

# Long/Short Equity Investing

*Profit from both winners and losers.*

Bruce I. Jacobs and Kenneth N. Levy

The traditional focus of equity investing has been on finding stocks to buy long that offer opportunity for appreciation. Institutional investors have given little if any thought to incorporating short-selling into their equity strategies to capitalize on overvalued stocks. More recently, however, a growing number of investors have begun holding both long and short stock positions in their equity portfolios. Long/short equity investing presents many benefits and opportunities unavailable with traditional methods heretofore.

In our examination of the various aspects of long/short investing, we cover four topics: 1) the various ways in which long/short strategies can be implemented; 2) the theoretical and practical benefits afforded by long/short strategies; 3) the practical issues and concerns to which shorting gives rise; and 4) the positioning of long/short strategies in an overall investment program.

## LONG/SHORT EQUITY STRATEGIES

Three ways of implementing long/short equity are the market-neutral, equitized, and hedge strategies. The *market-neutral* strategy holds longs and shorts in equal dollar balance at all times. This approach eliminates net equity market exposure, so the returns provided should not be affected by the market's direction. In effect, market risk is immunized. Profits are made from the performance spread between the names

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held long and the names sold short. These profits are in addition to the interest received on proceeds of the short sales.

The *equitized* strategy, in addition to holding stocks long and short in equal dollar balance, adds a permanent stock index futures overlay in an amount equal to the invested capital. Thus, the equitized portfolio has a full equity market exposure at all times. Once again, profits are made from the long/short spread in addition to the profits or losses resulting from the equity market's rise or fall.

The *hedge* strategy also holds stocks long and short in equal dollar balance but has a variable equity market exposure based on a market outlook. The variable exposure is achieved using stock index futures. Once again, profits are made from the long/short spread. These profits are in addition to the profits or losses attributable to the changing stock index futures position. This approach is similar to typical hedge fund management but is more structured. Hedge funds sell stocks short to hedge their long exposure partially and to benefit from declining stocks. This differs from investing the entire capital both long and short to benefit from the full long/short spread and obtaining the desired market exposure through stock index futures.

### SOCIETAL ADVANTAGES OF SHORT-SELLING

There are advantages to security markets and society at large that arise from short-selling. Consider the view expressed by Hoffman [1935] over half a century ago:

One of the most essential functions of organized markets is to reflect the composite opinion of all competent interests. To admit only opinion looking to higher prices is to provide a one-sided market. To bring together an open expression of both long and short opinion is to provide a two-sided market and...a better reflection of prevailing conditions will be shown in the price structure (pp. 398-399).

Moreover, according to Nobel Laureate William F. Sharpe, when shorts are precluded there results "a diminution in the efficiency with which risk can be allocated in an economy," and "overall welfare may be lower" [1990, p. 48].

### EXHIBIT 1 IMPACT OF DIVERGENCE OF OPINION AND RESTRICTED SHORTING ON MARKET EQUILIBRIUM

		INVESTOR OPINION	
		UNIFORM	DIVERSE
SHORT SELLING	UNRESTRICTED	MARKET PORTFOLIO EFFICIENT CAPM & APT HOLD (NO ONE SHORTS)	MARKET PORTFOLIO EFFICIENT CAPM & APT HOLD
	RESTRICTED	MARKET PORTFOLIO EFFICIENT CAPM & APT HOLD	MARKET PORTFOLIO NOT EFFICIENT CAPM & APT DO NOT HOLD

### EQUILIBRIUM MODELS, SHORT-SELLING, AND SECURITY PRICES

The leading equilibrium models, the capital asset pricing model (CAPM) and the arbitrage pricing theory (APT), both assume there are no restrictions to selling stock short. In the real world, however, several impediments to short-selling exist.

First, investors have less than full use of the cash proceeds of the short sales. Depending upon their clout with the broker, they may or may not receive an interest rebate on short sale proceeds. Beyond this, investors must also post cash or securities as collateral for the short positions.

Also, investors may not be able to short certain stocks, because the shares are not available for borrowing. The uptick rule, which prohibits shorting a stock when its price is falling, restricts the ability to sell short. Additionally, institutional investors have concerns about short-selling that have caused them to avoid it. We address these concerns later.

The impact of restricted shorting on market equilibrium depends on whether investors have uniform or divergent opinions about expected security returns. Four cases are shown in Exhibit 1. These cases differ according to whether short-selling is unrestricted or restricted, and investor opinion uniform or diverse.

