Securities lending: Still no free lunch

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Executive summary. Securities lending continues to be much in the news. The practice refers to the temporary transfer ("lending") of a security by one party to another in exchange for cash collateral that can in turn be reinvested to produce income for the lender.[1] Thus, securities lending can be an attractive source of revenue. Because securities lending is a rather straightforward process, many investors have perceived it as a relatively risk-free way to increase the return on an equity or bond portfolio. However, there are pitfalls. This paper examines these risks, which were highlighted during the late-2000s credit crisis, and also compares the two approaches to securities lending. In one approach, *volume-oriented strategies* lend out a large percentage of easy-to-find securities and then attempt to boost revenues by reinvesting the cash collateral in more aggressive investment pools. Conversely, the strategy that Vanguard believes is more prudent and more likely to provide a superior risk–reward trade-off is known as *value lending*. This strategy involves lending only those securities that generate significant revenue and minimizing the risk by investing the collateral in low-risk money market securities.

1 The term *securities lending* may be a bit of a misnomer in the sense that absolute title over the lent securities passes between the parties.

Mechanics of securities lending

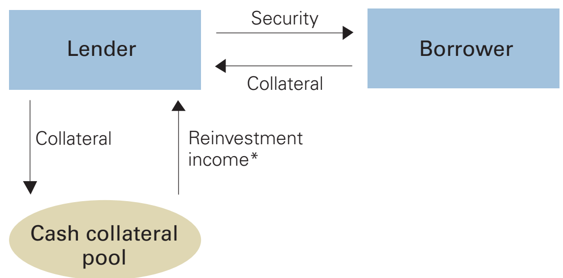
The two main participants in a securities-lending transaction—what we call the "base case" (see Figure 1)—are the lender and the borrower. Also known as the beneficial owner, the lender may make its securities available to offset expenses (such as custody costs or brokerage commissions) associated with maintaining a portfolio, to maximize overall portfolio performance,[2] or to lower a portfolio's effective tax rate through dividend arbitrage.[3] Typical motives for the borrower include covering an already established short position,[4] hedging an investment (such as an equity derivative or a convertible bond), taking advantage of an arbitrage opportunity, or gaining access to voting rights (Faulkner, 2007). Securities lenders are typically institutional investors with large portfolios, such as mutual funds, pension plans, insurance companies, and endowments; the primary borrowers of securities are broker-dealers, hedge funds, and proprietary trading desks of broker-dealers.

The basic steps of the securities-lending process are:

1. The loan is initiated and terms are negotiated between the lender and the borrower. Terms may include (State Street, 2008):

   - The collateral amount, which is generally 102% of the value of domestic shares and 105% of the value of non-U.S. shares.
   - The rebate rate, which is based on a negotiated overnight rate and determines the portion of the cash collateral's reinvestment return that is rebated. This rate is affected by the scarcity value of the security, a function of market supply and demand. For readily available securities, such as those in the large-capitalization Standard & Poor's 500 Index, the lender may rebate some of the income from the reinvested collateral back to the borrower.[5] Hard-to-borrow securities may command little or no rebate, or even a negative rebate. In this instance the borrower essentially pays the lender a rental fee for the privilege of borrowing the scarce security (U.S. Government Accountability Office [GAO], 2011).

Figure 1. The base case: Securities lending



*A portion of this reinvestment income may be rebated back to the borrower.

Source: Vanguard.

Note on risk: All investments are subject to risk.

2 For instance, CalPERS, California State's pension fund, reportedly earned almost $1.2 billion from securities lending over the eight years ended June 2008, "enhanc[ing] returns by more than 30 basis points per annum," according to Amery (2008). At the time of Amery's article, the portion of the investment portfolio lent had recently been valued at $38 billion.

