

# Market-Neutral Category Handbook

**By: Josh Charney, Alternative Investments Analyst**

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The world of alternatives encompasses a daunting list of funds, many of which attempt to offer diversification for the traditional portfolio. One of the only strategies that actually exhibits low correlation, and therefore true diversification, by mandate, however, is market-neutral. Unlike long-short strategies, which typically have net long exposure to equities, market-neutral funds have near zero stock market exposures. Morningstar considers a fund market-neutral if its equity beta is between negative 0.3 and 0.3. Market-neutral funds employ an array of different trading strategies, but the theory driving their returns is fairly universal.

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# I Strategies

**By Josh Charney**

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The goal of almost every market-neutral fund is to arbitrage market mispricing by betting on the convergence of spreads, or the difference between a long and a short position pair, as the long position increases in value and the short position declines in value. The short position serves to hedge market exposure (reduce the beta) from the long position, while profiting from market inefficiencies. As the potential total return from the spread is often just a few percentage points, market-neutral funds may use leverage to enhance returns (although most market-neutral mutual funds do not use leverage).

There are three basic types of market-neutral funds: equity market-neutral, merger arbitrage, and convertible arbitrage. On the surface, the three strategies are similar, though they profit from different types of spreads. Equity market-neutral strategies profit from mispricings in individual stocks. Merger-arbitrage funds receive a premium for speculating on announced mergers. Finally, convertible-arbitrage funds provide liquidity to investors and take advantage of inefficiencies in the convertible-bond market.

## Equity Market-Neutral

The goal of an equity market-neutral fund is to profit solely from a manager's ability to select stocks. Managers may choose stocks through a discretionary or quantitative process, both of which are focused on a stock's fundamental characteristics. An equity market-neutral fund can

be dollar-neutral, in which there is an equal dollar amount of stocks long and short, or beta-neutral, in which the aggregate market beta of the long positions is equal to that of the short positions. Some funds go beyond beta-neutral and attempt to be sector-neutral (where the sector exposure of the longs and shorts offset each other) or neutral in other respects (exposure to value or growth, for example). JP Morgan Research Market-Neutral JPMNX is an example of a fund that is beta-neutral in several ways, while American Century Equity Market-Neutral Fund ALHIX aims to be dollar-neutral. Some market-neutral funds (361 Absolute Alpha AAFAX, for example) do not attempt to profit from short positions and instead use short positions in exchange traded-funds or futures contracts to hedge out broad market risk. Because market-neutral funds require frequent rebalancing, turnover is often very high. Often, fund companies use a quantitative program to construct, rebalance, and track the risk characteristics of the portfolio.

## Merger Arbitrage

Merger-arbitrage funds speculate on the completion of an announced mergers or acquisitions. In a stock-for-stock transaction, the arbitrageur buys the stock of the target and shorts the stock of the acquirer. In a cash transaction, the arbitrageur will typically buy the target stock and write a call option or buy a put option on the same stock. The goal is to isolate and capture the premium paid by the acquirer for the target,

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which can be thought of as compensation to the arbitrageur for taking on deal risk (akin to selling insurance on the deal completion).

When an acquirer wishes to purchase a target, the acquirer pays a premium. Therefore, when a merger is announced, the target's stock price usually rises (and the acquirer's stock falls). Until the merger is completed, the target company's stock will trade at a spread, or a discount or premium, to the announced bid price. A higher spread (a larger discount) indicates a lower likelihood that the merger will be completed. A negative spread (a premium) could indicate that investors believe the acquirer will raise its bid or another party will bid on the company.

Many merger arbitrage funds are discretionary in nature. The managers research each announced deal and invest in the ones with the best rewards and lowest risk (or probability of a broken deal). The Merger fund MERFX and the Arbitrage fund ARBFX are two examples of discretionary managers. Other merger-arbitrage funds, such as AQR Diversified Arbitrage ADAIX, take a more quantitative and diversified approach.

#### Convertible Arbitrage

A convertible-arbitrage strategy involves buying a convertible bond and shorting the stock of the same issuer. The goal is to profit from the mispricing of the convertible bond, either in the bond or the embedded option, while hedging

out any stock market risk. Typically, convertible arbitrage requires a dynamic hedge. (When the convertible bond changes in value, the hedge must be revalued and adjusted.)

