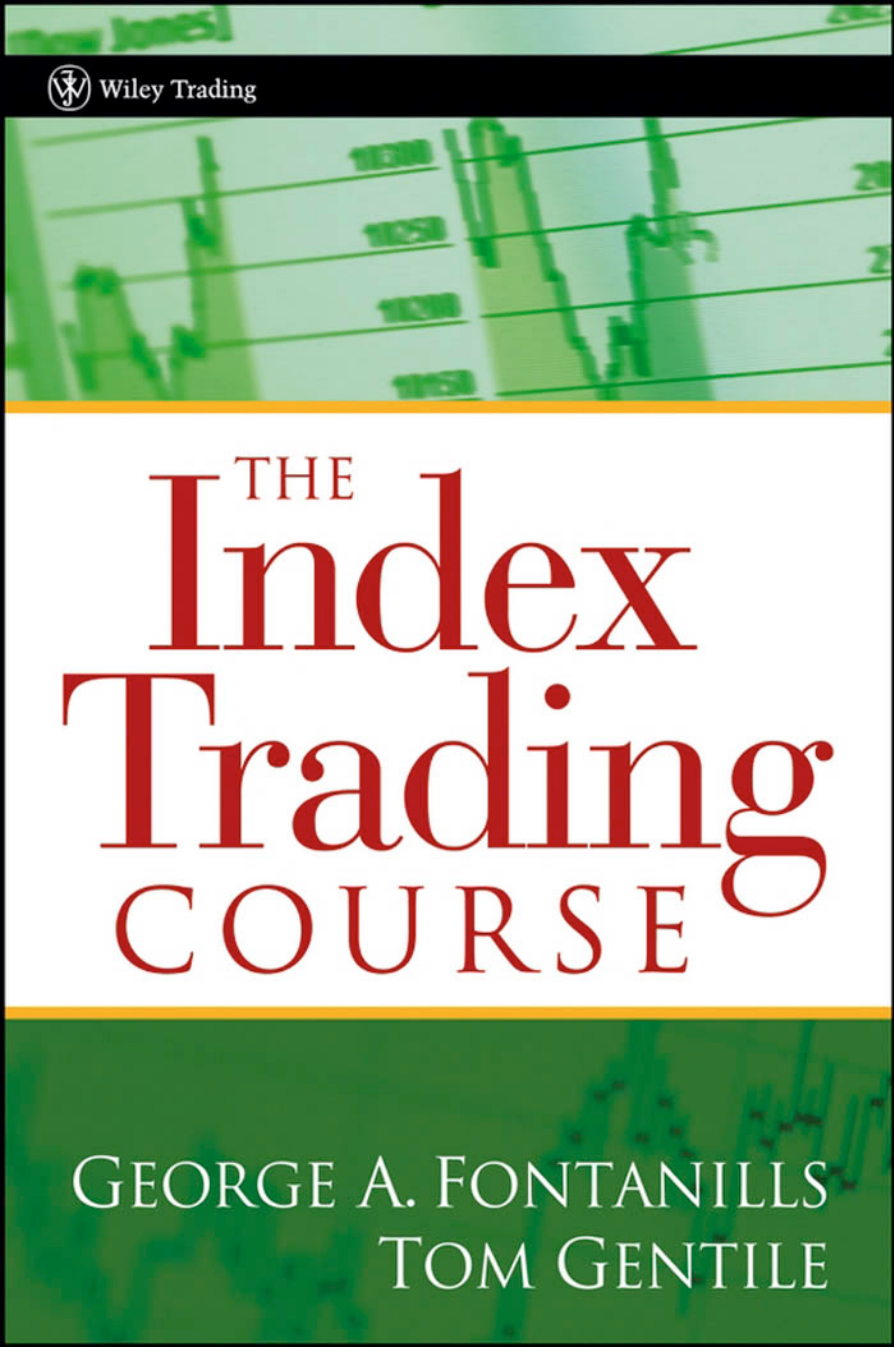




Wiley Trading



THE Index Trading COURSE

GEORGE A. FONTANILLS
TOM GENTILE

More Praise for
The Index Trading Course
and
The Index Trading Course Workbook

“George and Tom have done it again! They’ve created another comprehensive resource for traders, this time thoroughly covering the index market. The sector and broad market indexes are ideal vehicles for the many specific options strategies taught by these trading experts. Both new and experienced traders will find plenty of valuable techniques here.”

—Price Headley, Founder, BigTrends.com

“There are few people in the entire country who come to the financial marketplaces with the type of pedigree George Fontanills brings. He is not only an incredibly gifted and accomplished trader in his own right, with a passion for the mechanics and strategies that drive trading success, but he also combines it with a fervor to teach those strategies to thousands of individuals across the world each and every year. *The Index Trading Course* and *The Index Trading Course Workbook*—George’s most recent additions to his ever-expanding library—represent another of his ‘must reads’ for anyone involved in the marketplace at all.”

—Laurence J. Pino, Founder and CEO
Dynetech Corporation

“Fontanills and Gentile have once again demonstrated why they are so respected in the field of options trading. Because indexes represent such a volume of transactions, second only to the foreign exchange markets, they present characteristics that these experts have very deftly managed to take advantage of to create some new and exciting trading systems. A thought-provoking read for anyone looking for some fresh trading ideas.”

—John Paul Drysdale
Founder and Managing Director
The Hubb Organisation (www.hubb.com)

“Any investor or trader who utilizes equity options today will find this practical, logical, and highly usable index trading course by two acknowledged industry experts to be the perfect guide to expanding your skills and knowledge into this fast-growing but still underutilized segment of the options world.”

—Albert H. Brinkman Jr., Director
Equity Derivatives Marketing
Philadelphia Stock Exchange (PHLX)

The Index Trading Course

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*This book is dedicated to Ruth Cawood
who inspires us all to live up to our full potential.*



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Foreword

Shortly after I heard George Fontanills and Tom Gentile speak at an options trading course in the year 2000, I quickly realized that they shared my passion for trading. At the time, the Internet boom was going full throttle and this particular hotel conference room in Silicon Valley was packed full of enthusiastic listeners. There being no empty seats, I stood in the back, listening as well.

George Fontanills took the stage. After an introduction, he listed off and explained various strategies that were working well in the volatile markets of the time. Among the trades, he outlined a scenario for the NASDAQ 100 Index Trust (QQQQ), or “Qs,” that had profit potential regardless of directional bias. It made money whether the NASDAQ went higher or lower. Since it happened just before the great tech wreck, a time when even Aunt Mildred had her portfolio tilted towards high-technology stocks, the trade suggestion proved extremely insightful at the time.

Prior to that, I had worked on an options trading desk of an institutional firm in New York, so options were not new to me. However, some of the strategies were. In a nutshell, Tom and George were taking advanced concepts used by market makers on the options exchange trading floor and presenting them in a format that individual investors could easily use and understand. Many of these strategies involved stock options, but others were applied to the index market. As an index trader, I found it fascinating. I began working with their system, Optionetics, shortly thereafter.

Six years later, I was excited to hear about *The Index Trading Course*. Although the bookstore shelves are lined with investment books, a quality book about index options trading has clearly been missing. After reading the first draft, I am convinced that Tom Gentile and George Fontanills have put together another winner. I think the reader will come away with several things from this book, and these are the same things I have been fortunate enough to learn through my association with the authors.

First, options are one of the most versatile and exciting investment vehicles today. I have traded funds, foreign exchange, stocks, futures, and options on futures. Strategies using options on stocks and indexes have become my favorite and most lucrative trading endeavors. In addition, given the liquidity and the opportunities in the options market, I have little doubt that options trading will remain one of the fastest growing areas of the financial markets. In short, one of the first lessons is that the options trading world is the place to be.

The second thing readers should come away understanding is that, when trading options, there are strategies and rules. It pays to follow what the gurus have already learned! We've all speculated at times, experimented, placed bad bets, and eventually lost money. Why do we do this when there are proven strategies that work? I guess it's just human nature to figure things out the hard way. In the financial markets, that can be an expensive proposition. So, lesson two: I've learned that it pays to learn from those who have been around the block a few more times than I have.

While options strategies and the associated rules can be learned through study, investors today also have a lot of tools and information that simply weren't available when I first started trading. Unlike today, financial television was not very helpful. Nobody used the Internet. At that time, the only real source of information was the newspaper. I don't know what Tom and George used when they first started trading (smoke signals and ticker machines maybe?). It was someplace far away from the here and now that Internet access provides. Today, we are inundated with information from print, web sites, e-mails, and television. It can easily lead to information overload (or "analysis paralysis," as George likes to call it). Victims of this malady spend too much time digesting information and not enough time understanding the basic tools that help successful traders make money over the long term—strategies, rules, and risk management.

Fortunately, another thing I learned is that you don't have to know and understand it all to make money. In fact, sometimes less is more. A simple trading system with easy entry and exit rules can generate a lot more money than spending hours each day watching TV and reading web reports to figure out what is moving the market and why.

The key to a successful trading system, however, is in its development—back-testing and evaluating what works and what doesn't. Systems have become the tools of choice for many traders because they are objective. A system follower adheres to a specific set of guidelines that leaves no room for guesswork. Don't get me wrong—we are not all system traders. But understanding how systems are developed and why systems work can help traders at any level. Tom Gentile has done a lot of work with systems and he reveals some interesting trade secrets in this powerful book.

In that respect, traders today have another important advantage over traders of the past: They have access to sophisticated software that allows for system backtesting and development. Until recently, these programs were available only to the big players—the large financial institutions and funds. That is no longer the case. Software developers are creating great trading programs that are within affordable price ranges. So another thing I learned was to use the tools that are out there. It is certainly possible to trade without the latest technology, but having it saves a lot of time and exponentially increases the odds of success.

Good traders are also good risk managers. This is extremely important, especially for new traders. You don't have to be right all of the time to make money. That's something that I struggled with earlier in my trading career. I felt that being wrong about the direction of the market or on a strategy meant that I was a bad trader. Today, I believe that good traders are wrong just as much as bad traders. The difference is that they know what to do when they're wrong. If you plan on trading, understand that you will be wrong at times, and know what to do when it happens. George Fontanills once told me, "Before I take a trade, I always ask myself, 'what if I'm wrong?'"

This book takes George and Tom's Optionetics philosophy and applies it to the index market. Index trading is quite different from trading stocks. Obviously, the trading instrument is different. An index represents a basket of securities. It is more diversified and will behave differently, often with less volatility. In order to trade profitably over time, it makes sense to understand the product you are trading. *The Index Trading Course* provides the most comprehensive discussion of the index market to date.

Moreover, this book goes beyond simple explanations and provides specific trades and money-making strategies for the index market. Many trading books use an inordinate amount of space explaining strategies, trading tools, and investment vehicles. This book goes to the next step and shows readers how to trade successfully. It takes readers beyond the theoretical aspects of index trading and into the real world where the serious index trader lives, breathes, and makes money.

Anyone who has watched the market for more than a few days has probably used an index. For instance, a news reporter might say, "The Dow is up 96 points and the NASDAQ is 21 points higher on Wednesday." The Dow and NASDAQ are market averages or indexes. These powerful tools help make sense of what is happening in the stock market and offer insight into whether more stocks are moving higher or lower.

Traders can also use indexes to make money. Options on the S&P 500 Index (\$SPX), the NASDAQ 100 Index Trust (QQQQ), and the Dow Jones

DIAMONDS (DIA) are some of the most popular instruments for trading the market. They are exciting, fast-growing markets that can help investors build and protect wealth.

In order to successfully trade the market averages, however, traders must develop a plan that often involves determining how the stock market will perform and where the market averages will be in the future. In addition, index traders must ask questions like, will the market trade quietly or will volatility spike higher? Is this a bull market or a bear market? Is the current trend going to last or is there a chance of a reversal? Ultimately, successful index trading requires a certain amount of skill and knowledge that is not shared by many. It is a different set of skills when compared to trading futures, stocks, or stock options.

The Index Trading Course offers specific tools for predicting market moves, not just in the major averages like the Dow Jones Industrial Average and the NASDAQ, but also in specific sectors, industry groups, as well as in individual stocks. The reader is also introduced to specific options strategies that yield profits from these anticipated moves. So the book is designed to help investors understand what indexes are, how they are used, and, most importantly, how to make money with them.

In addition, since it is the fourth book in a series (following *The Options Course*, *The Stock Market Course*, and *The Volatility Course*), not much space is given to the basics of the options market, the difference between puts and calls, or how options prices are calculated. There is some mention of delta neutral strategies, the option Greeks, and complex strategies like butterflies and backspreads. But the book primarily assumes the reader has a rudimentary knowledge of options trading. Instead, it is more focused on trading the markets and how to make profits with indexes.

However, while options are not covered in as much detail as their earlier books, indexes and exchange-traded funds are discussed in depth. During the past few years, a large number of new index products have started trading. There are so many, in fact, that it's impossible to track them all. Consequently, several chapters in this book are dedicated to explaining the various index tools, as well as listing the ones that are worthwhile trading vehicles (not all of them are).

Various trading strategies are presented in Chapters 5 through 7. The strategies include examples from the index market and include rules for entry and exit. These "rules" have been developed from decades of experience in the options market and are well worth reading and adhering to. Volatility is an especially important aspect of successfully trading the index markets because it has an important effect on option prices. In fact, an entire chapter (Chapter 12) is dedicated to dissecting volatility in the index market.

Trading systems are becoming more possible as technology makes system-building more readily available to smaller traders. A trading system provides specific buy and sell signals that leave nothing to the imagination. We discuss system building, including examples of trading systems and how to build them in Chapter 9. Risk management and trading rules are key elements to any kind of trading system. Both topics are discussed extensively throughout the text.

The myriad of ideas, indicators, and trading systems are included here to give readers the tools to better trade the markets. A lot of it can be used as reference material and to look at what has happened in the past, in order to gauge what might happen in the future. There is no need to use all of the indicators, strategies, and ideas. In fact, plenty of money can be made using just one or two. Pick the ones that are right for you—the ones that make sense.

Some approaches to the index market look at fundamentals, and decisions are based on macroeconomic factors such as changes in interest rates, overall levels of corporate profits, retail sales activity, and energy prices. Geopolitical events such as elections, terrorism, and natural disasters can also affect the market. Other traders rely heavily on charts and technical indicators. Still others use trading systems that are based on very specific rules, and often leave the trading decisions to computers. There is no right or wrong way to trade as long as the method yields profits.

The final chapter is designed to empower the reader to actually start trading. More experienced traders probably understand this information already. However, new traders are encouraged to pay special attention to this chapter. Trading in the index market is exciting, but it is not without risk. For that reason, we encourage new traders to start slowly and to move at their own pace. There is no reason to rush into the market. Instead, spend time learning and test strategies that seem to fit your trading style. Then practice them on paper before putting hard-earned money on the line.

While George and Tom are confident that their students and readers can achieve success over the long run, they are also aware of the pitfalls that many new, inexperienced traders sometimes face. In that respect, in addition to providing a detailed discussion about index trading, this book is intended to be a shortcut along the options trading learning curve. It is designed to teach winning strategies while avoiding the pitfalls and mistakes new traders often encounter.

I believe that it is never too early or too late to learn something. In that respect, the cost of this book is a small price to pay for the number of years of experience and research that have been put into writing its pages. Without a doubt, I have learned a great deal from Tom Gentile,

George Fontanills, and the other Optionetics instructors, as well as the students. We all share the same goals of becoming even better traders and developing solid financial security for our families. In these respects, *The Index Trading Course* is certainly going to empower those traders who wish to improve their skills and successfully trade in the index market.

FREDERIC RUFFY

*Senior Writer and Trading Strategist,
Optionetics*

Acknowledgments

We wish to thank the many people who put in a lot of hours helping to bring *The Index Trading Course* to print. As full-time traders and instructors, our writing time seems to grow shorter and shorter each year. So we count on a lot of people to help us put our ideas and strategies into an organized and presentable format.

This book would have never been possible without the hard work of the entire Optionetics writing and editorial staff, including two of our finest writers and instructors, Fred Ruffy and Clare White. These two accomplished traders put forward a supreme effort to make this book a success. They put a phenomenal amount of time and effort into researching information for both this book and the accompanying *Index Trading Course Workbook*, and we are deeply grateful to them both. Additionally, Fred Ruffy wrote the Foreword for this book, and his expertise as an index trader shines through brilliantly. We also want to thank our other amazing writers—Jeff Neal, Andrew Neyens, Jody Osborne, and Chris Tyler—for their contributions.

In addition, Kym Trippsmith, Optionetics' Editor-in-Chief, has been invaluable in organizing and leading this effort. Her 10 years of hard work and dedication to Optionetics have been one of the most important reasons for our ongoing success. We thank her once again for taking on the role of Senior Editor for this project. We also appreciate the indefatigable efforts of her assistant, Kim Diehl, who helped out immensely as well.

Meanwhile, back at headquarters, Richard Cawood, our CEO, and Tony Clemendor, Chief Operating Officer, provide a rare type of leadership that continues to fuel Optionetics' growing success. These two gentlemen work relentlessly to keep the business operating smoothly and to bring new talent to the organization. Both have been amazing leaders in handling the day-to-day operations of Optionetics and allowing us to focus our

time on trading, and on developing new strategies and tools to teach our students.

In 2006, we celebrated our 14th year of success at Optionetics. Over time, we have seen thousands of students succeed and move from a very basic level of trading knowledge to develop advanced options trading skills. We want to acknowledge these students as well. They continue to motivate us. Through the questions they ask, the ideas they present, and the experiences they share, our students teach us well. Without their hard work and dedication it would not be possible to develop such a comprehensive book of index option strategies.

Good luck and great trading!



GEORGE A. FONTANILLS

Founder, Optionetics



TOM GENTILE

*Senior VP and Chief Options
Strategist, Optionetics
Co-founder, Profit Strategies
Group, Inc.*

About the Authors

George A. Fontanills

Founder, Optionetics

Optionetics was pioneered in the early 1990s by master trader George Fontanills. The development of this innovative trading approach is a testament to human will and perseverance. Fontanills' journey was not an easy one. Having struggled to overcome a life-threatening illness as a young man, George received his MBA from Harvard Business School and went out to conquer the world. His first business failed. Undaunted, he started a second business that never left the starting gate. Running low on money, George became a real estate investor and did quite well until the bottom fell out of the real estate market.

George's next move was to begin trading. Rather than concentrate on his losses, he began studying successful traders to see what they were doing differently. Using the analysis skills he learned at Harvard, he conducted a comprehensive investigation to determine what differentiated the winners from the losers. Risking money he made in real estate, George tested his conclusions and eventually developed a creative approach that used options to mathematically control risk every time a trade is placed, thereby consistently producing profits without the stress of unbridled losses. In 1993, he founded Optionetics to teach traders to profit using these strategies. Today, more than 250,000 people in over 50 countries have seen Optionetics high-profit, low-risk, low-stress trading techniques in action.

As his net worth soared, George gained a reputation as one of the world's most respected traders. As a highly regarded expert in options



trading, George's trading strategies have been featured in the *Wall Street Journal*, *Barron's*, *Red Herring*, *CBS MarketWatch*, *TheStreet.com*, and other publications, and have led to numerous guest appearances on radio and television shows throughout the country.

Today, George spends much of his time concentrating on his own active stock and equity trading while his strategic trading approach is taught through the popular Optionetics seminar series. Specializing in stock and index options, he has instructed thousands of traders in the U.S. and overseas.

In addition, George has four best-selling hardback releases (co-written with Tom Gentile): *The Options Course*, *Trade Options Online*, *The Stock Market Course*, and *The Volatility Course* (all published by John Wiley & Sons). These definitive trading guides have added to his critical acclaim as one of the best options trading instructors in the country and around the globe.

Tom Gentile

Co-Founder, Profit Strategies Group, Inc.; Senior Vice President and Chief Market Strategist, Optionetics

From his humble childhood as the son of a steel-working family, Profit Strategies' co-founder Tom Gentile has become not only a very successful trader but a renowned educator, author, and businessman as well. In addition to managing the Profit Strategies seminar instruction team, Tom is responsible for the development of trading systems, risk management software, and trade research.



Like many before him, at an early age Tom sought the opportunities Wall Street had to offer and headed to New York in search of his niche trading the markets. He began his trading career in 1986 and made the jump to full-time trading in 1993, landing a job at the American Stock Exchange. A stroke of luck afforded him the opportunity to connect with and work alongside famed trader and author George Fontanills. Through that relationship, Optionetics was born. Since then, Tom has developed a unique style of trading that could be described as fundamentally contrar-

ian, yet 100 percent technical. He also played a key role in the development of the synthetic straddle, a strategy developed as an off-the-floor trading approach to rebalance a position.

In addition to playing an essential role with Profit Strategies, Tom also serves as the senior vice president and chief options strategist for Optionetics, and is a contributing writer for numerous publications, including *Technical Analysis of Stocks & Commodities*, the *Wall Street Journal*, *Barron's*, and others. Online appearances have been numerous with regular spots and articles at RadioWallStreet.com, TheStreet.com, Barron's.com, *Bloomberg*, *Reuters*, and a host of others. He is a noted consultant to trading firms and hedge traders and is a regular speaker at Omega World and *The Money Show*. He also co-wrote *The Stock Market Course* and *The Volatility Course* with George Fontanills (published by John Wiley & Sons).

You can listen to Tom online every Saturday morning on his Profit Strategies radio show at 9 a.m. Pacific time (www.profitstrategiesradio.com). The latest webcast is also available for download for up to seven days after the live broadcast. This online radio broadcast includes insightful interviews and market highlights, and encourages listeners to call in or e-mail Tom with trading questions and comments. As an up-and-coming market wizard, Gentile's passion for trading and down-to-earth style are both refreshing and sensible in today's trading world.

A Look Back

The stock market has changed quite a bit since 1792 when 24 New York City stockbrokers and merchants signed the Buttonwood Agreement to form the beginning of the New York Stock Exchange (NYSE). At that time a handful of securities traded hands, including three bonds and two banks' stocks. These days, stocks trade across the globe with markets open at every hour of the day and billions of shares trading daily.

The participants in today's global marketplace share a common objective: to make profits and build wealth. Some are large institutional investors making purchases on behalf of their clients. Others are investors buying shares of promising companies. Still others are speculators, looking to profit from the stock market's swings higher and lower.

Taken together, the buying and selling of shares among investors and traders causes stock prices to rise and fall. At times, global markets behave similarly. For instance, stocks in the U.S. rise, and the momentum spills over into Asian markets and then into Europe. So-called bull markets occur when optimism is high and investors are buying shares, making prices move up around the world. Conversely, global equity markets may tumble together, such as during the global financial crisis in 1998.

Yet there are also times when equity markets in one part of the globe perform well while others perform poorly. In fact, even within one specific market, there are times when some stocks perform well and others do not. For example, during the first half of the year 2005, U.S. stocks put in a mixed performance. Some groups, like companies involved in energy and utilities, did well while others involved in finance and technology did not.

Indexes help investors make sense of what is moving higher, what is moving lower and what is simply not moving at all. An index gauges the performance of a group of stocks, rather than shares of just one company. Some indexes are designed to track entire markets, such as Japan's Nikkei or Germany's DAX Index. Other indexes are used to track very specific areas of the equity markets, such as the PHLX Bank Sector Index or the AMEX Airline Index. As we will see, many of these indexes can be used not only to track the performance of the stock market, but also to trade the market using futures, exchange-traded funds, and options.

Prior to putting money on the line, however, traders should understand the investment vehicles well. Successful index traders share many things in common, and two of the most basic are an understanding of their trading vehicles along with background knowledge about the index market. This is the purpose of the first few chapters of this book—to provide information about index-based securities along with their corresponding markets. In later chapters, we'll introduce the technical and fundamental tools that trigger trading actions.

Index: A group of stocks that can be traded as one portfolio, such as the S&P 500. Broad-based indexes cover a wide range of industries and companies, and narrow-based indexes cover stocks in one industry or economic sector.

THE FIRST MARKET AVERAGES

Indexes are not new. In fact, Charles Dow developed the first market average, the Dow Jones Railroad Average, in 1884. At the time, the railway was the most important industry of the day. Dow created the railroad average in order to simplify the process of viewing the performance of share prices of the companies in that industry. In other words, rather than looking at the daily price changes of each individual stock in the market, Charles Dow published the average closing prices of the most actively traded railway companies. Since its inception more than a century ago, the railroad average has changed and is now known as the Dow Jones Transportation Average (\$TRAN). It is still with us today, but now it includes airline, air freight, railroad, and trucking companies.

Chances are, you've heard about the Dow Jones Industrial Average (a.k.a. "the Dow") on your nightly television news program. The Dow, the world's second index, was first published in the *Customers' Afternoon Letter* (the predecessor to today's *Wall Street Journal*) in 1896. This industrial average was designed to give investors a better sense of what was

happening with stocks outside the railroad sector. In the late nineteenth century, the Dow Jones Industrial Average included the leading industrial companies of the day. Today it is still a widely watched barometer for the stock market. According to the publishers of the *Wall Street Journal's* website (www.wsj.com), the stated objective of the Dow is to “represent U.S.–listed equities, excluding transportation and utility stocks.”

The Dow: Used as an overall indicator of market performance, the Dow Jones Industrial Average (also referred to as “the Dow”) is composed of 30 blue-chip stocks that are traded daily on the New York Stock Exchange (see Figure 1.1).

Ticker symbols: Stocks that trade on the exchanges are identified by ticker symbols. Stocks that trade on the New York Stock Exchange have symbols with one, two, or three letters. For example, the symbol for Ford is F, General Motors is GM, and Bank of America is BAC. These symbols are used to view quotes, create charts, and place orders. Indexes also have ticker symbols. However, most quote services don’t recognize an index symbol unless it is preceded by a dollar sign. For example, the symbol for the Dow Jones Industrial Average is \$INDU and the symbol for the Dow Jones Transports is \$TRAN.

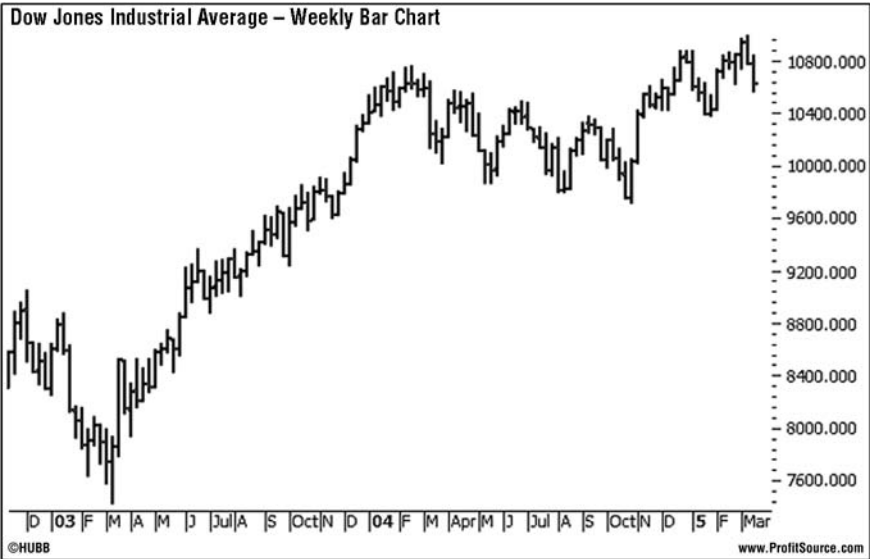


FIGURE 1.1 Dow Jones Industrial Average (Source: www.ProfitSource.com)

WHAT DID THE MARKET DO TODAY?

What are people talking about when they ask about “the market”? What do traders mean when they ask, “What did the market do today?” More often than not, when one of our friends, students, or colleagues inquires about the market, they are referring to the Dow Jones Industrial Average. The latest value of the Dow is quoted widely in the financial press and nightly on the evening news.

So what do the daily readings from the Dow tell us? While the Dow once included 12 stocks, through the years the list was expanded to 30. Today, 28 Dow stocks trade on the New York Stock Exchange (NYSE) and two—Intel (INTC) and Microsoft (MSFT)—trade on the NASDAQ. The most recent changes to the Dow took place in April 2004, when Pfizer (PFE), Verizon (VZ), and American International Group (AIG) replaced Eastman Kodak (EK), AT&T (T), and International Paper (IP).

Therefore, today, the Dow is not really an “industrial” average. It is an index consisting of financial, technology, and pharmaceutical stocks, along with stocks from a mixed set of industry groups. By gauging the performance of these 30 blue chip stocks, the Dow is a daily marker for the American economy.

Blue chip stock: Derived from the game of poker, where blue chips carry the highest value, the term refers to large, mature, dominant companies that dominate their business field and pay consistent dividends. These stocks are often considered less risky than shares of smaller companies because they have less chance of running into serious financial trouble or going bankrupt.

At the same time, while the Dow Jones Industrial Average is used as a barometer for the stock market, it is no longer a simple average. When Charles Dow created it, he simply added the closing prices of 12 stocks and divided by 12 (appropriately referred to as the divisor) to get the average. Today’s average consists of 30 stocks, but the average is fashioned from a slightly different construction. Rather than computing a straight-forward average, using a modified divisor helps to ensure continuity in the average after mergers, stock splits, and dividends. As we see in later chapters, both dividends and stock splits will lower the value of a stock, and an index must account for these changes to the stock price.

The 30 stocks in the index, their weightings, and the divisor are shown in Table 1.1. Notice that the higher-priced stocks command a greater weighting within the Dow Jones Industrial Average (it is sometimes criticized for that reason).

TABLE 1.1 The 30 Stocks of the Dow Jones Industrial Average as of May 17, 2006**Current Divisor = 12.49**

Symbol	Name	Last Price	Weight
AA	Alcoa, Inc.	33.64	2.36%
AIG	American International Group Inc.	64.05	4.49%
AXP	American Express Co.	52.98	3.71%
BA	Boeing Co.	86.40	6.06%
C	Citigroup	49.54	3.47%
CAT	Caterpillar Inc.	77.64	5.42%
DD	E.I. Du Pont de Nemours & Co.	44.68	3.13%
DIS	Walt Disney Co.	30.35	2.13%
GE	General Electric Co.	34.79	2.44%
GM	General Motors Corp.	25.53	1.79%
HD	Home Depot Inc.	38.45	2.70%
HON	Honeywell International Inc.	43.24	3.03%
HPQ	Hewlett-Packard Co.	31.11	2.18%
IBM	International Business Machines	82.16	5.76%
INTC	Intel Corp.	19.06	1.34%
JNJ	Johnson & Johnson	60.25	4.22%
JPM	JP Morgan Chase and Co. Inc.	44.32	3.11%
KO	Coca-Cola Co.	43.84	3.07%
MCD	McDonald's Corp.	34.70	2.43%
MMM	3M Company	86.76	6.08%
MO	Altria Group Inc.	71.75	5.03%
MRK	Merck & Company Inc.	35.12	2.46%
MSFT	Microsoft Corp.	23.01	1.61%
PFE	Pfizer Inc.	24.90	1.75%
PG	Procter & Gamble Co.	56.04	3.93%
T	AT&T	25.77	1.81%
UTX	United Technologies Corp.	65.19	4.57%
VZ	Verizon Communications Inc.	31.70	2.22%
WMT	Wal-Mart Stores Inc.	48.07	3.37%
XOM	Exxon Mobil Corp.	61.96	4.34%

Source: Dow Jones.

In sum, the Dow Jones is a price-weighted index of 30 stocks. We discuss a variety of innovative methods used to create indexes, such as the Dow, in a later chapter.

DOW THEORY

Although named for him, Charles Dow did not invent Dow theory. It is based on many of his thoughts and ideas and the use of his first two averages: the transports and industrials. Basically, Dow theory is a tool for gauging whether the stock market is in a bear cycle (a prolonged period of falling prices) or a bull cycle (a sustained period of rising prices) by considering whether the two averages are moving together. According to Dow theorists, in order for a market advance or decline to have staying power, the two averages must confirm each other's rise and fall.

The following explanation comes from the Dow Jones web site (www.dowjones.com):

If the industrials reach a new high, the transports would need to reach a new high to “confirm” the broad trend. The trend reverses when both averages experience sharp downturns at around the same time. If they diverge—for example, if the industrial average keeps climbing while the transports decline—watch out! The underlying fundamentals of the theory hold that the industrials make and the transports take. If the transports aren’t taking what the industrials are making, it portends economic weakness and market problems, Dow theorists maintain.

For example, Dow Theory gave a bearish trading signal in September 1999 when the industrial average rose to new highs but the transportation average did not. Check out the divergence in Figure 1.2. See how the Dow line hits a new high, but the Transports line does not. This so-called “non-confirmation” is precisely what the Dow theorists expect to see when a bull market reaches a turning point. The Transports did not “take” what the industrials “make.”

Dow theory is discussed later in this book in more detail. For now, the reader should come away with an idea of how an index or a group of indexes can be used in developing an outlook for the market. Stated differently, Dow theory gives a precise signal based on the price action of two indexes. It is not ambiguous and doesn't require any guesswork. When trading, this type of clear signal has important advantages. Most significant, it takes the emotion out of the trading decision, which, as

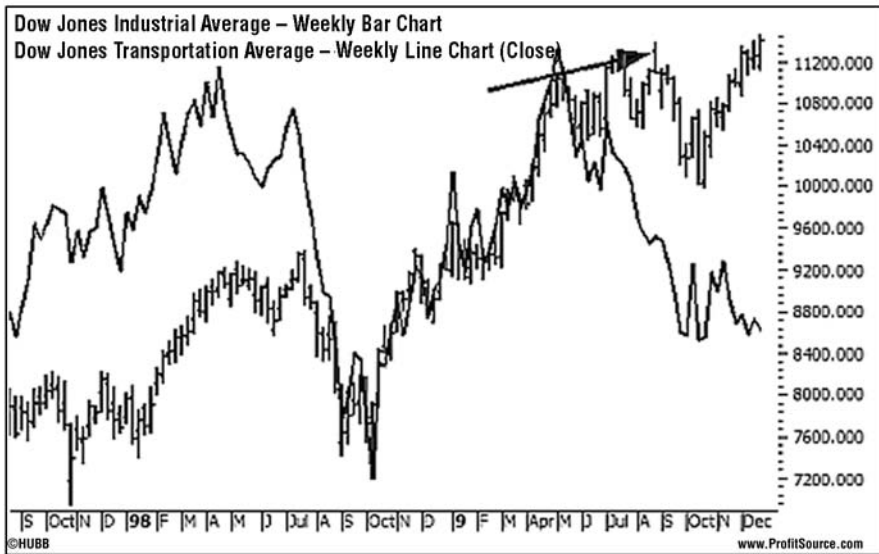


FIGURE 1.2 Chart of INDU and TRAN (Source: www.ProfitSource.com)

we see later in the book, is exactly what trading systems are designed to do.

THE NASDAQ AND THE S&P 500 INDEX

While the Dow Jones Industrial Average is probably the most widely watched market index, the NASDAQ Composite Index (\$COMPQ) is a close second. This index consists of all the stocks trading on the NASDAQ Stock Market, which includes shares in thousands of different companies. However, large-cap technology stocks such as Intel (INTC), Oracle (ORCL), and Microsoft (MSFT) dominate the NASDAQ. Therefore, the performance of the NASDAQ is often associated with the performance of America's leading technology companies. Table 1.2 shows the top components of the NASDAQ in October 2005.

While the Dow and the NASDAQ are the two indexes most widely watched by the mainstream, the S&P 500 Index (\$SPX) is the most important to investors. It includes 500 of the largest companies trading on the U.S. stock exchanges. On the one hand, the S&P 500 is a benchmark for the performance of the U.S. stock market. It is the index that many professional investors try to "beat." At the same time, it has some of the

TABLE 1.2 Top Stocks of the NASDAQ

Company	Symbol
Microsoft	MSFT
Qualcomm	QCOM
Intel	INTC
Apple	AAPL
Amgen	AMGN
Cisco	CSCO
eBay	EBAY
Dell Computers	DELL
Comcast	CMCSA
Oracle	ORCL
Starbucks	SBUX
Symantec	SYMC
Sears Holdings	SHLD
Genzyme	GENZ
Yahoo	YHOO

most actively traded futures and options contracts. Therefore, compared to the Dow and the NASDAQ, the S&P 500 Index is of greater interest to investors and traders. Nevertheless, all three are important and worth watching.

SECTOR TRADING

If the Dow Jones Railroad Average was the world's first stock market index, the first average was really a sector index. In contrast to the Dow Jones Industrial Average—which is widely considered a benchmark for “the market”—the Transports track the performance of a specific sector. Today, traders have a wide array of sector index products to trade. In addition to transportation stocks, examples include energy, financials, technology, and health care.

Furthermore, specific sectors can be broken down into industry groups. For example, technology consists of software, semiconductors, and the other industry groups inventoried in the following list. Simi-

larly, financials can be compartmentalized into insurance, real estate, banks, and investment services. The other sectors (energy, health care, basic materials, etc.) can also be broken down into specific industry groups.

Financials

Banks

- Major banks

- Regional banks

Insurance

- Nonlife insurance

- Full-line insurance

- Insurance brokers

- Property and casualty insurance

- Reinsurance

- Life insurance

Real Estate

- Real estate holding and development

- Real estate investment trusts

Brokers

- Asset managers

- Consumer finance

- Specialty finance

- Investment services

- Mortgage finance

Technology

- Computer services

- Software services

- Internet

- Software

- Computer hardware

- Electronic office equipment

- Semiconductors

- Telecommunications equipment

CONCLUSION

Today, index traders have the ability to trade, not just the entire market through indexes like the Dow Jones Industrial Average, but also specific sectors and industry groups. Subsequent chapters discuss specific index products as well as options. For now, it's important to understand that some of the strategies discussed in this book are related to the market and the major averages, such as the Dow. However, other strategies involve specific sectors and industry groups. In addition, some indexes can be used to track and trade international markets.

The world of index trading provides traders with a wealth of opportunities—way too many for any individual to monitor or track. For that reason, the next few chapters not only explain the different index products but also narrow down the list to help the reader focus on a handful of the more interesting and actively traded index investments available today.

The Index Market Today

In the early 1980s, options traders only had one index to choose. Today, the number of available index products is overwhelming. In addition, traders can choose to trade not only popular indexes like the Dow Jones Industrial Average, but a large number of exchange-traded funds (ETFs) as well. With hundreds of indexes available, finding the best contract to trade can at first seem quite daunting. That's why it's important to understand that each index or ETF is unique and will, therefore, behave differently from others. Sometimes the differences are subtle. Other times, the differences are significant and can impact the way the investment behaves from one day to the next. For that reason, it makes sense to understand each product and what factors influence its performance.

This chapter kicks off the discussion of specific trading tools by providing readers with a working list of tradable index and exchange-traded products available today. It is designed to give an overview of the index market, and to help narrow down the discussion in order to give readers a manageable list of tradable products.

Therefore, readers are encouraged to read through the entire chapter, but not dwell on the large number of indexes. Rather than try to keep track of them or trade them all, which would be impossible, readers should make note of the most actively traded indexes and exchange-traded funds listed near the end of this chapter and later in Chapter 11. These investments are used in the majority of the trading strategies discussed throughout this book.

THE INDEX MARKET

An index measures the performance of a group of stocks. As previously mentioned, the first index was developed more than 100 years ago when Charles Dow computed the average price of a handful of railroad stocks and called it the Dow Jones Railroad Average. The idea was to develop a barometer that might be used to track the daily movements in the key stocks of the day. If the average increased in value, it was a sign that stock prices rose that day. However, when the average fell, the decline indicated that stocks lost value during that day of trading.

Today, averages are used in the same way, but there are thousands of different indexes, or averages. Each is unique in some respect and each index changes over time. For instance, as we saw in Chapter 1, the Dow Jones Industrial Average (\$INDU) includes 30 of the largest companies with shares listed on the U.S. exchanges. It is continually being changed and modified to ensure that it includes America's leading companies. A committee at Dow Jones & Company (publishers of the *Wall Street Journal*) meets periodically to determine which companies should be added to or deleted from the Dow Jones Industrial Average. For instance, in a milestone event in 1999, Microsoft (MSFT) and Intel (INTC) became the first NASDAQ stocks within the Dow Jones Industrial Average. Adding the two technology giants to the 105-year-old index reflected the increasing importance of technology within the U.S. economy.

What Is the Index Effect?

Changes to an index, like the S&P 500 Index, can make a stock price move, and move fast. For example, when a company is added to the S&P 500 Index, the share price will often rise. The reason for the large price move is that many fund companies and other institutions try to mimic the performance of various indexes. These are called index funds. For example, there are a large number of funds that hold the same stocks as the S&P 500 Index. Examples include the Vanguard S&P 500 Index Fund, which is one of the largest mutual funds in existence today, as well as the S&P 500 Depository Receipts, one of the largest exchange-traded funds today.

When the Standard & Poor's committee decides to add a new company to its index, the news triggers a flurry of buying in the company's shares. Basically, all of the funds and other portfolios that try to mimic the index are forced to buy the stock. This sudden increase in demand causes the share price to rise. Academics refer to this phenomenon as the "index effect."

In addition, the Dow today includes large pharmaceutical companies like Merck (MRK) and Johnson & Johnson (JNJ); financials such as Citigroup (C) and JP Morgan Chase (JPM); and Exxon Mobil (XOM), the large oil company. Therefore, although it is still called the “industrial average,” today’s Dow includes a variety of stocks from a diverse set of industry groups and serves as a barometer for large U.S. stocks. In this way, the performance of the Dow reflects the performance of not just one or two industry groups but the market as a whole.

Other indexes also measure the performance of the stock market as a whole. The S&P 100 (\$OEX) is one of the more popular indexes for options traders. The OEX measures the performance of 100 of the largest stocks trading on the U.S. exchanges. In addition, the S&P 100 Index was the first index to have listed options. It became an extremely popular trading vehicle for index traders and was one of the most actively traded contracts during the 1980s.

The S&P 500 (\$SPX) is also a broad measure of the U.S. stock market. It has one of the more actively traded options contracts today. While the OEX includes 100 stocks, the S&P 500, as its name indicates, consists of 500 stocks. Standard & Poor’s created the OEX and the SPX, as well as hundreds of other market indexes. In addition, they make regular changes to these indexes to ensure that they include the largest, most dominant companies in the United States.

The NASDAQ 100 (\$NDX) is an index consisting of 100 of the largest nonfinancial stocks listed on the NASDAQ exchange. Therefore, it offers a gauge of the most important companies trading on the NASDAQ. Since large technology stocks dominate the NASDAQ, the NDX is often used to track and trade the technology sector.

It’s important to note, however, that many traders prefer to trade the mini-NASDAQ 100 Index (\$MNX) rather than the NASDAQ 100 Index. The mini-NASDAQ is equal to 1/100th of the NDX. Therefore, when the NDX is near 1,500, the mini index will be trading near 150. The lower value has some important advantages when trading options; this is discussed in more detail in later chapters.

The Chicago Board Options Exchange (CBOE) offers options on all of the broad-based indexes. For example, the Dow Jones Industrial Index (\$DJX) is an index that holds the same stocks as the Dow Jones Industrial Average. However, the DJX is equal to 1/100th of the Dow. So when the industrials are near 10,000, the Dow Jones Industrial Index will be trading for roughly 100.

While the Dow and the S&P 500 are barometers for the performance of large companies, other indexes have been created to track the performance of smaller companies. The S&P Mid-Cap 400 Index (\$MID) is a popular tool for tracking medium-size companies. The Russell 2000

Small-Cap Index (\$RUT) is the most widely watched barometer for the performance of smaller companies. In fact, indexes have been created around very specific areas of the market based on size, growth characteristics, dividend yields, and a host of other factors. A complete list of other market indexes is included in Appendix A.

Sector Indexes

A number of indexes have been created to track specific sectors. For example, the Philadelphia Stock Exchange (PHLX) lists a family of sector indexes. The exchange lists a semiconductor (\$SOX), a gold and silver mining (\$XAU), and a bank (\$BKX) index, among others. Table 2.1 lists all of the sector index options that are included in the PHLX.

The American Stock Exchange (AMEX) also lists a variety of indexes

TABLE 2.1 PHLX Sector Index Options

Index	Ticker
PHLX/KBW Bank Index	BKX
KBW Capital Markets Index	KSX
KBW Insurance Index	KIX
KBW Mortgage Finance Index	MFX
KBW Regional Banking Index	KRX
PHLX Defense Sector SM	DFX
PHLX Drug Sector SM	RXS
PHLX Europe Sector SM	XEX
PHLX Gold/Silver Sector SM	XAU
PHLX Housing Sector SM	HGX
PHLX Oil Service Sector SM	OSX
PHLX Semiconductor Sector SM	SOX
PHLX Utility Sector SM	UTY
PHLX World Energy Index SM	XWE
SIG Cable, Media & Entertainment Index TM	SCQ
SIG Casino Gaming Index	SGV
SIG Coal Producers Index TM	SCP
SIG Footware & Athletic Index TM	FSQ
SIG Investment Managers Index TM	SMQ
SIG Oil Exploration & Production Index TM	EPX
SIG Semiconductor Capital Equipment Index TM	SEZ
SIG Semiconductor Device Index TM	SDL
SIG Specialty Retail Index TM	RSQ
SIG Steel Producers Index TM	STQ
TheStreet.com Internet Sector	DOT
Wellspring Bioclinical Trials Index TM	WHC

TABLE 2.2 AMEX Sector Index Options

AMEX Index	Ticker
AMEX Airline Index	XAL
AMEX Biotechnology Index	BTK
AMEX Computer Technology	XCI
AMEX Defense Index	DFI
AMEX Disk Drive Index	DDX
AMEX Gold Bugs Index	HUI
AMEX Natural Gas Index	XNG
AMEX Oil Index	XOI
AMEX Pharmaceutical Index	DRG
AMEX Securities Broker/Dealer Index	XBD
Deutschebank Energy	DXE
Interactive Week Internet Index	IIX
Mini-NASDAQ 100 Index	MNX
Morgan Stanley Commodity Related	CRX
Morgan Stanley Consumer Index Options	CMR
Morgan Stanley Cyclical Index Options	CYC
Morgan Stanley Technology Index	MSH
NASDAQ Biotech Index	NBI
NASDAQ 100 Index	NDX
SPADE Defense Index	DXS

for options trading. The AMEX Airline Index (\$XAL), the AMEX Biotechnology Index (\$BTK), and the AMEX Gold Bug Index (\$HUI) are examples. Table 2.2 lists the tradable sector indexes that are included on the American Stock Exchange.

The Chicago Board Options Exchange (CBOE) is the largest exchange for index options trading. In addition to trading the market indexes such as the S&P 500, the Dow Jones Industrial Index, the S&P 100 Index, and the mini-NASDAQ 100 Index, the exchange lists options on a variety of industry or sector products. Table 2.3 shows the sector indexes with options listed on the Chicago Board Options Exchange.

In July 2005, the CBOE introduced 12 new PowerPacks Indexes. Each index was created to track a specific sector or industry group. The 12 new indexes are “designed by the CBOE to provide investors with a comprehensive set of trading tools to manage the risk of, or gain exposure to, a diversified group of stocks in certain industry groups,” according to a June 23, 2005, press release.* Each index consists of 25 large and actively

*“CBOE Introduces New Family of Sector Indexes, Power Packs, Futures and Options to Launch Friday, July 8,” Chicago Board Options Exchange web site (www.cboe.com), June 23, 2005.

TABLE 2.3 CBOE Sector Index Options

CBOE Indexes	Ticker
CBOE Gold Index	GOX
CBOE Internet Index	INX
CBOE Oil Index	OIX
CBOE Technology Index	TXX
GSTI Computer Hardware	GHA
GSTI Internet Index	GIN
GSTI Multimedia Networking	GIP
GSTI Semiconductor Index	GSM
GSTI Software Index	GSO
GSTI Services Index	GSV
GSTI Composite Index	GTC
MS Retail Index	MVR
MS Biotech Index	MVB
MS Oil Services Index	MGO
MS Multinational Company Index	NFT

traded stocks from one specific industry group. For example, the PowerPacks Banks Index (\$PVK) includes 25 stocks from the banking sector. Table 2.4 lists the 12 new trading vehicles, which include biotech, gold, oil, retail, and technology indexes.

The International Securities Exchange (ISE), which is the one of the newest U.S.-based options exchanges, also lists several sector indexes

TABLE 2.4 CBOE PowerPack Indexes

PowerPack Indexes	Ticker
CBOE PowerPacks Banks Index	PVK
CBOE PowerPacks Biotech Index	PVP
CBOE PowerPacks Gold Index	POU
CBOE PowerPacks Internet Index	PVL
CBOE PowerPacks Iron & Steel Index	PVF
CBOE PowerPacks Oil Index	POY
CBOE PowerPacks Oil Service Index	PVO
CBOE PowerPacks Pharmaceuticals	PVU
CBOE PowerPacks Retail	RPY
CBOE PowerPacks Semiconductor	PVU
CBOE PowerPacks Technology	PVC
CBOE PowerPacks Telecom Index	POQ

(see Table 2.5). The family of ISE indexes started trading in 2005 and includes a homebuilder's index, an oil and gas index, and a gold index. The SINdex holds a basket of so-called "sin" stocks, which are shares of companies involved in industries such as gaming, alcoholic beverages, and tobacco.

Obviously, the list of available sector indexes has become quite large. See Appendix A for a complete list of sector indexes, where they are listed, and how many stocks are within each index. It is impossible to track and trade them all. Therefore, traders need to focus on the index options with the greatest amount of liquidity or that meet a specific need.

For example, if the strategist wants to track the semiconductor sector, either the PHLX Semiconductor Index (\$SOX) or the GSTI Semiconductor Index (\$GSM) will work. However, when trading, one index clearly offers important advantages over the other—namely, the options on the SOX are much more active and liquid. Later, we describe an even better way to capture changes in the chip sector.

International Indexes

Although not as prevalent, there are a few international indexes listed on the U.S. exchanges (see Table 2.6). For example, the AMEX lists options on the AMEX Japan Index (\$JPN), the Hong Kong Index (\$HKO), and the Eurotop 100 (\$EUR). Meanwhile, the CBOE trades options on the CBOE China Index (\$CYX), the CBOE Asia 25 Index (\$EYR), the Euro 25 Index (\$EOR), and the CBOE Mexico Index (\$MEX).

The Five-Year Note Index (\$FVX), the Ten-Year Note Index (\$TNX) and the Thirty-Year Bond Index (\$TYX) are vehicles some traders use to

TABLE 2.5 ISE Sector Indexes

ISE Indexes	Ticker
ISE Bio-Pharmaceuticals Index	RND
ISE Gold Index	HVY
ISE Homebuilders Index	RUF
ISE Integrated Oil and Gas	PMP
ISE Oil and Gas Services	OOG
ISE Semiconductors Index	BYT
ISE SINdex	SIN
ISE U.S. Regional Banks	JLO
ISE-CCM Homeland Security	HSX

TABLE 2.6 Rate Indexes

International Indexes	Ticker	Exchanges
AMEX Japan Index	JPN	AMEX
Hong Kong Index	HKO	AMEX
Eurotop 100	EUR	AMEX
Asia 25 Index	EYR	CBOE
China Index	CYX	CBOE
Euro 25 Index	EOR	CBOE
Mexico Index	MEX	CBOE

monitor and profit from changes in interest rates. The indexes actually represent the current rates afforded to various government bonds. For example, the Ten-Year Note Index reflects the current rate on the benchmark 10-year Treasury note multiplied by a factor of 10. Figure 2.1 shows the index's performance from May 2004 through April 2005. Notice that it has been rising. This tells us that the price of the Ten-Year Note, which moves in the opposite direction of the actual bond, has been falling.



FIGURE 2.1 10 Year T-Note, May 2004 to April 2005 (Source: www.ProfitSource.com)

EXCHANGE-TRADED FUNDS (ETFs)

An index can be used to track markets and sectors of the market. When options are listed on an index, they can also be used to trade the market. Similarly, exchange-traded funds (ETFs) can, and often are, used to track and trade markets and sectors of the market. As we will see, ETFs have one important advantage over indexes: Shares can be bought and sold like shares of stock. Let's consider a few examples of some of the more actively traded exchange-traded funds.

The Big Three: Qs, Diamonds, and SPDRs

There are three exchange-traded funds that all options strategists should know and understand. The NASDAQ 100 Index Share (QQQQ), or "Qs," is among them. It is one of the most actively traded investments today. Unlike an index, the Qs trade on the AMEX similarly to a stock. In essence, the fund represents a pool of money that invests in the same stocks, in the same proportion, as the NASDAQ 100 index. As we saw earlier, the NASDAQ includes the top 100 nonfinancial stocks that trade on the NASDAQ Stock Market.

Basically, the QQQQ is an investment vehicle known as a tracking stock because it tracks the performance of a specific index. In addition, the QQQQ is designed to equal 1/40th of the value of the NASDAQ 100 Index. For instance, on Thursday, February 27, 2003, when the NASDAQ 100 was quoted at 1,000, QQQQ was trading for \$25 a share (or 1/40th of \$1,000.00). Therefore, the QQQQ is a fund that allows investors to buy the entire 100 stocks of the NASDAQ 100 index in just one share at a relatively small share price.

The Dow Jones Industrial Average (DIA), or "diamonds," made its debut in 1998, with options on the fund initiated in 2002. Similar to the QQQQ, the diamonds trade on the exchanges like shares of stock. However, the DIA holds the same 30 stocks as the Dow Jones Industrial Average. Therefore, it is a tool for trading the Dow. Diamonds are designed to equal approximately 1/100th the value of the industrial average.

The S&P 500 Depositary Receipts (SPY), or SPDRs (pronounced "spiders"), is an exchange-traded fund that holds the same stocks as the S&P 500 Index. The AMEX began trading the S&P Depositary Receipts in 1993. Each share of the SPY is equal to approximately 1/10th the value of the S&P 500 cash index (SPX). Therefore, when the SPX reaches 1,200, the SPDRs will trade near \$120 a share. Options on the fund didn't begin trading until 2005 due to licensing issues but quickly joined the DIA and QQQQ options as some of the most heavily traded contracts.

iShares

Another family of exchange-traded funds is called iShares. Each iShares fund closely tracks a specific market index. They are similar to the Qs, the diamonds, and the SPDRs in that each iShare is an exchange-traded fund and can be bought and sold like shares of stock. In addition, the fund holds a selection of stocks, which is a portfolio created around a specific index. For example, while the DIA tracks the Dow Jones Industrial Average (\$INDU), the iShares S&P 100 Fund (OEF) attempts to mimic the performance of the S&P 100 Index (\$OEX). There is also an iShares Mid Cap Fund (MDY) and iShares Russell 2000 Small Cap Fund (IWM).

Sector ETFs

Some iShares funds are used to track popular market averages while others are created around specific sector indexes. For example, the iShares Dow Jones U.S. Financial Sector Index Fund (IYF) tracks the price and yield performance of the Dow Jones U.S. Financials Index, which consists of bank, insurance, real estate, and general finance companies.

Table 2.7 lists the iShares sector funds and ranks them by trading volume (in early 2005). The iShares Biotechnology Fund (IBB) is the

TABLE 2.7 iShare ETFs

Symbol	iShares Exchange-Traded Fund	Average Daily Share Volume
IBB	iShares NASDAQ Biotechnology	1,517,200
IYR	iShares Dow Jones Real Estate	969,600
IGV	iShares Goldman Sachs Software	206,000
IYH	iShares Dow Jones Healthcare	153,900
IYE	iShares Dow Jones Energy	140,700
ICF	iShares C&S Realty	137,200
IYZ	iShares Dow Jones U.S. Telecom	88,600
IGW	iShares Goldman Sachs Semiconductors	71,200
IGN	iShares Goldman Sachs Network	54,600
IYW	iShares Dow Jones U.S. Tech Index	54,100
IDU	iShares Dow Jones U.S. Utility Sector	44,300
IGM	iShares Goldman Sachs Tech Fund	30,400
IYF	iShares Dow Jones U.S. Financials	1,700
IWC	iShares Small Cap Index	1,500

most actively traded. Other funds are created around health care, telecommunications, semiconductors, and software. Interestingly, there are two iShares that track real estate stocks. One of them, the iShares Dow Jones Real Estate Fund (IYR), is the second most actively traded iShares fund today. This fund is one of the few ways investors can trade a basket of real estate stocks.

The iShares Russell Microcap Fund (IWC) consists of some of the smallest companies that trade on the U.S. stock exchanges. It offers traders a unique way of playing trends related to lowest capitalization stocks.

Traders interested in trading specific sectors of the market can use the iShares as tools for placing bets. Options are listed on most of these funds. However, not all of the contracts see very much trading volume. Therefore, investors will want to focus on those funds with the most activity, or the ones that appear closer to the top of the list. In addition, Table 2.7 doesn't include all of the iShares. It includes only those created around U.S. sectors. For a complete list and the product specifications for each ETF, readers are encouraged to visit the American Stock Exchange web site (www.amex.com).

Select Sector SPDRs

Shares of the nine Select Sector SPDRs trade on the American Stock Exchange and can be bought and sold like stocks. Like SPDRs, they represent ownership in a basket of stocks. However, rather than holding the stocks of the S&P 500 Index, Select Sector SPDRs are created around specific sectors—financials, technology, utilities, etc. Collectively, the nine sector SPDRs hold all 500 of the S&P 500 stocks. Table 2.8 lists the nine

TABLE 2.8 Select Sector SPDR

Select Sector SPDR	Symbol
Health Care	XLV
Materials	XLB
Energy	XLE
Financials	XLF
Industrials	XLI
Technology	XLK
Utilities	XLU
Consumer Staples	XLP
Consumer Discretionary	XLY

Select Sector SPDRs. Options are listed on the nine funds and are used in examples later in this book. Therefore, options strategists seeking to participate in the rise and fall of specific sectors can implement strategies on the various Select Sector SPDR funds.

Holding Company Depositary Receipts

Holding company depositary receipts (HOLDRs) are unique investment vehicles that allow investors to buy and sell entire baskets of stocks in just one transaction. Created by Merrill Lynch and trading on the American Stock Exchange, HOLDRs are a type of exchange-traded fund that allow investors to buy and sell stocks in a particular industry, sector, or group. Again, semiconductors, oil services, and biotechs are represented, among other industries and groups. Additionally, while investors can use HOLDRs as specific groups of stocks, there are options listed on most of these investment vehicles, so they can be useful to the option strategist as well.

Table 2.9 provides a complete list of HOLDRs. Notice that each fund is created around fairly narrowly based industry groups. For example, there are business-to-business (B2B) Internet HOLDRs, broadband HOLDRs, and software HOLDRs. Each holding company depositary receipt holds shares in 20 different companies.

Each investment has a unique ticker symbol and trades on the American Stock Exchange like stocks. For example, an investor might instruct a broker to buy 100 shares of BBH. Once the transaction is completed, that investor will own 100 shares of biotech HOLDRs.

HOLDRs stands for holding company depositary receipts, which are exchange-traded funds that hold baskets of stocks from specific industry groups. HOLDRs trade on the American Stock Exchange and can be bought or sold in lots of 100 shares. For example, investors can buy or sell, Biotechnology HOLDRs (BBH), Semiconductor HOLDRs (SMH), or Oil Service HOLDRs (OIH). In all, the American Stock Exchange offers trading in 17 different HOLDRs. Options are also available on these exchange-trade funds and can be used to profit from trends related to specific sectors or industry groups.

Holding company depositary receipts can only be purchased in round lots of 100 shares. Each 100-share purchase gives the buyer ownership interest in a specific number of shares in different companies. For instance, Table 2.10 shows the number of shares of each company

TABLE 2.9 Various Holding Company Depositary Receipts (HOLDRs)

Holding Company Depositary Receipt	Symbol
Biotech HOLDRs	BBH
Broadband HOLDRs	BDH
B2B Internet HOLDRs	BHH
Europe 2001 HOLDRs	EKH
Internet HOLDRs	HHH
Internet Architecture HOLDRs	IAH
Internet Infrastructure HOLDRs	IIH
Market 2000+ HOLDRs	MKH
Oil Service HOLDRs	OIH
Pharmaceutical HOLDRs	PPH
Regional Bank HOLDRs	RKH
Retail HOLDRs	RTH
Semiconductor HOLDRs	SMH
Software HOLDRs	SWH
Telecom HOLDRs	TTH
Utilities HOLDRs	UTH
Wireless HOLDRs	WMH

within the Internet HOLDRs (HHH): A 100-share purchase gives the owner 18 shares of Amazon.com (AMZN), 8 shares of RealNetworks (RNWK), 24 shares of eBay (EBAY), and so on.

After purchasing a 100-lot of any given HOLDRs, investors can elect to break apart the investment vehicle into its individual stocks. That is, they can instruct their brokerage firm to deliver their HOLDRs to the trustee and pay a cancellation fee of up to \$10 per round lot of 100 HOLDRs. Then, the shares of each individual company within the holding company depositary receipt are delivered to the brokerage account. In short, by canceling their HOLDRs, the investor can take delivery of the individual stocks that comprise the fund.

According to the American Stock Exchange, with HOLDRs, you can own a group of stocks as one asset or unbundle them to own each of the underlying stocks and then trade them individually to meet your tax or investment goals. This feature also facilitates more advanced portfolio strategies without requiring you to monitor each of the individual stocks.

As mentioned previously, options are also available on most HOLDRs, so traders can use these investment vehicles to implement bullish, bearish, or neutral trades on specific industry groups. We provide some specific trading examples using HOLDRs in later chapters. Once again, it's

TABLE 2.10 Various Internet HOLDRs

HHH Component Stock	Symbol	Share Amount
Ameritrade Holding Corp.	AMTD	9.0
Amazon.com Inc.	AMZN	18.0
CMGI Inc.	CMGI	10.0
CNET Networks, Inc.	CNET	4.0
DoubleClick Inc.	DCLK	4.0
eBay Inc.	EBAY	24.0
EarthLink Network, Inc.	ELNK	6.2
E*Trade Group Inc.	ET	12.0
McAfee	MFE	7.0
Priceline.Com Inc.	PCLN	1.2
RealNetworks, Inc.	RNWK	8.0
Time Warner Inc.	TWX	42.0
Yahoo Inc.	YHOO	26.0

worth noting that when implementing a trading strategy, we seek liquid contracts.

International Funds

Trading on the New York Stock Exchange under the ticker symbol FXI, the iShares FTSE/Xinhua China 25 Index Fund (FXI) is an exchange-traded fund that holds the same 25 stocks as the FTSE/Xinhua China 25 Index. The China 25 Index, in turn, is a benchmark developed jointly by the firm FTSE and the Xinhua Financial Network. It was created to track the performance of China's leading companies. Options on FXI are available and provide a tool for trading trends related to the Chinese equity market.

In October 2005, the American Stock Exchange announced that it would begin listing options on the iShares MSCI Japan Fund (EWJ). The fund provides investors with a unique way of participating in the performance of the Japanese stock market. It is an exchange-traded fund that tracks the performance of the MSCI Japan Index.

The EWJ is one of several country-specific indexes created by Morgan Stanley Capital International (MSCI). According to the firm's web site (www.msci.com), "each MSCI Country Index captures 85 percent of the total country market capitalization while it accurately reflects the economic diversity of the market." Therefore, the stocks within the EWJ represent roughly 85 percent of the market value of the Japanese equity markets. Table 2.11 shows the fund's top 10 holdings.

TABLE 2.11 Top 10 Stocks of the iShares MSCI Japan Fund

Stock	Weighting
Toyota	5.68%
Canon	2.39
Takeda Pharmaceutical	2.27
Mitsubishi Tokyo Financial	2.07
Honda Motor	1.99
Sony	1.96
Mizuho Financial	1.88
NTT DoCoMo	1.73
Matsushita Electric Industrial	1.64
Sumitomo Mitsui Financial	1.51

Investors interested in owning a piece of the Japanese market can buy EWJ shares.

The listing of options on the EWJ is noteworthy because the fund is one of a family of international ETFs that trade on the AMEX. Table 2.12 shows the full list of funds. Investors can buy and sell shares of each fund throughout the day based on the outlook for the specific country. For example, if investors expect markets in Germany to move higher, they can buy shares of the EWG. Alternatively, if Hong Kong stocks are expected to fall, the EWH can be sold short. Later we describe a trading system that can be used to trade these international funds.

Until October 2005, options on the international funds were not available. That changed, however, when the AMEX introduced EWJ options. The move opened the door to options trading on some of the other funds. The timing of future listings will probably depend on the success and popularity of EWJ options.

Gold Play

The streetTRACKS Gold Shares Exchange Traded Trust (GLD) made its debut on the New York Stock Exchange (NYSE) in November 2004. “We are very proud to list the streetTracks Gold Shares on the New York Stock Exchange,” said a November 18, 2004, press release posted on the exchange’s web site (www.NYSE.com). Trading under the symbol GLD, this new exchange-traded fund holds gold bullion. It is therefore unlike other gold funds and indexes such as the PHLX Gold and Silver Mining Index (\$XAU), which hold shares of gold mining companies. This new fund holds the yellow metal itself—it is a pure play on gold prices. The price is set at 1/10th the value of gold. So if the precious metal is near \$441, the

TABLE 2.12 AMEX International ETFs

Ticker	Country
EWA	Australia
EWO	Austria
EWK	Belgium
EWZ	Brazil
EWK	Canada
EWQ	France
EWG	Germany
EWK	Hong Kong
EWI	Italy
EWJ	Japan
EWM	Malaysia
EWK	Mexico
EWN	Netherlands
EWK	Singapore
EWY	South Korea
EWP	Spain
EWD	Sweden
EWL	Switzerland
EWT	Taiwan
EWU	United Kingdom

fund will trade around \$44.10 a share. As of this writing, there are no options available on the GLD; however, that will probably change over time.

Bond Funds

In April 2003, the CBOE and AMEX both announced the launch of options on the iShares Lehman 20+ Year Treasury Bond fund (TLT), the iShares Lehman 1–3 year Bond fund (SHY), and the iShares Lehman 7–10 year Bond fund (IEF). All three funds hold government bonds, but each is different in terms of maturity. For instance, SHY holds short-term notes that mature in 1 to 3 years, but TLT holds long-term bonds like the 30-year Treasury bond. The funds started trading in 2002 and options on the bond funds started trading approximately a year later.

Most Active by Share Volume

Indeed, the success of any index or ETF options contract will depend on investor interest. Some simply don't fly, and the lack of volume and

TABLE 2.13 2005 ETFs Ranked by Trading Volume (Shares)

Name	Symbol
NASDAQ 100 QQQ	QQQQ
Semiconductor HOLDRs	SMH
Dow Jones Diamonds	DIA
Russell 2000 Small Cap Fund	IWM
Select Sectors SPDRs Financials	XLF
Select Sectors SPDRs Energy	XLE
MidCap SPDRs	MDY
Select Sectors SPDRs Basic Materials	XLB
iShares Long-Term Bond Fund	TLT
Oil Service HOLDRs	OIH

liquidity makes them unattractive. The NASDAQ QQQ is the most actively traded, and most liquid, ETF today. Average daily share volume is in the millions.

Table 2.13 ranks other exchange-trade funds by trading volume during 2005. The Dow Jones diamonds (DIA), which holds the Dow 30, also made the list. The Select Sector SPDRs are gaining popularity. These funds hold the same stocks as the S&P 500 Index, but grouped by sector. For example, the Select Sector Financials (XLF) and Energy (XLE) funds are among the most active ETFs today. Many of the holding company depositary receipts also trade actively. Examples include the Biotechnology HOLDRs (BBH), the Semiconductor HOLDRs (SMH), and the Oil Service HOLDRs (OIH).

Table 2.13 shows only exchange-traded funds because it is not possible to buy and sell shares of an index like the S&P 500 Index or the Dow Jones Industrial Average. However, it is possible to trade options on many of the cash indexes. In Chapter 4, we list the ETFs and indexes with the most active options contracts. Most of the strategies discussed later in this book focus on this group of index products, along with the ones included in Table 2.13.

CONCLUSION

Given the increasing interest in exchange-traded funds and index trading, exchanges have been quick to launch a variety of new products designed to appeal to investors. As a result, index traders have a large number of investments to choose from. The downside, however, is that there are too

many to track and trade. Savvy strategists need to understand what products exist in order to apply the perfect tool to fit a particular need. For example, as we demonstrate later, a strategist who is looking to protect or profit from rising interest rates might set up bullish strategies on the TNX or bearish trades on the TLT. However, when looking for products to use regularly, like in a trading system, it is better to use those that have the more active shares and options contracts. And that includes those on the list in Table 2.13 and in Chapter 4.

Trading the Market

During a bull market, the stock market is buzzing with activity. The investment public is actively buying and selling shares and trading volume increases. For example, in March 2000, technology stocks were on fire; on the NASDAQ Stock Market, average trading volume approached 2 billion shares a day. Today, a little more than 1.5 billion shares trade hands daily.

The dollar volume related to trading activity is even more telling. At its peak, the dollar value of daily trading activity on the NASDAQ surged to \$100 billion! By the end of 2002, the number had fallen to only \$20 billion. The rise and fall of the NASDAQ from 1998 to 2002 provides an example of two different types of market environments: a surging bull market and a tumbling bear market.

Bull and bear markets have existed throughout history and will continue to exist far into the future. Prices rise and prices fall. As prices move higher and lower, trends develop. These trends can last from a few days to a few decades. More often than not, the development of the trend is based on fundamental developments. For example, bull markets in stocks begin when the economy is expanding, corporate profits are growing, and investors are willing to buy shares.

At the same time, trends can only last as long as investor psychology remains supportive. Bull markets continue as long as investor sentiment remains positive and upbeat. In fact, bull markets often end when investor optimism reaches unsustainable levels, or when bullishness reaches an extreme. It is the dynamic interaction between fundamental developments and crowd psychology that dictates the strength and duration of

bull markets. Understanding this dynamic, and how to view events as they unfold with index charts, is a key element to becoming a successful index trader.

