

Market Neutral **Strategies**

BRUCE I. JACOBS
KENNETH N. LEVY
EDITORS



John Wiley & Sons, Inc.

Additional Praise for

Market Neutral Strategies

“*Market Neutral Strategies* surpasses its mission. Bruce Jacobs, Ken Levy, and their contributing authors elucidate the sources of potential alpha for a breadth of strategies, as well as the origins of prior miscues. At long last there is a single volume that is a practical and comprehensive guide for investors who want to explore or to learn more about market neutral and a valuable reference for seasoned investors.”

—Edgar J. Sullivan, Ph.D., CFA, Managing Director,
Absolute Return Strategies,
General Motors Asset Management

“Jacobs and Levy have once again shown their commitment to advancing the practice of investment management by producing a comprehensive, thought-leading treatment of market neutral investing. The well-selected authors provide timely guidance on what we as institutional investors are challenged to think and act upon—namely, a clear understanding of the various sources of risk, the decisions to be taken between market (beta) and active (alpha) risk, and the application of the same in the prudent allocation of risk within our portfolios.”

—Thomas F. Obsitnik, CFA, Investment Advisor,
Pension and Benefit Investments,
Eli Lilly and Company

“Many institutional investors are attracted to market neutral strategies, not only because of their impressive performance, but also because they enable investors to separate management of market risk (beta) from selection risk (alpha). In *Market Neutral Strategies*, an impressive line-up of respected practitioners provides an excellent overview of all major aspects of these strategies. Importantly, the book underscores that their power lies in an integrated approach and not a simple combination of long and short portfolios—a fact too often ignored. This excellent and highly relevant publication provides practical answers to practical problems, and I recommend it to every investor interested in implementing a market neutral approach.”

—Hans de Ruiter, Senior Portfolio Manager,
ABP Investments

“Bruce Jacobs and Ken Levy’s latest book addresses its subject in a characteristically clear, rigorous, and comprehensive fashion. It contains a wealth of insights about market neutral investing from a range of real-life practitioners. I would commend *Market Neutral Strategies* to anyone with the desire or need to gain a sound understanding of the practicalities and potential uses, advantages, and risks of this approach to investing.”

—Rick Harper, Chief Executive Officer,
Superannuation Funds of South Australia

“Serious about market neutral investing? This is the best book to date on the nearest of kin to classic arbitrage. The authors are expert, clear, and balanced. The content is rich. The style is rigorous without being academic, and free of superfluous jargon. The autopsies of two failed hedge funds are worth the price of admission. Bruce Jacobs and Ken Levy blazed the trail for institutional market neutral investing; now they illuminate it.”

—Richard M. Ennis, CFA, Principal,
Ennis Knupp + Associates

“As arbitrageurs move from the back office to the front page, investors must have resources to guide them. Jacobs and Levy provide a guide that is dense with information, background, and examples. They handle the complex subject of investing in markets while remaining neutral to the whims of those markets at a level the intelligent investor will understand. Moreover, they place market neutral investing in the context of alpha generation and explain its role in asset allocation. Finally, they aid the taxable and tax-exempt investor in navigating the rules of the game. This book is an important tool for maneuvering through market neutral strategies.”

—Leola Ross, Ph.D., CFA, Senior Research Analyst,
Russell Investment Group

“At last. A comprehensive book on the challenges and opportunities in market neutral investing, and a roadmap of pitfalls that many would find only by stumbling into them. This would make a nice text for an MBA in finance, and provides a valuable reference for anyone considering investments in the market neutral arena.”

—Robert D. Arnott, Chairman, Research Affiliates, LLC,
and Editor, *Financial Analysts Journal*

“Because they have little or no correlation with broad markets, market neutral strategies are sought after by investors who desire active returns that can diversify traditional investment portfolios. *Market Neutral Strategies* provides a comprehensive review of the risks, potential returns, and mechanics of such strategies, drawing on the theoretical and hands-on knowledge of industry experts.”