3 The securities lender is subject to dividend withholding tax and the borrower is not. The borrower receives the dividend free of tax and shares some of this benefit with the lender, either in the form of a larger fee or a larger manufactured dividend. Dividend arbitrage is a common practice among foreign investors, who face higher tax rates for dividends than for interest or capital gains (Daly, 2005; SharpeInvesting, 2007). However, dividend arbitrage may not reduce tax costs in all cases. For example, U.S. law aims to ensure that lenders cannot reduce their U.S. dividend withholding tax by lending U.S. stocks to borrowers subject to lower rates of withholding.

4 During the market crisis of the last several years, short-selling was criticized for exacerbating price declines (Curtis and Fargher, 2008), and securities lending was faulted for facilitating short-selling (Rule, 2008). Temporary short-selling bans were put in place in various markets, including the United States, the United Kingdom, Australia, Taiwan, Germany, France, and Belgium (U.S. Securities and Exchange Commission [SEC], 2008; Hille, 2008; Kelly, 2008). In response to the U.S. ban, a few U.S.-based mutual fund companies also temporarily halted their securities lending (Kerber, 2008). Some countries—for example, Canada and the United States—have since relaxed or modified their short-selling rules (*Securities Lending Times*, 2011; SEC, 2010).

5 According to the GAO's recent survey of securities-lending participants, broker-dealers typically negotiate to receive a rebate of some of the reinvestment income earned on the cash collateral. Since the broker-dealers provided cash as collateral for the borrowed securities, they forgo the short-term rate of return they would have earned (GAO, 2011:15).

- The duration of the loan. Loans are usually open, with no specified term, because lenders often wish to preserve the flexibility to recall the securities from the borrower in order to sell them at any time.

- The dividend/reclaim rate. Because ownership passes to the borrower, cash-in-lieu-of-dividend payments—also known as manufactured dividends—are made back to the lender by the borrower.

2. The borrower delivers the collateral to the lender, and the securities are moved to the bank of the borrower or subcustodian (a subcustodian must be used for non-U.S. equities).[6] The foreign subcustodian is the global custodian's agent bank in the local (non-U.S.) market and helps to provide custody services in the foreign country.

3. The cash collateral is then reinvested to generate income.[7] This collateral may be conservatively invested in money-market-like securities—as is the case in value lending—or more aggressively in less creditworthy and/or longer-term securities—as for volume lending. (See the next section, "The risks in securities lending," as well as the accompanying text box titled "Vanguard's approach to securities lending," for more detail on the cash-collateral investment.)

4. The values of both the loaned security and the collateral are marked to market daily in order to bring the collateral back to 102% or 105% of the current market value of the borrowed security. This is accomplished by a daily renewal of the lending agreement, with an adjustment to the cash collateral reflecting the current market value of the borrowed security, and with a renegotiated rebate rate.

5. At the end of the loan period, the borrowed securities are returned to the lender, and the cash collateral is returned to the borrower. A portion of the reinvested collateral's return may be rebated to the borrower.

The risks in securities lending

Beyond the mechanics of the process and deciding which counterparties to do business with, a lender who chooses to participate in a securities-lending program faces two key risk–reward decisions. Fundamentally, there are two main ways to profit from securities lending: by capturing a scarcity premium through the lending of hard-to-borrow securities, and by reinvesting the cash collateral (see **Figure 2**, on page 5). The risk profiles of these two securities-lending paths may be quite different, as follows:

- Value lending (also known as intrinsic securities lending or intrinsic value lending). Seeking to capture a scarcity premium typically provides the lender with a relatively higher return per dollar of securities lent, albeit with fewer opportunities to profit. In addition, the low-to-negative rebate rates associated with hard-to-borrow securities—often known as "specials"—allow conservatively reinvested collateral to generate attractive returns for the lender.

- Volume lending (general collateral lending). Alternatively, a lender could lend out many securities independently of the scarcity value, and then seek to maximize the return in the reinvestment process by taking on more credit, interest rate, or liquidity risk (or some combination of the three), in effect leveraging risks that are already present in, or correlated with, the risks in the underlying asset portfolio. These risk-factor exposures are even less attractive when securities-lending revenue is shared with the lending agent—the more typical scenario described in greater detail below—which reduces the return for a given level of risk.

