bid/ask spreads for investors. In a recent case study of short sale bans, Robert Battalio and Paul Schultz showed that investors paid an additional $505 million in increased options transaction costs during US short selling restrictions initiated in September 2008.[5]

Exhibit 6:
Open Interest in Calls and Puts, 2011
(Millions of Contracts)



Source: OCC

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[5] Battalio, Robert H. and Schultz, Paul H., Regulatory Uncertainty and Market Liquidity: The 2008 Short Sale Ban's Impact on Equity Option Markets (January 11, 2010). Available at SSRN: http://ssrn.com/abstract=1534932

US Treasuries and Corporate Bonds

Key Points:

- *Securities lending and repo substantially strengthen liquidity in the US treasury and corporate bond markets.*
- *A healthy and liquid repo market assists the Federal Reserve in adjusting monetary policy.*
- *The size of the repo market is roughly $4 trillion, with $1.66 trillion in tri-party repo and the remainder in bilateral agreements. In comparison, the US corporate bond market is roughly $3.7 trillion.*

Securities lending and repurchase agreement (repo) transactions play a central role in the treasury and corporate bond markets by strengthening liquidity and providing flexibility to a variety of market participants:

- The Federal Reserve operates monetary policy in part via the repo markets by adding or removing securities. Managing policy becomes easier with a more liquid market and harder with a less liquid market.

- State and local treasurers rely on repo markets for the smooth functioning of their finances.

- For market makers in fixed income products, securities lending allows the sale of bonds that are not owned by the firm; this is a common practice and facilitates market transactions. Market makers in treasuries can also finance the positions on their books, giving them additional flexibility to hold a diversity of securities.

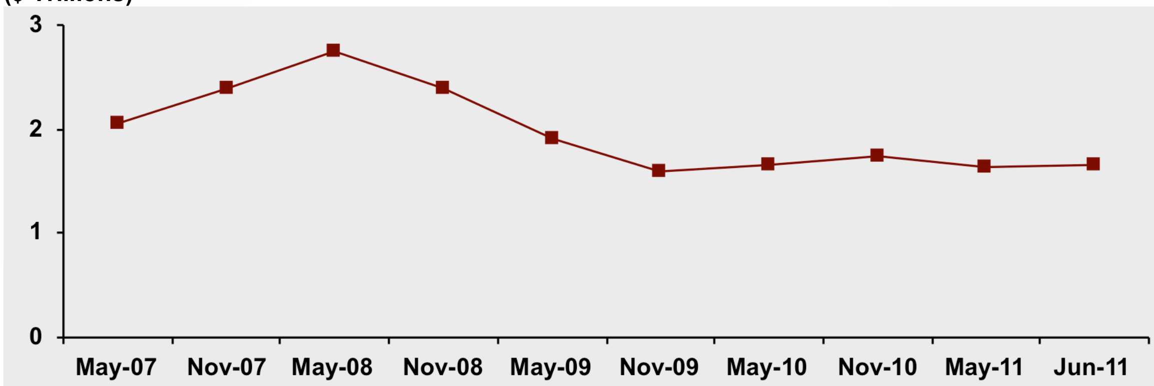
- Broker/dealers use repo and securities lending to efficiently fund their long and short positions, which in turn facilitates liquidity for their clients. In the absence of these financing tools, broker/dealers would rely on unsecured bank debt and commercial paper issuance, both of which are more expensive than repo and more prone to market shocks.

- Repo provides investors a short-term collateralized vehicle to earn returns on excess cash.

Securities lending in fixed income products is central to collateral upgrade trades, also called collateral conversions, collateral enhancements or collateral transformations. These trades allow an investor with one type of asset, for example corporate bonds, to lend that asset in exchange for US treasuries or similar high grade collateral. The resulting assets can be posted as collateral with a bilateral counterparty or on a CCP that will accept only government bonds or cash but will not accept corporate bonds. This trade may be maintained for as long as the investor requires the right kind of collateral.

While the size of the US repo market has shrunk over the last four years from an estimated high of $6 trillion to around $4 trillion today, it still plays a significant role in the US financial system. The US tri-party repo market is reported and sized at $1.66 trillion (see Exhibit 7). The bilateral market is believed to be at least as large and potentially larger than its tri-party counterpart. Relative to other products, repo is four times as large as the commercial paper market, more than twice as large as the securities lending market which itself includes some treasuries, and roughly on par with the valuation of all securities listed on the NASDAQ Stock Exchange.