If all investors have a uniform opinion, they all hold the market portfolio of all assets. That is, each

investor holds each asset in proportion to its outstanding market values; there is no short-selling. So restricting short-selling has no impact. In either case, the market portfolio is efficient, and the CAPM and APT hold.

If investors have diverse opinions and short-selling is unrestricted, the market portfolio is efficient, and the CAPM and APT hold. While investors hold unique portfolios, security prices are efficient because arbitrage is unimpeded, and security prices reflect the opinions of all investors. If short-selling is restricted, however, arbitrage is impeded and the opinion of pessimistic investors is not fully represented. As a consequence, the market portfolio is not efficient, and the CAPM and APT do not hold. The real world resembles this last case, because investor opinion is indeed diverse and short-selling is restricted.

Edward Miller [1987, 1990] examines the impact of divergence of opinion and restricted shorting on security prices. He shows that restricted shorting leads to security overvaluation, because each stock's price is bid up by optimistic investors, while pessimists have difficulty shorting. As a consequence of this overvaluation, a shortfall arises between the returns anticipated by the optimistic investors and what they subsequently receive.

Further, a stock's overvaluation is greater, the more the divergence of opinion about it, because the most optimistic investors are even more extreme in their expectations. Hence, the wider the dispersion of opinion about a stock, the greater the overvaluation and eventual disappointment. An empirical measure of the divergence of opinion about a stock's prospects is the dispersion of security analysts' earnings estimates, often referred to as "earnings controversy." Jacobs and Levy [1988b] find that companies with higher earnings controversy experience lower subsequent returns, consistent with Miller's hypothesis.

Miller concludes that overvalued stocks are easier to find than undervalued stocks, and that investors should focus their efforts on avoiding holding overvalued stocks in their portfolios. He proposes replacing the standard notion of market efficiency with one of "bounded efficiency." In support of bounded efficiency, Jacobs and Levy [1988a, 1988b, and 1989] find substantial empirical evidence that the stock market is not fully efficient.

## **PRACTICAL BENEFITS OF LONG/SHORT INVESTING**

Investors who are able to overcome short-selling restrictions and have the flexibility to invest both long and short can benefit from both winners and losers. For example, suppose you expect the Yankees to win their game and the Mets to lose theirs. If you wager on baseball, you would certainly not just bet on the Yankees to win. You would also "short" the Mets.

The same logic holds for stocks. Why bet on winners only? Why avail yourself of only half the opportunity? Profits can be earned from both winning and losing stocks simultaneously, earning the full performance spread.

Another benefit of long/short investing is that, potentially, shorts provide greater opportunities than longs. The search for undervalued stocks takes place in a crowded field because most traditional investors look only for undervalued stocks. Because of various short-selling impediments, relatively few investors search for overvalued stocks.

Also, security analysts issue far more buy than sell recommendations. Buy recommendations have much more commission-generating power than sells, because all customers are potential buyers, but only those customers having current holdings are potential sellers, and short-sellers are few in number.

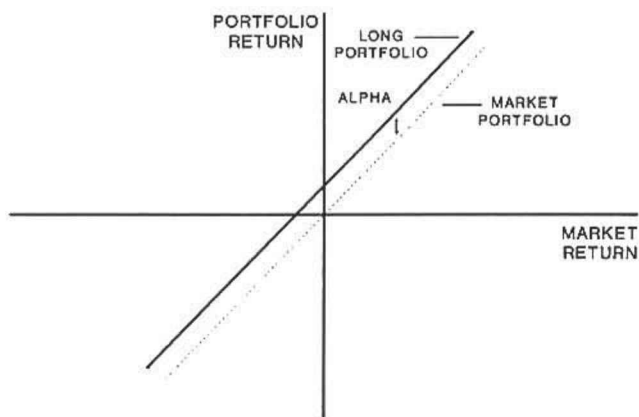
Analysts may also be reluctant to express negative opinions. They need open lines of communication with company management, and in some cases management has cut them off and even threatened libel suits over negative opinions. Analysts have also been silenced by their own employers to protect their corporate finance business, especially their underwriting relationships. Some analysts have actually been fired for speaking too frankly.

Shorting opportunities may also arise from management fraud, "window-dressing" negative information, or negligence, for which no parallel opportunity exists on the long side.

