Liquid Alternatives Explained

What you need to know about “liquid alts” and how they can fit into a diversified portfolio
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Prior to and during the Global Financial Crisis ("GFC") in 2008/9, retail investors in Europe and North America largely invested in long-only mutual funds and exchange-traded funds (ETFs). Many investors experienced sizable losses during the GFC as correlations of different asset classes converged and failed to provide the diversification and protection benefits investors were anticipating.

The fallout prompted investors to seek out new ways to protect their investments from significant drawdowns, leading to an increase in the development of alternative investment products in the United States and Europe. The liquid alternatives segment, or alternative products available in liquid vehicles, grew rapidly in U.S. and European markets, and on January 3, 2019 the Canadian Securities Administrators announced an expansion of the regulatory framework in Canada permitting the offering of "alternative mutual funds", also known as "liquid alt funds" or "liquid alts", in Canada to all Canadian investors.

### Alternative Assets and Alternative Strategies

Alternative investments differ from traditional long-only equity, fixed income or cash investments and can refer to either alternative asset classes or alternative strategies or approaches to investing.

<table>
<thead>
<tr>
<th>Examples of Alternative Asset Classes</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Real estate / REITS</td>
<td>Private Equity</td>
</tr>
<tr>
<td>Commodities</td>
<td>Private Credit</td>
</tr>
<tr>
<td>Infrastructure</td>
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<table>
<thead>
<tr>
<th>Examples of Alternative Strategies</th>
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</tr>
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<tbody>
<tr>
<td>Long/short</td>
<td>Managed futures</td>
</tr>
<tr>
<td>Market neutral</td>
<td>Multi-strategy</td>
</tr>
</tbody>
</table>
Why Would Investors Consider Alternatives?

Investors use alternative strategies for a variety of reasons depending on their investment objectives. Because alternatives tend to behave differently than typical equity and fixed income investments, adding them to a portfolio comprised of traditional asset classes may provide investors with several potential benefits:

- **Diversification through low to non-correlated return sources**
  Alternatives are considered to be long-term diversifiers within a portfolio because they tend to have low correlation to traditional asset classes like publicly listed equities and fixed income.

- **Reduced volatility and risk**
  A portfolio containing a variety of alternatives may offer reduced risk and volatility without a proportionate reduction in expected return.

- **Downside protection and capital preservation**
  Employing alternatives within a portfolio may help to shield investors from a decline in value when markets are stressed.

- **Greater risk-adjusted returns**
  Alternatives have been shown to offer opportunities to enhance the risk-adjusted returns of well-diversified portfolios.

- **Hedging against rising interest rates or inflation**
  Alternatives can provide a hedge against inflation or rising interest rates due to their uncorrelated risk and return profiles relative to these economic variables.
What Are Alternative Mutual Funds / “Liquid Alts”?

Liquid alt funds allow investors to access alternative assets and strategies through mutual funds or ETF vehicles, combining many of the benefits of alternatives with the daily liquidity (i.e. ability to buy and sell) most retail investors desire. Liquid alt funds may invest in alternative asset classes such as physical commodities, or utilize alternative strategies such as long/short or managed futures, not generally permitted in traditional mutual funds or ETFs.

In general, liquid alt funds have greater flexibility than traditional mutual funds and ETFs. Not only are there fewer restrictions on the types of assets they can hold, but there can also be a greater concentration to any one security, up to 20% of Net Asset Value (NAV). Liquid alt funds are also permitted to allocate assets to other alternative mutual funds or non-redeemable funds. There is also more flexibility around leverage, borrowing cash, shorting without the requirement of cash cover, and using derivatives for hedging and non-hedging purposes. In general ‘hedging’ refers to the use of derivatives to ‘hedge’ or neutralize exposure. Using currency forward contracts to neutralize currency exposure is a common application of ‘hedging’. ‘Non-hedging’ purposes are those instances where derivatives are used for speculative purposes or to gain exposure to an area of the market.