BULL VERSUS BEAR MARKETS

A bull market is characterized as a period of rising prices. It gets its name from the fact that bulls buck up with their horns. A bull market can occur in stocks, bonds, gold, or even in the market for a fine red wine like a Chateau Margaux. Any investment, asset, or security that has a market with changing prices can witness a period of rising prices, a bull market.

In the stock market, bull markets are easy to identify. Investors feel confident, as stock prices rise and portfolios increase in value. You can hear colleagues or acquaintances boast about their stock returns at work or dinner parties. The media pays greater attention to the stock market's performance and there is a general sense that all is going well in the corporate world and the economy.

During bull markets, investment banks are selling shares of initial public offerings (IPO) faster than hot dogs at the ball park. For example, in March 2000, investors were falling all over themselves for the latest technology IPO. When trading activity is robust and the public is active in the market, investment banks can generate hefty fees for bringing new companies to the market.

As a result, in 2000, a record number of new offerings hit the market, as more than 400 companies brought new stock to the public. In addition, shares would sometimes jump 100, 200, or 300 percent during their first day of trading. The IPO market died a couple of years later and investor disinterest kept the market quiet for years thereafter.

Mutual funds have steady inflows of cash during bull markets. When investors see their 401Ks and retirement accounts increase in value, they add more money to their mutual funds. In March 2000, investors poured \$35.6 billion into stock mutual funds according to the Investment Company Institute (ICI). In addition, total assets rose from \$4.22 trillion to \$4.43 trillion during the month of March 2000. A couple of years later, ICI reported that investors withdrew \$466 million and stock fund assets fell from \$2.67 trillion to \$2.6 trillion in January 2003—a far cry from the March 2000 levels.

While investors feel a general sense of optimism and wealth during a bull market, the opposite occurs in a bear market. During bear markets, prices are falling and investors are losing wealth. A sense of uneasiness develops and, if the trend persists, can give rise to high levels of anxiety or

angst. As this happens, buyers are less likely to surface and investors will sell off some of their holdings to avoid further losses.

A long-term bear market is often accompanied by negativity and pessimism. The news headlines are often grim and the stock market gets less coverage from the media. As the bear market reaches its final stages, however, the selling can become extremely heavy, causing volume to rise, as the last remaining bulls finally throw in the towel. This is sometimes called a final “washout” or a phase of “capitulation” that occurs at the very bottom of the end of the bear market. At that time, the media is clearly focused on the gloom and doom. Headlines about market crashes make the cover of major magazines. But at that point, the selling begins to ease and seeds are planted for another bull market.

Getting Sentimental

There are a number of trading tools that traders use to gauge market sentiment. The goal behind sentiment analysis is to gauge prevailing levels of bullishness and bearishness related to an investment or market. Traders want to go with the prevailing sentiment until it reaches an extreme. For example, bullishness often reaches an extreme just before the market turns south. Several sentiment indicators are discussed and explained in Chapter 10.

ALWAYS A BULL MARKET SOMEWHERE

History rhymes but never repeats. While there are often similarities between two time periods, two time frames are never exactly alike. Therefore, while we can learn from past experience, we can never predict exactly what will happen next. This is true in everyday life and also in the financial markets.

Fortunately, one thing is almost certain: There are always trending markets somewhere. For example, specific sectors can move in bull and bear markets. In fact, some traders like to say that there is always a bull market somewhere. You can always find one if you look hard enough. Indexes and exchange-traded funds can help you spot these trends. Options can be used to generate profits from them.

In 2004 and 2005, the major averages such as the Dow Jones Industrial Average and the S&P 500 Index traded sideways, but energy stocks soared. At times, most of the market faced selling pressure, but oil and oil service stocks performed well. For instance, Figure 3.1 shows that from January to May in the year 2005, the S&P 500 Index fell 5 percent, but the

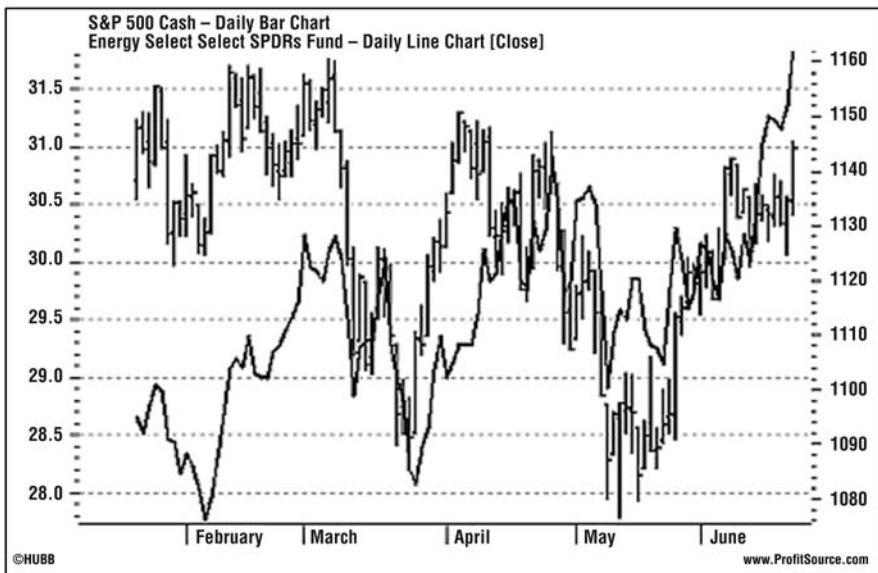


FIGURE 3.1 SPX/XLE Chart, January 2005 to June 2005 (Source: www.ProfitSource.com)

Select Sector Energy Fund (XLE) rallied more than 10 percent. In this case, the market was experiencing a pullback, but the bull market in energy continued.

Conversely, there is almost always a bear market somewhere. In other words, there is almost always one sector or asset class that is experiencing a bear market. Even when the stock market is performing well, some sectors fail to participate. For example, Figure 3.2 shows that from October 2003 to February 2004 the S&P 500 traded higher, but the AMEX Airline Index (\$XAL) moved sharply lower. In Chapter 11, we explain what factors to consider when looking for bullish and bearish sector trades.

In conclusion, indexes allow investors and traders to compartmentalize the market and view the performance of different areas of the market separately. Sometimes small caps will perform better than large-cap stocks or technology will outperform financials. Gold and bonds can perform well when the stock market is in a slump. The possibilities are almost limitless. Indexes, however, give investors the tools to help make sense of what is going on and, more importantly, anticipate what will happen next.

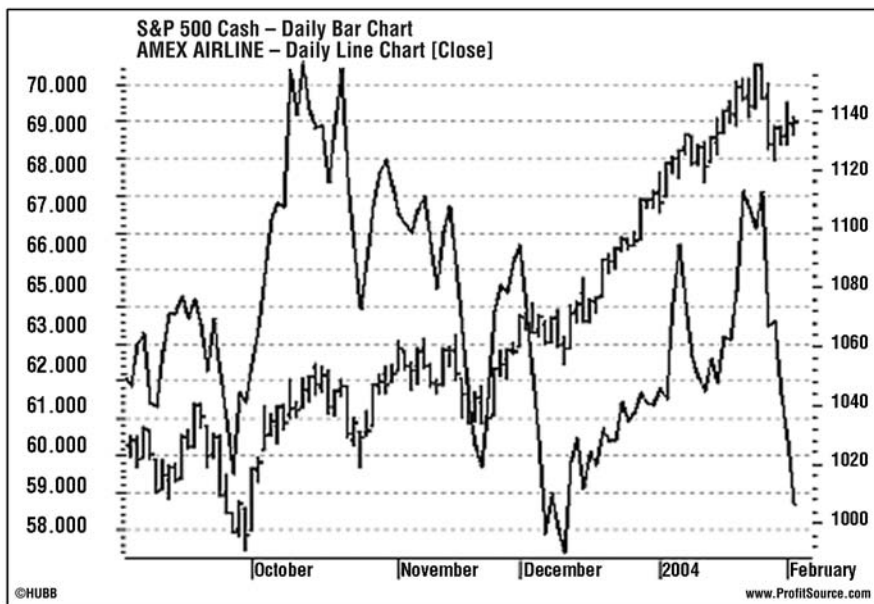


FIGURE 3.2 SPX/XAL, September 2003 to February 2004 (Source: www.ProfitSource.com)

S&P Market Cap Indexes

Market capitalization or *market value* refers to the value of a company based on its stock price. It is computed by multiplying the number of shares outstanding by the market price of the stock. For example, if your company has 1 million shares outstanding and the stock is trading for \$50 a share, the market value of your company is \$50 million. Sometimes shares of smaller companies will behave differently than the shares of large companies. For that reason, it makes sense to monitor indexes that represent each asset class. Standard & Poor's has created the following four indexes.

1. **S&P 600 Small-Cap Index (\$SML).** This index accounts for less than 5 percent of the total value of the U.S. stock market. It consists of 600 companies with market values between \$600 million and \$3 billion and is considered to be the leading small-cap companies in the marketplace today. The iShares Small-Cap 600 (IJR) is an exchange-traded fund that tracks this index.

(Continued)

S&P Market Cap Indexes *(Continued)*

2. **S&P Mid-Cap Index (\$MID).** This index includes 400 companies with market values ranging from \$1 billion to \$4 billion. It is the most widely used gauge for the performance of mid-cap stocks. An ETF tracks the index and trades under the symbol MDY.
3. **S&P 100 (\$OEX).** The S&P 100 is one of the more popular index contracts and includes the top 100 companies that also have listed options. According to the Standard & Poor's web site (www.standardandpoors.com), "Since its introduction in 1983, an important criterion for index inclusion has been the availability of individual stock options for each constituent." The individual stocks within the index have an average market value of approximately \$60 billion, ranging from \$2.25 billion to almost \$400 billion. The iShares S&P 100 Fund is listed under the symbol OEF.
4. **S&P 500 Index (\$SPX).** The best-known S&P index consists of 500 stocks from a diverse set of industry groups. The market value of the combined companies equals 80 percent of the U.S. stock market. The companies within the index have an average market cap of \$22.6 billion, with the smallest sporting a market value of \$425 million and the largest, \$375 billion. The S&P Depositary Receipts (SPY), or SPDRs, is an exchange-traded fund that tracks the S&P 500 Index.

GOING LONG AND SELLING SHORT

In the index market, traders can go long or sell short. Going long is the easiest strategy. It simply involves buying shares, hoping they go up in price, and then selling them for a profit. Importantly, however, going long cannot be applied to an index. Indexes like the S&P 500 Index, the Dow Jones Industrials, or the NASDAQ Composite cannot be bought or sold! They are simply benchmarks for tracking the stock market.

Instead, investors can go long using exchange-traded funds. "Going long" simply means buying shares. When investors do this, they buy shares of the fund and hope that it increases in value. If so, shares can be sold later at a higher market price. This goes along with the old adage "Buy low and sell high."

For example, let's say the SPDRs are trading for \$100 a share and the strategist expects a move higher within the next few months. In order to profit from these expectations, 100 shares are purchased for \$100 a share. The cost of the trade is \$10,000, or 100×100 . If the SPY rises to \$125 a share, the trade yields a \$2,500 profit $[(\$125 - \$100) \times 100 \text{ shares}]$. However, if the SPY falls to \$80 a share, the trade loses \$2,000 $[(\$100 -$

\$80) $\times$ 100 shares]. Ideally, the share price will move higher and the stock can be sold for a profit. This is the basis of stock trading, and it also applies to buying, or going long, ETFs.

Exchange-traded funds can also be sold short. Short selling is a bearish market strategy that yields profits when the share price declines. When selling short, traders actually borrow shares from their brokerage houses. After the position has been opened, traders receive a credit in their account for the amount of the selling price.

Risk Graphs 101

A risk graph, or risk curve, is a graphical depiction of the risk and reward associated with a trade. It shows the possible outcomes, including the potential profit and loss, or risk. Risk graphs are used extensively in options trading, including in this and our other books. The chart in Figure 3.3 provides an example. It shows the risk/reward associated with buying 100 shares of SPDRs. On the left-hand side we see the stock chart, which is simply the price move in the SPDRs over the past few months. The actual risk graph appears on the right-hand side. In this case, it is a straight line sloping upward from left to right because, as the SPY moves higher, the profit from holding the shares increases. The profit is plotted along the bottom axis and the stock price is on the vertical axis. Basically, the graph tells us how much money we will make or lose as the price of the asset moves higher or lower.



FIGURE 3.3 Risk Graph of 100 Shares of SPY (Source: www.Optionetics.com Platinum)

As an example, let's say a trader wants to place a bearish bet on the NASDAQ 100 Index Trust (QQQQ) with the expectation that the share price will fall sometime during the next six months. An order is placed to sell short 100 QQQQ at a price of \$35 a share. The broker then lends the 100 shares to the account and the Qs are then sold short. The proceeds of \$3,500 ($\35×100 shares) are credited to the account. Now, if the price of the QQQQ falls to \$30 a share, the strategist can buy back the 100 shares and return them to the broker. The cost is \$3,000 to "cover" the short position. Therefore, the net profit, or the amount that is retained in the account, is \$500 [$(\$35 - \$30) \times 100$ shares]. What if shares rally? If the Qs move to \$40 and the trader exits the position, the loss is also \$500 because it costs \$4,000 to buy back the stock and the credit from the short sale was only \$3,500 [$(\$40 - \$35) \times 100$ shares].

Figure 3.4 shows the risk graph of the QQQQ short sale. The left-hand side of the chart shows the movement in the underlying asset during the past few months. The right-hand side of the chart shows the potential profit or loss from future price moves in the QQQQ assuming an investor sells short 100 shares at \$35 a share. For instance, at \$40 a share, the loss is \$500. However, if the price falls to \$31 a share, the profit is \$400.



FIGURE 3.4 Risk Graph of 100 Short QQQQ (Source: www.Optionetics.com Platinum)

Hopefully, the reader now has a good understanding of buying shares (going long) and selling shares (going short). This is basic material that has been covered in greater detail in our earlier books. If the reader needs further clarification on these two strategies, we suggest reading two of our previous books—*The Stock Market Course* and *The Options Course*—for additional information.

CHARTS AND QUOTES

Trading indexes without charts is like driving a car without your hands. While it might be possible, it isn't necessarily a good idea. Basically, charts make trading a lot easier. In addition, understanding and using charts can help identify trading opportunities that can't be found by simply watching the news or reading the newspaper.

The process of finding a quote or a chart for an ETF or an index is the same as for a stock. For example, many web sites offer free quotes, and finding the current market price for an exchange-traded fund is a simply matter of punching in the ticker symbol and hitting enter. For example, just enter "QQQQ" in the quote box at the top of the Optionetics.com home page, hit enter, and voilà, the system pulls up the latest quote for the Qs, as shown in Figure 3.5.

The snapshot quote in Figure 3.5 shows that the QQQQ last traded at \$40.92 for the day, which was down 66 cents from the day before. The high

Delayed Quote as of DEC 19, 2005 4:00:09 PM (E.T.)			
Last	40.920	Change	↓ -0.660
Open	41.680	% Change	↓ -1.59%
High	41.710	Low	40.900
Bid	40.870	Ask	40.910
52 Week High	42.310	52 Week Low	34.350
Earnings Per Share	-9,999.00	Volume	75.42M
Shares Outstanding	729.80M	Market Cap	29.868
R/E Ratio	N/A	Exchange	NASDAQ NM

FIGURE 3.5 Snapshot Quote of the Qs (Source: www.Optionetics.com)

price of the day is \$41.71 and the low is \$40.90. The QQQQ was bid for \$40.87 and the ask price is \$40.91. So an investor could buy shares for \$40.91 and sell them for \$40.87. This quote service is delayed, but it offers other information such as the exchange-traded fund's 52-week high and low, the day's volume, the total market value of the fund, and the exchange where the fund trades. Since the QQQQ is an exchange-traded fund, the earnings-per-share data is meaningless.

Getting the latest quote for an index is just as simple. However, for indexes, many web sites and quote vendors require the dollar sign before the symbol. For example, to retrieve the latest quote for the S&P 500 index, traders must enter the symbol \$SPX. Therefore, if the symbol requires a dollar sign, it is an index. If not, it is a stock or an exchange-traded fund. Figure 3.6 shows an example of a quote for the S&P 500 Index. Since it is a cash index, the bid and offer as well as a lot of other data included in Figure 3.5 are not present.

Many web sites offer free charts as well. However, to perform regular analysis of the index market, a more advanced software package is recommended. As we see in later chapters, looking at charts, plotting indicators, and performing analysis on a variety of different indexes can help to quickly identify profit opportunities. While advanced software is not required, it simplifies this process a great deal.

First, let's cover the basics of charting. The bar chart—also referred to as open-high-low-close, or OHLC—is the most widely used type of chart today. Figure 3.7 shows a bar chart using the NASDAQ 100 Index Trust (QQQQ). On the left side of each bar is a small horizontal line that represents the opening price. The highest and lowest points of each bar represent the high and low for the day. Finally, the close is indicated with a small horizontal line on the right side of each bar. This type of chart is sometimes called a range bar chart and can be created for any stock or index.

Delayed Quote as of DEC 19, 2005 4:59:57 PM (E.T.)			
Last	1,259.92	Change	↓ -7.40
Open	1,267.210	% Change	↓ -0.58%
High	1,270.510	Volume	N/A
Low	1,259.360	Exchange	INDEX
52 Week High	1,275.800	52 Week Low	1,136.220
No news currently available for S&P 500 Index			

FIGURE 3.6 Snapshot Quote of \$SPX (Source: www.Optionetics.com)

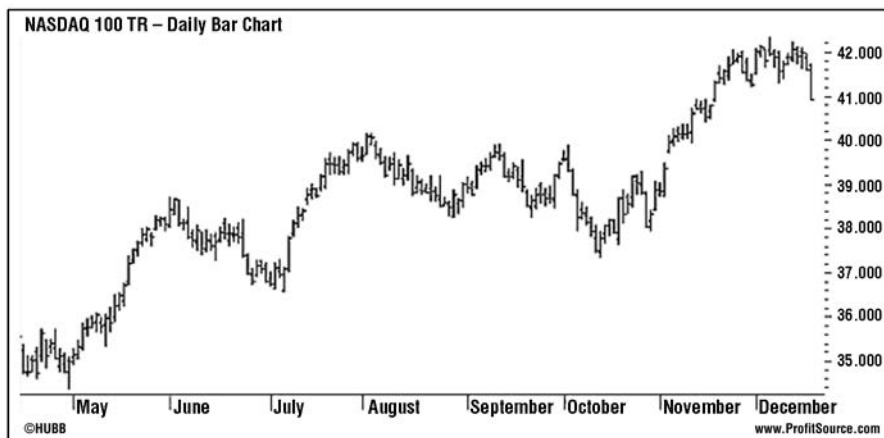


FIGURE 3.7 Daily QQQQ Chart (Source: www.ProfitSource.com)

When studying the stock market as a whole, the first step is to look at the trend. Is it moving higher or lower? Bull market or bear market? As a general rule, a market qualifies as bullish if it experiences a 20 percent advance from a previous low. A 20 percent fall from a previous high indicates a bear market. Traders should focus on long positions during a bull market and short positions during a bear market. Remember, the trend is your friend!

As you can see from Figure 3.7, the NASDAQ QQQQ moved higher from May to December. The trend, therefore, was positive, or bullish, because the fund had risen more than 20 percent from its lows. It is technically in a bull market. When it comes to making investment decisions, technical analysts will generally be buyers in bull markets and sellers in bear markets.

Market Qualifiers

Bull market: Advance of 20 percent or greater from a previous low.

Bear market: Decline of 20 percent or more from a previous high.

Correction: A move lower (5 to 20 percent) during a bull market or a move higher (5 to 20 percent) during a bear market.

Pullback: A move of 5 percent or less to the downside during a bull market or a move 5 percent or less higher during a bear market.

Retracements: A move counter to the prevailing trend. Technical analysts consider 23.6 percent, 38.2 percent, and 61.8 percent retracements to be significant.

TRENDLINES

Trendlines are one of the most basic ways to analyze specific markets, especially indexes. The lines are simply drawn on charts. When we started trading, we did this by hand with pencil, ruler, and paper. However, today, most charting software provides a variety of tools including the ability to accurately draw trendlines.

The goal in using these lines is to determine whether bulls or bears are in control of the trend. The trend, in turn, is a prolonged period of time when the market or index is moving in one direction or another. If the market is moving gradually higher and setting a series of higher highs and higher lows, it is said to be in an uptrend. When an index is in an uptrend, the trendline is drawn on the chart along the bottom of the price. Figure 3.8 shows an example of a healthy trend and the trendline that is drawn along the series of higher lows.

A downtrend, on the other hand, occurs when a index price falls over a period of time and sets a series of both lower lows and lower highs. When a stock or index is falling, the trendline will be drawn along the top of the price chart. The chart in Figure 3.9 shows an example of a nasty bear trend and the accompanying trend line. As you can see, trendlines are tools designed to capture the uptrends and downtrends relative to a stock or index. Traders want to stay on the same side of these trends. Technicians often use the adages “The trend is your friend” and “Don’t fight the trend.”

Drawing trendlines is relatively straightforward. Today, lines can be

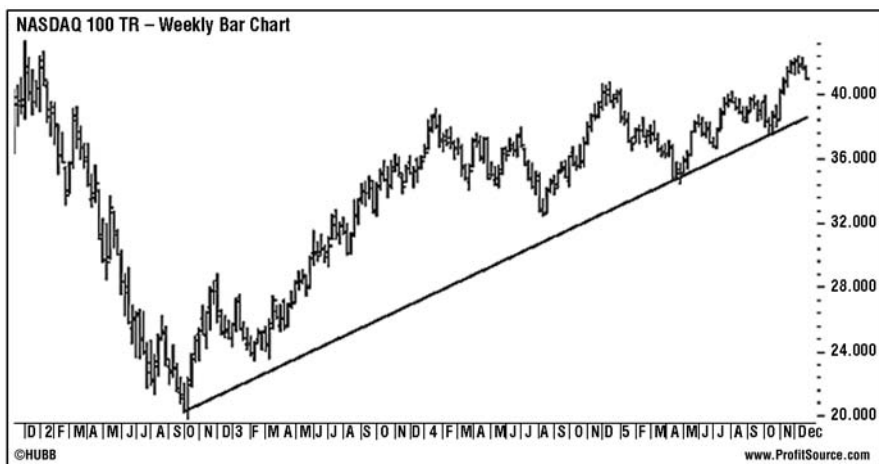


FIGURE 3.8 Uptrend Chart Using QQQQ (Source: www.ProfitSource.com)

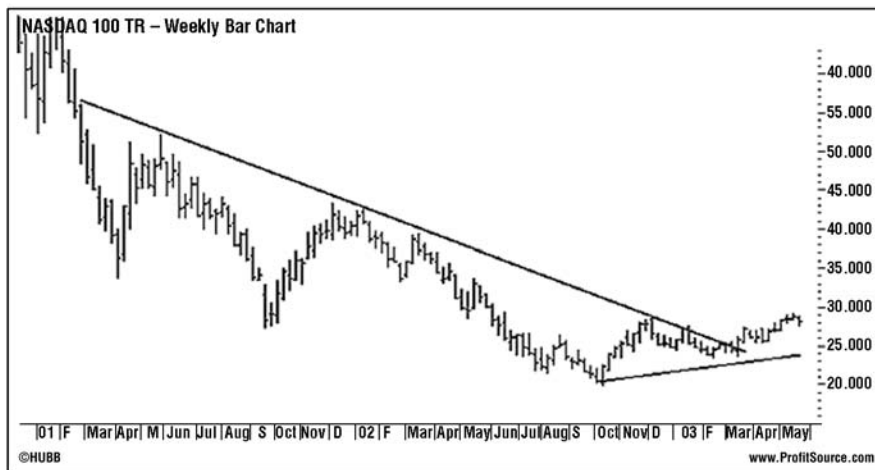


FIGURE 3.9 Downtrend Chart (Source: www.ProfitSource.com)

created on index charts with most trading software programs and, in the absence of software, charts can be printed from a website and the lines can be drawn the old-fashioned way, with a pencil and a ruler. For instance, in Figure 3.9 the downward-sloping trendline is drawn on shares of the QQQQ from January 2001 until March 2003. The fund then reversed course and started an uptrend (the one shown in Figure 3.8), which has continued to the time of this writing.

Trendlines can also be used to identify trading opportunities. The first factor to consider is the slope of the line. Again, an upward-sloping trendline is the sign of a healthy advance; a downward-sloping trendline suggests that the market is weak. Once the directional bias of the trend has been identified, you can use a number of strategies to take advantage of it.

Trendlines also serve as support and resistance. In the upward-sloping trendline in Figure 3.8, each time the stock approached the line, it bounced off and made a move higher. This is considered “trendline support.” Once established, a trendline can, quite astonishingly, serve as a floor through which a stock price will not fall. On the other hand, in a downward-trending market, the trendline can prove to be a source of resistance, or a ceiling to higher prices. In Figure 3.9, the trendline clearly identifies areas of resistance.

When a trendline is broken, it is sometimes known as trendline failure. For instance, the downward sloping trendline in Figure 3.9 was broken in early March and the trend shifted—from down to up. In other words, the trendline no longer served as resistance and once the stock broke through it, shares made a significant move higher. Therefore, a

trendline break can often signal a move in the opposite direction, which is called a *reversal*.

The angle of a trendline is also significant. A very steep trendline suggests aggressive buying (in the case of an uptrend) or aggressive selling (in a downtrend). Therefore, when a steep trendline is broken, it has greater implications than when a relatively flat trendline is violated.

When studying trendlines, time is the final consideration. In general, the longer the duration of the trendline, the better the trend. Hence, when a 12-month trendline is broken, it has more significant implications than when a 3-week trendline is broken. The number of times a trendline is approached but not penetrated is significant as well. It is more meaningful when a downward-sloping trendline that has served as resistance on a dozen occasions is broken, as opposed to the one that has only been tested three times.

Major trendlines: Lines drawn on charts along long-term uptrends or downtrends that span many months or even years. Technicians consider these long-term trendlines extremely significant, as they often serve as support or resistance to higher prices.

Minor trendlines: Lines drawn on charts along short-term trends that last a few weeks or a couple of months. They are not considered extremely important when studying the markets using technical analysis.

USING MOVING AVERAGES

Moving averages (MA) can also help gauge the strength of trends. As the name implies, a moving average is simply the average, or mean, of a price over a fixed number of days. Generally, the average is computed using closing prices, or the price of the last trade of the day. For instance, if at the end of six trading days an exchange-traded fund closes for \$40, \$44, \$50, \$48, \$50, and \$52, the four-day MA at the end of the fifth day is \$48 $[(44 + 50 + 48 + 50) \div 4]$. As each new day is added, the last price is removed from the moving average. So, in this example, the four-day MA at the end of the sixth day equals \$50 $[(\$50 + \$48 + \$50 + \$52) \div 4]$. Moving averages generally cover a period of 20, 50, or 200 days. Most charting software packages include MAs, so there is no reason to compute them by hand.

Moving averages will behave differently based on the number of days used to compute the average. A 50-day MA, for example, will behave differently than a 200-day MA. The shorter the time frame, the more sensitive

the moving average will be to price changes in the stock. Consider the chart in Figure 3.10, which shows the price action of the diamonds along with both the 50-day MA and the 200-day MA. Notice that the 50-day moving average (which is above the 200-day) fluctuates more than the 200-day, because the latter captures a longer-term time frame. Some technicians say that the longer-term MA is “slower” or “smoother” and the shorter-term is “faster.”

Some traders will use very short-term moving averages (e.g., nine days). The general rule is to use a moving average that corresponds with the time frame of your trading strategy. For instance, in looking at a stock for potential trades for the next two years, a nine-day moving average will not be ideal. It is too short-term, given that the strategy is long-term in nature.

As with trendlines, traders need to consider the slope of the moving average. If a moving average is upward-sloping and moving higher, it suggests that the trend is healthy—a favorably bullish sign for the stock. On the other hand, a downward-sloping moving average suggests weakness and is bearish for the stock. In Figure 3.10, notice how the 50-day moving average will change direction much faster than the longer-term (200-day) moving average. A simple moving average is created by adding up each closing price of the past number of days and dividing the total by that number. Hence, a 50-day simple moving average would consist of the sum of the last 50 closing prices of the index divided by 50.

A second way to study moving averages is to look for buy and sell signals by considering when the stock price crosses over the MA. For instance, notice in Figure 3.10 when the price of the DIA fell below the 50-day MA in late February, it triggered a “sell” signal. The fewer the number



FIGURE 3.10 Diamond Chart with 50- and 200-Day MAs (Source: www.ProfitSource.com)

of days used to compute the moving averages, the greater the number (and the less the significance) of buy and sell signals. So a break of a 200-day MA is considered much more significant than a break of a 9-day moving average.

Moving averages can also serve as support and resistance zones. Figure 3.10 shows how the 50-day MA served as a support area for the diamond when it moved higher. Technical analysts watch the 200-day MA closely in this respect. You may have heard news reports that the NASDAQ Composite Index (\$COMPQ) recently moved above its 200-day moving average. Many analysts view that as a powerful bullish technical signal because the penetration of the 200-day moving average symbolizes a break of a major resistance area for the index.

The final way of using moving averages is to look at the crossovers between the two of them. When the short-term MA crosses over the longer-term MA, it triggers a “buy” signal. This occurred in Figure 3.10 during the month of May 2003 and the DIA surged. Conversely, when the 50-day MA drops below the 200-day MA, a “sell” signal is triggered.

So far, our discussion of moving averages has used the simple moving average (SMA). Exponential moving averages (EMAs) are used in the same way as SMAs, but are generally considered superior because the most recent data has a greater influence on the average when compared to the older data. When computing the average, the most recent trading day has a greater weighting. For example, in a nine-day moving average, the most recent trading day is given greater importance when compared to the price nine days ago. As a result, the EMA will respond faster to changes in the trend and is therefore a more reliable indicator. The exponential moving average is used for the remainder of this book.

Simple moving average: A series of successive averages that is defined by a set of variables. As each new variable is added, the oldest or last variable is removed. Moving averages are often computed for stock prices to view trends over time. Fifty- and 200-day moving averages are among the most common time frames.

Exponential moving average: A type of moving average that gives greater weight to the latest data. For example, to compute the 10-day exponential moving average, the analyst might take the closing price of the 10th-day and multiply this number by 10, the 9th day by 9, the 8th day by 8, and so on. As a result, it responds faster to new prices and less to old data. For that reason, some trades prefer the exponential moving average over a simple moving average because it offers better information regarding the most recent trends or prices.

Linearly weighted moving average: A type of moving average that gives greater weight to the latest data. For example, to compute the 10-day linearly weighted moving average, the analyst might take the closing price of the 10th day and multiply this number by 10, the 9th day by 9, the 8th day by 8, and so on, as with the exponential moving average. Then the products are divided by the total number of multipliers. In this example, the total number of multipliers is 55 ($10 + 9 + 8 \dots + 1$). The linearly weighted and exponential moving averages are considered superior to simple moving averages because they assign more importance to new, rather than old data.

VOLUME

Volume is an important consideration when looking at the action in the index market. There is a saying among technicians that “Volume goes with the trend.” Basically, during a true bull market, trading activity will expand during market advances and contract during periods of falling prices. If a sharp drop in the Dow Jones Industrial Average is accompanied by light volume, analysts consider that to be a favorable sign. If, on the other hand, volume expands during a market sell-off, it is interpreted as a negative or bearish sign for the overall market.

The financial press reports volume daily. When discussing the performance of the Dow, the volume represents the day’s volume on the New York Stock Exchange, which is not necessarily correct because the Dow currently includes two NASDAQ stocks. Nevertheless, a reporter might say something like, “the Dow fell 50 points on Tuesday, on volume of 1.9 billion shares.” When discussing the performance of the NASDAQ, investors look at the total volume on the NASDAQ Stock Market.

Investors can also track the trading volume of individual exchange-traded funds to determine whether there is more buying or selling pressure. For example, if the volume of the Qs is increasing while its price moves higher, it is a sign that the trend is healthy and on solid footing. However, if volume rises during the declines, a move to the downside is gathering momentum.

Most charting software allows traders to place volume bar charts below the price data, like the chart shown in Figure 3.11. In this example, notice how volume is rising during the up days. The arrows point to examples of up days on high volume. This is a bullish sign. This is considered a positive indication that the trend has staying power. During a market advance, the strategist wants to see increasing volume on the up days and

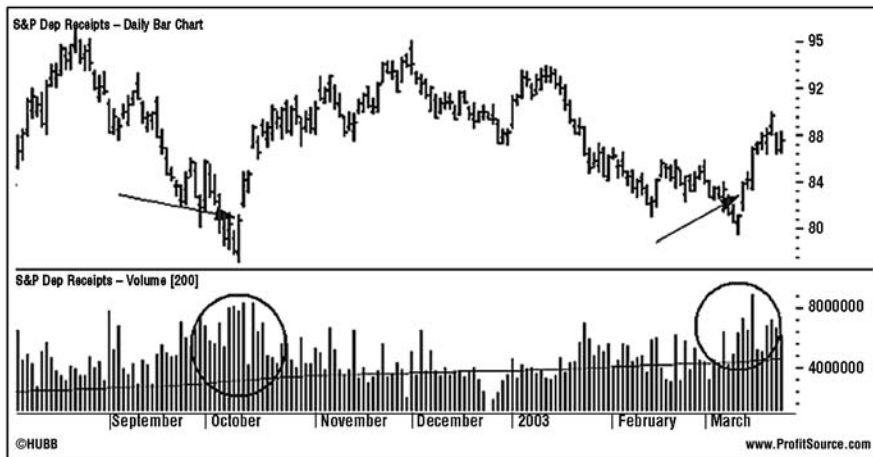


FIGURE 3.11 ETF with Volume Chart (*Source: www.ProfitSource.com*)

declining volume on down days. During a bearish trend, volume tends to increase on the down days.

CONCLUSION

Financial markets move in trends. Some trends are short and last only a few days, but others unfold over several years or even decades. The longer the trend, the more powerful the price moves and the greater potential for profits. Indexes, along with the other tools presented in this chapter, can help traders identify and move with the trends.

Importantly, all trends eventually reach an end. When it happens, much of the investment community is caught by surprise because reversals often occur when the majority least expects it. So, while trends are important, identifying turning points is also important. Indeed, trends and reversals are extremely important to trading not just indexes, but any markets. This chapter focuses on trends; later chapters help identify reversals. Up next, however, is our first discussion of options and the basics of trading puts and calls in the index market.

CHAPTER 4

Understanding Options

Indexes serve two purposes. First, an index can provide a tool for gauging the price changes in a group or basket of stocks. The Dow Jones Industrial Average (\$INDU) and the NASDAQ Composite Index (\$COMPQ) are mentioned frequently in the business news. These two barometers for the performance of the U.S. stock market are examples of market indexes. Meanwhile, as we saw in Chapter 3, sector indexes are used to gauge the performance of specific industry groups, such as biotechnology, semiconductor, or energy stocks.

Indexes can also be used as trading vehicles. For example, options and futures on the S&P 500 Index are among the most actively traded financial derivatives today. In addition, many sector indexes and exchange-traded funds have options linked to their performance. However, before implementing strategies using options based on indexes or ETFs, traders need to develop a solid understanding of option contract basics.

HISTORY OF OPTIONS

The history of organized options trading in the United States dates back roughly 30 years. Its roots can be traced to the founding of the Chicago Board Options Exchange in 1973. By the end of that year, options had traded on a total of 32 different issues and a little more than 1,000,000 contracts had traded hands.

In 1975, roughly two years after the founding of the first U.S.-based options exchange, the Securities and Exchange Commission (SEC) approved the Options Clearing Corporation (OCC). The OCC was created as the clearing agent for all U.S.-based options exchanges and still performs that role today. As clearing agent, the OCC facilitates execution of options trades by transferring funds, assigning deliveries of derivatives contracts and guaranteeing the performance of obligations.

The early 1970s also witnessed other important events related to options trading. In 1973, Fischer Black and Myron Scholes wrote a research paper outlining an analytic model that could determine the fair market value of call options. The findings were published in the *Journal of Political Economy* and the model became known as the Black-Scholes Options Pricing Model. It is still the options pricing model used most widely by traders today.

As options trading grew in popularity, other exchanges started trading these investment vehicles. In 1975, both the Philadelphia Stock Exchange (PHLX) and the American Stock Exchange (AMEX) began trading stock options. In 1976, the Pacific Stock Exchange (PCX) entered the options-trading scene. All three became members of the OCC, and all three still trade options today. In addition, in 1977, the SEC permitted the trading of put options for the first time. In 1975, 18 million option contracts were traded. By 1978, the number had soared to nearly 60 million. The 1980s also saw an explosion in the use of options, which eventually peaked with the stock market crash of 1987.

The CBOE launched the first index options in the early 1980s. In 1983, the exchange began trading options on the S&P 100 Index (\$OEX); this was the first index to have listed options. In 1993, the CBOE Volatility Index (\$VIX) was derived from OEX option prices. The VIX became the market's first real-time volatility index. Today, the CBOE Volatility Index measures the implied volatility of S&P 500 Index options. When it rises, traders are becoming more bearish and are worried about future market volatility. For that reason, VIX is sometimes called the "fear gauge." Low VIX readings are a sign of bullishness or complacency among traders.

The early 1980s saw a growing interest in both stock and index options. From 1980 until 1987, annual options volume rose from just under 100 million contracts to just over 300 million. After the market crash in October 1987, however, investor enthusiasm for options trading waned and less than 200 million contracts traded in the year 1991, or roughly two-thirds of the peak levels witnessed in 1987.

Throughout most of the 1990s, trading activity in the options market improved. In 1990, long-term equity anticipation securities (LEAPS) were introduced; these are option contracts that expire in years instead of months. The OCC and the options exchanges created the Options Industry Council (OIC) in 1992. The OIC is a nonprofit association created to

educate the investing public and brokers about the benefits and risks of exchange-traded options.

LEAPS: Long-term equity anticipation securities, or LEAPS, are long-term options contracts, either puts or calls, with expirations up to three years in the future. LEAPS are available on the more actively traded stocks, ETFs, and indexes. Note, the minimum amount of time for a LEAP option is 9 months.

In 1998, the options industry celebrated its 25th anniversary. In 1999, the AMEX began trading options on the NASDAQ 100 Index Trust (QQQQ)—an exchange-traded fund that is among the most actively traded in the marketplace today. That same year, total options volume surpassed a half-billion contracts for the first time ever.

In the year 2000, a new options exchange arrived on the scene. On May 26, 2000, the International Securities Exchange (ISE) opened for business. It was the first new U.S. exchange in 27 years. In addition, the ISE became the first all-electronic U.S. options exchange. In 2001, the options exchanges followed suit with equities trading and converted prices from fractions to decimals.

Another player entered into the options trading foray in February 2004. The Boston Options Exchange (“the BOX”) received regulatory approval and started trading puts and calls. The entity was formed by a joint venture among the Boston Stock Exchange, the Montreal Exchange, and Interactive Brokers. The BOX became the sixth U.S. options exchange.

A great deal has changed in the options market during the past few decades. Not only are there six U.S. exchanges today versus only one 30 years ago, but a variety of different products including options on indexes and exchange-traded funds have also become available. Although the first index option began trading in 1983, it was not until 1999 that options began trading on exchange-traded funds. Today, index and exchange-traded funds represent a sizeable portion of the total options market.

Stocks versus Exchange-Traded Funds

Stock represents ownership of shares in a corporation. When companies are publicly traded, shares of stock are listed on one of the exchanges such as the New York Stock Exchange or the NASDAQ Stock Market. Prices are quoted throughout the day, and investors buy and sell shares on an ongoing basis. An investor who buys shares is taking an equity position in the company and becomes one of its owners. If the company performs

(Continued)

Stocks versus Exchange-Traded Funds *(Continued)*

well, the stock price can go up and yield profits to the stockholder. Indexes track the prices of a group of stocks.

Exchange-traded funds are pools of money that hold baskets of stocks and issue shares to the public. Therefore, shares of ETFs also trade on the exchanges like stock. Options trade on stocks, exchange-traded funds, and equity indexes, and are called stock options and index options.

WHAT IS AN OPTION?

Since the four books that preceded *The Index Trading Course* covered options extensively, we don't want to spend a lot of time rehashing the basics of options contracts. Readers needing an in-depth discussion of options are encouraged to pick up a copy of any of our previous books (*The Options Course*, *The Stock Market Course*, *Trade Options Online*, or *The Volatility Course*) or visit us online at Optionetics.com. Nevertheless, in order to understand the trading techniques discussed later in this text, a basic understanding of options is in order and the next few pages serve this purpose.

Options come in two flavors: *puts* and *calls*. Both types of option can be purchased or sold. If an investor buys a call, he/she has entered into a contract that gives him/her a right to buy a stock (futures contract, ETF, etc.) at a predetermined price known as the *strike price*. The contract is valid for a specific period of time, until the expiration date. After the time has lapsed, the option expires. So if you buy a June 50 call option on Microsoft, it gives you the right to buy (or call) the stock (100 shares for every call contract) at a specific price (\$50 a share) for a specific period of time (until June expiration).

An investor who sells an option must honor the terms of the contract. Hence, a call seller, or *writer*, has the obligation—if the option is assigned—to deliver the underlying security at a specific price until the option's expiration. The seller has no choice. So if you sell (write) a June 50 call on Microsoft, you are agreeing to deliver the stock to the assigned option buyer at \$50 a share—regardless of Microsoft's current market price—if the option is assigned. Assignment occurs when an option buyer exercises his/her option by delivering a notice to the option seller, requesting the option seller to fulfill the terms of the options contract. This includes delivering the underlying security (for a call writer) or accepting delivery of the underlying asset (for the put seller).

A put option can also be bought or sold. A put buyer enters into an

agreement that gives him/her the right to sell (put) the underlying asset at a specific price for a predetermined period of time. If I buy a Microsoft June 50 put option, I have the right to sell shares of Microsoft (100 shares per each contract) for \$50 per share from now until the option expires in June—regardless of the current price for Microsoft.

A put seller, on the other hand, takes on the obligation to buy the underlying asset at a specific price, known as the strike price, for a predetermined period of time. A trader who writes a Microsoft 50 put has entered a contract that obligates him/her to buy the stock at \$50 per share—again, regardless of the current price of Microsoft.

Put option: An option contract that gives the owner the right, but not the obligation, to sell, or put, the underlying asset at a specific price—called the strike price—for a specific period of time, known as the expiration date.

Call option: An option contract that gives the owner the right, but not the obligation, to buy, or call, the underlying asset at a specific price—called the strike price—for a specific period of time, known as the expiration date.

OPTION MECHANICS

Each options contract can be described using the following four factors:

1. The name of the underlying security
2. The type (put or call)
3. The strike price
4. The expiration date

When discussing options, the four variables provided are used to identify the specific contract. For example, the “\$SPX June 1500 call” describes a call option on the S&P 500 Index, a cash index, that expires in June and has a strike price of 1,500. The “QQQQ October 30 put” is a put option contract on QQQQ—an ETF—that expires in October and has a strike price of 30.

The price of an option is quoted in dollars and cents like the price of a stock. For example, a QQQQ October 30 Call might trade for \$3.00, with a bid price of \$2.90 and an ask price of \$3.00. Therefore, it costs \$3.00 to buy that contract and it can be sold for \$2.90. The difference between the bid and the ask (offer) is known as the *spread*. It's important to note that the cash required to buy one QQQQ October 30 call in this example would be

\$300 because each options contract contains 100 shares. Therefore, in order to determine the cost of an options contract, one must take the value of the option in the market and multiply it by 100. The cost of an options contract is also known as the *premium*.

KEY DETERMINANTS OF OPTION PRICES

Options are often called “wasting assets” because their values decline as time passes. This phenomenon is known as time decay. All else being equal, an option that is valid for the next six months is worth more than an identical option that has only one month left until expiration. You have the right to exercise the former option for five months longer! However, while time is a key element in determining the value of an options contract, it is not the most important factor.

Price of Underlying

The price of the underlying security is the most important factor in determining the value of an option. Most of us learn this early on in our trading careers. For example, we buy calls on XYZ stock because we expect XYZ to move higher. The call option gives us leverage. It will increase in value as XYZ moves northward, but the small cost translates into a large percentage return.

In order to really understand how option prices work, however, it is important to understand that the value of an option is determined largely by the relationship between its strike price and the price of the underlying asset. In fact, the difference between the strike price and the price of the underlying asset plays the most important role in determining the value of the contract.

The relationship between the price of the underlying asset and the strike price of the option is known as *moneyness*. The terms *in-the-money* (ITM), *at-the-money* (ATM), and *out-of-the-money* (OTM) are used in this context. For example, a call option is in-the-money if the strike price of the option is below the price of the underlying asset, and out-of-the-money if the strike price is above the price of the underlying security. So a call can move from OTM to ITM as the stock price moves higher. On the other hand, a put option is in-the-money if the strike price is greater than the price of the underlying security, and out-of-the-money if the strike price is below the price of underlying security. So a put can move from OTM to ITM as the price of the underlying security moves lower (see Table 4.1). A call or put option is at- or near-the-money if the strike price is the same as, or close to, the price of the underlying security.

TABLE 4.1 Option Moneyiness

Price of XYZ = \$100		
Strike Price	Call Option	Put Option
120	OTM	ITM
110	OTM	ITM
100	ATM	ATM
90	ITM	OTM
80	ITM	OTM

Table 4.1 summarizes moneyness with a hypothetical example. If the current price of XYZ is \$100, both the 100 put and the 100 call are at-the-money. However, the 120 put is in-the-money and the 120 call is out-of-the-money.

The higher the asset price relative to the call option’s strike price, the more the call option is in-the-money. The difference between the strike price and the underlying asset’s price is known as *intrinsic value*. When call options have a large amount of intrinsic value, or the asset price is considerably above the strike price, it is said to be deep-in-the-money. The opposite holds true for put options—that is, when the price of the underlying asset is below the strike price the put option has intrinsic value; it is in-the-money. If the price of the underlying is much lower than the strike price, the put option is deep-in-the-money.

An out-of-the-money call option will have a strike price above the underlying stock’s price and an out-of-the-money put will have a strike price below the stock price. Out-of-the-money options have zero intrinsic value. When the strike price of a call option is considerably above the stock price, it is considered deep-out-of-the-money. Similarly, when the strike price on a put option is considerably below the underlying asset’s price, the option is considered deep-out-of-the-money.

Knowing whether an option is in-the-money, at-the-money, or out-of-the-money will help you determine whether the option is likely to be exercised. Exercise occurs when the call option owner decides to buy the stock in accordance with the rights under the call option contract, or when the put owner sells the stock in accordance with the rights under the put option contract.

Near expiration, an option that is in-the-money will have a greater chance of being exercised. For instance, suppose a strategist buys shares of XYZ stock for \$50 a share and sells the December 50 calls—a strategy known as a covered call. If at expiration (the Saturday following the third

Friday in December) the stock climbed to \$55 a share, the call would have an intrinsic value of \$5.00. It is likely to be exercised and the stock will be called away from the option writer for \$50.00. Exercise is all but assured when an option is in-the-money at expiration. In fact, the OCC automatically exercises any option that has intrinsic value of 0.25 or more at expiration—whether the option holder requests it or not.

What happens to in-the-money options before expiration? When there is a considerable amount of time left before the option expires, chances are less that an in-the-money option will be exercised. The reason that an option with intrinsic value will probably not be exercised ahead of expiration is due to the fact that the option also has a different type of value—i.e., time value. The time value of an in-the-money call is computed as follows:

$$\begin{aligned}\text{Call time value} &= (\text{Call option price} + \text{Strike price}) - \text{Stock price} \\ &= \text{Call option price} - \text{Intrinsic value}\end{aligned}$$

Time

Time is the second most important factor in determining an option's value. The greater the amount of time value in the option's premium, the less likely the option will be exercised. But time value decreases as time passes. Importantly, time value decreases at an accelerating rate. As a result, an option with only one month of life remaining will see time value erode faster than an options contract with six months remaining until it expires. At expiration, time value will equal zero. At that time, if there is no intrinsic value (i.e., the option is not in-the-money), it becomes worthless and will not be exercised. Therefore, the odds of exercise increase as (1) the option becomes in-the-money, and (2) the time value of the option diminishes.

As noted earlier, the amount of time left until an option expires has an important influence on the option's value. Specifically, all else being equal, the more time left until an option expires, the greater the value of the options contract. As time passes, the value of an option will decline. It is important to understand the impact of time decay on a position.

Dividends

The dividend is another determinant of a stock option's price. A dividend is a payment from a corporation to a shareholder. Dividends are often paid quarterly and represent a distribution of profits to stockholders. These payments will lower the value of the stock price after the dividend is paid. Hence, dividends also affect the prices of stock options.

Obviously, if the stock pays no dividend or if we are dealing with a futures contract or index, the dividend makes no difference. However, a dividend will lower the value of a call option and increase the value of the put option. In addition, the larger the dividend, the larger an impact it has on the price of the corresponding call option. Therefore, stocks with high dividends will have low call option premiums and higher put premiums.

Interest Rates

Changes in interest rates can also have an impact on option prices throughout the entire market. Higher interest rates lead to somewhat higher option prices, and lower interest rates result in lower option premiums. The extent of the impact of interest rates on the value of an option is subject to debate, but it is considered one of the determinants throughout most of the options-trading community.

Volatility

Volatility is an extremely important factor in determining the value of an options contract—so important that we have written an entire book on the subject! *The Volatility Course* outlines and defines various measures of volatility and also how to trade volatility using options contracts.

Why is volatility so important? All else being equal, the greater an underlying asset's volatility, the higher the option premium. To understand why, consider buying a call option on XYZ with a strike price of 50 and expiration in July (the XYZ July 50 call). The call is purchased in January. If the stock has been trading between \$40.00 and \$45 for the past six years, the odds of the option rising above \$50 by July are relatively slim. As a result, the XYZ July 50 call option will not carry much value because the odds of the stock moving up to \$50.00 are statistically small. However, suppose the stock has been trading between \$40 and \$80 during the past six months and sometimes jumps \$15 in a single day. In that case, XYZ has exhibited relatively high volatility and, therefore, the stock has a better chance of rising above \$50 by July.

Basically, an option, or the right to buy or sell the stock at \$50 a share, will have better odds of being in-the-money at expiration when volatility of the asset is high. As a result, the options will command a higher price if the stock has been exhibiting higher levels of volatility. Buyers will be willing to pay higher prices for the right to buy or sell the underlying asset, and sellers will want a greater premium to take on the obligation related to assignment of the option.

All else being equal, indexes and exchange-traded funds often have lower premiums than stocks for the same reason. Since indexes and

exchange-traded funds consist of many stocks, there is more diversification and consequently less volatility. Stated differently, indexes are less likely to see dramatic one-day moves than are individual stocks. The options market recognizes this fact; therefore, the premiums are priced accordingly.

STANDARD CHARACTERISTICS OF OPTIONS CONTRACTS

Whether trading futures or stock options, all contracts share certain basic characteristics. For example, all call options give the owner the right to buy a specific asset at a specific price for a predetermined period of time. This is true of stocks, indexes, or exchange-traded funds. All options contracts share the following seven characteristics.

1. Options give the right to buy or sell an instrument.
2. Option buyers or owners are not obligated to buy or sell the underlying instrument; they simply have the choice or option to do so.
3. An option seller (or writer) is obligated to deliver (when selling a call) or to purchase (when selling a put) the underlying asset at the predetermined price if the assigned option buyer exercises his or her right to take delivery (or to sell).
4. Options are valid for a specified period of time, after which they expire and the contracts cease to exist. Options expire on the Saturday following the third Friday of the expiration month.
5. Options are bought at a debit to the buyer. The cost is deducted from the trader's trading account.
6. Sellers receive credits for selling options. The credit is an amount of money equal to the option's premium and it is credited (added) to the trading account.
7. The strike price available for an options contract reflects the price of the underlying security. For example, if XYZ is trading for \$50 a share, the options might have strikes of 40, 45, 50, 55, and 60. The number of strike prices will increase as the stock moves higher or lower.

An important note: Exercising an option is not the only way to bank a profit or close the position. Instead, an option position can, and often is, closed at a profit (or loss) prior to expiration through offsetting transactions. To offset an open long position, the trader sells an equal number of contracts in the exact same options contract. For example, an account that is long 10 XYZ June 50 calls can close that position by selling 10 XYZ

June 50 calls. When the trade is established, it is an opening transaction. The offsetting transaction is a closing trade. In this example, the trader buys to open and sells to close. It is also possible to sell an option as an opening transaction and then buy to close the position.

A trader might choose to exercise an option rather than offset it for a variety of reasons. Exercising closes an open call option position by taking ownership of the underlying stock. If a trader wants to exercise a long (bought) stock option, the broker is notified, who then notifies the OCC. By the next business day, the account will own (if exercising calls) or have sold (if exercising puts) the corresponding shares of underlying asset or, in the case of index options, will transfer cash.

An option seller cannot exercise an option. By selling an option, the trader is taking the risk of having an assigned buyer exercise the option. The OCC randomly matches or assigns buyers and sellers to one another. If there is an excess of sellers by expiration, all open-position ITM short options are automatically exercised by the OCC. In order to avoid being assigned, short option holders can offset or close their options instead.

ANTICIPATING ASSIGNMENT

Selling puts or calls involves significant risks. However, some strategies carry relatively low risk, but also involve selling options. For example, a strategist might buy a call and sell another call with a higher strike price—a position known as a bull call spread. In that trade, which is discussed in more detail in Chapter 5, the long call covers the short call. That is, if the short call is assigned, the long call can be exercised to satisfy assignment.

Sometimes we want to sell options. But if an option is sold, how does one determine if there is a risk of assignment? While there is no way to know for certain if and when assignment will occur, there are ways to anticipate it before it happens.

Recall that sellers take on an obligation to honor the option contract. Therefore, a call writer agrees to sell the stock at a predetermined price until the option expires. Similarly, the put seller has the obligation to buy the stock (or have it “put” to him/her) at the option’s strike price until the option expires.

When a writer fulfills the obligation to buy or sell a stock, s/he has been *assigned*. Assignment is the process of buying or selling the underlying asset in accordance with the terms of the options contract. For stocks and ETFs, this involves the transfer of shares. For indexes, assignment involves cash. Once assigned, the option seller has no choice but to honor

the contract. It is too late to try to buy the option contract back and close the position.

Although option sellers have an obligation to buy or sell a stock at a predetermined price, assignment will only take place under certain circumstances. How do you know if you are at risk of being assigned? First, exercise generally takes place only with in-the-money options. Recall that a call option that has a strike price below the price of the underlying index is ITM. If an ETF is currently trading near \$55, the March 50 call options will have an intrinsic value of \$5 because the option buyer can exercise the option, buy shares for \$50, immediately sell them in the market for \$55, and realize a \$5 profit. A put option, by contrast, will be ITM when the stock price is below the strike price.

It is rare for assignment to take place when options are not ITM. As noted earlier, if an option is in-the-money at expiration, assignment is all but assured. In fact, the OCC automatically exercises any option contract that is ITM at expiration. That is, options that are in-the-money by 0.25 or more are subject to “auto-exercise.”

The second important factor to consider when assessing the probability of assignment is the amount of time value left in the option. When an option is exercised before expiration, it is known as *early exercise*. In general, if there is sufficient time value (i.e., 0.25 or more) left in the option, the option will usually not be exercised.

Option sellers can expect assignment when the option has little to no time value remaining. Since the time value of an option decreases as time passes, the probability of early exercise increases as the expiration date approaches. To determine the amount of time value remaining in a call or put option, traders can use the following formula:

$$\text{Call time value} = (\text{Call strike price} + \text{Call option price}) - \text{Stock price}$$

$$\text{Put time value} = (\text{Stock price} + \text{Put option price}) - \text{Strike price}$$

Finally, this discussion of assignment applies to American-style options. American-style options can be exercised at any time prior to expiration. However, European-style options can only be exercised at expiration. Most index options settle European-style. Options on stocks and ETFs exercise American-style. Therefore, stock option sellers can be assigned any time before the option expires. Anticipating assignment is a very important factor when using strategies that involve selling option contracts.

In sum, the probability of assignment increases as (1) the option moves in-the-money and (2) the time value of the option drops below 0.25.

There are odd times that assignment will take place with slightly out-of-the money options or options with time value remaining. These are the exception, however, and relatively low-probability events.

Assignment: A notice delivered to the option seller requesting him/her to fulfill the terms of an options contract, which includes delivering the underlying security (for a call writer) or accepting delivery of the underlying asset (for a put seller).

UNIQUE CHARACTERISTICS OF INDEX OPTIONS

Although stock options were standardized and began trading in 1973, index options didn't emerge until 10 years later. The CBOE listed options on the S&P 100 Index (\$OEX) on March 11, 1983. As we saw in Chapter 2, the number of tradable indexes has mushroomed since then. For example, in the late 1990s, the American Stock Exchange developed and listed options on exchange-traded funds, including the popular NASDAQ 100 Index Trust (QQQQ).

Over the years, other contracts have surpassed the OEX in terms of popularity. So, although it was the first index with listed options, today many traders prefer to trade the DJX, QQQQ, or SPY. Indeed, option volume on the once popular index has been declining steadily over the past few years. In 2001, in an effort to renew interest in OEX trading, the Chicago Board Options Exchange launched options on a different version of the S&P 100 under the symbol XEO (OEX backwards), which are different from OEX options in one important way.

Like stock and ETF options, OEX options settle American-style. This means that exercise can take place anytime prior to expiration. Most indexes (excluding a handful) settle European-style, meaning exercise can take place only at expiration. Many option traders do not like the risk of early exercise when dealing with cash settlement. For instance, the threat of early exercise greatly increases the risks associated with the short side of credit spreads (discussed in more detail in Chapters 5 and 6).

Given the demand for index options with the European-style exercise feature, the CBOE announced the launch of the European-style S&P 100 options on July 23, 2001. Like the OEX, the index options are based on the value of the S&P 100 Index, but exercise can only take place in a specific period of time shortly before expiration. In other words, XEO settles European-style. According to a CBOE press release, "CBOE created the new

product, XEO, in response to customer requests for an S&P 100 Index option that does not carry the possibility of early assignment.”*

So another consideration when looking at an index options contract is whether the options settle American- or European-style. Most sector indexes settle European-style, but not all. Table 4.2 lists a variety of indexes, their ticker symbols, the exchange where the options trade, and whether the options settle European- or American-style. As you can see, most sector indexes have options that settle European-style, but not all. This table provides a summation of the more interesting sector indexes. Simply looking at the name of the index will tell what specific industry group the index represents. For example, the AMEX Airline Index is an index consisting of airline stocks—no surprises there.

Where Do Index Options Trade?

Today, equity options trade on six U.S. options exchanges with the following four also active in index option trading:

- American Stock Exchange (AMEX)
- Chicago Board Options Exchange (CBOE)
- Philadelphia Stock Exchange (PHLX)
- International Securities Exchange (ISE)

These four exchanges list index options and create new contracts based on investor demand. In addition, product specifications for index option contracts can be found on their web sites (amex.com, cboe.com, phlx.com, and iseoptions.com, respectively).

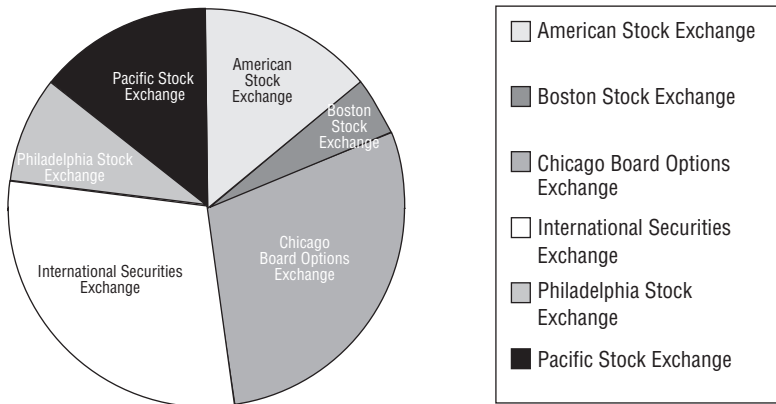
Figure 4.1 breaks down total (stock and index) options volume by exchange. The ISE and CBOE do most of the business. However, the AMEX, PCX, PHLX, and BOX also handle a large amount of options trading. Market share by exchange will change over time based on a myriad of factors including products listed and technology upgrades.

*“CBOE Announces New S&P 100 Index Options with European-style Exercise (XEO) to Launch July 23, 2001,” CBOE press release (www.cboe.com), July 13, 2001.

TABLE 4.2 Sector Indexes

Sector Index	Symbol	Exchange	Settlement-Style
The Dow Jones Utility Average	DUX	CBOE	European
PHLX Bank Sector Index	BKX	PHLX	European
PHLX Box-Maker Index	BMX	PHLX	European
AMEX Biotechnology Index	BTK	AMEX	European
MS Consumer Products Index	CMR	AMEX	European
MS Commodity-related Index	CRX	AMEX	European
MS Cyclical Index	CYC	AMEX	European
AMEX Disk Drive Index	DDX	AMEX	European
PHLX Defense Sector Index	DFX	PHLX	European
PHLX Street.com Internet Index	DOT	PHLX	European
AMEX Pharmaceutical Index	DRG	AMEX	European
PHLX Fiber Optics index	FOP	PHLX	European
PHLX Forest & Paper Index	FPP	PHLX	European
GSTI Computer Hardware Index	GHA	CBOE	European
GSTI Computer Software Index	GSO	CBOE	European
CBOE Internet Index	INX	CBOE	European
MS Oil Service Index	MGO	CBOE	European
MS Biotechnology Index	MVB	CBOE	European
MS Retail Store Index	MVR	CBOE	European
PHLX Oil Service Index	OSX	PHLX	American
PHLX Semiconductor Index	SOX	PHLX	American
DJ Transportation Average	DTX	CBOE	European
AMEX Airline Index	XAL	AMEX	European
PHLX Gold Mining Index	XAU	PHLX	American
AMEX Broker/Dealer Index	XBD	AMEX	European
AMEX Natural Gas Index	XNG	AMEX	European
AMEX Oil Index	XOI	AMEX	American
PHLX Wireless Index	YLS	PHLX	European

Options Volume by Exchange

**FIGURE 4.1** Total Volume by Exchange

MOST ACTIVE BY OPTIONS VOLUME

For the options trader, another item to consider when studying sector indexes is the liquidity of its options. Some sector indexes do not have any options linked to their performance at all. Others have option contracts available, but the options see little trading activity. For instance, many of the sector indexes that trade on the American Stock Exchange suffer from a lack of investor interest, trading volume, and, hence, liquidity.

All else being equal, the greater the trading volume and open interest associated with a sector index, the better it is for implementing trading strategies. Generally, when trading chip stocks the Semiconductor HOLDRS (SMH) are probably superior to the PHLX Semiconductor Index (\$SOX) because the SMH sees a great deal more trading activity.

Of all the index and exchange-traded funds, the QQQQ holds the position for today's most actively traded options contracts. Table 4.3 lists the top 10 indexes in terms of options trading volume. The S&P 500 (\$SPX) and the NASDAQ 100 Index (\$NDX) are among the more heavily traded. The Semiconductor HOLDRS and the iShares Small Cap Fund (IWM) are also among the more actively traded index options contracts.

TABLE 4.3 Ten Most Active Indexes by Options Trading Volume

Index	Symbol
NASDAQ 100 Index Trust	QQQQ
S&P 500	SPX
Russell 2000 Small Cap Fund	IWM
NASDAQ 100	NDX
Semiconductor HOLDRS	SMH
Mini-NASDAQ 100 Index	MNX
Dow Jones Diamonds	DIA
S&P 100	OEX
Select Sector Energy	XLE
Dow Jones Industrial Average	DJX

MAKING SENSE OF CASH SETTLEMENT

When it comes to settlement, there are two different types of options: cash-settled options and physical delivery options. Stock options are an example of the latter. Specifically, an owner of a call option has the right to receive delivery of a physical asset—a stock. The owner of a put stock option has the right to sell 100 shares of stock per option contract. Exchange-traded funds also settle for the physical delivery of shares.

Index options, however, do not involve the physical delivery of an asset because it is not possible to buy and sell an index. Instead, cash-settled calls and puts give the owner the right to receive cash. In order to determine how much, if any, cash the option holder is entitled to receive one must consider the relationship between the exercise settlement value and the strike price of the option. Let's consider an example using the PHLX Gold and Silver Mining Index (\$XAU) to see how cash settlement works.

Exercise settlement value: The value of the index at the time of expiration.

Exercise settlement amount: The difference between the exercise price and the exercise settlement value of an index on the day the exercise notice is tendered, multiplied by 100.

The Gold and Silver Mining Index (XAU) is one of the more actively traded sector indexes. It tracks a basket of gold mining stocks and is considered a tool for playing trends with respect to the price of gold. However, the relationship between the XAU and gold is not perfect.

Nevertheless, suppose the strategist is bullish on the index, thinks it will be above \$95 by September, and decides to buy five of the September 85 calls for \$7.50 per contract. The cost of the trade is \$3,750 ($\$7.50 \times 100 \times 5$) plus commissions. The breakeven for the call position is 92.50 (85 strike price + \$7.50). Therefore, at expiration (Saturday after the third Friday of September), the exercise settlement value must be above \$92.50 for the calls to yield a profit. If, at that point, the index options are exercised, the owner of the calls will receive cash equal to the difference between the strike price and the exercise settlement value.

Let's assume the XAU rises to 95 and, therefore:

Exercise settlement value	95
Less strike price	<u>85</u>
Difference/cash payment	\$10

The profit from the position would equal:

Amount received ($5 \text{ contracts} \times 100 \times \10)	\$5,000
Less cost of calls	<u>3,750</u>
Profit	\$1,250

If the index fails to move above the breakeven (92.50), the position will not yield profits. The maximum loss will occur at 85 or less, because at that point, the call options will expire worthless.

Importantly, XAU options can be exercised any time prior to expiration. That is, XAU options settle American-style. The options do not have to be held until expiration, and the position can be closed at any time by selling the same number of calls with the same strike price and expiration date—five XAU September 85 calls. However, keep in mind that most index options settle European-style and, therefore, can only be exercised at expiration. XAU is an exception to that rule.

Put contracts work the same way. As we have seen, when a cash-settled option is exercised, the amount of the cash payment is equal to the difference between the exercise settlement value and the strike price of the index option. With a cash-settled call, the owner has the right to receive cash if the value of the underlying index at expiration—the exercise settlement value—exceeds the exercise price of the option. In contrast, the put owner has the right to receive a cash payment if the exercise settlement value is less than the option strike price.

In order to determine the value of a cash-settled option at expiration, one must first consider the exercise settlement value and the strike price of the index option. The underlying asset price is, of course, simply the value of the index and can be found at any time by pulling up a quote. The

exercise settlement value is generally determined on the last business day prior to expiration and is based on the first (opening) reported sale price for each component stock within the index.

Expiration is the Saturday following the third Friday of the expiration month, but the last day to trade index options is often the Thursday prior to expiration. There are exceptions, however. For that reason, prior to entering a trade, the index strategist wants to carefully consider the contract specifications, including:

- How and when the index settlement value is computed.
- The last day for trading the options (Thursday or Friday).
- Whether the index options settle American- or European-style.

WEEKLYS

In October 2005, while we were writing this book, the Chicago Board Options Exchange launched a new type of index contract called *weeklys*. The new contract has a short life of only one week. It is listed on Friday and expires the following Friday. The first weekly was an option on the S&P 500 Index (\$SPX).

This new short-term contract allows strategists to place short-term trades on the stock market. For instance, traders expecting the stock market to rally throughout the week might buy SPX weekly calls on Monday and then sell them before expiration Friday. Additionally, strategists worried about a market slide can buy puts on the index and then close the position at a profit if the market tanks.

Since the weekly options have such a short life, they will have relatively little time value in the options contract. In addition, any time value that exists on the first Friday when the weekly is listed will quickly erode due to the impact of time decay. Remember, options with only a few days left until expiration see a greater rate of time decay when compared to longer-term options. This can create opportunities, as well as challenges, which are discussed in more detail later in this book.

EXPIRATIONLESS OPTIONS

Not too long before weeklys arrived, the Philadelphia Stock Exchange started trading *expirationless options*, or XPOs for short. XPOs are similar to American-style options in that they come in the form of both calls (the right to buy) and puts (the right to sell), and can be executed by the

buyer at any time; they do not, however, have an expiration date. They have various strike prices just like an American-style option, and the premium is based on the same factors (type of option, strike price, price of the underlying asset, volatility of the underlying asset, and the risk-free interest rate). XPOs form a bridge between the expiring and non-expiring markets. They provide for the equitization of futures contracts because the XPO provides the right to buy or sell without the dual liability of futures contracts or the expiration and delivery risk associated with these products. Hence, XPOs provide all the benefits of an option contract without the risk of expiration. They also offer a reduction in trading costs by eliminating the market inefficiencies that exist when options or futures contracts need to be rolled over. Therefore, XPOs really are expirationless. You can find out more about XPOs at www.xpotrade.com.

INDEX FUTURES VERSUS OPTIONS

Futures are agreements to take delivery of (for the futures buyer) or to deliver (for the seller) an asset at some point in the future. Stock index futures contracts expire quarterly in March, June, September, and December. Futures traders can go long or short futures contracts. For example, a speculator expecting the S&P 500 Index to move higher can buy S&P 500 futures; a hedger looking to protect a portfolio from a move lower in the S&P can sell short S&P 500 futures.

One important characteristic that differentiates futures from options is that, with futures, no money changes hands when the futures contract is established. As a result, when an investor goes long or short a futures contract, the amount of funds required in the account will equal the margin requirements. Then, at the end of each trading day, the account will be marked-to-market and funds will be added or subtracted from the account depending on the final value of the position at the end of the trading day.