—Harry M. Markowitz, 1990 Nobel Laureate in Economics

“Bruce Jacobs and Ken Levy have done a masterful job of collecting information useful to market neutral investors. The presentation is clear and concise. The topics covered are wide-ranging and up to date, including the current hot topic of alpha transport. My favorite features are the unique question-and-answer sections, which provide answers to typical investor questions in an easily accessible format. Anyone who plans to invest in market neutral strategies should read this book.”

—Brian Bruce, Editor-In-Chief, *The Journal of Investing*

“This book contains intuitive, informative, and insightful discussions of major market neutral strategies. Jacobs, Levy, and the other contributors share their own rich and diverse experiences in implementing these strategies in real life. Written in plain English, the book is an invaluable resource for investment professionals dealing with hedge fund strategies.”

—Professor Narayan Y. Naik, Director,
Centre for Hedge Fund Research and Education, London Business School

“While managing several billion dollars in equities, I became frustrated by the value that I was not allowed to add, because of long-only mandates. The quant models actually worked even better on ‘dog’ stocks than on ‘stars,’ but without short selling, the additional information was useless. Even worse were the tracking error constraints that forced me to go down with the market as it collapsed. *Market Neutral Strategies* will do much to promote and increase the acceptability of alternative strategies, to the benefit of all investors. As always, Bruce Jacobs and Ken Levy are clear, focused, sharp, and insightful. Combine this with their plain English expositions and avoidance of esoteric theory, and you have a ‘must read’ for any serious investor.”

—Les Balzer, Professor of Finance, The University of New South Wales
and Head of Research, Hedge Funds of Australia Limited

“This book is a must read for all contemplating market neutral strategies. It shows how an optimized combination of long and short positions can exploit both quantitative and qualitative insights about relative security valuations. Because many investors cannot act on negative insights by selling short, there are more opportunities on the short side. Thus those who can sell short, and who know how to integrate their short positions with their long positions, are at a major advantage.”

—Edward M. Miller, Research Professor of Economics and Finance,
University of New Orleans

“Transparency is rare in financial markets, but you will find it in this book. Jacobs, Levy, and their coauthors are lucid in their descriptions of the benefits of market neutral strategies, and they are equally lucid in their descriptions of the risks and failures. I enjoyed *Market Neutral Strategies* and highly recommend it.”

—Meir Statman, Glenn Klimek Professor of Finance,
Santa Clara University

“For decades, Bruce Jacobs and Ken Levy have provided awesome thought leadership to the financial industry in an easy-to-read format. This book continues that marvelous tradition, giving readers an insider’s look at market neutral investing.”

—Wayne H. Wagner, Chairman, Plexus Group, Inc.

“*Market Neutral Strategies* illuminates for the serious investor the techniques, benefits, and risks of the various methods of market neutral investing. It also shows the many possible gains from using market neutral strategies as part of an investor’s total portfolio. The insights are valuable for understanding all types of hedge funds.”

—Edward O. Thorp, Ph.D., Edward O. Thorp Associates,
and Author of *Beat the Dealer*



Market Neutral **Strategies**

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To Ilene, Lauren, Julie, Sam, and Erica Jacobs and
Frayda, Kara, Max, Brenda, and Hannah Levy
For their love, patience, and support

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Foreword

Mark Anson, Ph.D., CFA, CPA, Esq.

Chief Investment Officer
CalPERS*

Most investors, when they hear the term “market neutral,” think of strategies that simultaneously go long and short equities in order to eliminate stock market risk. True enough. But *Market Neutral Strategies* goes beyond equities to provide a comprehensive review of the full range of these strategies.

One of the great strengths of this book is that it is user friendly. Jacobs and Levy and the other contributing authors do not try to dazzle the reader with arcane nomenclature or turbo-charged math. Instead, they break down each market neutral strategy into easy-to-understand concepts that any reader can grasp. The book provides a clear explanation of the economic drivers associated with each market neutral strategy. It also looks at the risks, as well as the returns, associated with each strategy.

The chapter on merger arbitrage, for example, explains the economic rationale for how merger arbitrageurs make money: essentially, they are insurance agents who collect premiums by writing insurance against failed merger attempts. Placing merger arbitrage in this context allows the reader to quickly grasp how the strategy works, as well as to develop an expectation regarding the returns that can be earned. Insurance companies earn consistent, but moderate, returns.