Exhibit 7:
Size of the US Tri-party Repo Market
($ Trillions)



Source: Federal Reserve Bank of New York

The corporate bond market, with $3.7 trillion in outstanding US issues, also relies on securities lending for liquidity. As the corporate bond market is highly illiquid, accessing one particular issue can be a complex matter for dealers and clients alike. Allowing securities lending provides increased flexibility for dealers and improves market liquidity. Corporate bond securities loans also facilitate convertible bond trades or capital structure trading much like a short sale for an options hedge.

As the Federal Reserve has concluded its Quantitative Easing 2 (QE2) program and is the owner of substantial US treasury holdings, the New York Fed has engaged in a large-scale fixed income securities lending program that is causing some market distortions. The Fed's program lends out nearly all securities at a cost of 5 basis points, effectively eliminating any differentiation in hard to borrow securities between asset types. Although the amount of assets in the program has declined from a high of $37 billion in June 2011 to $11 billion in October 2011, the program is still large enough to crowd out private beneficial owners of government securities and to artificially lower the cost of fixed income borrowing. It is expected that more beneficial owners will return to fixed income lending as the Federal Reserve ends this practice and spreads on fixed income lending normalize.

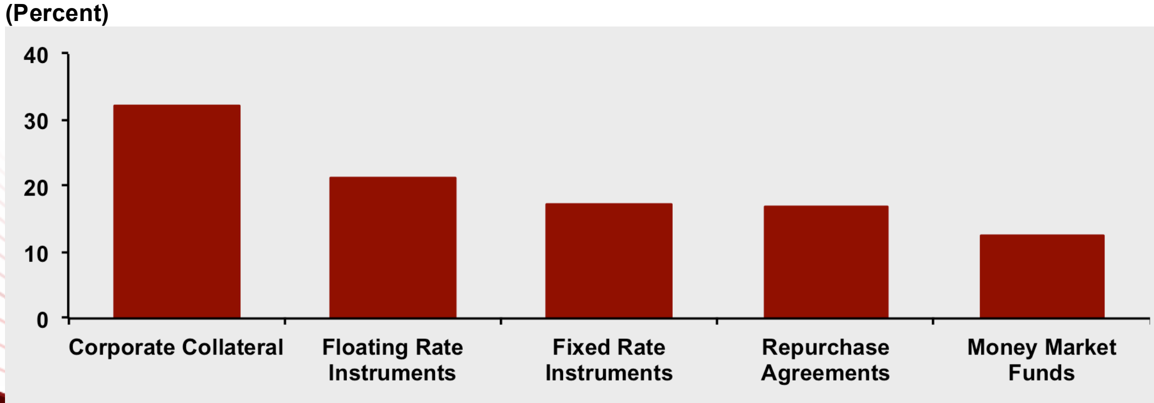
Cash Collateral, Commercial Paper and Money Markets

Key Points:

- *Securities lending collateral pools provide stable support for US short-term debt markets.*
- *Securities lending cash collateral investments held over 22.5% of US commercial paper and asset-backed securities as of Q1 2011.*
- *While securities lending cash collateral assets held only 7.2% of US money market mutual funds, this figure is expected to grow as the Volcker Rule comes into effect.*
- *Securities lending cash collateral accounts are also major investors in the repo market, holding an estimated 23% of US assets.*

Beneficial owners in securities lending programs are significant investors in US short-term debt and money market mutual funds. In the US, investors hold an estimated $1.42 trillion in securities lending cash collateral that is invested in pools with some form of regulated money market (2a-7) guidelines or more conservative maturity dates. An additional $162 billion in cash collateral assets is invested in products with maturities over 397 days. The investments for these pools focus on commercial paper, repo or other corporate credit (see Exhibit 8).

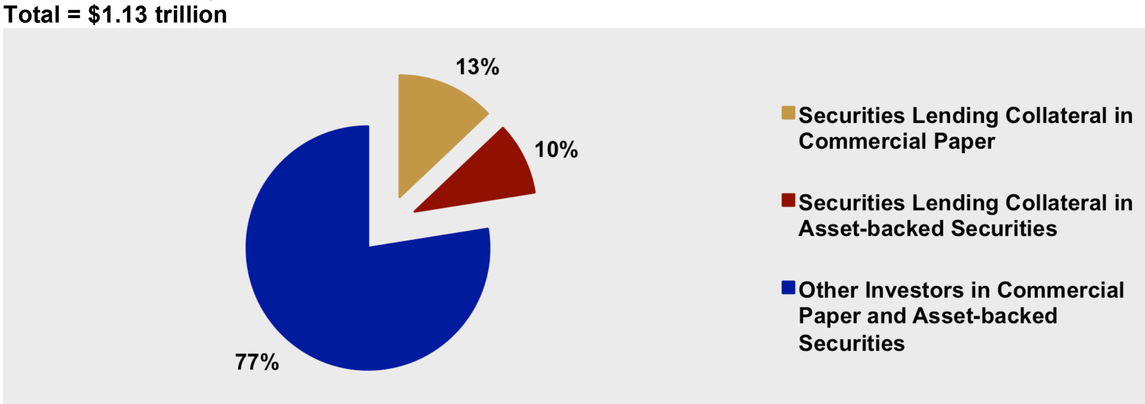
Exhibit 8:
Securities Lending Cash Collateral Reinvestment Portfolios, Q1 2011 (Percent)