Futures and options on futures can also be used to trade the index market. Many of the ideas presented later in this book can be implemented using futures and futures options. However, futures contracts are regulated separately from stock and index options and therefore require a separate type of trading account. The focus of this book and our earlier books is not on futures and options on futures, but rather on options for stocks, indexes, and exchange-traded funds. A link to a list of brokers that provide trading accounts for the stock and index option contracts is given in Chapter 16.

QUOTES, SYMBOLS, AND CHAINS

Option quotes and chains are tools that traders use to find prices and place orders. Similar to stocks, option price quotes can be found using symbols. Option chains, meanwhile, provide strategists with a wealth of information concerning an options contract. Not only do option chains offer the current market prices for a series of options, but they also provide an option's liquidity, the strike prices available, and the expiration months. In fact, option chains are so important that most reputable brokerage firms offer them to their clients with real-time updates.

Not long ago, option chains were available mostly to brokerage firms and other professional investors. Today, however, individual investors can go to a number of web sites and find option chains. Most online brokerage firms provide them, as do several options-related web sites. For instance, at the Optionetics.com home page, pulling up an options chain for any given stock is simply a matter of entering the ticker symbol in the quote box at the top of the screen and selecting "chain."

Table 4.4 shows an option chain snapshot of some Semiconductor HOLDRs options taken from Optionetics.com. Notice first that like any other option chain, it is split down the middle to provide information about both calls and puts. On the left half of the table the call option contracts for SMH are listed, and on the right side, put options are sorted by strike price. Because there are a large number of puts and calls available

TABLE 4.4 SMH Options Chain

Calls	Bid	Ask	Open Interest	Strike Price	Puts	Bid	Ask	Open Interest
SMHAD	17.60	17.70	3944	Jan06 20.00	SMHMD	0.00	0.050	10049
SMHAX	15.10	15.30	1966	Jan06 22.50	SMHMX	0.00	0.050	4
SMHAE	12.60	12.80	3984	Jan06 25.00	SMHME	0.00	0.050	10014
SMHAY	10.10	10.30	2068	Jan06 27.50	SMHMY	0.00	0.050	1553
SMHAF	7.60	7.80	24705	Jan06 30.00	SMHMF	0.00	0.050	50829
SMHAZ	5.20	5.30	6394	Jan06 32.50	SMHMZ	0.050	0.10	27431
SMHAG	2.90	3.00	53081	Jan06 35.00	SMHMG	0.20	0.25	73847
SMHAU	1.05	1.10	52177	Jan06 37.50	SMHMU	0.85	0.90	63736
SMHAH	0.20	0.25	84281	Jan06 40.00	SMHMH	2.45	2.55	11857
SMHAV	0.00	0.050	46493	Jan06 42.50	SMHMV	4.80	5.00	1263
SMHAI	0.00	0.050	4595	Jan06 45.00	SMHMI	7.30	7.50	183

Source: Optionetics.com.

for this fund, it is important to keep in mind that only a fraction of the available options are listed in the table. In this case, the table includes only the January options.

The first factor to understand when considering an option chain is the manner in which the options are sorted. Again, calls are generally on the left half of the table and puts are on the right. Each row, then, represents two different contracts. These contracts are first sorted by month. Therefore, at the top of the chart, the front month (or the next expiration) appears first. Since this option chain was taken December 20, 2005, the front month is January 2006 and it appears at the top of the option chain. February 2006 would appear second (only January is included in this table), and each expiration month available would then follow in order. In the case of SMH, the option chain ends with the January 2008 long-term equity anticipation securities (LEAPS) with the 45 strike price.

Within each month, option contracts are sorted by strike price. The options in this table begin at a strike price of 20 and end with a strike price of 45 (again, not all of the strike prices for SMH options are listed on the table). So the option chain listed here includes 11 call option contracts and 11 put option contracts, all of which expire in January. Most option chains are sorted in this manner and include a list of all expiration dates and strike prices for that index or exchange-traded fund.

Each column within the table provides a different piece of information. On each side of the table (call and put), the first row lists the option's symbol. For example, on the left half of the table, the third row from the bottom shows the January 40 call, which has the ticker symbol SMHAH. "SMH" is the root symbol for the Semiconductor HOLDRS options, "A" represents the month of January, and "H" represents the strike price.

As with stocks, options have a bid price and an asking price, which appear in columns 2 and 3. The *bid* is the current price at which the market will buy the option and the *ask* is the price at which the market will sell the contract. Since this table is delayed and not real-time, we would not necessarily use this bid and offer as a guide when entering orders. Instead, we would want live data, which is usually available through the broker placing the order.

The final column indicates the option's open interest. Open interest is the total number of contracts that have been opened and not yet closed out. For instance, if an option trader buys (as an initial transaction) 5 February 65 calls, the open interest on that call will increase by five. When the trader later sells those five calls (to close the transaction), open interest will decrease by five. Generally, the more open interest, the greater the trading activity associated with that particular option and, hence, the better the liquidity. Open interest is only updated once a day.

The information included in an option chain will differ somewhat depending on the source, but the variables described earlier are the most common. In addition, many brokerage firms offer option chains with real-time quotes. As the options trade, each row will blink as the last price is updated, or when the bid and offer change. In this way, it becomes easy to view the price movement of a variety of different contracts simultaneously, which can help the trader sort through and identify the option contract with the most appropriate strike, expiration month, and market price for any specific strategy.

A NOTE ABOUT RISK GRAPHS

Since options are derivatives, their values will depend on the price of another asset. For example, the prices of put and call options on the S&P 500 Index (\$SPX) are derived from the value of the S&P 500 Index. In this case, the index is considered the underlying asset. As its value changes, so will the value of the options. For that reason, many option strategists like to consider what will happen to the value of their options under different scenarios—in other words, assuming price changes in the underlying asset.

There are two primary ways option strategists can view the outcome of a given option strategy assuming price changes in the underlying stock. The first method is to create a table. For example, Table 4.5 considers call options on the Semiconductor HOLDERS (SMH). In this example, the SMH is the underlying asset. At the time of this example, shares of the fund are trading near \$35, and one December 35 call can be purchased for \$1.25 (or \$125 per contract).

Table 4.5 was created in order to see the risk and reward of holding the SMH December 35 calls. The prices are those that can exist at expiration,

TABLE 4.5 Potential Profit and Loss from SMH December 35 Call Purchase

SMH at Expiration	Dec 35 Call at Expiration	Profit/Loss (Intrinsic Value)
\$30.00	\$0.00	−\$125.00
\$32.50	\$0.00	−\$125.00
\$35.00	\$0.00	−\$125.00
\$37.50	\$2.50	\$125.00
\$40.00	\$5.00	\$375.00

or at close of business on the third Friday in December. Notice that if the stock falls below \$35 a share, the position loses \$125. In other words, the option expires worthless below \$35 a share and yields no profit. On the other hand, if the stock climbs to \$37.50, the options are worth \$2.50 and the profit totals \$1.25 per contract, or \$125. At \$40 per share, the profit equals \$375 ($\$5.00 - \$1.25 = \3.75, multiplied by 100 shares). Notice that the position breaks even at \$36.25 because the call is worth \$1.25, or equal to the initial cost when purchased.

A second way to see the potential profit or loss from an option trade is with a risk graph, which plots the profit from the option on one axis along with the price of the stock on the other axis. Figure 4.2 is an example of a risk graph using the same SMH December 35 call with the fund trading near \$35.11 a share and 43 days left until expiration. The cost of the option is \$1.25 per contract, or \$125.00.

The potential profit from being long this call is plotted along the horizontal axis and the price of the stock is on the vertical axis. The chart was created using Optionetics.com Platinum, and we use many of these charts throughout this book. Notice the line that is the farthest to the left. It plots the same information as the table. In other words, that line considers the potential profit and loss of the SMH December 35 call at expiration. Just as we saw on the table, the profits begin to accrue when SMH reaches

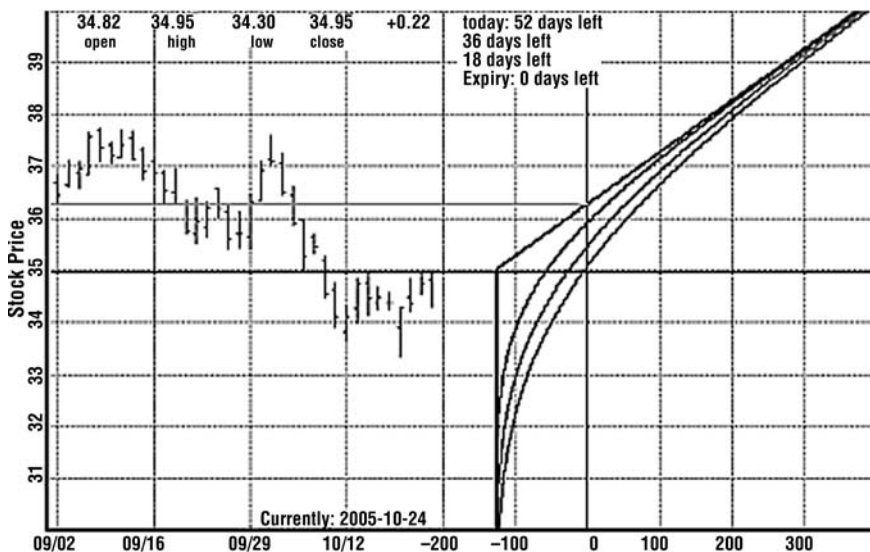


FIGURE 4.2 SMH Price Chart and Risk Graph for SMH December 35 Call Option
(Source: www.Optionetics.com Platinum)

\$36.25 a share. In other words, at expiration, \$36.25 is the breakeven, or the point where the trade yields no profit or loss (excluding commissions). A vertical line is drawn at zero on the risk graph to mark the breakeven point. Notice that prior to the stock reaching \$36.25, the profit (black line) is to the left of zero and the position is showing a loss.

Unlike the table, the risk graph in this example also considers time frames prior to expiration. The other lines, which appear as different colors when looking at a computer monitor, show the risk/reward with various days left until expiration. The one that is the farthest to the right shows the profit and loss in the call option with 52 days until expiration; the farthest to the left shows the call at expiration.

Risk graphs are helpful because they give the option strategist a better idea of the profit and loss potential, not just at expiration, but also as the option premium loses time value. In addition, risk graphs are simple and convenient because they can be created quickly and easily using Optionetics.com Platinum or other options trading software.

Finally, risk graphs are not limited to simple calls and puts but can also be created for more complex strategies such as spreads and straddles. Doing so provides the options trader with a quick visual presentation of the profit and loss potential of any option strategy, which can save a substantial amount of time when screening for the next potential winning trade.

CONCLUSION

Strategists have two vehicles from which to choose when trading the index market: (1) shares of exchange-traded funds or (2) options on the underlying index or exchange-traded fund. The options contracts are similar to stock options. They come in two types: puts and calls. Finding quotes, creating options chains, and developing risk graphs are the same for both stocks and indexes.

Index options, however, also have unique characteristics that make them different from stock options. Before developing strategies on the index market, traders want to ask a series of questions including the following:

- Does this product settle for cash or shares?
- Is the last day to trade the option on a Thursday or a Friday?
- Do these options settle American- or European-style?

If uncertain, strategists can obtain product specification information from the various web sites where the index options trade. Please see Chapter 15 for a list of index web site addresses.

Basic Strategies Using Call Options

A large number of options strategies have been covered in detail in our three previously published books: *The Stock Market Course*, *The Options Course*, and *The Volatility Course*. In order to prevent too much repetition, this book does not provide an overview of all options strategies. Instead, we prefer to focus on identifying profit-making opportunities in the index market using trading strategies such as market timing, sector rotation, and system trading. All of these important issues are discussed in greater detail in later chapters.

For now, we continue the foundational task of building a knowledge base, beginning with a discussion about basic options strategies. Readers who already understand strategies such as long calls, covered calls, and vertical spreads are encouraged to skim through this chapter and move on to the next. However, since options are used extensively throughout later chapters, a thorough understanding of these basic strategies is a must!

LONG CALL

We have already introduced the basics of options trading, including the most fundamental strategy, the *long call*. The term *long* is used often and simply means that the trader is holding a position. For example, if a trader is “long 100 shares of SMH,” he or she has purchased and is holding shares of the Semiconductor HOLDers in hope that the price will move higher. On the other hand, a *short* position is one where the trader borrows shares

from the brokerage to “short sell,” in the belief that the asset will decline in price. In the strategies used here, traders can be long or short shares, puts, or call options.

So, as the term implies, a long call is simply buying and holding a call option. We saw this trade in our discussion about risk graphs in the previous chapter. Specifically, we analyzed the Semiconductor HOLDERS trading near \$35 a share and assumed that a trader purchased one December 35 call for \$1.25 a contract. So the total premium is \$125 for one contract, which gives the owner the right to buy (“call”) 100 shares of the SMH for \$35 per share.

To compute the breakeven, the cost of the option contract (the premium) is added to the strike price of the call. In this case, the breakeven is \$36.25 ($\$35 + \1.25). Traders will often exit the long call strategy before expiration if the underlying asset moves dramatically higher or lower. If it jumps higher, the call can be sold at a profit in most cases (although time decay and volatility will also affect the premium). If the underlying asset falls in price, the long call position can be closed at a loss. If it falls below the strike price and is not sold, it expires worthless.

The Long and Short of It

Long: A term used to describe an ownership position in a stock, option, or other investment. Being long shares and calls is a bullish strategy that profits when the price of the asset moves higher. Being long puts profits in a bearish market when the price of the underlying asset moves lower.

Short: A term used to describe the selling of a stock, option, or other investment. Stocks are best sold short in bearish markets when the share price moves lower. Selling a call is a bearish strategy while selling a put is a bullish one. When selling stock, a short seller borrows shares from the broker and sells them at the current market price. The shares are eventually bought back and returned to the broker. Investors can also short puts and calls. However, options contracts are not borrowed from the broker. Instead, a short put or call can be established at any time, if the broker allows this type of strategy. In some cases, the broker will not allow short selling of options because of the risks involved.

When do long calls make sense? Since the premium is relatively small compared to the price of the underlying asset itself, the trade is relatively inexpensive. Therefore, call buyers are often speculators betting on a move higher in a stock, index, or exchange-traded fund. Basically, the long call provides a low-cost way of profiting from a move higher in the underlying asset. In sum, the strategy works well when the strategist expects

the underlying asset to move higher and wants some leverage. It is an aggressive trade.

For example, suppose the strategist expects chip stocks to make a run toward the end of the year. In 2003 and 2004, the technology sector did well during November and December. Consequently, during mid-October, the strategist makes an aggressive play by purchasing the December 35 calls on the Semiconductor HOLDRs. The SMH is trading near \$35 a share at the time. The calls cost \$1.25 a contract.

The risk graph of the SMH December 35 call was explained in the previous chapter. We see it again in Figure 5.1. The risk graph gives us a visual display of the profit/loss potential of the trade. For example, the cost of the trade is the entry debit of \$125, which is the premium (\$1.25) times the multiplier (100). Since the trade was just established, the profit is zero; the option has not increased or decreased in value. The potential profit is unlimited, however, and will rise along with the price of the SMH. For example, if the SMH rises to \$70 (unlikely but possible) before expiration, the value of the December 35 call will rise to \$35 per contract, or \$3,500, plus any remaining time value. Therefore, the long call has relatively low risk equal to the premium paid, but high profit potential.

The long call can be used to profit from a rise in the underlying ETF or index. When using this approach, the strategist faces several important

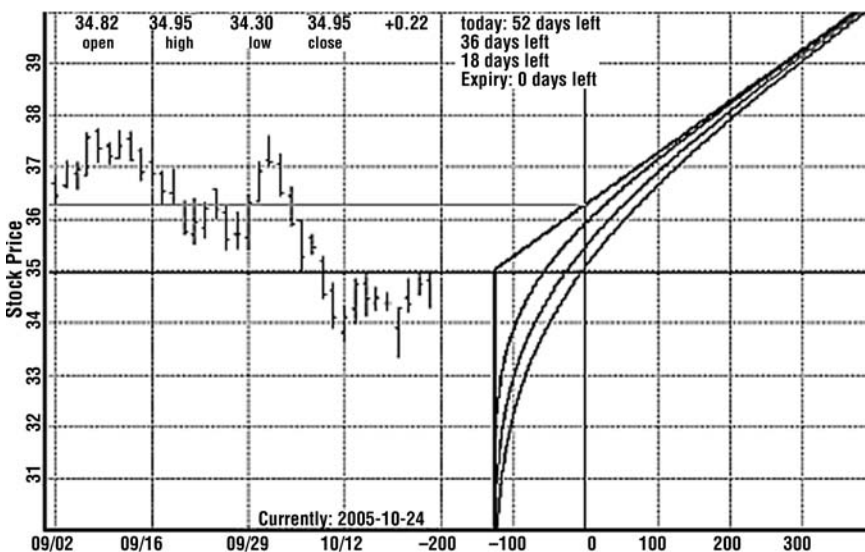


FIGURE 5.1 SMH December Long Call Risk Graph (Source: www.Optionetics.com Platinum)

questions. These include which option strike price and expiration dates are best when looking to profit from a move higher in the underlying asset. Out-of-the-money strike prices provide greater leverage (because the premiums are smaller), but they also have a greater chance of expiring out-of-the-money. Short-term options will see a faster rate of time decay and therefore are better used when the expected holding period is short. Given these considerations, the strategist will use short-term at-the-money or out-of-the-money options when bullish and looking for an aggressive move higher. Longer-term and in-the-money options are better when looking longer-term and expecting a more moderate move higher.

The exit strategy is also important. In fact, the success of any trade requires an understanding of not just when to buy but also when to sell. Often overlooked by new traders, the exit is just as important as the entry. The long call strategist may be looking for a percentage gain as large as 50 or 100 percent, which is not unusual, but the key, of course, is timing. This subject is discussed in greater detail later in the book.

Putting the question of timing aside for now, call options with a few weeks of life remaining will see a relatively fast rate of time decay, particularly for at-the-money options. Given this characteristic, the long call should generally be closed out well before expiration due to the negative impact of time decay. For that reason, we often suggest exiting any long call position at least 30 days prior to expiration.

The worst-case scenario for a long call trade is that the stock price falls and the call option expires worthless. Therefore, the strategist will often establish a maximum loss threshold for exiting the trade. For instance, if the call loses more than 25 percent of its value, close the trade. A second approach would be to exit the option position if SMH falls below \$34.50 a share. These specific exit points are called *stop-losses*.

On the other hand, if the stock price moves higher, the strategist can exercise the option or close it at a profit. In most cases, the call will be closed out through an offsetting trade rather than exercised. Exercise generally doesn't make sense unless there is no time value remaining in the option and the strategist specifically wants to be long the shares.

Opening and Closing Transactions

An opening transaction occurs when an option strategist initiates a position. For instance, if a trader buys 10 QQQQ calls in anticipation of a move higher in the Qs, it is an opening transaction.

An offsetting or closing transaction cancels an open position. It is accomplished by doing the opposite of the opening transaction. For example,

Opening and Closing Transactions *(Continued)*

if the trader wants to cancel the long 10 QQQQ calls, 10 QQQQ calls will be sold to close. There are four ways to offset an option transaction:

1. If you bought a call, you have to sell a call.
2. If you sold a call, you have to buy a call.
3. If you bought a put, you have to sell a put.
4. If you sold a put, you have to buy a put.

THE SHORT CALL

In a *short call* trade, the strategist is selling call options to establish a position. It is a bearish strategy because it works best when the price of the underlying asset is expected to fall. However, if the strategist sells an out-of-the-money call, the trade can yield profits even if the underlying asset price stays flat or moves higher. As long as the short call expires worthless, the call writer is generally okay.

However, the risk to the short call is that the underlying asset moves to the upside. If the price of the underlying asset makes a big move higher, the call writer can run into trouble. In fact, there is no limit to the potential losses from a short call because, theoretically, there is no limit as to how high the price of an asset can climb.

Let's consider an example. The strategist expects the market to trade flat or modestly lower during the final two months of the year. To capitalize on this expectation, a short call is established in early November on the SPDRs (SPY), which is trading near \$121 a share. The strategist sells 10 of the SPY 125 December 2005 calls for \$0.70 a contract. The sale brings in premium of \$700 ($\$0.70 \times 10 \text{ contracts} \times 100$), which the strategist will keep as long as the SPY stays below \$125 by December 2005 expiration.

Figure 5.2 shows the risk profile of the short call position. Notice how the profit/loss lines slant upward and to the left. The line furthest to the right represents the risk at expiration. It confirms that if the SPY stays below \$125 a share, the strategist can keep the entire credit of \$700. However, once the SPDRs climb above \$125, the curve begins to slant in.

The trade breaks even at \$125.70, while the short calls are likely assigned at \$125 and higher. To avoid possible assignment the strategist can purchase the calls back at approximately \$0.70 to offset the position prior to expiration. As an alternate approach, the strategist can buy the shares for \$125.70 to satisfy assignment. However, these shares are then assigned



FIGURE 5.2 SPY December Short Call Risk Graph (Source: www.Optionetics.com Platinum)

(sold) for \$125 and the transaction realizes a \$0.70 per share loss. Since selling 10 calls is a commitment to sell 1,000 shares, the assignment results in a \$700 loss—the premium received for selling the 10 SPY December 125 calls. In short, the breakeven is equal to the strike price plus the premium received from the short call. The losses begin to pile up as shares rise above \$125.70.

The call's potential loss is unlimited. Losses continue to increase as the price of the underlying asset rises above the breakeven, and there is theoretically no limit to how high it can go. Therefore, given the risks involved, the short call is *not* a recommended strategy for private investors. It is generally less risky when applied to the index market than to stocks because an exchange-traded fund or an index is less likely to experience a one-day surge that might sometimes take shares of an individual company higher.

For instance, imagine selling calls on Google (GOOG) when it started trading in August 2004, only to see it double from \$100 to \$200 a share in the months that followed. Say a trader sold the October 100 calls for \$8 a contract, assuming the stock would fall shortly after the company's IPO, and then waited until October expiration to cover. Less than two months later, those same calls were trading for \$44 a contract. Therefore, the strategist would be buying back the contracts for a \$36 loss, or \$3,600 per contract!

Obviously, selling naked calls can be a tough way to make a living. An index is not likely to make such a dramatic move. Nevertheless, the losses from a naked call gone awry can be significant, especially when dealing with the large cash-settlement indexes such as the S&P 500 Index or the NASDAQ 100 Index. So instead of using naked calls, strategists who want to sell premium in a down market might want to focus on an options spread strategy, such as the bear call spread.

BEAR CALL SPREADS

Traders who sell options receive credits into their trading accounts equal to the premium of the options. In the Google example, the premium for selling the October 100 call was \$8, or \$800 per contract. Selling options may be used to generate income from a portfolio; however, as we have noted, the risks can be great. The *bear call spread* is a vertical credit spread strategy that profits from selling options, but with significantly less risk than naked option selling.

A bear call spread consists of selling a lower strike call and buying a higher strike call using the same number of options and identical expiration dates. The trade works when the underlying asset closes below the strike of the short option. Therefore, a bear call spread works when the strategist is bearish or neutral on the underlying asset.

The bear call spread offers limited profit potential with limited risk. The maximum reward is achieved when the closing price of the underlying security is below the lower strike call. In that case, both calls expire worthless and the strategist can keep the credit from the trade. The maximum risk is equal to the difference between strike prices minus the net credit, and occurs when the price of the underlying asset closes at or above the strike price of the long option.

To see how the bear call spread works in the real world, let's consider an example using the AMEX Airline Index (\$XAL). It's late November and the airline sector has been strong, but the strategist expects the group to hit some turbulence early next year. With the airline index trading near 51, the strategist sells the January 50 call for \$4.00 and hedges that bet with the purchase of a January 60 call for \$0.25 a contract. So the bear call spread consists of a short January 50 call and a long January 60 call.

Figure 5.3 shows the risk graph of the bear call spread on the AMEX Airline Index. The profit potential is limited and occurs if the airline index loses altitude before the options expire. The maximum profit is equal to the premium received for selling the XAL January 50 call minus the premium paid for the long call, or \$375 per contract $[(\$4.00 - \$0.25) \times 100]$. The maximum profit is therefore \$375 and occurs if the XAL falls below 50 at expiration.



FIGURE 5.3 XAL January Bear Call Spread Risk Graph (Source: www.Optionetics.com Platinum)

Losses begin to occur if airlines begin to drift northward. The breakeven is equal to the strike price of the short call plus the net premium received for selling the spread ($\$50 + \$3.75 = \$53.75$). Beyond that price, the spread will begin to lose money as expiration approaches. For instance, if the value of the XAL is 55 at expiration, the trade will lose \$1.25 per spread.

However, the long call will cap the losses once the XAL reaches \$60. At this point, if the short call is assigned at 50, the long call can be used to satisfy assignment. In that case, the strategist will be assigned at 50 per share and can exercise the XAL January 60 call, resulting in a \$1,000 loss per spread. However, the strategist also keeps the \$375 premium from selling the spread. Therefore, the maximum loss is \$625 ($\$1,000 - \375) and occurs if XAL is 60 or greater at expiration. Hence, the maximum loss from the bear call spread is computed as the difference between the two strike prices minus the net credit.

The example shows that the risk graph of a bear call spread slants up and to the left due to the fact that it loses money as the underlying asset moves higher in price. It is similar to the short call, but with one important difference—the long call caps the potential losses for the trade.

However, the farther out-of-the-money the long call is, the greater the risk of the trade. For example, a deep OTM call might be used when the strategist is looking for disaster insurance, but a more conservative bear call spread can be established by using two calls with strike prices a bit

closer together. In the airline example, the strategist could limit the risk even further by purchasing the XAL January 55 call instead of the January 60 call. However, that would also reduce the credit received from the bear call spread. Finding the right spread is a balancing act

The exit strategy for the bear call spread is straightforward if the index does indeed move lower. If the underlying index falls to the price of the short call, the bear call spread reaches its maximum profit potential. At this point, the strategist can't do anything but simply let the options expire worthless and keep the initial credit.

Conversely, if the price of the underlying shares rises to the strike price of the long call, the maximum loss occurs. Generally speaking, the strategist should close out the spread well before expiration if it appears that the original forecast and direction of the underlying prove incorrect. Again, establishing stop-loss targets is one way to determine if and when to bail out of a bear call spread. For instance, using the previous example, if the XAL rises above 55, the strategist might choose to exit the spread.

If the underlying asset closes in between the two strike prices, the short call is assigned and the strategist will be forced to deliver cash equal to the difference between the XAL settlement value and the strike price of the option. Since the XAL settles European-style, this can only happen at expiration. If it does, the strategist keeps the premium from selling the spread and the long call will expire worthless. If the loss from the assignment of the short call is less than the premium received from selling the spread, the trade results in a profit. That is, if the XAL settles below the breakeven of 53.75, the strategist banks a profit from the bear call spread.

The Risk of Unexpected Assignment

It should be noted that significant news after the close of trading on the last day can result in unexpected assignments for nonindex securities. Let's consider a bear call spread using the Oil Service HOLDRs Trust (OIH), which is trading at \$133. Assume the short call strike price is 135 and the long call strike price is 140. At the end of trading immediately prior to expiration, OIH closes at \$134.90. What would happen if some significant news event is expected to push oil to \$200 a barrel? Wouldn't the oil service industry stand to benefit substantially from such a move? A long holder of the expiring 135 call may decide to exercise his or her rights after the close of trading even if the underlying closed below the strike price. Although this is an extreme and atypical scenario, it can happen. Be aware of such a possibility and monitor conditions after the close of the underlying so you can appropriately manage your risk.

COVERED CALLS

Covered calls are used to generate cash from selling options on an existing position such as a stock or exchange-traded fund. This popular technique is referred to as a *buy write* strategy. In a buy write, the sale of call options serves two purposes. First, it can bring income to a portfolio via the selling premium. Second, the sale of the call provides some downside protection by decreasing the effective purchase price of the stock or ETF and thereby decreasing the total capital at risk. To create the position, the strategist buys shares and sells calls against those shares. One call is sold for every 100 shares held. The call can be written against an existing position or as part of a new trade.

While this strategy is most often used with stocks, we will consider its use on exchange-traded funds. Keep in mind that any combination strategy that uses shares and options cannot be applied to indexes such as the S&P 500 Index (\$SPX) or NASDAQ 100 (\$NDX) because these are cash indexes with no tradable shares. However, they can be applied to ETFs (exchange traded funds). The covered call is also used in one of the enhanced index strategies discussed later in the book.

Let's consider an example of a covered call using the NASDAQ 100 Index Trust (QQQQ). During the late 1990s, the NASDAQ was a volatile place and the QQQQ, which holds the top 100 NASDAQ stocks, became a manic-depressive beast. It would see huge rallies and sharp declines. Volatility was high, to say the least. That has since changed, however, and during the years 2004 and 2005 volatility on the NASDAQ imploded. As of this writing, the QQQQ has been trading quietly.

Narrow, range-bound trading is what strategists want to see when establishing covered calls. Ideally, the underlying ETF will see modest capital appreciation over time and the strategist can continue to sell calls against those appreciating shares. If the underlying shares fall too much in price, the trade will result in a loss. On the other hand, if the price rallies, the short call will be assigned. While it will probably result in a profit, the strategist will be taken out of the trade and not be able to fully participate in the bullish move.

For example, in March the strategist sets up a buy write with the purchase of 1000 QQQQ shares for \$36.50 a share and the sale of 10 QQQQ June 40 calls for \$0.50 a contract. The cost of the trade is equal to the price of the shares minus the premium received for selling the calls, or \$36,000 [$(\$36.50 - \$0.50) \times 1,000$], which is also the breakeven.

Ideally, once the strategist has established the covered call, shares of the QQQQ will begin to trend higher. Figure 5.4 shows the risk graph of the trade. It slopes upward and to the right because the profits increase as the value of the underlying index moves higher. However, at a certain



FIGURE 5.4 QQQQ June Covered Call Risk Graph (Source: www.Optionetics.com Platinum)

point, the gains are capped because of the obligation from the short calls. Once the underlying asset reaches the strike price of the short call, assignment becomes more likely. In this example, the gains max out at the strike price of 40. At that point, the short calls are assigned at \$40 a share and the strategist will be forced to sell the stock at that price. Nevertheless, the position realizes a \$4,000 profit, which is equal to the strike price minus the net cost of the trade [$(\$40 - \$36) \times 1000$].

If the shares decline in price, the covered call begins to lose money. Therefore, the risk of the covered call is similar to the risk of owning shares outright, but somewhat less due to the sale of the call options. If the options are deep out-of-the-money, the premiums will be less, but the upside potential will be greater. Selling options that are at- or near-the-money will yield a greater premium, but less upside potential. In the QQQQ example, the premium was 50 cents per contract for an investment trading for \$36.50. Therefore, the downside protection from the short calls was only 1.4 percent. If the strategist sold the QQQQ June 37.50 calls instead, the call premiums are greater—roughly \$1.00 a contract, or almost 3 percent. The strategist needs to determine which trade-off is more important.

The exit strategy for the covered call will depend on the movement in the underlying share price. The worst-case scenario is for the price of the underlying asset to plummet below the breakeven. In that case, the

strategist will want some sort of stop-loss or price level to exit the position. If the price of the underlying asset remains stable and below the strike price of the option, the strategist lets the calls expire worthless. The shares can then either be exited or be held with the prospect of selling more calls. A strong upward move in the underlying that pushes it above the option strike price will likely result in assignment. If assignment is not the desired outcome, the strategist needs to close out the short calls by entering an offsetting trade.

CALL CALENDAR SPREADS

Just as with the covered call, the *calendar spread* is a trade that can be used when the trader expects a gradual trend or sideways move in the underlying index. However, rather than using shares and options, the calendar spread uses only options. It is sometimes called a *horizontal spread* or *time spread* because it uses two options with the same strike price but different expiration dates. In most cases, the option strategist creates a calendar spread by purchasing a longer-term option and selling a short-term option.

Calendar spreads can be created when the strategist is neutral or has a directional bias on the underlying index. Basically, in a neutral calendar spread the trader is taking advantage of the fact that short-term options lose value due to time decay at a faster rate than long-term options. However, strategists can also create both bullish and bearish calendar spreads depending on their outlook for the underlying shares. In this chapter, we consider the bullish calendar spread with calls; in Chapter 6, we take a closer look at a bearish one using puts.

To create a call calendar spread, the strategist buys a longer-term call and sells a short-term call with the same strike price. The number of months remaining in the lives of the options contracts can vary, but ultimately, the strategist wants the longer-term option to retain its value or appreciate and the short-term option to lose value from time decay.

Vertical versus Horizontal Spreads

The names *vertical*, *horizontal*, and *diagonal* relate to the way that newspapers used to publish tables of closing option prices.

A vertical spread is a trade that involves the simultaneous purchase and sale of options on the same stock with the *same expiration date*. The only difference between the options that are purchased and those that are

Vertical versus Horizontal Spreads *(Continued)*

sold is the strike price. Vertical spreads get their name from the fact that option tables list options vertically by strike price. A vertical bull call spread is an example. Vertical spreads can also be created with puts.

Jan.	Feb.	Mar.
50	50	50
55	55	55
60	60	60

The horizontal spread will use two options with the *same strike prices* and different expiration dates. This type of spread is also known as a calendar or time spread, which can be created with puts or calls. The call calendar spread is an example.

Jan.	Feb.	Mar.
50	50	50
55	55	55
60	60	60

Diagonal spreads are a combination of vertical and horizontal spreads. They can include different expiration dates and different strike prices. For example, buying a longer-term call option and selling a shorter-term call option with a higher strike price is an example of a diagonal spread.

Jan.	Feb.	Mar.
50	50	50
55	55	55
60	60	60

Let's consider an example using an exchange-traded fund. Shares of the Utility HOLDERS (UTH) are trading near \$110 per share in October 2005 and the strategist expects the shares to grind higher during the next several months. A bullish calendar spread is created by purchasing 10 UTH January 2006 115 calls for \$2.35 and selling the same number of November 2005 115 calls for \$1.05. The cost of the trade is equal to the premium paid for the long call minus the premium received for the short call, multiplied by the number of contracts and the multiplier. In this case, the cost of the call calendar spread is \$1.30 per contract, or \$1,300 total.

The debit, or the cost of the trade, is also the maximum risk of the

profit. However, the trade loses money in the event of a strong move higher or lower in the underlying index. If shares rally above the strike price of the short option, it will probably be assigned near expiration and the strategist will either buy the shares in the market to satisfy the assignment, or exercise the long option to fulfill assignment. If the share price tumbles, the call calendar spread will result in a loss since both options will lose value and may even expire worthless. The strategist then loses the debit paid for entering into the spread.

The exit strategy for the calendar spread determines the success of the trade. The outlook for the underlying index will generally dictate the decision. If the shares remain range-bound and the short call expires worthless, the strategist has three courses of action from which to choose:

1. Exit the position.
2. Sell another call.
3. Roll up to another strike price.

If the price of the underlying index does indeed remain stable, the best approach is to sell another shorter-term option. In our example, once the UTH November 115 call expires, the strategist might sell a December 115 call. Or the position can be rolled up by purchasing the February 120 call and selling the December 120 call. Sometimes it isn't possible to sell another call. Instead, the share price jumps too high and the risk profile associated with selling another call is not attractive. In that case, the strategist might simply want to close the position by selling the long call.

If the shares move against the strategist during the life of the short call, the best approach is probably to exit the entire position when the short call has little time value remaining. If the shares jump higher and the long call has significant time value, it is better to close the position rather than face assignment or buy back the short option. If assigned and forced to exercise the long option to cover the assignment, the strategist will lose the time value still left in the long contract.

The strategist can also choose to do nothing when the short call expires and simply hold the long call. This will yield profits if the underlying index moves higher. The strategist simply takes the calendar spread and turns the trade into a long call. As an alternate bullish approach, if the index looks bullish, the strategist can hold the call and sell another call at a higher strike price, which creates a strategy known as a bull call spread.

Breakevens on Time Spreads

The breakeven point for calendar spreads is sometimes difficult to calculate since most charting software looks at the breakeven price when the short-term option expires. However, at that point, the longer-term option will probably still have value.

It is difficult to know exactly what the breakeven stock price will be for this type of spread because the strategist is evaluating options with different expiration dates. In these situations, it is best to use options analysis software that will incorporate other option pricing factors to get a general idea of the breakeven. Keep in mind that even this approach is not perfect because software can't predict changes in an option's future implied volatility. The best we can do is to calculate an approximate breakeven and then plan our exit strategies accordingly.

BULL CALL SPREADS

The covered call and call calendar spread can generate profits in trending markets, but what about when the strategist expects an explosive move higher? What strategies make sense? The long call has already been discussed. The problem with a straight call is that it is risky. If the underlying index moves in the wrong direction, the trader stands to lose 100 percent of the initial investment (the premium of the option). In addition, time decay can be a killer when holding long options, waiting for the index market to move.

The *bull call spread* is a vertical debit spread strategy that can help mitigate the risk of a long call. The trade is created by purchasing a lower strike call and selling a higher strike call with the same expiration dates. The total investment is usually far less than the amount required to buy shares or long calls. In addition, the bull call strategy comes with both limited profit potential and limited downside risk.

The maximum risk on a bull call spread is limited to the net debit paid to enter the spread. To calculate the maximum profit, multiply the difference in the strike prices of the two options by 100 and then subtract the net debit. The maximum profit occurs when the underlying stock rises above the strike price of the short call, causing it to be assigned. If so, the strategist can honor assignment by exercising the long call, thereby purchasing the underlying stock at the lower strike price and delivering those shares to the option holder at the higher short price. However, the spread can also be closed at any time prior to expiration through an offsetting trade. The breakeven of a bull call spread is calculated by adding the net debit to the lower strike price.

Let's consider an example of the bull call spread using the Internet HOLDRS (HHH). Technology stocks often perform well during the fourth quarter and Internet stocks are no exception. In fact, October is often a turnaround month, and in this example the strategist expects the scenario to play out again. To capitalize on this move, the strategist sets up a bull call spread for HHH, which is trading near \$60.50 a share. This is accomplished through the purchase of five January 2006 60 calls for \$3.75 and the simultaneous sale of five January 2006 65 calls for \$1.25. The cost of this spread is \$250 $[(\$3.75 - 1.25) \times 100]$. Since the trader created five spreads, the net debit is \$1,250 (250×5) . Figure 5.6 shows the risk graph associated with this spread.

The maximum risk of the bull call spread is equal to the debit paid for the trade and occurs if all the options expire worthless. In that case, the strategist eats the cost of the trade, which is \$1,250 in this example. The maximum profit occurs at or above the short call strike price. If HHH rises to \$65, the January 65 call expires worthless while the January 60 call is worth minimally \$5 per contract, or \$2,500 for five contracts. Therefore, the maximum profit is equal to \$2,500 minus the debit of \$1,250, regardless of price movement beyond \$65. The maximum profit of a bull call spread is always equal to the difference between the strike prices minus the debit and occurs at or above this higher strike at expiration.



FIGURE 5.6 HHH January Bull Call Spread Risk Graph (Source: www.Optionetics.com Platinum)

The bull call spread is one of the first strategies we teach, and it works well when the market trends higher over a period of time. However, just as with any strategy, a few guidelines are in order.

- Strategists should focus on options with at least 60 days until expiration in order to give the underlying stock enough time to move into a profitable position. Extremely short-term bull call spreads provide the most leverage, but also provide less time for the trade to work in the strategist's favor. Longer-term bull call spreads have more time to work in the trader's favor.
- Keep the net debit as low as possible to make the trade worthwhile. We often look for ratios of one-to-three or more. That is, for every dollar that is at a risk, the trade has the potential of making three. In the HHH example, the ratio was one-to-one (i.e., for every dollar at risk, there is one dollar of profit potential). To increase the ratio, the strategist can look at out-of-the-money options or wider spreads. In sum, the difference in the strikes should be large enough so that the maximum profit is worthwhile.
- Finally, when exiting the trade, the strategist will want to consider a few factors. Ideally, the price of the index will move above both strike prices near expiration and the spread can be closed out at a profit. However, if the short call is assigned, the long call can be used to honor assignment and bank the profit. If the underlying asset price rises up toward the strike price of the short call, but does not exceed it, the long call can be closed at a profit and the short call can be allowed to expire worthless. On the other hand, if the market tanks, the strategist will want to exit both of the positions. If the price of the underlying index falls below the strike price of the long call near expiration, the spread might expire worthless, creating the maximum possible loss on the trade.

A NOTE ABOUT TRADING LEVELS

Now that we are talking strategies, traders will want to keep in mind that not all brokerage firms allow clients to trade high-risk strategies such as naked call writing. In fact, some won't let traders establish any type of spread. In order to understand why, traders need to understand how brokerage firms view options trading levels.

Prior to trading in an option account, brokerage firms require clients to complete an options approval form. This form is designed to provide the brokerage firm with information about the customer's experience, knowledge, and financial resources, and is required for compliance with federal regulations. According to the "know your customer" rule, option trading firms must completely minimize the potential for clients to take inappropriate risks. Therefore, the new account form and the options approval document gather appropriate background information about each customer.

The compliance department within the firm reviews the information in order to determine whether the client has attained a certain level of experience in trading before allowing them to open accounts and place more complex trades. The process is designed to protect inexperienced traders from taking inappropriate risks. For example, if the option approval form reveals that the client has little or no options trading experience, and the client then goes on to lose large sums of money via complex, high-risk trades, the brokerage firm could potentially face regulatory and legal troubles for not knowing its customer. Each and every brokerage firm is required to understand the client's background so that new traders are not taking risks outside of certain parameters of suitability.

Once the firm has considered the customer's background, the client is assigned a trading level. For instance, Level 1 strategies include relatively straightforward approaches such as covered calls and protective puts. More complicated trades, however, require a higher level of approval. Table 5.1 shows a typical breakdown a brokerage firm might use to group strategies by levels. Traders with a great deal of experience and significant financial resources can generally receive approval for Level 5 trading. This would allow them to implement any type of trading strategy, including high-risk trades such as naked calls and uncovered straddles.

Although the options approval levels can vary from one broker to the next, Level 3 as described here is sufficient for the strategies discussed in this book. Uncovered selling of options, which requires approval beyond Level 3, is unnecessary. Nevertheless, in order to avoid the frustration of opening an account with a firm that will not allow trading in more advanced levels, new traders should review the brokerage firm's policy regarding options approval before opening an account. The best way to do this is to contact the firm's options approval department by phone and ask them if they will allow you to trade strategies such as long calls, calendars, and bull call spreads.

TABLE 5.1 Typical Brokerage Breakdown of Strategy Levels

Strategy	Options Trading Level				
	Level 1	Level 2	Level 3	Level 4	Level 5
Covered call writing (Chapter 5)	√	√	√	√	√
Protective puts (Chapter 6)	√	√	√	√	√
Buying stock or index puts and calls (Chapters 5, 6)		√	√	√	√
Covered put writing (Chapter 6)			√	√	√
Spreads (Chapters 5, 6, 7)			√	√	√
Uncovered writing of equity puts and calls (Chapters 5, 6)				√	√
Uncovered writing of straddles and strangles (Chapter 7)				√	√
Uncovered writing of index puts and calls (Chapters 5, 6)					√

CONCLUSION

The stock market moves higher roughly two-thirds of the time. Therefore, more profit opportunities exist trading to the upside rather than to the downside. In addition, a number of bullish trades can be created using call options. When looking for short-term aggressive moves higher, traders should focus on buying calls. However, the risks associated with long calls can be significant because a move in the wrong direction can result in a 100 percent loss of one's investment. Time decay can also be a killer.

Bull call spreads work better in a bullish market when the trader has a longer-time horizon of 60 days or more. Call calendar spreads can work well when the strategist expects a modest move higher or even sideways action. If the market is expected to fall, a bear call spread can be employed to make a profit. However, the bear call spread is not the best strategy for a bearish market. Instead, the strategist might want to focus on strategies that use puts when the market is expected to trade lower; these strategies are discussed in Chapter 6.

Basic Strategies Using Put Options

Chapter 5 introduced a variety of strategies that use only call options. Now let's flip things around and look at strategies that use only put options. Since puts increase in value when the price of the underlying index falls, it makes sense that many of these strategies are simply the opposite of those discussed in Chapter 5. For example, if the strategist expects the market to fall next week, a long put on the SPDRs makes sense. In short, each strategy should be used according to what the situation dictates. A basic understanding of each strategy will help traders by putting more tools in their trading arsenals.

THE LONG PUT

The put option gives the owner the right, but not the obligation, to sell the underlying stock at a specific price until the expiration date. Hence, the owner can “put” the stock to the option writer. The value of the put option contract will increase as the price of the underlying asset falls. Therefore, the long put is used when the strategist anticipates a fall in the price of the underlying security. Similar to a long call, a long put position involves a relatively small capital commitment and is used to get leverage on an underlying security that is expected to decline in value.

The long put strategy also offers high profit potential (limited because the underlying can only fall to zero) and limited downside risk. The risk is equal to the cost of the put option or premium. Profits are realized as the

put increases in value as the price of the underlying index trades lower. Many traders prefer buying puts over short selling stock because, while both are bearish strategies, the put purchase is generally less expensive and has less risk. The downside is that put options lose value due to time decay; this is not an issue for short sellers.

Let's consider an example of a long put using the Dow Jones diamonds (DIA). In this case, the strategist is bearish on the market and expects a move to the downside in early 2005. The trading day is December 23, 2004 and the DIA is quoted at \$108.15 a share. The strategist expects a 5 percent market correction during the first month of 2005 and sets up an aggressive long put play by purchasing five February 2005 DIA 105 puts for \$0.80 per contract.

Figure 6.1 shows the risk profile for the long DIA position with potential profit and loss values corresponding to underlying share prices. The cost of the trade is \$400, which is calculated by multiplying the put premium per contract by the number of contracts and the multiplier of 100 ($\$0.80 \times 5 \times 100$). The cost of the trade is also the maximum potential risk of the trade. Profits increase as the price of the Dow Jones falls. The maximum profit is equal to the strike price of the option minus the premium debit, multiplied by the number of contracts and the multiplier (100). In this example, the max profit is \$52,100 [$(105 - \$0.80) \times 5 \times 100$]. The maximum profit will occur if the Dow falls to zero, which is not a likely event.

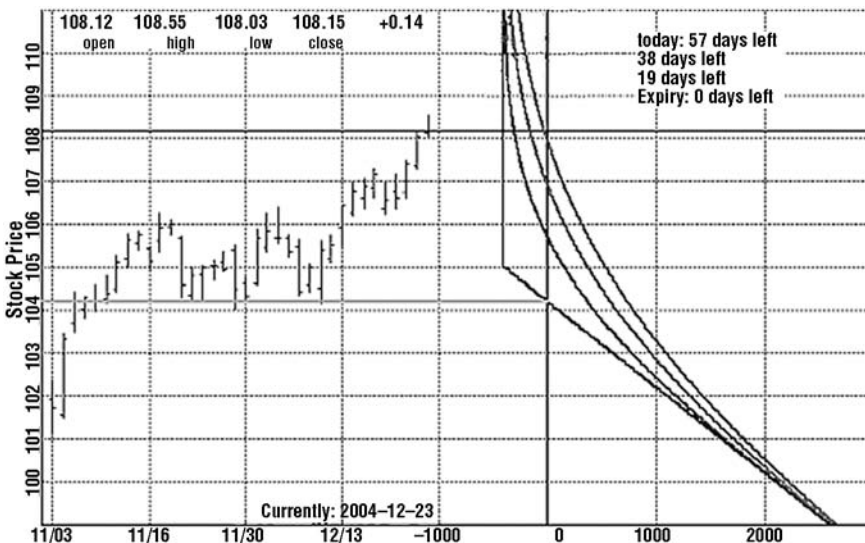


FIGURE 6.1 DIA February Long Put Risk Graph (Source: www.Optionetics.com Platinum)

The breakeven is calculated by subtracting the put premium from the put strike price. In this trade, the breakeven is \$104.20 ($105 - \0.80); if the diamonds fall to \$104.20 at expiration in February 2005, the trade breaks even—there is no profit or loss (excluding commissions). If the value of the diamonds falls below the breakeven, the trader can bank a profit.

Choosing an exit strategy for the long put depends primarily on the movement of the Dow. There are three ways to exit the position. The first is to let the put expire worthless and lose the premium paid to purchase it, which will happen if the price of the diamonds moves above the strike price of the long put at expiration. Obviously, this is not an ideal situation because the strategist has lost the entire investment.

More often, the strategist will want to offset the trade during the life of the option. Offsetting the position involves selling an identical put option with the same strike price and expiration. If the market falls, the result will likely be a profit. If the market rises, the put can be sold to minimize any further losses. We generally recommend exiting a long put position at least 30 days before expiration because the final weeks of an option's life are when it experiences the greatest rate of time decay.

In the DIA example, the strategist is expecting a 5 percent correction during the first month of 2005. Therefore, the exit will occur sometime in late January if the market does indeed turn south. At that time, the option will still have time premium remaining. For example, by January 23, 2005, the DIA had fallen to \$103.75 and the February 105 puts were bid at \$2.00 a contract. Therefore, the strategist could exit the position (sell the puts) for \$2.00 per contract, which is \$1.20 more than their initial cost. This translates to a 150 percent profit. Had the DIA rallied during the first month of the year, the puts would probably have little to no value and the trade would have resulted in a loss.

The third exit strategy is to exercise the put option, which creates a short position in the Dow, assuming the trader did not already have an existing position in DIA. At that point, the strategist can hold the position or cover the short by purchasing the shares back to close the trade. Exercise makes sense when the time premium of the option has fallen toward zero and the put owner wants to unload shares or set up a short position. Most long puts, however, are closed through offsetting trades, which is the most common way to book a profit or a loss with almost any option strategy.

In conclusion, the long put is a simple strategy that increases in value from a decline in the underlying security. Unlike selling shares short, there is no need to use margin. Perhaps the biggest benefit is that by entering a long put, the trader has limited risk to the amount of the initial premium. Similar to any long option strategy that results in a debit, the long put will suffer from time decay as time progresses. To minimize this situation, we

recommend using options with at least 60 days until expiration. At the same time, we have large potential rewards as the price of the underlying falls, with the maximum profit occurring if the price of the underlying falls to zero.

Bid and Ask

Options are quoted using bid prices and ask prices. The *bid* is the price that the market is willing to take for the option. Therefore, if a strategist has a long put and wants to offset the trade by selling that option, the least he will get is the bid price.

The *ask* or offering price is the price at which the market is willing to sell the option. If the strategist wants to open a long put or close a short put, the price he is going to pay is often the bid price.

The difference between the bid and the ask is known as the *bid-ask spread*. Sometimes it is possible to get orders executed or filled within the spread, but this generally occurs only when another investor is attempting to create the opposite order at the same price or if the market makes a sudden move and the price quotes change.

THE PROTECTIVE PUT

One of the more basic combination stock and option strategies is the *protective put*. It is widely used and easy to understand. As the name suggests, the protective put is designed to protect a long position. Let's assume an investor owns 100 shares of Microsoft (MSFT) and is worried that holiday sales of the latest Xbox will not meet expectations. This is a short-term bearish scenario for the stock. That same investor can buy put options on Microsoft as a way of protecting the value of his or her holdings. When establishing a protective put, the strategist generally buys one put for every 100 shares.

Let's consider an index example of the protective put using the Semiconductor HOLDRS (SMH). It's October 24, 2005, and the strategist is bullish on chip stocks and wants to take a bullish position on the Semiconductor HOLDRs. However, during the past few months, the sector has been facing selling pressure and the strategist also wants protection in case the bullish prediction proves wrong. As a result, rather than simply buying shares, a protective put is set up by buying 100 shares of the Semiconductor HOLDRs for \$35 a share and buying one December 35 put for \$1.25. The total cost of the trade is \$3,625 $[(35 \times 100) + (\$1.25 \times 100)]$.

The risk graph of the protective put appears in Figure 6.2. Since the

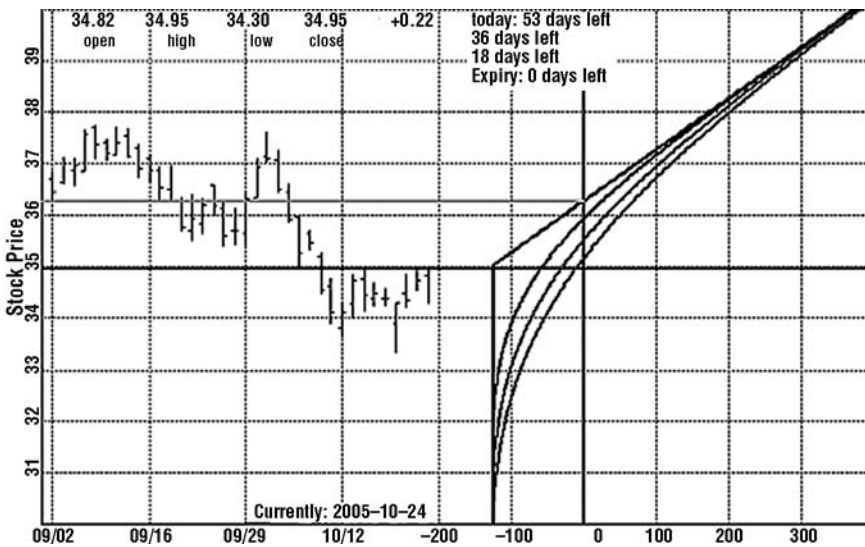


FIGURE 6.2 SMH December Protective Put Risk Graph (Source: www.Optionetics.com Platinum)

trade generates profits as the stock price climbs, the curve slants upward and to the right. The breakeven at expiration is equal to the strike price of the option plus the premium for the call. In this case, the trade breaks even at \$36.25, which is the point where the shares can be sold for a profit of \$1.25, off-setting the cost of the put. Above \$36.25, the protective put position begins to make money.

While the total cost of the trade is \$3,625, the downside risk is capped by the long put. Since the option holder has the right to sell or “put” the stock for \$35 a share, the most that is at risk is the put option premium of \$1.25, or \$125 per contract. In the protective put, the maximum risk is computed as the difference between the put strike price and the cost per share, plus the premium.

It is important to note, however, that the protection is only good until December option expiration. At that point, the put expires worthless and the strategist can either (1) hold the shares with no protection, (2) buy another put, or (3) exit the position entirely. The outlook for the underlying asset will determine the best course of action. Generally, the strategist will want to roll forward the put at least 30 days prior to expiration because the put will experience significant time decay during its final month. In other words, the put options used in the trade should have more than one month of life remaining if the strategist is concerned about time decay.

Rockin' and Rollin'

Roll is a term used to describe a position adjustment. For example, *rolling out* an option refers to switching an existing option with a longer-term option for the same underlying. More specifically, if a strategist owns the September 35 call, the position can be rolled out by closing the September 35 call and buying a December 35 call.

Rolling up occurs when the strategist substitutes a call option with the same expiration date for a call with a higher strike price. For instance, the strategist owns the September 35 call and rolls up the position by closing out the September 35 call and buying a September 40 call.

Rolling down involves trading a put option for a put with a lower strike price. For example, if one holds the September 50 put, the position can be rolled down by closing out the September 50 put and buying a September 45 put.

When does the protective put make sense in the index market? In our opinion, it doesn't very often. Why? Because the same risk graph can be created using a simple call purchase. Let's consider an example. In fact, we already have, in the previous example of the Semiconductor HOLDERS. Instead of purchasing 100 shares, we purchase one December 35 call option. The risk curve of this strategy, shown in Figure 6.3, is identical to the risk curve of the SMH December 35 protective put shown in Figure 6.2.

Since the protective put and the long call have the same risk graph, the strategist can achieve the same results with either strategy. However, purchasing one call option requires much less money when compared to buying 100 shares and one put. So, while the protective put and the long call have the same risk graph, the protective put requires a lot more capital—it is an expensive strategy.

Yet, despite its drawbacks, some investors do use the protective put. Sometimes the trade is short-term. For example, if an investor holds a large position in one stock and is worried that shares might fall following an earnings report, he might decide to buy a protective put ahead of the news and then sell it the day after.

The *married put* is a term used for a position that is created when the put and the underlying shares for the option are purchased at the same time. In addition, the strategist must intend to exercise the put in order for the put and the shares to be "married." The status can be relevant in the tax treatment of the position, which is a detailed discussion that lies outside the scope of this book. Suffice it to say that the protective put can be established either on an existing position or as part of a new position. When it is part of a new position and is designated as a hedge or protection, it is considered a married put.

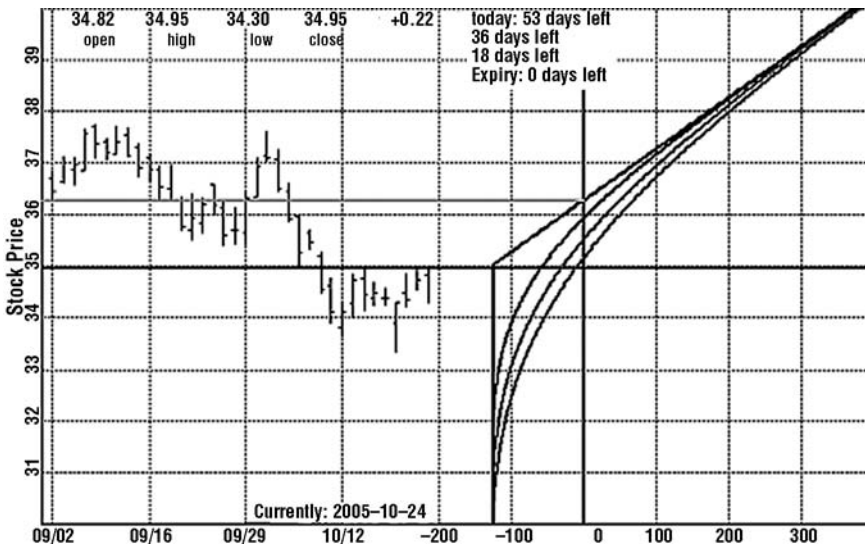


FIGURE 6.3 SMH December Long Call Risk Graph (Source: www.Optionetics.com Platinum)

Cash-Secured Put

By selling a cash-secured put, the investor receives premium while waiting for the stock to decline to the strike or price at which he is willing to own the stock. The position involves selling a put option and depositing the money for the purchase of stock into the brokerage account. The money is often placed in an interest-bearing account such as a money market. The money remains on hand in case the put is assigned and the shares are “put” to the option seller. The buyer of the put will generally exercise the option should the underlying stock drop below the strike price and there is little or no time value remaining. If the stock remains above the strike price by expiration, the premium is retained by the seller and another put can be sold.

THE SHORT PUT

The *short* or *naked put* strategy is another one that we don’t find compelling. It has limited profit potential but can carry significant risk. The strategy is sometimes used in lieu of buying stock. For example, option writers might sell out-of-the-money puts on the Dow Jones diamonds if

they are willing to buy shares at the strike price, which is below the current market price.

Naked puts are best used in bullish or trendless markets when the strategist expects the underlying asset price to remain above the strike price of the put option. The strategist receives the option's premium for selling the option. The premium is the maximum reward for a short put position. The losses can be significant if the price of the underlying asset declines in value and falls below the strike price of the put.

Let's look at an example of a short put on the mini-NASDAQ 100 Index (\$MNX), or "minx." The fourth quarter has been a historically strong period for tech stocks and the NASDAQ during the past few years, and the strategist expects this year to be no different. As a result, the strategist decides to sell at-the-money puts to bring premium into the trading account during the final two months of the year. The time is late October and the minx recently printed at 155. The strategist sells ten MNX December 150 puts and collects \$1.75 per contract, or \$1,750 in total.

Figure 6.4 shows the risk graph of the naked MNX puts. The risk curve slants downward to the left since the trade loses money as the price of the minx falls. Additionally, the profit is limited to the initial credit received for selling the put. When the underlying instrument's price rises and remains above the strike price of the put option, the strategist is in the profit zone. At these levels the options expire worthless and the trader can keep the initial credit received.

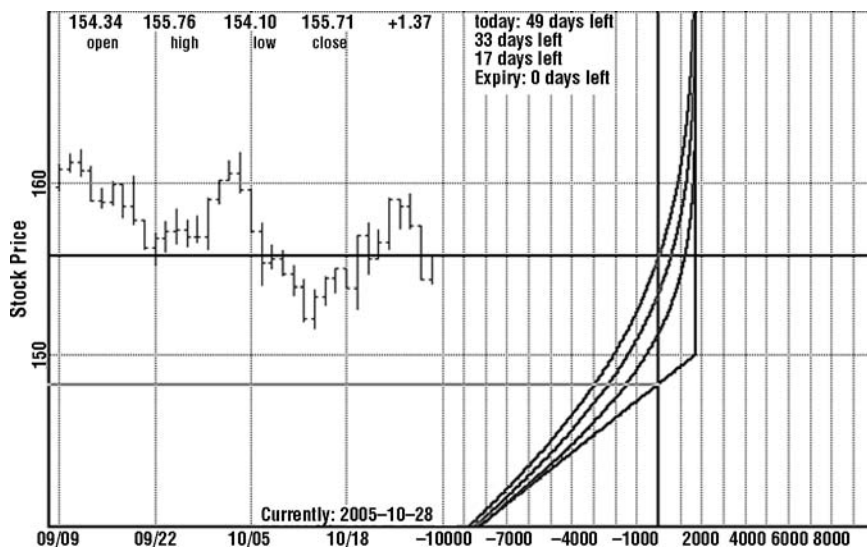


FIGURE 6.4 MNX December Short Put Risk Graph (Source: www.Optionetics.com Platinum)

The naked put is similar to the sale of calls because the strategist is selling options and bringing in premium to the account. The maximum reward is the premium received for selling the options. However, the position has a limited but high downside risk.

The ideal exit for the naked put sale occurs if the underlying asset price stays above the put strike price. At that point, the strategist does nothing and can keep the premium, which is the maximum profit on a short put position. However, if the underlying shares reverse and start to fall, a loss might occur. We would recommend offsetting the position by purchasing a put option with the same strike price and expiration to exit the trade. If the position is not offset and the underlying asset falls below the put strike price, the put will be assigned to the put seller.

For a stock, assignment involves the delivery of shares. For indexes, like in our example, assignment will involve the delivery of cash equal to the difference between the settlement value of the index and the strike price of the option. For example, assume that at expiration the settlement value of the MNX is 125. The difference between the strike price and the settlement value is 25. Therefore, the loss is equal to \$25 per contract, or \$25,000 $[(\$25 \times 10) \times 100]$. Obviously, the strategist is taking on a lot of risk for a relatively small reward.

Given the high-risk, limited reward associated with naked put selling, the strategy is not one that we use very often. The cash-secured put, which is simply a way of entering a stock position at a lower price, is suitable in some situations when the investor wants to buy the stock at a lower price. It is no more risky than the covered call strategy discussed in Chapter 5. Nevertheless, the strategist will want to exercise caution because, while naked put selling can generate income over time, one bad trade can wipe out a large number of small gains. Instead, the strategist looking to sell puts should look for ways to mitigate some of that risk by using limited-risk spreads, like the bull put spread.

BULL PUT SPREAD

The *bull put spread* is a credit spread created by selling a put and purchasing another put with a lower strike price and the same expiration. Like the naked put, the strategy works well in trending or bullish markets when the strategist wants to generate income from selling puts. However, unlike the naked put, the risk from the trade is much more limited thanks to the purchase of the long put. That is, if the underlying asset tanks, the gains from the long puts can offset some of the losses from the short put. The long put can also be used to satisfy assignment.

The maximum reward of the bull put spread is limited to the net credit received from the balance between the purchase and sale of the puts. The maximum profit occurs when the market closes above the strike price of the short put option. At that point, both puts expire worthless and the strategist can keep the net credit. When establishing a bull put spread, we generally recommend using options with 45 days or less until expiration. This will provide less time for the underlying index to move into a position where the short put will be assigned. In addition, the time decay factor is key to the success of the bull put spread. The trade will generate the best results when the short put loses all of its value and expires worthless.

Let's consider another example using the mini-NASDAQ 100. Once again, the time is late October and the minx recently printed at 155. The strategist sells 10 MNX December 150 puts and collects \$1.75 per contract, or \$1,750 in total. At the same time, the strategist will buy 10 MNX 140 puts for \$0.10 a contract. The long puts are used to limit the potential losses if the strategist is wrong about the direction of the NASDAQ.

Figure 6.5 shows the risk graph of the MNX bull put spread. The risk profile of a bull put spread slants upward from left to right, displaying its bullish bias. If the underlying shares rise to the price of the short put, the trade reaches its maximum profit potential. Conversely, if the price of the underlying stock falls to the strike price of the long put, the maximum limited loss occurs.



FIGURE 6.5 MNX December Bull Put Spread Risk Graph (Source: www.Optionetics.com Platinum)

The breakeven occurs when the index price equals the higher strike price minus the net credit. In this case, the breakeven equals 148.35 ($150 - 1.65$). This trade makes the maximum profit if the minx closes at or above 150 at expiration. The risk profile displayed indicates a trading price of approximately 155.50 for the underlying with 57 days left until expiration. Therefore, the odds are good that it will remain above 150 and both puts will expire worthless. If so, the strategist will keep the initial net credit of \$1,650.

The maximum risk is still high relative to the premium received for the trade, but is much less than with the naked put. The maximum risk is equal to the difference in strike prices times the number of contracts, minus the net credit. In this trade, the maximum risk is \$8,350: $[(150 - 140) \times 10 \times 100] - 1,650$.

So the risk/reward ratio of this spread is not great. The strategist is risking \$8,350 to make \$1,650, a ratio of approximately five-to-one. When looking for bull put spreads, we are generally looking for ratios of two-to-one or better, which is difficult to find in the index market but can sometimes be found in the stock market. Nevertheless, the point remains the same. Like the naked put, the bull put spread brings in premium when the strategist expects the market to move higher or trend above the strike price of the short option. However, the spread will limit some of the short put risk during a significant market decline. In sum, it usually makes sense to pay a nickel or dime for this type of insurance rather than simply selling naked puts.

The price action of the underlying asset will determine the best exit strategy for the bull put spread. Since the maximum profit is limited to the net credit initially received, the ideal situation is for the underlying index to rise above the strike price of the short put and for both options to expire worthless. If so, the strategist does nothing and keeps the net credit.

If the price of the underlying asset rises above the breakeven, but not above the short put's strike price, then assignment is a risk at expiration. The strategist will probably want to close out the trade rather than face assignment on the short put. However, at that point, the long put can be closed out at a profit.

In the event that the price of the underlying asset falls below the breakeven, the bull put spread will lose money. With stocks and ETFs, the short put could be assigned once it is in-the-money and close to expiry. If so, the strategist will buy 100 shares per short put, but can exercise the long put to satisfy assignment. Being assigned the short put and exercising the long put will result in the maximum possible loss. With index options, such as in our minx example, the short put cannot be assigned until expiration because the options have the European-style settlement feature. Therefore, if the options are near-the-money or in-the-

money as expiration approaches, the strategist will probably want to close out the spread rather than run the risk of assignment at the time of option expiration.

What Is Pin Risk?

Pin risk is the risk an option writer faces when the price of the underlying asset closes at or very near the strike price of the option. It is an important factor in selling options because if the asset closes at or very near the strike price upon expiration, the option holder might exercise the option and the writer will be faced with assignment. Let the seller beware!

COVERED PUT

The covered put is not a trade we establish often, but is a strategy that is sometimes used in a bearish market. A covered put consists of selling the underlying and selling a put to cover the underlying asset's position. Obviously, it can't be applied to a cash index, but it can be used with exchange-traded funds like the QQQQ, diamonds, or SPDRs. The covered put trade can be risky because it involves short selling shares. Meanwhile, the reward on a covered put is limited to the difference in the price of the short underlying asset minus the strike price of the short put, plus the credit received for the option premium.

In this example, let's go short 100 shares of the Qs at \$41.50 while simultaneously selling one February 2006 41 put for \$1.00. The risk graph in Figure 6.6 shows this covered put position. The breakeven is simply the initial price of the underlying shares plus the premium from the short sale of the put. In this example, the breakeven equals \$42.50 (\$41.50 + \$1.00). At that price, the short position can be covered for a \$1.00 loss, but the premium received from selling the put offsets that loss.

The maximum risk is unlimited as the stock price moves above the breakeven. If the Qs stay above the strike price of the option, the short put will expire worthless. However, as the price climbs above the breakeven, the position in QQQQ shares will lose money. If the market continues to move to the upside, the risk is unlimited.

The profit potential from the covered put is limited, and equals the difference between the initial price of the shares (at the time the short position is entered) and the strike price of the option, plus the premium received from selling the put. For example, if the Qs fall to \$39 a share, the short put is assigned and the strategist is obligated to buy 100 shares for \$41 a share. The strategist uses the shares to cover the short and that yields a profit of 0.50 a share. In addition, the strategist keeps the premium



FIGURE 6.6 QQQQ February Covered Put Risk Graph (Source: www.Optionetics.com Platinum)

from selling the put and the total profit is \$150 (\$50 on the short ETF sale and \$100 from the put sale).

If the price of the underlying asset rises, the covered put seller can run into trouble and the strategist will want to exit the position. If the underlying asset price is below the initial short sale price, but above the strike price, the short put expires worthless and the strategist keeps the premium. No losses have occurred on the short stock position and another put can be sold at that time. The profit potential begins to diminish as the price of the underlying asset continues to move higher. If it rises above the breakeven, the short put will expire worthless, but the short shares will create a loss on the position. Therefore, strategists will need to be careful if the market rallies because the short side of the trade can result in sizable losses. For instance, if the Qs rise to \$50 a share, the short sale of the shares will result in an \$8.50 per share loss, which is only partially offset by the \$1.00 premium from the short put. In other words, at that price the trade, which has a maximum profit potential of \$150, loses \$750.