6 There is no apparent standard length of time for this delivery process. However, for hard-to-locate stocks, the broker may need more time to find the amount of lendable shares requested or may offer to partially fill the request (Duffie, Gârleanu, and Pedersen, 2002).

7 Noncash collateral was the norm in Europe before the launch of the euro in 1999, but cash collateral is much more widely used now. Noncash collateral may include sovereign debt, corporate equity and debt, bank certificates of deposit, and bankers' acceptances (Khan and Trencher, 2005). The borrower tendering noncash collateral pays the lender a set fee in lieu of the reinvestment income that would have been earned on cash collateral.

Vanguard's approach to securities lending

Vanguard has designed its securities-lending program to capture the scarcity premium found in many hard-to-borrow securities and to conservatively reinvest the cash collateral (Vanguard, 2009). Lending scarce, high-demand securities results in a lower percentage of assets lent from a fund as well as a higher return per dollar of assets lent. And the low-to-negative rebate rates associated with hard-to-borrow securities translates into a larger percentage of lending revenues retained by the fund.

The cash collateral received is reinvested in a diversified portfolio of high-quality, short-term, fixed income instruments such as short-maturity government securities, repurchase agreements, and bank certificates of deposit; the dollar-weighted average maturity of such portfolios is 60 days or less and their dollar-weighted average life is 120 days or less. Structured investment vehicles (SIVs) and other structured-finance instruments are not approved for investment. These guidelines apply to both Vanguard's U.S.-domiciled and non-U.S.-domiciled funds. Vanguard Fixed Income Group manages the cash pool in-house for its U.S.-domiciled funds and commingled trusts; for its non-U.S.-domiciled funds, it has strict collateral reinvestment guidelines and closely monitors lending-agent activity. These conservative investment guidelines for the cash-collateral pool are designed to maintain the liquidity of the collateral pool and to minimize the risk of loss to fund investors by focusing on principal preservation.

To reduce the risk of counterparty default, Vanguard lends securities to a limited number of preapproved broker-dealers and maintains strict internal guidelines on the aggregate dollar amount of loans to any one approved borrower. In addition, Vanguard ensures proper collateral coverage by valuing the loaned securities on a daily basis—using current market prices—and by calling for additional collateral when necessary to bring the coverage levels up to the 102% or 105% floor levels for U.S. or foreign securities, respectively. Vanguard's agency agreement requires the lending agent to indemnify our fund in the case of a counterparty default by replacing either the security or the security's current market value to the fund.

Further, the correlation between equities and money-market-like securities has historically been much lower than the positive correlation between less creditworthy, longer-term fixed income securities and equities. Thus, our more conservative reinvestment strategy may also enhance the overall portfolio's diversification, lowering its total risk.

Finally, Vanguard returns all net lending revenues—after subtracting program costs, agent fees, and any broker rebates—back to the funds.[8] These securities-lending practices help ensure a superior risk–reward trade-off in the best interests of Vanguard's clients.

8 Information on net revenues from securities lending as well as the amount of securities lent and cash collateral received is available in each fund's annual and semiannual reports.

Figure 2. Risk–reward decisions for a securities lending program

There are two main phases to consider in a securities lending transaction: lending the security to a borrower and reinvesting the collateral. Within each phase, there are several risk–reward trade-offs to weigh. Value lending captures a higher return at the lending phase, so less risk needs to be taken with the cash collateral to generate a given return. Volume lending receives little return at the lending phase, so the lending agent may try to make it up with more aggressive reinvestment of the cash collateral.