The following table contrasts liquid alts with traditional mutual funds and ETFs, based on Canadian regulatory obligations:

<table>
<thead>
<tr>
<th>Investment Restriction*</th>
<th>Liquid Alts</th>
<th>Mutual Funds &amp; ETFs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concentration restriction</td>
<td>20% of NAV</td>
<td>10% of NAV</td>
</tr>
<tr>
<td>Control restriction</td>
<td>No more than 10% of equity securities of an issuer</td>
<td></td>
</tr>
</tbody>
</table>
| Restriction on types of investments | No investment in:  
  - Real property  
  - Mortgages other than guaranteed mortgages  
  - Loan syndications  
  
  No Investment in:  
  - Real property  
  - Mortgages other than guaranteed mortgages  
  - Precious metals other than gold, silver, platinum or palladium (up to 10% of NAV)  
  - Physical commodities other than permitted precious metals (waived for precious metals funds)  
  - Loan syndications  |
| Illiquid assets | 10% of NAV at time of investment (hard cap at 15%) |
| Investment in other funds |  
  - 100% in underlying alternative mutual funds, non-redeemable funds, conventional funds and ETFs  
  - 100% in IPUs  
  
  10% in underlying alternative mutual funds and non-redeemable funds  
  100% in underlying conventional funds, ETFs and IPUs |
| Borrowing | Limited to 50% of NAV  
  
  Limited to 5% of NAV + cash cover |
| Short-selling |  
  - Up to 50% of NAV, with a single issuer limited to 10% of NAV (exclude government securities)  
  - No cash cover requirements  
  
  Up to 20% of NAV with single issuer limited to 5% of NAV  
  150% cash cover required in all cases |
| Total borrowing & short-selling | Aggregate limit of 50% of NAV at all times  
  
  Not Applicable |
| Derivatives for hedging and non-hedging purposes |  
  - No rating requirements  
  - Counterparty exposure limit of 10%, except for cleared derivatives that meet minimum rating requirements  
  
  Must meet minimum rating requirements  
  Counterparty exposure limit of 10% except for cleared derivatives that meet minimum rating requirements |
| Derivatives for non-hedging purposes | No cash cover requirements  
  
  Cash cover required |
| Leverage – total borrowing, short-selling and derivatives limits | Limited to 300% of NAV; sum of cash borrowing, short-selling, derivatives (excluding those used for hedging) divided by NAV  
  
  Leverage generally prohibited |
| Securities lending | Permitted subject to conditions |

*The parameters outlined are for explanatory purposes only and are not the official statement of law. Please refer to National Instrument 81-102, Part II - Investments
What Are The Key Components Of Alternative Strategies?

As mentioned above, liquid alt funds differ from traditional mutual funds in that they are permitted to invest in ways that a traditional mutual fund cannot. Many managers of alternative strategies obtain leverage to increase or decrease risk and return levels through the use of derivatives or short-selling. To execute their strategies, managers require prime brokerage services, meaning an integrated suite of services that many brokerages provide for clients with more complex financial needs. A prime broker can (i) facilitate short positions, (ii) provide margin financing on long assets, and (iii) act as the derivative financing counterparty to swap transactions for equity or credit exposures for investment fund managers.

(i) **Short-selling:** In contrast to a traditional fund manager who generally maintains a long position in securities, an alternative fund manager has the ability to be short securities achieving a negative position in the portfolio. "Short-selling" is when an investor borrows securities and immediately sells them in the market, hoping to buy them back at a later time at a lower price, retaining the difference in price as profit. This action allows the investor to benefit from a decline in the security’s price, but can also result in losses if the price increases beyond the original purchase price. Short-selling has significant risk associated with it because if the borrowed security’s price increases, losses can theoretically be unlimited. Investors must also consider additional costs that will reduce their profit including interest owed on the securities loan, accrued daily and paid monthly.