* This foreword reflects the thoughts and opinions of Mark Anson, and not those of his employer.

Another chapter describes how to establish a market neutral strategy in convertible bonds. This strategy may require hedging in both the bond and the stock market to insulate a portfolio from financial market moves. An early chapter of the book provides a great “Q&A” that highlights many of the issues that are discussed in more detail in the following chapters.

All in all, I found *Market Neutral Strategies* to be an excellent reference book, and I intend to keep it close by on my shelf of required reading.

Acknowledgments

This book would not exist without the contributions of our coauthors. We thank Jane Buchan of Pacific Alternative Asset Management Company; George E. Hall of the Clinton Group and Seth C. Fischhoff; John Maltby of DKR Capital; Daniel S. Och of Och-Ziff Capital Management Group and Todd C. Pulvino of the Kellogg School of Management, Northwestern University, and CNH Partners; and Peter E. Pront, S. John Ryan, and John E. Tavss of the law firm Seward & Kissel. We are indebted to them for sharing their expertise, for putting in the time and effort to write their respective chapters, and for their patience in bearing with us as we pulled the book together.

Additional thanks to Jane Buchan for contributing her experience and insights to “Questions and Answers About Market Neutral Investing.” Also, our thanks to Mark Anson, Chief Investment Officer, CalPERS, for providing the foreword.

At Jacobs Levy Equity Management, we thank Judy Kimball for her invaluable contributions in research and editing, and Catherine Basha for her ever-efficient and much-needed administrative support.

Our thanks to Frank Fabozzi for encouraging us to tackle this book and lending us impetus at crucial junctures on the path to publication, and to Pamela van Giessen, Editorial Director, John Wiley & Sons, for help in getting this book done.

Readers may send comments or questions via email to mns@jacobslevy.com, or visit the book’s web site at www.jacobslevy.com/mns.

Bruce I. Jacobs
Kenneth N. Levy

About the Editors

Bruce I. Jacobs and Kenneth N. Levy are Principals of Jacobs Levy Equity Management, in Florham Park, New Jersey. Jacobs Levy is widely recognized as a leading provider of quantitative equity strategies for institutional clients. Cofounders Jacobs and Levy developed the concept of “disentangling” stock market inefficiencies in the 1980s, recognized early in the 1990s that the full benefits of combining long and short positions emerge only from an integrated optimization, researched the optimality of market neutral portfolios, and were among the first to offer equitized portfolios able to transport the alpha from market neutral to the equity market. Jacobs Levy currently manages over \$15 billion in various strategies for a prestigious global roster of 50 corporate pension plans, public retirement systems, multiemployer funds, endowments, and foundations, including over 25 of *Pensions & Investments*’ “Top 200 Pension Funds/Sponsors.”

Bruce Jacobs holds a Ph.D. in Finance from the Wharton School of the University of Pennsylvania. He is the author of *Capital Ideas and Market Realities: Option Replication, Investor Behavior, and Stock Market Crashes* (1999) and coauthor, with Kenneth Levy, of *Equity Management: Quantitative Analysis for Stock Selection* (2000). He serves on the advisory board of the *Journal of Portfolio Management*.

Ken Levy holds an M.B.A. and M.A. in Applied Economics from the Wharton School of the University of Pennsylvania. He is coauthor, with Bruce Jacobs, of *Equity Management: Quantitative Analysis for Stock Selection*. A Chartered Financial Analyst, he has served on the CFA Institute’s candidate curriculum committee and on the advisory board of POSIT (Portfolio System for Institutional Trading).

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CHAPTER 1

Introduction

Bruce I. Jacobs, Ph.D.

Principal
Jacobs Levy Equity Management

Kenneth N. Levy, CFA

Principal
Jacobs Levy Equity Management

As the cofounders and principals of Jacobs Levy Equity Management, we have been designing, managing, and writing about market neutral equity strategies since 1990. At the beginning, we were one of just a handful of investment advisers offering such strategies for institutional portfolios. Since that time, the demonstrated ability of equity-based and other market neutral strategies to add value has led to increased participation by institutional investors in market neutral hedge funds and increased implementation of market neutral strategies by more traditional money managers.