		Value lending	Volume lending
	Volume	Low—lend only hard-to-borrow securities.	High—lend many securities from portfolio.
Lending phase	Securities-lending return	Higher per dollar lent; capture scarcity premium.	Lower per dollar lent.
	Rebate rates*	Low (to negative).	Higher.
Reinvestment phase	Cash-collateral investment	• Conservative. • Cash equivalents. • Money-market-like strategy. • Minimize investment risks, maximize liquidity. • Low correlation with underlying asset portfolio.	• Aggressive. • Longer-dated, lower-quality securities. • Maximize reinvestment spread (income earned above federal funds rate). • Expose collateral to credit, interest rate, and/or liquidity risks. • Higher correlation with underlying asset portfolio.
Additional considerations	Counterparty risk**	Includes the risk that borrower may not return securities.	
	Portfolio management of cash-collateral pool	In-house: Some revenues may be rebated to borrower; more control of cash-collateral pool, more control over risks. Lending agent: Also takes a share of net revenues; may invest cash collateral more aggressively.	

*Rebate rates paid to borrower.

**Counterparty risk is heightened if paired with losses in the cash-collateral pool. This may result in collateral insufficient to repurchase the securities lent out.

Source: Vanguard.

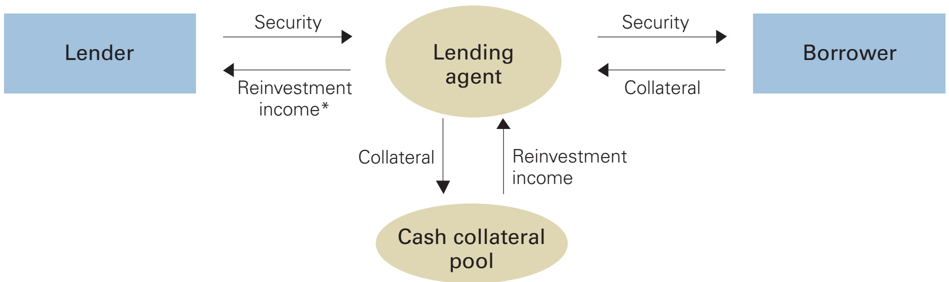
Vanguard believes that an emphasis on the scarcity premium, combined with very conservative reinvestment of collateral, provides a superior risk–reward trade-off.

The risks involved with the reinvestment of the cash collateral are an important consideration. These risks may arise when the cash is aggressively invested in less-creditworthy securities with longer maturities—such as asset-backed securities, subprime mortgages, or other securitized debt instruments—many of which were hurt during the recent severe credit crisis. Unless the securities purchased for the collateral reinvestment vehicles default, any price declines will be unrealized so long as the issues are not sold before they reach maturity. However, this adversely affects the liquidity of the collateral pool, which ideally provides daily access to the cash collateral. Indeed, cash pools that held some form of Lehman Brothers paper, and which were essentially worthless given Lehman's bankruptcy filing in 2008, became illiquid.[9] These reinvestment risks may be alleviated by investing more conservatively in money-market-like instruments such as short-term government securities, repurchase agreements, or certificates of deposit.[10]

9 In addition to losing the collateral that was invested in Lehman debt securities, other investors lost access to securities they had loaned to Lehman, pending resolution of the bankruptcy proceedings. Many of the assets lent to Lehman were re-lent to other investors—a process known as rehypothecation—thereby terminating the original owner's proprietary rights in those assets (Mungovan et al., 2008).

10 However, retail lenders who hold their shares in street name with their broker typically do not receive either interest or fees on the collateral, because street-name shares are lent by the broker without any owner identification attached to them.

Figure 3. A typical scenario for securities lending



*A portion of this reinvestment income may be rebated back to the borrower. The net earnings are split between the lender and the lending agent.

Source: Vanguard.

Because securities lending is conducted through negotiated transactions in the over-the-counter market, the creditworthiness of each participant is also important. Counterparty risk arises from the potential inability of a borrower to return the loaned securities. The lender can experience losses when the collateral on hand is insufficient to purchase replacement securities at the time a borrower defaults. The 2008 collapse of Bear Stearns, for example, was reportedly behind the decision of the city of Hartford, Connecticut, to suspend its securities-lending program (Appell, 2008). Counterparty risk can be mitigated through the daily marking to market of the collateral value and by carefully scrutinizing counterparties.