## **PORTFOLIO PAYOFF PATTERNS**

Theoretical portfolio payoff patterns are illustrated in Exhibits 2 to 6 for separate long and short portfolios (the two building blocks of long/short portfolios), market-neutral portfolios, equitized portfolios

**EXHIBIT 2**  
**PAYOFFS: LONG PORTFOLIO**

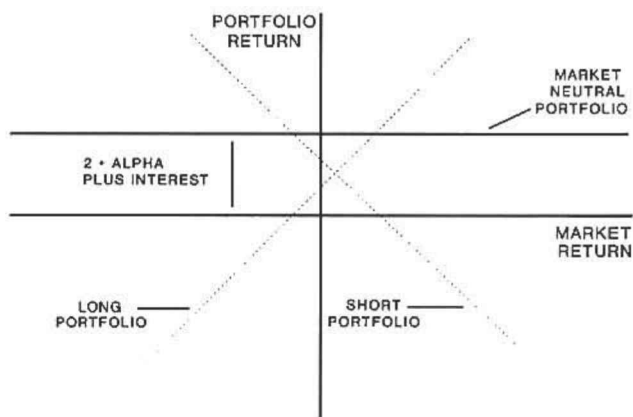


with a permanent futures overlay, and hedge portfolios with a variable futures position.

In Exhibit 2, a long portfolio's return is graphed against the stock market's return. The market portfolio itself is shown as a 45-degree upward-sloped dashed line intersecting the origin. The long portfolio is parallel to the market portfolio line, but higher by the assumed amount of value-added, or alpha.

A short portfolio's return is graphed in Exhibit 3. A baseline short market portfolio is a 45-degree downward-sloped dashed line intersecting the origin. The short market portfolio plus interest is parallel to

**EXHIBIT 4**  
**PAYOFFS: MARKET-NEUTRAL PORTFOLIO**



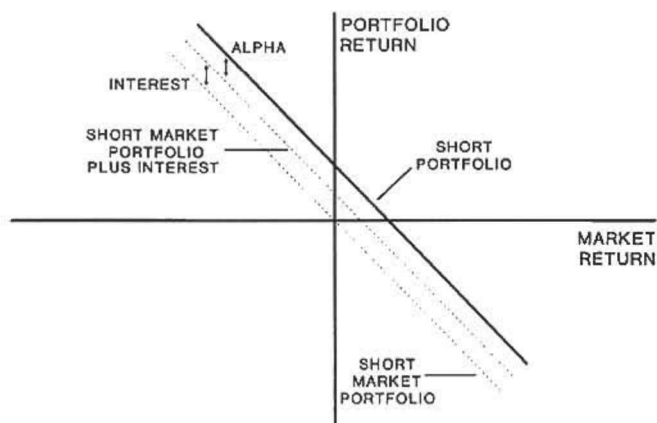
the baseline, but higher by the amount of interest assumed. The short portfolio is also parallel, but higher than the baseline by the sum of interest plus alpha.

A market-neutral portfolio's return, shown in Exhibit 4, is derived from the long and short portfolio payoff patterns shown in the previous figures. The market-neutral portfolio's payoff line is horizontal at a level above the origin by twice the level of alpha plus interest. The implicit assumption is that the full amount of capital is invested both long and short, so alpha is earned from both the long and short sides, providing a "double alpha."<sup>1</sup>

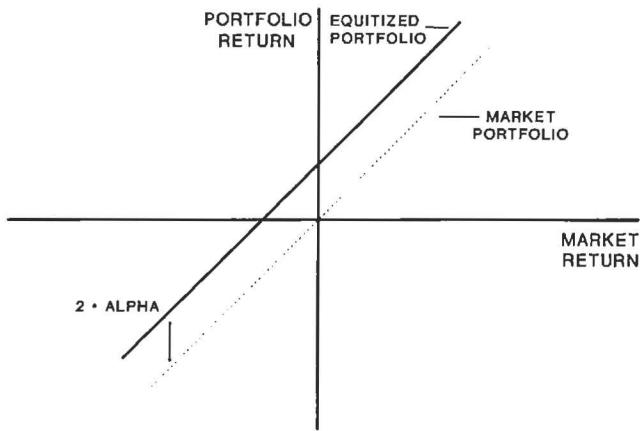
For an equitized portfolio (Exhibit 5), the market portfolio itself is shown as a 45-degree upward-sloped dashed line intersecting the origin. The equitized portfolio is parallel to the market portfolio line, but higher by twice alpha. Again, the implicit assumption is that the capital is invested both long and short, so alpha is earned from both the long and short sides.