This book provides a forum in which some of the industry's leading market neutral practitioners discuss the implementation, the benefits, and the risks of market neutral investing. The discussion is directed toward institutional investors, sophisticated individual investors, and investment consultants who seek a deeper understanding of how these strategies can contribute to the pursuit of investment return and the control of investment risk. In this context, the book assumes that readers are familiar with basic investment concepts and practices. Every attempt has been made, however, to explain these strategies in plain English, with minimal resort to mathematics or arcane financial theory.

MARKET NEUTRAL STRATEGIES

Market neutral investing is often identified with hedge fund investing. In fact, the first documented hedge fund, started by A. W. Jones in 1949, was also among the first to employ tactics later used in market neutral investing. Short sales had traditionally been undertaken by dedicated short sellers, investors who sold short particular stocks that they expected to decline in value because of special situations such as accounting fraud. Jones used short sales in a portfolio context, selling securities short in part to offset some of the systematic risk introduced by the long positions in the portfolio.

Market neutral is not synonymous with hedge fund, however. For one thing, an increasing number of traditional money management firms are offering institutional clients market neutral strategies as part of their menu of investment products. These market neutral products are not always structured as limited partnerships and can offer some advantages over hedge fund partnerships, particularly in the area of disclosure (as the latter are subject to only limited disclosure requirements).

Furthermore, most hedge funds are not market neutral. Many, including the so-called macro funds, are market directional, rather than market neutral, designed to exploit changes in market movements. Others, while they may employ market neutral tactics to hedge against movements in underlying markets, are designed to retain significant exposures to those markets. The Jones funds, for example, retained a tilt toward long positions, with short positions of a generally smaller magnitude expanded or contracted depending upon whether Jones expected the broad market to decline or advance. In this sense, Jones was in large measure using a market timing strategy.

Strictly speaking, market neutral strategies are not market timing strategies (although they may be adapted to that end). Rather than seeking to profit from correctly forecasting underlying market moves, market neutral strategies seek to profit from detecting perceived mispricings in individual securities and constructing portfolios that deliver the excess return (and risk) associated with those securities, regardless of underlying market moves. This is accomplished by holding balanced long and short positions in various securities and/or by holding these securities in conjunction with long or short positions in derivative securities so that the overall portfolio's exposure to primary risk factors, such as equity market and interest rate risks, is neutralized.

In this endeavor, market neutral investing employs the same instruments as more conventional strategies. These include equity, government bonds, corporate bonds, mortgage-backed securities, and convertible bonds and warrants. Market neutral investing in general, however, tends

to be more reliant on derivative securities than traditional investment approaches. Depending on the particular strategy, market neutral strategies may use equity and bond futures and options, as well as over-the-counter options and interest rate swaps, with or without caps and floors.

Market neutral investing exploits the same methods as more conventional active strategies. It may use in-depth fundamental analysis, technical approaches, and/or quantitative valuation and portfolio construction techniques. Most market neutral strategies rely at least in part on quantitative methods. Quantitative analysis allows for cost-effective and timely analysis of a large number of securities and is (arguably) a requirement for some of the more complex instruments used in market neutral investing, such as collateralized mortgage obligations and options. Quantitative tools such as optimization are vital to ensure proper portfolio construction. This does not mean fundamentals are ignored. Quantitative analyses may incorporate both bottom-up, company-specific fundamentals and top-down, economic fundamentals. Certain market neutral strategies—merger arbitrage, for example, as well as some forms of convertible arbitrage—may be more dependent than others on in-depth fundamental analyses of individual companies and securities.

Market neutral strategies have the same basic aim as more conventional strategies—to “buy low and sell high.” In more traditional active approaches, however, the buying and selling are sequential events, whereas in market neutral investing they are more often concurrent. A market neutral investor buys “cheap” securities (or derivatives) and simultaneously sells or sells short an offsetting amount of fundamentally related “rich” securities (or derivatives).