In addition, although lending can take place directly between the beneficial owner and the borrower, as described earlier in our "base case," a financial intermediary known as a lending agent—often a broker-dealer or a custodian bank—has traditionally been the provider responsible for managing the securities-lending program (**Figure 3**). This adds more risk to the process, primarily because the lending agent often manages the cash-collateral pool, with the net earnings split between the lending agent and the lender. The percentage split is determined by many factors, including the level of service provided by the lending agent. Because the lender typically bears the investment risk in the cash-collateral pool, the fact that the lending agent shares in the reinvestment income may provide an incentive for the lending agent to take on more risk within the cash pool. To minimize the added risks, lenders who decide to use a lending agent should clearly understand the terms of the agency agreement—including the reinvestment guidelines for the cash collateral, the approval process for potential borrowers, and any indemnification provisions—and conduct regular due diligence on the lending agent (Comptroller of the Currency, 2002).

Securities lending during 2007–2009 credit crisis

Difficult market conditions over the last several years have highlighted how various risks can affect securities-lending activity. Much of the fallout during the 2007–2009 credit crisis stemmed from losses and illiquidity in the cash-collateral pools and, in the case of Lehman's bankruptcy, its failure to return the securities it borrowed. Of course, this was a problem only when Lehman's default was coupled with investment losses in the cash-collateral pool, resulting in insufficient collateral to repurchase the securities lent out.

Numerous lawsuits ensued over the losses (e.g., GAO, 2011: 19–20) and investments in "highly illiquid securities" including long-dated mortgage-backed securities (Karmin and Scism, 2008), with some custodians electing to settle (Appell, 2008).

Although not legally required to do so, both Northern Trust and Bank of New York Mellon posted after-tax charges against third-quarter 2008 earnings of roughly $150 million and $425 million, respectively, to pay back investors who lost money in their securities-lending programs (Schneyer, 2008).

In addition, by mid-October 2008, three custodians—Northern Trust, State Street Global Advisors, and Bank of New York Mellon—had placed restrictions on investors' (i.e., lenders') ability to withdraw cash from their securities-lending funds, in some cases requiring an in-kind distribution of securities in lieu of cash (Schneyer, 2008; Williamson, 2009). These restrictions prompted investigations into securities lending by the U.S. Senate Special Committee on Aging (discussed in more detail in the next section).

As a result of concerns over the risks associated with securities lending, some large institutional investors suspended their securities-lending programs while others either changed or tightened their collateral reinvestment guidelines (Appell, 2008).

The more recent environment

The flurry of reports on securities lending in the spring of 2011 further spotlighted risks associated with the practice, focusing especially on the cash-collateral reinvestment pools. Two of the reports—both to the Senate's Special Committee on Aging (2011)—recommended more disclosure on securities lending, including information on the risks/rewards and on reinvestment of the cash collateral. As highlighted by Story (2010), regardless of whether the collateral pool has a gain or a loss, the lender is often liable for any pre-set fees to the collateral pool manager and for rebates to the borrowing broker-dealer. This finding led the GAO (2011) to recommend a prohibition on cash-collateral reinvestment, unless the gains and losses for participants are more symmetric, so that the lender and the borrower share both the losses and the gains.[11]

In response to these concerns, the Dodd-Frank Act of 2010 calls for the SEC to effect new rules on securities lending by July 21, 2012, that are designed to increase the transparency of information available to brokers, dealers, and investors (Kim, 2011; Volz, 2010). The Financial Industry Regulatory Authority (FINRA) is also considering rules to ensure that investors fully understand all the risks involved and that full disclosure occurs on potential broker-dealer conflicts and on any restrictions firms may have on liquidating securities (GAO, 2011: 20; Kim, 2011).