The hedge portfolio illustration (Exhibit 6) assumes perfect market timing. That is, a 100% long futures position is established when the market's return is positive, and a 100% short position is established when the market's return is negative. The hedge portfolio line is an upward-sloping 45-degree line in the northeast quadrant intersecting the vertical axis at a height of twice alpha, the mirror image of the line in the northwest quadrant. Again, capital is invested both long and short, so alpha is earned from both the long and short sides.

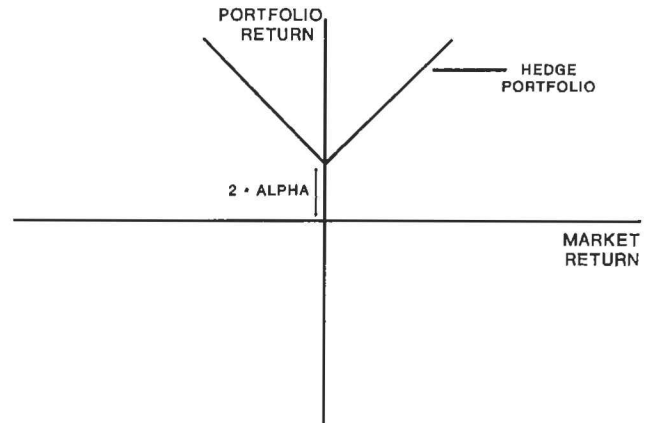
**EXHIBIT 3**  
**PAYOFFS: SHORT PORTFOLIO**



**EXHIBIT 5**  
**PAYOFFS: EQUITIZED PORTFOLIO**



**EXHIBIT 6**  
**PAYOFFS: HEDGE PORTFOLIO WITH PERFECT MARKET TIMING**



**LONG/SHORT MECHANICS AND RETURNS<sup>2</sup>**

Under Federal Reserve Board regulations, shorts must be housed in a margin account, which requires custody at a brokerage firm. Custodians are referred to as “prime brokers,” because they clear all trades and arrange to borrow all stock, whatever brokerage firms execute the trades.

Typically, 90% of the capital is used to purchase attractive stocks and to sell short unattractive stocks. The securities purchased are delivered to the prime broker and serve as collateral for the shorts. The prime broker also arranges for the borrowing of the unattractive securities that the manager wants to sell short. These shares may come from the broker’s inventory of shares held in street name or may be borrowed by the broker from a stock lender. The short sale of these securities results in cash proceeds, which are posted as collateral with the stock lender to provide security for the borrowed shares.

Once these transactions settle, the remaining 10% of capital is retained as a liquidity buffer at the prime broker to meet the daily marks to market on the short positions. This liquidity buffer is interest-earning.

The collateral posted with the stock lender is adjusted daily to reflect the changing value of the shorts. For example, if the shorts rise in price, the mark to market is negative, and the lending institution is provided additional capital to remain fully collateralized. If the shorts fall in price, the mark to market is

positive, and the lending institution releases capital because it is overcollateralized. Also, the short-seller must reimburse the stock lender for any dividends paid on the securities borrowed.

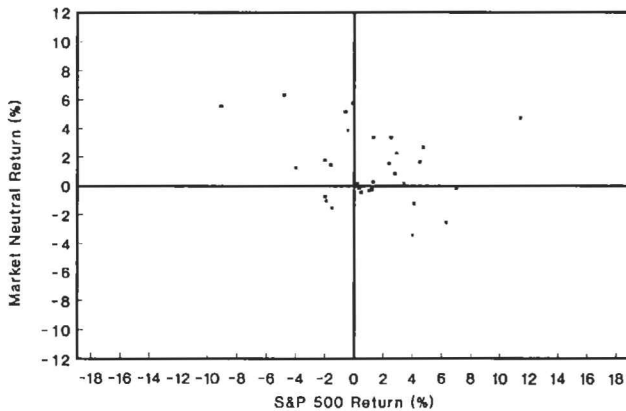
The cash proceeds of the short sales, which have been posted as collateral with the securities lender, earn interest. The lender receives a small portion of this interest as a securities lending fee, the prime broker retains a portion to cover expenses and provide a profit, and the balance is earned by the investor. The actual split of interest is negotiable. Typically, the institutional short-seller receives interest at approximately a Treasury bill rate. This interest is referred to as “short rebate.”

The market-neutral strategy’s return depends solely on the performance spread between the long and short portfolios and the interest rate received. The return is independent of the market’s direction. Because the market-neutral strategy produces approximately a Treasury bill rate of return when there is no performance spread between the longs and shorts, an appropriate benchmark for the strategy is the Treasury bill rate.