(ii) **Margin:** Margin financing allows an investor to borrow money to invest in securities, using the purchased securities as collateral on the loan and paying interest for the period of the loan. The account is marked-to-market daily to ensure that enough collateral is maintained. The difference between the value of the securities and the loan must stay above a minimum margin requirement or the broker will demand that the investor deposits additional money or securities into the account. The investor is also responsible for interest on the loan, accrued daily and paid monthly. Margin financing is beneficial if the investor anticipates earning a higher rate of return on the investment versus what they are paying in interest on the loan.

(iii) **Derivatives:** Derivatives are an important component of alternative strategies as they are widely used to meet investment objectives. Managers can use derivatives to create investment opportunities that would otherwise be unavailable to them and also obtain leverage and reduce transaction costs. Options, futures, forwards and swaps are all commonly used by Liquid Alt managers, depending on the strategy and constraints.

Short-selling, using margin to purchase assets or using derivatives can introduce degrees of leverage into a portfolio, presenting varying levels of risk.
What Are Common Alternative Investment Strategies?

There are several different kinds of alternative strategies used within liquid alt funds, with the most common being long/short, market neutral, leveraged, managed futures and multi-strategy.

**Long/Short**
These strategies take both long and short positions while maintaining net-long exposure in the portfolio. The objective of these strategies is to profit from price appreciation from long securities and price declines from short securities.

**Market Neutral**
These strategies take both long and short positions in equal weights, in an effort to reduce or eliminate exposure to systematic risk so that returns are unrelated to those of the overall stock market.

**Managed Futures**
These strategies involve taking long or short positions in global equity, fixed-income, currency or commodity markets using derivative products including futures, forwards, options or swaps. Managed futures strategies often follow market trends or signals, for example price momentum.

**Multi-Strategy**
These strategies combine a portfolio of different alternative strategies, such as long/short, market neutral and managed futures, in one portfolio. The fund manager can decide which percentage of capital to allocate among individual strategies in order to meet investment objectives.

In an ever-evolving and increasingly complex market environment, investors are actively seeking out opportunities to diversify their sources of return away from traditional equity and fixed income investments. Alternative investments can be fundamental building blocks for a well-constructed portfolio and key components in helping investors achieve their goals.

However, because of the wide spectrum of approaches, differing objectives and varying levels of risk within each category of liquid alternative funds, investors should carefully research their investment options, and understand the unique objective and strategy of each fund to ensure they achieve the outcome they are looking for.
Prime Brokerage

Liquid alternatives allow investors to access alternative investments through mutual funds or ETF vehicles, combining many of the benefits of alternatives with the daily liquidity (i.e. the ability to buy and sell) many investors desire. Designated liquid alternative funds may invest in alternative asset classes such as physical commodities, or utilize alternative strategies such as long/short or managed futures, not generally permitted in other mutual funds or ETFs. In general, liquid alt funds have greater flexibility than traditional mutual funds and ETFs.

The primary manner in which these funds differ from traditional mutual funds is due to their use of leverage, short-selling and derivatives.

A counterparty is required to help investment managers facilitate these strategies. The counterparty that facilitates cash borrowing, short-selling and derivative positions (amongst other things) is the fund’s prime brokerage service provider.
What Does “Prime Brokerage” Mean?

Prime brokerage acts as the financing counterparty to enable a liquid alternative fund to borrow cash and securities and also the provision of a centralized cash and securities facility to enable custody, settlement and clearing.

The primary services offered by prime brokers are as follows:

- Facilitating short positions through stock borrowing and lending
- Provision of margin financing
- Acting as the derivative financing counterparty (Synthetic Prime Brokerage)
- Clearing and settling trades from dealers
- Back office services such as corporate actions processing

Short-selling, margin financing and facilitating derivative transactions are the primary means by which liquid alternative funds execute their investment strategies. In essence, without access to a prime broker, liquid alternative funds that rely on these services would not exist.

