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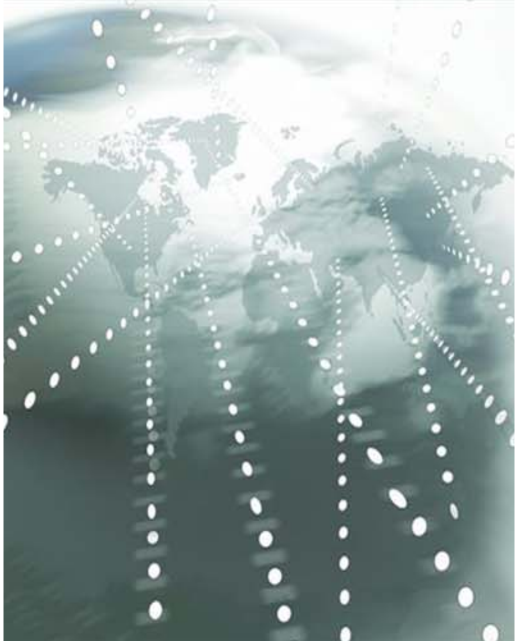

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# An Overview of Short Stock Selling

## An effective short stock selling strategy provides an important hedge to a long portfolio and allows hedge fund managers to reduce sector and portfolio beta.

Short selling is a key component of most hedge fund strategies and, in the case of equities, it is also a dedicated strategy. A short sale involves borrowing and selling a security that the investor does not own in anticipation of buying it back at a lower price in the future. Hence, short sellers attempt to profit from a decline in a particular security's price. For long/short equity (i.e., equity hedge) and equity market-neutral strategies, skilled stock selection on both the long *and* short side is a primary return driver rather than the market's direction. Therefore, the principal risk of these strategies shifts from *market risk* to *manager* risk.

According to Hedge Fund Research Inc. (HFRI), less than 1% of the US$1,025 billion in hedge funds is invested with dedicated short stock sellers, while equity hedge and equity market-neutral strategies comprise over 30% of hedge funds assets.[1] While dedicated short stock selling is generally difficult to employ on a stand-alone basis, due to the stock market's natural tendency to appreciate over time, short selling is a key element of the larger long/short equity category.[2] Dedicated short sellers can also act as an important portfolio hedge in the context of a large and well diversified portfolio of hedge fund strategies that are positively correlated with broader equity and fixed-income markets.

## Mechanics of Selling Stock Short[3]

The purpose of a short stock sale is to profit from the decline in a stock's price. Collectively, a short stock portfolio can profit from a stock market decline and thereby act as a portfolio hedge to long positions that, as a group, would likely decline during a stock market correction.

This paper, together with *An Overview of Leverage* and *The Role of a Prime Broker*, is designed as a companion to AIMA Canada's Strategy Paper Series. Please refer to www.aima-canada.org for details regarding the Series.

Note on Key Terms: There is a "Glossary of Key Terms" at the end of the strategy paper on Page 6. The key terms are italicized and underlined in the text.

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[1] Hedge Fund Research Inc. (HFRI), September 2005.
[2] Refer to AIMA Canada's papers *Long/Short Equity Strategy* and *Equity Market-neutral Strategy* for detailed discussions of these strategies.
[3] The primary focus of the balance of this paper is on short *stock* selling.

Mechanically, a short stock sale is the reverse of a long stock purchase in a *margin* account. The shares are borrowed from a brokerage firm's inventory and sold short in the market. The term "short" in this context refers to the fact that the shares sold are not owned by the seller, but are borrowed. The short seller must provide collateral (typically in the form of cash or T-bills) to borrow the stock, and this collateral earns interest on the cash securities over the loan period, which is referred to as the *short interest rebate*.

The sale of these shares into the market is subject to certain exchange rules and margin requirements. For example in Canada, selling a stock short can only be done on an *uptick*, or a flat-tick, that is, when the most recent movement in the stock's price has increased or remained flat.[4] Eventually, the shares are repurchased, ideally at a lower price, and returned to the brokerage firm from where they were borrowed.