Exhibit 7 is a scatterplot of our live monthly market-neutral returns versus the monthly returns of the S&P 500 Index. It can be seen that this market-neutral strategy has lived up to its name, because its returns have been uncorrelated with the stock market.

The mechanics for the equitized strategy are identical to those of market-neutral with the addition

**EXHIBIT 7**  
**MARKET-NEUTRAL VERSUS S&P 500**  
**MONTHLY RETURNS 6/90-12/92**



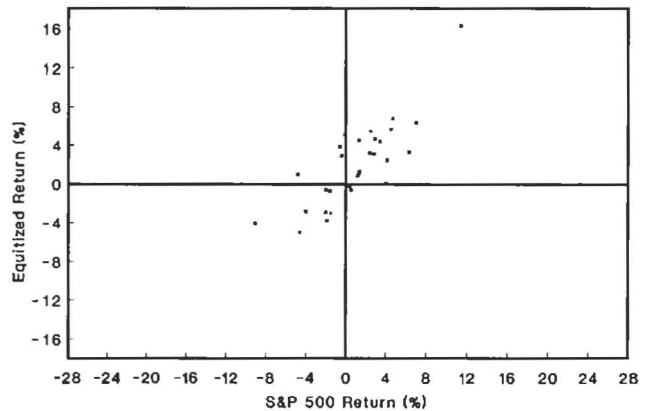
of a stock index futures overlay. S&P 500 futures are purchased in an amount equal to the capital to “equitize” the long/short portfolio. Buying futures requires the posting of margin, usually in the form of Treasury bills. This reduces the liquidity buffer, but because the daily marks to market on the long futures tend to offset the daily marks on the short portfolio, the smaller buffer remains adequate.

S&P 500 futures contracts are priced so that they provide approximately the return of the S&P 500 Index including dividends, less the cost of carry at about a Treasury bill rate. The short rebate interest earned plus interest earned on the Treasury bill margin and liquidity buffer, in conjunction with the price change on the S&P 500 futures, should provide a return similar to that of the S&P 500 Index.

The value-added is the same as that achieved in the market-neutral strategy, but the futures overlay “transports” the long/short spread to the S&P 500 benchmark. In the same way, bond futures can be used to transport the long/short value added to a bond index, and so forth.

Because the equitized strategy produces approximately a S&P 500 return when there is no performance spread between the longs and shorts, an appropriate benchmark for the strategy is the S&P 500 Index. Exhibit 8 is a scatterplot of our live monthly equitized returns versus the monthly returns of the S&P 500 Index. As expected, the strategy’s returns are highly correlated with the stock market.

**EXHIBIT 8**  
**EQUITIZED VERSUS S&P 500**  
**MONTHLY RETURNS 6/90-12/92**



### **THEORETICAL TRACKING ERROR**

In addition to return considerations, it is instructive to consider the theoretical tracking error of long/short portfolios relative to their benchmarks. Assume the standard deviation of the long portfolio’s alpha, or value-added, is 4%, and the short portfolio alpha’s standard deviation is also 4%. Consider two cases, which are dependent on the correlation between the long and short portfolios’ values-added. First, assume the correlation is zero. In this case, the standard deviation of the market-neutral (or equitized) portfolio’s value-added is the square root of 2 times 4%, or 5.7%.

Second, assume the correlation of the long and short portfolios’ values-added is 1. In this case, the standard deviation of the market-neutral (or equitized) portfolio’s value-added is twice 4%, or 8%. It is a reasonable assumption that the correlation lies somewhere between zero and 1, in which case the tracking error standard deviation lies between 5.7% and 8%.

### **ADVANTAGES OF THE MARKET-NEUTRAL STRATEGY OVER LONG MANAGER PLUS SHORT MANAGER**

Using a market-neutral strategy rather than separate long and short managers has several advantages. The market-neutral strategy coordinates the names held long and short to maximize profits while controlling risk. It avoids the situation where one



manager is long a stock while the other manager is short the same stock, thereby wasting assets. It also precludes excessive risks arising, for example, when one manager is buying oil stocks while the other is shorting airlines, thereby magnifying the oil price risk.

A market-neutral strategy also enables the capital to work twice as hard as with separate long and short managers. Each dollar of capital is invested both long and short, with the longs collateralizing the shorts. With separate long and short managers and \$1 of capital, each would have only 50 cents of capital to invest.

Also, a single manager fee structure is likely more economical than that for two managers. This is especially true in a performance fee setting. A market-neutral manager earns a performance fee only if the entire strategy adds value. With separate managers, if either is ahead, an incentive fee is paid, even if the combined strategy is behind.