A convertible bond is a traditional bond plus an embedded equity call option, which allows the holder of the bond to convert into equities at a predetermined conversion price. The bondholder earns the coupon rate plus any upside potential of the stock, if it rises above the conversion break-even price. Companies issue convertible bonds because they can pay lower coupon rates for convertible than for plain-vanilla bonds. The convertible-bond market is relatively illiquid, as total issuance is small and not all traditional bond investors can buy convertible securities (due to liquidity and credit rating restrictions, and so on). Therefore, there may be pricing inefficiencies for participants, such as hedge funds, willing to take on this illiquidity risk. The mispricing may be due to inadequate credit research or changes in volatility, which influence the price of the embedded option.

## II Market-Neutral Strategies Across Structure

The first market-neutral funds were available in hedge fund structures. The very first hedge fund was also the very first market-neutral fund, created in 1949 by Alfred Winslow Jones. Jones offered his strategy in a limited partnership structure in order to bypass the requirements of the Investment Company Act of 1940, which restricted shorting and leverage. In 1997, the “short-short” rule was repealed, allowing for market-neutral strategies in mutual funds. Some market-neutral mutual funds existed prior to 1997, but their strategies used shorting to a very limited extent. Calamos Market Neutral Income CVSIX, the first fund to incorporate convertible arbitrage, launched in 1990, for example. About half of the market-neutral mutual fund category, though, launched after 2008.

Market-neutral strategies did not make their way into exchange-traded funds until 2009, when the actively managed iShares Diversified Alternatives Trust ALT debuted. Now, Morningstar tracks at least 12 market-neutral ETFs or exchange-traded notes. (Figure 1).

Market-neutral strategies in hedge funds tend to take on more leverage than in mutual funds, which are typically unleveraged (even though the 1940 Act allows for a small amount of leverage). Credit Suisse introduced a 2-times-leveraged version of its Merger Arbitrage Liquid Index ETN CSMB in 2011. Besides differences in leverage, market-neutral hedge funds may also invest in less liquid securities, as no more than 15% of a mutual fund’s assets can be invested in illiquid securities.

**Figure 1 Number of Market Neutral Funds and Total Assets (as of Sept. 2011)**

	No. of Market-Neutral Funds	Total Assets (\$ billions)
Hedge Funds Database*	285	5.26
Separate Accounts Database	22	24.95
Mutual Funds Database	29	9.21
ETF/ETN Database	12	6.61

\*Includes funds in Morningstar’s equity market-neutral, convertible-arbitrage, merger-arbitrage, and diversified arbitrage categories  
Source: Morningstar Database

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## III Historical Performance of Market-Neutral Strategies

Because market-neutral funds hedge out broad market risk, a cashlike benchmark (such as Treasury bills) is more appropriate than a stock or bond market index. The annual performance of the average market-neutral hedge fund, mutual fund, and separate account is listed in [Figure 2](#), relative to three-month Treasuries. (Market-neutral ETFs do not have sufficient return history.)

Market-neutral hedge funds experienced tremendous performance over the past 10 years, with the exception of 2008. ([Figure 3](#).) Prior to 2008, leverage was cheap and abundant. This helped hedge funds outperform Treasuries, sometimes by a wide margin. During 2008, general uncertainty and a flight to liquidity caused merger deals to break and risky assets (all stocks and nongovernment bonds) to decline in value. Less liquid asset classes, such as convertible bonds, fared even worse. Investors seeking liquidity ran from hedge funds en masse. Hedge funds' excess leverage, combined with a tumbling market and redemption requests, led to extremely poor performance for convertible-arbitrage and merger-arbitrage hedge funds and caused many to shutter. During the stock and bond markets' recovery in 2009, however, a dearth of arbitrageurs

allowed for outsized profits in strategies such as convertible arbitrage and merger arbitrage.

Because separate accounts and mutual funds tend to be less leveraged than hedge funds, their performance has been more muted, in terms of gains during the good years and losses during the bad years. The return discrepancy can be also attributed to the fact that many market-neutral separate accounts and mutual funds in Morningstar's database follow equity market-neutral strategies, which weren't affected by illiquidity and excess leverage like arbitrage strategies. Therefore, the average market-neutral mutual fund fell flat in 2008, while the average market-neutral separate account actually made money in 2008.