Facilitation of Short Positions

Under the "alternative mutual fund" rules of NI 81-102, a liquid alternative fund may obtain leverage by borrowing securities and selling them short in an amount equal to a maximum of 50% of the Net Asset Value ("NAV") of the fund without the cash cover requirements that are in place for traditional mutual funds. By borrowing securities to sell short, a liquid alternative fund is able to alter its risk/return profile in a number of different ways:

1. Shorting securities can be used to hedge against market drawdowns
2. Shorting securities can be used to generate additional alpha
3. Shorting securities can be used to remove specific exposure from a fund
4. Shorting securities can be used to increase exposure on the long side of a fund

Borrowing securities in order to sell them short requires a prime brokerage service provider who acts as the securities lender in exchange for a negotiated rate.

Provision of Margin Financing

Borrowing cash is known as margin financing, a service facilitated by a liquid alternative fund’s prime brokerage service provider (and not dissimilar to an individual investor using a margin account). In essence, the prime broker is lending the fund cash, which the fund can then use to increase its long investment exposure. In return, the prime broker receives a negotiated rate against the loan. Additionally, the fund is required to maintain 'margin' with the prime broker as collateral against the loan. The margin requirement and amount of margin required depends on the following factors:

1. Type of collateral the fund chooses is required to provide (cash, securities)
2. Regulatory margin requirements (i.e. IIROC margin requirements)
3. Liquidity of securities purchased on margin
4. Concentration of securities purchased on margin

Acting as a Derivative Financing Counterparty

Prime brokers can also act as counter party in a derivative transaction with the liquid alternative fund in order to provide the fund with synthetic exposure to a security, index or other financial instrument. This type of prime brokerage service is known as "Synthetic Prime Brokerage".

Under the "alternative mutual fund" rules of NI 81-102, a liquid alternative fund may obtain leverage by using derivatives in an amount equal to maximum notional value of 300% (3x) of Net Asset Value ("NAV"), which does not include derivatives used for hedging purposes.
Derivatives

According to the Canadian Securities Administrators, the term “alternative mutual fund” refers to “the mutual funds that have adopted investment objectives that permit those funds to invest in physical commodities or specified derivatives, or, borrow cash or engage in short-selling in a manner not typically permitted for other mutual funds.”

Canadian traditional mutual funds and alternative mutual funds use derivative instruments in a variety of ways. At the highest level, usage of derivatives can be segmented into two categories: for hedging purposes and non-hedging purposes.

In general ‘hedging’ refers to the use of derivatives to ‘hedge’ or neutralize exposure. Using currency forward contracts to neutralize currency exposure is a common application of ‘hedging’. ‘Non-hedging’ purposes are those instances where derivatives are used for speculative purposes or to gain exposure to an area of the market.

The different rules related to the use of derivatives by traditional mutual funds and liquid alternatives is summarized in the table below:

<table>
<thead>
<tr>
<th>Derivatives for hedging and non-hedging purposes</th>
<th>Liquid Alternatives</th>
<th>Traditional Mutual Funds</th>
</tr>
</thead>
<tbody>
<tr>
<td>• No rating requirements – Counterparty exposure limit of 10%, except for cleared derivatives which meets minimum rating requirements</td>
<td>• Must meet minimum rating requirements</td>
<td>• Counterparty exposure limit of 10%, except for cleared derivatives which meets minimum rating requirements</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Derivatives for non-hedging purposes</th>
<th>Liquid Alternatives</th>
<th>Traditional Mutual Funds</th>
</tr>
</thead>
<tbody>
<tr>
<td>• No cash cover requirements</td>
<td>• Cash cover required</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Total borrowing, short-selling and derivatives limits</th>
<th>Liquid Alternatives</th>
<th>Traditional Mutual Funds</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Limited to 300% of NAV: sum of cash borrowing, short-selling, derivatives (excluding those used for hedging) divided by NAV</td>
<td>• Leverage generally prohibited</td>
<td></td>
</tr>
</tbody>
</table>

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Types of Derivatives

Call Options
Call options are contracts that give the purchasing party the right to buy the underlying asset at an agreed upon price, called the strike price, at any time throughout the life of the contract. Purchasers of call options pay an upfront premium. The purchaser of a call option profits when the price of the underlying asset increases above the sum of the strike price and the premium paid.

