

Market Neutral Long/Short Equity Trading

by Dion Friedland, Chairman, Magnum Funds

Imagine McDonald's has just come out with a low-fat burger that you and your children love. Burger King's new fat-free burger, on the other hand, is dry and tasteless, producing moans in the back seat. So, sensing a trend here, you rush out and buy \$5,000 worth of McDonald's stock and sell short \$5,000 of Burger King. What you have just done is become a market-neutral investor.

There are many hedging strategies that provide some degree of market neutrality, but balancing investments among carefully researched long and short positions – an approach I call market-neutral long/short equity trading – is truly market neutral. Taking the McDonald's-Burger King example, if the market goes up, both your McDonald's and Burger King positions will rise in price, but McDonald's should rise more provided your analysis is correct and is ultimately recognized by other investors. Thus, the profit from your McDonald's position will more than offset the loss from your short position in Burger King. As a bonus, you will receive a rebate from your broker on your short position (typically the risk-free rate of interest).

Managers of market-neutral long/short equity hedge funds make scores of investments like this, picking stocks they believe are sufficiently balanced to keep the portfolio buffered from a severe market swing. Typically, they make sure the baskets of long and short investments are *beta neutral*. *Beta* is the measurement of a stock's volatility relative to the market. A stock with a beta of 1 moves historically in sync with the market, while a stock with a higher beta tends to be more volatile than the market and a stock with a lower beta can be expected to rise and fall more slowly than the market.

For added "neutrality," they can buy equal dollar amounts of long and short investments, making the portfolio *dollar neutral*.

Finally, many practitioners of market-neutral long/short equity trading balance their longs and shorts in the same sector or industry. By being *sector neutral*, they avoid the risk of market swings affecting some industries or sectors differently than others, and thus losing money when long a stock in a sector that suddenly plunges and short another in a sector that stays flat or goes up.

In effect, what managers try to do by being beta neutral, dollar neutral, and sector neutral is make their portfolios more predictable by eliminating all systematic, or market, risk.

Keeping portfolios balanced, then, is an obvious part of market-neutral long/short equity trading, especially when trying to maintain a constant dollar-neutral portfolio. This can involve a tremendous amount of buying and selling, and thus one of the risks – or variables – in this strategy is the fund manager's (and his broker's) ability to execute trades efficiently as well as to keep brokerage costs from eating away at the profits. Fund managers must also trade in very liquid stocks – usually stocks which have options written on them, indicating a high level of daily volume – in order to ensure they can get quickly in and out of positions.

The main variable, however, and the key to the success of this strategy is the fund manager's ability to select a basket of long stocks that will perform better than the basket of shorts. If the longs don't outperform the shorts – that is, if your assessment about McDonald's edge in product development translating into better stock value is wrong – then no matter how market neutral your portfolio is, it won't generate meaningful returns.

Most market neutral, long/short equity funds use quantitative analysis to assist in stock picking. This involves studying historical price patterns to project how well a stock will perform in the future. Typically, these stocks will then be given a ranking from 1 to 5, with the stocks ranked 1 and 2 expected to perform better than those ranked 4 and 5. Not surprisingly, quantitative analysis often requires the aid of high-speed computers to quickly assess historical patterns, identify their relationships with current trends, and provide the rankings. It also often involves short-term trading, as there is more precision in measuring historically the impact of an event on prices over a several-day period than there is measuring over a longer term.

Of increasing use to fund managers employing this strategy are neural networks, a new generation of artificial intelligence that simulates the processes of the brain. Able to actually "learn" from past calculations and optimize their results, neural network computer programs can help identify stocks within a particular sector that behave together in a particular, coherent way and then find pricing misalignments among these stocks. Neural network programs identify the most likely outperformers and underperformers in a particular sector by looking at variables such as the relationship between the current price and the price in the recent past, and the interrelationship between prices of various equities. Other variables include data from the options and other related derivatives markets that help forecast future performance by indicating what the markets "think" about this stock today. Not only reading the various data, neural networks learn to interpret them, picking up complex patterns in the indicator data and the relative importance of certain indicators on particular stocks.

In short, through sophisticated quantitative systems using technology such as neural networks, fund managers seek to optimize their stock picks and produce a higher Sharpe Ratio, or risk-adjusted rate of return.

Quantitative funds were recently the target of negative media coverage following the severe losses by Long Term Capital Management, Ltd., a U.S. hedge fund. The negative attention focused on the fact that Long Term Capital failed despite the technical wizardry of its management team, which included Nobel Prize winners Robert Merton and Myron Scholes, and despite its claim of being market neutral. In fact, Long Term Capital was not market neutral in the sense in which I am defining the term. Rather than balance long and short equity positions, Long Term Capital bet on a convergence of spreads between various fixed income sectors, which is not a truly market neutral strategy, as prices of bonds can - and, in fact, did - diverge.

Further, Long Term Capital Management's losses were caused by the use of an extreme amount of leverage, up to 30 times its capital, which is atypical of market-neutral long/short equity funds. Such funds, in general, leverage no more than three or four times capital, with most using significantly less leverage than that.

While quantitative analysis is the most common method for identifying optimal long and short positions, some hedge fund managers rely on fundamental analysis, systematically analyzing

industries and companies to find those on the brink of positive, or negative, change. One strategy known as "pairs trading" matches its long and short investments one pair at a time. When a manager finds a company that is particularly outstanding, he seeks a mate on the short side that doesn't have to be an unattractive company so much as one that is expected to perform marginally poorer and, equally important, that is most likely to swing in the same way in a volatile market (i.e., one that has the same beta) and thus insure against potential losses. A perfect example is the McDonald's-Burger King pairing discussed above. The same is true when searching for a long match to a particularly compelling short candidate.

Deriving returns from the performance differential within the pair, this approach seeks to achieve consistency of return by earning small, steady profits on many positions, rather than trying for large gains that may end up being equally big losses.

This tendency to earn small, steady gains characterizes market neutral long/short equity funds in general, resulting in annual returns of about 10-12 percent, unlevered. To enhance returns, some funds resort to leverage.

This is the inherent tradeoff with the strategy of balancing long and short investments as a safeguard against market risk. Obviously, it cannot reap (without leverage) the same gains from a roaring bull market as an aggressive, long-only growth manager.

But balanced long/short equity trading – by managers with strong stock-picking ability – can provide consistently good performance in any market and even excel in a market decline. Which, in today's investment climate, is an attractive feature to investors.

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