Source: RMA

In the US commercial paper market, securities lending cash collateral accounts hold over 22.5% of assets outstanding. According to the Federal Reserve, the size of the US commercial paper market in March 2011 was $1.13 trillion, not seasonally adjusted and including asset-backed securities. By comparison, US securities lending cash collateral pools had an estimated $254 billion invested in commercial paper including asset-backed securities (see Exhibit 9). This paper is purchased in individual investment pools outside of money market mutual funds and includes both fixed and floating rate instruments.

Exhibit 9:
Securities Lending Cash Collateral in Commercial and Asset-Backed Paper, Q1 2011
Total = $1.13 trillion

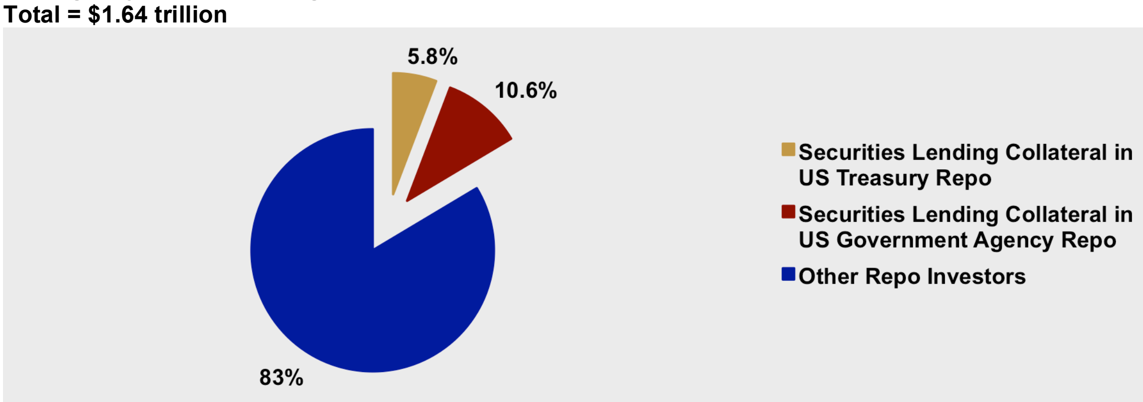


Sources: Federal Reserve, RMA, Finadium

Securities lending programs provide regular support for issuers of commercial paper concerned about liquidity in their market. Issuers are currently seeking to manage challenges from the introduction of Floating NAV money market funds and a changing regulatory environment. Given the importance of commercial paper as a funding source and the relatively constant demand for securities loans, securities lending collateral investments provide a stable source of liquidity to this market.

Securities lending cash collateral programs are large investors in repurchase agreements for US treasuries and agencies. As of March 2011, securities lending cash collateral had invested $270 billion in the $1.6 trillion US tri-party repo markets, or 16.4% of the total. Of this, $95 billion was in US treasuries and $175 billion was in US government agencies (see Exhibit 10).

Exhibit 10:
Securities Lending Cash Collateral in US Tri-party Treasury and Agency Repurchase Agreements, Q1 2011
Total = $1.64 trillion