Overall, the risk/reward of the covered put is not very attractive and it is not a strategy that is widely used. As with most short strategies, this trade is hazardous because it has unlimited risk. The margin will also be high (stock price plus 50 percent more). Meanwhile, the reward is very limited. So, like with the covered call, strategists will want to be careful

when looking for covered put opportunities. In a bearish market, other strategies will offer better risk/reward ratios. The bear call spread has already been discussed. The long put is also a viable strategy when the strategist is bearish on a market or sector. However, when looking for a market move to the downside, the strategist may also want to consider the bear put spread.

BEAR PUT SPREAD

The *bear put spread* is the opposite of the bull put spread discussed earlier. It is a vertical debit spread created by purchasing a put with a higher strike price and selling a put with a lower strike price. Both options have the same expiration month. As the name suggests, it is a bearish strategy and is used when the market is expected to fall, or to close below the strike price of the short put option, which is the point of maximum reward (at expiration).

The bear put spread is a popular strategy for a variety of reasons. For one, the sale of the short put will offset some of the risk of the long put strategy. In addition, the total investment is far less than that required to sell stock short. Finally, the maximum risk of a bear put spread is limited to the net debit of the trade.

In this example, the strategist is bearish on energy stocks and sets up a bear put spread on the Select Sector Energy Fund (XLE). The fund is trading near \$50.25 a share in late November and the strategist expects energy stocks, led by falling crude oil prices, to experience a three-month period of weakness. As a result, a bear put spread is initiated with the purchase of 10 March 50 put options for \$2.50 and the sale of 10 March 45 puts for \$1.00. The cost of the trade is \$1.50 per contract, or \$1,500 total.

Figure 6.7 shows that the risk profile for a bear put spread slants upward from right to left because the profits increase as the share price falls. Once XLE falls to the price of the short put, the trade reaches its maximum profit potential. The maximum profit potential is equal to the difference between the two strike prices minus the net debit, or \$3.50 per contract $[(\$50 - \$45) - \$1.50]$. The maximum profit occurs when the short option is in-the-money. At that point, if the strategist is assigned the short put at \$45 a share, the long put can be exercised at \$50. The profit is \$5 a contract, minus the net debit paid for the spread.

If the price of the underlying stock rises to the strike price of the long put, the trade suffers its maximum loss. At that point, both options expire worthless and the strategist loses the initial net debit. So the maximum loss is equal to the cost of the trade, or \$1,500. In sum, the strategist is

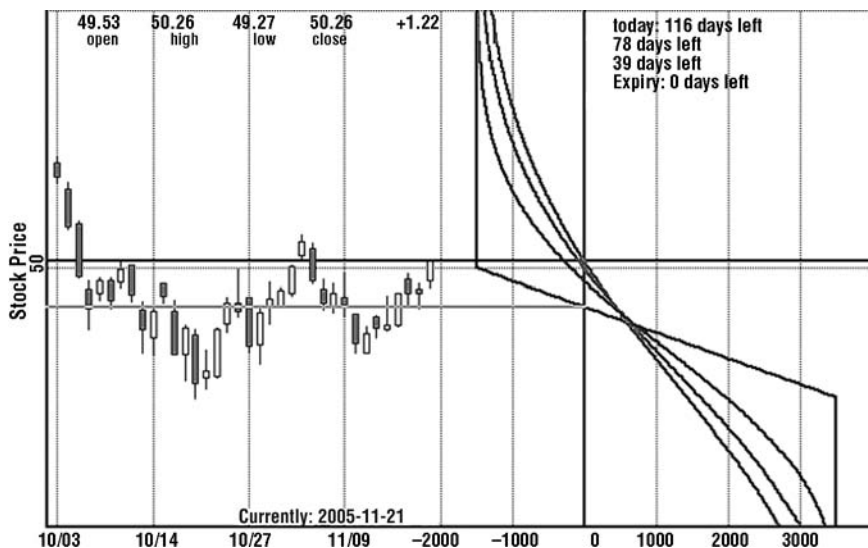


FIGURE 6.7 XLE March Bear Put Spread Risk Graph (Source: www.Optionetics.com Platinum)

risking \$1,500 to make \$3,500, which is a much healthier risk/reward ratio of more than two-to-one.

By spreading out the strike prices between the long and short options, it is possible to create greater risk/reward ratios. For example, buying the March 50 puts and selling the March 40 puts increases the ratio to almost four to one. However, the chances of a move down to \$40 a share is also less likely than a move down to \$45. Nevertheless, when the strategist expects an aggressive move lower in the market or sectors, the bear put spread is a viable strategy that offers flexibility, limited risks, and large potential rewards.

As usual, the movement in the price of the underlying index will determine the best exit strategy for the bear put spread. As noted earlier, if the strategist is correct and the price of the underlying asset falls, the short put could be assigned and can be covered by exercising the long put. In the XLE example, if the strategist is assigned the short put at \$45 a share, the long put can be exercised at \$50. The profit is \$5.00 per contract, minus the net debit paid for the spread. The maximum profit is \$350. However, many strategists will prefer to close out the spread rather than deal with assignment and exercise. So if the options are in-the-money near expiration, the two positions in the bear put spread are offset. Although this approach is not likely to yield the maximum potential profit, the results will be very close.

The bear put spread breaks even when the price of the underlying asset is equal to the higher strike price put minus the net debit. If the price falls below the breakeven but above the strike price of the short put, the trade can be closed for a small profit. However, above the breakeven and below the strike price of the long option, the trade is likely to lead to a small loss. At that point, it can either be (1) closed out entirely, or (2) the long put can be offset while the short put expires worthless. If the price of the underlying asset rises above both strike prices, the trade is at risk of suffering its maximum possible loss, with both puts expiring worthless and the strategist losing the net debit paid for the spread.

PUT CALENDAR SPREAD

The bear put spread works well when the strategist expects an aggressive move higher or lower, but markets don't always move vertically. In fact, many times, an index or sector can trade sideways or trend moderately one way or the other. In Chapter 5, we showed how a call calendar spread could be used to generate profits from a bullish-trending market. Now let's consider the opposite with a bearish market and the put calendar spread.

The put calendar spread involves the purchase of a long-term put and the sale of a shorter-term one. Both options have the same strike price. In order to profit, the strategist wants the longer-term option to retain its value or appreciate, while the short-term option loses value due to time decay. Since a volatile move higher or lower will work against this trade, the strategist generally wants sideways trading or a modest move to the downside when using put calendar spreads.

Let's consider an example using the PHLX Bank Sector Index (\$BKX). In mid-May, the strategist determines that the outlook for bank stocks is moderately bearish due to a recent rise in interest rates and signs of an economic slowdown. Profits throughout the sector are expected to stagnate and share prices will therefore flatline during the next few months—maybe even decline during the second half of the year. Consequently, when the PHLX Bank Sector Index hits 100 in mid-May, the strategist establishes a put calendar spread with the purchase of five BKX December 100 puts for \$4.50 a contract and the sale of five July 100 puts for \$2.25 a contract. The net cost of the spread is \$1,125 [$(\$4.50 - \$2.25) \times 5 \times 100$].

The risk and reward of the calendar spread are both limited. The risk is limited to the net debit, or the cost of the trade. If the strategist is wrong and makes no effort to offset the position during the life of the contracts, both puts could expire worthless. Hence, if BKX climbs above the strike price of the put options, the net debit paid to enter the spread will be lost.

If the bank index plummets, however, the put calendar spread will also fall into the red because a tumble below the strike price of the short option will increase the odds of assignment at expiration (BKX settles European-style). In that case, the strategist will either (1) pay the difference between the strike price of the settlement value of the underlying index, or (2) exercise the long option to satisfy assignment. For instance, if BKX falls to \$95 at expiration and the short put is assigned, the strategist suffers a five-point loss on the short put. On five contracts, the loss totals \$2,500. Although the long put has also appreciated in value, it is not enough to offset the loss from the short put. In sum, the strategist does not want to see an aggressive move higher or lower after entering a put calendar spread.

Instead, the strategist hopes that the bank index will trade near 100 during the life of the short option. Figure 6.8 shows the risk graph of the BKX put calendar spread when the short option reaches expiration. Assuming BKX closes at exactly 100 when the July options expire, the short put expires worthless but the long put still retains much of its value. In this case, the spread reaches its maximum profit potential.

Once the short option expires, the strategist has several courses of action from which to choose. If the price of the underlying index remains stable, the strategist might sell another put option after expiration of the



FIGURE 6.8 BKX December/July Put Calendar Spread Risk Graph (Source: www.Optionetics.com Platinum)

initial short put. However, if the underlying asset moves against the strategist during the life of the short put, the best approach is probably to exit the entire position when the short put has little time value remaining.

Finally, if the shares tumble and the long put has significant time value, it is better to close the position rather than face assignment since the strategist will lose the time value that remains in the long contract. The strategist can also choose to do nothing if the short put expires worthless and simply hold a long put position (basically converting the calendar spread to a long put). The resulting position will generate profits if the price of the underlying asset falls over the remaining life of the long put.

CONCLUSION

Successful options traders make money whether the market goes up, down, or sideways. Put options are often used in bearish or down markets. For example, investors often use puts to protect portfolios using the strategy known as the protective put. In this trade, the strategist has a position in the underlying asset, but buys puts as insurance in case the share price moves lower. In that case, the investor is using the puts as protection or as a hedge.

When the strategist wants to profit from a short-term move lower in the market, long puts and bear call spreads make a lot of sense. Both offer limited risk and high rewards. However, the risks associated with long puts can be significant because a move in the wrong direction can result in a 100 percent loss of the initial investment. Time decay is also working against the long option position. Bear put spreads can be used to mitigate some of risk of time decay and/or a wrong move in the market.

In a trending market or one that is expected to move modestly higher or lower, the strategist can use bull put spreads or put calendar spreads. The bull put spread can be used when the options strategist wants to sell puts while limiting some of the risk of naked put selling. Calendar spreads, on the other hand, work better when the strategist expects the market to trend sideways or lower and wants the potential to profit from time decay. Once the short put has expired, this position can also benefit from a longer-term move lower in the price of the underlying index.

Complex and Advanced Strategies

In options parlance, a complex trade is not one that is necessarily complicated or difficult to understand. Instead, it is a trade that involves more than one type of contract. There are numerous examples and several are covered in this chapter. Therefore, the reader should not be discouraged by the terms *complex* or *advanced* strategies.

Now, one might ask, “When do traders use more advanced strategies?” As seen with the call and put examples, trades can be structured to profit if the underlying index moves up, down, or sideways. Ideally, the strategist will have strategies for every type of market environment in his or her trading arsenal. Complex and advanced strategies simply give traders more tools.

Some strategies can generate profits regardless of market direction. In other words, it doesn't matter if the market moves higher or lower—what matters is the magnitude of the move. Examples include straddles, strangles, and backspreads, which are explored throughout this chapter. These trades work well when the strategist expects an explosive move higher or lower in the market or sector. In addition, we introduce three more advanced trades in this chapter: the collar, the diagonal spread, and the butterfly. These strategies produce profits in a range-bound or sideways market.

STRADDLES

The *long straddle* is an options strategy employed when strategists expect an explosive move in the underlying asset but are unsure about the

direction. The trade is comprised of the simultaneous purchase of a call and a put using the same strike and the same expiration month. It is generally established using at-the-money options or options with strike prices as close to the price of the underlying index as possible.

Since the long straddle involves the purchase of a long call and a long put, the cost of the double premiums is often high. Hence, the strategist must expect a large move in a stock to ensure a profit. When the actual direction of the move is uncertain, a long straddle can be used. If the price spikes higher, the call will begin to generate profits. In contrast, the put will increase in value if the price of the underlying asset falls.

The long straddle is a limited-risk, unlimited-reward strategy. The maximum risk is the total debit paid to enter the trade, or the cost of the put and the call. The maximum profit is unlimited as the underlying asset moves higher. The profit to the downside, from the put, is limited by a move by the underlying asset to zero. The breakevens are computed by adding the cost of the double premiums to the strike price for the upside breakeven. The downside breakeven is equal to the strike price minus the cost of the trade.

Let's see how this trade can work in real life. During the month of August 2004, the strategist looks at the PHLX Gold and Silver Mining Index (\$XAU) and it appears that the sector might be due for a big move in one direction or the other, but it isn't clear whether that move will be higher or lower.

So the strategist sets up a long straddle with the gold index trading near 85.75. The strategist decides to buy five XAU December 85 puts for \$7.00 each and five XAU December 85 calls for \$7.50. The total cost of the trade is \$7,250, or $[(\$7.00 + \$7.50) \times 5 \times 100]$. The upside breakeven at expiration is equal to the double premium (\$14.50) of the options plus the strike price, or \$99.50 ($\$85 + \14.50). The downside breakeven is simply the strike price minus the double premium, or \$70.50 ($\$85 - \14.50). If XAU rises above 99.50 or falls below 70.50 by expiration, the trade will make money.

The risk/reward of the long straddle is plotted in Figure 7.1. The biggest loss would occur at expiration if XAU settles at 85 and both the put and call expire worthless. The maximum profit potential is theoretically unlimited as the index moves higher, and is limited to the index falling to zero on the downside. Since the trade is entered in August and the options expire in December, it has approximately four months to play out.

In most cases, the long straddle is not held until expiration and therefore the gold index will not necessarily need to rise above or below the

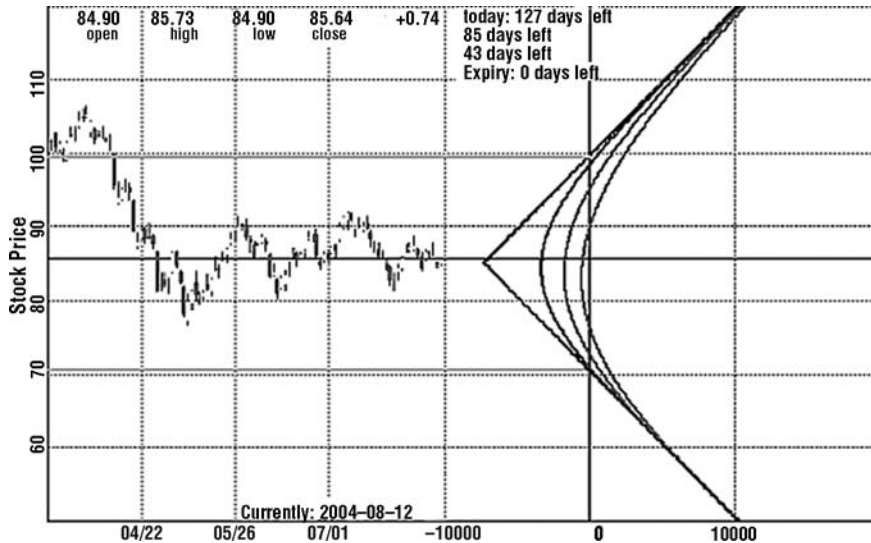


FIGURE 7.1 XAU December Long Straddle Risk Graph (Source: www.Optionetics.com Platinum)

breakevens to make money. The faster it moves in one direction, the better. For example, if the index rallies 10 percent during the first week, the profit from the call will probably be enough to yield a profit on the trade. In this example, the index did rally. Less than one month later, XAU was trading near 103 and the call was bid at \$19.00. At that point, the call option alone was worth more than the \$14.50 paid to establish the trade. Obviously, the put had lost most of its value.

The success of the straddle depends on identifying an explosive index or market and then entering the trade before the move gets under way. The exit is equally important. If the underlying asset falls below the lower breakeven price, the strategist can close the put position for a profit. If the index stays between the two breakevens and within a trading range, the trade will result in a loss. Therefore, the strategist will want to consider closing out the position when the price of the underlying asset does not move. In addition, since time decay is a killer during the last 30 days of an option's life, the long straddle should usually be closed out between 30 and 45 days prior to expiration. However, if the underlying asset price rallies above the upside breakeven, the strategist is in the profit zone again and can close the call for a profit and simply hold the put for a possible reversal in the index.

STRANGLES

Strangles are quite similar to straddles, except the choice of strike prices is quite different. A straddle uses at-the-money options while the puts and the calls in strangles are out-of-the-money. Since the options are out-of-the-money, strangles are usually much cheaper than straddles, which is why many options strategists prefer strangles. The difference, however, is that the area of maximum risk is larger because there is a greater chance that both the puts and calls expire worthless.

Let's create an example, again using the PHLX Gold and Silver Mining Index trading near 85.75. The strategist decides to purchase five XAU December 80 puts for \$4.50 each and five XAU December 90 calls for \$5.50. The total cost of the trade is \$5,000 $[(\$4.50 + \$5.50) \times 5 \times 100]$. Recall that in our straddle, which involved the December 85 puts and December 85 calls, the cost of the trade is \$7,250. Therefore, employing a strangle is a less expensive alternative.

The upside breakeven at expiration is equal to the strike price of the call plus the double premium paid for the options, or 100 ($90 + 10$). The downside breakeven is simply the strike price of the put minus the double premium, or 70 ($80 - 10$). If the XAU rises above \$100 or falls below 70 at expiration, the trade makes money, which is relatively similar to the straddle (see Figure 7.2).

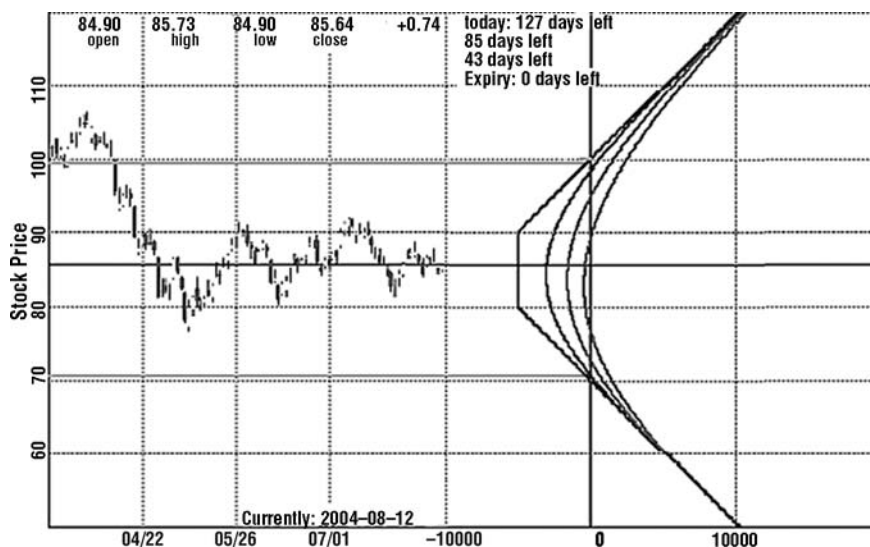


FIGURE 7.2 XAU December Strangle Risk Graph (Source: www.Optionetics.com Platinum)

Like the straddle, the strangle is a limited-risk, unlimited-reward strategy that relies on a strong move in the underlying security. If it doesn't move, then the trade will begin to see losses due to time decay. This problem is exacerbated by the fact that there are two long options that are both losing value. In our example, as long as the XAU trades between the strike prices of 80 and 90 at expiration, the trade suffers its maximum possible loss. With the straddle, the maximum potential loss occurred at 85, which is the strike price of both the put and the call. In sum, although the strangle is cheaper, the odds of incurring the maximum potential loss at expiration are greater.

However, just as with the straddle, strategists will generally not hold the strangle until expiration. Instead, the strategist will bank profits if the XAU makes a significant move higher or lower within the first two or three months after establishing the trade. If it falls below the lower breakeven price, the strategist can close the put position for a profit. Or, if the underlying asset price rallies above the upside breakeven, the strategist can close the call for a profit.

If the index stays between the two strike prices and within a trading range, the trade will result in a loss. Therefore, the strategist will want to consider closing out the position if the underlying asset does not begin to see movement in one direction or the other. Since time decay will very negatively impact the position closer to expiration, the strategist will usually want to close the position between 30 and 45 days prior to expiration.

UNDERSTANDING DELTA

When creating straddles and strangles, the trade can either be neutral or have a bullish or bearish bias. In order to understand if the position is truly neutral, the strategist can turn to one of the risk measurements called the *Greeks*. The Greek *delta* is probably the most fundamental of these measurements and is the first that needs to be mastered by every beginning options trader.

What Are the Greeks?

Options and other trading instruments have a variety of risk exposures that can vary dramatically over time or as markets move. Greeks are essentially a set of measurements that explore the risk exposures of a specific options trade. The Greeks in respect to option trading include *gamma*, *vega*, *theta*, and *delta*, each one representing a different variable relative to option pricing.

(Continued)

What Are the Greeks? *(Continued)*

Each risk measurement is named after a different letter in the Greek alphabet (vega is not actually a Greek letter, but it is used in this context anyway). In the beginning, it is important to be aware of all the Greeks, although understanding delta is the most crucial to trading success. Each of the terms defined here has a specific use in day-to-day trading.

- **Delta:** Change in the price of an option relative to the change of the underlying security.
- **Theta:** Change in the price of an option with respect to a change in its time to expiration (time value).
- **Vega:** Change in the price of an option with respect to its change in volatility.
- **Gamma:** Change in the delta of an option with respect to the change in price of its underlying security.

Delta is a measure of the change in the price of an option relative to the price change of the underlying asset. For instance, strategists purchase a call option on a stock because they expect that stock to rise. There is a distinct relationship between the price paid for the option (the current premium reflected in the market) and the price of the underlying stock.

The delta factor addresses the question, “How much does the option value change for a move in the underlying asset?” For instance, if the stock’s price increases by \$1.00, will the premium of that option increase by \$1.00? The delta factor is calculated by dividing the amount of price difference of the option by the amount of price difference in the underlying stock. For example, if the price of the stock option increased by \$0.20 when the stock price went up \$0.40, you would have a delta factor of 0.50. This is determined by dividing 0.20 by 0.40. A delta of 0.50 indicates that the option price will increase at half the rate of the stock price.

A call option with a delta of 0.50 is common when an option is very close to being at-the-money. As the call moves in-the-money, the delta will increase. A deep-in-the-money option will have a delta approaching 1.00 and will move almost one-for-one with the movement of the underlying asset. The delta is never greater than 1.00. In contrast, put options have negative deltas because they decrease in value as the stock rises.

The greater the delta factor—positive or negative—the more expensive the option and the higher the loss can be for buyers. Many speculators prefer to use out-of-the-money options because they are cheaper.

However, the delta will also be lower and the option will see a smaller point change for each point change in the underlying asset.

Straddles and strangles are generally created to be *delta neutral*. For example, the delta of the at-the-money call will equal +0.50 and the at-the-money put will have a delta of -0.50. If the strategist is using the same number of puts and calls, the positive and negative deltas will offset each other, leading to a total position delta of zero—a delta neutral trade.

Similarly, when creating a strangle, the deltas should offset each other for the position to be truly neutral. For instance, if the strategist creates a strangle and the call has a delta of +0.50 and the put has a delta of -0.30, the overall delta is 0.20 [$0.50 + (-0.30) = 0.20$]. The strangle will then have a directional bias that is bullish. It will increase in value by 0.20 for every 1 point move higher in the underlying asset and fall in value by 0.20 for every 1 point drop in the underlying asset. Ultimately, if the price of the underlying asset continues to fall, the put's delta will begin to increase and the call's delta will decline. It might move toward delta neutrality through time, but the position is not delta neutral at the time that it is established. There is nothing wrong with directional straddles and strangles, but the strategist should understand when the position has a bias one way or the other. Determining a position's overall delta is an easy way to find out.

SHORT STRADDLES AND STRANGLES

Some newsletter writers and investment services have advocated selling straddles and strangles on indexes. The idea is that, unlike a stock that can sometimes make a large move in a short time, an index is less likely to explode in one direction or the other. The reason for this is that an index holds several, in some cases hundreds of different stocks.

Therefore, since indexes tend to be less volatile, the logic follows that it makes sense to sell index options because these options are more likely to lose value from time decay and are less likely to move deep-in-the-money, an outcome that could result in a huge loss. By selling straddles or strangles in a sideways market the trader can bring in a significant amount of premium and have a potentially wide profit area as the market continues to move sideways or trends only modestly.

Let's consider an example using the S&P 500 Index (\$SPX). During the middle of December, with the SPX trading near 1,260, the strategist determines that the market is likely to trade flat during the first quarter of the following year. Consequently, the strategist decides to sell premium in the

IRON BUTTERFLY SPREADS

The *butterfly spread* is a popular strategy among options traders and works well in range-bound markets. It can be created with puts, calls, or a combination of the two. For example, a butterfly with calls will consist of a long in-the-money call, two short calls with a higher strike price, and another long call with an even higher strike price. It can be thought of as a combination of a bull call spread and a bear call spread. We will consider an example shortly.

For now, let's take a look at the long iron butterfly, a similar strategy that works well in range-bound markets. Unlike the butterfly with only puts or only calls, the iron butterfly includes both puts and calls with four different options contracts. It can be viewed as a combination of a bear call spread, with a short at-the-money call and a long out-of-the money call, along with a bull put spread that consists of a long out-of-the-money put and a short at-the-money put. If this is confusing, don't worry—the example that follows will help clear things up.

To create the iron butterfly, the strategist will buy an out-of-the-money call and an out-of-the-money put. At the same time, s/he will sell an at-the-money call and an at-the-money put. The iron butterfly is established for a credit because the strategist is buying two out-of-the-money lower-priced options and selling two at-the-money higher-priced options. They are selling a straddle or strangle and then buying out-of-the-money options as a hedge to limit the risk and lower the margin requirements of selling index options.

Both the risks and the rewards of the long iron butterfly are limited. The success of the trade depends on the stock staying in between the upper and lower breakevens. The higher breakeven is computed as the strike price of the short call plus the net credit received for the trade. The downside breakeven is equal to the short put strike price minus the net credit. The maximum reward is the net credit received on the trade.

Unlike the unlimited risk posed by the short straddle or strangle, the greatest risk from the iron butterfly is equal to the difference between the strike prices minus the net credit. Although not included in our calculations, it should also be noted that since this trade involves four contracts, the commissions can be significant. Even though the risks are generally limited, keeping commissions low will greatly improve the reward potential of the iron butterfly trade.

Let's go back to the short straddle example. Recall we sold the SPX 1,260 straddle for a credit of \$6,000. The maximum gain was the credit, and that profit would be realized if the index closed at 1,260 at expiration. However, the risks were also high. In fact, there is no limit to the losses

above the upside breakeven. If the index settles at 1,400 at expiration—an 11 percent move higher—the strategist loses \$8,000 per spread.

To limit the risk, the strategist can sell the 1,260 straddle and buy an out-of-the-money put and an out-of-the-money call. For example, the straddle can be modified to a long iron butterfly by doing the following:

- Sell 1 March 1,260 straddle @ \$60 (35 + 25).
- Buy 1 March 1,290 call at \$20.
- Buy 1 March 1,230 put at \$17.50.

All told, the sale from the short options equals \$60 and the cost of the long options is \$37.50. So this trade fetches a net credit of \$22.50, or \$2,250 per spread. Figure 7.4 shows the risk/reward associated with this iron butterfly.

The maximum profit from the long iron butterfly is equal to the net credit and will occur if the stock is between the strike prices of the two short options at expiration. If the SPX closes at exactly 1,260, all the options expire worthless and the strategist will keep the premium earned from both the bull put spread and the bear call spread. In this example, the maximum profit is \$2,250.

Ultimately, the strategist wants the index to trade sideways. If the market makes a dramatic move higher or lower, and the index moves

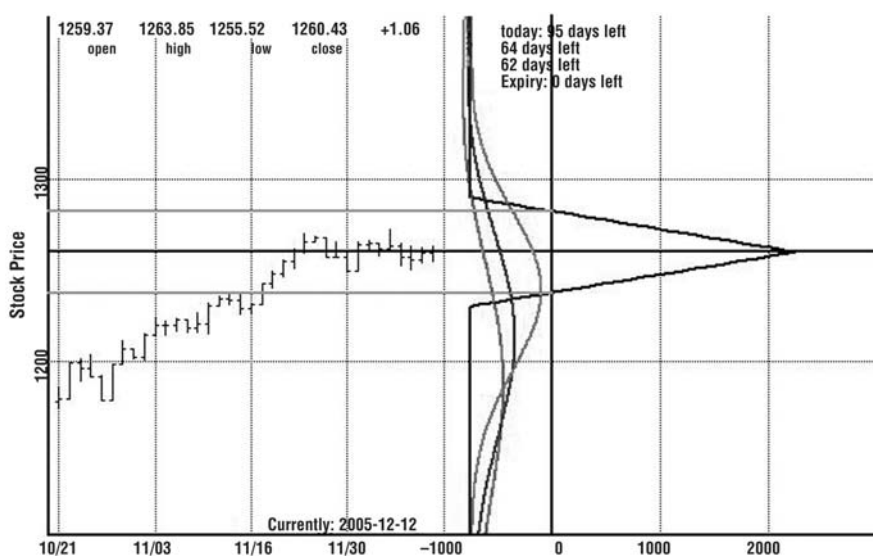


FIGURE 7.4 SPX March Iron Butterfly Risk Graph (Source: www.Optionetics.com Platinum)

above or below the breakevens, the long iron butterfly will probably result in a loss. To compute the downside breakeven, subtract the net credit from the strike price of the short put. In this example, the downside breakeven is 1,237.50 ($1,260 - 22.50$). The upside breakeven is calculated by adding the short call strike price to the net credit. In this example, the upside breakeven is 1,282.50 ($1,260 + 22.50$).

A move above or below the breakeven can result in the maximum possible risk, equal to the difference between the strike prices minus the credit. In this case, the maximum risk is \$750 per spread $[(\$30 - \$22.50) \times 100]$. In short, the strategist is risking \$750 to make \$2,250. This is better than the unlimited risk that yielded \$6,000. Figure 7.4 shows the unique risk graph of the butterfly spread. Notice how, unlike the short straddle (see Figure 7.3), the losses are capped thanks to the long call and put.

In conclusion, when holding an iron butterfly the strategist wants the underlying stock to remain between the two breakevens at expiration. If there is a sudden move higher or lower shortly after the trade is entered, the strategist might want to exit the trade unless s/he expects the market to move back toward the breakevens. As expiration approaches, and the index falls below the lower breakeven, the strategist will want to let the call options expire worthless and then exit the bull put spread. Conversely, if the index rises above the breakeven, the strategist will probably want to let the put options expire worthless, and then exit the bear call spread in order to avoid assignment.

LONG BUTTERFLY SPREADS

The *long butterfly* is a popular strategy that traders use when they expect the stock or market to trade within a range. In this example, we will focus on the long butterfly using only call options. In that respect, the long butterfly includes three strike prices and can be thought of as a combination of a bull call spread and a bear call spread. Lower and middle strike prices are used to create the bull call spread; middle and higher strike prices are used to create the bear call spread. Sometimes traders refer to the middle strike prices, which are generally at-the-money, as the *body* and refer to the higher and lower strike prices as the *wings*.

The long butterfly is a limited-risk, limited-reward strategy. It works well when the underlying market makes relatively little movement. The strategy generates the maximum profits when the price of the underlying asset is equal to the strike price of the short options at expiration. Risks arise when the underlying asset moves dramatically higher or lower. However, the maximum risk is equal to the net debit paid for the trade. For

that reason, strategists will implement the long butterfly when they expect the underlying asset to stay within a range until the options expire.

Although we use calls in our next example, the long butterfly can also be created using puts. In that case, the strategist establishes the position by purchasing one out-of-the-money put (wing), selling two at-the-money puts (body), and buying one in-the-money put (wing). This would be a combination of a bull put spread and a bear put spread.

In this butterfly example, let's use calls. In early December, shares of the Select Sector Energy Fund (XLE) are trading at \$51. Since the strategist expects oil and energy stocks to trade flat during the holidays and into the following year, s/he creates a long butterfly composed of the following:

- Buy 10 December XLE 50 calls at \$2.50.
- Sell 20 December XLE 52 calls at \$1.50.
- Buy 10 December XLE 54 calls at \$0.75.

Figure 7.5 shows the risk/reward of the butterfly spread. Since the net debit is the maximum risk, the maximum risk of this trade is \$0.25 a spread, or \$250. The maximum reward is equal to difference between the middle and highest strike prices, minus the net debit, or \$1,725 $[(2 - \$0.25) \times 10 \times 100]$. The upside breakeven equals the highest strike price minus

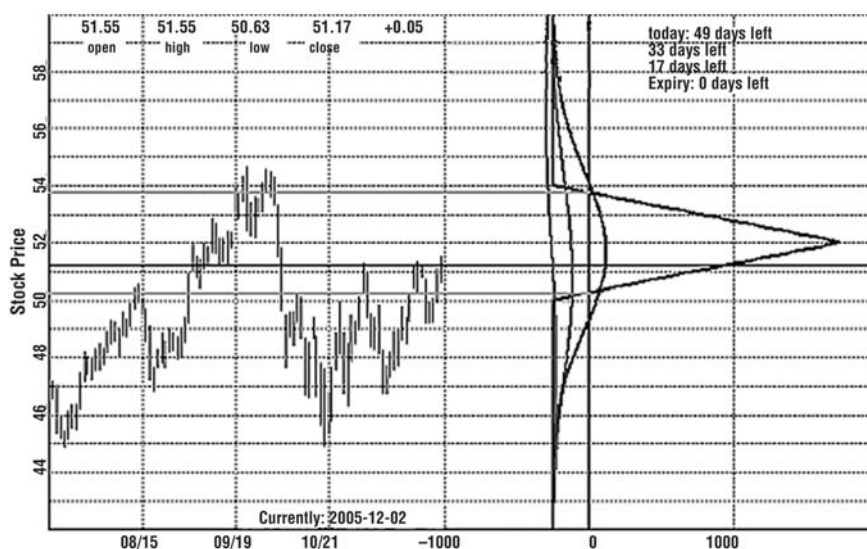


FIGURE 7.5 XLE December Long Butterfly Risk Graph (Source: www.Optionetics.com Platinum)

the net debit, or \$53.75 ($\$54 - \0.25). The downside breakeven equals the lower strike price plus the net debit, or \$50.25 ($\$50 + \0.25). In this example, the strategist is risking \$250 to make \$1,725. However, the range of maximum profitability is small; it is equal to the strike price of the short options, or \$52.

The exit strategy is often the key factor that makes or breaks a butterfly. If the underlying asset falls below the breakeven in a long butterfly, you will generally want to exit the trade. If not, you can let the options expire worthless later and incur the maximum loss. If the stock is in between the two strike prices, the trade is in the profit zone and you will want to let the short options expire. At that point, sell the long option with a lower strike price for a profit. If the stock makes a dramatic move higher, exit the position. If the trader is assigned on the short options, the long options can be exercised to offset the share position.

RATIO BACKSPREADS

Backspreads can be created with puts or calls. The *call ratio backspread* is a great long-term strategy when the strategist wants to profit from a move higher in an index, but wants some protection in the event of a sudden move lower. It is created by buying one side of the trade and selling another in a disproportionate ratio. We teach the following seven rules when looking for optimal ratio backspreads:

1. Choose markets where volatility is expected to increase in the direction of your trade.
2. Avoid markets with consistently low volatility.
3. Do not use ratios greater than 0.67—use ratios that are multiples of 1:2 or 2:3. For example, if the strategist buys 2 calls for every 1 call sold, the ratio is 0.50. Keep the size of the ratio 0.67 (2:3) or lower.
4. In a very slow market, a 0.75 ratio or higher is acceptable only by purchasing the lower strike and selling the higher (for calls). This position will involve more risk.
5. To create a call ratio backspread, sell the lower-strike call and buy a greater number of higher-strike calls.
6. To create a put ratio backspread, sell the higher-strike put and buy a greater number of lower-strike puts.
7. Avoid debit trades. But if you do place a ratio backspread with a debit, you must be willing to lose that amount.

Let's consider a call ratio backspread example using the Qs trading for \$37.70 a share. In early June, the strategist expects an explosive rally in the NASDAQ during the final six months of the year. A call ratio backspread is set up on the NASDAQ 100 Index Trust (QQQQ) with three long January 40 calls for \$1.25 per contract and two short 38 calls for \$2.25 per contract. For selling the calls with the 38 strike price, the strategist gets a credit of \$4.50. The cost of the three 40 calls is \$3.75. Therefore, the total net credit for creating the backspread is \$0.75, or \$75 for the position: $[(2 \times \$2.25) - (3 \times \$1.25)] \times 100$.

Figure 7.6 shows the risk graph of the QQQQ 38/40 call ratio backspread. It slopes upward and to the right and produces the best results if the share price moves higher. Ideally, the QQQQ will move above the breakeven. The upside breakeven at expiration is equal to (1) the higher strike price *plus* (2) the value obtained by taking the difference between the two strike prices times the number of short contracts, all divided by the difference in the number of short and long calls, *minus* (3) the net credit. That's a mouthful. In our example, the upside breakeven equals \$43.25:

$$\frac{40 + (2 \times 2)}{3 - 2} - 0.75 = \$43.25$$

The potential profit above the upside breakeven is unlimited.



FIGURE 7.6 QQQQ January Call Ratio Backspread Risk Graph (Source: www.Optionetics.com Platinum)

If the strategist is wrong and the QQQQ plunges, the trade will still generate a profit because the backspread was created for a net credit. If the fund stays below the lower strike price of \$38 per share when expiration passes, all of the calls will expire worthless and the credit stays in the account. The downside breakeven is computed as the lower strike price plus the net credit (divided by the number of short calls), or \$38.38 a share $[38 + (0.75 \div 2)]$. Below that price level, the trade will generate the initial net credit.

The maximum possible loss is equal to the difference between the two strike prices times the number of short options, minus the credit, times the multiplier. In this example, the maximum risk is equal to \$325: $[(2 \times 2) - 0.75] \times 100$. The maximum risk at expiration occurs at the strike price of the long options. At that price, the short options are in-the-money and likely to be assigned, and the long calls will expire worthless.

When trading ratio backspreads, the strategist should always consider the risk of getting pinned to the higher strike price and the possibility of early assignment on the short options. The risk of assignment can occur if the short options have little time value left. As a general rule, an option with \$0.25 or less of time value will have a relatively high probability of assignment. At that point, it might be wise to close the backspread. The same holds true if it looks as if the price of the underlying index might move toward the long call strike price.

In addition, we generally recommend exiting ratio backspreads no later than 30 days prior to expiration. Here are a few exit rules to follow when dealing with backspreads.

- If the trade has a reasonable profit (50 percent or more), consider closing out an equal number of short and long positions. Then the remaining long option is working with free money and can be held for additional profit.
- If the underlying stock rises between the upside and downside breakeven, exit the entire position with 30 days or less left until expiration. To do so, buy the short options back and sell the long options to try to mitigate some of the loss.
- It is recommended that you close out the position 30 days prior to expiration unless you feel strongly that the stock will continue to increase (in a call backspread) or decrease (in a put backspread).
- Finally, if the underlying stock falls below the downside breakeven in a call ratio backspread (or above the upside breakeven in a put ratio backspread), let the options expire worthless.

Calculating the Best Ratios

To figure out the most effective ratio for the backspread, the strategist must accurately calculate the net credit of a trade. This is done in three steps.

1. Calculate the full credit realized from the short options (the number of short options times the short option premium).
2. Divide this credit by the debit of the long options (the number of long contracts times the long option premium).
3. Then calculate the maximum risk: the number of short contracts times the difference in strike prices, plus any debit paid or less any credit received.

You can then use up as much of the credit as you can to make the most profitable ratio.

Backspreads can also be created with puts. Figure 7.7 shows the risk graph of a QQQQ 37/35 *put ratio backspread*. It is basically the same risk graph as the call ratio backspread, but flipped over. The trade yields the best results when the price of the underlying asset heads south. However, if established for a credit, it can also produce profits when the underlying asset moves higher in price.

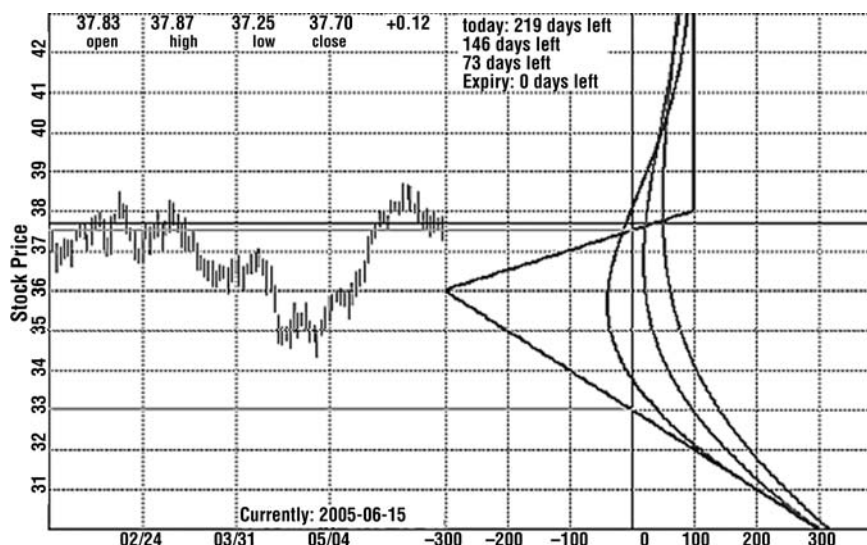


FIGURE 7.7 Qs Put Ratio Backspread Risk Graph (Source: www.Optionetics.com Platinum)

Ratio Spreads

A ratio backspread is the opposite of a *ratio spread*. A ratio spread is created by selling more options than one is buying. Obviously, this leaves the strategist with a naked position. For that reason, we don't advocate ratio spreads and focus instead on credit spreads, backspreads, and other lower-risk strategies when looking for opportunities to sell premium.

COLLAR SPREADS

The *collar* is a covered call and a protective put (which involves the purchase of shares and the purchase of puts) wrapped into one. The idea is to gain downside protection from the put, but to offset the cost of this protection with the sale of a call. Similar to the covered call, this position will limit the reward associated with owning the shares. If the shares rise higher, the short call will probably be assigned and the strategist must sell the shares at the short strike price. This strategy is generally implemented when the trader is moderately bullish or neutral on a stock but wants protection in case of a bearish move to the downside.

Let's consider an example using the Select Sector Financials (XLF), which is trading for \$22 a share in early December. Since the trade involves options and shares, it is not possible to create collars on indexes. In any event, the strategist expects a gradual move higher in the financial sector and wants to profit from a move higher in the XLF. However, the strategist is also concerned about potential volatility in the sector due to changes in interest rates. Therefore, rather than simply being long shares or calls, a collar is created.

The trade consists of 1,000 shares: 10 long June 20 puts at \$0.25 and 10 short June 23 calls at \$1.00. One put is purchased and one call is sold for every 100 shares. The cost of the trade is equal to the cost of the shares plus the cost of the puts, minus the credit for selling the calls, all multiplied by the number of contracts and the multiplier, or \$21,250: $[(\$22 + 0.25) - 1] \times 10 \times 100$.

Ideally, the price of the XLF will rise and the shares will gradually increase in value. Meanwhile, the call options will lose value due to time decay. The puts will also lose value, but these contracts were relatively inexpensive compared to the calls. For example, if XLF closes at exactly \$23 a share at June expiration, the position will see \$1.00 per share in profit plus \$1.00 per contract for the short calls, which expire worthless. The short puts will also expire worthless, resulting in a \$0.25 loss. The profit is \$1,750: $\{[(1.00 + 1.00) - 0.25] \times 10 \times 100\}$. This is the maximum profit potential for this collar.

Figure 7.8 shows the total risk/reward profile of the XLF collar. Ideally, shares will move toward, but not rise above, \$23. A move above the strike price of the short call will lead to assignment, leaving the strategist holding nothing but a deep out-of-the-money put. Losses will occur if XLF drops below the breakeven, which is computed as the price of the stock minus the net credit, or \$21.25 a share ($\$22 - \0.75). However, the put protects the position from large losses. If the fund drops below \$20 per share, the strategist can exercise the put and sell all 1,000 shares for \$20 apiece. Therefore, the maximum possible loss is the price of the stock minus the net credit, minus the strike price of the put option, or \$1,250: $[(\$22.00 - 0.75) - 20] \times 10 \times 100$.

While a collar can be tailored to make money when shares move higher, it is normally used for protection. It does not require a lot of attention. If the ETF shoots higher, shares will probably be called when the time premium has fallen to a quarter of a point or less.

Therefore, if the price of the exchange-traded fund has risen above the strike price of the call and the strategist does not want to lose the shares, it is better to close the short call by buying it back. If not, the call will be assigned and the trader will make a profit equal to the difference between the exercise price and the original purchase price of the shares, minus any debits (or plus any credits).

The put will protect the shares if the price of the fund falls. If the price

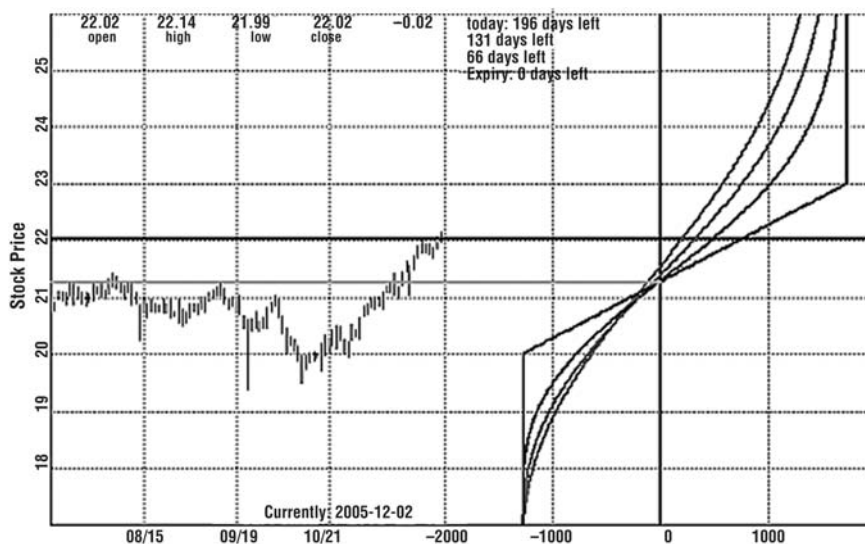


FIGURE 7.8 XLF June Collar Spread Risk Graph (Source: www.Optionetics.com Platinum)

drops sharply, the strategist will want to buy back the short call and then exercise the put. If the short call is not closed and the put is exercised, the strategist will be naked a short call. Although it will be deep out-of-the-money, it will still expose the trader to risk. Therefore, it is better to buy back the short call and close out the entire position. If the shares stay in between the two strike prices, the trader can roll the position out using longer-term options, or do nothing and let both options expire worthless.

Delta and Collars

Collars are often created to profit from a move higher in the price of the underlying asset. When using the strategy, delta can once again be very helpful. Understanding delta can help the strategist understand why the collar changes in value for each change in the price of the stock. For example, if a collar is created with 100 shares, selling a call with a delta of 0.50 and buying a put with a delta of -0.35 , the overall delta will be 0.15. Therefore, the trade will gain 0.15 cents for each 1 point advance in the stock. It will lose 0.15 cents for each point drop in the stock. So, it has a bullish bias, which many traders seek when creating collars.

Position	Delta
Long 100 shares of XYZ	+1.00
Long 1 XYZ put	-.35
Short 1 XYZ call	-.50
Total Position Delta	+0.15

Importantly, deltas are always changing, and as they change, the strategist can make adjustments to the collar to keep a bullish bias. The adjustment can involve buying or selling puts, calls, or shares.

DIAGONAL SPREADS

The diagonal spread is similar to the call and put calendar spreads discussed earlier. It can be created with either puts or calls. Similar to the calendar, the diagonal spread is often used to take advantage of time decay. In addition, it is an appropriate strategy when the investor expects a sideways or modest move in the price of the underlying asset. The spread can be applied to stocks, indexes, or exchange-traded funds.

To create a diagonal spread, the strategist buys a longer-term option and sells a shorter-term option with a different strike price. Recall that the calendar spread uses the same strike prices. The expectation is that the stock will move toward, but not exceed, the strike price of the short

option. As a result, the short option will expire worthless while the longer-term option retains most of its value and perhaps even appreciates. An example of a diagonal spread would be to sell an at-the-money call and buy an out-of-the-money call with a more distant expiration date.

For the diagonal spread case study, let's consider the Select Sector Energy Fund (XLE) trading near \$51.25 in early December. The strategist expects the energy sector to stay in a range before exploding higher in the second half of next year. Therefore, 10 long June 55 calls are purchased for a debit of \$2.50 per contract. To help finance the cost of these calls, the strategist sells 10 January 52 calls for \$1.50.

The cost of the trade is \$1,000 and is equal to the premium of the long call minus the premium of the short call, multiplied by the number of contracts and the multiplier $[(\$2.50 - 1.50) \times 10 \times 100]$. The net debit is also the maximum risk associated with this trade. Profits arise if the shares move higher. The maximum profit occurs when the short option expires and XLE is equal to \$52 per share. At that point, the long call has retained most of its value, but the short calls expire worthless. The strategist can then close the position entirely, sell more short-term calls, or simply hold the long calls in anticipation of the move higher in the energy sector.

The risk curve of the diagonal spread, shown in Figure 7.9, is similar to the calendar spread. In both cases, the strategist wants the share price to move higher, but not rise above the strike price of the short calls. A



FIGURE 7.9 XLE June/January Diagonal Spread Risk Graph (Source: www.Optionetics.com Platinum)

move lower will result in losses because all of the call options will lose value. If all of the options expire worthless, then the strategist loses the initial net debit paid for establishing the trade.

As noted with the calendar spreads, the breakevens for diagonals are difficult to know ahead of time. The risk to the diagonal spread is easy to compute in advance because it is limited to the net debit paid. The maximum reward is unlimited after the short-term option expires because the long call can continue to appreciate in value. However, the breakeven point is more difficult to pin down. Often, traders will first look at the breakeven price when the short-term option expires, but at that point the longer-term option will probably still have value. In addition, the value of that long option will be difficult to predict ahead of time due to changes in implied volatility (discussed later) and the impact of time decay.

In sum, it is difficult to know exactly what the breakeven stock price will be for the diagonal or calendar spread because we are dealing with options with different expiration dates. In these situations, the best approach is to use options-trading software to get a general idea of the breakeven levels. Then you can plan your exit strategies accordingly.

CONCLUSION

Option strategies provide the trader with a very valuable and powerful tool, no matter whether they are used alone or combined with other options or equities. This type of flexibility allows the trader to accommodate any of a number of unique goal and risk parameters. Before traders even begin their search for the best option strategy, they must first have a basic understanding of just how option investments work in real-world trades.

Options traders are typically presented with a multitude of different choices. To select the most appropriate strategy for the situation, they must first consider their trading goals, market outlook, and risk tolerance to be able to narrow down the best candidates suited for them. Keep in mind that each strategy has its own advantages and disadvantages. It is vital for each trader to define his or her own risk tolerance as this makes it easier to choose the best strike prices and expiration dates.

If directional option strategies are preferred, it is essential that the trader be able to effectively forecast the price of the underlying asset. Also, if these types of strategies are for profit or protection, the actual market outlook will certainly limit the list of strategic choices. Typically, directional strategies require the investor to make at least three assessments about the future price of the underlying security.

First, of course, is direction itself, which is based on market analysis and allows the trader to determine whether the price of the underlying is more likely to increase, decrease, or stay at the current level. Second, the trader must form an opinion about the size of the move, which will surely impact the selection of strike prices. For some option strategies it is not enough to decide on a particular direction; rather, it is the magnitude of the projected price move that will determine which strike prices make worthy candidates.

The third decision involves the time frame in which the stock price forecast needs to take place. Options are a decaying asset and have a limited time span. This means that if both the projected direction and the size of the move do take place, but only after the option expires, the options trader still would not have achieved the intended objective. That is why timing is so crucial in options strategy selection, especially if the trade possesses a directional bias. The bottom line is that if the options trader is making a directional forecast, s/he has to be correct in three areas; the underlying must move in the right direction by a sufficient magnitude as well as prior to the expiration date.

Some strategies are successful only if the underlying asset behaves correctly for the duration of the contract. It is very important for the trader to have a clear idea about where the underlying is likely to move and when. This will definitely improve the option strategist's chances of success with selecting and implementing the appropriate strategies.

Understanding complex and advanced strategies can take some time, but it pays off in the long run. It not only helps in finding opportunities in different types of market environments, but it also can help the strategist adjust positions to limit risks and increase potential rewards. For example, the reader should now understand how a collar can offer low-cost protection for a position in an exchange-traded fund.

Meanwhile, straddles and strangles can be used when the strategist expects an explosive move higher or lower in the index or sector. The short strangle is sometimes used in the index market because it can generate a lot of premium. However, the risks are high when selling naked options. As a result, when looking for ways to earn premium, strategists should consider butterflies, collars, and diagonal spreads. All of these strategies can be created whether the strategist has a bullish, bearish, or neutral bias on the stock market as a whole, or on a specific sector.

Catalysts

At this point, the reader has been introduced to the basics of indexes, options, and strategies. Now let's take a closer look at the financial markets and what makes them move. What factors cause prices to change in the financial markets? What makes an index move higher or lower? Why does the market trade quietly at times? Why is it sometimes volatile? The answers to these questions may be subjective at best, but are still well worth exploring.

The stock market moves because of news. If there was no new information, prices would never change. The arrival of new information causes investors to react—to buy and to sell. In addition, the type of information that moves the market as a whole or a sector is generally different from the type of information that causes movement in shares of one company. For instance, a bad earnings report can cause a stock to plunge 50 percent in one day, but it is unlikely to sink the entire market. So what types of information and indicators do index traders want to consider when looking for profits? Let's find out.

EFFICIENT MARKET THEORY

According to one school of thought, it isn't possible to successfully trade the market because the arrival of new information is very quickly incorporated into asset prices. Only new information can move stock prices; since the future is completely unpredictable, it follows that stock prices are

erratic or random. The efficient markets hypothesis is at odds with the idea that superior stock selection or market timing can yield above-average profits. The so-called efficient market theory (EMT) was popularized in the book *Random Walk Down Wall Street* by Burton Malkiel (New York: W. W. Norton, 1973). On page 24, he explains:

A random walk is one in which future steps or directions cannot be predicted on the basis of past actions. When the term is applied to the stock market, it means that short-run changes cannot be predicted. . . . Taken to its logical extreme, it means that a blindfolded monkey throwing darts at a newspaper's financial pages could select a portfolio that would do just as well as one carefully selected by the experts.

The type of information and the manner and timing in which it enters the market are some of the reasons that stock prices are unpredictable. Each day, billions of shares of stock trade hands on the various exchanges. The buying and selling reflects the expectations of millions of intelligent human beings who have access to different information, some bullish and some bearish. It may reflect specific news or conclusions that are drawn from piecing together various bits of information (i.e., the “mosaic theory”).

If a company reports disappointing earnings results, investors will probably sell the stock, causing the price to decline. Bears will continue to sell shares until the price of the stock is adjusted downward and it becomes attractive to potential buyers. If it falls too far, buyers will step in until the stock prices move higher. This type of decision making and adjustment goes on daily with millions of well-informed, rational, and intelligent investors doing the buying and selling.

Each day, prices are adjusted using all of the readily available information (and in some cases, unknown or “inside” information) until the prices reflect all that is known and available to the investing public. This process is at the heart of the efficient market theory. Accordingly, the movement in stocks is essentially random because the only information that is not reflected in current prices is the unknown, or the future. Efficient market theorists are sometimes called random walkers.

While random walk theory seems logical and has its many advocates within the academic community, it is not difficult to find flaws with the idea. For example, some investors have demonstrated, through the years, that it is possible to outperform the majority of investors with careful study and research. Famed investors Peter Lynch and Warren Buffett come to mind.

In the book *The New Finance: The Case Against Efficient Markets*

(Englewood Cliffs, NJ: Prentice Hall, 1995), Robert Haugen provides evidence that markets are overreactive and inefficient. His findings are based on the fact that various market anomalies exist and lead to superior performance from certain kinds of stocks. For example, the price-to-earnings (P/E) ratio effect shows that, in the long run, stocks with lower price-to-earnings ratios outperform those with high P/E ratios. (We discuss the P/E effect and some of these market anomalies in Chapter 10.) These anomalies suggest that it is possible to beat the market over time.

The point for now is simply that, since there are investors who have performed better than the rest over the long run and because various anomalies exist, the efficient market and the random walk theories do not seem to hold. The market is not efficient, and when developing a trading plan it is important to understand that financial markets can be driven by the emotions of fear and greed.

But, to the index options trader, does it really matter whether stock prices are random or not? While EMT does hold important implications for investors in the stock market, it is not necessarily at odds with the options strategist. The predictability (or unpredictability) of the financial markets does not necessarily matter when using strategies that try to profit from time decay or changes in volatility (discussed in Chapter 12).

In addition, the straddle strategy—which involves the purchase of an ATM put and a call on the same stock—can yield profits regardless of whether the stock moves higher or lower. There is no need to guess there. Similarly, certain strategies such as strangles, backspreads, and butterflies may yield profits even without accurate market predictions. Therefore, the random walk theory is not necessarily at odds with options trading, and savvy option strategists can generate profits even given an assumption that the markets are efficient.

PASSIVE INVESTING

Despite its flaws, EMT has had an important impact on the stock market throughout the years. Its popularity gave rise to an index strategy known as passive investing. To be specific, in 1976, a mutual fund company by the name of Vanguard created the Vanguard 500 fund (VFINX). It was the first of its kind. Basically, the Vanguard 500 is a fund designed to track the performance of the S&P 500. It is a big pool of money that invests in the same stocks as the index. The fund then issues shares to investors. This type of fund is sometimes called an *open end fund* because investors can buy shares or cash out directly from the mutual fund company. When an investor wants to buy shares, new shares are issued.

The Vanguard 500 was not the first open end fund, but it was the first one designed to track an index. It differed from other mutual funds because there was no portfolio manager actively researching stocks and making buying decisions at the helm. The underlying theory behind the creation of the fund was the EMT; since the market is efficient, why try to beat it? Instead investors should try to mimic the market. Since the S&P 500 Index is considered a proxy for the stock market, investors should buy and hold those 500 companies. The Vanguard 500 mutual fund provided the opportunity to do so.

The Vanguard index fund has outperformed most professionally managed funds since its inception. As a result, this fund has become quite popular—in fact, it has assets in excess of \$100 billion and is one of the largest mutual funds in existence. Since Vanguard developed the S&P 500 index fund in the mid-1970s, a number of others were created to emulate the performance of other indexes.

With index funds, there is no portfolio manager making decisions regarding which stocks to buy and sell. As a result, there is no need to pay fees to a high-priced portfolio manager. This makes the Vanguard S&P 500 index fund a relatively low-cost way of participating in the rise of the S&P 500. For investors, the index fund offers two important advantages over actively managed funds. First, most actively traded funds fail to beat the market. Therefore, the index fund, which tracks the market, beats most other funds. Second, the costs are less. The lower expenses will also enhance returns.

Index funds like the Vanguard 500 are known as passive investments because an individual or portfolio manager does not actively manage it or make buying and selling decisions. If the market is efficient, it's impossible to beat it. Therefore, the investor is better off simply buying and holding stocks that track the market. Passive investing involves no decision making. It seeks only to match the performance of the market.

ACTIVE INVESTING

Obviously, we don't believe that it is impossible to beat the market and even if we did, we wouldn't buy shares of the Vanguard 500 or any other mutual fund for our active portfolio. Instead, we trade exchange-traded funds like the S&P 500 Depositary Receipts (SPY), or SPDRs. The SPY, you will recall from Chapter 2, is a fund that also holds the S&P 500 Index stocks.

Exchange-traded funds such as the SPDRs hold several advantages over mutual funds. For one, the annual expenses are generally less, which is an obvious trading advantage over the long term. In addition, ETFs have an important tax advantage as well. When an index mutual fund sells a large position in a stock, the capital gain is passed on to the shareholders and a tax liability is incurred. This is not true of exchange-traded funds.

One advantage for the shorter term is that ETFs trade throughout the day like stocks and can be bought and sold through any brokerage firm. Mutual fund shares are issued through a mutual fund company and can only be purchased at the daily closing price; it isn't possible to buy or sell shares throughout the trading day. At the same time, traders can use limit and stop-loss orders when dealing with ETFs, just as with stocks. Finally, ETFs can be sold short in a down market. Mutual funds cannot be shorted, period.

Open End Funds versus Exchange-Traded Funds

Exchange-traded funds are different from mutual funds in several important ways. Here are a few points to remember:

- Shares of ETFs trade on the stock exchanges. Shares of mutual funds are purchased through the fund company.
- Exchange-traded funds are quoted throughout the day. Mutual fund shares are quoted only once daily.
- Investors pay brokerage commissions for trading ETFs. There are no commissions paid for buying and selling index funds.
- Options trade on ETFs. Mutual funds do not have listed options.
- It is possible to sell short and use stop-loss orders with ETFs, which is not possible to do with index funds.

Obviously, our approach to the market is not passive at all. It's very active and therefore buying a mutual fund is not a strategy we teach for traders. Since there are no options listed on mutual funds, they simply won't work for many of the techniques we use. Our goal is to generate profits in a variety of market environments and not simply buy and hold shares for the long haul.

To put it bluntly, we are not just looking to beat the market; we want to trounce it by posting above-average returns year after year. Consider

the simple fact that there are years when the market goes down and posts a negative return. As we saw in early chapters, we have strategies for bearish markets. So if the S&P 500 Index has an off year, which it often does, the passive investor will lose money. We won't.

FEAR AND GREED

Our approach to the market is active rather than passive for another important reason: We don't believe in the EMT. There is an entire school of thought known as *behavioral finance* that makes a strong case against the tenets of the theory. According to behavioral finance, the market might be efficient in the long run, but emotions can push the price of an investment or market to extremes. The two key emotions are fear and greed.

Fear and greed have a strong influence on financial markets, and there are numerous examples of these two emotions at work. Books have been written about financial manias. For example, *The Crowd* by Gustave Le Bon (1897; reprint edition, New York: Dover Publications 2002) and *Extraordinary Popular Delusions and the Madness of Crowds* by Charles Mackay (1841; reprint edition, New York, Three Rivers Press, 1995) detail how and why various speculative manias occurred through the years. At times, the forces of emotion work in subtle ways and on a small scale. For example, the forces of greed or fear can sometimes overrun shares of just one company. Figure 8.1 shows the rise and fall Cisco Systems (CSCO) in the years 1997 to 2001. At its peak, Cisco was worth almost a half trillion dollars! That represents \$4,000 per every household in America or \$75 for every human being on the planet.

Other times, fear and greed can affect a specific sector of the market. At the time that Cisco shares hit their peak, Internet stocks were caught in a buying frenzy. Figure 8.2 shows the rise and fall of TheStreet.com Internet Index (\$DOT) following the early 2000 debacle. Many companies in the index lost more than 90 percent of their values in the years following the plunge in the internet sector. As with Cisco, greed pushed prices too high and then fear drove prices back down.

The entire global equity market can be overcome by fear or greed. During these times, the mass of investors get taken in by an emotion, which triggers a flurry of buying or selling across international equity markets. For example, during the global financial crisis of 1998 the term contagion became popular. Contagion refers to a global sell-off in financial markets. When this happens, investors are reacting out of fear and

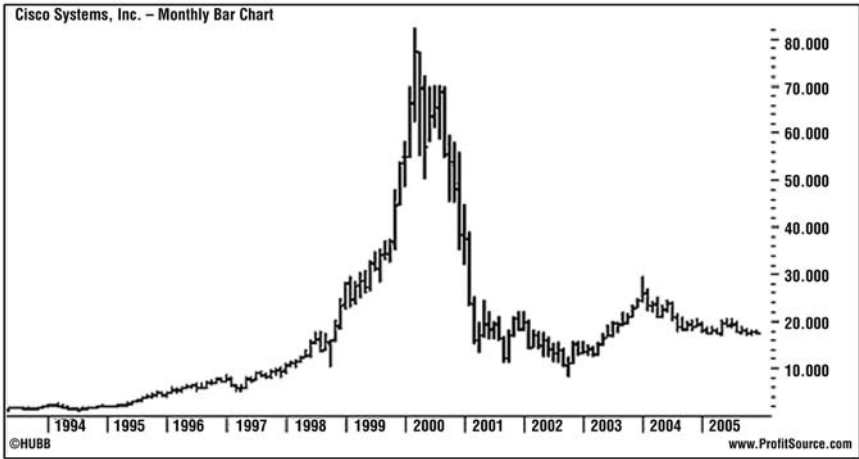


FIGURE 8.1 Rise and Fall of Cisco Systems (*Source: www.ProfitSource.com*)

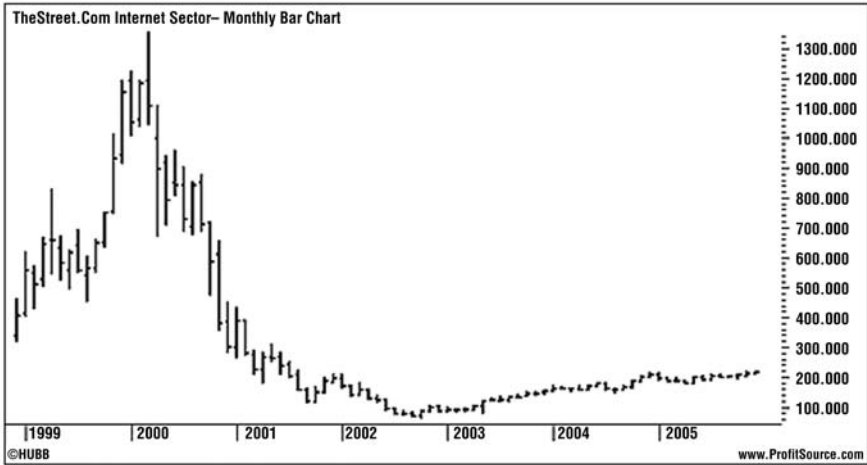


FIGURE 8.2 TheStreet.com Internet Index Debacle (*Source: www.ProfitSource.com*)

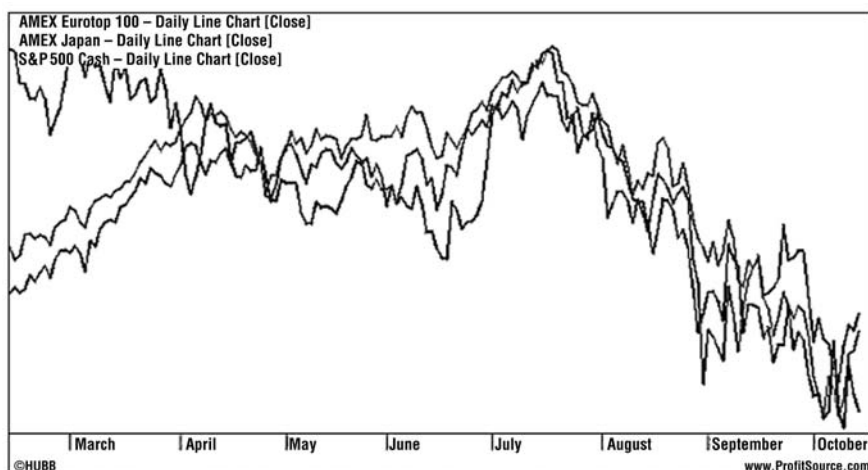


FIGURE 8.3 AMEX Japan Index, S&P 500 Index, and Eurotop 100 during Global Financial Crisis (*Source:* www.ProfitSource.com)

not rationality, which can open the door for profits when the excessive pessimism is corrected (see Figure 8.3).

In sum, while scholars are fond of the efficient market theory, history shows that investors do not always react in a rational manner and therefore stock prices do not necessarily reflect all available information. Instead, investors or the “crowd” tend to overshoot at times. Savvy traders who can identify these opportunities can generate profits using index strategies. In Chapter 10, we discuss sentiment analysis and provide some tools that traders can use to identify episodes of extreme fear and emotion.

EARNINGS

Obviously, fear and greed are not the only factors that drive stock prices. Fundamentals and valuations will have a more lasting effect. In the stock market, the earnings outlook is the single most important fundamental factor to consider when trying to anticipate trends. As a company increases profits, its share price becomes more attractive. Over time, as profits increase, successful companies distribute part of their profits to their shareholders in the form of dividends.

For example, consider Microsoft (MSFT). The software giant paid out a special \$3.00 dividend in 2004. This one-time dividend represents a return of profits to shareholders. That return of profits was three times greater than the price of the stock 15 years earlier. So an investor who had bought shares in 1990 would have tripled their money with that dividend alone!

As companies increase their profits and pay dividends, the share prices become more interesting to investors and prices tend to rise as the outlook for future earnings improves. When aggregate earnings are growing at a fast pace, the stock market tends to perform well. When earnings are expected to decelerate or decline, stock prices will stall or move lower. A recession represents an extreme period for such deceleration.

Tools for Evaluating Earnings for an Index

In addition to the earnings growth rates for the market, various valuation ratios can be used to gauge the relative value of an index. For example, the price-to-earnings (P/E) ratio can help determine whether the market is attractive for trades to the upside. In general, the strategist will want to see higher levels of earnings growth when P/E ratios are relatively high. Table 8.1 provides a few other tools for evaluating the relative value of the Dow and the S&P 500 Index.

How do we measure earnings growth? The most common measure is year-over-year earnings growth on a quarterly basis. For instance, the total earnings for the first quarter of one year will be compared to the next quarter. It is important to note that investors are generally more concerned with future earnings growth. Therefore, earnings expectations with respect to future quarters is often more important than present earnings.

Table 8.2 shows the expected earnings growth rate for three S&P indexes for the first three quarters of 2004, projected in March 2004. The S&P 500 Index (\$SPX) was expected to show solid earnings growth during the next three quarters. Those expectations helped to drive stocks higher in the months prior to these actual earnings reports. From September 2003 to March 2004, the S&P 500 Index rose 15 percent. The Small Cap 600 (\$SML), which was expected to show even better growth, rallied 22 percent during that same time frame.