Further, three recent reports—by the International Monetary Fund (IMF, 2011), the Bank for International Settlements (Ramaswamy, 2011), and the G20 Financial Stability Board (FSB, 2011)—focused on securities lending and exchange-traded funds (ETFs), again highlighting the risks of counterparty defaults and collateral reinvestment in securities lending (Gordon, 2011b; Amery, 2011). As Noblett (2011) has recently stated: "[S]ec lending could place the liquidity of the product at risk if outflows are severe, loaners are somehow unable to return the securities to meet redemption requests, and sponsors cannot go and buy the securities with cash collateral." Securities lending can take the form of lending shares of an ETF—ETFs that track the S&P 500 Index, the NASDAQ 100 Index, and the Russell 2000 Index typically top the list of ETFs lent (Gordon, 2011b)—or of lending individual securities held in the ETF's portfolio.[12] And ETFs are now offered as either physical ETFs or, especially in Europe and Asia, synthetic ETFs.[13]

11 Of course, the risk of losses in the collateral pool is minimized with a value-lending approach, which emphasizes conservative reinvestment of the cash collateral.

12 Vanguard ETFs® represent a separate share class of their respective underlying Vanguard mutual funds, so that any lending occurs across all share classes of a fund, not from an ETF specifically.

13 Physical ETFs are still the norm in the United States, with BlackRock (iShares), State Street Global Advisors (SPDRs), and Vanguard being the top sponsors in terms of ETF assets under management (sources: Bloomberg and Vanguard; data as of first-quarter 2011). Société Générale's Lyxor ETFs and Deutsche Bank's db X-trackers are leading synthetic ETFs (Amery, 2011). In synthetic, or wrap-based, ETFs "the provider (typically a bank's asset management arm) sells ETF shares to investors in exchange for cash, which is then invested in a collateral basket, the return of which is swapped by the derivatives desk of the same bank for the return of an index" (FSB, 2011: 3). See Amery (2011) for an excellent summary of the reports' additional criticisms of securities lending specific to synthetic ETFs.

Despite the challenges and setbacks of the credit crisis, the worldwide inventory of stocks and bonds available for borrowing is back to pre-crisis levels; available global supplies are now at $12 trillion, up from $9 trillion two years ago (Johnson, 2011). However, securities lending demand in the United States, particularly from hedge funds, remains restrained, "with almost 12 times more supply than demand" (Gordon, 2011a: 22). This may be partly due to the fact that the motive behind much securities lending is short-selling, so that when markets appreciate, borrower demand is less strong.

However, beneficial owners remain cautious about the riskiness of their cash collateral's reinvestment and have requested more disclosure about securities lending (GAO, 2011). Many lenders have changed from volume to value lending, opting for less aggressive, shorter-duration investments in money-market-like funds. This less-risky reinvestment strategy, along with the lower overall volume of securities lending, has been a likely major contributor to the 62% fall in gross income from securities lending over the past several years: Global revenues shared between beneficial owners and custodians were $20 billion in 2008, falling to $9.87 billion in 2009, and to $7.61 billion in 2010 (Gordon, 2011a). Moreover, "there are signs of the 'unbundling' of custody, cash management, collateral management and securities lending, and the spread of lending business across multiple providers to mitigate risk" (Global Custodian, 2010).

Conclusion

Although securities lending appears to be a straightforward process that offers extra return for an equity or fixed income portfolio, the process is not without risk. From the lender's perspective, the two most important risks are counterparty risk—the risk of default of the borrower—and reinvestment risk—the credit, interest rate, or liquidity risk (or some combination of the three) inherent in the reinvestment of cash collateral in less liquid and less creditworthy issues. Participants interested in the additional income offered by securities lending should be aware that here, as elsewhere, there is no free lunch. All returns come from bearing some form of risk, and securities lending is no different in this regard. Investors should fully consider the intrinsic risks as well as the potential benefits of a securities-lending program to determine whether the risk–reward trade-off is appropriate for their investment portfolios.

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