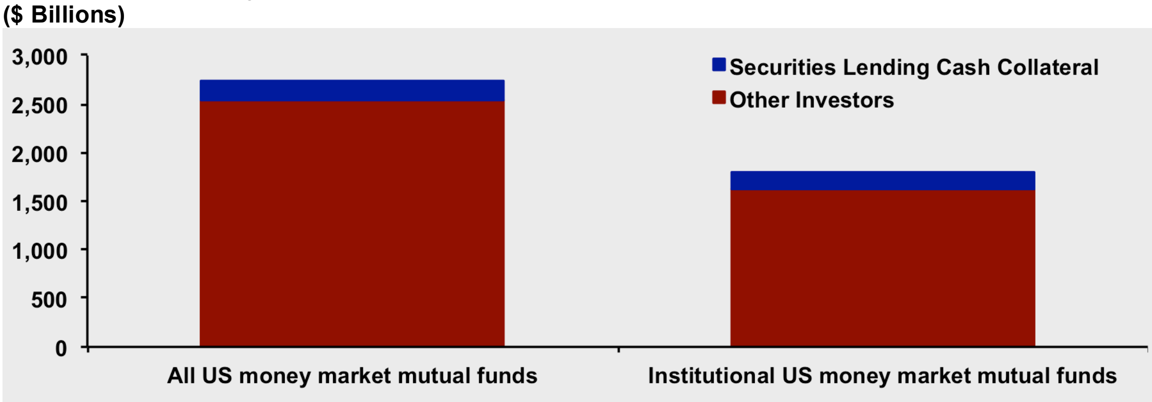


Sources: Federal Reserve, RMA, Finadium

Securities lending cash collateral investors hold equity and corporate collateral repo products as well, although the market share of securities lending-related programs is uncertain due to unknowns in the bilateral repo market.

US securities lending cash collateral is also invested in registered money market mutual funds, although here securities lending represents a smaller portion of the overall investor base than in commercial paper or repo. According to the Investment Company Institute, the size of the US money market mutual fund industry was $2.7 trillion in March 2011; institutional investors accounted for two-thirds of that figure. By contrast, US securities lending cash pools had $196 billion invested in these funds. For all US money market investments including institutional and retail funds, securities lending cash collateral held 7.2% of assets (see Exhibit 11). Compared to only institutional investors, securities lending cash collateral held 11% of assets. The money market funds that securities lending cash collateral invests in are themselves purchasers of commercial paper and repo; these additional investments are not included in the data above.

Exhibit 11:
Investors in US Money Market Mutual Funds, March 2011 ($ Billions)



Sources: Investment Company Institute, RMA, Finadium analysis

Going forward, it is possible that more securities lending assets will move away from unregulated pools and into either separate accounts or registered money market mutual funds. This change would be driven by the Volcker Rule in Dodd-Frank, which, along with prohibiting proprietary trading operations run by banks, may also inadvertently prohibit the operation of some types of unregistered investment pools as securities lending collateral management options.

Managing Unintended Consequences in a Period of Regulatory Change

Key Points:

- *Regulatory change in equity, derivative and fixed income markets impacts the securities lending market.*
- *At the same time, changes to securities lending have corresponding and at times greater impacts to the equities, derivatives and fixed income markets.*

The securities lending market is tightly interwoven with other US financial markets including equities, options, treasuries and short-term credit, and vice-versa. As one example, reducing the weighted average maturities of money market mutual funds means that billions of dollars in US cash collateral management pools will also have shorter maturity dates, as the majority of collateral management pools follow money market guidelines. In another, securities lending volumes are directly reduced by short selling bans and by lower liquidity across options and futures markets.

However, the reverse is also true: increases in transaction costs or disruptions in the inventory of securities loans can cause harm to liquidity and price discovery in equities, options and futures. For example:

- An increase in the cost to borrow an equity security for shorting means greater cost to investors and a lower likelihood of shorting the position, hence less potential market liquidity.

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- Increased securities lending costs result in wider spreads for options trades as market makers seek to manage risk and recoup their own expenses.

- A lack of securities lending inventory would prohibit short selling in a variety of markets, leading to an elimination of liquidity or a market maker pricing in an additional risk premium to their trades.

Increased costs or inventory disruptions get passed on to investors both directly and indirectly in the form of higher transaction fees or lower liquidity that results in wider spreads. How much this occurs is a function of supply and demand; if securities lending supply outstrips demand, investors will see little to no impact. However, at any given time the securities lending market sees demand outpace supply for hundreds or thousands of securities. Making those securities more expensive or less available would result in a corresponding impact for investors trading in the securities involved.

As US regulators continue to evaluate changes to US securities markets in light of Dodd-Frank and Basel III, it is important to remember that it is easier to create an unintended consequence than to think through potential problems and their remedies. Securities lending stands at the intersection of multiple financial activities and is a critical component of US financial markets. As a result, changes to regulations that affect other markets will create an impact in the securities lending arena, and regulations on securities lending itself will have a meaningful impact on equities, derivatives, fixed income and short-term credit markets.

About the Author

Josh Galper is Managing Principal of Finadium and runs the firm's research and consulting advisory practice. He is a regular speaker at industry conferences and has been quoted in major mainstream and financial industry publications. He holds an MBA from the MIT Sloan School of Management. He can be reached at jgalper@finadium.com.

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