TABLE 8.1 Relative Value of the Dow and S&P 500 Index

	Now	One Week Ago	One Year Ago
Dow Jones Industrial Average	10,778.58	10,877.51	10,543.22
P/E ratio	18.96	19.01	17.54
Earnings yield (%)	5.28	5.26	5.70
Earnings (\$)	568.59	572.32	601.02
Dividend yield (%)	2.29	2.27	2.26
Dividends (\$)	246.78	246.54	237.85
Market to book	3.21	3.24	3.61
Book value (\$)	3,359.70	3,359.70	2,918.09
S&P 500 Index	1,259.37	1,265.08	1,188.00
P/E ratio	18.86	18.95	20.57
Earnings yield (%)	5.30	5.28	4.86
Earnings (\$)	66.76	66.76	57.75
Dividend yield (%)	1.82	1.81	1.72
Dividends (\$)	22.92	22.90	20.43
Market to book	3.04	3.05	3.24
Book value (\$)	414.75	414.75	367.00

TABLE 8.2 Expected Earnings Growth of S&P Indexes as of March 17, 2004

Index	1 Q 2004 Earnings Growth Forecast	2 Q 2004 Earnings Growth Forecast	3 Q 2004 Earnings Growth Forecast
S&P 500	15.1%	14.2%	11.4%
S&P Mid Cap 400	20.4%	20.3%	18.6%
S&P Small Cap 600	18.5%	26.1%	33.3%

In short, expectations about future earnings growth will have an important impact on the performance of the stock market. Index traders will want to keep this in mind and trade on the right side of the market. For instance, when the S&P 500 Index (\$SPX) is expected to show solid strong earnings growth for several quarters, bullish strategies with six- to nine-month time horizons (such as bull call spreads, call calendars, and

ratio backspreads) make sense. Several sources provide earnings outlooks, including Standard & Poor's (www.standardandpoors.com) and Zacks Investment Research (www.zacks.com).

INTEREST RATES

Earnings are not the only factors that influence stock prices. According to one school of thought, the value of a stock depends on both earnings and interest rates. Why do interest rates affect stock prices? On one hand, higher rates mean that interest-bearing securities will be more competitive assets and will appeal to investors. Money will move out of stocks. So, as returns from other investments improve, these alternatives become attractive on a relative basis when compared to stocks. All else being equal, higher interest rates will lead to lower stock prices; lower interest rates will boost the value of stocks.

There is a formula used to measure the impact of rising rates on valuations of the stock market as a whole. It is computed as the reciprocal of the government's benchmark 10-year note yield multiplied by the expected earnings of the S&P 500 companies. The 10-year note is the most actively traded government bond today. Its yield, which moves opposite to the bond's price, is a key gauge of long-term rates. This rate can be found at any time using the ticker symbol for the CBOE Ten-Year Rate Index (\$TNX).

In order to compute the expected value of the SPX, the projected earnings of the S&P 500 (found at Standard & Poor's web site, www.sp-global.com) is multiplied by the reciprocal of the yield on the 10-year note. To illustrate, if the yield on the 10-year is 4.1 percent and earnings for the entire S&P 500 during the next four quarters is expected to be \$67.40, the formula yields:

$$\frac{1}{0.041} \times 67.40 = (24.40 \times 67.40) \\ = 1,645$$

Therefore, if the SPX is trading near 1,220, it is 36.50 percent undervalued according to this formula. However, if the SPX is near 2,000, it is 21.5 percent overvalued. This is the so-called Fed model and is used by many institutional investors today. It helps explain why sudden changes in rates often lead to an opposite reaction in the stock market. That's why we keep an eye on the TNX. There will be more on this topic later.

THE ECONOMY

Economic data is extremely important to index traders. On one hand, stock prices tend to perform well when the economy is booming. During a solid economic expansion, business is strong and corporate profits are increasing. So when the economy is expected to perform well, it makes sense to trade the market on the long side.

On the other hand, a strong economy can trigger concerns about the prospect of inflation, which has historically led to higher interest rates (bearish for stocks). This prospect creates a concern due to its adverse impact on corporate profits. Therefore, for investors, the ideal situation is an economy that is not too hot and not too cold. This is sometimes referred to as a *Goldilocks economy*.

Given the importance of the economy, several pieces of economic news can move the market over time. For instance, the “Prices” element of the monthly Institute for Supply Management (ISM) manufacturing report can serve as a guide for gauging inflation. If prices paid are too strong, stocks and bonds might react negatively to the news.

When inflation fears hit the market, the index strategist also pays attention to any indicator that might point to rising or falling prices. For instance, the Consumer Price Index (CPI) measures prices on consumer goods and services and the Producer Price Index (PPI) gauges prices on various goods such as commodities, capital items, automobiles, and textiles. Both are reported monthly and should be watched for signs that inflationary pressures in the economy are mounting.

Some traders also watch trends in the commodities market for signs of inflation. The Commodity Research Bureau provides an index of commodity prices known as the CRB. A rising CRB is a sign of rising commodity prices and mounting inflationary pressures for many companies. The employment cost index (ECI) is also watched to determine the current inflation outlook for wages.

The monthly unemployment report from the Labor Department, sometimes called the “un-enjoyment” report, is considered to be one of the most important pieces of economic data. It is usually released on the first Friday of every month. Going back to the Goldilocks economy, low unemployment is good for the overall economy since more consumers have the ability to save and spend dollars. However, as employment levels rise, a rise in wages may follow, creating higher costs for a core portion of a company’s budget.

Data on retail sales, housing, motor vehicle sales, and consumer sentiment numbers can also cause a reaction in the index markets. Table 8.3 lists some of the key economic indicators worth watching.

TABLE 8.3 Important Government Reports

Component	Release Dates	Advancing Numbers	Declining Numbers
Employment Report	First Friday of the month.	A rise in unemployment rate is often seen as a negative for stocks, but positive for bonds.	A decrease in unemployment numbers is a positive sign for the economy.
Wholesale Trade	Second week each month.	Wholesale trade inventories: A rising number indicates consumption is slowing. Inventory to sales ratio: Rising numbers again reflect a slowdown in the economy.	Wholesale trade inventories: If inventories are falling, consumption on the rise. Inventory to sales ratio: If this number begins to fall, an increase in consumer spending indicates more confidence.
Import and Export Prices	Around midmonth.	Imports constitute 15% of U.S. consumption. They also directly affect the profitability of U.S. companies. Higher prices from imports translate to higher prices of domestic goods. Good news for business; bad for the consumer.	If import prices fall, U.S. companies must lower prices to compete. Bad for businesses, good for consumer.
Employment Cost Index (ECI)	Once a quarter, toward end of month, for preceding quarter.	Analyzes wages and fringe benefits. Rising wages alone have less meaning but are used in conjunction with other reports, like housing starts.	Lower wages mean a slowing economy, and will be used in conjunction with other economic measurements to gauge the economy's strength.

(Continued)

TABLE 8.3 (Continued)

Component	Release Dates	Advancing Numbers	Declining Numbers
Consumer Price Index (CPI)	Data released around 15th of each month.	Since the CPI describes the price changes of a basket of consumer goods, a rising number means inflationary pressures at work. Bad for the market because inflation is held in check with rising interest rates.	A drop in prices is generally considered a good sign for consumers and good for the market. Too much of a drop is a negative, or a sign of possible deflation.
Producer Price Index (PPI)	Previous month's data are released during second full week of current month.	Increases may or may not be good news. If interest rates are declining then a rising number means the economy is reacting to the rate cuts. If rates are increasing, this is bad because further rate hikes may be required.	Decreases mean the economy is slowing. Best to look at trends. Prolonged slowing may lead to deflation and a recession.
Institute for Supply Management Index (ISM)	First of month.	Above 50% indicates economic expansion.	Below 50% suggests economic contraction.
Retail Sales	Midmonth.	People are spending more and confidence is high; it's a good sign for the market.	People spend less and confidence shrinks; it's a bad sign for the market, especially retail stocks.
Gross Domestic Product (GDP)	Released one month after end of quarter.	Takes into account consumer demand, trade balance, etc. Economy expanding is good news, but not too fast—the Fed raises rates when that happens.	Economy slowing. If it continues the Fed will (possibly) lower interest rates; good for market.
Housing: Starts and Sales of New and Existing Homes	Third week of month.	Increasing starts indicate confidence—a good sign for the market.	Economy slowing. Red flag for Fed to be on lookout for downturn in economy. Market reaction is anybody's guess.

TABLE 8.3 (Continued)

Component	Release Dates	Advancing Numbers	Declining Numbers
Construction Spending	First of month.	Lagging indicator. Report comes in only after building is finished. An increase in numbers is a good sign.	Since it's a lagging indicator, may serve to confirm the economy is slowing and rates need to be lowered. Good for the market.
Industrial Production Index	Midmonth.	This would indicate the slack is being taken out of the economy; we're maxing out.	Factories are slowing down. Might be considered bad for the market, is considered bad for the economy.
Personal Income and Consumption Expenditures	Third or fourth week after the month it reports on.	Doesn't indicate much. It reports after other key data (employment and retail sales).	Prolonged decrease in consumer demand is definitely bad for consumer stocks.
Factory Orders: Durable Goods and Nondurable Goods	Four weeks from end of reporting month. However, everyone keys off of the advance release one week prior.	Leading indicator of industrial demand. Numbers going up is generally a positive sign for the markets.	Slowing demand means a slowing economy, if it stays in a declining mode for several months. Might adversely affect markets, but if it prompts interest rate reductions it could be good.

THE FEDERAL RESERVE

Economic reports are not the only influences on the market; decisions by the Federal Reserve also have an impact. Created by Congress in 1913, the Federal Reserve ("the Fed") is a conglomerate of 12 separate district banks governed by a seven-member Board of Governors that works more like a government agency than a corporation. The Federal Reserve System is charged with fostering national growth without generating inflation. In 2006, Ben Bernanke replaced Alan Greenspan as the Chairman of the Federal Reserve, America's economic top dog.

The primary goals of the Federal Reserve are to stabilize prices,

promote economic growth, and strive for full employment. Obviously, economic data will have an important bearing on the Fed's decisions. These goals are accomplished through managing monetary policy, balancing the amount of money in circulation, and keeping the economy prosperous without creating inflation. The Fed holds Federal Open Market Committee (FOMC) meetings every six weeks (eight times a year) to decide if the economy needs a boost and to assess inflation. The FOMC includes seven Fed governors, as well five presidents of the district banks. Four of the presidents serve on a rotating basis.

The FOMC's most frequently used tool to control monetary policy is open market operations. *Open market operations* means the buying or selling of government securities to control liquidity in the economy. That's what is happening when you hear that liquidity is going up or down in the economy. When liquidity is high, it makes it easier for businesses to borrow money (supply is good), which in turn leads to more spending, which leads to growth.

The Federal Reserve also has other tools to carry out monetary policy. The FOMC meets periodically to discuss the economic outlook and make changes to the discount rate and the federal funds rate. The discount rate is largely symbolic. It is the rate at which the Federal Reserve lends money to member banks.

The Fed's key rate is the federal funds rate, which is the rate at which Fed member banks make overnight loans to one another. The FOMC can push this rate up or down based on the outlook for the economy. For instance, from June 2004 to December 2005, the FOMC voted to raise the federal funds target rate 13 times, bringing it up to 4.25 percent from a 40-year low of 1 percent.

When the Federal Reserve is aggressively raising rates, the index trader will want to be careful trading the market to the upside. This has given rise to the adage, "Don't fight the Fed." However, not every market response to rising rates will be the same. In 2005, as the FOMC voted to bring the federal funds rate up for the 13th time in 18 months, the S&P 500 Index was trading at 4.5-year highs. Therefore, in the most recent case, the Fed's actions did not seem to be having a significant negative impact on the economy. Some attributed the stock market's strong performance to the fact that a gradual move higher in interest rates was not a surprise. That is, Federal Reserve officials telegraphed the rate hikes ahead of time and made their intentions very clear prior to each of the FOMC meetings. The market was therefore not caught by surprise and the small incremental rate increases had minimal impact on investor confidence or business activity. Additionally, the rates were rising from an extremely low level.

“Three Steps and a Stumble” Rule

The Fed's discount rate is largely symbolic, but it can serve to decipher the Federal Reserve's intentions. If the Fed moves the discount rate, it is a sign that they are trying to slow the economy, which has given rise to the “three steps and a stumble” rule. According to this principle, first observed by Edson Gould, when the Fed raises its discount rate three times in a row, the stock market will stumble. Meanwhile, the “two tumbles and a jump” rule says that when the Federal Reserve cuts the discount rate, it's time to get in the market because stocks are ready to jump higher.

ENERGY

Energy prices can affect the stock market by impacting the economy. The link between energy prices and the economy is fairly evident when one turns back the pages of history. Three recent recessions in the United States—1974 to 1975, 1980 to 1982 and 1990 to 1991—all witnessed sharp spikes in oil prices prior to the economic downturn.

During the year 2000, energy prices began another ascent. Crude oil, which stood at \$10 a barrel in the mid-1990s, surged to \$34 at the end of 2000. According to economists' estimates at that time, higher energy prices shaved about one percentage point off of economic growth in 2000 and 2001, which goes a long way in explaining why the U.S. economy fell into recession shortly thereafter.

Even Federal Reserve policymakers recognize the importance of energy prices on the economy. In 2001, then Federal Reserve chairman Alan Greenspan made note of the impact of rising energy prices on the U.S. economy in a June 28 speech to the Economic Club in Chicago. The head of the U.S. central bank noted that “We at the Federal Reserve are especially attentive to developments in energy markets and their effects on the behavior of households and businesses.”*

*Remarks by Chairman Alan Greenspan, “Impact of Energy on the Economy,” before the Economic Club of Chicago, June 28, 2001. (www.federalreserve.gov/boarddocs/speeches/2001/200106282/default.htm).

What Moves Energy Prices?

Predicting the direction of oil prices is no easy task—ask any trader in the oil pits on the futures exchanges. Nevertheless, there are specific events that trigger volatility in oil markets, and a few are worth noting here.

- **Weekly inventory:** Data from the Energy Information Association (EIA) is released every Wednesday at 10:30 A.M. ET.
- **OPEC:** The Organization of Petroleum Exporting Countries (OPEC) meets periodically to determine production from member countries. Are they going to raise or cut global supplies?
- **Seasonal factors:** Demand for energy increases during the summer driving season and also during the cold winter months as consumers heat their homes with natural gas and heating oil. Expect greater volatility during those times.

Higher energy prices can hurt the economy in a number of different ways. For one, higher oil and natural gas costs put pressure on margins and cash flows throughout corporate America. As Greenspan noted in that speech, “A substantial part of the rise in the total costs of corporations between the second quarter of last year and the first quarter of this year [2001] reflected higher energy costs, only a small part of which companies apparently were able to pass through into higher prices.”

Escalating oil and natural gas prices also hurt the consumer. For example, rising gasoline prices impact purchasing power and erode confidence. Higher heating oil and natural gas prices can also take a bite out of consumer budgets through higher home heating fuel costs. Taken together, rising energy prices have a significant and adverse impact on the economy because they impact both the consumers and corporations. Figure 8.4 shows how a precipitous fall in crude oil during March 2003 helped fuel a rally in the S&P 500 Index over the ensuing three months.

The relationship between energy prices and the stock market is not always perfect, but crude oil prices are worth following. Indeed, the two will often move in the same direction. However, the United States consumes roughly 20 million barrels of crude and imports roughly 11 million per day. This heavy dependence on oil has a significant economic impact. As prices rise and fall, the movement will spill over into the U.S. equity markets.

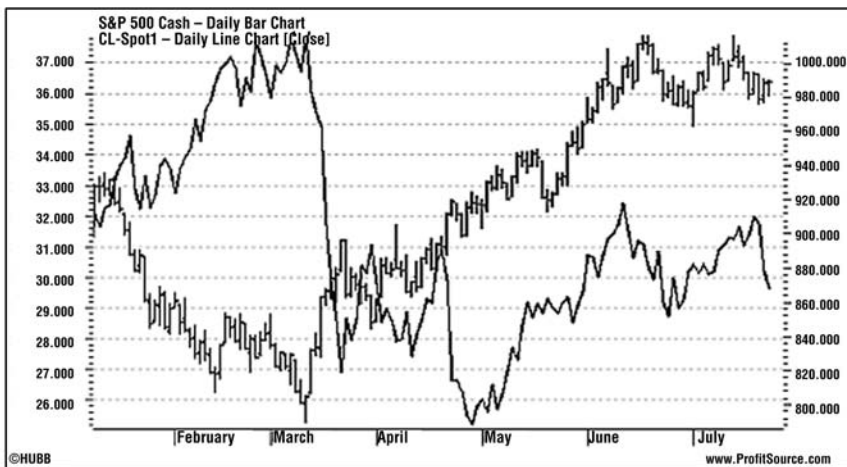


FIGURE 8.4 Crude Oil Spot Prices and the S&P 500 Index (Source: www.ProfitSource.com)

PROGRAM TRADING

Given the large number of index funds, hedge funds, and other institutional investors that are active in the market today, it makes sense to understand what they are doing on a day-to-day basis. Like other investors, they will react to economic news, changes in interest rates, energy prices, and FOMC meeting announcements. In addition, institutional investors are implementing their investment decisions using *program trading*. When this happens, it can trigger large, sometimes tradable moves in the market averages.

Two Types of Investors

In the stock market, there are two very different types of investors:

- 1. Institutional Investors:** These are large investors that make investment decisions on the behalf of clients or customers. The Vanguard 500 Index fund is a very large institutional investor. Its buying and selling will move stock prices. Other mutual funds, portfolio managers, hedge funds, and financial advisers are also considered institutional investors.
- 2. Retail Investors:** This includes investors who make investment decisions for personal trading accounts. They are not paid to make investment decisions but do so for their own gain.

According to recent statistics, program trading is at record highs. Large institutions that are trying to simultaneously buy or sell entire baskets of stocks use this type of investing. Through the years, program trading has been criticized for adding to market volatility. For example, when the stock market crashed on October 19, 1987, many market watchers pointed the blame at program trading. On that day, the Dow Jones Industrial Average (\$INDU) recorded its largest loss in history. The Dow tumbled 508 points, or 22.6 percent. Volume surged, as a new record 600 million shares traded hands. The swoon left investors and other market watchers scratching their heads and searching for an explanation. Program trading was the scapegoat.

So what is program trading and how does it contribute to market volatility? The New York Stock Exchange defines program trading as the simultaneous purchase or sale of 15 or more stocks worth more than \$1 million. Buy and sell programs are used to achieve a variety of different objectives. The process began in the early 1980s when large investment firms started using index arbitrage strategies, which is an effort to capitalize on the difference between the price of the stocks (indexes) on the exchanges and the prices of the derivatives (futures and options). In order to do so, program trading allowed arbitrageurs to buy not just one or two stocks but all 500 SPX companies.

Portfolio insurance also gained popularity during that time. Portfolio insurance programs allow large investors to sell off large portions of their stocks when certain parameters of an insurance model were met. In the mid-1980s, it was estimated that nearly \$90 billion worth of stock portfolios were under portfolio insurance protection. Although subject to controversy, some argue that portfolio insurance and index arbitrage were the key factors underlying the market volatility in October 1987.*

Today, program trading is used in a variety of ways as well. Some programs are linked to index arbitrage. Some hedge funds use program trading. So-called market neutral hedge funds often structure long/short portfolios, which involves buying a basket of stocks and simultaneously selling short a different set of stocks based on a certain variable (e.g., P/E ratio). The long/short funds often use program trading to buy and sell the portfolios on a monthly or quarterly basis. Brokerage firms sometimes use program trading to move entire portfolios in and out of customer accounts.

According to Dow Jones Newswires (www.djnewswires.com), program

*See Jeffrey D. Miller, *Program Trading: The New Age of Investing* (New York: J. K. Lasser Institute, 1989).

trading has been running between 50 and 60 percent of all trading volume on the New York Stock Exchange.

Program Trading is 57.9% of NYSE

*New York—Program trading in the week ended Dec. 9 accounted for 57.9%, or an average of 968 million shares daily, of New York Stock Exchange volume. Brokerage firms executed an additional 675.5 million daily shares of program trading away from the NYSE, with 1.4% of the overall total on foreign markets.**

Therefore, the trend is clearly toward a greater use of program trading. Today more than half of the total trading on the NYSE is linked to the practice. That trend, in turn, may help explain why the market sometimes experiences sharp, sudden intraday swings and why large institutional investors seem to sometimes possess the power to move the market.

TICK

The NYSE Tick Index (\$TICK) can help identify when programs are hitting the market. Primarily intraday traders use the tool, but it can be useful for any index trader who is trying to gauge daily buying and selling pressure. The index tracks upticks and downticks on the New York Stock Exchange and is updated throughout the day.

Tick Talk

The term *tick* refers to the price change of an investment. It is defined as a movement in the price or quote of a security or contract. If, for example, the most recent trade on a stock occurs at a higher price than the prior trade, the stock is on an uptick. Conversely, downticks occur when a stock's most recent trade occurs at a lower price than the prior trade.

The Tick Index can be either a positive or negative number and generally stays in a range between -900 and +1,100. When TICK increases, upticks are outnumbering downticks. If so, buying pressure is increasing and the bulls are in control. However, when the bears are dominating trading and selling pressure is increasing, the Tick Index will fall. The readings

*Dow Jones Newswires (www.djnewswires.com), December 16, 2005, page C9.

are updated throughout the day and are available using most live data feeds with the symbol \$TICK.

There are different ways to use this index when trading. The most common way is to look at the closing value at the end of each day. For example, “closing TICK” is mentioned on the *Nightly Business Report* and also listed daily in the *Wall Street Journal*. Figure 8.5 shows the closing values of the Tick Index in 2005. During that time, it has closed within a range of +1,200 and -350.

If TICK’s closing value at the end of the day is +1,000, it means that 1,000 more stocks were setting upticks rather than downticks at the end of the day. This is a bullish sign because more stocks were moving higher than lower. For that reason, a positive closing TICK often sets the stage for a strong open the next day. This could be a sign that buy programs were hitting the market late in the day and institutions are actively adding money to the market.

The second way to use TICK is to consider its daily high and low readings over a period of weeks or even months. For instance, if the high reading from TICK on Monday is +600, on Tuesday +700, Wednesday +800, Thursday +900, and Friday +1,000, the trend is bullish. During each trading day, TICK is rising to new highs. In that case, buying pressure is increasing and probably helping to drive prices higher. Of course, the opposite also holds true. If TICK begins setting new daily lows as time passes, it is a sign of increasing selling pressure and a negative for the market.

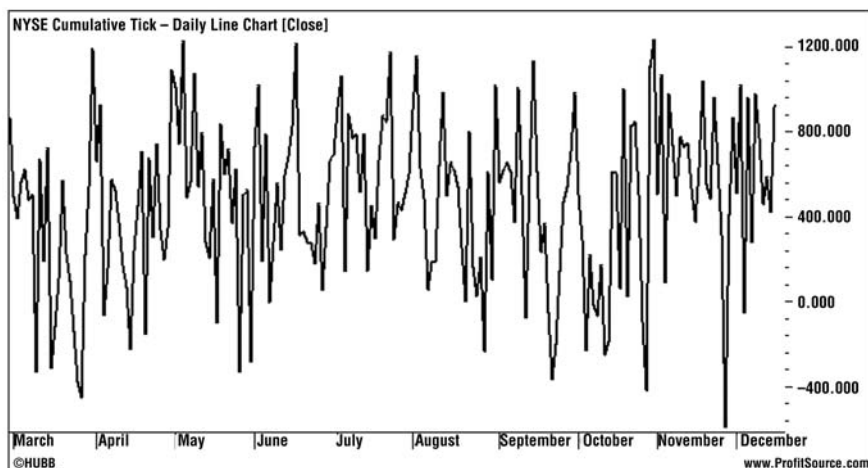


FIGURE 8.5 NYSE TICK Closing Value (Source: www.ProfitSource.com)

Many times, the readings from TICK offer no new information. For instance, readings between +400 and -400 are ignored. However, once TICK begins rising above +600 (or dropping below -600) it signals that buying (or selling) interest is improving. Readings of +800 or -800 should also get your attention. Readings of +1,200 or -1,200 are signs of extreme buying or selling. This is when buy or sell programs are hitting the market and institutions are aggressively buying or selling. Index traders will generally want to trade on the same side as the institutions or else run the risk of feeling run over by a moving freight train.

CONCLUSION

A number of different factors influence the performance of the stock market. The Federal Reserve, earnings, interest rates, energy prices, and economic news have been discussed in this chapter. All of these events can trigger big tradable moves in the market indexes. Other events which haven't been discussed, such as presidential elections, terrorist attacks, tax cuts, and other less predictable events, can also influence the market.

Ultimately, however, the stock market moves because of buying and selling. The buying and selling is in turn being driven by new information and fundamentals. Sometimes investors react rationally to the new information. At times they don't—the market is also driven by fear and greed. This can lead to profit opportunities when the investors overshoot in one direction or the other.

Later chapters include discussions of various other tools for gauging sentiment. For now, the reader should understand that all investors react to new information and large institutions will move the markets, especially when implementing their decisions via program trades. The NYSE Tick Index will help the index trader stay on the right side of the market when these large buy and sell orders hit the stock market.

System Trading

The previous chapter explored how emotion is the main driver of investment decisions. Fear and greed can affect investor behavior and cause the price of an investment or a market to overshoot in one direction or the other. When there is too much bullishness or greed, prices can climb too high and provide profit opportunities for bearish trades when the market corrects the excess. On the other hand, when fear causes prices to fall too low, profits can eventually be found in the opposite direction, with bullish trades to the upside.

We acknowledge, however, that we are not always immune from the forces of fear and greed ourselves. Indeed, it is often difficult to fight the crowd, even if common sense tells us that the trend is unsustainable or that the recent move in a market is based on hopes and dreams rather than justified by the fundamentals. To further complicate things, these emotions can run markets into excesses for an extended period of time.

In order to keep emotions in check and to ensure that our investment decisions are based on rational decisions rather than hopes, dreams, greed, or fear, we use a variety of objective tools and indicators. These tools include specific rules and risk management strategies. System trading is but one example. In this type of investing, traders get their buy and sell signals from a set of clearly defined rules that are not subject to individual interpretation. Instead, the system tells the investor when to move in or out of the market. This chapter takes a closer look at system trading, and includes a few insightful examples.

SYSTEM TRADING DEFINED

A *trading system* is a specific set of trading rules for entering and exiting a trade. Although a variety of approaches can be systematic or based on rules, the idea of a trading system is very rigid. Signals triggered by the system tell the trader when to enter or exit a position. A trader who uses a system takes all trades generated by the rules and exits all trades when a signal is given.

System Trader versus Discretionary Trader

- A *system trader* follows a system that provides clear signals regarding when to enter or exit a trade.
- A *discretionary trader* makes decisions as events unfold and based on new information. The discretionary trader is more likely to make decisions based on hunches, guesswork, and emotion.

A well-developed system is subject to rigorous backtesting. This means taking historical market data and testing the rules for entry and exit over time. A solid system will work over long periods of time and can sometimes work across different market such as stocks, futures, or indexes. Importantly, if a system is developed using backtesting, but the trader introduces some decision making into the process (i.e., when to take each trade), the actual results can vary significantly from the backtest results. When this happens, traders need to recognize that they are deviating from system trading. Even if they deviate slightly by entering a trade midday instead of at the close, the chances are that results won't be consistent with the backtested results.

At the same time, some flexibility can be built into a trading system by making changes to the indicators used in the system or by adding filters aimed at reducing the number of trade entries for losing positions or early exits on profitable positions. A filter is an additional technical criterion that can include parameters such as adding a second complementary indicator to trade entry or delaying an exit by waiting for a second close after an alert. Collectively, these indicators and system components are defined as *system parameters*. If this sounds confusing, don't worry—a detailed example of system development is included later in the chapter.

WHY USE SYSTEMS?

While there are many key advantages for traders who employ a systems approach, probably the most significant one is that it takes the guesswork

and emotion out of the trading process. The emotional aspect of trading can be significantly reduced since systems are void of emotion and judgment. Unfortunately, the emotional tendency of a trader is to outguess the system, even when it's producing profitable trades.

If a trader can discipline himself to follow a system with rigor, emotions will not rule the decision-making process. Trading systems are designed simply to respond, not to feel. Developing a systematic perspective toward trading the markets is definitely a worthwhile endeavor and for the most part far outweighs the discretionary approach.

The discretionary trader typically makes a decision by reviewing various financial information sources like newspapers, television shows, and websites, and maybe even inspecting a few charts and indicators. When the discretionary trader feels comfortable with the information, then he will go ahead and actually put on the trade. However, a huge issue for many discretionary traders is that it's very difficult to admit any mistakes. For example, if the discretionary trader has a bullish position in the market and the market declines, it can become an ego issue about being right or wrong about the initial trade assessment. Without hard and fast rules signaling an exit for the trade, the trader may remain in the market, ultimately risking the trading account.

In sum, systems trading can alleviate the types of issues that constantly confront the discretionary trader. By applying a system-based trading approach to the markets, a trader can remove much of the emotion from the process. A good system clearly conveys when to enter and exit the markets without the second-guessing that so often paralyzes the discretionary trader.

DOGS OF THE DOW

The "Dogs of the Dow" is an innovative example of a relatively straightforward and easy to understand trading system, which makes it a good first example. Michael O'Higgins was the first to outline this investment strategy in his 1991 book, *Beating the Dow* (New York: Harper Collins). The theory in this approach is that the "dogs," or those stocks with the lowest stock prices and highest yields, will eventually recover and offer superior returns. In that respect, the strategy requires a bit of contrary thinking (i.e., the past losers will become the Dow's future winners).

The first step in implementing the Dogs of the Dow strategy is to take the 30 stocks within the Dow Jones Industrial Average (see Chapter 1) and rank them by dividend yield. The 10 stocks with the highest dividend yields are the Dogs of the Dow. The portfolio is rebalanced at the start of

every year. So if a stock is a dog one year but is not among the top 10 with the highest dividend yield the next year, it is removed from the portfolio.

Computing the Dividend Yield

A dividend represents a company's profits that are passed along to the shareholders. Companies generally pay dividends quarterly. For instance, a company might pay a \$0.20 dividend quarterly. The annual dividend is therefore \$0.80. The dividend yield is computed as the current dividend divided by the share price. If a shares trade for \$25 and the company pays and \$0.80 dividend, the yield equals \$0.80 divided by 25, which comes to 3.2 percent.

According to O'Higgins, the Dogs of the Dow portfolio produced average annual returns of 17.9 percent from 1973 to 1989, compared to an 11.1 percent gain in the Dow itself. Throughout the 1990s, the results of the Dogs of the Dow approach were mixed. From 1996 through 1999, the 10 dogs underperformed the Dow Jones Industrial Average. However, from 1999 through 2003 the performance improved. According to the Dogs of the Dow web site (www.dogsofthedow.com):

During the difficult bear market years of 2000–2002, the Dogs of the Dow were up 6.4% in 2000, down 4.9% in 2001, and down 8.9% in 2002, and that was enough to significantly outperform the Dow, S&P 500, and NASDAQ. In 2003, the high dividend stocks of the Dogs of the Dow gained 28.7% and made new, all-time highs despite the massive bear market of 2000–2002!

In 2004, the Dogs of the Dow gained just 0.5 percent, compared to a 4.4 percent gain in the Dow Jones Industrial Average. In 2005 (through December 21), the Dogs underperformed the market miserably. While the industrial average sat near the unchanged level, the Dogs of the Dow had suffered an 8.5 percent decline (excluding dividends). The strategy performed much better than the market during 2000–2003, but the results reversed in 2004–2005. Nevertheless, the long-term track record still stands.

The Dogs of the Dow strategy is an example of a system because it has clear entry and exit rules that leave nothing to the imagination. Each year, the portfolio is rebalanced using a set of rules. The exit strategy also follows guidelines. The strategy also has a certain logic to it—in other words, to profit from the fact that shares of dominant companies with

high dividend yields tend to outperform the market over the long term. In addition, the strategy has been backtested using historical data. Therefore, it has all of the characteristics of a good trading system.

The MUT

Readers can track and trade the Dogs using the individual stocks or the Dogs of the Dow Index (\$MUT). The index, which has the easy-to-remember ticker symbol MUT, has options listed on the CBOE. Like most other indexes, these options settle for cash European-style, which means that exercise and assignment can only take place at expiration. Traders can use the MUT options to bet on a decline in the index with bearish spreads; or these options can be used to establish bullish spreads if traders expect the Dogs to run higher.

Note: It is important for the trader to understand the impact of dividends on both calls and puts when formulating an option strategy that uses an underlying security with a high dividend yield.

As with other systems, the rules and guidelines for the system must be followed or the results might substantially deviate from the system’s historical returns. As an example, what if the investor decides not to invest in one of the Dogs? Table 9.1 shows the possible candidates for the 2006 Dogs as of late December. General Motors (GM) is at the top of the list with a dividend yield of more than 10 percent. However, the auto industry

TABLE 9.1

Likely 2006 Dogs (as of 12/21/2005)

Likely 2006 Dog	Symbol	Dividend Yield (12/21/05)
General Motors	GM	10.50%
AT&T	T	5.44%
Verizon	VZ	5.29%
Merck	MRK	4.76%
Altria	MO	4.19%
Pfizer	PFE	3.99%
Citigroup	C	3.57%
DuPont	DD	3.46%
JP Morgan Chase	JPM	3.41%
General Electric	GE	2.83%

is in trouble and GM has plummeted more than 50 percent in 2005. So perhaps that stock is better left out.

If the investor chooses to leave General Motors out of the Dogs of the Dow in 2006, he is violating the rules of the system. His decision is based on emotion rather than rules. It is possible that the investor's expectations are correct and shares of General Motors have another terrible year in 2006, but a true system trader does not try to second-guess the system. Although the results for the year are not yet available, in this example the portfolio would be rebalanced to include the referenced top 10 stocks with the highest dividend yields. This action should occur regardless of how poor the company's fundamentals may seem at the time.

THE VOLEX SYSTEM

While the Dogs of the Dow approach is an example of a trading system, it is also a buy-and-hold strategy that is suitable for investors with a long-term time horizon. It would be suitable, for instance, for a retirement fund, college fund, or some other long-term financial goal that is many years away. While the strategy works over time, there will be down years and investors must be willing to accept that risk. For instance, the most recent year, 2005, was a miserable year for the Dogs. We provide the strategy here because it is based on an index (this book's focus) and it provides a nice basic example of a trading system.

Most of the systems we develop are designed for short-term traders and options strategists. The Volex system is such an example. It was originally developed by Bill Cruz and Charlie Wright, and we use it with a slight twist to trade the S&P 500 Index using the SPDRs. This system uses the Volex indicator and changes in volatility to forecast change in price by confirming trends or changes in direction. The indicator typically displays lower levels of volatility when the current trend is intact, while higher levels of volatility will frequently be encountered when changes in the trend occur. The first step to understanding the Volex system is to understand the Volex indicator. This requires a look at a measure of volatility known as *average true range*, which is also discussed in more detail in Chapter 11 and in Appendix B.

Average True Range

The average true range (ATR) was originally developed by the legendary trader J. Welles Wilder and represents a measure of past volatility. Volatile stocks tend to move more aggressively through a wide price range and

will have higher ATRs, while stocks or markets with little movement and quiet trading will have lower ATRs.

The ATR does not provide an indication of direction or duration, but it does identify the degree of price movement or volatility. Higher ATR values often occur at market bottoms and typically follow a panic sell-off. Low ATR values are often found during extended sideways periods, such as those found at tops and after consolidation periods.

In order to compute the ATR, one must first compute the true range (TR) of price movement. The formula for the true range includes three calculations: (1) the current day's high minus the current day's low; (2) the difference between previous close and current high; and (3) the difference between the previous close and the current low. The true range is the greatest value derived from these calculations. Figure 9.1 provides a visual representation of these ranges.

The true range is computed as the difference between the high and low when the day's trading range is large.

- **In the case of a large gap down:** When the previous close is greater than the current day's high, the TR is the difference between the previous day's close and the current day's high.
- **In the case of a big gap higher:** When the previous close is lower than the current day's low, the TR is computed as the difference between the previous day's close and the low of the current day.

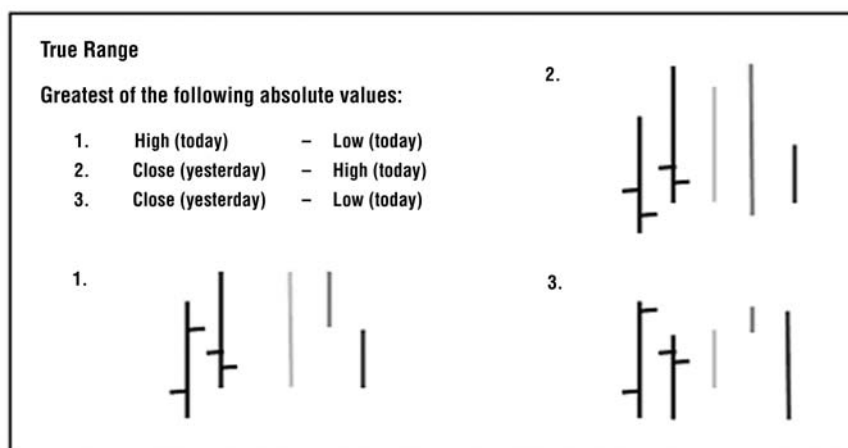


FIGURE 9.1 True Range Visual

The ATR Advantage

The ATR is derived from past prices. Developed by Welles Wilder and discussed in his book, *New Concepts in Technical Trading Systems* (McLeansville, NC: Trend Research, 1978), the ATR is used to measure daily price swings. It was first used in the commodities market, but can also be applied to stocks and indexes. Wilder developed the ATR to help account for days when prices gapped higher or lower. A gap occurs when a stock or market opens the trading session significantly higher or lower than the previous day's closing price. It is known as a gap because the sudden move results in an empty space, or gap, on the price chart. Most measures of historical volatility consider only the closing prices for a stock or index and fail to capture the volatility caused by sharp gaps. The ATR, however, considers the close, high, and low prices of the day.

The ATR is simply the average of the true ranges over a period of days (generally 14). As each day of new data is added, the last is dropped. Once the true range has been calculated for each interval, the true ranges for all intervals in the user-defined periods (x) can then be averaged.

The ATR calculation using the default value of 14 is the sum of 14 TR values divided by 14. Or more generically:

$$\text{ATR} = \text{TR}_1 + \text{TR}_2 + \text{TR}_3 + \dots + \text{TR}_x / x$$

The ATR indicator is available on most charting software today. Figure 9.2 shows the S&P 500 Index with the ATR indicator along the bottom

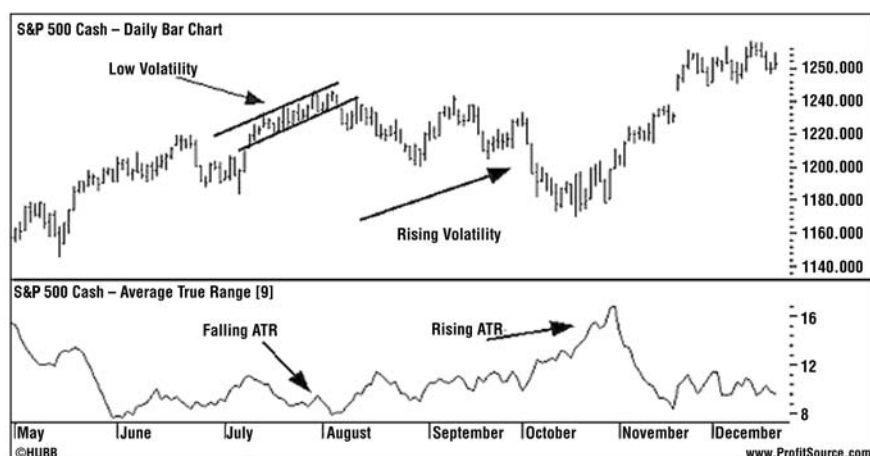


FIGURE 9.2 S&P 500 Index with ATR Indicator (Source: www.ProfitSource.com)

of the chart. When it rises, it indicates that the volatility of the index is increasing. Notice that as the bars get wider, the ATR tends to rise. However, during periods of quiet trading the ATR will fall.

THE VOLEX SYSTEM ENTRY

The Volex is constructed by creating bands around the ATR. It multiplies the ATR by a constant value to construct a portion of the setting. The ATR multiple will dictate and control the spread between the two lines. A common multiple is 1.3. The following formulas are used to compute the bands for the Volex indicator:

Upper band value = Current day high + (ATR $\times$ ATR multiple)

Lower band value = Current day low - (ATR $\times$ ATR multiple)

To create the upper Volex band, the current day high is used as the base value and the ATR component is *added* to it. To create the lower Volex band, the current day low is used as the base value and the ATR component is *subtracted* from it. Keep in mind that when the number of periods used in the indicator is increased, the Volex lines will be smoothed. Decreasing the number of periods will make the lines more responsive to current prices. Figure 9.3 shows daily values for the S&P 500 Index with Volex bands; the ATR is plotted along the bottom.

When applying the Volex system to a particular stock or index for trading, it is paramount the trader understands the entry and exit rules.

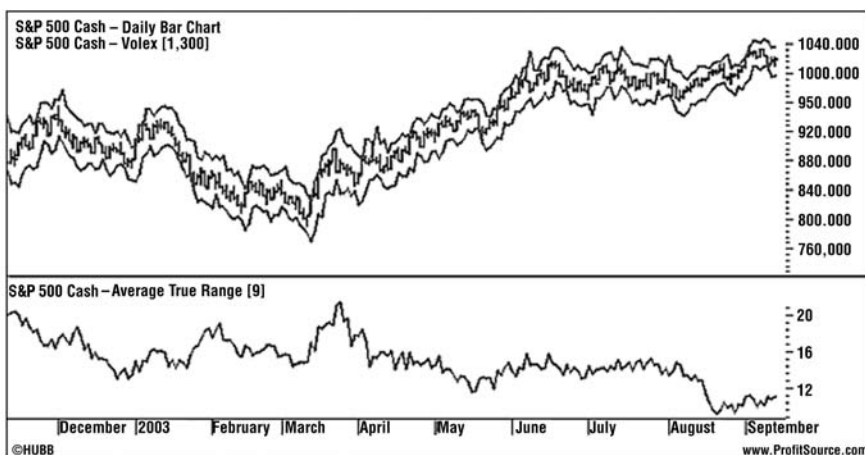


FIGURE 9.3 Volex and ATR on S&P 500 Index (Source: www.ProfitSource.com)

The Volex system seeks to go long upon price movement that is beyond the average range and seeks to go short upon price movement that is below the average range. Assuming Volex indicator settings of nine days with an ATR multiple of 1.3, new trade signals are generated when price penetrates one of the bands.

Entry Rules

Three rules govern entry into a trading position using the Volex system:

1. The Volex system calculates long and short values from the ATR. If the security price or index level penetrates either of the two Volex bands, a position is established.
2. A break to the upside initiates a long position in SPY shares (or calls on \$SPX or SPY). A break of the lower band initiates a short sale on the SPY (or long puts on \$SPX or SPY).
3. If a trade is not established, then the system resets itself with new long and short triggers calculated.

Figure 9.4 shows an entry signal using the Volex system. The signal occurred in October 2004 when the S&P 500 broke above the upper Volex band.

Note: This is a chart of the SPY. However, we prefer to use the S&P 500 Index to get entry and exit signals for the Volex system. Once the signal is generated, the trade is initiated with SPY shares.

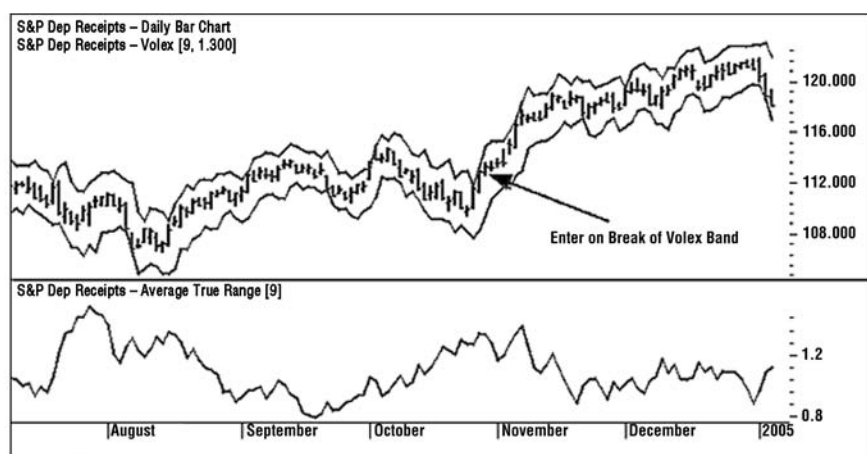


FIGURE 9.4 Volex Entry Signal (Source: www.ProfitSource.com)

THE POINT AND FIGURE EXIT

In the traditional Volax system, trades are exited either long or short when the Volax System triggers another signal in the opposite direction. So when a long position is established, price penetration of the lower Volax band signals the trader to close the position. However, we have a twist on the original Volax system using point and figure (PnF) charting with the objective of trading the S&P 500 Index (\$SPX) more profitably.

Point and figure charts are different from the other types of charts frequently encountered. They reflect price movement only—there is no time interval or volume distinction on them. PnF charts include a series of X columns and O columns, with the X columns indicating upward price movement and the O columns indicating downward price movement (see Figure 9.5). Each X and O is referred to as a “box” with a new X or O column created when a price reversal has occurred. The sensitivity of the chart is adjusted by changing the box size and/or reversal criteria.

The basic concept behind PnF is one of supply and demand. An uptrend indicated by a rising column of Xs tells the trader that demand has exceeded supply. A falling column of Os indicates a downtrend, which tells the trader that supply has overcome demand. An interruption of these vertical columns by short alternating columns of Xs and Os indicates that supply and demand are fighting each other for supremacy. This may indicate a potential change of trend or simply be a continuation pattern (trend and countertrend).

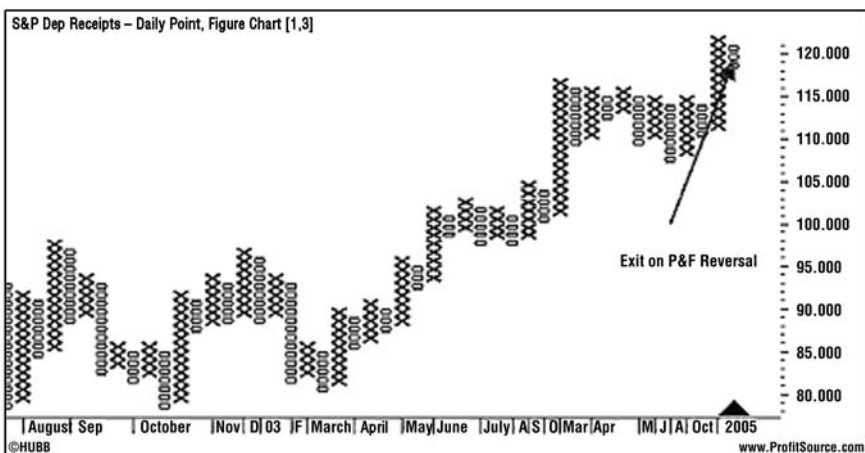


FIGURE 9.5 Point and Figure Three-Box Reversal (Source: www.ProfitSource.com)

We use the three-box reversal system. This means that the market must move three points in the opposite direction before changing the chart plot from Xs to Os, and vice versa. Keeping the original ATR and multiplier settings the same, we will now incorporate a PnF filter into the exit strategy. Figure 9.5 shows an example of reversal on the PnF chart. Traders interested in learning more about PnF charts might want to read the book *Three-Point Reversal Method of Point and Figure* by Michael L. Burke (New York: Chartcraft, third edition 1993).

Volex System Summary

The Volex system provides entry and exit signals for the S&P 500 Index (\$SPX). When a buy signal is triggered, a position is taken in SPY shares. When the sell signal is triggered, shares are sold. The system can also provide short trading signals.

- The long entry signal is triggered when the S&P 500 breaks the upper Volex band. A short signal is triggered when it breaks the lower band.
- The exit is based on the PnF chart. When the chart reverses down to a column of Os using the three-box reversal method, the long position is closed. A short position is closed when the PnF chart shifts from a column of Os to a column of Xs.

Exit Rules

When a long position has been established and there is a break of the lower Volex band accompanied by a three-box PnF reversal (a new column of Os initiated), we close the long position in SPY shares (or calls on \$SPX or SPY). When a short position was established and there is a penetration of the upper Volex band accompanied by a three-box PnF reversal (a new column of Xs initiated), we close the short position in SPY (or close the long puts on \$SPX or SPY).

Table 9.2 shows the results from the performance of the PnF Volex system after multiple tests using the purchase of spider shares. The back-test period is from 1994 to 2004; the results are based on \$50 per trade to include slippage and commission. Winning trades slightly outnumber the losers by 286 to 211. The average winning trade produces profits of more than \$2,300, compared to an average loss of \$960. This is what we like to see in our trading systems—losses cut short and bigger gains from our winners. The average win-to-loss ratio is a very important statistic.

TABLE 9.2 Volex Results of the Last 10 Years Using the S&P 500 Index

Point and Figure Volex System	
Total Net Profit	\$475,900.00
Gross Profit	\$685,460.00
Gross Loss	(\$209,560.00)
Profit Factor	3.27
Total Number of Trades	497
Percent Profitable	57.55%
Winning Trades	286
Losing Trades	211
Even Trades	0
Average Trade Net Profit	\$957.55
Average Winning Trade	\$2,396.71
Average Losing Trade	(\$993.18)
Ratio Average Winning: Average Losing	2.41
Largest Winning Trade	\$20,204.00
Largest Losing Trade	(\$4,204.00)
Here is the Volex with \$50 per trade to include for slippage and commissions. Results on the last 10 years using the S&P 500 Index.	

SYSTEM DEVELOPMENT

When developing a system like the Volex System, there are some important factors to keep firmly in mind.

Key Components

It is paramount that any system addresses three key pieces of information:

1. A market entry signal that provides clear rules about when and where the trader should get into the market.
2. A market exit signal that tells the trader when to exit the market with a profit.
3. A market exit signal that tells the trader at what point to exit the market with a loss.

Once these three decision points are defined, there are some other factors that should be considered when selecting or developing a trading system. Traders should decide just what market and particular time frame they would be trading. They should also select a core idea as the driving theme when designing or selecting a system (i.e., capturing a momentum move). This idea needs to be something the trader not only firmly believes in but also has proven performance that instills confidence due to the backtesting of historical data.

The trader also needs to be comfortable with the system's predictive performance as well as its risk/reward ratio. Once the system has been put together, it is always a good idea to see how the performance can be improved. A systems trader will thoroughly test the system before actually trading the signals. When evaluating a system the trader needs to know just how well the system can be expected to perform and what the risks are.

One of the basic requirements of a usable trading system is that it needs to be relatively simple to interpret and easy to execute once trading signals are generated. Again, all systems must provide a clear market entry signal as well as signals for market exit that include a profitable exit and an exit for a loss. Before any trading system is deemed effective and usable for the long term, it is paramount that the system addresses these three key building blocks.

System Results

Now that we know the key features and requirements of a trading system, we need to determine how best to evaluate it, regardless of whether the trader purchases the system or develops it on his or her own. This brings us to system testing, determining how the approach can stand up to the rigors of real-world trading. Key concepts to understand and factors to look for in the testing process include maximum drawdown, average winning trade, average losing trade, and percent profitable.

- **Maximum drawdown:** The maximum drawdown statistic provides the system developer an approximation of just how much capital will be needed to trade this approach. It is the sum of most consecutive losers encountered. Most system developers and traders say it is a good rule of thumb to double the maximum drawdown figure to determine the amount of capital needed to trade a particular system.
- **Average winning trade:** The average winning trade is the dollar amount of all the winning trades divided by the number of winning trades.
- **Average losing trade:** The average losing trade is the total number of dollars lost divided by the number of losing trades. Using the average

winning and losing trades, we can come up with an average win-to-loss ratio by dividing the average dollar amount of the winners by the average dollar amount of the losers. Of course, the higher the better for this statistic, but it should be at least a two-to-one ratio.

- **Percent profitable:** Finally, you want to evaluate the percentage of profitable trades to determine if the system is worthy of trading. This is where the system developer has to judge whether the trading system actually fits his trading style. Some people want a very high probability system (higher percent profitable) and can handle smaller win-to-loss ratios, whereas other traders can handle a lower probability of win figure, provided the win-to-loss ratio is large enough.

Only by going through this type of trading system analysis can the system trader gain a good sense of how well the approach being tested is expected to perform and the associated risks.

SYSTEM DEVELOPMENT EXAMPLE

In the past, either large institutions or traders with very deep pockets developed systems like Tom Gentile's S&P 500 Index Volex system. Today, a variety of software packages are available to smaller investors that allow them to backtest and implement trading systems. In short, it is not the expensive proposition it once was. In addition, backtesting used to require advanced computer language knowledge and a large number of cumbersome calculations. Today, the software makes the process much easier.

Let's take a look at the development of a trading system using Profit-Source software and two technical indicators. The following example was presented and discussed in a series of Optionetics articles for the purpose of walking through the process of system development. Various speeds and combinations for *rate of change* (ROC) and the *average directional index* (ADX) indicators were used to develop the system. Although profitable over a variety of market conditions, it is not a system currently used—the trader confidence level in the system was affected by an illogical aspect of the trade exit. However, the goal here was to teach the steps needed to create and evaluate a system, so the focus is on *process* rather than on reviewing the indicators themselves.

Rate of Change Indicator

The ROC is a basic momentum indicator that measures the rate of ascent and descent for price. Trade alerts and signals can be generated using a

chart that combines ROC with a simple moving average (SMA) line on the indicator. These two indicators—ROC and an SMA on ROC—were used to create a base trading system. The ADX indicator measures the “trendiness” of price and was added to the system as a filter—an additional requirement that must be met for a signal to be generated. Please visit the Appendix B for more information regarding the ROC and ADX, as well as other commonly used technical indicators.

The ROC indicator displays upward price momentum that can be combined with an SMA to establish basic trading rules. An example of a long-only system (no short positions) is one that establishes a position when the ROC crosses up above the SMA and exits the position when it crosses down below the SMA. Since the system creates a directional position and is not market neutral, trending periods are optimal. It therefore makes sense to add an ADX rule to improve our chances of entering positions during a trending phase.

The process was initiated by testing one set of rules using the simple momentum set-up described, then varying the speed and adding filters. The testing was performed on the 100 stocks of the S&P 100 Index (\$OEX). It tested the period from 1980 to 1998 in two system runs, 1980–1989 and 1990–1998. So the test includes 100 stocks from a specific index and nineteen years of data. Importantly, the actual number of stocks evaluated in the earliest phases of the backtest was limited. For example, Cisco, Microsoft, and Dell are part of the system list but were not members of the S&P 100 in 1980. In fact, they weren’t even public companies. As a result, no trades could be triggered for these stocks, and significantly fewer than 100 companies were part of the system backtests from 1980 through 1989.

Table 9.3 lists the specific rules for the long-only ROC-ADX system. The system will produce a buy trigger and open a long position, then close the trade when the sell alert is triggered. A profit or loss results, with the profit trade exit rule the same as the loss trade exit rule. The buy entry occurs

TABLE 9.3 Base ROC-ADX System

Summary of Example System	
Momentum	Long Only
System Elements	20-day ROC and 5-day SMA with ADX.
Trade Entry	Buy when 20-day ROC crosses up above the 5-day SMA on the ROC. ADX must be above 18.
Trade Exit	Sell when 20-day ROC crosses down below the 5-day SMA on the ROC. No ADX requirement.

when the 20-day ROC indicator crosses above the five-day ROC simple moving average *and* there is an indicator reading above 18 for the ADX. The position is closed when the ROC drops below the five-day SMA. And that's it!

The first system run included data from January 1, 1980, through December 31, 1989. A variety of ROC-ADX combinations were ultimately tested using this period, with top performers included in future test periods. The tests assumed a starting account size of \$50,000 for each system, with a trade size that represented 10 percent of the account. That means each trade varied in dollar size, but represented a similar portion of the remaining cash. The brokerage cost (i.e., commissions and fees) was \$10 per trade. A roundtrip trade (i.e., buy to open and sell to close) included \$20 in commissions.

Account size	\$50,000
Trade size	10%
Brokerage	\$10, one-way
Security	S&P 100 stocks (2005)

The chart shown in Figure 9.6 provides a view of trade entry and exit when the ROC was set to 13 and the MA set to 20 (one of the top two systems). The ADX was greater than 18 at trade entry and declining at trade exit. The chart is a daily OHLC for Amgen, Inc. (AMGN).

After running the initial test, there was good news and bad news about the trading system. The system had a small net loss—that's the bad news. From Table 9.4, we can see that the system generated 112 trades at

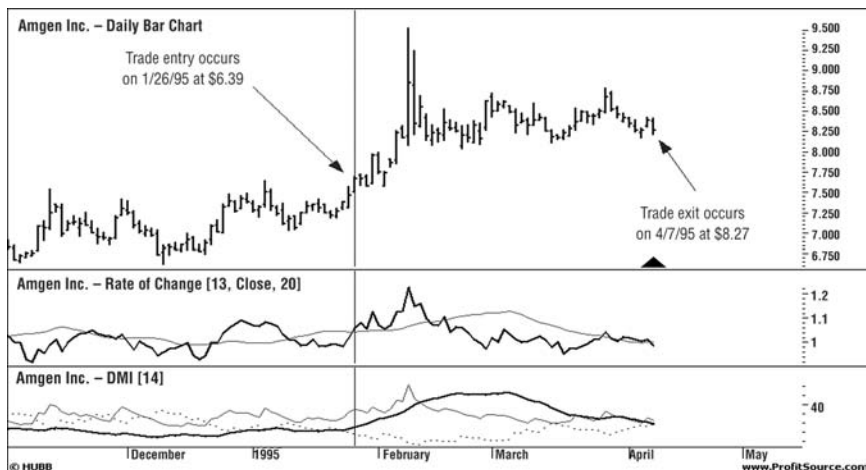


FIGURE 9.6 ROC-ADX System Trade for AMGN (Source: www.ProfitSource.com)

TABLE 9.4 Initial ROC-ADX System Results

System Net Profit	Total # of Trades	Average P/L %	Maximum DD%*	Average DD%*	Total Costs	Standard Deviation
(\$1,564.01)	112	-3.13%	-15.63%	-3.59%	2240	7.06%

*DD% = Drawdown percentage.

an average loss of 3.1 percent. The total cost for the trades was \$2,240, or $112 \times \$20$ per roundtrip. The biggest drawdown, or decline in account value, was 15.6 percent.

However, the results were consistent—which is good news for any trading system. Once a trader finds a profitable system, consistency (via the standard deviation of returns) is an important measurement to evaluate.

Once a system is developed, it can be refined and the results can be improved. Doing so can sometimes turn a losing system into a winner. In this example, the system failed to produce profits because it generated a lot more losing trades than winning ones. Table 9.5 displays the results breakdown by winning trades and losing trades. The losing trades outnumbered the winners more than two to one. However, the percentage of gain from the winners was more than double the percentage of loss from the losers. Therefore, the strategist might consider looking for ways to diminish the number of losses by taking steps to reduce the total number of trades or by exiting losing trades sooner.

Changing the length of the moving average or the speed of either the ADX or the ROC indicators can also modify the system. Sometimes very subtle changes can make a very significant difference, especially when the backtest encompasses a long time frame or a large number of investments. So if the parameters for the test seem logical, don't give up after the first attempt at building a trading system. If at first you don't succeed, try and try again.

After a series of tests (36 initial combinations), the cumulative results (1980–1998) for the two best systems include those shown in Table 9.6.

When performing backtesting for a system, it is important to include long periods of time in order to capture various market phases (bullish,

TABLE 9.5 ROC-ADX System Results by Winners and Losers

Gross Profit or Loss	# of Trades	% P (L) Trades	Average P or L %	Consecutive P or L Trades
\$12,237.13	32	28.6%	7.84%	3
(\$13,801.14)	80	71.4%	-3.43%	10

TABLE 9.6 ROC-ADX System Results for Top Performers

System #	Total Profit, Loss, and Return	# of Trades	% Profitable Trades	P:L	Average P/L %	Standard Deviation
1	\$111,511 223%	1,092	46.8%	2.5	5.63%	31.8%
6	\$103,991 208%	1,799	40.0%	2.8	2.78%	41.3%

bearish, and sideways). A system should be effective for a variety of markets and under a variety of market conditions. In addition, profitability of the system should be examined as well as the stability of the system. The parameters of the two top-performing systems in Table 9.6 are given in Table 9.7.

Stop Placements

Stops were added to the system based on the maximum adverse excursion percent (MAE%) from previous results. The MAE% is a drawdown type calculation—it is the maximum drop in price below the entry price, in percentage terms. By calculating a stop based on the MAE%, the system dictates stop placement, versus an arbitrary risk value assigned by the trader. Managing risk is not arbitrary, but the system doesn't care what this level is. It is better to allow it to work as it should, and then determine whether the system risk is acceptable. (Certainly more tests could be run that incorporate small stop percentages.)

TABLE 9.7 ROC-ADX Top Performers System Details

#	Entry and Exit	Entry	Entry	Exit	Stop
	ROC, ROC-MA	ADX	ADX Increasing	ADX Decreasing	
1	13, 20	> 18	Yes, for 3 days	Yes, for 5 days	15%
6	8, 20	> 18	No	Yes, for 5 days	15%

Optimization

When a trader wants to *optimize* results—that is, to determine the best indicator speed from both a profitability and stability standpoint—a methodical approach must be taken. Although a few speeds were selected and tested for this exercise, a truly optimized system is one that is created by running through a sequence of values (i.e., 1 to 50 by stepping up one increment; or 2 to 50 stepped up by two increments).

Robustness

System *robustness* refers to a few different things, among them the ability of the system to work in a variety of markets under a variety of conditions. The trader also wants to consider whether the system is logical and whether the testing was performed properly. The logic test fails for the ROC-ADX system because the exit signals are required together; the ROC needs to cross below the ROC-MA *and* the ADX needs to be declining.

A declining ADX indicates a trendless period. Since trending conditions are optimal for this system, it is beneficial to exit a position when the ADX is declining. When we require five days of declining ADX values, meeting both criteria—(1) ROC crossing below the ROC-MA, and (2) a five-day declining ADX—may be difficult. Exit signals using either the first *or* the second criterion may be superior to one that requires both.

A second signal difficulty includes the requirement for five days of declining ADX; perhaps an ADX lower than the reading from five days ago is better. We tested ourselves and were surprised to find that there appeared to be a couple of settings at this point that are both profitable and stable, with manageable drawdowns. How this system is profitable (given the exit flaws) needs to be better understood before using it.

SYSTEM TESTING DESIGN SUMMARIZED

System traders have a variety of systems available to them in the same way option traders have a variety of strategies available. A long-only system will benefit from bullish periods, while one that also establishes short positions will generally be better as market conditions vary. At the same time, the system should fit each individual's trading style and account size. Such considerations include the number of trades generated over a period of time and whether the system is applied to volatile, fast-moving markets or to slow ones. Importantly, once the system is developed, that is not the end. The markets are always changing. So a system should also continually be evaluated and tweaked in order to stay current with market conditions. An example of a basic system design is shown in Table 9.8.

TABLE 9.8 System Design Example

Identify/Run	Example
1. Strategy	Momentum via rate of change (ROC)
2. Trading entry rules/signals	ROC crossing above ROC-MA
3. Trading exit rules/signals	ROC crossing below ROC-MA
4. Optimal conditions	Trending
5. Condition filter	ADX rising (entry), declining (exit)
6. Test approach	Three speeds for ROC, three speeds for ROC-MA
7. Identify data period	1980–1989 and 1989–1998
8. Market tested	OEX stocks, 2005 components
9. Initial test and review	1980–1989 period: 36 combinations
10. Second test and review	1989–1998 period: 8 combinations
11. Risk management	Add system-dictated stops
12. Third test and review	Five combinations for 1980–1998
13. Final test and review	Two combinations

ENHANCE SYSTEM PERFORMANCE WITH OPTIONETICS

The Optionetics (www.optionetics.com) philosophy of trading is valuable not only to novice system traders; long-time professional system traders can benefit as well. Overlaying the Optionetics way of trading with any trading system that trades liquid markets can significantly enhance that system's performance. The Optionetics methodology facilitates the implementation of a system's money management rules by using option-trading techniques certainly worthy of application.

To validate this assertion, we'll review the Optionetics philosophy, trading system basics, and money management approaches. We then conclude with the beneficial impacts the Optionetics philosophy can have on a trader's current trading system.

So just what does the Optionetics philosophy encompass? The absolute crux of this approach can be classified as *a scientific method of analysis that utilizes options as tools to minimize risk exposure*. Since risk is directly correlated to a trader's number one nemesis—stress/emotion—it stands to reason that if you can get a good handle on risk, your ability to execute your trading plan flawlessly will improve dramatically.

The Optionetics approach to the markets predefines the risk and reward of each and every trade to determine its feasibility. Once the risk/reward ratio has been revealed and the maximum loss position is clearly defined, a natural calm comes over the trader with a very pronounced

stress-level reduction. The result is much better decision making during the trade execution and management phase.

Another major benefit of trading using the Optionetics approach is that it surrounds your core trading or belief system with a flexible investment plan. This flexibility allows the traders to employ a variety of option strategies that best exploit the current market environment. For long-term survival in the trading business, the ability to change directions is absolutely essential. This attribute, which is at the heart of the Optionetics philosophy, turns the naturally dynamic trading environment of the markets to extremely profitable opportunities.

Now let's take a look at what constitutes a typical trading system. As mentioned earlier, there are three building blocks in any system: market entry, exit with a profit, and exit with a loss. Identifying these and making decisions about them is a key element in crafting a successful trading system. Before you trade, the system should tell you:

1. Where should I get into the market?
2. Where should I get out with a profit?
3. Where should I get out with a loss?

You need to know the answer to all three of these questions before you trade. If you know the answer to only one or two, you do not have a complete trading system.

Of course, with all sound trading system approaches, the trader must have some complementary money management rules that can be effectively applied. Money management takes the trader past the point of no return. For example, a trader who makes \$100,000 over two years and then loses the \$100,000 during the following two years has a return of zero dollars. This is why money management is such a key factor.

Now let's examine how the Optionetics approach can enhance the implementation of both the trading system being employed and the accompanying money management rules that are being applied. The use of puts and calls to hedge against long and short stock or index positions offer the following benefits:

- Greater protection than stop-losses.
- Protection of stock or index positions from major losses.
- Elimination of the risk of receiving a margin call.
- Little maintenance required, allowing you to lock in profits.

Given the fact that stop-losses are essential components of a good money management system, the Optionetics approach provides a far

superior method of protection by the utilization of options. For example, with the distinct possibility of a major gap down or up, the traditional stop-loss can encounter major slippage. Employing an option as your risk reduction strategy eliminates this negative slippage impact.

Also, by clearly delineating the risk and reward picture of every trade, the Optionetics discipline automatically enforces the most important money management rule of all: When a trading system generates market entry, market exit with loss, or market exit with profit price levels, the Optionetics methodology can really go to work. The approach allows you to apply the optimum options strategy based on the system's forecasted price levels as well as the underlying option's current and forecasted volatility.

Furthermore, the trader can be as flexible as needed, allowing adjustments to be based on market flow, keeping the position intact by locking in profits, continuing to minimize risk, and providing the staying power to see the trade to fruition versus being continually whipsawed in and out of the market. With so many benefits of applying the Optionetics trading philosophy, it really behooves the trader to master these trading principles and use them faithfully in conjunction with your current trading system. The improvement in your system's profitability, along with better risk-to-reward profiles, makes it an approach that is truly worth implementing.

CONCLUSION

Trading systems facilitate trader discipline, pure and simple. They give the trader a way to interpret, quantify, and classify market behavior in an unbiased manner. They also define potential opportunities by providing specific trading signals. Following these signals can facilitate the development of trading skills as well as the discipline required to empower the trader to execute his or her trading plan. The advantage to systems trading is that it tries to take some of the emotion out of the market. Identifying the three building blocks—market entry, exit with a profit, and exit with a loss—is a key element to developing a successful trading system.

A trading system design involves the following nine important steps:

1. Know which markets you feel comfortable with and can afford to trade.
2. Learn all you can about these markets so you will know which indicators to use.
3. Design a trading system around your knowledge.
4. Test your system for flaws before you trade real-time.

5. Decide when to get into the market.
6. Decide when to get out with a profit.
7. Decide when to get out with a loss.
8. Implement your trading system.
9. Fine-tune your trading system and continually evaluate your system.

We also took a look at a couple of systems—the Volex system and the Dogs of the Dow—and how each generates trading signals. The Volex system essentially uses changes in volatility to forecast a change in price and allows the trader to confirm trends or changes in direction. It is particularly effective for very liquid markets such as the major indexes. Tom Gentile's point and figure Volex system for trading the S&P 500 Index was also presented along with its impressive testing results.

Getting an Edge with Indicators

Regardless of whether a trader is using a system or some other decision-making process, success over the long run will depend on having some sort of an edge over other investors. Luck might affect results in some situations, but experienced, successful traders don't depend on luck. Each day, traders put their money on the line, and they are competing with millions of others who are doing the same. Their money lost is someone else's gains. If you lose, they win. If you win, they lose.

Only by having superior knowledge, skill, an effective system, or superior trading prowess can one consistently bring in steady profits from the financial markets. Luck, guesswork, or hunches will not bring about success. The key is having an edge over the competition and also having the discipline to follow an intelligent game plan. We teach investors strategies and rules that can help them to generate profits trading stocks and options. The students who are successful early in their trading careers are often the ones who adhere to the rules. Yet it is also human nature to want to test the rules—to experiment.

A good way to experiment or test the water is by trading on paper rather than with real money. (Paper trading is covered thoroughly in Chapter 16). System backtesting and development is also enlightening, a topic covered in the previous chapter. In this chapter, we explore a different approach to understanding the financial markets by exploring seasonal trends and a variety of proven technical indicators that can also give traders an edge when moving through the financial battlefield known as the index market.