Put Options
Put options are contracts that give the purchasing party the right to sell the underlying asset at an agreed upon price, called the strike price, at any time throughout the life of the contract. The purchaser of a put option profits when the price of the underlying asset falls below the strike price.

Forward Contracts
A forward contract is a customized contract between two parties to buy or sell an asset, such as currencies and commodities, at a specified price on a future date. The benefits of currency forwards include that they do not require any upfront payment, and that they can be tailored to a particular amount and delivery period, unlike standardized currency futures. In addition, forward contracts do not trade on an exchange, as future contracts do.

Futures Contracts
A futures contract is a legal agreement to buy or sell an underlying asset at a predetermined price at a specified future date. Unlike forwards, futures contracts are standardized for quantity and quality, and because of this, are able to trade on futures exchanges. The purchaser of the contract takes on the obligation to buy the underlying asset at contract expiry, whereas a seller is taking on the obligation to deliver the underlying asset.

Swap Contracts
A swap is an agreement in which the cash flows or liabilities from different financial instruments are exchanged between two parties. Swaps can be based on the cash flows of several underlying financial instruments including interest rates and indices of various asset classes. Generally, the principal amount that the swap is based upon does not change hands; only the periodic cash flows that are based on that notional principal amount do. Typically one party pays a fixed cash flow, while the other party pays a variable cash flow that is based on a benchmark interest rate, index price or floating currency exchange rate.

Swaps do not trade on exchanges, and retail investors do not generally engage in swaps. Rather, swaps are over-the-counter contracts primarily between businesses or financial institutions that are customized to the needs of both parties.

Tax Implications for Derivatives
Gains/losses/income generated from derivatives could be taxed on account of income or capital, depending on a number of factors, including but not limited to, the nature, size and duration of the derivatives as well as the circumstances of the fund, and is always determined on a case by case basis.

Over-the-Counter (OTC) vs. Exchange-Traded Derivatives
In a market that operates with trading on an exchange, transactions are completed through a centralized source. A third party acts as a mediator connecting buyers and sellers. On exchanges, products such as derivatives that are traded are generally standardized with respect to size, quality, delivery and other characteristics that underlie various derivatives. One of the benefits of trading derivatives on an exchange is that delivery of underlying assets can be guaranteed, and that goods and products are in compliance with the terms of trade. Futures and most options are examples of derivative instruments that are available on exchange-traded markets.

Certain derivatives transactions are not carried out on an exchange, but trade on OTC markets. Unlike exchanges, OTC markets are decentralized. OTC trading is done directly between two parties, without the supervision of an exchange. This allows the purchaser to customize certain elements of derivative contracts to fit their specific needs. In general, OTC markets are typically less transparent than exchanges and are also subject to fewer regulations. Forward contracts (including currency forwards) are OTC instruments. While their OTC nature makes it easier to customize terms, the absence of a centralized clearinghouse results in a higher degree of default risk.
Leverage

On January 3, 2019, the Canadian Securities Administrators officially announced the much anticipated expansion of NI 81-102 and introduced “Alternative Mutual Funds”, referred to as “Liquid Alternative Mutual Funds” or “Liquid Alts”. Among other changes, the rules greatly expand the permitted leverage allowed by Alternative Mutual Funds. Leverage can be employed in a variety of ways as well as on different underlying strategies.

The Rules

Under the expanded NI 81-102 rules, direct cash borrowing for the purposes of increasing buying power or facilitating short trades is permitted up to 50% of Net Asset Value (NAV) and total leverage (including synthetic or indirect leverage using derivatives) is permitted up to 300% of NAV. Leverage remains generally prohibited for traditional Canadian mutual funds.