Because of this concurrence of buying and selling, market neutral strategies are often termed “arbitrage” strategies. Market neutral strategies do not fall within the strict definition of classical arbitrage. Classical arbitrage is by definition riskless; buying a particular security at one price in one market and simultaneously selling it at a higher price in another market is classic arbitrage. This book focuses on five market neutral strategies:

- Market neutral equity
- Convertible bond arbitrage
- Government bond arbitrage
- Mortgage-backed securities arbitrage
- Merger arbitrage

These strategies fall within a broad definition of arbitrage in the sense that each makes use of instruments that are related in some fundamental

way. The equities held long and sold short in equity market neutral portfolios, for example, are fundamentally related through their exposures to the broad underlying market, while the bonds and fixed-income derivatives used in sovereign fixed-income arbitrage are fundamentally related through their exposures to interest rate movements, and the instruments employed in merger arbitrage are related through the expected convergence of the two companies' share prices. These strategies have also developed performance histories and liquidity adequate for institutional investors.

Additional chapters in this book provide a broader look at market neutral strategies. "Questions and Answers About Market Neutral Investing" answers some frequently asked questions about the strategy in general. "A Tale of Two Hedge Funds" dissects the spectacular failures of two famous "market neutral" funds, Askin Capital Management and Long-Term Capital Management, and their implications for market neutral strategies and investors. "Transporting Alpha" examines market neutral investing in the context of overall fund structure. Two chapters discuss regulatory and tax implications of market neutral strategies.

RISKS

Because market neutral strategies are designed to eliminate systematic risk factors such as stock market or interest rate risk, they are often perceived to be low risk. This is not always the case. As discussed in Chapter 2, "Questions and Answers About Market Neutral Investing," risk levels may vary across different types of market neutral strategies and across portfolios in a given strategy. The risk of any given strategy will depend upon multiple factors, including the volatility of the underlying securities, the sources of uncertainty impacting those securities, the models and methods used in the investment process, and the degree of leverage employed.

In the short term, at least, equities are inherently more volatile than fixed-income instruments, so one may expect market neutral equity strategies to be inherently more volatile than fixed-income strategies. On the other hand, as we explain in Chapter 3, "Market Neutral Equity Investing," a market neutral portfolio can be designed to offer a high expected return at a high risk level or a lower expected return at a lower risk level. Furthermore, the instruments underlying some bond-based strategies, including mortgage and convertible arbitrage, may be subject to extreme bouts of volatility because they include option-like elements that can cause them to behave in nonlinear ways. The chapter on mortgage arbitrage explains the implications of this behavior for market neutral strategies in mortgage-backed securities.

As is any investment strategy, market neutral strategies are subject to uncertainty beyond anticipated volatility. Unexpected events can cause actual portfolio performance to diverge from the expected. Sources of uncertainty and their relative impacts differ across different strategies. Uncertainty can be introduced by unanticipated changes at the company-specific level, by developments in the broader economy, and by regulatory, legal, and credit events.

Jane Buchan's discussion of convertible arbitrage in Chapter 4, for example, discusses the problems created when the company issuing a convertible experiences financial distress. John Maltby in Chapter 5 notes how changes in the yield curve can swamp the expected returns to strategies that exploit perceived mispricings in government bond markets. Merger arbitrage, as Daniel Och and Todd Pulvino make clear in Chapter 7, is particularly susceptible to regulatory risk, as announced mergers may be derailed at several points by the actions of regulatory overseers. For many years, the short sale of equity securities, vital in market neutral equity, convertible bond, and merger arbitrage strategies, was subject to tax risk because of the legal uncertainty over the treatment of short sale proceeds; this is discussed by Peter Pront and S. John Ryan in Chapter 11 covering tax issues for nontaxable investors.

Credit risk, the risk that a counterparty to a trade will default, may be a larger problem for market neutral strategies than for more conventional investment approaches, to the extent that the former rely more heavily on over-the-counter derivatives. Traders using organized exchanges are largely protected against counterparty default by the guarantees provided by exchange clearinghouses. For market neutral strategies that require over-the-counter derivatives such as options and interest rate swaps, due diligence must be conducted to ensure that counterparties are creditworthy.

The primary line of defense against uncertainty is diversification. This is as true in market neutral as in conventional investment strategies. For example, diversification across different securities protects against company-specific risks. Diversification across counterparties may provide some protection against credit risk.