#### **ADVANTAGES OF THE EQUITIZED STRATEGY OVER TRADITIONAL LONG EQUITY MANAGEMENT**

The equitized strategy has several advantages over traditional long equity management. It can profit from both winners and losers. Why tear *The Wall Street Journal* in half, and focus solely on good news stories? Bad news stories present potentially greater opportunity. Also, investment insights can be levered without any borrowing, resulting in a double alpha. Of course the key to good performance is good insight.

The enhanced flexibility afforded by including longs and shorts in a portfolio provides greater latitude to implement investment ideas. This flexibility makes it more likely that investment insights will produce profits, and more profits at that. Importantly, overvalued companies and industries may be underweighted without the usual constraints associated with long equity management.

For example, the automobile industry today is 2% of the capitalization weight of the S&P 500 Index. A traditional long manager, bullish on automobiles, can overweight the industry as much as desired but can underweight the industry by no more than 2%. By shorting when bearish, companies and industries may be underweighted beyond the usual constraints present in long equity management. The portfolio manager's flexibility to overweight and underweight becomes symmetric.

Managers investing long and short can focus solely on market sectors in which the most significant misvaluations exist, ignoring fairly priced sectors, without inducing any risk. For example, if all health care stocks are fairly priced, there is no need to hold any long or short, nor any potential benefit. In this way, assets are not wasted, yet the full market exposure to health care stocks is obtained with the futures overlay.

A traditional long manager, however, would likely include some fairly priced, or even overpriced, health care stocks in the portfolio to avoid a substantial industry underweight. By holding some stocks in the health care sector, the long manager reduces risk versus the market benchmark, although there are no perceived profit opportunities.

Also, managers investing long and short can target desired bets and reduce incidental bets better than traditional long managers. For example, a traditional long manager emphasizing low price/earnings stocks will wind up with incidental bets on related attributes, such as high dividend yield, and on low P/E industries, such as utilities. But in a long/short portfolio, related attributes and industries can be neutralized more effectively, creating a "pure" low P/E bet without incidental biases.

#### **IMPLEMENTATION OF LONG/SHORT STRATEGIES: QUANTITATIVE VERSUS JUDGMENTAL**

Any active equity management style can be implemented in a long/short mode. To date, however, most long/short managers are quantitative rather than judgmental in their investment approach. Quantitative models generally can be applied to a large universe of stocks, providing the potential to identify a large long/short spread. Shorts naturally fall out of a quantitative process as the lowest-ranked stocks. Quantitative styles are amenable to simulation and backtesting, the results of which are helpful in both developing and marketing a novel investment approach. Also, most quantitative managers use structured portfolio construction methods, which are important to control risk-taking in a long/short portfolio.

In contrast, judgment approaches rely generally on in-depth company analyses, but of a limited universe of stocks, thereby limiting the range of opportunities and potentially reducing the performance spread. Also, traditional security analysts are generally

not accustomed to recommending stocks to sell short. Judgmental analysis, however, should help detect fraud, negligence, and financial window-dressing, which can provide exceptional short sale opportunities.

## **IMPLEMENTATION OF LONG/SHORT STRATEGIES: PORTFOLIO CONSTRUCTION ALTERNATIVES**

Long/short managers use a few primary portfolio construction techniques to control risk. Simplest to implement is “pairs trading,” which identifies mispriced pairs of stocks having returns likely to be highly correlated. For instance, if Ford Motor Company and General Motors Corporation are identified as mispriced relative to each other, the underpriced stock can be bought and the overpriced one sold short.

Some managers neutralize industry exposures by investing the same percentage of capital both long and short within each industry. A few will even restrict their attention to a single industry that they know well. In this case, all stocks held long and sold short will be in the same industry. Others neutralize industries and common factors, such as beta or average company size. Some managers coordinate long and short portfolio characteristics statistically in order to control risk-taking, but are not necessarily characteristic- or industry-neutral, hence the term “statistical arbitrage.”

## **PRACTICAL ISSUES AND CONCERNS**

A long/short strategy gives rise to a variety of issues not encountered in traditional long management. We will discuss issues relating to shorting, trading, custody, legality, and morality.

### **Shorting Concerns**

Investors sometimes ask whether short-selling is an appropriate activity for those with long-term horizons. Dedicated short managers must fight an uphill battle because of the stock market’s long-term upward trend. They are short the equity risk premium that the market provides for bearing equity risk. Market-neutral strategies, having no net exposure to the market, neither pay nor earn the equity risk premium. Equitized strategies are fully exposed to the market and earn the equity risk premium, similar to traditional long investing. Hedge strategies are opportunistic with

respect to the equity risk premium. Thus, short-selling can be incorporated as part of a long-term equity program to meet differing investment objectives.