VOLUME

Trading volume is perhaps the single most important indicator used in technical analysis. We discussed it briefly in the first few chapters of this book. Recall that when an investment is rising in value as volume increases, it suggests that buyers are actively bidding the price higher and shorts are running for cover. Strong volume during an advance is considered a bullish sign. In contrast, when volume swells during a decline, bears are driving prices lower, bulls are in pain, and the action of the stock is considered poor. Studying volume gives the analyst a better sense of whether the bulls or bears are in control of the stock.

What exactly is volume? In the stock market, *volume* is the total number of shares associated with a specific stock or market. Also known as *turnover*, it reflects the number of shares bought or sold relative to a specific security over a specific time frame. For instance, if you purchase 100 shares of Microsoft, the volume of that trade is equal to 100.

When looking at the performance of “the market,” we usually look at the performance of the Dow Jones Industrial Average (\$INDU) along with the total volume on the New York Stock Exchange. When monitoring the NASDAQ Composite Index (\$COMPQ), we watch the total volume on the NASDAQ Stock Market. For example, a news reporter might say that the Dow Jones Industrial Average rose 83 points on 2.1 billion shares. The total volume of 2.1 billion shares is the total amount of trading on the NYSE that day, which includes all of the volume for all of the stocks listed on the exchange.

The Dow and Dow Volume

Market watchers often view the performance of the Dow Jones Industrial Average alongside the total New York Stock Exchange (NYSE) volume. For instance, a financial reporter will say that the Dow rose x number of points on y amount of volume, where the volume refers to the NYSE total volume for that day. However, this is a bit misleading for two reasons. For one, the Dow now includes two NASDAQ stocks—Intel (INTC) and Microsoft (MSFT). Second, while the Dow consists of only 30 stocks, thousands of different stocks trade on the NYSE. Therefore, a more accurate view of price action and volume in the stock market would be to plot the performance of the NYSE Composite Index (\$NYA), which is an index that includes all stocks trading on the exchange, along with NYSE total volume.

An important maxim regarding volume, according to John J. Murphy in his book, *Technical Analysis of the Futures Markets* (New York: New

York Institute of Finance, 1999), is that “Volume should increase or expand in the direction of the existing trend.” When looking at volume by exchange, the strategist wants to see increasing volume occur during the advances. This will not always happen during a legitimate advance, but when it does, increasing volume can serve to confirm the trend.

For instance, Figure 10.1 shows volume on the NYSE increasing on the Dow Jones Industrial Average as it begins to move higher in late 2004. This is a sign that buying pressure is increasing and a bullish sign for the Dow. Pullbacks should be on lighter volume if the stock is trending upwards. In addition, during declines one would expect moves lower to be accompanied by higher volume and for rallies to come on lower volume.

Up versus Down Volume

When looking at volume by stock exchange, technicians often break volume down into up volume and down volume. *Up volume* refers to the volume for those issues on the stock exchange that are moving higher in price. *Down volume* is the amount of volume associated with stocks that are falling or declining in price that day.

For example, if total volume on the NYSE on Wednesday is 1.5 billion shares, and up volume totals 1.2 billion while down volume equals 300 million, the ratio of up to down volume is four to one, positive. This is a sign of strong buying pressure and, from a technician’s viewpoint, is a positive sign. It is an indication of market strength. The same analysis can be applied to NASDAQ trading.

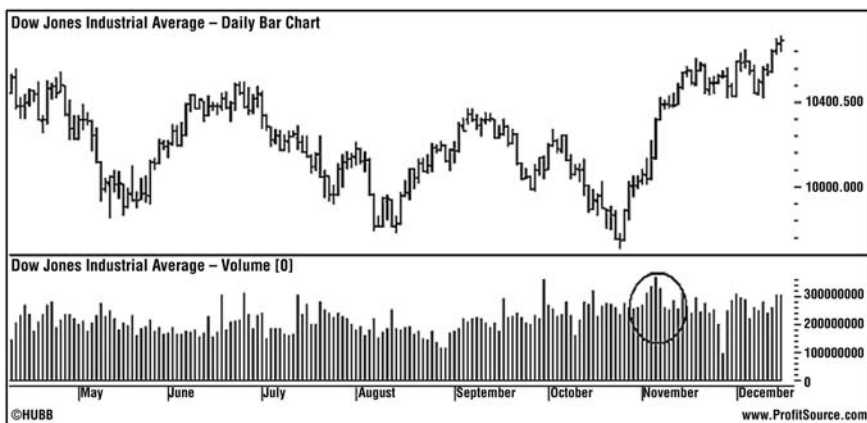


FIGURE 10.1 Dow Jones Industrials and NYSE Volume (Source: www.ProfitSource.com)

Table 10.1 shows a breakdown of the up and down volume by exchange for the first week of November in 2004. It is the same period highlighted in Figure 10.1. Notice during that time, the Dow was moving higher. The table shows that Wednesday's and Thursday's combined market action resulted in a gain of 279 points in the industrials. At the same time, volume on the New York Stock Exchange rose, from 1.4 billion shares on Monday, to an average of nearly 1.8 billion on Wednesday and Thursday.

While total volume started rising during the second half of the week, up volume jumped to more than 1.4 billion on those two days compared to 320 million shares of down volume. Therefore, the up to down volume statistics were extremely bullish during this period. In addition, the fact that volume jumped on this upward move after a previous two-month decline indicates that buying pressure was building and stocks were reversing trend. If the rally had occurred on low volume, one might have assumed that the market was still in a downtrend. However, that was not the case during the first week in November 2004.

While a similar story was unfolding on the NASDAQ, the up to down volume also reveals that NYSE stocks were seeing a much better ratio of up to down volume. For instance, on Wednesday, up volume beat down volume on the NYSE by a margin of more than four to one. On the NASDAQ, the margin was less than two to one positive. Therefore, the buying interest in NYSE stocks was much stronger than in NASDAQ stocks at that time.

TABLE 10.1 NYSE and NASDAQ Up and Down Volume

	Monday (11/1)	Tuesday (11/2)	Wednesday (11/3)	Thursday (11/4)	Friday (11/5)
Dow Jones	10,054.39	10,057.41	10,137.05	10,314.76	10,387.54
Industrial Average	+26.92	+3.02	+101.32	+177.71	+72.78
Total Volume (000s)	1,397,000	1,666,000	1,773,000	1,799,000	1,729,000
NYSE Up Volume	719,000	830,000	1,428,000	1,450,000	1,101,000
NYSE Down Vol.	657,000	801,000	321,000	322,000	595,000
NASDAQ	1,979.87	1,987.86	2,004.33	2,023.63	2,038.94
	+4.88	+7.99	+19.54	+19.30	+15.31
Total Volume (000s)	1,552,000	1,444,000	1,964,000	1,826,000	1,899,000
NASDAQ Up Volume	983,000	968,000	1,116,000	1,170,000	1,363,000
NASDAQ Down Vol.	530,000	466,000	822,000	604,000	517,000

ETFs and Trading Volume

Traders can also use volume for analysis when trading exchange-traded funds (ETFs); it is the same as with stocks. Namely, the volume refers to the volume by symbol rather than the volume for a single exchange. So, when looking at the volume of an index like the Dow and the NASDAQ, the volume represents the volume by stock exchange. When looking at volume for exchange-traded funds, the volume is equal to the shares traded of that ETF alone (see Figure 10.3).

Blow-Off Tops and Bottoms

Sometimes volume will surge at important turning points for the market—a phenomenon analysts refer to as a “blow-off.” This can occur after a precipitous advance. It’s called a “selling climax” and it’s more common during downtrends after a surge in selling pressure. Figure 10.2 shows a selling climax in September 2001. Obviously, the news was terrible at the time. Nevertheless, it served as an important turning point as many bears were washed out of the market.

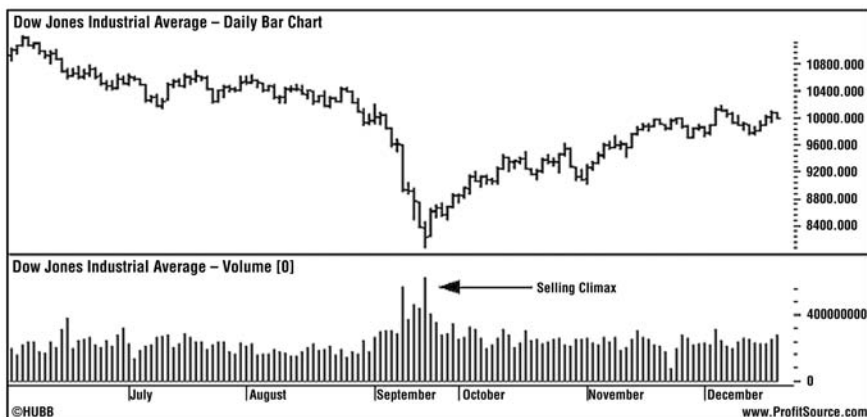


FIGURE 10.2 Dow Jones Industrials Blow-Off Bottom (*Source:* www.ProfitSource.com)

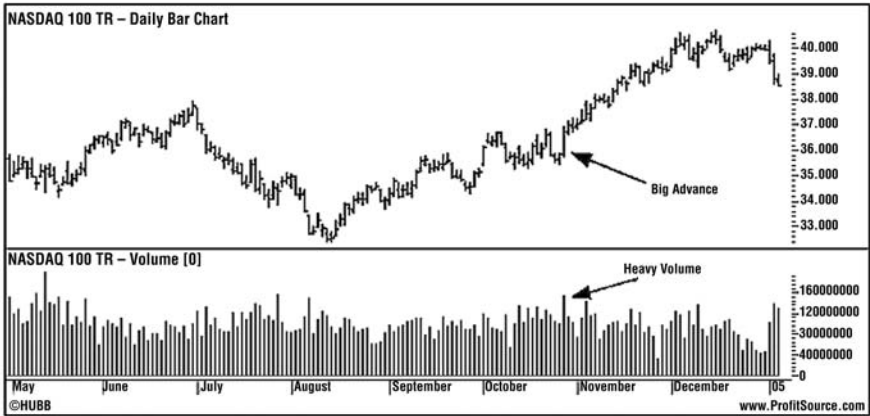


FIGURE 10.3 QQQQ and Rising Volume (*Source: www.ProfitSource.com*)

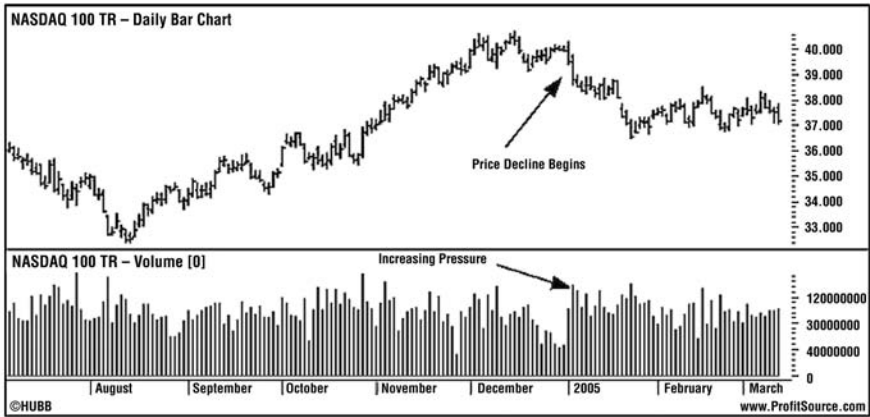


FIGURE 10.4 Falling QQQQ and Rising Volume (*Source: www.ProfitSource.com*)

During a downtrend, volume will increase when the Qs move lower and diminish during rallies. Often an advance will end when volume declines and the index begins to trade lower. Then, increasing volume will signal a change in trend. Figure 10.4 shows the rally in the Qs faltering in January. Notice that volume started to rise as the index broke below its December lows. In sum, strategists want to consider volume along with price when looking at trends in the index market.

SIMPLE VOLUME SYSTEM

In order to confirm that increasing volume is a bullish sign for an exchange-traded fund, we created a simple system for the QQQQ. The hypothesis is that increasing volume is a bullish sign and will lead to short-term strength in the fund. We ran a test on the Qs using five years of data from November 1999 to November 2004. This included both bullish and bearish periods for the fund.

The system is long only and looks to enter the QQQQ when it has moved higher in price and volume has been rising for two consecutive days—in other words, the volume is greater than yesterday, and yesterday's volume is higher than the day before. In addition, the close of the current day is greater than the close of the day before. We exit the trade when either (1) the QQQQ has moved 3.5 percent higher or (2) the QQQQ rises on falling volume. If the QQQQ moves higher but volume has declined for two consecutive days, the position is closed.

Table 10.2 shows the results of the volume system during the five-year backtest. We assume that the trader takes a \$5,000 long position in the QQQQ upon each buy signal. The system works relatively well. The total profit is approximately \$3,000 (excluding commissions and fees). Out of 112 trades taken, 77 were winners and 42 were losers. So for every 11 winners the system produces 6 losers. While this result is very promising, the average loss is greater than the average win. Such a result is expected since the maximum gain is capped at 3.5 percent, while losses are allowed to run.

In sum, this system generates many short-term profits, with larger losses. However, the winners outnumber the losers by a sufficient margin to generate profits over the long term. To improve the system, the strategist might consider using stop-losses or an exit strategy based on a specific number of days (i.e., exit the trade after five days) after taking a more detailed look at the trade results. Either way, the system does seem to confirm that increasing volume along with improving price action is bullish for the Qs.

In addition, this simple volume system illustrates how basic technical analysis can be incorporated into a trading plan. While volume is used in this example, the same analysis can be done with a variety of indicators (as demonstrated in Chapter 9 with the Volex system and the ROC-ADX examples). The volume system also illustrates that a trading system need not be complex; it can be relatively simple. The key to long-term profitability, however, is not just identifying your entry point, but also identifying an exit strategy and a plan to manage your losses.

TABLE 10.2 Basic Volume System Results

Statistic	All Trades	1999	2000	2001	2002	2003	2004
Total Profit	2989.06	252.19	2152.69	146.81	(640.03)	864.89	212.52
Gross Profit	10,947.42	252.19	3344.33	2904.82	1442.35	2092.18	911.43
Gross Loss	-7958.36	0.00	-1191.75	-2758.01	-2082.38	-1227.29	-698.91
Total Trades	119	3	24	27	20	25	20
Average Trade Profit	25.12	84.06	89.70	5.44	(-32.00)	34.60	10.63
Winning Trades	77	3	20	16	12	14	12
Losing Trades	42	0	4	11	8	11	8
Winning Trades %	64.71	100.00	83.33	59.26	60.00	56.00	60.00
Losing Trades %	35.29	0.00	16.67	40.74	40.00	44.00	40.00
Open Trades %	0.00	0.00	0.00	0.00	0.00	0.00	0:00
Win/Loss Ratio	11:6	n/a	5:1	16:11	3:2	14:11	3:2
Average Winning Trade	142.17	84.02	167.22	181.55	120.20	149.44	75.95
Average Losing Trade	-189.48	0.00	-297.94	-250.73	-260.30	-111.57	-87.36
Largest Winning Trade	423.75	136.88	423.75	278.34	295.67	185.44	184.31
Largest Losing Trade	-889.31	0.00	-889.31	-646.14	-504.00	-286.11	-267.41
Most Consecutive Winners	12	0	12	5	3	5	4
Most Consecutive Losers	3	0	1	3	3	3	3
Average Time in Winners	4.57	4.33	3.70	1.88	5.17	4.64	9.00
Average Time in Losers	8.52	0.00	15.00	7.00	10.38	7.45	7.00
First Active Date	12/10/99	12/10/99	1/4/00	1/4/01	1/3/02	1/3/03	1/8/2004
Last Active Date	11/18/04	12/22/99	12/22/00	12/6/01	11/22/02	12/19/03	11/18/04
Period of Activity (days)	1805	12	353	336	323	350	315

MARKET INTERNALS

Market internals refers to the technical action of the market beyond the movement of the major averages like the Dow Jones Industrial Average and the NASDAQ Composite Index. Discretionary index traders want to understand what is happening beneath the surface of the major averages in order to gauge the underlying strength of the market's advances or declines. The ratio of up to down volume, already discussed, is part of the internal action of the market. Using that ratio, the strategist can better understand the strength of the buying and selling pressure that moves the market from one day to the next.

The advance/decline ratio, the Trader's Index (\$TRIN), and the new high–new low (NHNL) index can also help make sense of what is happening internally within the stock market.

Painting the Tape

The term *painting the tape* refers to the illegal practice by a group of investors to buy or sell a security among themselves in order to make it seem as if the price is rising and volume is running heavier than usual. In a similar manner, sometimes the major averages like the Dow move higher as large institutions aggressively buy the shares that comprise the index. This often occurs at the end of the quarter or the end of the year. Whether it is deliberate action or manipulation is difficult to say. Nevertheless, the process can make it seem as if the market is stronger than it really is. For that reason, index traders will want to consider not just the moves in the Dow and the NASDAQ, but also market internals like market breadth and the new high–new low index.

Market Breadth and the A/D Line

The advance/decline line (A/D line) is a useful indicator for index traders who want to see the big picture. The line is actually an index that tracks the number of advancing issues on the New York Stock Exchange (or NASDAQ) minus the number of declining issues. An advancing issue is simply a stock that has moved higher in price; a declining issue is one that fell in price that day. Also referred to as *market breadth*, the advance/decline line can be computed through a number of charting programs and web sites; hence, it is not necessary to compute it manually. Nevertheless, understanding the math will help make better sense of the indicator.

The Advance/Decline Ratio

On December 19, 2005, the Dow Jones Industrial Average fell 40 points. Meanwhile, the *Wall Street Journal* reported that 944 stocks advanced and 2,457 declined. The advance/decline ratio was more than two to one negative ($-2,457/944 = -2.60$). Ratios of 2.5 or more indicate extremely positive market breadth and a bullish environment. When the ratio falls below -2.5 , market conditions are weak and market internals are poor. Traders want to consider the advance/decline ratios for both the NYSE and NASDAQ. Bullish trades should focus on the exchange where market breadth is showing the most strength or improvement.

The daily advance and decline numbers for the NYSE can be found in a number of places, including most financial newspapers and several web sites. To compute the NYSE advance/decline line, subtract the number of declining stocks from the number advancing stocks on the NYSE each trading day. Ignore the unchanged stocks. The result, either positive or negative, is added to the previous day's total to create the line. So the A/D line is actually a running total. It is a cumulative expression of market breadth.

Figure 10.5 shows the NYSE advance/decline line over several years ending in the summer of 2005. It is upward sloping and suggests that more stocks are moving higher than lower on a consistent basis. That, in turn, is an indication that market internals are healthy. In fact, during that time, the A/D line was moving to new highs, but the Dow Jones Industrial Average and the S&P 500 Index were well below their spring lows. However, later that year, both indexes moved to multiyear highs. In short, the upward slope in the A/D line in summer 2005 was a sign that market conditions remained on solid ground.

Another way to use the A/D line is to confirm highs and lows in the major averages. Technicians look for divergences between the A/D line and the market averages as a sign that a trend is ending. For instance, if the Dow Jones Industrial Average sets a new high, but the A/D ratio does not, it is considered a bearish divergence. In this case, breadth is lagging and the trader will be on the look out for the rally to run out of steam.

By contrast, if the S&P 500 Index and the industrial average fall to new lows, but the A/D sets a shallower bottom (i.e., a higher low), it is considered a bullish divergence and bodes well for the market going forward. The most recent divergence occurred in October 2002. At that time, the Dow Jones Industrial Average fell to multiyear lows, but the A/D ratio was well off of its previous lows. Therefore, it gave a bullish divergence. The A/D line suggested that stocks were not as weak as the major averages seemed to suggest.

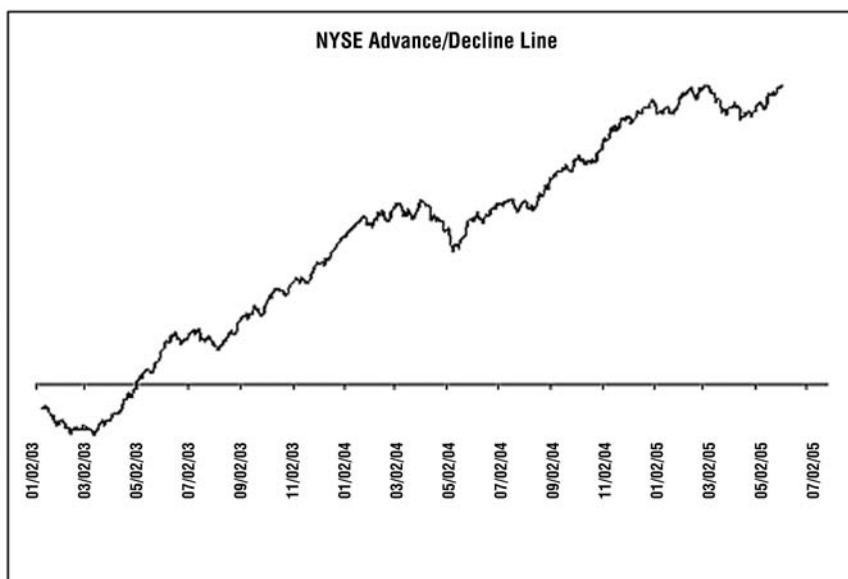


FIGURE 10.5 NYSE Advance/Decline Line, January 2, 2003, to July 2, 2005

The Arm's Index

The Trader's Index (\$TRIN) has proven itself as a reliable timing indicator. Sometimes called the Arm's Index after its originator, Dick Arm, it measures the buying and selling pressure associated with trading on the NYSE. When selling pressure becomes intense, it can be a sign that the stock market is oversold and due to bounce higher. Conversely, when buying becomes extreme, it can be a sign that the market is getting overbought and set to head lower.

TRIN combines the up to down volume statistics and the advance/decline data. Although traders can easily get a latest quote using its ticker symbol \$TRIN, it can also be computed using the following four pieces of data from NYSE trading: up volume, down volume, advancing issues, and declining issues. The index compares the number of stocks that are increasing or decreasing in price (i.e., advancing and declining issues) with the amount of volume trading in those stocks (up/down volume). The formula is:

$$\text{TRIN} = \frac{\text{Volume declining} \div \text{Number declining}}{\text{Volume advancing} \div \text{Number advancing}}$$

Let's assume the following statistics represent the most recent trading day: advancing issues 2,503; declining issues 744; up volume 1,281,000,000;

and down volume 235,000,000. When you plug the numbers into the formula you obtain:

$$\text{TRIN} = \frac{235,000 \div 744}{1,281,000 \div 2,503} = 0.62$$

In this example, \$TRIN equaled 0.62. It occurred during a stock market rally as the volume going into advancing issues rose dramatically. As a result, the Trader's Index recorded a relatively low reading. Large volume into advancing issues is a sign of intense buying demand, and the index will fall. Heavy volume into declining issues suggests intense selling pressure. During those times, TRIN will rise.

The most common way of using the Trader's Index is to help identify overbought and oversold conditions. Although the indicator is updated throughout the day, the closing value (or the last reading of the day) generally gets the most attention. Low TRIN readings, like the one in this example, are a sign of aggressive buying into advancing stocks near the close of the day. It is a sign that investors are extremely bullish and are pouring money into stocks like there was no tomorrow. This type of buying cannot be sustained. Therefore, closing TRIN values of 0.60 or less are indicative of short-term overbought conditions. Stocks are likely to open lower the next day.

In contrast, high readings are a sign of intense selling pressure and generally occur before a market bounce. Readings of 2.25 or more often suggest that the market is oversold. When \$TRIN closes above 2.25, it is a good bet that the market will open higher the next day.

In addition to looking at TRIN on a daily basis, it is useful to consider the readings over a period of consecutive days. Some traders use the sum of the index values over a period of time. For instance, the five-day TRIN is the sum of the closing values during the past five days. If this cumulative value rises to high levels (9.00 or more), it suggests that the market is seriously oversold and due to rally; low readings (4.00 or less) are a sign of overbought conditions.

Figure 10.6 shows the 21-day moving average (MA) of the Trader's Index alongside the Dow Jones Industrial Average. Traders can time peaks and valleys in the market using the 21-day moving average. When it falls below 1.00, it indicates the Trader's Index has been producing a significant number of low readings and the market is overbought. Notice the low readings from the 21-day moving average that coincided with short-term tops in April, June, and September 2004. Similarly, the 21-day average of the Arm's Index will rise above 1.25 when the market is oversold. Two examples, in January and May 2005, are highlighted in Figure 10.6.

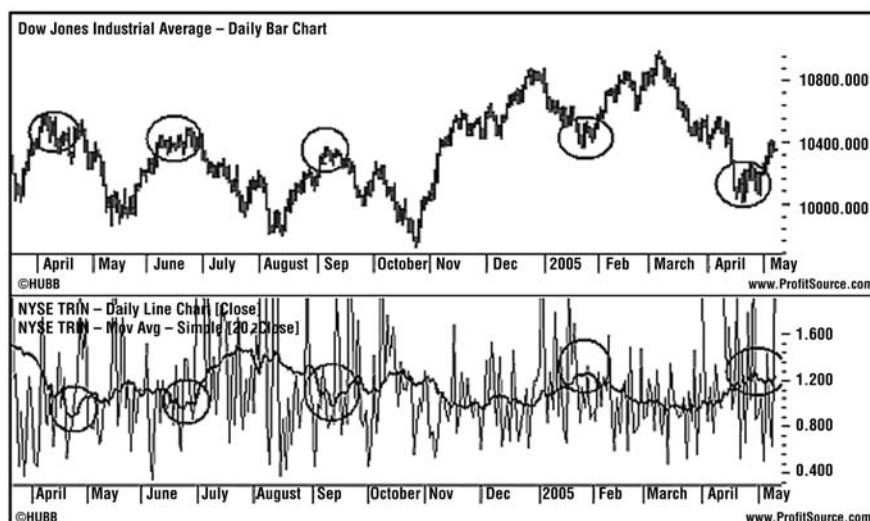


FIGURE 10.6 DJIA and TRIN 21-Day MA (Source: www.ProfitSource.com)

New High–New Low Index

Another tool for gauging the internal strength of the market is the new high–new low index (NHNL). The indicator is relatively straightforward. During each trading session, a number of web sites, financial publications, and data services provide a list of stocks that are setting new 52-week highs and a list of stocks setting new 52-week lows, by stock exchange.

The NHNL is the difference between the number of stocks in each of these two categories on a daily basis. For instance, on December 19, 2005, the *Wall Street Journal* reported that 72 stocks set new 52-week highs and 104 stocks set new 52-week lows on the New York Stock Exchange. In that case, the NHNL would equal -32 ($72 - 104$), which means there were 32 more stocks setting new lows than new highs.

The NYSE new high–new low index is plotted in Figure 10.7. It represents the difference between the highs and lows (highs minus lows) over a period of time. The same chart can also be created for NASDAQ 52-week highs and lows. Some technicians prefer to plot the index as a histogram. Regardless, when the graph moves below the center line (the zero line), it means that there are more stocks setting new 52-week lows than highs on the NASDAQ. When the line moves into positive territory, there are more stocks setting 52-week highs than lows.

When looking for market strength or weakness, we sometimes look for confirmation from NHNL index. If the major averages make a series of

new highs, the NHNL index should rise along with it; a declining NHNL is a sign of underlying weakness.

Some technicians also watch for divergences between the NHNL index and the S&P 500 Index. This is similar to the analysis applied to the A/D line. For instance, the Dow Jones Industrial Average was performing well leading up to the month of March 2005. However, as we can see from Figure 10.7, NYSE NHNL was moving lower and fell into negative territory at that time—*before* the Dow started its own move lower. So the NHNL Index correctly foreshadowed a period of market weakness that lasted until late April. It gave an early warning sign that the stock market was not as strong as the Dow might have appeared.

Crash Signals

A few other market signals can be generated from the NYSE NHNL data. They have ominous sounding names: the Titanic Syndrome and the Hindenburg Omen. The signals provided by these indicators are triggered prior to significant market declines.

Titanic Syndrome This signal was developed more than 40 years ago and is credited to Bill Omaha. It is triggered when the Dow Jones Indus-

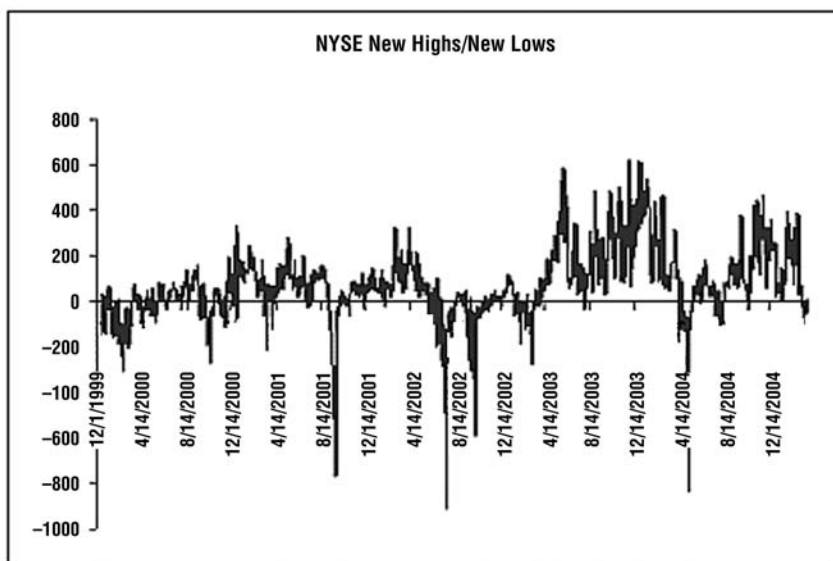


FIGURE 10.7 NYSE New High–New Low Index (Source: ProfitSource.com)

trial Average either hits a new high for the year or rallies 400 points, but the number of new lows on the NYSE is greater than the number of new highs within seven days of the Dow's high. According to the Titanic Syndrome, when the signal is triggered, the stock market will crash. It came very close to triggering a signal in December 2005 when the Dow rose toward new highs while the number of new highs trailed new lows within seven trading days. However, since the Dow did not officially rise to new highs (it came within 10 points), no signal was triggered.

Hindenburg Omen This somewhat complex indicator also forewarns of market crashes. Created by Jim Miekka and popularized by Kennedy Gammage, this indicator triggers a signal when (1) the number of stocks with 52-week highs and 52-week lows is greater than 2.2 percent of all issues on the New York Stock Exchange, (2) the 10-week moving average of the NYSE Composite Index is trending higher, and (3) the McClellan Oscillator (a technical trading indicator) is in oversold territory. When all of this occurs, it is a sign that although the market is trending higher, there is a significant amount of uncertainty and confusion—a situation that is ripe for a market crash. However, the Hindenburg Omen was triggered in the fall of 2005 and no stock market crash followed.

This last point—the fact that a Hindenburg signal was triggered in the fall of 2005—brings up an important point: There are still no guarantees in the markets. We should, however, value tools that when combined present us with high-probability forecast scenarios.

MARKET ANOMALIES

Up to this point, the discussion in this chapter has been on technical market indicators. These indicators are based on price and volume action and can give traders a better sense regarding the strength of the market's recent advance or decline. In some cases, they can also warn about market reversals or potential danger.

Now we turn our attention to various market anomalies that can help traders find those sectors of the market that offer the best trading opportunities based on fundamental factors. Rather than looking at price action, volume, or other data from the exchanges, the fundamental factors relate to specific attributes of the companies that constitute the market. These factors help to explain why some groups of stocks perform better than others. Many of these so-called market anomalies are discussed in detail in David Dreman's book *Contrarian Investment Strategies* (New York: Simon & Schuster, 1998).

Price to Dividend

In Chapter 9, we showed how the Dogs of the Dow produced superior returns over time. This will come as no surprise to those who already understand the price-to-dividend effect, which explains that stocks that pay higher dividends tend to outperform the market over the longer term. According to Dreman, a study including more than 25 years of data showed stocks with the highest dividend yields outperformed the market by an average annual return of 1.2 percent. The superior gain was due in large part to the dividends themselves. Nevertheless, a \$10,000 portfolio of high dividend yield stocks held over an eight-year period would have gained 230 percent, compared to a 203 percent gain for the overall market.

Low P/E Effect

One of the oldest and best documented anomalies indicates that stocks with low price-to-earnings ratios tend to outperform the market over the long haul. A P/E ratio is computed as the stock's current price divided by the earnings per share during the past four quarters. According to Dreman, a 27-year study that separated 1,500 companies into quintiles showed that stocks with the lowest price-to-earnings ratios produced an average annual return of 19 percent, compared to an annual average return of 15.3 percent for the stock market as a whole. The study also showed that stocks with low price-to-book ratios and price-to-cash flow ratios also outperformed the market over the long term.

Size Effect

One of the most important anomalies is the so-called size, or small firm, effect. According to a comprehensive research study by Rolf Banz,* the average return from stocks in the smallest quintile outperformed those in the largest quintile by nearly 20 percent. The study involved all of the NYSE stocks for data from 1963 to 1979. Although the study was done more than 20 years ago, the outperformance of small caps has continued. Since 1991, the Russell 2000 Small Cap Index (\$RUT) is up 450 percent, compared to a 235 percent gain for the large cap S&P 500 Index (\$SPX).

*Rolf Banz, "The Relationship between Return and Market Value of Common Stocks," *Journal of Financial Economics* 9 (March 1981).

Value Line Enigma

One of the trading systems developed by Value Line Investment Survey has consistently baffled efficient market theorists. Value Line is well known for its quantitative analysis research, used to rank stocks based on earnings momentum, technical indicators, and risk. Several academic studies have analyzed the returns and the result has been a convincing case against the efficient market theory. For example, Fischer Black released a study* that showed Value Line's top-ranked stocks produced a risk-adjusted return of 10 percent, compared to a -10 percent return for stocks ranked 5, the lowest ranking. The superior returns produced by the ranking system have been dubbed the *Value Line enigma*.

If various market anomalies do exist, how do traders profit from this information? After all, indexes or ETFs like the SPDRs, the QQQQ, or various sector funds do not distinguish between stocks that have high or low P/E ratios. There is no index that trades only stocks with low price-to-sales or price-to-book ratios.

The first consideration when looking at various market anomalies is to determine what stocks are included within a potential trading system or plan. If you are building a universe of stocks, what kind of characteristics do these stocks share? Are they selected at random? Could results of a volume system be improved by using only stocks with low P/E ratios? Could results be improved by screening out stocks that might benefit from a specific anomaly such as price-to-sales ratios or the size effect? In short, some strategists look to combine fundamental and technical factors when developing systems or other trading plans. This is all part of the testing needed in system development, as discussed in Chapter 9.

A second way to potentially profit from various market anomalies is with a set of relatively new exchange-traded funds that attempt to beat the market. The PowerShares family of ETFs includes a list of funds created around specific "style" boxes that are designed to beat the market over time. To be specific, the PowerShares ETFs hold the same stocks as the Intellidex indexes, which are based on proprietary strategies developed jointly by PowerShares and the AMEX. The Intellidex indexes are structured to capitalize from certain style-based investment strategies such as earnings momentum and market value.

For instance, the PowerShares Dynamic Small Cap Growth Portfolio (PWT) includes 100 small cap growth stocks from a universe of the 2000 small cap stocks trading on the AMEX, NYSE, or NASDAQ. Meanwhile,

*Fischer Black, "Yes, Virginia, There Is Hope: Test of the Value Line Ranking System," Graduate School of Business, University of Chicago, 1971.

TABLE 10.3 PowerShares ETFs

PowerShares Funds	Ticker
PowerShares Dynamic Large Cap Growth Portfolio	(PWB)
PowerShares Dynamic Large Cap Value Portfolio	(PWV)
PowerShares Dynamic Mid Cap Growth Portfolio	(PWJ)
PowerShares Dynamic Mid Cap Value Portfolio	(PWP)
PowerShares Dynamic Small Cap Growth Portfolio	(PWT)
PowerShares Dynamic Small Cap Value Portfolio	(PWY)
PowerShares Dividend Achievers Fund	(PFM)
PowerShares High Growth Rate Dividend Achievers	(PHJ)
PowerShares High Yield Dividend Achievers	(PID)
PowerShares Zacks Micro Cap Portfolio	(PZI)

the PowerShares Dynamic Small Cap Value Portfolio (PWY) uses a screen to search out small cap value stocks. Table 10.3 shows some of the other PowerShares funds that have been recently launched.

In December 2005, the exchange launched trading on the Value Line Timeliness Select Portfolio (PIV). It is an example of a fund designed to beat the market rather than match a market average or index (active versus passive investing). The fund includes 50 stocks chosen based on Value Line's proprietary investment methodology. The Value Line Timeliness Select Portfolio holds stocks based on the Value Line ranking system discussed with respect to the Value Line enigma.

It is important to note, however, that the PowerShares are relatively new and do not see much volume; they lack liquidity (see Chapter 16 for a discussion about the importance of liquidity). We would like to see these funds develop a longer history and a better following before using them as part of a regular trading program or system. Nevertheless, for long-term investors seeking to outperform the market with a purchase of ETF shares, the Powershares might be worth a closer look. The details can be found at the AMEX web site (www.amex.com).

SENTIMENT INDICATORS

The stock market is a fascinating place. It is particularly interesting in that the day-to-day fluctuations reflect the views, expectations, and forecasts of investors around the world. Indeed, it is an arena in which the final out-

come depends not on one individual decision maker but on the activity of millions of investors. Given that market moves are due to decisions of a mass of market participants, or “the crowd,” and not one individual decision maker, history is replete with episodes of crowd or mob behavior. Basically, under certain decision-making situations, the individual who may normally act quite rationally will, as part of a crowd, act based on feelings and emotion. In the words of Humphrey B. Neill in his book, *The Art of Contrary Thinking*:

*Because a crowd does not think, but acts on impulses, public opinions are frequently wrong. By the same token, because a crowd is carried away by feeling, or sentiment, you will find the public participating enthusiastically in various manias after the mania has got well under momentum. This is illustrated in the stock market. The crowd—the public—will remain indifferent when prices are low and fluctuating but little. The public is attracted by activity and by the movement of prices. It is especially attracted to rising prices.**

Given the nature and impact of crowd psychology on financial markets, many market analysts rely on sentiment analysis to gauge the overall attitude of the mass of investors, or the crowd. Studying market sentiment, in turn, is an endeavor in contrary thinking. In other words, one of the premises underlying the study of sentiment data is that, in the long run, it pays to go against the masses. Specifically, when market sentiment becomes extreme in one direction or another, the contrary thinker will act in a manner opposed to the crowd. For example, at the apex of panic selling during the global financial crisis of 1998, the contrary thinker armed with an understanding of sentiment data may well have turned into a buyer—just as *the crowd* was getting rid of stock like turkeys at Thanksgiving. Indeed, when the market is gripped with fear and panic, it usually turns out to be the best buying opportunity.

An often-heard saying in the stock market is that investors are “right on the trend, but wrong at both ends.” In a rising, or bull market, investors are better served buying stocks. In a declining, or bear market, the trend is downward and it is a better time to sell. In short, during significant market trends, it is more profitable to go in the direction of the market rather than contrary to it. So the crowd is not always wrong. The turning points, however, often catch investors unaware. Hence, sentiment analysis is really a

*Humphrey B. Neill, *The Art of Contrary Thinking* (Caldwell, ID: Caxton Printers, 1992; first printing 1954).

tool for identifying the extreme crowd behavior, or “the ends.” The premise holds that the crowd is not always wrong, but invariably on the wrong side of the market during major turning points. The goal behind using sentiment analysis, therefore, is to identify extreme cases of bullishness or bearishness and then trade in the opposite direction (a contrarian strategy) because the major turning points generally turn out to be the most profitable trading opportunities.

In many cases, capitalizing from various market anomalies such as the price-to-earnings effect is a contrarian strategy. It is often a bet that past losers will become winners and the previous winners will become losers. Contrary thinking, in turn, requires an analysis of the prevailing crowd psychology, which is also known as sentiment analysis. History has shown that the investing crowd will be almost unanimous in its market outlook, just as the market is ready to turn in the opposite direction.

For example, market tops are generally accompanied by euphoria, optimism, and bullishness because prolonged periods of rising prices, or a bull market, generate large amounts of wealth and a general sense of well-being. Unfortunately, that is when everyone has already put money in the market and there are very few buyers left. Market bottoms are generally characterized by a mass feeling of negativity, bearishness, and despair. At that point, even die-hard bulls have thrown in the towel and the subsequent absence of sellers sets the stage for a move higher in the stock market.

How do we know if the crowd is primarily bullish or bearish? There are a variety of tools that can be used to gauge market sentiment, and some come directly from the options market. They include put-to-call ratios, the ISE Sentiment Index, and Bollinger’s Put Volume Indicator (PVI).

Put-to-Call Ratios

When traders talk about the put-to-call ratio, it is often in reference to the CBOE put-to-call ratio. This is a tool that tracks the trading activity on the oldest U.S. options exchange—the Chicago Board Options Exchange. It is one of the first indicators traders turn to when looking for signs of excessive amounts of greed or fear in the market. The actual ratio is simply the total number of puts traded divided by the number of calls traded on the CBOE and it is updated daily. For instance, if put volume totaled 316,318 on a given day and call volume equaled 509,982, the P/C ratio was 316,318 divided by 509,982 or 0.62. The daily numbers can be found every afternoon at the CBOE web site (www.cboe.com). It is also updated throughout the trading day.

Traders look for extreme readings in the P/C ratio to signal high levels of bullish sentiment or bearish sentiment. Often there is a bit more

call activity than put activity on the CBOE and the ratio stays below 1.00 most of the time. However, if the ratio rises above 1.00, it indicates that put volume is greater than call volume during that trading session. Therefore, if the CBOE put-to-call ratio remains below 1.00 for several days and then rises above 1.00, it is a sign that put activity is on the rise. In addition, since most options trades are bought to open, and not sold to open, we can be fairly confident that a lot of the volume represents purchases. So when the put-to-call ratio rises, it is often a sign that put buying is on the rise.

However, understanding that put or call volume is increasing is not enough. The put-to-call ratio gives trading signals when it reaches extremes. From a contrarian view, investors and options traders generally become extremely bearish when stocks have already suffered a large decline and are ready for a move to the upside. At that time, the CBOE put-to-call ratio will spike higher. Recently, extreme readings from the ratio have occurred when it rises above 1.25. Therefore, readings of 1.25 or greater are signs of oversold conditions and traders should be on the lookout for a reversal to the upside.

The opposite holds true when the CBOE put-to-call ratio falls to lows. When the indicator drops below 0.50, it is a sign that bullish sentiment is quite high because calls are two times more active than puts. When this happens, some contrary thinkers will take it as a sign that optimism is extremely high and investors have become too bullish. This usually occurs at or near the end of an advance, and when the majority of investors have already committed most of their working capital to the market. So when the ratio drops below 0.50, it is a sign of overbought conditions and traders should be on the alert for a bounce to the downside.

Equity-Only Put-to-Call Ratio

In order to get greater insight into the P/C ratio, it is sometimes useful to separate the index activity from the stock option activity. Each day, hundreds of thousands of contracts trade on the Chicago Board Options Exchange. Some of the activity is stock option activity, but some of the trading involves index options like the S&P 100 Index (\$OEX), the Dow Jones Industrial Average (\$DJX), or the NASDAQ 100 Index (\$NDX). Sometimes the trading in the index market can be much different than in the stock options. Therefore, separating out the equity-only ratio can sometimes provide additional insight into what traders are doing.

Like the CBOE put-to-call ratio, the equity-only ratio indicates that investors are predominantly bullish on the market when it falls to low levels. For instance, when it falls below 0.40, it is a sign that call options on

individual stocks are much more active than equity put options. Conversely, high readings from the equity put-to-call ratio often occur near market bottoms. Recently, the ratio has stayed below 0.90 most of the time. Readings of 0.90 or more are consistent with an oversold market.

Smart Money and Dumb Money

When using sentiment analysis, some traders separate the trading crowd into two groups—the smart money and the dumb money.

Smart Money: These are groups of investors that have a history of accurately timing the market. They are generally large investors that take big positions. Examples include commercial hedgers and OEX traders.

Dumb Money: Groups of investors that have historically had miserable track records at timing the market. These are the groups to bet against. They include small speculators, large speculators, small equity option players, and newsletter writers.

All-Exchange Put-to-Call Ratio

Historically, the CBOE put-to-call ratio has been the most widely followed indicator for market sentiment in the options market. However, today there are six exchanges competing with one another. As a result, the options trading volume on the CBOE no longer represents the largest amount of activity. In fact, the International Securities Exchange (ISE) sees more volume than the Chicago Board Options Exchange.

In order to get a look at what is happening throughout the entire options market, the put-to-call ratio can be computed using data from all exchanges. It is updated daily at the Options Clearing Corporation (OCC) web site (www.optionsclearing.com). Table 10.4 shows an example of the data from the OCC during the first half of October 2005.

Although it has a limited track record, the all-exchange put-to-call ratio indicates overbought conditions when it falls below 0.50 and oversold market conditions when it rises above 1.00. For example, during the first half of October 2005, the ratio rose above 1.00 on three different occasions. The high relative levels of put volume indicated increasing amounts of bearish sentiment or pessimism. That, in turn, paved the way for a market bottom. The Dow hit a low on October 13 and was trading at four-and-a-half-year highs less than two months later.

Index Put-to-Call Ratios

In 1973, the CBOE created the first standardized stock option contracts and began trading these new derivatives on the exchange. Prior to that,

TABLE 10.4 OCC Data Sample

Date	OCC Total			P/C Ratio
	Calls	Puts	Total	
2005				
10/3	3,242,722	2,242,188	5,484,910	0.69
10/4	3,695,645	2,678,623	6,374,268	0.72
10/5	3,874,087	3,657,722	7,531,809	0.94
10/6	4,464,105	4,444,739	8,908,844	1.00
10/7	3,201,374	2,670,379	5,871,753	0.83
10/10	2,991,914	2,745,909	5,737,823	0.92
10/11	3,764,185	3,474,172	7,238,357	0.92
10/12	4,219,175	4,547,705	8,766,880	1.08
10/13	3,990,313	4,296,166	8,286,479	1.08
10/14	3,609,426	3,137,210	6,746,636	0.87
10/17	3,943,341	2,870,856	6,814,197	0.73

option trading was largely unregulated and inefficient. Ten years after the launch of stock option trading, on March 11, 1983, the CBOE listed the first options contract on a broad-based index. The options were based on the S&P 100 Index (OEX). Therefore, the OEX was the first index to have options linked to its performance.

Through the years, the OEX options contract grew in popularity. In 1998, options trading on the OEX remained brisk. During that year, the S&P 100 averaged 130,000 contracts a day, and that proved to be the most active of any index contract. Since then, however, the competition from other indexes has led to a dramatic decline in market share for the OEX trading pits. Today, most index traders prefer to trade the Qs, diamonds, SPDRs, the S&P 500 index, or a host of other index products.

Although OEX options are not as active as they once were, the index and its options remain one of the most widely followed by index traders, especially the old-timers. For that reason, the trading activity associated with OEX options contracts can still be telling. That is, given the history of OEX options trading, the index has become not only a vehicle for placing bets on the direction of the market, but also a window into investor sentiment.

When a large number of OEX puts are trading, it serves as an indication that the old-timers are getting bearish or are hedging their bets. When OEX calls are more active than puts, OEX traders are predominantly

bullish. The OEX put/call ratio is a tool for quantifying relative levels of bullish or bearish sentiment using OEX options trading information. The ratio appears weekly in Barron's, but it can also be computed daily. The calculation is straightforward:

$$\text{OEX put/call ratio} = \text{Total OEX put volume} \div \text{Total OEX call volume}$$

Unlike the total and equity put/call ratios, the OEX put/call ratio should not be considered in a contrarian manner. Perhaps due to its history or due to the generally higher premium (cost) of index options as opposed to equity options, OEX options appear to attract a more sophisticated trader—those who are a bit more adept at timing the market.

So the OEX is not used as a contrarian indicator but as a confirmation tool. If the ratio spikes higher, then S&P 100 Index options traders are turning more defensive or cautious. In 2005, the OEX put-to-call ratio averaged 1.25, as OEX put volume consistently outpaced OEX call volume. Extreme readings from the ratio tend to occur above 3.00. Meanwhile, low readings from the ratio indicate that traders in the OEX pits are getting more bullish. For instance, on October 6, 2005, the same day the total put-to-call ratio rose to 1.00 (Table 10.4), the OEX put-to-call ratio fell to 0.75 for the second day. Therefore, while the total put-to-call ratio was rising to suggest that the majority of options traders were becoming bearish, the OEX ratio fell and signaled that the savvy traders in the S&P 100 Index were becoming more bullish. That, in turn, set the table for the October to December 2005 stock market rally.

Instead of using the OEX ratio, some traders prefer to follow the CBOE Index put-to-call ratio, which is simply the CBOE put-to-call ratio minus equity option volume. Since there is almost always more index put activity when compared to index call activity on the exchange, the index put-to-call ratio stays above 1.00 most of the time. When it falls below 1.00, it indicates that index traders are growing more bullish and index call activity is outpacing index put trading. When it rises above 2.00, the indicator tells us that index put activity is two times greater than call activity, demonstrating high levels of bearish sentiment.

History has shown that, as with the OEX, index traders as a whole are generally correct in predicting turning points. Therefore, the index put-to-call ratio is not a reliable contrarian indicator. For that reason, it is often useful to filter it out. That is, consider the total put-to-call ratio and the equity-only ratio as contrary indicators, but use the index and OEX put-to-call ratios to get clues regarding what the smart money is doing.

ISEE

One of the newest and most useful sentiment tools, the International Securities Sentiment Index (ISEE) is used to track daily call and put activity on the International Securities Exchange (ISE). It is similar to the more widely used put-to-call ratio, but with a twist. First, the ISEE measures only the trading activity on the International Securities Exchange, today's largest stock options exchange.

In addition, the formula for computing ISE Sentiment Index is different from the put-to-call ratio. The ISEE is computed as the day's call activity divided by put activity multiplied by 100. Therefore, the ISEE will fall when bearish sentiment increases and rise when bullishness is high. This index typically stays between 125 and 225.

Another important difference between ISEE and the more widely used put-to-call ratio is that the ISEE measures only call and put purchases, rather than total volume. So the International Securities Exchange's indicator improves on the put-to-call ratio by limiting the analysis to puts and calls that have been bought throughout the trading day. Options that have been sold are not included in the equation.

Despite a relatively short track record, the ISEE does a pretty good job of highlighting extreme levels of bullish or bearish sentiment. For instance, in December 2004, the index rose above 200 on 19 different occasions, which signaled that call purchases were outnumbering put purchases more than two-thirds of the time during that month. This offered a sign that bullish sentiment was running too high and was unsustainable. That, in turn, signaled an end to the rally and a market decline during the first quarter in 2005. Figure 10.8 shows the spike in the ISEE (10-day average) that occurred in December 2004.

So, like the total put-to-call ratio, the ISEE is used as a contrarian indicator. In sum, consistent readings above 200 hint at market topping conditions. When the ISEE falls below 140, it is a sign that put purchases are running above normal and the market might be oversold.

Put Volume Indicator

John Bollinger, best known among option traders as the creator of Bollinger Bands, is the originator behind a unique sentiment indicator known as the Bollinger Put Volume Indicator (PVI). As the name suggests, this indicator measures relative levels of put activity. Similar to the put-to-call ratios, the indicator can be applied to an individual stock, a specific

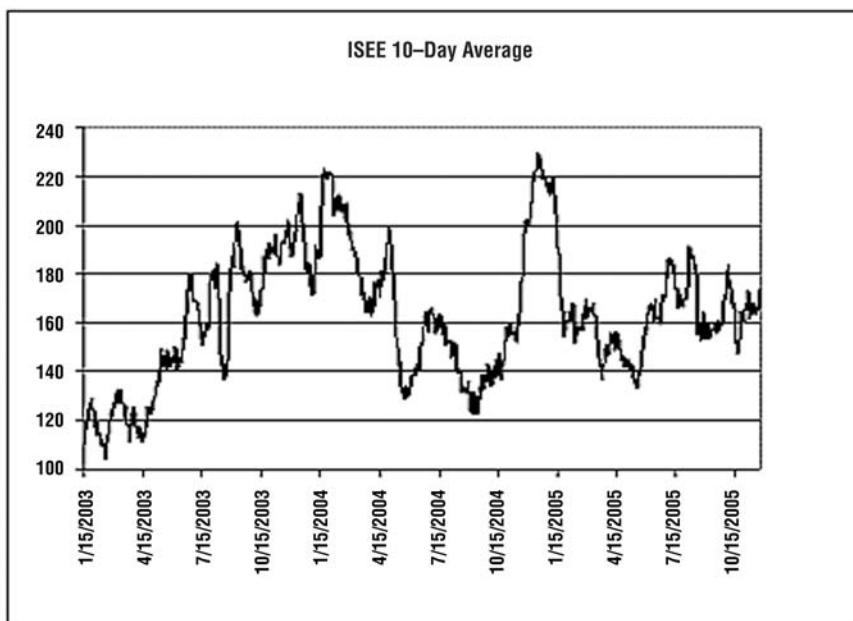


FIGURE 10.8 ISEE and S&P 500 Index

index like the S&P 100 (\$OEX), or to an entire exchange. It is another contrarian indicator.

Computing the PVI requires put option volume history. In this example, we use the total put volume on the CBOE. The daily put volume data is readily available in the market statistics section of the exchange's web site (www.cboe.com). From there, PVI is easy to compute. The indicator is equal to the current day's put volume divided by the 10-day moving average (MA) of put volume. If the ratio rises, it indicates that put volume and bearish sentiment are on the rise. For instance, a reading of 2.00 tells us that the day's put volume, and therefore bearish sentiment, is two times greater than average. Low readings indicate relatively high levels of bullishness or complacency among investors.

The best way to use the PVI is to identify episodes of extreme pessimism or even panic. This often occurs at or near market bottoms and when investors are capitulating. Figure 10.9 shows two such recent spikes in the PVI (in August 2004 and April 2005). Both signals occurred within days of market reversals.

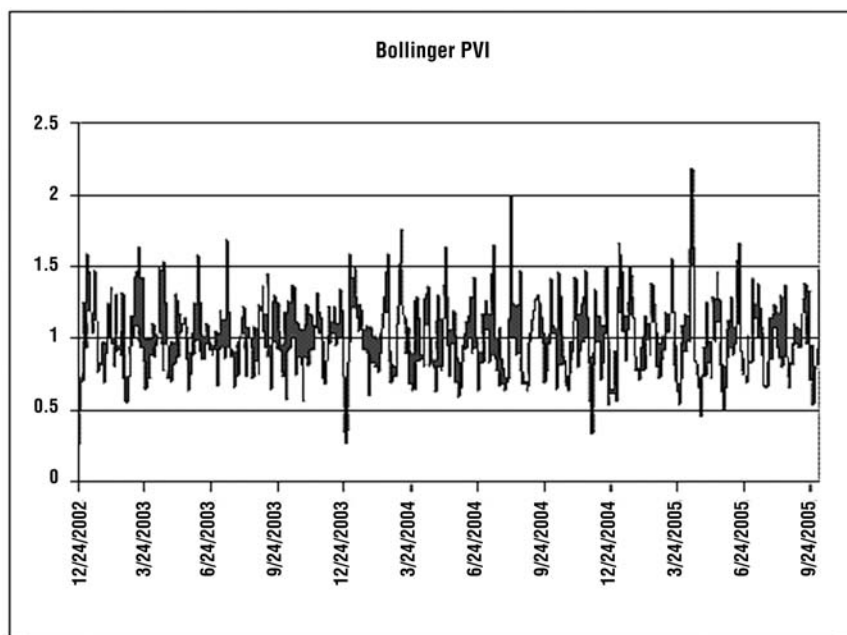


FIGURE 10.9 Bollinger's Put Volume Indicator (PVI)

OTHER SENTIMENT INDICATORS

In addition to the put-to-call ratios and other data from the options market, a variety of other indicators can be used to gauge market sentiment. They will not always confirm each other, but the idea is to find when sentiment reaches extremes by having many indicators flashing the same signals. In other words, the best time to get aggressive with investments is when a number of indicators are confirming each other.

Investment Surveys

Several services provide updates regarding investor sentiment from polls or surveys. Investors Intelligence runs the most prominent one. Its survey looks at sentiment of newsletter writers, and the bullish and bearish percents are reported weekly. For example, in December 2004, as stocks were reaching a peak, the survey reported that 61.2 percent of those surveyed were bullish and only 21.1 percent were bearish. The ratio of bulls

to bears became extremely lopsided and that paved the way for the market decline. Market Vane, the American Association of Individual Investors (AAII), and Consensus, Inc (the Consensus Index) also conduct regular surveys of prevailing investor attitudes.

Commitment of Traders

The Commodity Futures Trading Commission (CFTC) requires that traders report positions after they reach certain reporting levels. This information is provided to the public in the Commitments of Traders (COT) report, which is released weekly. The most recent and historical COT reports can be found at the CFTC web site (www.cftc.gov). The CFTC breaks traders down into three groups: small speculators, large speculators, and commercial hedgers. Large speculators are those that are holding certain position levels (i.e., more than 100 S&P 500 Index futures contracts). Commercials are firms or businesses that deal with commodities as part of their normal course of business activity. The positions of the small traders are found by subtracting open interest in the other two groups from the total open interest values.

In looking for signs of shifting sentiment, it pays to follow the commercial traders because these are decisions by well-informed individuals who have a lot at stake. According to Alexander Elder, in his book *Trading for a Living* (New York: John Wiley & Sons, 1993), big speculators today are “trend following behemoths” and “do poorly as a group.” Furthermore, “The masses of small traders are proverbial ‘wrong-way Corrigan’s’ of the markets.” In sum, it pays to play with the commercials and against the speculators, big or small.

Short Interest

Short interest is calculated each month by the exchanges and tells a trader how many shares are being shorted. Short stock occurs when a trader sells stock he does not own, expecting the stock to decline so that he can then purchase the stock back at a lower price to cover the short position. This is a bearish strategy, and option traders can benefit from this information. The short interest ratio tells us how many days of normal volume it would take for all the short shares to be covered. The higher the number, the more the stock will move to the upside when the shorts start to cover. Shorting stock leaves a trader in an unlimited risk position. Thus, as the stock starts to rise, those traders who are short will quickly buy shares to limit their losses. As a result, the move to the upside accelerates and creates a rather large move in a short amount of time.

As an example, in August 2005 short interest hit record levels on the NYSE when 8.585 billions shares were sold short. When the market started to rally, there was a lot of money to be lost by said sellers, which emotionally forced them to buy back their shares. This action added significant fuel to the market's gains. Additionally, the higher the market goes, the more short sellers have to buy to avoid further losses. Therefore, high levels of short interest on the NASDAQ and the NYSE are generally considered bullish from a contrarian view. The following quote is an example of a short interest update.

Short Interest Declines by 0.5% on the Nasdaq As Index Climbs Over 3% Indicating Bulls Up Ahead

*Short interest fell on the Nasdaq Stock Market for the latest monthly reporting period, but still ended 2005 showing a sharp annual increase. Analysts attribute this year's rise in short selling to lingering economic jitters and increased trading by hedge funds, which often use sophisticated strategies that involve both bullish and bearish bets.**

Mutual Fund Flows

The mutual fund industry controls nearly \$9 trillion in assets. As a result, the activity in the industry has an important bearing on the performance of the financial markets. While mutual fund flows alone are not enough to push the stock market higher or lower, the flows do serve as an important source of liquidity.

When inflows into stock funds are robust, it serves as an important source of buying demand for the market. According to the Investment Company Institute (ICI), stock mutual funds hold \$4.66 trillion in assets as of October 2005. By way of comparison, assets within stock ETFs total less than \$260 billion, according to the same statistics from ICI (available at www.ici.org). Therefore, given the massive size of the mutual fund industry, the inflows and outflows can have important implications for the stock market.

A number of services provide updates regarding mutual fund inflow and outflow. The ICI reports its statistics monthly. For instance, according to its November 29, 2005 report, "Stock funds posted an inflow of \$6.45 billion in October, compared with an inflow of \$7.92 billion the month before (Investment Company Institute—www.ici.org).

*Peter A. McKay, *Wall Street Journal*, December 28, 2005, page B7.

AMG Data and TrimTabs Investment Research also provide updates regarding equity fund inflows and outflows. Some of the information is free while some requires a fee. The important thing from an index trader's standpoint is that heavy inflows into mutual funds have been a driving force for the stock market for decades. During times when the inflows slow or even turn into outflows, market volatility invariably increases.

Mutual Fund Cash Assets Percentage

One reason for the increase in volatility during periods of equity outflows is that portfolio managers put new money to work in the market and hold very little cash. Since their jobs are on the line they have to beat the market, and holding cash won't help their cause. Consequently, cash allocations at stock funds are anemic.

According to ICI, the average mutual fund holds just 4.0 percent in cash today. The chart in Figure 10.10 shows the 20-year trend in the cash asset allocation ratio. The current level of 4.0 percent remains near historical lows. This low ratio tells us that, as money moves into stock funds, managers are quickly using it to buy shares. However, the tables could

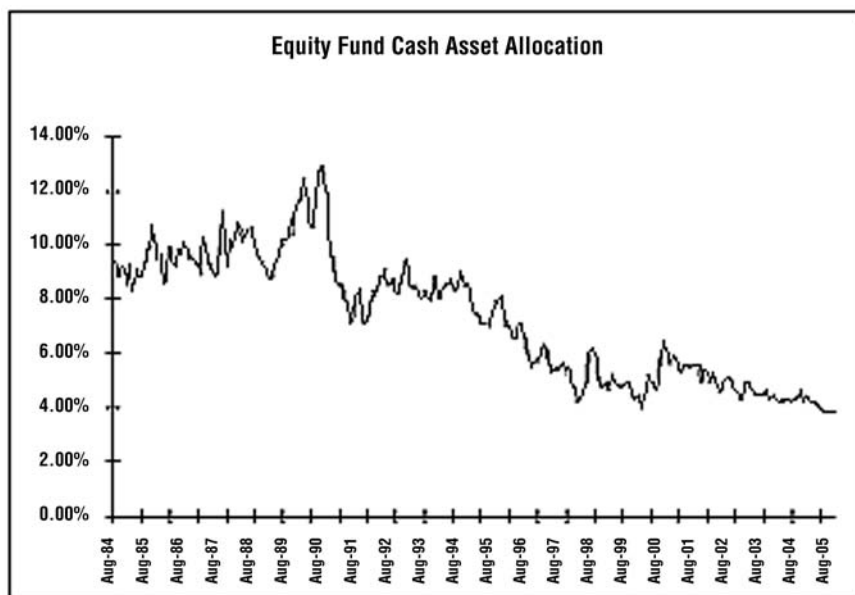


FIGURE 10.10 Mutual Fund Cash Assets Percentage (Source: Investment Company Institute)

also turn in times of trouble. That is, if investors begin selling mutual fund shares, cash-strapped fund managers may be forced to aggressively sell stocks in order to raise cash. We see signs of this happening during the panic selling in April 2000 and again in September 2001.

SEASONAL TRENDS AND INDICATORS

Sentiment indicators like the put-to-call ratio, the ISEE, and short interest are used to gauge the prevailing investor mood in order to help determine whether the current bullish or bearish trend is likely to last. Next, we turn our attention to seasonal indicators. These are patterns that have developed over time and can help identify forthcoming periods of strength or weakness in the stock market.

Super Bowl Indicator

The Super Bowl indicator is not one on which we base our trading decisions, but it is interesting because it has a great track record. In fact, it has worked 31 out of 38 times. According to this indicator, if the team that wins the big game is from the American Football League (now the American Football Conference, AFC) the bears will seize control of the market. However, if a National Football Conference (NFC) team wins, the market will move higher during that year.

The indicator produced positive results for decades, as the NFC team won and the stock market moved higher. However, in 1998, the Denver Broncos of the AFC won, which was a cue to bet against the market. Big mistake, because the S&P 500 rose 28 percent that year. The Broncos won again in 1999 and stocks moved higher again. When the NFC Rams won in 2000, it was a positive omen for the stock market, but, alas, stock prices fell anyway. Similarly, the Rams won again in 2001, but stocks tumbled.

Super Bowl Summary

Bullish Years

Bears—1986

49ers—1982, 1985, 1989, 1995

Colts—1971

Cowboys—1972, 1993, 1994, 1996

Giants—1987, 1991

(Continued)

Super Bowl Summary *(Continued)*

Packers—1967, 1968, 1997

Buccaneers—2003

Redskins—1983, 1988, 1992

Steelers—1975, 1976, 1979, 1980

Bearish Years

Dolphins: 1973, 1974

Jets—1969

Patriots—2002

Raiders—1977, 1981, 1984

Missed Signals

Broncos—1998, 1999

Chiefs—1970

49ers—1990

Cowboys—1978

Rams—2000, 2001

Patriots—2004

In 2002, however, the win on the part of the AFC Patriots foreshadowed the stock market's dismal performance. In 2003, the Tampa Bay Buccaneers squared off against the Oakland Raiders. A win by the NFC Buccaneers produced a positive signal for the stock market. From that point forward, the stock market snapped a three-year losing streak and moved sharply higher in 2003.

In 2004, the NFC Carolina Panthers met the AFC New England Patriots. The Patriots won, which was a bearish sign for the stock market. However, the Dow rose 3 percent that year.

In 2005, the New England Patriots defeated the Philadelphia Eagles in Super Bowl XXXIX, which correctly predicted a down market. The Dow Jones Industrial Average finished the year down 0.8 percent. In 2006, a 21–10 victory by the AFC Pittsburgh Steelers over the NFC Seattle Seahawks offered a bearish prediction for the market. As of this writing, the outcome is not yet known.

Wall Street Lore

Obviously, the Super Bowl indicator is not one we take seriously. We include it here simply because it's already out there. In addition, it's an example of Wall Street lore that can sometimes influence other investors. There are other examples. Some believe that if the New York Mets make it to the baseball World Series (which has happened four times in the last 40 years), it has bearish implications for the stock market. Others believe that if a horse wins the Triple Crown—a feat accomplished only five times in the past 55 years—stocks are in for a bear market.

Presidential Election

Unlike the Super Bowl indicator and other Wall Street lore, the presidential cycle indicator has a bit more logic to it. According to this truism, stocks will move higher in the year prior to a presidential election and continue moving higher during the election year. Since World War II, the stock market has never had a down year in the year prior to an election, and it has suffered only three down years during an election year.

Unlike the Super Bowl, where a fumble or incomplete pass can dictate the outcome, the presidential indicator reflects expectations about actual economic activity. After all, a newly elected president is more likely to boost spending, cut taxes, or institute other measures to stimulate economic growth. In short, changes in economic policy associated with a change in administration can promote more economic growth and higher stock prices. So the presidential cycle indicator urges us to buy at the start of the year prior to the election and sell at the end of the election year.

January Barometer

According to the January barometer, the stock market's performance during the month of January will determine its performance throughout the remainder of the year. If stocks rise during the month of January, it bodes well for the rest of the year. But if stocks fall during the first month of the year, expect the major averages to finish in negative territory. As an example, in 2004, stocks rose during the month of January and also finished higher on the year. Then the Dow fell in January 2005 and also finished the year in the red.

In addition, according to the Dogs of the Dow web site (www.dogsofthedow.com), “The January Barometer does have a fairly successful track record. For example, from 1950 to 2003, the S&P 500 was up in January 34 times. In 30 of those 34 instances, the S&P 500 traded higher 11 months later. That equals a success rate of 88%.”

January Effect

For a long time now the market has experienced a peculiar yet very popular seasonal impact from the end of December through January. It involves the tendency of small cap stocks to outperform larger cap stocks. This phenomenon is commonly referred to as the *January effect*. Historical statistics going back to the mid-1920s indicate that this seasonal approach has been correct more than 70 percent of the time.

However, there is also evidence that the effect is beginning to lose some of its predictive ability. According to research done by the *Stock Traders Almanac* (New York: John Wiley & Sons, annually), many followers of the January effect are buying in November because of the incredible amount of publicity this seasonal approach has received. The goal is to get ahead of the crowd. As a result, the January effect is starting to see many doubters as they claim way too many people know about it, which could dramatically reduce its reliability as a market-timing mechanism.

Yet the logic behind the effect makes sense, especially after a down year for the stock market. The theory is that stocks—small cap stocks in particular—are adversely impacted during the calendar year because of institutional as well as small investors selling late in the year for tax purposes. This unloading of shares drives stock prices down toward the end of the year due to tax loss selling. However, it also leads to massive bargain hunting and repurchases the following year. Due to the “wash rule,” investors who record a tax loss on a stock are not allowed to repurchase shares for 30 days. So after recording the tax loss, some investors return to buy shares 30 days later.

There seem to be two general approaches taken by traders when implementing the January effect. First, many strategists look to buy stocks that have had the worst performance of the year. These are candidates for tax loss selling. Second, some traders look for a weak year for equities to see further declines late in the year and then a rebound in January. Only time will tell if this particular seasonal strategy known as the January effect will continue to work. One thing is certain: It has become one of the most popular seasonal approaches of all.

Ho, Ho, Ho

The Santa Claus rally describes a seasonal strong period for stocks that includes the last five trading days of the year and the first two trading days of the New Year. According to the *Stock Traders Almanac*, since 1950, the S&P 500 Index has risen 1.5 percent during that period.

SEASONALITY

The January barometer, January effect, and Santa Claus rally are examples of seasonal trends. In fact, seasonality can play an important role in the performance of the stock market throughout the entire year. Jay Kaepel, author and Optionetics instructor, has done a lot of work identifying these seasonal patterns. Among his findings, Kaepel has found four bullish tendencies:

1. The two days immediately prior to an exchange holiday (New Year's Day, Presidents' Day, Easter, Memorial Day, July 4th, Labor Day, Thanksgiving, and Christmas).
2. The last trading day of the month and the first four trading days of the next month.
3. November 1 through the third trading day in May.
4. The most favorable 14 months of the 48-month presidential election cycle. This begins on October 1 two years prior to each presidential election, and ends on December 31 of the following year.