<table>
<thead>
<tr>
<th>Investment Restriction*</th>
<th>Liquid Alts</th>
<th>Mutual Funds &amp; ETFs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Borrowing</td>
<td>Limited to 50% of NAV</td>
<td>Limited to 5% of NAV + cash cover</td>
</tr>
<tr>
<td>Short-selling</td>
<td>• Up to 50% of NAV, with a single issuer limited to 10% of NAV (exclude government securities) • No cash cover requirements</td>
<td>• Up to 20% of NAV with single issuer limited to 5% of NAV • 150% cash cover required in all cases</td>
</tr>
<tr>
<td>Cash borrowing + short-selling</td>
<td>Aggregate limit of 50% of NAV at all times</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Total leverage</td>
<td>• Limited to 300% of NAV: sum of cash borrowing, short-selling, derivatives (excluding those used for hedging) divided by NAV</td>
<td>• Leverage generally prohibited</td>
</tr>
</tbody>
</table>

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Considerations

Liquid Alternative Mutual Funds may use borrowed capital to expand the portfolio's asset base with the aim of meeting investment objectives. These objectives may be higher returns but could also be to offer returns with lower correlations to the stock and bond market, to hedge against market drawdowns or to remove specific exposures from a Fund.

In general, Funds that employ leverage do exhibit higher levels of volatility and will have returns that change more over time.

How Leverage is Employed in Liquid Alternative Mutual Funds

There are three distinct ways that Liquid Alternative Mutual Funds employ leverage within the underlying portfolios: on the long side, the short side and by synthetically achieving exposure.

1) Using Leverage with Long Positions
Leverage increases buying power by allowing the investor to enter larger positions than would otherwise be possible with solely the funds available in the underlying portfolio. This is carried out by using additional funds made available through the mutual fund’s broker on margin, similar to a loan. This loan is collateralized by the securities owned by the fund.

The following example illustrates how leverage would work on the long side:
A Portfolio Manager currently manages a $200,000 fund and expects that the prices of underlying securities are poised to rise. She can increase her exposure to the underlying securities in excess of the $200,000 available – to take advantage of the expected price increases – by employing leverage. If she were to borrow another $200,000 on margin, the portfolio would be said to have a 2:1 leverage ratio and have a total of $400,000 available to invest.

The tables below show the returns to the fund’s investors, assuming a return of 4% on the underlying securities.

<table>
<thead>
<tr>
<th>No Leverage Employed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amount invested</td>
</tr>
<tr>
<td>Increase in value (4%)</td>
</tr>
<tr>
<td>Total return</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Leverage Employed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amount invested</td>
</tr>
<tr>
<td>Increase in value (4%)**</td>
</tr>
<tr>
<td>Total return on initial capital of $200,000</td>
</tr>
</tbody>
</table>

Similar to a loan, interest is also charged on the funds borrowed on margin. Generally, interest on margin accounts accrues daily and is paid monthly. This cost of borrowing reduces the total returns from investments. The example below illustrates how this would impact the return assuming the total interest charged over the period was 1%.

<table>
<thead>
<tr>
<th>Leverage Employed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amount invested</td>
</tr>
<tr>
<td>Increase in value (4%)***</td>
</tr>
<tr>
<td>Interest (1%)</td>
</tr>
<tr>
<td>Total return on initial capital of $200,000</td>
</tr>
</tbody>
</table>

It is important to keep in mind that leverage magnifies both gains and losses. In the example above, if the portfolio had experienced a loss, the leverage employed would have deepened the degree of losses experienced.

Also, in practice Portfolio Managers are required to maintain a minimum margin level, or percentage of equity held in the portfolio relative to the amount of margin used. Values are marked-to-market daily to ensure margin levels are maintained. If the margin level falls below the maintenance margin (the minimum amount of equity that must be maintained), the asset manager will be called upon to increase the amount of collateral to bring the margin level back in line.