As we show in Chapter 9, "A Tale of Two Hedge Funds," lack of diversification can prove catastrophic. The story of the Long-Term Capital Management hedge fund is particularly interesting because it illustrates how diversification may be not only a matter of the tangible number and variety of securities in a portfolio, but also the intangible ideas behind those securities. In effect, lack of diversification of insights can prove just as damaging as lack of diversification of securities.

The story of Askin Capital Management illustrates another source of potential risk—problems introduced by the investment process itself. Problems at this level may be subtle and difficult to detect. The valuation

process, for instance, may omit salient information, or the information used may be incorrect. Models used for valuation, portfolio construction, or risk measurement may be incomplete, inadequate, or simply wrong.

Quantitative investment approaches may have the advantage over more judgmental ones when it comes to detecting and correcting these sources of error. Quantitative approaches to valuation and portfolio management rely on objective inputs and outputs and reproducible processes. They can thus provide a transparent audit trail of cause and effect that can be used to detect and remedy potential trouble spots. It is important, however, that a quantitative approach not devolve into the notorious “black box” that spits out answers to which no one knows the questions.

In general, market neutral strategies are more dependent on leverage than conventional investing. Leverage can take many forms, among them outright borrowing, repo arrangements, purchase of securities on margin, and the short sale of borrowed securities. By increasing the number and size of positions a strategy can take, leverage can increase the return to that strategy, but also the risk. If the strategy performs as expected, leverage will multiply the profits. But it will also multiply the losses if the strategy goes awry. In this sense, leverage magnifies all the risks discussed here.

A leveraged market neutral strategy (or any leveraged investment strategy) in effect invests more money than it has capital. When things go wrong, losses can exceed the invested capital, and as a result the fund can lose more than it started with. Peter Pront and John Tavss discuss, in Chapter 10, this unique result of leverage and the important implications for investors of the legal structure of market neutral investment vehicles.

Leverage also introduces a third party (or multiple third parties) to the investment picnic—a party that may make demands that affect investment performance. With short selling, for example, the owner of the shares sold short may demand them back; in certain instances, the short seller may have to liquidate positions in order to meet this demand, regardless of the impact on the portfolio.

Lenders, brokers, repo parties, and derivatives counterparties may demand repayment or partial repayment of loans or payment of additional collateral when leveraged positions experience losses. Such demands can have disastrous results if they cannot be met via a liquidity reserve, the sale of assets, or an infusion of new capital. In such cases, lenders and other counterparties may liquidate the portfolio, at large losses to investors. It is worth noting that this may happen even in instances in which the portfolio is expected to be profitable in the long run.

As we note in Chapter 3, “Market Neutral Equity Investing,” leverage is not a necessary part of all market neutral strategies. In some instances, it may be up to the investor to determine the amount of leverage employed.

In any case, when investigating any strategy (whether market neutral or not), investors should determine whether the strategy employs leverage, the extent to which it does, and the degree to which leverage contributes to the strategy's expected returns. They should also be aware that leverage comes in many forms, and can interact with other risk factors, including liquidity, so as to magnify underlying risks, as well as returns.

BENEFITS

We have just enumerated a seemingly daunting list of risks that market neutral strategies are susceptible to. It is important to recognize, however, that, compared with more conventional investment approaches, when it comes to risk, market neutral strategies differ more in degree than in kind. The proper tools for security valuation and portfolio construction, and discretion in the use of leverage, can keep risks in hand. Furthermore, the risks of market neutral must be weighed against the potential rewards. In this regard, market neutral investing provides some advantages that conventional approaches just can't duplicate.

Because of their ability to deliver returns that are independent of the performance of the underlying market, market neutral strategies have often been offered, and sought after, as "hedges" against market downturns. For this reason, market neutral strategies are often used as a tool for diversification. When added to an institution's existing investments in bonds and stocks, market neutral portfolios may be able to increase overall return and/or reduce risk.