Given these seasonal tendencies, strategists can create calendars and look for days when the bullish tendencies overlap and provide multiple signals. For instance, the most recent presidential election was held on November 2, 2004. According to the presidential cycle indicator (or bullish tendency number 4), it is a good time to be in the market. In addition, the period from November 1 to the third trading day in May is another bullish tendency pattern. Meanwhile, the last trading day of the month and the first four trading days of the month of next month are also bullish from a seasonal perspective. Therefore, November 2 during an election year is extremely bullish from a seasonal perspective because it satisfies three of the four bullish tendencies. The calendar in Table 10.5 shows the seasonal pattern for the month of November of a midterm election year (2006). When there are two or more tendencies working at the same time (i.e., a score of +2 or better) market performance over time is greatly enhanced.

TABLE 10.5 Seasonality Calendar

NOVEMBER 2006				
Mon	Tue	Wed	Thu	Fri
		1 3	2 3	3 3
6 3	7 2	8 2	9 2	10 2
13 2	14 2	15 2	16 2	17 2
20 2	21 3	22 3	23 MKT CLOSED	24 2
27 2	28 2	29 2	30 3	

MAXIMUM PAIN THEORY

The Maximum Pain Theory (MPT) is the last indicator we review in this chapter. According to MPT, the price of an underlying asset will gravitate toward the point where the greatest number of options expire worthless at expiration. This is the point where option holders feel the maximum amount of financial pain. Frederic Ruffy, a senior writer at Optionetics, has written a number of articles about the phenomenon, and the following example is borrowed from one of his articles.

Whether some sort of market manipulation or mere chance causes the price of an underlying asset to move toward the point where many options expire worthless is open to debate. Rather than examining the cause, we prefer to focus on the fact that there is sufficient evidence to suggest this tendency does exist. It seems to occur more predictably when there are no major news stories or other market-moving events that can otherwise cause a sudden movement in the underlying asset.

In order to compute the maximum pain price, or the price level that will see the greatest number of options expire worthless, the first step is to compute the dollar value of all open contracts. In this example, let's use the Semiconductor HOLDers (SMH) and the December 2005 options. The

open interest data is from Monday, December 12, and four days prior to expiration. The first step is to look at the open interest across all December options (see Table 10.6).

The next step is to compute the value of all the options contracts using the open interest for both the puts and the calls, calculated at various possible closing prices. To do this, we assume that the SMH closes at a value equal to each of the nine strike prices listed in column 2 in Table 10.7. For example, if the Semiconductor HOLDR closed Friday trading at 30, all the calls with a strike price of 30 or higher would be out-of-the-money and would expire worthless. The value of all the in-the-money *call* options (top two lines in these tables) is computed as the difference between the price of the SMH (\$30 in this example) and the strike price of the in-the-money option, times the open interest. In this example, that value is \$384,500 $[(2.5 \times 1402 \times 100) + (5 \times 68 \times 100)]$. This is the value of the options that will *not* expire worthless if the SMH is at \$30 at expiration. From Table 10.7, we can see that the cumulative dollar value of the calls increases as the SMH moves up in price, but the value of the puts declines at the same time.

Next we add the total value of the open interest for both the puts and calls across the various strike prices. Table 10.8 shows the total volume of the puts and calls in the second column. The maximum pain occurs where the total value is the lowest. In our example, \$37.50 represents the price of maximum pain. At that level, the most puts and the most calls will expire worthless, causing the most pain to option owners. This is confirmed by referring back to Table 10.6, which shows that at \$37.50, more than 117,000 put options and 57,000 call options expire worthless.

TABLE 10.6 SMH December Put and Call Open Interest

Call Open Interest	Strike Price	Put Open Interest
68	25.00	0
1,402	27.50	768
638	30.00	2,062
6,659	32.50	12,677
25,005	35.00	51,981
57,011	37.50	117,350
21,974	40.00	10,206
3,174	42.50	265
0	45.00	12

TABLE 10.7 Total \$ Value of Puts and Calls

Total Value of Calls	SMH Price	Total Value of Puts
0	25.00	177,382,000
17,000	27.50	148,913,500
384,500	30.00	127,727,500
911,500	32.50	79,504,750
3,103,250	35.00	34,651,250
11,546,250	37.50	2,693,000
34,239,500	40.00	72,250
62,426,250	42.50	3,000
90,616,500	45.00	0

TABLE 10.8 Total Value of Puts and Calls

SMH Price	Total Value of Puts and Calls
25.00	177,382,000
27.50	148,930,500
30.00	128,112,000
32.50	80,416,250
35.00	37,754,500
37.50	14,239,250
40.00	34,311,750
42.50	62,429,250
45.00	90,616,500

According to the maximum pain calculation, the SMH was expected to see weakness heading into December option expiration and head toward the \$37.50 per share level. At the time the numbers were run, the fund traded at \$38.25 per share. At December expiration, it traded for \$38.04 and finished at the low of the day. Therefore, in this case, it did drift toward the MPT point. This appears to be the tendency with maximum pain—it seems to be the path of least resistance for the underlying asset. However, other factors will also affect the performance of the index, sometimes dramatically. As a result, MPT is not reliable or consistent enough to use as a stand-alone tool.

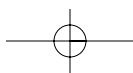
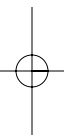
CONCLUSION

Whew! This chapter conveyed a lot of information. At this point, the reader has learned about a significant number of new indicators. Do we need to use them all? Absolutely not. There are some that you will find interesting and worth exploring further. It's okay to narrow down the list and start with one or two indicators, or to use the information that seems to fit most comfortably with your trading style.

At the same time, there are some lessons that the reader should definitely take home from this chapter.

- The market does not always behave in a rational manner.
- Investors are emotional creatures.
- There is a lot of money on the line in the financial markets, and as a result, greed and fear—excessive buying and selling—will affect the market over time.

Sentiment analysis can help identify those periods of extreme greed or fear and open up opportunities for trades against the crowd. When everyone else is bearish, it pays to get bullish and start putting a small amount of capital to work with long calls, bull call spreads, or directional straddles. In addition, looking at market internals can help identify when the trends are resilient and likely to continue, or whether there is a risk of a reversal. Finally, long-term strategies can be created using seasonal indicators and market anomalies. Often these involve taking a contrary approach to the market and doing things in relatively unconventional ways.



CHAPTER 11

Sector Trading

Investors often move money throughout different areas of the market in anticipation of one sector outperforming another. This is called *sector rotation* and it occurs because certain events can impact not just one company but an entire industry. For example, rising oil prices can boost the profits of Exxon Mobil (XOM) and other major energy companies, but at the same time higher fuel prices hurt the profits of airline and transportation companies. So when oil prices rise, energy stocks will often perform well as transportation stocks suffer.

Today, investors have a significant number of different exchange-traded funds and index options available to them to trade specific industry groups or sectors. (A comprehensive list is provided in Chapter 2.) In this chapter, we look at some of the more actively traded index products and demonstrate ways to combine fundamental and technical analysis to find winning sector trades.

Sectors can generate short-term profits for the trader while also allowing investors to more easily create a diversified portfolio and gain greater control of their core financial situation. Strategies can be implemented to protect and build more wealth. Examples include the use of index puts to hedge against moves in specific sector or industry group, adding shares of a gold ETF to protect against inflation, or using calls on a rate index to make profits when interest rates move higher. These and other strategies are taken up in greater detail in this chapter.

UNDERSTANDING SECTOR ROTATION

Sector rotation is sometimes shunned because it is a form of market timing. Also known as *group rotation*, it is the process of moving money to different areas of the market in anticipation of one sector performing better than the others. For example, if there are signs of an economic rebound on the horizon, an investor might choose to move into more cyclical sectors such as energy, autos, or retailers. At the same time the investor will move out of more defensive groups, such as health care, utilities, and consumer product stocks. This type of decision making is performed by a variety of money managers—from small investors moving assets among ETFs to institutional investors that move massive amounts of capital among the different sectors of the market.

So while sector rotation has its critics, it also has its followers, thanks in part to academic research papers from the 1980s. Notable among these is a collaborative piece by Robert Grauer of Simon Fraser University, Nils Hakansson of the University of California, and Frederick Shen of University of Waterloo entitled “Industry Group Rotation in the U.S. Stock Market” (*Journal of Banking and Finance* 14, 1990). In the paper, the authors looked at the investment returns earned on a portfolio that used active group rotation from 1934 to 1986. Similar to a number of other academic papers during the 1980s, the results made a strong case for the potential benefits of allocating money to different sectors of the market. In sum, the academic work of the 1980s created growing interest in this type of market timing. Today, money flows readily from one sector to the next.

Sector rotation gains strength during periods of significant economic change. For instance, in late 1999, financial-related stocks tumbled on concerns of rising interest rates. Meanwhile, technology stocks surged. Then, following the great tech wreck of the year 2000, it became clear that interest rates were set to fall, and more interest-sensitive stocks such as banks, pharmaceuticals, and consumer product stocks performed well.

Interest-Sensitive Stocks

Some groups of stocks tend to react to changes in interest rates more than others. This has given rise to the term *interest-sensitive* to describe some sectors and industry groups. For instance, banks are very sensitive to interest rates. Much of their business comes in the form of borrowing at short-term rates and lending at longer-term rates. When short-term rates rise relative to long-term rates, profits can suffer. Therefore, when interest rates rise, investors sometimes sell bank shares. High-yield stocks such as utilities may

Interest-Sensitive Stocks (Continued)

fall because higher interest rates create competition for investor assets. Pharmaceuticals and consumer product stocks, which are more defensive investments, can also suffer when money moves to interest-bearing investments.

Figure 11.1 shows how expectations about changes in the economy often benefit certain economic sectors or industry groups. Since the stock market is forward-looking, these groups tend to perform well six to nine months before the anticipated change in the economy. For instance, during the early and middle phases of an economic expansion, money will often move to cyclical stocks, transportation companies, and industrial stocks. Companies in these sectors will see their profits improve dramatically if the economy begins gathering momentum.

In the later phases of an expansion, shares of energy and basic material companies can do well as the demand for their products remains strong and they can raise their prices to make more profits. A strong economy fuels demand for raw materials. As time progresses, however, the economy will begin to slow and investors might become more defensive. Groups like beverage companies, grocery chains, pharmaceuticals, and other groups that see steady business regardless of the economic outlook often do well in a slower economic environment. If investors fear a recession and a stock market rout, they might begin turning to precious metals, biotechnology, or other areas of the market that are significantly less impacted by changes in the economy.

Because money is constantly rotating across the various sectors of the market, there is almost always one group performing well. Even in the

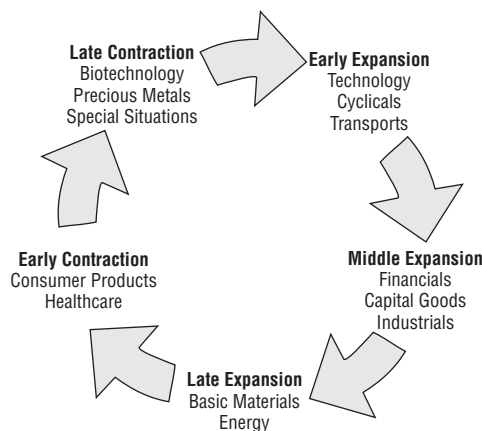


FIGURE 11.1 Economic Cycle and Sector Rotation

nastiest bear markets, there are at least one or two groups moving higher. That's why some traders like to say, "There is always a bull market somewhere." The same is true on the flip side, of course—there is always a bear market somewhere, too. The idea behind sector rotation is to be in the hot sectors when they're bullish, but out of them when the trend turns south.

The result of all this group rotation is often sideways or range-bound trading in the major averages. It can make it seem like the market is trading quietly and within a range. On the charts, the Dow Jones Industrial Average (\$INDU), the S&P 100, and other market averages seem to go nowhere. For example, Figure 11.2 shows the performance of the Dow from mid-1999. It was flatter than a pancake.

However, even when the market experiences minimal movement, some stocks and sectors could be trading more erratically with dramatic moves higher or lower. For example, when the Dow was trading flat from mid-1999 to the middle of 2001, Internet stocks were in a bear market. Figure 11.3 shows the performance of the industrials along with the Street.com Internet Index (\$DOT). It lost more than two-thirds of its value while the change in \$INDU seemed negligible.

During periods of strong group rotation, the market can trade flat while specific sectors trend higher or lower. The strength in the top performing sectors offsets weakness in the poor performing groups. The market as a whole seems to go nowhere. When the Dow was trading flat and Internet stocks were reeling in the period from mid-1999 to mid-2001, natural gas stocks were performing well. Figure 11.4 shows the performance of the AMEX Natural Gas Index (\$XNG) during that time.

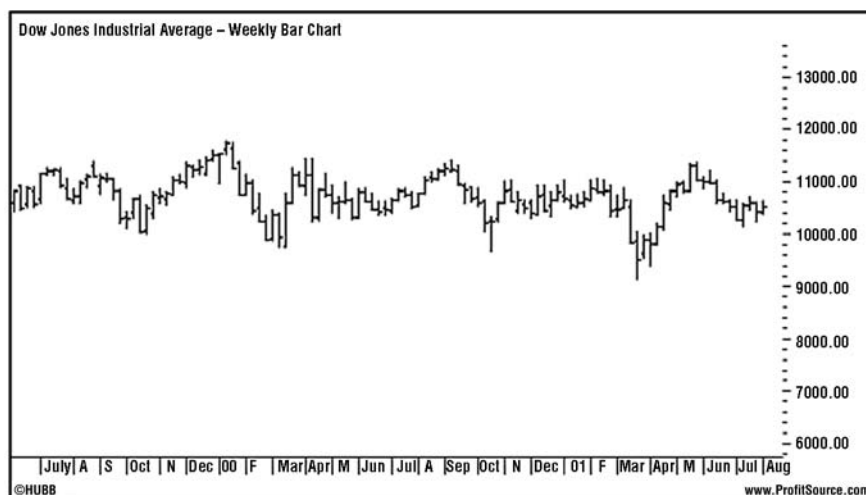


FIGURE 11.2 Dow Industrial Average (Source: www.ProfitSource.com)

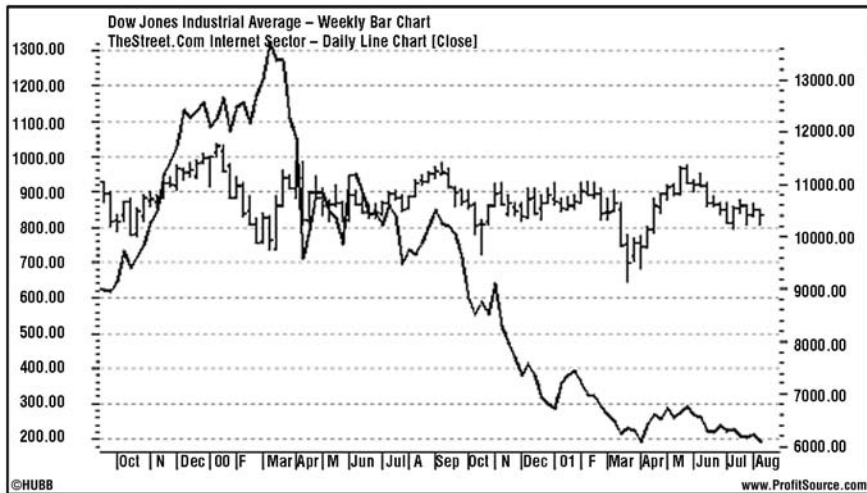


FIGURE 11.3 Dow Jones Industrial Average and TheStreet.com Internet Index
(Source: www.ProfitSource.com)

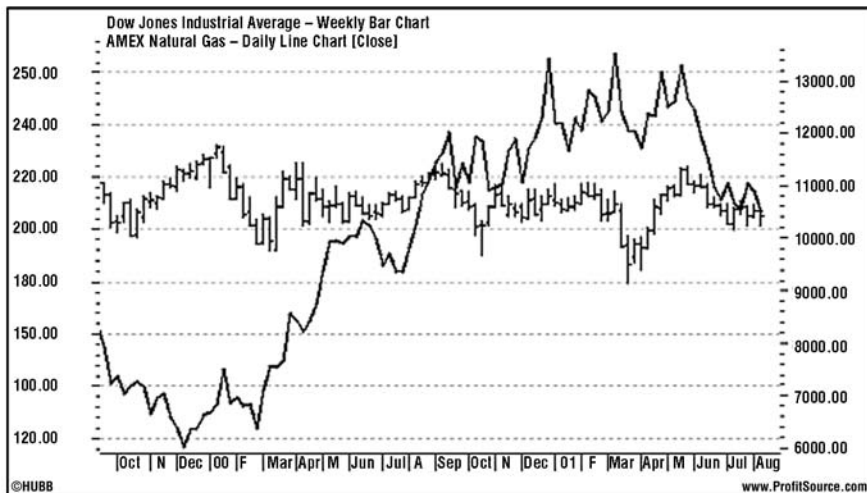


FIGURE 11.4 Dow Jones Industrial Average and the AMEX Natural Gas Index
(Source: www.ProfitSource.com)

Understanding group rotation can help the index trader in more than one way. First, it allows a trader to see what is happening below the surface of the major averages. There will be times when the market trades flat but specific sectors trend higher or lower. Second, understanding the nature of sector rotation allows a trader to identify better opportunities via those market areas with volatility characteristics that benefit certain option strategies.

COMPARTMENTALIZE THE MARKET

The first step in seeking these types of focused trades is to slice the market into various sectors or industry groups. We want to compartmentalize the market. The first place to start is with the Select Sector SPDRs. The reader was introduced to these nine funds in Chapter 2. To recap, shares of these exchange-traded funds are listed on the American Stock Exchange and can be bought and sold like stocks. Like the SPDRs, they represent ownership in a basket of stocks.

However, rather than holding the stocks of the S&P 500 Index, Select Sector SPDRs are created around specific sectors—financials, technology, utilities, and so on. Collectively, the nine sector SPDRs hold all the S&P 500 stocks. Table 11.1 lists the nine Select Sector SPDRs. Options are listed on all nine funds. Therefore, options strategists seeking to participate in the rise and fall of specific sectors can implement strategies on the various Select Sector SPDR funds. We also use them to find areas of market strength or weakness.

While it makes sense to track all nine sector funds, the strategist will sometimes want to dissect the market even further to find trends and trading opportunities within specific industry groups. Sometimes specific sectors can behave very differently than the market and even the general

TABLE 11.1 Select Sector Funds

Select Sector SPDR	Symbol
Financials	XLF
Information Technology	XLK
Health Care	XLV
Consumer Discretionary	XLY
Industrials	XLI
Consumer Staples	XLP
Energy	XLE
Basic Materials	XLB
Utilities	XLU

sector. In fact, it is sometimes possible for a bull and bear market to occur within the same sector at the same time.

One such example is the health care sector in 2005; biotechnology and pharmaceutical stocks performed very differently this particular year. Figure 11.5 shows the performance of the AMEX Pharmaceutical Index (\$DRG) and the iShares Biotechnology Fund (IBB) from February to December 2005. Beginning in late April, pharmaceutical stocks started trending lower and fell 10 percent during the next eight months. Meanwhile, biotechnology stocks reversed higher and IBB rose more than 20 percent during that time. Both biotechnology and drug stocks are within the health care sector, but as seen in this chart, the two groups sometimes perform very differently.

Today there are hundreds of exchange-traded funds and indexes that track specific industry groups. For example, traders interested in the chip sector can choose from options on the PHLX Semiconductor Index (\$SOX), the ISE Semiconductor Index (\$BYT), the CBOE Semiconductor Index (\$PVU), the GSTI Semiconductor Index (\$GSM), the iShares Goldman Sachs Semiconductor Fund (IGW), or the Semiconductor HOLDRs (SMH). Yes, there are six different ways to trade the chip stocks alone! In addition, the exchanges are continually rolling out new sector index products. (A comprehensive list of products appears in Chapter 2.)

With so many sector index products available, how does one choose the right one? It is impossible to track and trade them all. Instead, we want to narrow the focus by looking only at those index products that have actively traded contracts. Table 11.2 shows some of the sector products that currently see reasonable amounts of trading volume, which, of course, can change over time. This list is not all-inclusive, but it provides a



FIGURE 11.5 Pharmaceutical Index and Biotech Fund (Source: www.ProfitSource.com)

TABLE 11.2 Most Active Sector ETFs and Indexes

Sector Product	Ticker
PHLX Bank Index	BKX
Biotech HOLDRs	BBH
PHLX Housing Index	HGX
Internet HOLDRs	HHH
iShares Biotechnology Fund	IBB
MS Retail Index	MVR
Oil Service HOLDRs	OIH
PHLX Oil Service Index	OSX
Pharmaceutical HOLDRs	PPH
PHLX Semiconductor Index	SOX
Regional Bank HOLDRs	RKH
Retail HOLDRs	RTH
Semiconductor HOLDRs	SMH
PHLX Gold and Silver Mining Index	XAU

good start. Focusing on those markets with consistent, reasonable volume will reduce the universe of sector products to a much more manageable number. Combining this list with the nine Select Sector funds, the reader now has more than enough tools to work with for trading sectors and industry groups. Next, we want to focus on identifying situations that offer interesting trading opportunities.

COMBINING FUNDAMENTAL AND TECHNICAL ANALYSIS

In order to determine the sector into which money will flow next, investors can use different methods of analysis for research. Fundamental analysts will focus more on the economy, the industry, and the earnings prospects of the sector as whole. From there, the analyst might try to identify the strongest stocks in the best sectors. As an example, if traders expect violence in the Middle East to trigger rising oil prices, they might look at the energy sector to find bullish option plays and at the airline sector for bearish trades.

There are a number of different sources for fundamental research on specific sectors. Brokerage firms produce regular research reports on industry groups. Independent research companies also do industry-specific fundamental research. Thomson Financial, Zacks, and Standard & Poor's all provide earnings estimates for specific sectors.

The technical trader will generally use a different approach to sector rotation. The most common way is to study charts of the ETFs or indexes. The technical analyst will chart these like a stock and identify trading signals. This might include traditional trading tools such as support/resistance zones and trendlines or signals generated from other indicators such as Vortex and moving averages. Basically, the technical analyst is using a number of different industry indexes to see what is happening within the market as a whole. Then industry group and stock selection is made accordingly.

Alternatively, the technical analyst can look at the chart patterns of individual stocks to gauge the strength of the industry group. Chartcraft in New Rochelle, New York, has been doing this type of analysis for many years. In order to find the strongest and weakest industry groups, Chartcraft looks at the percentage of stocks giving buy signals versus the percentage of stocks giving sell signals using point and figure (PnF) charts. They then compute what are known as *bullish percents*.

While Chartcraft uses PnF charts, a similar analysis can be done using moving averages or other technical indicators that give concrete buy and sell signals. When an industry group's bullish percent falls to a low level (30 percent or less of the stocks within the industry group are giving buy signals) and begins to rise, it suggests that the industry group was oversold, is now becoming stronger, and is set to make a move higher. As the bullish percent continues to rise, trades are placed to the upside. In contrast, when the bullish percent reaches a high level (70 percent or more of stocks in the sector are giving buy signals) and reverses down, it gives a sell signal. At that point, the strategist will look for bearish trades on the downside.

Basically, to identify areas of strength or weakness, one approach is to look at the breadth within the sector. A trader may ask questions such as, "What percentage of stocks within the index are above their 50-day moving averages? What percent are above the 200-day? Are many of these stocks holding support? Are they falling through resistance?" Table 11.3 shows the components of the iShares Biotechnology Fund (IBB) in early July 2005. Many of these stocks were beginning to rise above their 50- and 200-day moving averages. This was a sign that the sector was building legitimate momentum that could continue.

A final, less commonly used method of industry group analysis is quantitative in nature. Some firms use models to rank industry groups based on earnings prospects, ratios, price momentum, or other variables. The numbers are plugged into a formula and sectors are ranked based on the results. Perhaps the most well-known tool is the Value Line Investment Survey ranking system discussed in Chapter 10. This widely used model is applied to both stocks and industry groups. It can be ordered from Value Line (www.valueline.com) but is also available in many libraries.

TABLE 11.3 IBB Components and Moving Averages

IBB Component	Symbol	50-Day	200-Day
Amgen	AMGN	Yes	Yes
Genzyme	GENZ	Yes	Yes
Medimmune	MEDI	Yes	Yes
Gilead Sciences	GILD	Yes	Yes
Chiron	CHIR	Yes	Yes
Biogen	BIIB	Yes	No
The Medicines Co.	MDCO	No	No
Amylin Pharmaceuticals	AMLN	Yes	Yes
Affymetrix	AFFX	Yes	Yes

Many traders use a combination of fundamental, technical, and quantitative analysis to study specific groups or sectors. The idea is to find the areas of the market that are likely to see the greatest strength for bullish trades and the greatest weakness for bearish ones. This type of analysis can help considerably in stock selection. History has demonstrated that the price movement of an individual stock is often due to changes throughout the broader sector or industry group—not just within the company. Let’s consider some examples that combine fundamental and technical analysis to find option trading strategies within specific sectors.

Example: Combining Fundamental and Technical Analysis

Semiconductors often lead the technology sector and experience boom and bust cycles. The reason is that chip manufacturers adjust production based on demand (new orders). Good times lead chip makers to spend heavily on capital equipment and production. Then, when demand for semiconductor chips slows, they are faced with overcapacity and inventory buildups. A glut of chips hits the market and semiconductor prices sink. This is a repetitive pattern that often leads to reductions in excess capacity within the chip industry. Then, when demand picks up, chip makers are forced to ramp up production and increase capacity. The industry booms once again.

So good times in the chip sector often lead to a hangover, but the bad times are always followed by something good. In early 2003, for example, the sector had suffered a relentless bear market. From March 2002 to February 2003, the Semiconductor HOLDERS (SMH) suffered a grueling 55 percent decline. Nobody wanted to trade the chip stocks.

Yet in early 2003, some signs surfaced that improvement in the industry was under way. Moreover, expectations were building for a recovery.

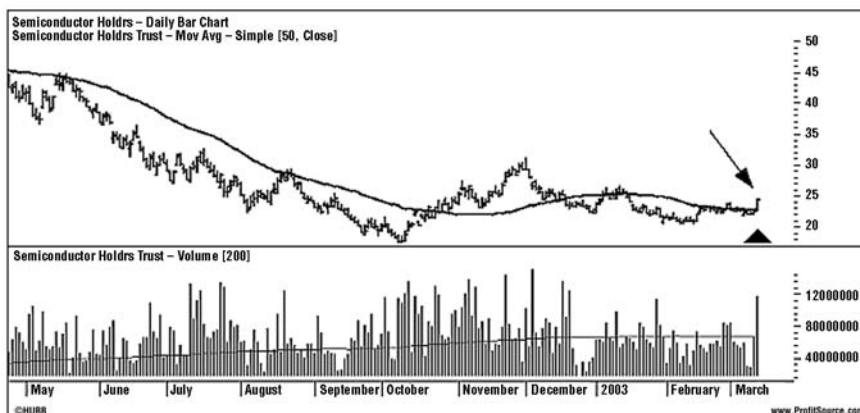


FIGURE 11.6 SMH Daily Chart (Source: ProfitSource.com)

On February 6, 2003, Semiconductor Industry Association (SIA) President George Scalise noted in a press release:

*The recovery that began in the final quarter of 2001 continued throughout 2002, producing 1.3% growth in this turnaround year. This is remarkable performance, in the face of lackluster demand in the Information Technology market. We expect further improvement across broad product sectors, positioning the industry for 19.8% growth in 2003, increasing revenues to \$169.3 billion.**

So expectations were building for a recovery in the sector. Other statistics confirmed the situation was improving. The semiconductor book-to-bill ratio was well off its 2002 low, indicating that demand for semiconductor equipment was on the rise. Meanwhile, dynamic random-access-memory (DRAM) chip prices, which had plummeted in the previous two years, were beginning to hold steady. In sum, there was some fundamental evidence to suggest that the worst might be over for semiconductor companies early in 2003.

On the technical side of the analysis, the trader notes that by March 2003, the Semiconductor HOLDRs had moved off of their lows and on March 13, the ETF made a high-volume break of its 50-day moving average (see Figure 11.6). The selling had already abated and the SMH was drifting

*"Global Chip Sales Up 1.37% in Recovery Year," Semiconductor Industry Association press release (www.sia-online.org), February 3, 2003.

higher. The high-volume break of March 13 confirmed that chip stocks were gathering upside momentum.

Faced with this bullish scenario, the strategist establishes a bull call spread in anticipation of a move higher in the Semiconductor HOLDERS during the next six months. On March 14, the strategist buys 10 August SMH 25 calls for \$2.75 a contract and sells 10 August 30 calls for \$1.25. The total cost of the trade is \$1.50 per spread, or \$1,500 total (10 contracts $\times$ \$1.50 $\times$ 100) plus commissions.

Ideally, the SMH will climb higher and the long call will increase in value. The short call will increase in value as well, but not as quickly as the long call because its delta is roughly half the delta of the long option. At the time of initiation, the SMH August 25 call option has a delta of 0.5, compared to 0.28 for the August 30 call.

The risk graph of the trade appears in Figure 11.7. The total cost of the trade is \$1,500, which also represents the maximum risk. This would occur if SMH remained below \$25 a share through expiration and the strategist took no action—all of the calls would expire worthless. The maximum profit for the position is equal to the difference between the two strike prices minus the debit, or \$3,500 [(5 - \$1.50) $\times$ 10 $\times$ 100]. The strategist is risking \$1,500 to make \$3,500. The key to success is an SMH move higher.

Shortly after the trade was initiated, many of the chip stocks started reporting earnings that topped expectations. Intel Corporation

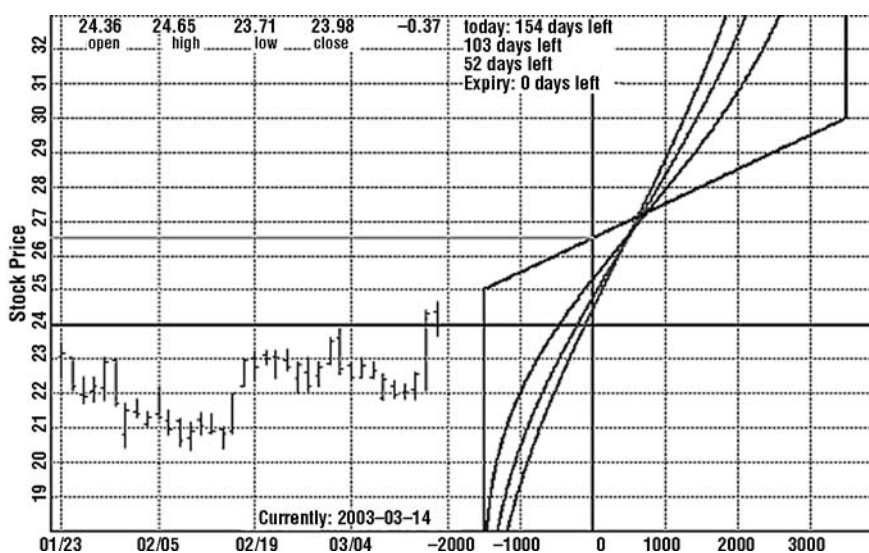


FIGURE 11.7 SMH August Bull Call Spread (Source: www.Optionetics.com Platinum)

(INTC), the world's largest chip maker, said in mid-April that first quarter earnings totaled 14 cents a share on revenues of \$6.75 billion in the first quarter. Analysts were expecting INTC to earn only 12 cents a share on sales of \$6.7 billion. Other chip companies also beat expectations, which confirmed that fundamentals in the sector were improving faster than most investors believed, and validated the bullish sentiment of the trader.

By early June, the Semiconductor HOLDRs were trading well above the strike price of the August 30 call and the objective had been met, a bit sooner than expected. On June 4, the SMH was trading for \$30.92. The long call was bid for \$6.40 and the short was offered at \$2.95. The spread could therefore be closed out for \$3.45 ($\$6.40 - \2.95) and well above the \$1.50 paid at initiation. The result was a \$1.95 profit per spread or \$1,950 for 10 contracts ($\$1.95 \times 10 \times 100$).

This example illustrates how traders can use a combination of fundamental and technical analysis to identify an anticipated direction for a sector and then use options to create a favorable risk/reward scenario based on that outlook. Although we used fundamental factors related to semiconductor stocks, the same analysis can be done for other sectors including banks, biotechnology, Internet stocks, and so on. Readers should consider what industries naturally interest them and where they might have special knowledge or experience. The goal is to understand the long-term fundamental trends that affect the sector, and then use technical analysis to aid in the timing of the entry and exit. The final step is to create attractive risk/reward situations using option strategies on the sector index or ETF.

TRADING OIL

Energy prices surged to record highs in 2005. While some market watchers consider the recent rally in the black gold to be part of a great big speculative bubble, others believe it is justified and based on the forces of supply and demand. Regardless of what side you take in the bull/bear oil debate, there are ways to profit from the next move in oil without having to trade crude or crude oil futures.

There are several indexes that track groups of energy related stocks. For example, the AMEX Oil Index (\$XOI) consists of a dozen major oil companies. The CBOE Oil Index (\$OXI) includes 15 large and widely held integrated oil companies. The CBOE also lists options on the PowerPacks Oil Index (\$POY), which consists of 25 major oil companies.

The PHLX Oil Service Index (\$OSX) is among the more actively

traded sector indexes. It consists of 15 oil drilling companies. Figure 11.8 shows the close correlation between the OSX and crude oil spot prices. The CBOE also lists an oil drilling index—the PowerPacks Oil Service Index (\$PVO)—which includes 25 different companies. The International Securities Exchange (ISE) launched options trading on a group of sector indexes in 2005, which includes the ISE Oil and Gas Services Index (\$OOG). Investors can also trade options on the Morgan Stanley Oil Service Index (\$MGO).

Instead of trading options on cash indexes, exchange-traded funds can be used to play trends in the oil markets. For example, the Oil Service HOLDRs (OIH) is a fund that includes a basket of oil drilling companies. It is similar to the PHLX Oil Service Index and will perform in a like manner. However, since it is a fund, shares can be bought and sold in the market like shares of stocks. In addition, the options settle for shares and not cash like the OSX, MGO, and other indexes. The Select Sector Energy Fund (XLE) has also become a popular trading vehicle. This ETF holds all of the energy-related stocks from within the S&P 500 Index (\$SPX). Options on this fund are among the more actively traded energy-related securities.

The Pengrowth Energy Trust (PGH) is another option for traders. This stock is actually a Canadian trust with shares listed on both the Toronto Stock Exchange and the NYSE. It holds various oil and gas reserves and pays out regular distributions to shareholders based on revenues minus operation costs and expenses. The trust currently kicks out an annual dividend of almost 10 percent. Shares can be bought and sold like stock, and given the recent rise in oil and gas prices, PGH options

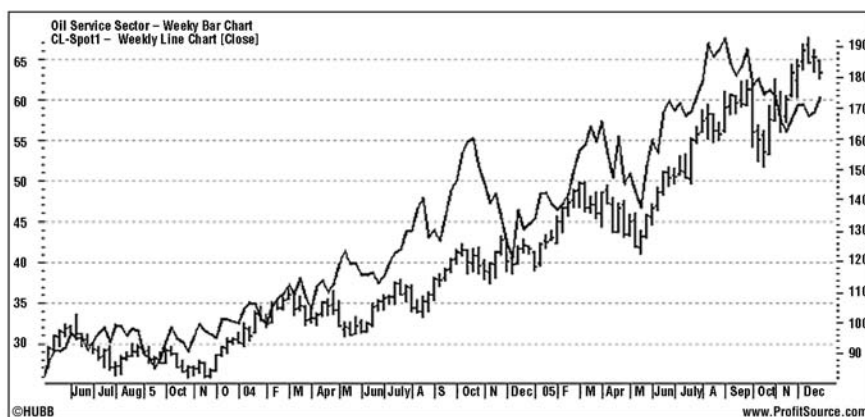


FIGURE 11.8 Oil Service Index and Spot Crude Oil Prices (Source: www.ProfitSource.com)

have also been seeing a bit more volume lately. Traders need to understand both the characteristics of a trust and the impact high dividends have on options prior to implementing such strategies on this type of security.

Natural Gas Plays

Natural gas prices rose to record highs in 2005. Prices tend to rise along with crude oil prices. Historically, the conversion from oil to natural gas is roughly five to one. So if oil is around \$50 a barrel, natural gas prices should be around \$10 per million British Thermal Units (BTUs). Unfortunately, index strategists looking to play trends in the natural gas sector have few choices. The AMEX Natural Gas Index (\$XNG) is one choice, but the options see relatively little trading activity and volume—it's not very liquid. Instead, strategists will probably want to focus on the individual companies in the sector. Table 11.4 shows the components of the Natural Gas Index.

TABLE 11.4 XNG Components

Company Name	Symbol
EOG Resources	EOG
Burlington Resources	BR
XTO Energy	XTO
Questar Corp.	STR
Anadarko Petroleum	APC
Williams Companies	WMB
Apache Corp.	APA
Noble Energy	NBL
Kinder Morgan	KMI
Natl Fuel Gas	NFG
El Paso Corp.	EP
Nicor Inc.	GAS
Pogo Producing	PPP
Devon Energy	DVN
Nisource Inc.	NI

Overall, traders have many choices today when looking for tools for playing trends related to oil. In addition to the indexes and ETFs, a new oil-related trading vehicle might soon be available to traders. Victoria Bay Asset Management filed to launch an ETF that would track the price of oil. Called the U.S. Oil ETF LP (USO), it would hold futures contracts on crude oil, the first fund of this kind. If approved, it would allow investors a unique trading vehicle for playing changes in crude oil prices. For now, however, index traders play the crude oil markets through ETFs and cash indexes that track a basket of energy-related stocks. From a liquidity standpoint, the XLE, \$OSX, and OIH are the three best choices.

As an example, let's assume that energy prices continue rising and we begin to feel the pinch from rising gasoline and natural gas prices. The situation is taking a toll on consumer spending and the economy, but the profits of the oil drillers are surging. Meanwhile, the OSX has been rallying and, after a brief pullback, broke above the upper Volex Band, signaling bullish momentum is building (see Figure 11.9).

As a result, the strategist expects the OSX to rally and decides to sell some premium on the index, in order to bring in some income and help offset the rising expense from filling up the Hummer with \$2.25/gallon gasoline. In late July the OSX is trading near 161.25 and the strategist sells 10 of the OSX September 165 puts for a credit of \$8.20 per contract. To limit the risk, the strategist buys 10 of the OSX September 155 puts for \$3.50.

What type of trade is this? It is a bull put spread. It will generate profits if the OSX rises above the higher strike put and all the contracts

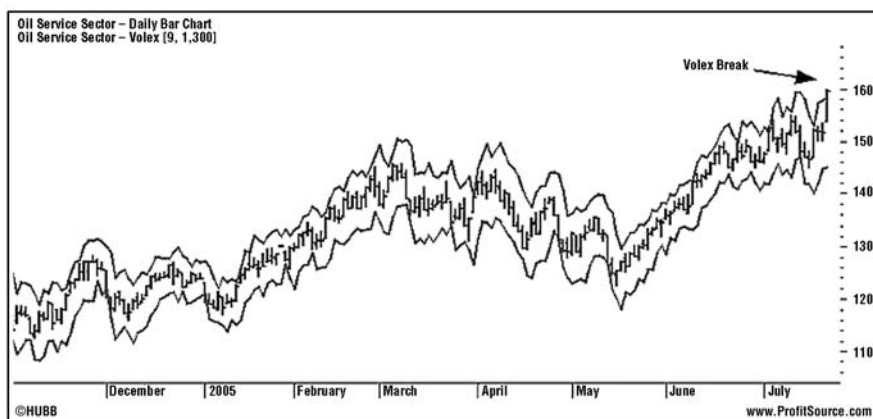


FIGURE 11.9 OSX Breaks Out (Source: ProfitSource.com)

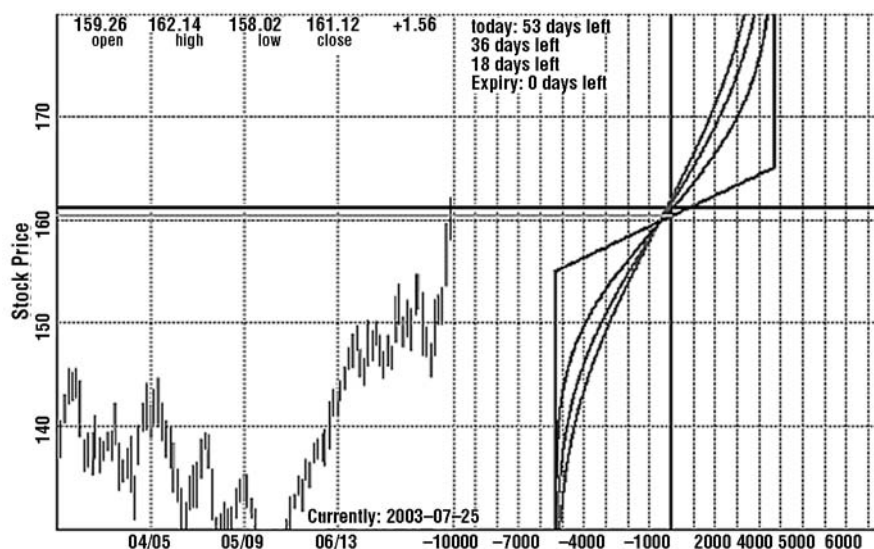


FIGURE 11.10 OSX Bull Put Spread Risk Graph (Source: www.Optionetics.com Platinum)

expire worthless. Figure 11.10 shows the risk graph of the trade. In this case, the strategist would keep the premium or the credit from selling the spread, or \$4.70 per contract. That is the maximum possible gain. The maximum risk is equal to the difference between the two strike prices minus the credit, or \$5.30 per spread. The biggest loss would occur if the OSX falls. For instance, at expiration, if the OSX September 155 put is in-the-money, the strategist might get assigned and then use the long put to cover. At that point, the cost to cover the spread would be \$10 per spread minus the credit received (\$4.70), for a total cost of \$5.30 a spread.

However, the OSX was selected for this credit spread rather than the Oil Service HOLDERS (OIH) or another ETF because of the European-style exercise feature. Recall that early assignment is a risk only with American-style options. In addition, if the position begins turning south, the strategist can exit the position prior to expiration and avoid suffering the maximum possible loss. In this case, however, the analysis was correct and the OSX did finish well above 165 at September option expiration (see Figure 11.11).

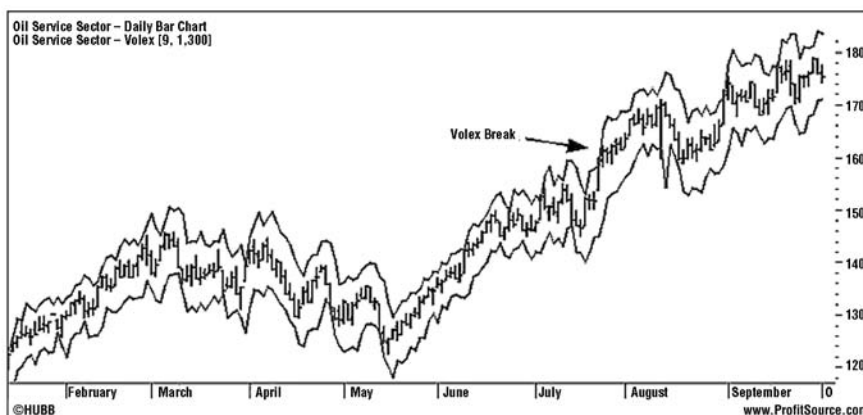


FIGURE 11.11 OSX Rally Following Volex Breakout (Source: ProfitSource.com)

THE YELLOW METAL

Gold has been considered a safe haven during times of market volatility for many years. It is used to store value, and during inflationary periods, as investors turn to gold for safety, it has a tendency to increase in price. For that reason, during times of inflation, which can cause stocks and bonds to fall, gold and shares of gold mining companies often perform well.

Other factors will also influence the price of gold. Since it is dollar-denominated, the price of gold may decline when the dollar strengthens. Consumer demand for jewelry also affects the supply and demand for gold. Finally, the price of gold will also feel the effect from trends related to foreign central bank sales. In recent years, many banks have been big sellers of gold. However, the pace of central bank selling is expected to slow. An August 17, 2005, report in the *Wall Street Journal* notes that:

*The dearth of central-bank gold sales in coming months is also boosting analysts' predictions of higher short-term prices. According to UBS figures, total gold sales for the first year of the renewed European Gold Sales Agreement total 494 metric tons (543 short tons), leaving just six tons to sell in the six weeks before the September deadline. Under the 2004 agreement, 15 European central banks agreed to limit annual sales to 500 tons over a five-year period.**

*Emily Parkinson, "Gold May Extend Its Bull Run Amid Oil Rally, Few Bank Sales," *Wall Street Journal*, August 17, 2005.



FIGURE 11.12 XAU and Spot Gold Figure (Source: www.ProfitSource.com)

Gold and the Dollar

One factor to consider when studying the performance of the gold and silver mining index is the U.S. dollar. There is an inverse relationship between the price of the precious metal and the US currency. Indeed, the changes in the price of the yellow metal are often attributed to the changes in the dollar. Consider this excerpt from a Dow Jones *Newswires* report: "Precious metals were trading mostly higher late Wednesday, with gold futures showing themselves to once again be slaves to currency fluctuations, devotedly shadowing moves in the euro, traders said."*

An entire book could be written on trading this precious metal. We don't attempt to know and predict everything about the short-term swings in the price of gold. Instead, we look to profit from the longer-term trends and changes in volatility. With this goal in mind, one of the best ways to trade trends in the gold market is with the PHLX Gold and Silver Mining Index (\$XAU). This index tracks the performance of a basket of gold and silver mining stocks.

As a general rule, when the precious metal rallies, XAU climbs higher, but when gold falters, the index performs poorly. Figure 11.12 shows the close correlation between the XAU and spot gold prices. Another thing we notice about the XAU is that it tends to develop trends that last between six and nine months. Chapter 7 provided examples of straddles and strangles

*David Bogoslaw, "NY Precious Metals Mostly Up Late, Firmer USD Caps Gold," Dow Jones *Newswire*, August 1, 2001.

on the \$XAU, which is a strategy that makes sense when gold prices are expected to trend higher or lower for several months or years.

REAL ESTATE AND REITS

There are not too many ways to play trends in the real estate market, but strategists looking to profit from potential movement might consider looking at the iShares Cohen & Steers Realty Majors Index Fund (ICF). This fund holds a basket of real estate investment trusts (REITs) and investors can buy and sell shares throughout the trading day similar to stock. In addition, the options contract for this underlying security has become more actively traded in recent years. Therefore, strategists can also place trades on the real estate sector with ICF options.

The ICF holds the same REITs as the Cohen & Steers Realty Majors Index (\$RMB), which includes a diversified set of 30 different REITs. Real estate investment trusts are investment vehicles with shares listed for trading on the U.S. stock exchanges, and each trust invests in a different type of real estate property.

While some REITs hold mortgages, others focus on commercial properties such as shopping malls and office buildings. There are also REITs that focus on apartments and other residential properties. Investors buy REIT shares when they expect real estate prices to remain strong. However, when investors expect the real estate market to face tough times, they are more inclined to sell REITs.

The ICF allows investors to buy and sell a basket of REITS. Table 11.5

TABLE 11.5 ICF Components

REIT	Symbol	Real Estate Holdings	Percent of Fund
Simon Property Group	SPG	Regional mall	8.4
Equity Office Properties Trust	EOP	Office	8
Vornado Realty Trust	VNO	Office	6.6
Equity Residential	EQR	Apartment	5.9
General Growth Properties	GGP	Regional mall	5.7
Public Storage	PSA	Self storage	5.2
Boston Properties	BXP	Office	5
Archstone-Smith Trust	ASN	Apartment	4.4
Kimco Realty	KIM	Shopping center	4.4
ProLogis	PLD	Industrial	4.3

shows the fund's top 10 holdings in 2005. At that time, the largest trust, accounting for more than 8 percent of the value of the fund, was the Simon Property Group (SPG), which holds mostly shopping malls (column 3). Other REITs hold office space, apartments, storage, or industrial buildings.

In 2005 there was a lot of talk about a potential real estate bubble fueled by rock-bottom mortgage rates. Nevertheless, the ICF rose 11 percent on the year. However, for strategists looking for protection against a potential real estate debacle, this fund might be a suitable trading vehicle. For example, strategists expecting trouble in coming years might consider shorting the fund or using options strategies like bear put spreads, strangles, or put ratio backspreads.

FINANCIALS

As of this writing, the financials account for the largest percentage of the S&P 500 Index—nearly 20 percent, or one-fifth of the value of the index. It is therefore an important sector worth tracking. Movements in the financials can easily affect the market as whole, including the major averages tracked by various market participants. An easy way to track the sector is with the Select Sector Financials (XLF), which holds all of the financial stocks from within the S&P 500 Index.

In Chapter 7 we showed an example of a collar strategy on the XLF. Now suppose, however, we have turned bearish on financials. In particular, our outlook for commercial banks has turned a bit pessimistic because we are concerned about the interest rate environment (see the accompanying box regarding the inverted yield curve). As a result we are looking for bearish trades on the PHLX Bank Sector Index (\$BKX). We could also use the XLF, but this ETF includes brokerage firms and insurance companies. Our focus is more clearly defined: We are betting against the banks.

Inverted Yield Curve

An *inverted yield curve* occurs when the yield on short-term government securities exceeds the yield of long-term securities. In this environment, commercial banks can struggle because a lot of their business comes from lending at long-term rates and borrowing at shorter-term rates. In late 2005 the yield curve was inverting, and that did not bode well for bank stocks going into 2006.

Meanwhile, the technical action of the BKX suggests that the timing is right for a bearish trade. After a precipitous advance, the BKX hits resistance

at the 106 level (see Figure 11.13) and then falls through trendline support. Volatility appears to be gathering momentum to the downside. Faced with bearish fundamentals and technicals, the strategist decides to set up a bearish trade on the BKX, but doesn't want to risk too much capital in the event that the interest rate environment improves and the banks stage another rally. Consequently, the strategy of choice is a put ratio backspread.

In late December 2005, the strategist has a price target of 90 for the BKX and expects the index to hit that level no later than March 2006. The index is currently trading near 104, so the expectation is for a first quarter decline of approximately 15 percent. In order to profit from the weakness in the bank sector, the strategist sets up a one-by-two put ratio backspread (a position covered in more detail in Chapter 7). Specifically, one June 105 put is sold for \$4 a contract and two June 97.50 puts are purchased for \$1.50 each.

Since the premium for the put sale is greater than that of the put purchases, the trade is established for a net credit of \$100: $[\$4.00 - (\$1.50 \times 2)] \times 100$. If the BKX rallies above 105, all of the puts expire worthless and the strategist retains the credit. However, as we can see from Figure 11.14, bigger profits are possible if the bank index falls. The sooner the index falls, the sooner the trade will begin to see profits. The maximum profits are sizeable if the BKX really tanks. However, if it falls to only 97.50 at expiration, the strike price of the long puts, then the trade loses. At that point, the long puts expire worthless and the short put has an intrinsic value of \$7.50 a contract and represents the maximum risk of \$650 $[(\$7.50 \times 100) - \$100 \text{ initial credit}]$ for the strategy.

In the bank example we are betting against the market, which is always dangerous to do considering the stock market moves up roughly two-thirds of the time. However, we are also using a strategy that won't

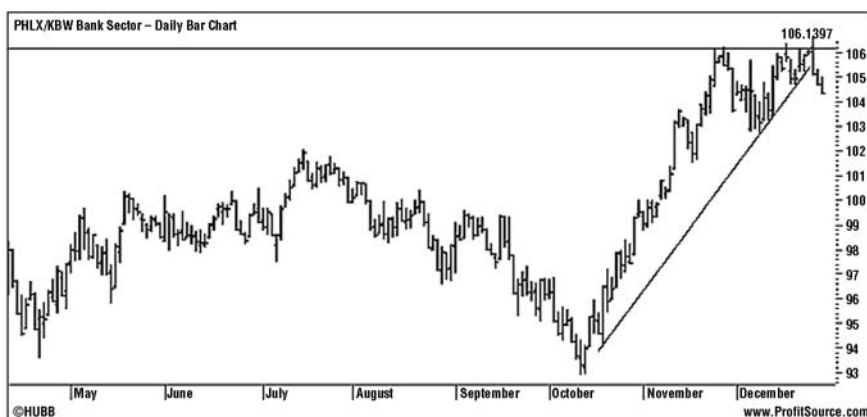


FIGURE 11.13 BKX Daily Chart (Source: www.ProfitSource.com)

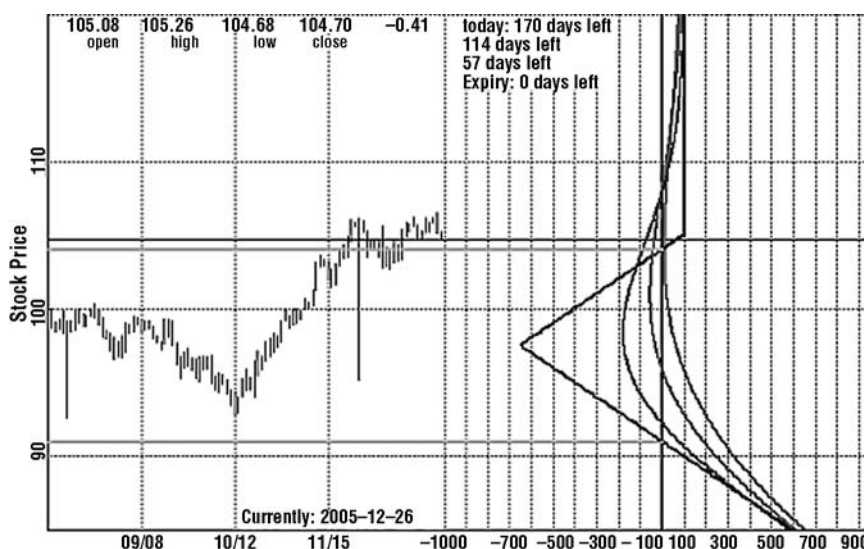


FIGURE 11.14 BKM June Put Ratio Backspread Risk Graph (Source: www.Optionetics.com Platinum)

kill us if the bank index moves higher rather than lower. In fact, we can even earn a small profit if the BKM rallies and both sides of the trade expire worthless. The key to minimizing risk is to manage the position as expiration approaches. If the index has not made its move within a few months, it is better to close the position rather than to run the risk of getting pinned to the strike price of the long option at expiration.

UTILITIES

Traders often overlook the utility sector. These stocks were once known for their low volatility and stability because, historically, these companies have delivered consistent earnings and hefty dividends. Therefore, the utility sector became the domain of predominantly conservative investors.

That all changed when the industry was deregulated in the 1990s and after the California energy crisis of early January 2001. Since that time, the utility sector has become more volatile and, consequently, now offers as many trading opportunities as any other sector of the market. In fact, it tends to see better and longer trends than many other sectors (see Figure 11.15).

Index strategists seeking to participate in future price changes in the utility sector have at least five vehicles to choose from. The Chicago Board



FIGURE 11.15 Dow Jones Utility Index Daily Chart (Source: ProfitSource.com)

Options Exchange lists options on the Dow Jones Utility Index (\$DUX). This index consists of the same 15 stocks as the Dow Jones Utility Average. Meanwhile, the Philadelphia Stock Exchange lists options on the PHLX Utility Sector Index (\$UTY), which consists of 20 utility-related stocks with options trading on the Philadelphia Stock Exchange. The iShares Dow Jones U.S. Utilities Sector Index Fund (IDU), the Utility HOLDERS (UTH), and the Select Sector Energy Fund (XLU) are three exchange-traded funds that hold utility stocks. Because of growing interest in the Select Sector SPDR funds, we consider the XLU to be the best trading vehicle from a liquidity standpoint. The UTH is a close second.

BONDS

Bonds are not really a sector, but they get consideration here because they fit nicely into this chapter. In recent years, the bond market has been seeing a bit more volatility due to global events and the action of the Federal Reserve. The inversion of the yield curve in late 2005 has already been discussed. Index traders looking to participate in these trends have a few investment vehicles from which to choose, including ETFs and cash indexes. Before discussing those, however, let's first make clear what we mean by the bond market. There are several different kinds.

- **Zero coupon bonds:** Unlike a regular bond, which pays interest each year, zero coupon bonds pays no interest prior to maturity. Since there are no interest payments, zero coupon bonds trade at a deep discount

to their face value. Therefore, an investor can buy a zero coupon at a discount and then receive the full principal payment when the bond matures. In addition, because they pay no interest, zero coupon bonds are more sensitive to movements in interest rates than bonds that do pay interest because bonds at discount are multiyear.

- **Treasuries:** There are three types of Treasuries: long-term, intermediate-term, and short-term. Short-term Treasuries are T-bills (held less than 1 year), intermediate-term are T-notes (held 1 to 10 years), and longer-term are T-bonds (held 10 to 30 years). Since treasury bonds are backed by the full faith and credit of the U.S. government, there is essentially no credit risk. As a result, Treasury bond price changes can be attributed to changes in interest rates.
- **GNMA bonds:** Ginnie Mae bonds represent a pool of mortgages. They tend to offer a higher yield than Treasury bonds, but have a higher credit quality than typical corporate bonds.
- **Corporate high-grade bonds:** As the name implies, these are bonds issued by financially sound, creditworthy corporations. High-grade bonds generally yield more than government bonds but less than junk bonds. In fact, long-term bonds issued by even the most financially sound company should pay a reasonably higher rate of interest than a Treasury bond of comparable maturity. This higher rate is required to compensate the investor for credit risk, which is negligible with a Treasury. One thing to remember when considering high-grade corporate bonds is how quickly the financial condition of a corporation can change. One could easily compile a long list of companies that were financially sound 10 years ago, yet are either out of business or hanging by a thread today.
- **Junk bonds:** As the name implies, these are bonds of companies with questionable finances. Since buying one junk bond can be risky, many investors prefer to buy a variety of individual bonds or a junk bond fund that holds a portfolio of bonds. The lure of junk bonds is simply that the yield on the bonds held that do not default will more than compensate for any losses suffered by companies that default on their bonds.
- **Convertible bonds:** Convertible bonds are called *convertible* because they can be converted into shares of the underlying stock. Each convertible bond has a *conversion* price associated with it. If the underlying stock reaches that price, then the holder of the bond can choose to convert the bond into shares of stock.

Table 11.6 summarizes the risk of the various types of bonds. Government bonds have virtually no credit risk, but high interest rate risk. When rates increase, the price of a bond decreases, so as the rate outlook

TABLE 11.6 Bond Categories

Bond Category	Credit Risk	Interest Rate Risk
Zero Coupon Bonds	Nil	High
Treasury Long-Term	Nil	High
Treasury Intermediate-Term	Nil	Medium
Treasury Short-Term	Nil	Low
GNMA	Low	Medium
Corporate High-Grade	Medium	Depends on length
Junk	High	Depends on length
Convertibles	High	Low

changes, government bonds can experience a lot of movement. Longer-term Treasury bonds generally see greater volatility associated with changes in rate expectations.

A final reminder about bonds (which we have already alluded to): Long-term bonds almost always yield more than short-term bonds. A case of shorter-term bonds yielding more than longer-term bonds is referred to as an inverted yield curve and is usually a bad sign for the economy in general. The inversion is the result of some near-term economic problem, which causes investors to be more concerned about the short term than the long term.

Tools to Trade Bonds

In the index market, traders are primarily focused on Treasury notes and bonds. The government securities have a very active secondary market, and changes in their yields can have an important effect on the economy by causing changes in other key rates (i.e., mortgage rates). However, rather than trading actual bonds or bond futures, there are also a few ETFs and indexes from which to choose when looking for ways to play bonds and rates today.

Computing the Yield on the Benchmark Ten Year Note

The yield of the benchmark Ten Year Note is often quoted in the financial news. In addition, there is an index that tracks its changes—the CBOE Ten Year Rate Index (\$TNX). The current yield is based on the coupon and the current price of the bond. For example, an 8 percent bond selling at \$1,276 would have a current yield of $\$80/\$1,276$, or 6.27 percent. So, when “Treasures rally,” the yield (and the \$TNX) will fall.

In April 2003, the CBOE and AMEX both started listing options on the iShares Lehman 20+ Year Treasury Bond fund (TLT), the iShares Lehman 1-3 Year Treasury Bond Fund (SHY), and the iShares Lehman 7-10 Year Treasury Bond Fund (IEF). All three funds hold government bonds, but each is unique in terms of maturity. For instance, SHY holds short-term notes that mature in 1 to 3 years, but TLT holds long-term bonds like the 30-year Treasury bond.

The Five Year Note Index (\$FVX), the Ten Year Note Index (\$TNX), and the Thirty Year Bond Index (\$TYX) are vehicles some traders use to monitor and profit from changes in interest rates. The indexes actually represent the current rates afforded to various government bonds. For example, the Ten Year Note Index reflects the current rate on the benchmark Ten Year Treasury Note multiplied by a factor of 10. So if the current yield on the Ten Year is 4.4 percent, the TNX will be trading at 44.00. In the same manner, the FVX trades the Five Year Note and the TYX tracks the Thirty Year Bond.

Of the vehicles just mentioned, the iShares Long-Term Bond Fund (TLT) is the best way to play changes in the bond market today. For one, it has the greatest trading volume and hence the best liquidity. In addition, since it holds longer-term bonds, it tends to see a bit more volatility than the other ETFs. Since the bond market tends to make gradual moves over time based on the outlook for the economy, strategists might consider using strategies that work well in trending markets when using the TLT. Examples include bearish calendar or diagonal spreads when interest rate worries begin to surface, or collars and covered calls in a moderately bullish bond environment.

DOW THEORY

Transportation stocks have thus far been excluded from our discussion of sector trading. One problem with the group is that there are not very many liquid indexes. The AMEX Airline Index (\$XAL), for instance, can make fast moves and provide interesting trading opportunities, but the trading volume is almost nonexistent and the lack of liquidity makes the index uninteresting.

However, there is one index that is worth watching related to transportation stocks. In fact, it is the oldest market index—the Dow Jones Transportation Average (\$TRAN). Charles Dow created the transports in 1884. At that time, it was known as the Dow Jones Railroad Average. Today, index traders participate in the moves in the average via the Dow Jones Transportation Index (DTX). This index is simply a smaller version of the

120-year-old average. The DTX is equal to 1/10 of the value of the Transportation Average. So, if the transports are trading near 4,100, the DTX will equal 410.

The transports are also worth watching because they form the foundation of a trading system known as Dow theory, which was briefly discussed in the early pages of this book. In the late 1800s, Mr. Dow, a pioneer in market analysis, wrote a series of essays describing the market's actions and characteristics. These writings were later gathered and became known as Dow theory. The transports and the industrials were central to his study. They are used along with six other key tenets of Dow Theory.

1. ***The market discounts everything.*** The stock market has within its universe so many people studying every bit of information and every last detail, that the sum of all knowledge is quickly priced into the market, and as such has anticipated the immediate future. This applies to the market as a whole, sectors, and individual stocks. There are seldom any surprises to the market; it knows all.
2. ***The market has three major trends.*** According to Dow, the market has three types of trends. He compared them to the movement of the ocean, and they are the primary (tides), the secondary (the waves), and the minor (ripples). The primary trend is observed by looking at the tops of the waves. If each successive wave is higher than the previous one, the "tide," or trend, is rising. If each successive wave is lower than the previous one, the trend is lower. These primary trends could last for as long as several years, or as short as one year. Traders want to focus on the primary trend, occasionally take action during the secondary, but ignore the minor ripples completely.
3. ***Major trends have three phases.***
 - ***Accumulation phase:*** This is when knowledgeable and astute investors begin accumulating shares, even if the trend initially is down. They are the ones that are involved in various industries and see bullish developments unfold.
 - ***Public participation phase:*** This is typically the point where the trend up has formed and it attracts the attention of technicians and traders. Prices are known to advance rapidly in this stage.
 - ***Distribution phase:*** The headlines are bullish, speculative volume is visible, and the crowd is bullish. It is here that the informed investors in the initial stage begin selling into the buying demand, locking in their profits.
4. ***Volume must confirm the trend.*** We discussed this at length in Chapter 10. A market that rises with decreasing volume is not consid-

ered to be a sustainable move. A market that is rising with increasing volume that also had a drop in volume on pullbacks was considered to be the most bullish of signals.

5. ***A trend is considered to be intact until it shows definite signals that it has reversed.*** This is perhaps the most challenging part of investing: When has the trend changed? Many an investor has mistaken a serious correction for a temporary pullback. The opposite is true for the end of a bear market. Misinterpreting whether a true reversal has begun or whether the recent rise in prices is just another bear trap is also a costly error.
6. ***The averages must confirm each other.*** This is the tenet that relates to our discussion of sector trading and tracking a variety of market averages. According to Dow theorists, in order for a market trend to have staying power, the railroad (transports) and industrial averages must confirm each other's rises and falls. During a bull market, both the Dow Jones Industrial Average and the Dow Jones Transportation Average must move to new highs together in order for the advance to have staying power. However, if the industrial average sets a new high but the transportation average moves lower, it gives a bearish signal.

Charles Dow had only two averages to observe and he believed that they must move up or down together. Today, we have a myriad of indexes and ETFs to track. The industrials and the transports are still important. However, for Wall Street, it is also encouraging to see some of the other more economically sensitive groups setting new highs along with the S&P 500 Index. Examples include the AMEX Broker/Dealer Index (\$XBD), the MS Cyclical Index (\$CYC), and the NASDAQ Composite Index (\$COMPQ).

SECTOR TRADING SYSTEM

Jay Kaeppel wrote an article for *Technical Analysis of Stocks and Commodities* magazine about a method used to trade Fidelity Select sector funds.* Dubbed "Pure Momentum," it is simple, yet has significantly outperformed the market over the years. While he applies the analysis to the Fidelity Select Sector Funds, the principle is relevant to our discussion of

*Jay Kaeppel, "Trade Sector Funds with Pure Momentum," *Technical Analysis of Stocks and Commodities* 19, no. 11 (July 1999), 22–36.

index trading as well. Using the system we can find areas of potential strength or weakness. The buy rules to the system are as follows:

1. At the end of each month, identify the five sector funds that have advanced the most in price over the previous 240 trading days.
2. Buy and hold those five funds until minimally the end of the next month.
3. Repeat the process at the end of each month.

There is nothing more to it. Table 11.7 lists the annual results for the Pure Momentum system versus the S&P 500. It easily beat the market in 10 of 14 years. In addition, when it didn't top the S&P 500 Index, it produced positive returns during those four years. So, although it might be difficult or scary to buy sectors that have already rallied, this evidence suggests that it is worthwhile at times. An important factor to consider is diversification.

As Jay says, "It would be foolish to invest all of one's capital in a single top-performing industry group, yet at the same time it would appear to

TABLE 11.7 Pure Momentum System Annual Results

Year	Pure Momentum	S&P 500	System vs. S&P
1990	(4.7)	(6.6)	1.9
1991	74.7	26.3	48.4
1992	17.4	4.5	12.9
1993	24.9	7.6	17.3
1994	8.1	(2.0)	10.1
1995	36.1	34.1	2.0
1996	17.9	20.3	(2.4)
1997	30.5	31.0	(0.5)
1998	23.1	26.7	(3.6)
1999	110.8	21.0	89.8
2000	18.2	(10.1)	28.4
2001	(6.4)	(13.0)	6.6
2002	(14.1)	(23.4)	9.3
2003	24.0	26.4	(2.4)
2004	1.1	2.7	(1.6)

Courtesy of Jay Kaeppel, *Technical Analysis of Stocks and Commodities*.

be very prudent to allocate a portion of one's investment capital to a diversified group of top performing groups."

GO INTERNATIONAL

Jay Kaepfel went further and applied the Pure Momentum strategy to the international exchange-traded funds. These funds, included in Table 11.8, hold stocks from different countries. A complete discussion was presented in Chapter 2.

The system setup was the same: After the last trading day of each month, take the five country ETFs that have advanced the most over the last 240 trading days. Buy and hold an equal dollar amount of shares of

TABLE 11.8 ETFs by Country

Ticker	Country
EWA	Australia
EWC	Canada
EWD	Sweden
EWG	Germany
EWH	Hong Kong
EWI	Italy
EWJ	Japan
EWK	Belgium
EWL	Switzerland
EWM	Malaysia
EWN	Netherlands
EWO	Austria
EWP	Spain
EWQ	France
EWS	Singapore
EWT	Taiwan
EWU	United Kingdom
EWV	Mexico
EWY	South Korea
EWZ	Brazil

TABLE 11.9 Annual Pure Momentum System Results, 4/1/97 to 5/12/04

Year	Top 5 Monthly	All ETFs	Top 5 Minus All ETFs
1997	17.2	(0.2)	17.4
1998	22.8	8.8	14.1
1999	10.5	24.9	(14.4)
2000	(14.7)	(19.8)	5.1
2001	(3.4)	(11.1)	7.6
2002	(8.3)	(13.2)	4.8
2003	34.6	45.2	(10.6)
2004	(4.5)	(2.4)	(2.1)

those five funds until the end of the next month. Then repeat this process. If fewer than five funds posted an advance over the past 240 trading days, then hold that portion of the portfolio in cash.

Table 11.9 shows that the Pure Momentum system applied to country funds outperformed the others funds in five out of seven calendar years. Although it lost money all three years during the 2000–2002 bear market, it held up much better than the other systems. Again, the results confirm that it isn't necessarily a bad idea to chase a hot sector.