Another concern is that a rising market can force the covering of shorts as losses mount. Those who engage solely in short-selling, without offsetting long positions, can indeed find themselves forced to cover as the general market rises and their shorts go against them. In a long/short approach, however, as the market rises, the losses on the shorts are offset by gains on the longs.

Another common concern regards the unlimited liability of a short position. Although one cannot lose more than the original capital invested in a long position, the potential loss on a short position is, in theory, unlimited because the price of a stock can rise without bound. Long/short managers generally mitigate this risk by holding widely diversified portfolios — with many stocks and small positions in each and by covering their shorts as position sizes increase.

Another often-asked question is whether the market can accommodate the growing volume of shorting. This is a question of market depth. The current market capitalization of the U.S. stock market is approximately \$4.4 trillion. The current volume of short open interest is approximately \$45 billion, or about 1% of the market capitalization of stocks held long. The amount of shorts outstanding remains small relative to the depth of the stock market.

Not all stocks can be borrowed easily, and brokers maintain a list of “hard-to-borrow” names. The lack of supply on these hard-to-borrow names is much less of an impediment for quantitative managers, because they can select from a broad universe of stocks and have the flexibility to substitute other stocks with similar characteristics. Hard-to-borrow names can pose a serious problem, however, for dedicated short-sellers. They often specialize in illiquid names and make concentrated bets, such as on fraud situations, for which no near-substitutes exist.

Shorting a name that is hard-to-borrow presents the risk of being forced to cover the short if the lender demands the return of the security. This can occur, for instance, if the lender simply decides to sell the security and so needs it back. If the prime broker cannot locate an alternative lender, the result is a “buy-in,” or forced cover. Our experience has been that buy-ins are rare, especially for typical institutional quality stocks.



A “short squeeze” is a deliberate attempt by some investors to squeeze the short-seller by reducing the lendable supply of a stock while simultaneously pushing the stock’s price higher through purchases. A successful short squeeze can force the short-seller to cover at inflated prices. This is more a concern for dedicated short-sellers than for long/short managers, because the latter generally have many small positions and focus on larger institutional names for which stock lending and share price are more difficult to manipulate.

### **Trading Issues**

Managing long/short strategies entails some special trading considerations. For instance, SEC rule 10a-1 regarding short sales, adopted in 1938, requires that exchange-listed securities be sold short only on an uptick (higher price than the last trade) or a zero-plus tick (same price as the last trade, but higher than the last trade at a different price). We find that the uptick rule is less constraining for patient trading styles.

Also, managing two interrelated portfolios requires substantial care in execution and rebalancing to maintain long/short dollar balance. Controlling transaction costs is especially important because turnover runs about twice that of traditional long management. Some newer electronic trading systems are especially conducive to long/short management, because they are inexpensive and allow simultaneous execution of large programs with dollar trading constraints to maintain long/short dollar balance.

### **Custody Issues**

Federal Reserve regulations require short-selling in a margin account necessitating custody at a prime broker. Since assets are custodied away from the master trust bank, safety and soundness issues must be addressed, and due diligence is required.

Also, while some master trustees can account for shorts and maintain a set of books, at this time others cannot. Even when a master trustee can account for shorts, some plan sponsors rely on a reconciliation of the prime broker’s accounting records with the manager’s to avoid paying the master trustee for a triplicate set of books.

### **Legal Issues**

Long/short management gives rise to two fundamental legal issues. One is whether these strate-

gies are prudent for ERISA plans, public employee retirement systems, endowments, and foundations. Several institutional investors have concluded that these strategies are prudent and risk-diversifying for the overall plan.

The other issue is whether shorting gives rise to Unrelated Business Taxable Income (UBTI). In 1988, the Internal Revenue Service issued a private letter ruling exempting long/short strategies used by one large institutional investor from UBTI.<sup>3</sup> In 1992, the IRS approved regulations specifically exempting swaps, where the tax issues are similar. The IRS has not commented any further, despite the growing use of long/short and hedge strategies by tax-exempt investors. Nonetheless, this is not a settled issue, and tax counsel should be consulted.

### **Morality Issues**

The use of shorting raises moral issues for some investors. Although selling something that one does not own may appear to be immoral, this is common commercial practice. Farmers sell wheat before it is grown, and home builders sell houses before they are built.