Their potential contribution to overall fund diversification has been one of the primary selling points for market neutral strategies. Market neutral strategies have much to offer beyond diversification, however. For example, to the extent that they neutralize underlying market risk, market neutral strategies can be used to exploit profit opportunities in markets that might otherwise be considered too risky for suitable investment. Chapter 6, by George Hall and Seth Fischhoff, on mortgage-backed security arbitrage, demonstrates how longer-term, fixed-rate collateralized mortgage obligations can, within a market neutral portfolio construct, retain the lower-risk, floating-rate characteristics desired by many investors.

Market neutral structures can also allow investors to fine-tune portfolio risk exposures. Daniel Och and Todd Pulvino in Chapter 7, on merger arbitrage, show how market neutral construction enables the investor to exploit price movements related to announced mergers without having to take on the risk of broad market moves. Similarly, Jane Buchan's chapter on convertible bond arbitrage—Chapter 4—shows how

investors can reap the returns from convertible securities without having to incur the downside risk of underlying stock price changes.

As well as benefits of risk control, however, market neutral strategies offer advantages in terms of return enhancement. Most obviously, the ability to sell securities short enables the investor to seek out opportunities in overvalued securities, as well as undervalued ones. We hope we make the full extent of this advantage clear in our chapter on market neutral equity investing.

One of the major advantages of market neutral construction is that it allows the investor to extract the return available from selecting securities in one asset class and, by using derivatives, to “transport” that return to an entirely different asset class. When fixed-income futures or swaps, for example, are added to a market neutral equity strategy, any excess return available from the market neutral equity portfolio can be used to enhance a bond market return. This affords a great deal of flexibility in overall fund management. Most importantly, as we explain in our chapter on alpha transport, it allows the investor to reap the rewards of both individual security selection and asset class selection.

Questions and Answers About Market Neutral Investing

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This chapter addresses, in a user-friendly, question-and-answer format, some broad issues relating to market neutral investing in general. In particular, what is market neutral? What are its sources of return? What are its risks? How can it fit into an institution's overall investment plan? Answering the questions are: *Jane Buchan, Bruce I. Jacobs, and Kenneth N. Levy.*

What is market neutral investing?

Bruce Jacobs: It can be thought of as a portfolio construction technique that encourages the use of both long and short positions, where the securities are selected from a particular asset class, but the risk of the asset class itself is neutralized.

Jane Buchan: So the risk that remains is security selection risk, while the market neutral portfolio is constructed so that its returns are unaffected by the returns of the asset class itself or a given benchmark.

Ken Levy: For instance, a market neutral equity portfolio holds long stocks that are expected to appreciate in value and sells short a roughly equivalent amount of stocks that are expected to perform poorly, keeping the benchmark-relative risks of the long and short positions equal. Gains or losses on the long positions resulting from movements in the general stock market will be approximately offset by similar-size losses or gains on the short positions, leaving the spread between the returns on the long and short positions. If the securities behave as expected, with the longs outperforming the shorts, this spread will result in a positive return from security selection. Market neutral bond portfolios can be constructed in a similar fashion to be neutral to movements in underlying interest rates.

Buchan: There are also somewhat more specialized market neutral strategies, such as merger, or “risk,” arbitrage. In merger arbitrage, the investor buys the stocks of companies that are takeover targets and sells short the stocks of companies that are the potential buyers. The overall portfolio will be roughly immune to movements in the general market, as any changes in the values of the stocks resulting from general market movements will cancel out, long and short, while the portfolio will benefit if its constituent stocks perform as expected, with the stocks of the takeover candidates rising in price as the takeover approaches and the stocks of the potential buyers falling upon completion of the takeover.

So it's a matter of buying undervalued securities and selling short overvalued securities?

Jacobs: It is generally perceived to be a valuation strategy. In some market neutral strategies, however, the trading component can be the primary driver of profitability. For example, suppose an option is trading “rich” relative to the underlying security; one could short the option, acquire the underlying security, trade to rebalance the hedge over the life of the option, and unwind at a profit when the option matures. This type of option arbitrage is a valuation strategy, in the sense that the investment decision is based on relative valuation of the option and the underlying, but it is very trading intensive, with the timing of trades and minimization of trading costs being critical. The strategy may be considered to be more reliant on time and place advantages (with options traders in the pit having the upper hand) than on valuation. In general, however, most market