The profit or loss on the short stock sale is the difference between the initial sale price and the price at which the shares are repurchased, adjusted for stock loan costs, trading commissions, any dividend payments (the short seller owes the dollar value of the dividends to the original shareholder), and the *short interest rebate*.[5] The return drivers for short selling are either a stock price decline and/or the short interest rebate on the short sale proceeds.

## Purpose of Selling Stocks Short

Selling stocks short serves different purposes for different equity managers and strategies.

- **Sell Stocks Short to Hedge a Portfolio's Market Exposure and/or Sector Exposure:** From a portfolio perspective, selling stocks short allows hedge fund managers to hedge out market risk (beta risk) and to protect the portfolio's long positions against a broad stock market decline. This technique also helps to reduce the portfolio's correlation to the markets, and in many cases the volatility of a portfolio's returns with the market, thereby increasing risk-adjusted returns (all other things being equal).

  Long/short equity managers often use short selling to hedge out portfolio risk and/or sector risk. Shorting equity indices is often a technique used to hedge broader portfolio and/or sector risk. For example, long/short equity managers can effectively reduce the portfolio's *net market exposure*, by shorting the relevant equity index using futures or exchange-traded funds (ETFs). Similarly, managers can short a particular sector index to hedge against sector-specific risk.

- **Sell Stocks Short to Profit from Stock Price Declines:** Long/short equity managers also short specific stocks on a stand-alone basis, attempting to profit from a decline in the stock price for company-specific reasons. This type of short stock sale is typically based on extensive fundamental and/or quantitative research by the manager to identify specific factors that should lead to a decline in the stock's price. These factors include overvaluation, weak management, a potential breach of a debt covenant, declining revenue and earnings, or a future earnings shortfall relative to analysts' estimates.

  Dedicated short sellers (i.e., short bias managers) focus almost entirely on short selling, and attempt to profit from both broader market declines *and* specific events that cause a stock's price to decline.

- **Sell Stocks Short to Capture Relative Value:** Equity market-neutral managers may establish a pairs trade by buying an undervalued stock and selling short an overvalued stock, usually in the same industry. Pairs trading is a non-directional, relative value strategy that seeks to identify two companies with *similar* characteristics whose stocks are currently trading at a price relationship that is outside of its historical trading range.

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[4] For an overview of the Canadian rules and policies of short stock selling, refer to the "Universal Market Integrity Rules" on the Market Regulations Services Inc.'s website: http://docs.rs.ca/ArticleFileMain.asp?Instance=100&ID=81794DD85F524FCB850E93B0E775BA63

[5] The prime broker will need to act on behalf of the short seller in the event of any changes in corporate status, such as corporate actions, mergers or spin-offs.

Table 1 summarizes the primary hedge fund strategies that use short stock selling.

**Table 1: Key Hedge Fund Strategies using Short Stock Selling**

| Strategy | How Short Selling is Used |
|---|---|
| **Relative Value (Market-Neutral)** | |
| **Convertible Arbitrage** | ▪ Buy a convertible bond with an embedded undervalued call option on the stock, and sell the stock short to capture the arbitrage |
| **Equity Market-Neutral** | ▪ Set up a pairs trade/peer group trade to capture the relative value between two or more stocks or sectors |
| **Capital Structure Arbitrage** | ▪ Buy and sell different securities of the same company to exploit the anomalies in the pricing of a company's equity and its debt |
| **Event-Driven** | |
| **Merger (Risk) Arbitrage** | ▪ Buy the stock of the company being acquired at a discount to the takeover price, and sell short the stock of the acquirer at the current market price with the goal of extracting a small profit when the deal closes |
| **Opportunistic (Directional)** | |
| **Long/Short Equity** | ▪ Sell equity market indices/sector indices to hedge a portfolio's directional equity market risk and to manage a portfolio's net market exposure<br>▪ Set up a pairs trade/peer group trade to capture the relative value between two or more stocks or sectors |
| **Short Equity Bias** | ▪ Short specific stocks on a stand-alone basis to profit from a decline in the stock price for company-specific reasons |

## Example of Short Stock Selling

The example in Table 2 illustrates a short stock sale that a typical long/short equity manager may execute to profit from an expected decline in a particular stock price.