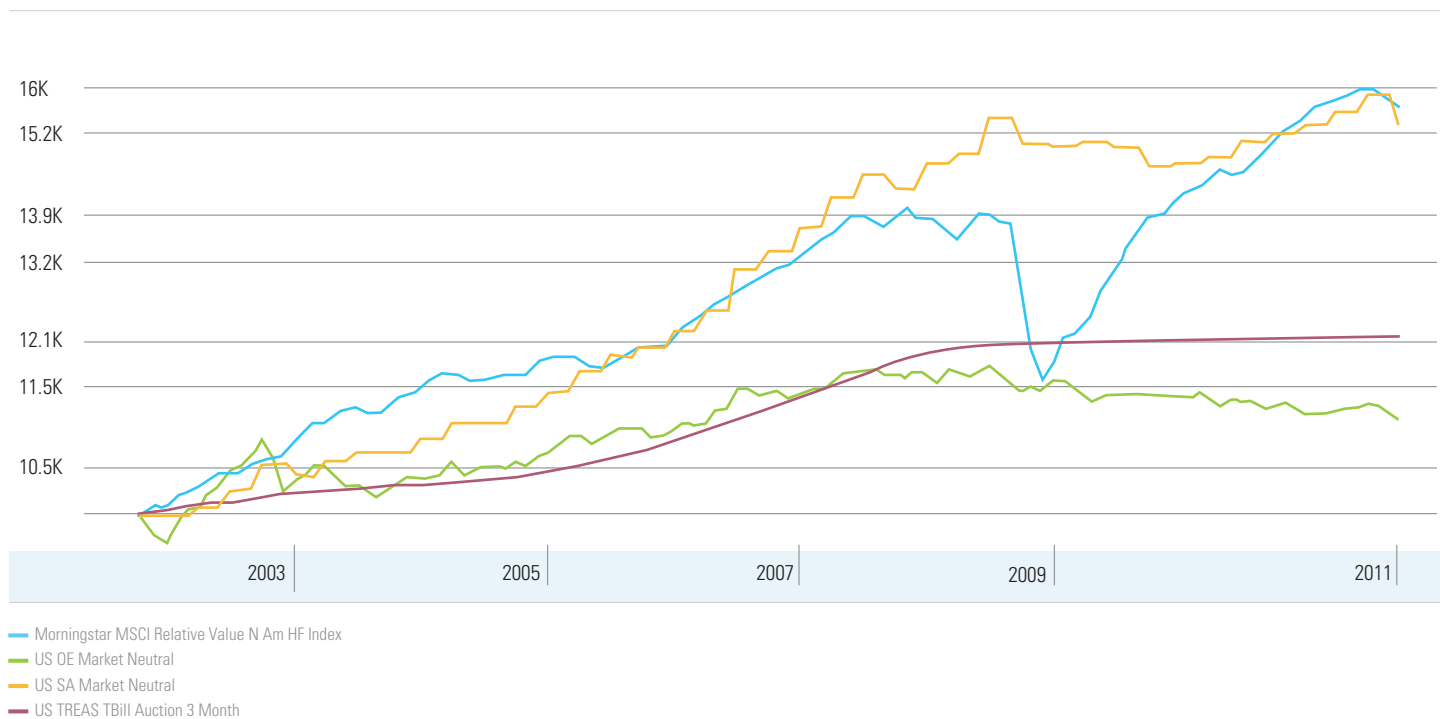
Equity market-neutral strategies tend to do well when stocks are not highly correlated to each other. Since 2008, stocks have shown increasing correlation, among and across sectors and geographies, causing many equity market-neutral managers to struggle. Merger-arbitrage and convertible-arbitrage profits have also come down since 2009, due to inflows into the strategies. Profit opportunities remain, however.

**Figure 2 Average Annual Returns by Market-Neutral Investment Vehicle**

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Hedge Funds *	6.44	7.18	6.06	3.37	2.00	10.00	4.19	-15.06	20.47	9.11
Separate Accounts	8.24	6.78	2.84	6.58	5.68	12.26	9.07	8.51	1.06	5.53
Mutual Funds	7.29	8.82	0.37	2.72	2.88	4.78	2.03	-0.33	-1.18	-2.00
3-Mo. U.S. Treasuries	3.67	1.68	1.05	1.43	3.34	5.06	4.77	1.51	0.16	0.14

\*As represented by the Morningstar MSCI Relative Value North America Asset Weighted Hedge Fund Index.