* An equivalent loss of -4% would result in a decrease in value of $8,000 and a total return of -4% (=8,000/200,000)
** An equivalent loss of -4% would result in a decrease in value of $16,000 and a total return of -8% (=16,000/200,000)
*** An equivalent loss of -4% would result in a decrease in value of $16,000 and a total return of -9% (=16,000-2,000)/200,000
2) Using Leverage with Short-Selling

A short sale is generally carried out by an investor who is aiming to benefit from a decline in the price of a security. The process of short-selling involves borrowing securities, selling them at the current market price, and ideally buying them back at a lesser cost at a future date, and returning them to the lender. The gain to the short seller is the difference between the price for which the security was sold and the price at which it was re-purchased.

A form of leverage also comes into play in short-selling. The loan, in this case, is the notional value of the securities borrowed. In order to open a short position, the investor (borrower entering the short sale) must have a margin account. The borrower must then pay a certain level of interest, based on the notional value of the securities borrowed, to the lender, throughout the duration of the position. Interest on margin accounts accrues daily and is paid monthly. Also, similar to trading on margin for long positions, a certain margin level must be maintained as collateral. This is based on the notional value of the loan and marked-to-market daily. Proceeds from the short sale as well as cash may be used as collateral against the securities loan.

To illustrate this, assume that a Portfolio Manager sold short 1,000 shares at an initial price of $12, the notional value of the short sale is therefore $12,000, and the interest rate charged over the period is 2%. The tables below show the net returns if the stock fell in value as well as increased in value.

<table>
<thead>
<tr>
<th>Short-Selling Example (Stock falls to $8)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sold short (notional)</td>
</tr>
<tr>
<td>Value when purchased back (at $8)</td>
</tr>
<tr>
<td>Interest (at 2%)</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Total return</td>
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<tr>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Short-Selling Example (Stock rises to $13)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sold short (notional)</td>
</tr>
<tr>
<td>Value when purchased back (at $13)</td>
</tr>
<tr>
<td>Interest (at 2%)</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Total return</td>
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<td></td>
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</tbody>
</table>

3) Synthetic Exposure Using Derivatives

Another method in which investors can take on leverage is through the use of derivatives. Unlike using margin directly to buy long or sell short securities, derivatives provide a way to indirectly employ leverage to gain different market exposures.

Swaps, which are the main products used to obtain synthetic exposure to certain assets, allow investors to receive the returns or cash flows of an underlying asset without requiring the notional amount that the cash flows or returns are based on to exchange hands. A swap is a derivative transaction whereby it is agreed that the swap counterparty (the seller) pays the underlying asset’s return to the swap buyer. In exchange, the swap counterparty receives a fee (swap fee). Swaps are available on a range of financial instruments including interest rates, currency returns, index returns and commodity returns.

One risk that can arise from a swap is default by the counterparty. This refers to the risk of the counterparty defaulting on their payment to the swap buyer. However, the risk of non-payment is limited to only the return of the underlying security owed to the investor, not the collateral amount, which is held in a custodial account.

One of the most common types of swaps is a total return swap that is based on an index or basket of securities. The swap counterparty pays the index return including all dividend payments to the swap buyer and in exchange, the swap counterparty receives a swap fee and the interest, or the return of the securities, from within a collateral portfolio. In this case, the swap buyer must deposit collateral of either cash or securities into this account, similar to a margin account.
How a Total Return Swap on an Index Works

- The investor pledges cash as collateral to the counterparty, which is held in a custodial account. The investor receives interest on the money in the custodial account at the prevailing inter-bank lending rate (CDOR, for example).

- The swap counterparty then purchases the underlying securities that the investor wishes to receive exposure to.

- The swap is marked-to-market daily and the required payments between the investor and the counterparty are netted and determined as such:
  - If the prevailing interest rate is greater than the return of the underlying security, then the investor pays the counterparty the difference.
  - If the return of the underlying is greater, then the counterparty pays the investor the difference.

*Dividends reinvested
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