**Table 2: Example of Short Stock Trade**

**Background to The Trade:** The portfolio's total net asset value (NAV) is $100 million, and the short stock position, XYZ Co., represents a 2% short weighting in the portfolio. The manager initially shorts 200,000 XYZ Co. shares at $10/share, and eventually covers (i.e., buys back) 200,000 XYZ Co. shares at $7.50/share to close out the position. We assume that the trade is held for a year.

**I. Determining Total Return**

| Return Source | Cost Base | Exit Proceeds | Return ($) | Assumptions/Notes |
|---|---|---|---|---|
| Short Position: XYZ Co. | $2,000,000 | +$1,500,000 | $500,000 | 200,000 shares shorted @$10 per share and covered @$7.50 per share |
| Short Rebate on Short Sale Proceeds | | | $30,000 | Rate of 1.5% earned on short proceeds of $2,000,000 |
| Cost of Borrowing Shares | | | ($5,000) | Rate of 0.25% paid on initial stock loan, with a borrow value of $2,000,000 |
| Dividend Payment on Short Position | | | ($20,000) | Dividend yield of 1% on XYZ Co. |
| Margin Costs (on Short Position) | | | ($15,000) | Short Cost = Margin of $600,000 @2.5%, which is calculated as follows: ($2,000,000) X 130% short margin[6] = ($2,600,000) + $2,000,000 proceeds = ($600,000); Net margin used = ($600,000) in margin @2.5% rate |
| **Total Return** | | | **$490,000** | |
| | | | | |
| **Total Return (%)** | | | **24.5%** | $490,000/$2,000,000 X 100 = 24.5% |

***Summary Details of The Trade***

| Details | Amount |
|---|---|
| Portfolio's Net Asset Value (NAV) | $100,000,000 |
| Position Weighting of Portfolio | 2% |
| Initial Capital for the Trade | $2,000,000 |
| Percent Return on the Trade | 24.5% |
| Percent Return Attribution for the Portfolio | 0.49% |

[6] The 130% short margin is based on the prime broker's margin requirement (i.e., $2,000,000 X 130% short margin = [$2,600,000]).

| Table 2: Example of Short Stock Trade (Cont.) | | | |
|---|---|---|---|
| **II. Analyzing Return Sources** | | | |
| **Return Source** | **Contribution** | **Portfolio Attribution** | |
| Short Position: XYZ Co. | 25.0% | 0.500% | |
| Short Rebate | 1.5% | 0.030% | |
| Cost of Borrowing Shares | -0.25% | -0.005% | |
| Dividend Payment | -1.00% | -0.020% | |
| Margin Costs | -0.75% | -0.015% | |
| **Total Return** | **24.5%** | **0.490%** | |
| **Interest Rate Assumptions:** The interest earned on the short rebate and the interest charged for margin is based on prevailing interest rates. | | | |

## Risks and Complexities of Short Stock Selling

Short selling skill is a key component of all long/short equity approaches including equity market-neutral. This skill enables managers to capitalize on corporate events, earnings announcements, regulatory changes, and mergers and acquisitions. Short selling equities has a myriad of complexities and is *not* simply the opposite of long positions from a risk and return perspective.

Special considerations include the potential for unlimited losses as the stock price increases, declining returns as positions become profitable, borrowing stocks during periods of illiquid markets or for illiquid stocks, and *short squeezes*. At the portfolio level, the short equity book provides a crucial market hedge. Given the specialized skills required for selling short, investors should carefully assess long/short equity managers based on their short selling results and risk management process.