**Figure 3 Growth of \$10,000 Chart (2001- 2011)**



## IV Historical Risk and Risk-Adjusted Returns

Separately managed accounts following equity market-neutral strategies have shown the best risk-adjusted performance over the past five years, using several measures. The Sharpe ratio measures excess returns (over Treasuries) divided by standard deviation. The Sortino ratio measures downside deviation in the denominator, while Morningstar risk-adjusted return takes into account skewness and kurtosis (tail risk). Using these measures, market-neutral mutual funds have shown the worst risk-adjusted returns over the past five years, although they have fared better than the S&P 500 when considering tail risk. Bonds have outperformed all market-neutral strategies on a risk-adjusted basis. Investors should

consider, though, that bonds' outperformance may not continue, as interest rates may rise.

The most attractive feature of a market-neutral fund is its low correlation, and therefore low beta, to both stocks and bonds. This means that returns generally do not move with the markets. If an investor adds a market-neutral fund with positive risk-adjusted returns to his portfolio, the fund will improve the portfolio's overall risk-adjusted returns. Hedge funds show relatively higher correlations and betas to stocks and bonds, as the heavy use of leverage in merger arbitrage and convertible arbitrage funds resulted in large losses in 2008.

**Figure 4 Risk-Adjusted Returns by Market-Neutral Vehicle (through Sept. 2011)**

	5-Yr Sharpe Ratio	5-Yr Sortino Ratio	5-Yr Morningstar Risk-Adjusted Return
Hedge Funds	0.38	0.47	1.73
Mutual Funds	-1.01	-1.15	-2.26
Separate Accounts	1.28	2.16	3.81
S&P 500 TR	-0.06	-0.07	-6.09
Barcap US Agg Bond TR	1.31	2.60	4.74

**Figure 5 Five-Year Correlation and Beta of Market-neutral Strategies to Stocks and Bonds\***

	S&P 500 Correlation	S&P 500 Beta	Barcap US AGG Correlation	Barcap US Agg Beta
Hedge Funds	0.64	0.21	0.21	0.33
Separate Accounts	0.03	0.00	0.02	0.01
Mutual Funds	0.10	0.02	-0.22	-0.18

\*Through September 2011

## V Fees

Fees vary widely across market-neutral structures both in their overall level and the way they are assessed. (Figure 6.) Because fees eat into a fund's returns, investors cannot afford to overlook this part of the due-diligence process.

The most notorious fee structures are undoubtedly those of hedge funds. The 285 hedge funds in Morningstar's equity market-neutral, convertible-arbitrage, merger-arbitrage, and diversified-arbitrage hedge fund categories charge average management fees between 1.37% and 1.46%, as well as performance fees of up to 19.9%.

Market-neutral separate accounts reporting to Morningstar's database charge management that are negotiated based upon the level of assets invested. Separate accounts report "management fee tiers" to Morningstar's database, where each "tier" represents a certain dollar amount of assets invested with the manager. The lowest (and most expensive) tier averaged 1.13%. Some separate accounts also charge performance fees. Of the 22 accounts reporting to Morningstar's database, about half reported charging performance fees, which were generally 20%.

Mutual fund and ETF fees are reported as expense ratios, which calculate operating expenses as a percentage of fund assets. The ratio has several components, the largest of which is usually the management fee. Other costs include legal expenses, administrative fees, as well as marketing and distribution costs (referred to as 12b-1 fees). Transaction costs incurred by the fund, however, are generally not included in the calculation of the net expense ratio. (Shorting costs, dividends and interest paid on shorts, are included in the gross expense ratios, however). The annual report net expense ratio of the average market-neutral mutual fund was 2.08% (as of September 30, 2011).

In August 2010, Morningstar released a study showing that in aggregate, low-cost, long-only mutual funds experienced better returns than high-cost funds across all asset classes during various periods from 2005 through March 2010. Although cheaper is usually better over the long term, it's not always better. A fund's cost should always be viewed in light of its performance.

**Figure 6 Average Fees of Market-Neutral Vehicles**

	Management Fee	Performance Fee	Expense Ratio
Hedge Funds	1.18% -1.38%	18.24%-19.80%	—
Hedge Funds of Funds	1.13%	—	—
Mutual Funds	—	—	2.08%
ETFs	—	—	0.86%

\*Average fees for the diversified-arbitrage, convertible-arbitrage, merger-arbitrage, and equity market-neutral categories.