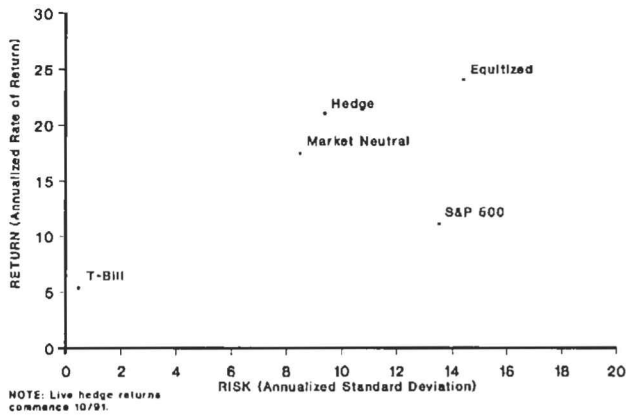
Some fear that short-selling destabilizes security prices. While this might have been possible prior to the uptick rule and SEC oversight, today most agree that short-selling stabilizes prices by checking speculative bubbles, equilibrating day-to-day supply and demand, and increasing liquidity.

Others charge that short-selling depresses prices. During the collapse of the Dutch East India Company stock bubble in the year 1610, some claimed that short-selling hurt “widows and orphans.” Because shorting allows countervailing negative opinion to balance positive opinion, however, prices better reflect the consensus opinion of all investors, thereby providing a better indication of value.

Short-sellers are often accused of rumor-mongering. While it is sometimes alleged that dedicated short-sellers spread unsubstantiated rumors about their target companies, long/short managers are not adversarial. They go long and short various stocks to exploit subtle mispricings, not because they want or expect a particular company to go bankrupt.

Some suggest short-selling is anti-management or anti-American. But shorting actually promotes all-American values by checking management abuses and improving market efficiency and social welfare.

**EXHIBIT 9**  
**RISK-RETURN COMPARISONS**  
**LONG/SHORT STRATEGIES VERSUS**  
**BENCHMARKS 6/90-12/92**



**WHAT ASSET CLASS IS LONG/SHORT?**

The long/short strategies can be categorized by asset class, using risk/reward comparisons, so that their fit in an overall investment program becomes apparent.

Exhibit 9 displays experienced risk, measured by annualized standard deviation, and annualized return for our market-neutral, equitized, and hedge strategies and their respective benchmarks from the inception of live performance in June 1990 through December 1992.

The market-neutral strategy added substantial value over Treasury bills, and its risk was between that of Treasury bills and the S&P 500. The equitized strategy added roughly the same value versus the S&P 500 as the market-neutral strategy did versus Treasury bills. The stock index futures overlay transported the long/short spread to the stock market. The equitized strategy had about the same risk as the S&P 500. The hedge strategy, in terms of risk and reward, was between the market-neutral and equitized strategies.

The market-neutral strategy has an absolute return objective, because its returns are not correlated with those of the stock market. It has about half the volatility of the market and is obviously riskier than cash. We categorize market-neutral as an "alternative equity."

The equitized strategy has a relative return objective, because its returns are highly correlated with those of the stock market. While it has about the same

volatility as the market, its tracking error will generally be higher than that of traditional long strategies. We categorize equitized as "flexible equity," because it allows more flexible portfolio management than traditional long investing.

The hedge strategy can arguably be assigned an absolute or relative return objective, because its returns are somewhat correlated with the stock market. Its volatility is between that of the market-neutral and equitized strategies. We categorize hedge as an "alternative equity."

**CONCLUDING REMARKS**

The institutional acceptance of long/short strategies is increasing rapidly, as indicated in White [1991] and Williams [1991]. Current estimates of long/short assets under management in U.S. equities range from \$3 to \$5 billion. Long/short strategies merit serious consideration as part of an overall investment program.

**ENDNOTES**

This article is based on a presentation at the Association for Investment Management and Research conference entitled "The CAPM Controversy: Policy and Strategy Implications for Investment Management" held in New York in March 1993.

<sup>1</sup>In practice, the Federal Reserve Board's Regulation T margin requirements and the 10% cash reserve discussed in the mechanics section constrain the maximal alpha to a factor of 1.8. See Jacobs and Levy [1993a].

<sup>2</sup>For a graphical depiction of long/short mechanics, see Jacobs and Levy [1993b].

<sup>3</sup>IRS private letter ruling 8832052 to The Common Fund, May 18, 1988.

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