The key risks of selling stocks short include:

- **Unlimited Losses:** On a typical long stock trade, an investor's losses are limited to the initial capital committed to the trade, where the hypothetical losses cannot be greater than 100%. Conversely, in the case of a short stock sale, an investor's losses can be infinite, as there is no theoretical maximum price for a stock.

  An associated problem exists when an investor's short equity position declines in value due to price depreciation of the particular stock sold short. Returns are effectively diminished as the trade becomes more profitable, since the amount of capital committed continues to *decrease*. This decrease requires hedge fund managers to short additional shares as the share price of a shorted stock declines simply to maintain a constant position weighting. (The opposite situation occurs with a long position, where the amount of capital committed to a trade *increases* as it becomes more profitable.)

- **Stock Loans:** An effective short stock sale depends on a manager's ability to cost-effectively borrow the stock to sell short. Short positions in stocks with high levels of *short interest* may be difficult to maintain, and even if secured, can be costly to borrow. If a stock loan is "called-in" at an inopportune time, it could adversely affect the trade's profitability.

- **Short Squeezes:** Short squeezes also present unique challenges to investors executing short stock sales. This phenomenon occurs when a particular stock has a large percentage of its outstanding shares sold short and positive news or sentiment causes many investors to cover their short positions simultaneously, thereby pushing the price of that particular stock significantly higher in a short period.

While short stock selling is not an easily executed strategy, it is a key tool for many hedge fund managers. An effective short selling strategy provides an important hedge to a long portfolio and allows hedge fund managers to reduce sector and portfolio beta. Further, short selling allows managers to add incremental return.

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## Glossary of Key Terms

**Margin:** Represents the amount of equity contributed by the investor as a percentage of the stock's current market value held in a margin account. A margin account is held at a prime broker and is permitted to lend the fund monies secured by a deposit of stocks. Canadian dealers provide margin according to Investment Dealers Association (IDA) regulations; refer to the IDA's website (www.ida.ca), under the "Rule Book, Regulation 100: Margin Requirements".

**Market Risk (Relating to Equities):** Exposure to fluctuations in broad stock market indices as most commonly defined through the beta calculation.

**Net Market Exposure:** Long exposure - short exposure

**Pairs Trade (or Peer Group Trade):** Involves simultaneously buying and selling short stocks of companies in the same economic sector or peer group, as defined by the manager. Portfolios of multiple pair trades are blended to reduce stock specific risk.

**Short Interest:** Short position in a particular stock as a percentage of the total shares outstanding.

**Short (Interest) Rebate:** A portion of the interest in a T-bill account earned by a hedge fund from shorting a stock. When selling a stock short, a hedge fund borrows the stock from a prime broker (who borrows it from an existing shareholder) and the short sale proceeds are typically held in a T-bill account as collateral with the prime broker. Much of the T-bill interest is then rebated to the hedge fund. (Note: The hedge fund must pay dividends to the original shareholder.)

**Short Squeeze:** Positive news or sentiment may cause many investors to cover their short positions simultaneously, thereby pushing the price of the particular security significantly higher over a short period.

**Uptick Rule:** A rule established by the securities commissions that selling a stock short can only be done on an uptick, that is, when the most recent movement in the stock's price has been an increase. In the U.S., a short sale can also be done on a "zero-plus tick" (i.e., at the same price as the previous board-lot price, but at a higher price than the last different price; also called a zero uptick). However, in Canada, short sales are also allowed based on a "flat-tick rule," where the price is not below the previous board-lot price. Hence, a short sale can be done at any price other than a down tick (i.e., at an "up tick", a "zero-plus tick" and at a "zero-minus tick").

## Bibliography

Staley, Kathryn F., *The Art of Short Selling*, (New York: John Wiley & Sons, 1997). This book provides an excellent overview of short selling and its history.

## Notes to Strategy Paper Series:

**Educational Materials:** This document is designed solely for information and educational purposes. The examples used have generally been simplified in order to convey the key concepts of the hedge fund trading strategy.

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