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## VI Taxation

Taxes are an important consideration of any investment. Market-neutral hedge fund investors must file a K-1 partnership tax form, which could take months to obtain and could also result in non-tax-deductible expenses. Hedge funds structured as limited partnerships generally pass through the net tax characteristics of their underlying investments and are taxed each year regardless of distributions.

Mutual fund investors generally file a 1099-DIV form. Alternative mutual funds are typically taxed as other mutual funds on both fund distributions (dividend and net capital gains, taxed at ordinary income and long-term capital gains rates, respectively) and share sales (long-term or short-term capital gains) if held outside of tax-deferred accounts. Unlike traditional mutual funds, however, alternative mutual funds tend to trade more frequently and therefore may incur higher tax liabilities. The average market-neutral mutual fund incurred a turnover ratio of 613% in 2011, much higher than the average large-blend fund's 72% turnover ratio. Although hedge funds do not report holdings, some do report estimated turnover to Morningstar. Of those that reported, the average equity market-neutral hedge fund had a turnover of 1,725%, while the arbitrage hedge fund categories averaged turnover ratios between 275% and 600% annually.

Like hedge funds, mutual funds also generally pass through the net tax characteristics of their underlying investments, with the exception of commodity futures (taxed at ordinary income rates).

ETFs are often the most tax-efficient investment vehicle for long-only stock investing. The efficiency breaks down, however, for market-neutral strategies, which trade more often, and do not always redeem shares in-kind. Market-neutral ETNs, on the other hand, are tax efficient as long as the investor holds them long enough (to obtain long-term capital gains treatment).

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## VII. Use in Portfolio

In order to demonstrate how a currency fund can change the overall risk/return profile of a portfolio, we constructed several model portfolios, using S&P 500 as a proxy for the stock portion, Barcap US Aggregate Bond Index for the bond portion, and Morningstar MSCI Relative Value North America Hedge Fund Index for the market-neutral portion. For the 10-year period ended Sept. 30, 2011, we tested a 5%, 10%, and 20% historical allocation to currencies, funded by either the stock (Figure 7) or the bond (Figure 8) portion of a traditional 60/40 portfolio, and rebalanced quarterly.

The results show that a traditional investor's risk/return profile was enhanced when moving even a small (5%) allocation out of the S&P 500 and into the MSCI Morningstar Relative Value North America Hedge Fund Index, a proxy for

equity market-neutral and arbitrage-related hedge funds. When the market-neutral allocation was funded from the bond portion of a traditional portfolio, however, the overall portfolio's risk-adjusted results worsen. This is not surprising, given the bull market for bonds over the past decade. Bond's past performance may not be realizable into the future, however, as interest rates may rise. Because market-neutral funds' performance may actually improve as interest rates rise and are not correlated to the performance of the stock or bond market, market-neutral funds may be prudent stock or bond diversifiers.

**Figure 7 Market-Neutral Model Portfolio–Taken out of the 60% Equity Allocation (through Sept. 2011)**

Asset Allocation	10-Yr Return (Annualized)	10-Yr Std. Dev. (Annualized)	10-Yr (Annualized) Sharpe Ratio	10-Yr (Annualized) Sortino Ratio	10-Yr Morningstar Risk-Adjusted Return
60%/40% Portfolio	4.44	9.41	0.30	0.42	1.51
5% Market-Neutral	4.53	8.75	0.33	0.46	1.72
10% Market-Neutral	4.61	8.10	0.36	0.50	1.91
20% Market-Neutral	4.75	6.83	0.43	0.60	2.25

**Figure 8 Market-Neutral Model Portfolio–Taken out of the 40% Bond Allocation (through Sept. 2011)**

Asset Allocation	10-Yr Return (Annualized)	10-Yr Std. Dev. (Annualized)	10-Yr (Annualized) Sharpe Ratio	10-Yr (Annualized) Sortino Ratio	10-Yr Morningstar Risk-Adjusted Return
60%/40% Portfolio	4.44	9.41	0.30	0.42	1.51
5% Market-Neutral	4.37	9.51	0.29	0.41	1.42
10% Market-Neutral	4.30	9.62	0.28	0.39	1.32
20% Market-Neutral	4.14	9.85	0.27	0.36	1.12