PAIRS TRADING IN THE SAME SECTOR

The last strategy that we want to consider related to sector analysis is called *pairs trading*. We already know that stocks within the same industry or sector tend to exhibit a certain amount of co-movement. A pair trade is a market neutral strategy that attempts to profit from the fact that certain stocks tend to exhibit a high degree of co-movement over the long term.

In order to profit from pairs, traders want to find two highly correlated stocks within the same sector that have been moving in a dissimilar manner for a period of time. Then the pair trade is created by shorting one stock and buying the other in anticipation that the longer-term trend will revert to its mean. It is a market and sector neutral strategy because it depends not on the movement of the overall sector or market, but is based on the idea that one stock will outperform the other in the short term.

The first step in setting up a pairs trade is to identify two stocks that are highly correlated. For example, Ford (F) and General Motors (GM) are

two stocks that have been the subject of numerous pair trades. The two stocks tend to see similar price action because they are in the same industry. Their business activities are related to changes in consumer spending and the economy.

The key to a good pair trade is not just in the correlation, but also in the stock picking. For instance, one might choose two companies that are rivals or competitors. Then, buy (or go long) shares of the company that is expected to win the battle for market share and sell short the stock that is expected to lose.

Some traders have developed statistical tools for finding pair trades. Models that use historical data can scan stocks that have high levels of correlation during the past few years but have diverged from that trend during the past few weeks or months. For example, one might set up a pairs trade when the price ratio (difference in price) between two highly correlated stocks diverges by one or two standard deviations.

The Optionetics Platinum site has the ability to screen the stock universe to find highly correlated stocks. Or one could simply chart two stocks and look at relative performance over a period of time. Figure 11.16 shows the performance of LSI Logic (LSI) and Intel (INTC) in a period when the two chip stocks had a high level of correlation (0.87). However, LSI was beginning to significantly outperform Intel by a large margin, which was at odds with the long-term correlation between these two stocks.

To profit from the divergence between INTC and LSI, a strategist might have set up a pair trade by shorting LSI and buying shares of Intel. If semiconductor stocks remain strong, the trade can yield profits if Intel moves higher faster than LSI. However, if the chip sector falters, the pair can generate profits if LSI falls faster than Intel. The trade is market neutral because it doesn't depend on the direction of the overall market or sector. Figure 11.17 shows what eventually happened. Both stocks fell,



FIGURE 11.16 INTC and LSI Diverge (Source: www.ProfitSource.com)

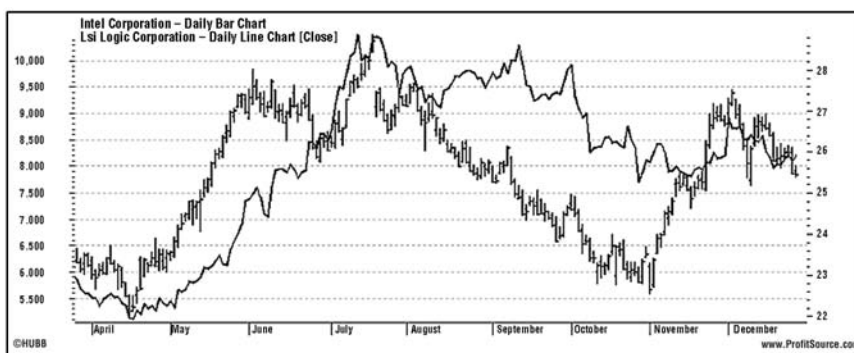


FIGURE 11.17 LSI and INTC Revert (Source: www.ProfitSource.com)

but then INTC started to rally while LSI continued sliding. The gap closed, yielding a profit for the pair trade.

To create a pair, the strategist will want the total value of the position to be based on dollar value rather than number of shares. For example, if the underperforming stock is trading for \$20 and the other for \$40, then 200 shares of the underperformer are purchased for every 100 shares shorted in the other stock. This way a 10 percent move in one equals a 10 percent move in the other.

At the same time, there is a risk of loss if the two stocks move in the unanticipated direction and the divergence widens. In fact, the risk associated with a pair trade is greater than holding just one stock because the strategist might be wrong twice. For instance, in our example, LSI might continue moving higher while Intel falls. For that reason, as with most strategies, stop-losses, adjustments, and exit plans are encouraged with the pair trade.

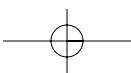
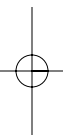
CONCLUSION

Sector analysis can improve the odds of finding good trades. A bit of research can help find high-probability situations, or synergies, when the fundamentals and the technicals are moving in the same direction. Fundamentals can provide a better idea regarding the long-term trends in the sector. The technicals can help with the timing. Finally, once an outlook becomes clear, the strategist can initiate option trades on the appropriate sector fund or index.

When looking for trades, use personal experience as a guide. Do you have special skill or knowledge in technology, medicine, finance, or energy-

related fields? Look around you. Are the homes in your neighborhood selling? Are interest rates moving higher? Are gas prices increasing?

In fact, through sector trading, it is possible to build a system around not just the short-term outlook for the stock market, but around life goals and objectives. Global economic events can and will affect all of us on a personal level. Taken together, these strategies can help us to make profits in good times and bad.



CHAPTER 12

Tracking and Trading Volatility

There are times when market volatility is high and other times when volatility is low. It tends to increase when important and relevant new information arrives in the market. Sudden unexpected events, like a major terrorist attack, can immediately send the stock market into a tailspin, and volatility shoots higher. In contrast, when events are unfolding in a predictable manner, volatility tends to fall or remain low.

As a general rule of thumb, if new information causes investors to aggressively buy or sell, volatility increases. Human emotion can serve to drive volatility to extremes. During times of little or no new information, however, stock and index prices will exhibit low levels of volatility. In that case, human emotion will not have a major impact on volatility.

While volatility is often associated with chaos, falling stock prices and loss of wealth, it is not to be feared by the index options trader. There are always periods of high volatility and other times of low volatility. The crash of 1987 was an episode of high volatility, but it was followed by a prolonged period of gradually climbing stock prices and lower volatility. This chapter seeks to help the reader see the profit opportunities in both market environments.

VOLATILITY DEFINED

Volatility is the speed of movement of an investment security. It is very important to options traders because, as we will see, volatility has a

direct impact on option prices. In fact, we wrote an entire book on the topic. Readers who have enjoyed this book thus far are encouraged to take a look at our previous book, *The Volatility Course*, as well. It focuses on finding options trading strategies during periods of changing volatility.

Traders use a variety of different tools to view volatility. A simple bar or open-high-low-close (OHLC) chart is one such tool. Since the length of each bar is determined by the high and low prices of the day, short bars suggest that the stock is exhibiting low volatility. In that case, the trading ranges between the daily high and low prices are small. In contrast, when the bars are longer, it means that there is a bigger difference between the highs and lows of the day. Therefore, longer bars reflect higher volatility.

Figure 12.1 features an OHLC chart of the PHLX Semiconductor Index (\$SOX). It shows a gradual move higher in early 2000 followed by a precipitous decline. During the advance, the bars were short and reflected a period of low volatility. Then, when the decline in March gathered momentum, the bars became longer, which was a sign that volatility was on the rise in the semiconductor sector.

However, volatility is not simply a development that occurs when prices fall. Volatility can also be high when prices rise. Since volatility affects option premiums, this is an important concept to understand. Option premiums should be higher when the volatility of the underlying index is expected to be high. This is true regardless of whether the price movement of the index is to the upside or the downside.

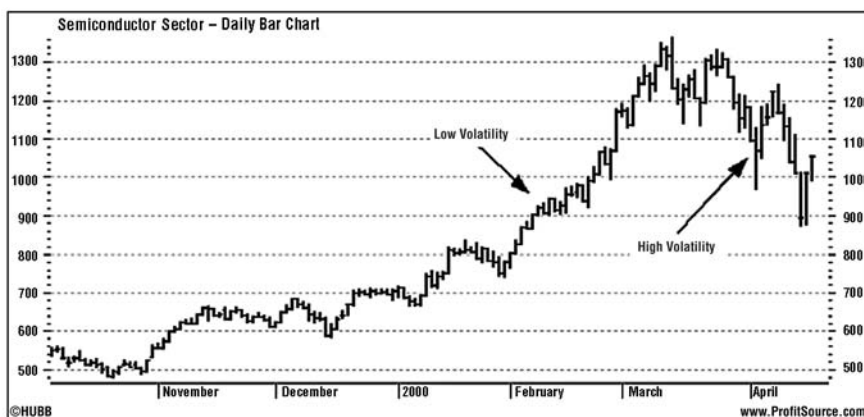


FIGURE 12.1 SOX Daily Bar Chart (Source: www.ProfitSource.com)

As an example, if the underlying index is trading for \$102, a call option with a strike price of 120 will have a higher premium when the index has high rather than low volatility. Why? Because when volatility is high, there is a greater chance that the index will rise above \$120 and that the call with the 120 strike will move in-the-money. If this isn't entirely clear yet, don't worry; it will make more sense by the conclusion of this chapter.

THE CBOE VOLATILITY INDEX

The CBOE Volatility Index (\$VIX) is a good starting point for a discussion of volatility. It is probably the most widely watched tool for tracking market volatility, but also the least understood. The VIX is an index based on the current prices of S&P 500 Index (\$SPX) options. To be specific, the value of the index represents the expected volatility priced into options on the S&P 500 Index. The CBOE uses a mathematical formula to compute the volatility index using a basket of SPX options contracts. The VIX is then broadcast to the financial markets throughout the trading day on a real-time basis. Punch the symbol \$VIX into a quote machine and you'll get the latest readings.

What is *expected volatility*? Expected volatility and implied volatility are two measures of volatility that are computed using options-pricing models. These volatility measures are factored into current option prices and reflect consensus expectations about future volatility of the underlying index. In this case, the VIX reflects expectations regarding the S&P 500 Index.

When the volatility index rises, it means that SPX traders believe volatility will increase going forward. In that sense, the VIX represents a consensus forecast about future volatility in the S&P 500 Index, and therefore in the U.S. stock market. During periods of market uncertainty and worry—and when the S&P 500 Index declines sharply—VIX tends to jump higher, which is why it is sometimes referred to as the market's "fear gauge." In contrast, when the market trades quietly or makes a steady move higher, VIX tends to fall.

Figure 12.2 shows the movement of the VIX and the SPX from the summer of 1998 to 2003. During market declines, including the S&P 500 Index's tumble in the fall of 1998, the volatility index will jump higher; when the SPX trades in a range or trends higher, the VIX will edge lower. Hence, there is an inverse relationship between the VIX and the S&P 500 Index.

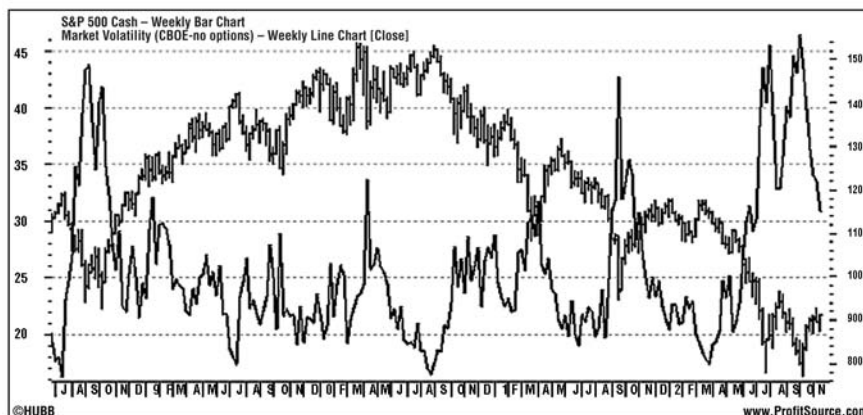


FIGURE 12.2 S&P 500 Index and VIX (Source: www.ProfitSource.com)

IMPLIED VOLATILITY

While the VIX measures expected volatility of the S&P 500 Index, strategists can create similar volatility graphs for any stock, index, or exchange-traded fund. These charts are called *implied volatility* (IV) charts and are computed using an options-pricing model. Most of options-pricing models are based on the Black-Scholes formula, which was introduced at roughly the same time as the launch of the Chicago Board Options Exchange (1973). We (and Optionetics.com Platinum software) use the Bjerk Sund-Stensland American option model. It is a variant of the original Black-Scholes model.

When a model is used to compute the volatility priced into an options contract, the result is known as implied volatility. The VIX is such an example and is constructed using a basket of options. The same thing can be accomplished with any options contract. For example, if I know that the SMH is trading at \$35.25 and the SMH January 35 call option is trading for \$2.25 a contract, I can plug that information into a model and compute the IV of that option.

More on Option Pricing Models

If you are interested in the mathematics behind the option model, a good book on the subject is *Option Volatility and Pricing*, by S. Natenburg (Burr Ridge, IL: Irwin Professional Publishing, 1994). Another is *The Volatility Course*, by George Fontanills and Tom Gentile (New York: John Wiley & Sons, 2004). The Bjerk Sund-Stensland American option model is discussed in *The Complete Guide to Option Pricing Formulas*, by E. Haug (New York: McGraw-Hill, 1998).

For the less mathematically inclined, these models or formulas may seem cumbersome, but in fact the formula is relatively easy to compute and can be created in most programmable calculators. The simplest way is to use a computer, which can handle the computation with ease. However, many web sites and brokerage firms offer implied volatility data and charts. Therefore, unless the reader is an adventurous type and really wants to learn the math, knowing the formula isn't really necessary.

The most important factor to consider when looking at implied volatility is what it tells us about option premiums. Since volatility is a factor in computing options prices, IV tells us whether option premiums are cheap or expensive. Recall that VIX tends to rise when the S&P 500 Index becomes more volatile. This tells us that SPX option premiums are increasing to reflect expectations about future volatility. Alternately, when VIX falls, it is a sign that S&P 500 Index options are becoming cheaper.

The Black-Scholes Option Pricing Model

Fischer Black and Myron Scholes' work in developing what is now known as the Black-Scholes option pricing model led to a Nobel Prize. Since the original formula was published in 1973, other models have been developed, but virtually all of them are based on the first Black-Scholes model. Options traders use these models to compute theoretical option values and implied volatility. The formula is complex. Fortunately, options pricing calculators based on the formula are available at many online brokers and options-related web sites at no cost. For example, the Chicago Board Options Exchange (CBOE) offers a free options pricing calculator on its web site (www.cboe.com).

Let's consider another example. Let's say the OEX is trading for 570 in early January and the February 570 call with 45 days left until expiration is quoted for \$17 a contract. If this information is plugged into an options-pricing model the model will compute the IV. In this case, the implied volatility is 20 percent. Table 12.1 shows how the value of calls and puts

TABLE 12.1 Changes in IV Affect Options Premiums (OEX = 570 on January 3)

Implied Volatility	OEX February 570 Call	OEX February 570 Put
10%	8.90	7.80
15%	13.00	11.90
20%	17.00	16.10
25%	21.40	20.20
30%	25.50	24.40

will change as the implied volatility of the options changes. All else being equal, the greater the IV, the higher the option premium.

Vega

Vega is the option Greek that captures the change in the options premium relative to each one-point change in implied volatility. If an options contract has a vega of 0.05, it will increase in value by \$0.05 for every 1 percentage increase in IV.

ACTUAL OR HISTORICAL VOLATILITY

While implied volatility measures expectations about future volatility, historical (or actual) volatility is a measure of past price changes in a stock or index. It's a look in the rearview mirror, so to speak.

There are a variety of ways to view past or historical volatility. One example, the OHLC chart, discussed earlier. Strategists can also watch the daily point moves in the index. If the index is beginning to make larger point moves, it is becoming more volatile. Table 12.2 shows the average

TABLE 12.2 Average Daily Moves, November 2004 to December 2005

Month	SPX	Dow	NASDAQ
November	5.60	48.37	12.79
December	4.90	47.46	11.00
January 2005	7.16	59.27	18.56
February	6.41	56.71	12.99
March	5.86	52.81	11.15
April	9.30	83.24	18.87
May	6.24	57.83	11.17
June	4.61	42.31	10.18
July	6.05	55.32	12.25
August	5.52	49.14	12.61
September	5.20	49.50	10.79
October	9.13	68.97	18.86
November	5.16	39.12	10.92
December	4.32	39.53	11.23

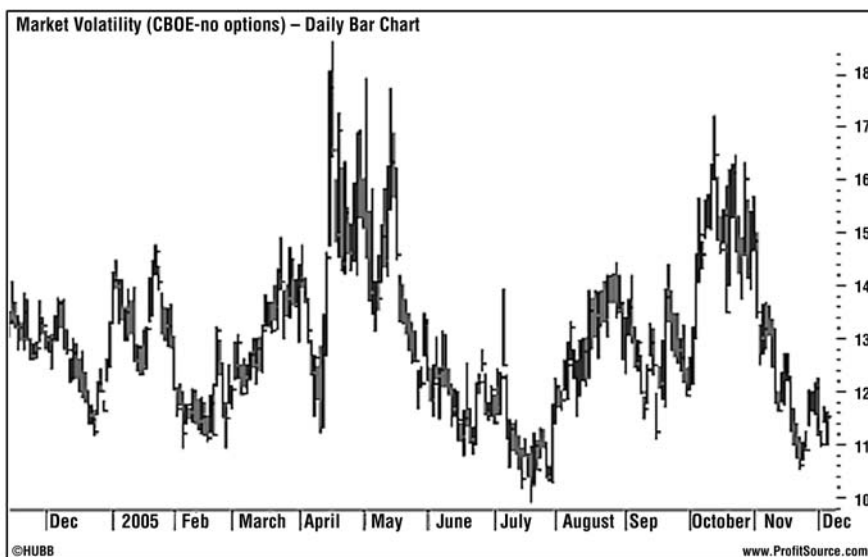


FIGURE 12.3 VIX from November 2004 to December 2005 (Source: www.ProfitSource.com)

daily moves in the major exchanges during the year ended December 2005. The most volatile month was April 2005. However, the trend was clearly toward declining volatility. For example, in November and December 2004, the average daily moves in the Dow were 48.4 and 47.5 points, respectively. However, one year later, the average daily move was less than 40 points during those two months.

The VIX will react to the changes in the market's actual volatility. Figure 12.3 shows the changes in the volatility index during the same time frame as Table 12.2. Notice that the most volatile months in Table 12.2 are April and October, which corresponds with the two spikes that occur in Figure 12.3. This is a familiar pattern throughout the index markets, namely, when an index begins to see increasing daily price swings, the options premiums will begin to "price in" the greater volatility and IV will rise.

AVERAGE TRUE RANGE

The ATR indicator discussed in Chapter 9 can also be used to gauge the volatility of an index. Developed by Welles Wilder and introduced in his 1978 book, *New Concepts in Technical Trading Systems* (McLeansville,

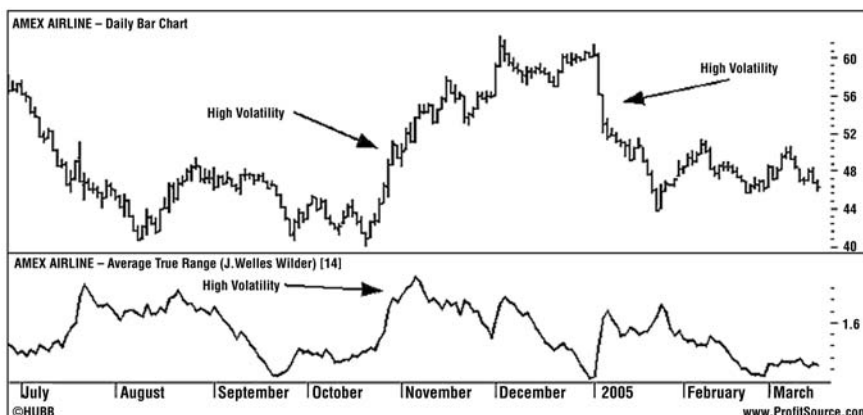


FIGURE 12.4 Rising Volatility and ATR (Source: www.ProfitSource.com)

NC: Trend Research, 1978), this indicator defines the true range (TR) as the greatest of these three measures:

1. The current high minus the current low.
2. The current high minus the previous close.
3. The current low minus the previous close.

In general, if the difference between the high and low of the day is large, it will be used as the True Range. In instances when the difference between the current day's high and low is relatively small, one of the other two methods will typically define the TR.

The average true range is simply an average of the TRs over time. Fourteen days is a common time frame when using averaging the true ranges. Obviously, computing TR is a cumbersome task without the aid of computer. In addition, the best way to view ATR is over a period of time alongside a stock chart. An example of ATR alongside the AMEX Airline Index appears in Figure 12.4. Notice that during periods of high volatility—seen as large vertical bars and a fluctuating price chart—ATR rises. This occurs whether the price movement is higher or lower. Volatility doesn't care about direction.

BOLLINGER BANDS

Bollinger bands, developed by John Bollinger, have become one of the most widely used measures of volatility among traders today. As with the ATR, Bollinger bands are best viewed graphically and the indicator is not

practical to compute by hand. But the math is discussed here in order to get a better understanding of how the indicator works.

Bollinger bands use both moving averages and standard deviations. Recall from earlier chapters that a moving average is simply the average of an index price over a period of time. For instance, if at the end of six trading days an index closes at \$400, \$440, \$500, \$480, \$500, and \$520, the four-day moving average at the end of the fifth day is \$480, or $(\$440 + \$500 + \$480 + 500) \div 4$. It is important to note that as each new day is added to the moving average, the last price is removed. This means that in the previous example, the four-day moving average at the end of the sixth day equals $(\$500 + \$480 + \$500 + \$520) \div 4$, or \$500. Moving averages are most often used over a period of 20, 50, or 200 days.

Bollinger bands use the moving average as an input along with the standard deviation. In order to understand how the bands work, it is important to understand what standard deviations tell us. A *standard deviation* is defined as the variability of the distribution of stock or index prices. According to statistics, roughly 68 percent of a data set will be within one standard deviation of its mean. Two standard deviations contain 95 percent of the price data.

To illustrate, consider the bell curve in Figure 12.5. The chart represents

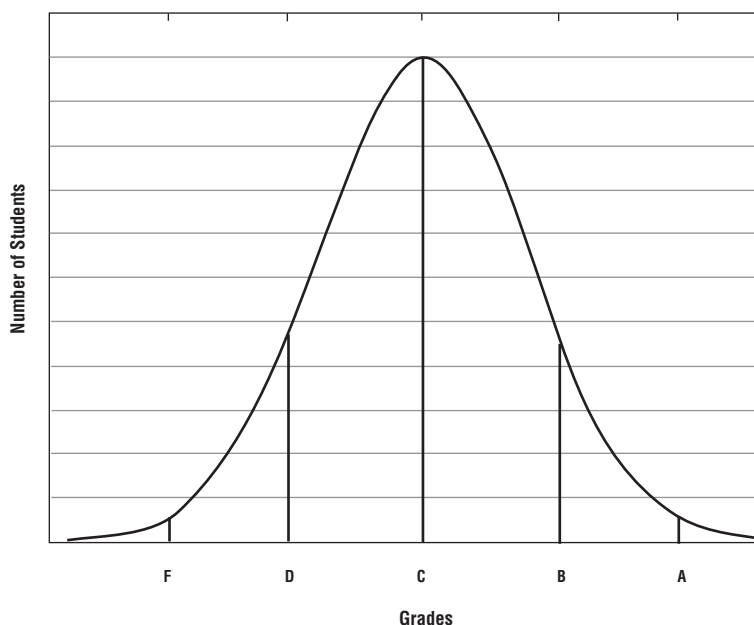


FIGURE 12.5 A Bell Curve with Standard Deviations

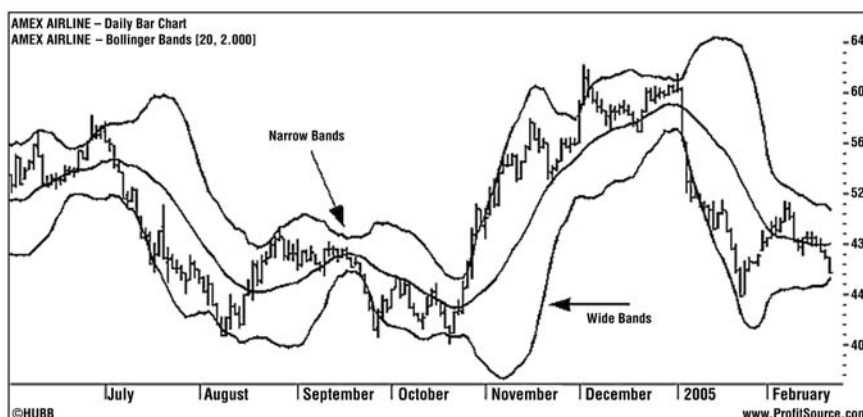


FIGURE 12.6 XAL with Bollinger Bands (Source: www.ProfitSource.com)

the grades received on a high school history exam. The first standard deviation of grades will fall somewhere around a grade of C, which is the average or mean. Thus, 68 percent of the grades fall between C- and C+. The next standard deviation contains Bs and Ds. It is between a D- and a B+ where 95 percent of the grades given on the exam fall (two standard deviations from both sides of the mean, or C). And finally, there are only a couple of As and one or two Fs. They lie beyond two standard deviations of the mean.

An important difference between the Bollinger bands and the history test example is that Bollinger bands are *moving* standard deviations. The indicator considers the two standard deviations above and below the moving average. After each new trading day, the oldest price is dropped and replaced with the new data.

As the security's price changes through time, the bands will become wider and narrower as the stock's volatility increases or decreases. This is what makes the Bollinger bands a unique visual gauge of a stock's volatility. When movement in the index is less volatile, the bands come together. When the movement of the index becomes more hyperactive and volatile, the bands will diverge, or widen. Figure 12.6 shows the changes in the Bollinger bands on the airline index. Often, the bands will narrow and become tight ahead of a major move higher or lower. This is sometimes known as a *Bollinger band breakout*.

STATISTICAL VOLATILITY

While ATR and Bollinger bands are useful chart indicators, *statistical volatility* (SV) is the mostly widely used gauge of historical or actual

volatility among options traders. Using the closing price of the stock or index over a fixed number of trading days, the SV is computed as the annualized standard deviation of prices over a period of days. High standard deviations are generally associated with higher risk, or higher volatility, investments. A higher standard deviation reflects a higher level of variability in the distribution of stock prices—in other words, greater volatility.

In practice, rather than using the simple standard deviation, most computations of statistical volatility use the lognormal distribution of stock returns. Understanding the math is not that important because many services offer statistical volatility information at no cost; nevertheless, the math is presented here for those who might be interested. In financial theory, it is assumed that the logarithms of stock prices are normally distributed, but not the prices themselves. Therefore, to compute historical volatility, the logarithm of prices will take the place of P and P_i . The most common way of computing statistical volatility is shown in the accompanying box.

Computing the Standard Deviation

$$\sigma^2 = \frac{\sum_{i=1}^n (P_i - P)^2}{n - 1}$$

$$v = \frac{\sigma}{P}$$

where

P_i = the stock price over a range of n days

P = the average stock price over n days

n = number of days

v = volatility

Similar to implied volatility, SV is expressed as a percentage. For instance, an index with a 20-day SV of 25 percent has been more volatile than an index with a 20-day SV of 15 percent during the referenced period. An index with a 100-day SV of 10 percent and a 9-day SV of 30 percent has seen an increase in volatility during the past 20 days. In this case, its long-term (100-day) SV is much less than its short-term (9-day) SV.

Some software programs now allow us to apply statistical volatility graphs to charts. Figure 12.7 shows the 20-day statistical volatility plotted alongside the price action of the AMEX Airline Index. Similar to the ATR indicator, this SV indicator doesn't distinguish between volatile moves higher or lower. Volatility is a measure of the *speed of movement* of the underlying index and says nothing about direction.

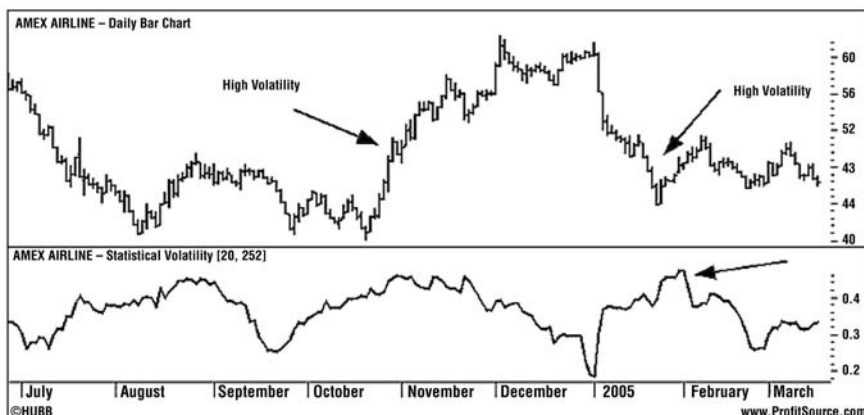


FIGURE 12.7 XAL with SV Indicator (Source: www.ProfitSource.com)

THE RELATIONSHIP BETWEEN IMPLIED AND HISTORICAL VOLATILITY

Statistical volatility is a rearview mirror look at past price volatility. Implied volatility reflects expectations about future volatility. Consequently, SV and IV for the same underlying index should be similar much of the time. If IV is considerably higher than its historical volatility, it is a sign that the market is pricing in or bracing for an increase in volatility going forward. This will often happen, for example, ahead of an earnings report. Figure 12.8 shows a spike in implied volatility in Marvell Technology (MRVL) ahead of an earnings report in August 2004.

It is not unusual to see IV rise ahead of a known event. In the index market, a spike like the one in Figure 12.8 is not likely. Nevertheless, since the market is forward looking, IV will often move higher in anticipation of specific events like political elections or economic data releases.

For options traders, understanding trends with respect to the implied volatility of an underlying asset is important because it can help determine (1) what the market expects in terms of future volatility, and (2) whether the premiums are relatively cheap or expensive. The options market is relatively efficient, and increases in IV are often followed by increasing volatility.

Sometimes, however, the options market is wrong and implied volatility is out of whack with reality. For example, although the IV chart indicated that MRVL might make a volatile move following its earnings report in August 2004, it did not. As a result, implied volatility came crashing down—a phenomenon known as *volatility crush*. (See Figure 12.9.)

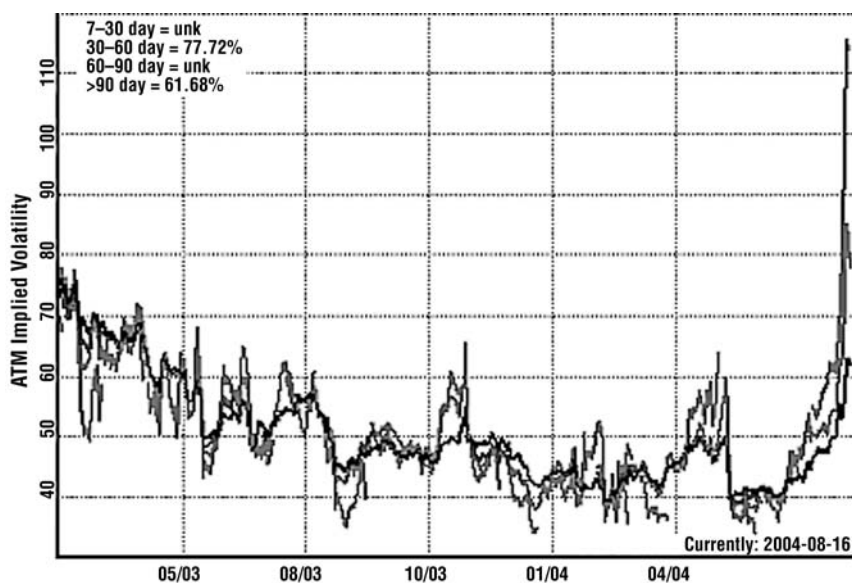


FIGURE 12.8 MRVL Implied Volatility Spike, August 2004 (Source: www.Optionetics.com Platinum)

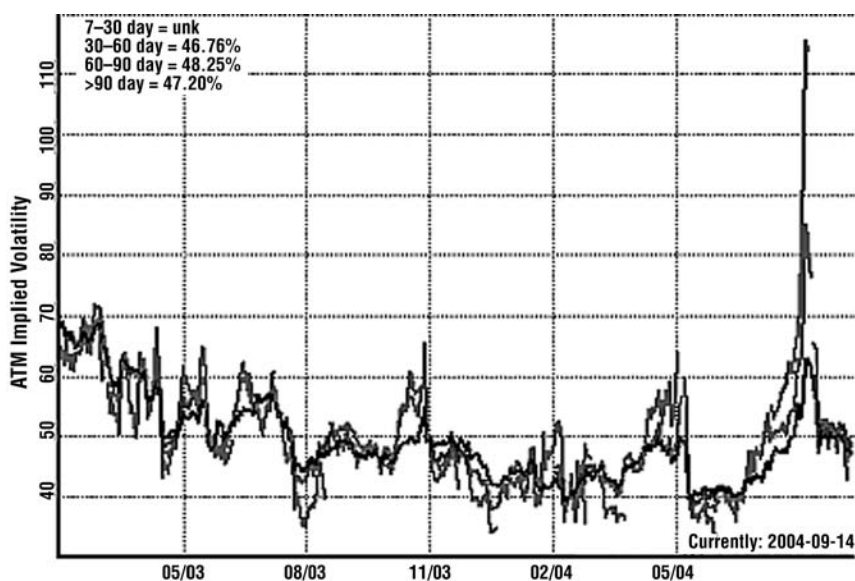


FIGURE 12.9 MRVL Volatility Crush (Source: www.Optionetics.com Platinum)

How does one know if IV is too high or low? Without a crystal ball, there is no way to clearly discern the future, but there are ways to get a general idea. First, the strategist will want to look at the longer-term IV chart in order to find the average or normal range for implied volatility. For example, it is clear from Figure 12.8 that the IV of Marvell was outside of its normal range in August 2004. Second, the strategist will want to consider long-term trends with respect to statistical volatility. Is SV rising or falling? Are there seasonal patterns?

Computing Theoretical Values

Earlier we introduced the Black-Scholes options-pricing model. The most common way to use this model is to take the options premium and various inputs (price of the underlying index, strike price of option, days left until expiration, and the current risk-free rate) to compute the implied volatility of the option.

The model can also be used to compute the *theoretical value* of the option. To do so, the strategist will enter the SV of the underlying asset and solve for the option premium.

- If the theoretical value of the option is less than the actual option value ($SV < IV$), the options might be too expensive.
- If the theoretical value is greater than the current market price of the option ($SV > IV$), the options are perhaps undervalued.

Finally, looking at statistical volatility compared to implied volatility can give you a better sense of whether option premiums are cheap or expensive. If IV is much higher than the underlying index's actual or statistical volatility, it could be a sign that the premiums are too high.

In sum, volatility can be measured in several ways. The VIX is probably the most widely used gauge of market volatility, and it tracks the expected volatility priced into S&P 500 Index options. The same analysis can be duplicated for any options contract, and each options contract has a unique level of implied or expected volatility. That level of implied volatility will, in turn, tell the strategist whether that options contract is relatively cheap or expensive. If IV is high on a historical basis, the options are expensive. If IV is low, the options are cheap. As a result, when looking at IV, the strategist will want to do three things:

1. Understand the index's historical volatility (SV) over time.
2. Understand the index's implied volatility (IV) over time.
3. Compare IV to SV.

VOLATILITY BY SECTOR

The VIX and other volatility indexes are used to track the expected volatility of the major averages, but the strategist will sometimes want to take a closer look at the trends within specific sectors or industry groups. The Select Sector SPDR Funds offer a relatively easy way to view volatility by sector. Recall that the SPDRs are a group of nine funds created around specific industry groups including technology, utilities, and energy. In addition, options are listed on each of these ETFs. Therefore, just as VIX is used to track the implied volatility of the S&P 500 Index, traders can track the volatility of the SPDR funds to view trends related to specific sectors.

As noted earlier, technology stocks were the most volatile five or six years ago, when the CBOE launched the VXN and the AMEX created the QQQV Index. That has since changed; by most measures, energy-related stocks have been the most volatile in recent years. Shares of oil, natural gas, and oil-drilling companies have been trading in reaction to volatility in the commodities to which they are closely linked: crude oil, heating oil, and natural gas.

Table 12.3 shows the volatility of the various Select Sector SPDRs in early October 2005. The 20-day SV of the energy fund jumped to 30.4 percent, or nearly double the levels seen two months ago. Meanwhile the IV also rose, to 30.5 percent, which was almost perfectly in line with the fund's actual volatility. So the data supports the premise that energy stocks

TABLE 12.3 Volatility by Sector, as of October 2005

Select Sector SPDR	Symbol	20-day Statistical Volatility (SV)	Implied Volatility (less than 30 days)	Implied Volatility (30–60 day)
Energy	XLE	30.40%	30.50%	31.50%
Utilities	XLU	18.30%	18.20%	16.90%
Consumer Discretionary	XLY	14.10%	18.40%	18.50%
Basic Materials	XLB	13.10%	20.30%	20.50%
Financials	XLF	12.90%	12.70%	14.80%
Information Technology	XLK	11.00%	16.50%	16.00%
Industrials	XLI	10.90%	17.80%	16.80%
Consumer Staples	XLP	9.60%	11.20%	12.60%
S&P 500 Index	SPX	9.60%	14.70%	13.60%
Health Care	XLV	8.20%	14.20%	14.20%

were by far the most volatile of the funds evaluated. Judging by the relatively high IV in the energy fund, that trend was expected to continue in the future.

Utilities were also becoming volatile. In this table, the Select Sector Utility Fund (XLU) October options currently have an IV of 18 percent. Outside of utility and energy stocks, the market was trading relatively quietly at that time. The SV was low in the health care, technology, and consumer staples sectors. Financials and technology were also showing relatively low levels of actual volatility. However, relative to actual levels of volatility, the IV of some of the funds (XLY, XLB, and XLI) was high, which was a sign that these groups were expected to see greater volatility over the next 30 to 60 days.

VOLATILITY SKEWS

Volatility skew occurs when different options contracts on the same underlying asset have different levels of IV. For instance, if the XYZ January 2007 options have implied volatility of 40 percent and the XYZ January 2009 options have implied volatility of 20 percent, a volatility skew exists. Why? Because the shorter-term options have a much higher level of IV compared to the longer term options. Additionally, skews may occur between different time frames, between calls and puts, and between different strikes.

Volatility skews can develop under several circumstances: when a market experiences a strong uptrend or downtrend, in fast-moving markets with sizeable volume, when there is a gap move due to news or a panic-type atmosphere, or when the market expects some event to cause greater volatility in the short term rather than the long term.

A time skew is identified by different levels of implied volatility on stock options with the same (or possibly different) strike prices, but different expiration months. This is sometimes called a calendar skew because it affects options with different months remaining until expiration (and can therefore be exploited by employing a calendar spread).

Another skew that occurs, although not as often, is when there is a difference in the IV of calls and puts on the same index. Sometimes when there is a flurry of put activity, the implied volatility in the puts will increase relative to that of the calls due to the increase in demand. However, large differences between implied volatility of puts and calls on exchange-traded funds will lead to risk-free arbitrage opportunities. For instance, if the IV of the QQQQ puts is lower than the calls, a strategist could buy shares, buy puts, and sell calls. This is known as a

conversion. (See the box on the following page for more information about conversions and reversals.) Arbitrageurs will continue this process until the IVs return to their normal values.

Price skews occur when the implied volatility differs across the strike prices of options, on the same underlying index with the same expiration months. There are two types: forward and reverse volatility skews. In a forward volatility skew, higher-strike options have higher IV and lower-strike options have lower IV. In a reverse volatility skew, lower-strike options have higher IV and higher-strike options enjoy lower IV. If a forward volatility skew occurs, the trader may want to look at potential put ratio backspreads; if a reverse volatility skew occurs, the trader may want to look at potential call ratio backspreads.

Reverse price skews almost always exist in the cash index market. Since the stock market crash of 1987, options with a lower strike price have higher implied volatility than those with higher strike prices. The out-of-the money options are more expensive than the at-the-money and in-the-money options. In addition, the puts have modestly higher IV than the calls.

For instance, if the SPX is trading near 1,045, the implied volatilities of the puts and calls might look similar to Table 12.4. The greater IV in the out-of-the-money puts implies that the market has priced in a greater chance of a move lower rather than higher. But, in fact, history has shown that the opposite is more likely to happen. The market is more likely to rise in the long term. The reason for this skew is subject to debate, but

TABLE 12.4 SPX Reverse Skew

Calls IV	Strike Price	Puts IV
10.7	1200.0	12.8
10.8	1205.0	12.5
10.8	1210.0	12.4
10.8	1215.0	11.9
10.7	1220.0	11.9
10.6	1225.0	11.4
10.4	1230.0	11.4
10.2	1235.0	11.1
10.1	1240.0	10.9
10.0	1245.0	10.7
9.9	1250.0	10.5

some believe that it is due to the higher margin requirements for naked put selling.

For whatever reason, unlike a skew between puts and calls on ETFs, there is no way to profit from the reverse price skew through arbitrage. In addition, only large institutions that can trade all 500 S&P stocks can arbitrage the put and call skew on the SPX through conversion or reversal. In sum, the skews in the index market are not easily arbitrated away and generally represent a permanent condition.

Traders can use this information to their advantage by understanding that index calls will generally be cheaper than puts, and that options with a lower strike price will be more expensive than options with higher strike prices. For instance, a call ratio backspread, which involves selling calls and buying a greater number of out-of-the-money calls, could potentially benefit from this type of skew.

Conversion and Reversal

A *conversion* involves buying stock, buying puts, and selling calls, where both the puts and the calls have the same terms. If an IV skew exists between the puts (low IV) and the calls (high IV), it can produce opportunities for a risk-free trade using a conversion. The position will have a locked-in profit if the cost of the position is less than the strike price of the option. A *reversal* works the same way but involves short stock, short puts, and long calls. Due to conversions and reversals, skews between puts and calls rarely exist. In other words, calls and puts at the same strike price must trade at similar implied volatility levels.

IMPLIED VOLATILITY AND STRATEGY SELECTION

An entire book can be written on strategy selection based on implied volatility in the options contract. One already has been! In *The Volatility Course* (New York: John Wiley & Sons, 2002), we provide a detailed discussion regarding what option strategies to use during high- and low-volatility situations. The key point is that options with low IV are cheap and options with high IV are more expensive.

Table 12.5 summarizes some of the strategies one might consider using in different situations. For example, if IV is low and the strategist is bullish, long calls and ratio backspreads make sense. These strategies will offer better risk versus rewards if the strategist enters them when IV is low but expected to rise. If the strategist is neutral on direction of the underlying and implied volatility is low, long straddles and strangles make

TABLE 12.5 Strategy Lists by Volatility Environment

Implied Volatility	Low	Average	High
Bullish	Long call Protective put Bull call spread Call ratio backspread	Bull call spread	Bull put spread Covered call Naked put Collar Long shares
Neutral	Straddle Strangle	Straddle Strangle	Short straddle Short strangle Butterfly
Bearish	Long put Short stock, long call Put ratio backspread Strangle	Bear put spread	Bear call spread Covered put Short call Short shares

sense. Again, these positions involve the purchase of premium, a situation when it is better to buy low and sell high.

When IV is high, the strategist wants to be more cautious about buying premium. For instance, if the strategist buys SPX puts when the VIX is at the high end of its recent range, there is a risk that (1) the market will stop falling, and (2) implied volatility will fall. The result is a double whammy to the long put from delta and vega. Instead, in a high-volatility environment, the strategist might want to short an ETF or use spreads.

Volatility skews can also open the door to trading opportunities. For example, calendar and diagonal spreads work well when the strategist identifies significant time skews, with the short-term options experiencing higher IV relative to the longer-term options. In that case, the short-term (expensive) options can be sold and the longer-term (cheap) options are purchased. Finally, vertical (credit and debit) spreads can be used to take advantage of time skews.

ADDITIONAL VOLATILITY INDEXES

In addition to volatility skews, options traders watch for changes in implied volatility (IV) over time to determine if options are cheap or expensive on a historical basis. In addition, there are several tools for tracking the changes in implied volatility throughout the index market. These volatility indexes are benchmarks that are updated during the day like stock or index quotes.

The Original Formula VIX

On September 22, 2003, the Chicago Board Options Exchange modified the CBOE Volatility Index (\$VIX). The ticker symbol for the modified index stayed the same, but the original VIX started trading under the symbol \$VXO. The most significant change to the index was that, while the old index was based on the implied volatility of S&P 100 Index (\$OEX) options, the new volatility index is derived from the more actively traded and liquid S&P 500 (\$SPX) contract.

The formula used to compute the VIX also changed at that time. It is no longer based on the Black-Scholes model, but on a slightly different formula for computing expected volatility. It also uses a larger range of options that are weighted to provide a more accurate measure of volatility. The time to expiration for these model options remained at 30 days. So, although the VIX was modified, the original volatility index construction continues to exist; hence, traders can use the \$VXO to track the implied volatility priced into OEX options.

The NASDAQ Volatility Index

After the global financial crisis of 1998, technology was by far the strongest sector of the stock market. From its low of 1,063 in October 1998, the NASDAQ 100 Index (NDX) increased fourfold over the next 18 months. As the index approached all-time highs near 5,000, technology was the market's hot sector, and most of the tech bellwethers were trading on the NASDAQ.

The popularity of technology led many index traders to gravitate from the S&P 100 and S&P 500 Index to options on the NASDAQ 100 Index and similar indexes. In 1999, the AMEX started listing options on the NASDAQ 100 Index Trust, or today's QQQQ. Meanwhile, the CBOE, which had already listed options on the NDX, created the mini-NASDAQ 100 (\$MNX, often pronounced "minx"), and MNX options started trading in August 2000. The MNX is almost exactly the same as the NDX, with one important difference: the mini-NASDAQ 100 Index is equal to 1/10 of the NASDAQ 100.

Investors quickly embraced these two NASDAQ index products. Professionals turned to the QQQQ and MNX puts to hedge their growing exposure to technology stocks. Speculators traded the Qs and MNX on the bullish side.

In response to the growing interest in NASDAQ 100 options, the CBOE launched an implied volatility indicator on the NDX in January 2001. Known by its ticker symbol, VXN (sometimes called "vixen"), the new IV indicator was created to track the IV of popular NDX options contracts. Like VIX, it is updated continually throughout the trading day.

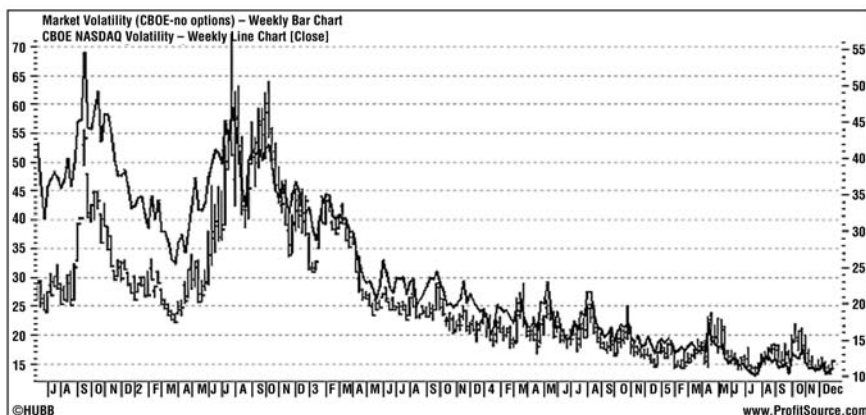


FIGURE 12.10 VXN and VIX (Source: www.ProfitSource.com)

There is a strong correlation between the VIX and VXN—they tend to move together. Historically, VXN has been higher than VIX to reflect the greater volatility within the technology sector, but the gap is starting to narrow. Figure 12.10 shows the two indexes moving in a similar manner in recent years. Both are in long-term declines.

The QQQQ Volatility Index

If you trade the Qs, this volatility index is probably the best one to watch. Shortly after the CBOE created its NASDAQ volatility index, the AMEX also recognized the need for an IV indicator. In fact, within days of the launch of VXN, the AMEX announced the debut of its own proprietary IV indicator: the QQQQ Volatility Index (QQV). This index, as you can imagine, is a composite measure of implied volatility on QQQQ options. Like VIX, it is computed and available throughout the day.

The Dow Volatility Index

The Chicago Board Options Exchange launched the CBOE Dow Jones Industrial Average Volatility Index (\$VXD) in early 2005. Listed under the symbol VXD, the new index is “designed to reflect investors’ consensus view of future (30-day) expected market volatility in the Dow Jones Industrial Average (DJIA),” according to a January 12, 2005, press release from the CBOE.*

*“The CBOE Creates Two New Indexes Based on the Dow Jones Industrial Average,” CBOE press release (www.cboe.com), January 12, 2005.

The VXD is computed using the expected volatility priced into Dow Jones Industrial Index (\$DJX) options. The DJX, you will recall, is a cash index equal to 1/100 of the industrial average. So, just as the VIX is used to gauge SPX options premiums, the VXD is used to track the volatility associated with options on the Dow. Traders looking for trading opportunities relative to the DJX want to keep an eye on this volatility barometer.

SEASONAL TRENDS IN VOLATILITY

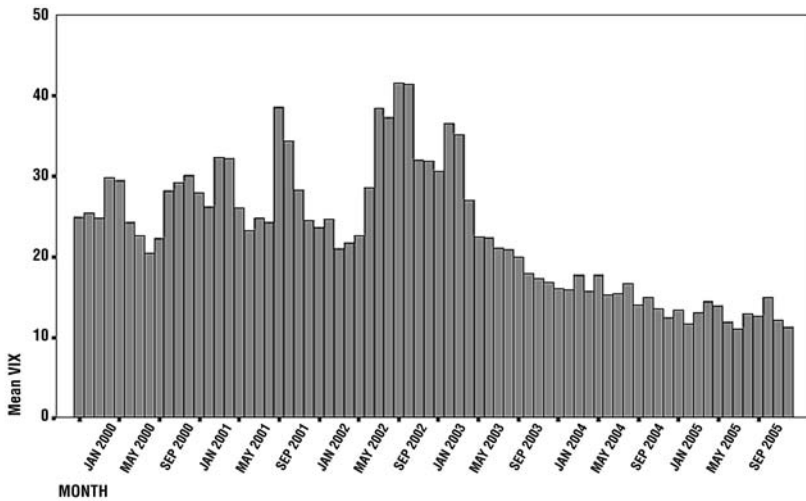
Seasonal patterns exist with respect to volatility. Specifically, volatility tends to fall during the summer months and again toward the end of the year. The first few months of the year and the month of October tend to show greater volatility. Table 12.6 shows the average reading from the VIX from 2000 to 2005. The average point move in October is 25.3, which is the highest average of any month.

Figure 12.11 shows the information in Table 12.6 graphically. Each bar represents the average reading from the VIX from 2000 to 2005. The long-term trend is obvious. The volatility has been falling into a lower range, and this also reflects a decline in actual volatility (refer back to Table 12.2). This long-term trend is obviously important to index traders because lower volatility will mean smaller moves in the S&P 500 index from one day to the next.

During the past six years, the NASDAQ Volatility Index has also been

TABLE 12.6 Average Moves in the CBOE Volatility Index (\$VIX)

	2000	2001	2002	2003	2004	2005	Average
Jan	24.97	28.03	23.64	30.67	16.08	13.44	22.80
Feb	25.46	26.19	24.67	36.54	16.00	11.71	23.43
Mar	24.81	32.41	21.01	35.19	17.69	13.13	24.04
Apr	29.83	32.25	21.81	27.14	15.68	14.46	23.53
May	29.44	26.10	22.62	22.55	17.71	13.97	22.06
Jun	24.33	23.30	28.60	22.39	15.36	11.87	20.98
Jul	22.66	24.86	38.50	21.20	15.50	11.05	22.29
Aug	20.48	24.26	37.25	20.92	16.68	12.95	22.09
Sep	22.34	38.57	41.66	20.00	14.08	12.63	24.88
Oct	28.21	34.44	41.48	18.02	14.97	14.94	25.34
Nov	29.21	28.30	32.04	17.34	13.58	12.15	22.10
Dec	30.10	24.54	31.83	16.83	12.45	11.26	21.17

**FIGURE 12.11** Average VIX Reading by Month

moving into a lower range. For example, in December 2000, the average daily reading from the VXN was greater than 75. In December 2005, it was only 14.3 (see Table 12.7). The long-term decline in the VXN reflects the sharp drop in actual volatility on the NASDAQ Stock Market.

Figure 12.12 graphs the information from Table 12.7. The decline in the VXN is obvious. Occasionally, volatility on the NASDAQ will rise and

TABLE 12.7 Average Moves in the NASDAQ Volatility Index (\$VXN)

	2000	2001	2002	2003	2004	2005	Average
Jan	56.66	71.52	47.29	44.26	22.67	19.30	43.62
Feb	55.82	66.44	46.32	47.34	24.47	17.70	43.01
Mar	59.32	72.07	40.25	45.83	24.61	18.02	43.35
Apr	73.27	74.31	40.86	37.56	22.31	18.40	44.45
May	68.41	60.50	45.62	31.64	25.53	17.51	41.53
Jun	58.20	54.15	55.08	33.38	21.08	15.15	39.51
Jul	54.84	52.71	62.94	32.34	22.39	13.79	39.84
Aug	50.39	49.43	54.95	29.27	24.67	15.30	37.34
Sep	50.46	68.42	57.94	29.19	20.75	14.90	40.28
Oct	60.68	64.06	56.48	26.90	20.98	16.37	40.91
Nov	67.69	54.79	49.70	26.75	19.35	14.89	38.86
Dec	75.17	49.61	49.65	25.68	18.49	14.31	38.82

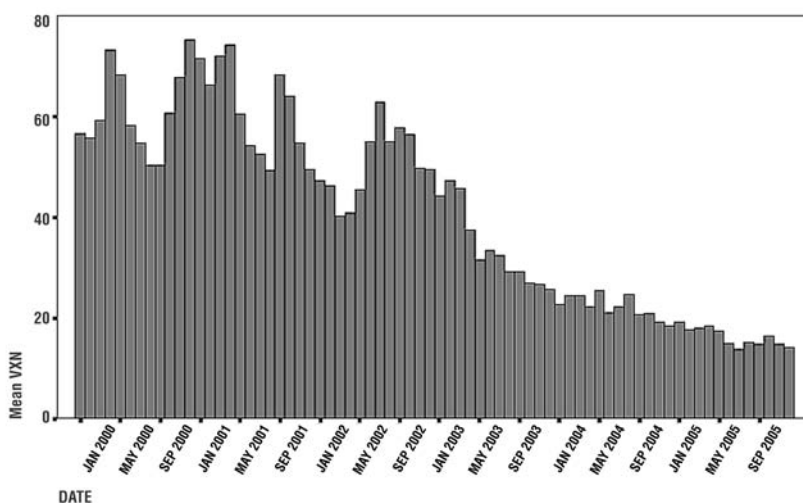


FIGURE 12.12 Average VXN Values by Month

this will certainly affect option premiums. Nevertheless, the trend is clear and it could take many months or years for this pattern to change.

VOLATILITY AS A SENTIMENT INDICATOR

The VIX has been dubbed the market's "fear gauge" because it tends to rise when investors become more anxious or nervous. Since the VIX is a gauge of fear, it can also be used as a sentiment indicator. There is an adage among traders that "When VIX is high, it's time to buy. When VIX is low, it's time to go."

The philosophy underlying the adage is that when VIX is high, investors are relatively pessimistic and expect high levels of volatility going forward. At that time, the contrarian turns bullish on the market. It's time to buy stocks. In contrast, when VIX is low, it is time to go (i.e., to get out of the market). The crowd is complacent and optimistic. From a contrarian approach, it is a poor time to buy stocks and, in fact, it's "time to go." In short, high VIX means buy stocks (not options), but a low VIX urges caution.

Unfortunately, VIX has not been very useful as a sentiment indicator during the past few years. It continues to set new lows but the S&P 500 Index is climbing. So just when it seems that VIX is low (and it's therefore "time to go"), it falls even lower and stocks continue to rise.

An important reason for the decline in VIX is the quiet performance of the market over the past few years. To illustrate, let's consider the fear gauge relative to the SPX statistical volatility. On the last day of trading in 2005, the VIX was 12 percent—a low reading on a historical basis. At the same time, the 20-day statistical volatility of the SPX was only 6 percent. Figure 12.13 shows the long-term decline in the S&P 500 Index's statistical volatility, including the drop to new lows in December 2005.

Although VIX was low on a historical basis in December 2005, it was very high relative to the actual volatility of the S&P 500 Index. Recall from Table 12.2 that the average daily move in the S&P 500 Index in December 2005 was only 4.3 points. So the market was trading very quietly and SV was falling, but implied volatility was holding steady. The VIX was double the S&P 500 Index's actual volatility. The market's fear gauge was indicating that market volatility might pick up in early 2006, which would make sense since January starts a seasonally volatile period for the stock market.

When using VIX and other volatility indexes as a sentiment indicator, traders want to (1) consider its recent trading range, and (2) look for confirmation from the other sentiment tools discussed in Chapter 10. Creating a chart can help find the trading range. In 2005, the VIX stayed

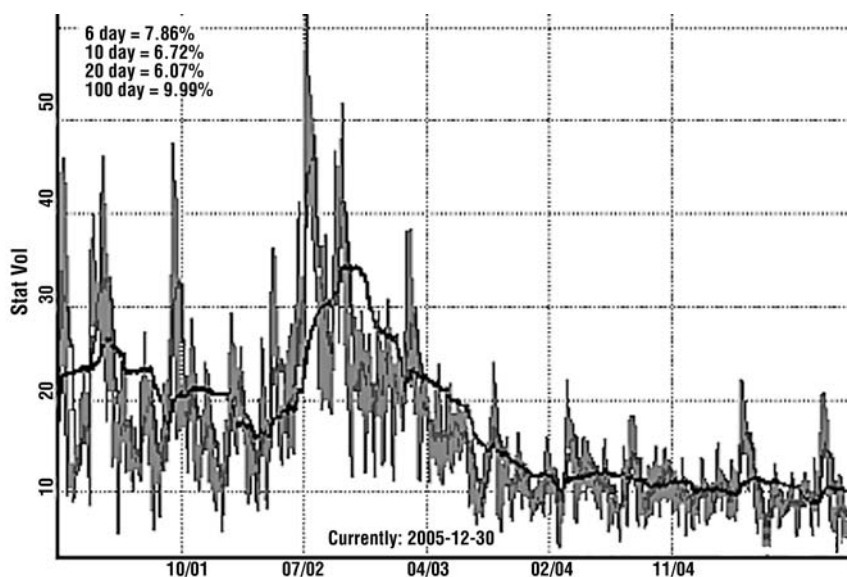


FIGURE 12.13 S&P 500 Index Five-Year SV Chart (Source: www.Optionetics.com Platinum)

between 10 and 20 percent most of the time. When the market's fear gauge moves toward its extremes, then strategists can look at other indicators. For example, if VIX is low and the put-to-call ratios are similarly low, the newsletter writers' surveys are lopsided in favor of the bulls, the ISEE is running higher, and everyone around you seems bullish, then it might very well be time to go.

HEDGING WITH INDEX PUTS

When VIX is low and it's time to go, some investors might want to use index puts to hedge their portfolios. A hedge is a trade that reduces the risk of an existing position. The concept is not unique to options trading. For instance, farmers sometimes use the commodities markets to hedge their crops. It is also possible to hedge an options position, a stock holding, an entire portfolio, event exposure such as rising interest rates, or a futures contract.

Reversion to the Mean

Although volatility is always in a state of change, the volatility of stocks or indexes can be assigned a "normal" or average value. This is a value that the volatility of an index tends to center around throughout long periods of time. In statistics, the average is also known as the *mean*. When volatility diverges greatly from that normal range, there is a tendency for it to revert back to that average, or mean. Therefore, if the volatility of an index is low relative to its average over a long period of time, there is a tendency for the volatility to increase and revert back to its mean. On the other hand, when the volatility of a stock or index is high relative to its long-term average, chances are greater that it will fall back towards the mean.

Not all hedges are the same. There are the so-called perfect hedges, which remove all risk and partial hedges. Each is designed to limit the risk associated with a given trading strategy. As an example, if I buy 200 shares of SPY and one SPY put, I am only partially hedged, because one put will hedge only 100 shares.

In the stock market, investors can hedge entire investment portfolios of stocks with index options. For example, if an investor holds a portfolio of U.S. stocks, and the S&P 500 Index is trading at the 900 level, one put option contract can be used to hedge a \$90,000 portfolio (because the index multiplier is 100). However, unless the stocks in the portfolio are exactly the same as those included within the S&P 500, buying the put will

not be a perfect hedge. Nevertheless, if there is a reasonable correlation between the stock portfolio and the S&P 500, buying index puts can offer a partial hedge to many investment portfolio combinations.

Similarly, a portfolio of NASDAQ stocks can be hedged using NASDAQ 100 (\$NDX) or NASDAQ 100 Index Trust options (QQQQ). Other areas of the market can be hedged with various sector indexes (see Table 12.8). If an investor is concerned about exposure to, for instance, energy stocks, he might establish a partial hedge using puts on the Select Sector Energy Fund (XLE). The goal is to find the index that fits the investor's specific needs at the time.

Once the strategist has determined what underlying security to use, the next considerations are the strike price and the expiration date. The maturity of the put option will depend on the time needed for protection. If the strategist wants to hedge a specific event, like an economic report, then short-term options will do the job. However, if the strategist is looking for a permanent hedge, he might want to look at options that expire in one year or more, and then roll the position forward well before expiration. Remember that options lose value at a faster rate when expiration approaches. When time decay is a factor, it is better to hold longer-term rather than shorter-term options.

What about strike price? If the SPX is trading near the 900 level, one put option will protect a \$90,000 portfolio. If the SPX 850 put is purchased, it will offer protection once the portfolio declines to \$85,000 and any subsequent drop from that point forward. Keep in mind that the higher the strike price, the greater the protection. However, puts with higher strike prices will also have higher premiums. Therefore, the increased cost for

TABLE 12.8 Hedging Sectors
with SPDRs

Select Sector SPDR	Symbol
Energy	XLE
Consumer Staples	XLP
Health Care	XLV
Financials	XLF
Industrials	XLI
Utilities	XLU
Consumer Discretionary	XLY
Information Technology	XLK
Basic Materials	XLB

the added protection will lower the total return of the portfolio, especially if stocks move higher and the protection doesn't become a factor.

Some hedgers are faced with a decision regarding over- or underinsurance. For example, if the portfolio is worth \$100,000, one SPX 850 put will offer only \$85,000 of protection. This is \$15,000 too low. Two puts will provide \$170,000 worth of protection, or \$70,000 too much. An alternative is to find an index that trades at a lower value. For example, the investor might consider the S&P 100 Index (\$OEX) if it is trading near 500. In that case, two puts with a strike price of 500 could be purchased to hedge the \$100,000 portfolio.

Exchange-traded funds like the Dow Jones diamonds (DIA) or the QQQQ can also be used to hedge or partially hedge a stock portfolio. The key to successful hedging strategies with index options is first to find those indexes that hold the stocks similar to the positions in the portfolio; and second, to identify the strike prices and expiration dates that best match the objectives.

When implied volatility is low, the cost of hedging a portfolio will be cheaper than when implied volatility is high. Volatility is mean-reverting, however. This implies that when VIX falls to the lower end of its range, it tends to bounce higher. Therefore, the best time to establish the hedge is when VIX is low. Not only is this favorable from a contrarian perspective, but also because the low VIX indicates that implied volatility is low and therefore the cost of the hedge will be cheaper.

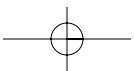
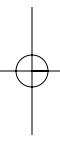
CONCLUSION

For many people, reading a chapter about volatility probably ranks right up there with going to the dentist for a root canal. For serious options traders, however, it is a topic that should not be overlooked. Bottom line, volatility affects option prices directly, and in many cases dictates which strategy to use in different situations.

First, however, volatility needs to be defined and measured. Volatility is the speed of change of an investment. Direction is not a factor. Volatility can be high regardless of market direction—lower or higher.

There are several ways to measure volatility. Historical or actual volatility looks at price movement in the past and can be used to determine what is normal or average for the underlying index. Bar charts, average true range (ATR), and Bollinger bands can help view the actual volatility of an asset. Statistical volatility (SV) is another measure of historical volatility that is expressed as a percentage; it can be directly compared to implied volatility (IV).

Implied volatility, in turn, is one of the factors that determine an option's price. When it is low, option premiums are relatively cheap. However, when IV is high, premiums are relatively expensive. Knowing whether options are cheap or expensive can help dictate what strategies to use in a given situation. For example, when VIX is low and S&P 500 Index option premiums are cheap, it may be a good time to buy index puts to hedge stock portfolios.



CHAPTER 13

Making Adjustments

The fact that many market participants like to trade sectors or major indexes to avoid company-specific risk has translated into opportunities for the options strategist that might not be found outside of the index market. If you've ever been in a situation where you were right about the broader market direction, but the stock you chose didn't move in tandem, then one or more of the index products discussed in this book might offer a strong alternative for you.

Moreover, with the increased popularity of ETFs and HOLDRs, all traders have the opportunity to use a wide range of products that reflect diverse markets such as interest rates, major oil companies, real estate, and biotechnology stocks, as well as major market averages like the Dow Industrials and NASDAQ 100. Many of these same products serve as an underlying security for listed options—yet another benefit to the options strategist.

Whether traders focus their efforts on delta neutral, volatility, or directional-based strategies, the ability to see and make adjustments to alter the original position is an empowering approach worthy of consideration—particularly when such an adjustment increases the reward-to-risk profile. Using examples on some of the more actively traded ETFs, this chapter considers adjustments to modify and improve existing positions.

CONTRACT SPECIFICS

The popularity of exchange-traded funds has directly impacted the options markets in many of these products as well. Tighter spreads, more

liquidity in LEAPs, and strike prices such as those that are deep in-the-money are a few reasons to consider trading options on these relatively new products. At the same time, some of these funds offer flexibility with strike prices at just one-point increments. As we will see, the choice of many strike prices means that traders can initiate more dynamic and tailor-made positions. Some of the major index proxies that have this additional feature include the S&P 500 (SPY), Dow Industrials (DIA), Russell 2000 (IWM), NASDAQ 100 (QQQQ), and the iShares Long-Term Bond Fund (TLT).

Earlier in the book, we noted that listed calls and puts on exchange-traded funds have the same contract specifications as those for most equities. For example, one contract normally represents 100 shares of the underlying instrument. As is the case with equities, these contracts are open to the possibility of early or American-style exercise by the buyer of the contract. Further, options on these index products are physically settled in the same way as stock and are not based on a cash settlement feature. In contrast, most index options settle European-style. In addition, indexes such as the S&P 500 Index and the Dow Jones Industrial Index settle for cash. We focus on American-style ETF strategies in this chapter.

ADJUSTING THE TRADE

An adjustment occurs after a position has been opened. It can be a slight adjustment, such as buying more shares or options, or a major overhaul of the entire trade. Either way, an adjustment is defined as a modification to an existing options position. It can be used to protect profits, reduce losses, or change the directional bias of the trade. Once an options position is initiated, the trader can choose one of two general paths:

1. Maintain a passive position until expiration.
2. Be proactive during the life of the position and make adjustments.

There is no absolute right or wrong here. The choice depends on a trader's risk tolerance and the market circumstances of any given trade; sometimes the path not taken might, in fact, be the better choice. Both methods can also incur profits or losses before the trade is exited in full, depending on the type of position a trader initiates and what happens in the underlying market thereafter.

The astute options strategist will always understand the changing risk-to-reward profile of a particular position, as it relates to the underlying market. Armed with that knowledge, one can make a stronger decision

about proactive adjustments or whether to sit tight. Before we explore some of those possibilities on various index proxies, a quick refresher of some of the more common limited-risk strategies is in order.

POSITION TYPES RECAP

The category labeling that follows might be a new way of thinking about a particular options strategy, but the names and characteristics of each should be familiar by now. Only key points are outlined here. This is not a complete list, as more exotic spreads and combinations also exist. However, from this list you will find that these highly popular, limited-risk spreads offer a wide range of ways to profit from various market situations.

1. **Directional long:** Limited-risk directional bets using a purchased call or put. Maximum position risk is the initial debit.
 - Bullish directional bias: Call purchase.
 - Bearish directional bias: Put purchase.
2. **Delta neutral:** Limited-risk position established in anticipation of future movement in either direction. Strategist wants the underlying to move dramatically and quickly.
 - Long straddles (natural): Simultaneous purchase of ATM call and put with the same expiration.
 - Long synthetic straddles: Use of option and shares (2:1 ratio for long ATM puts). With larger positions in many ETFs, margins can make this more prohibitive than a natural straddle.
 - Long strangles: Simultaneous purchase of call and put with OTM strikes and the same expiration.
3. **Verticals:** Limited-risk and limited-reward directional spreads. Extent of bullishness and bearishness is reflected in strikes and width of position.
 - Bull verticals: Call spread established for debit; put spread established for credit.
 - Bear verticals: Call spread established for a credit; put spread established for a debit.
4. **Long calendar:** Limited-risk, contract-neutral debit strategy wherein back month is purchased and shorter-term option is sold. Can be established with either calls or puts with the same strike price. Expansion of debit and profit is maximized by collapse of front month short. This occurs when the underlying index is at or near the position strike price at the expiration of the near-term, short contract.

- Nondirectional: Use of ATM options. Strategy looks to collect larger front month time decay (theta) relative to the purchased back month.
 - Directional: Strategist can use same strikes below current price for a slightly bearish play or above for a slightly bullish play.
5. **Long diagonals:** Limited-risk, contract-neutral strategy that purchases back month and sells the near-term contract. Strike prices are different. This strategy takes on the characteristics of both long verticals and calendars, as time, direction, and volatility play a key in profitability and risk of position.
 6. **Long butterfly:** Limited-risk, contract-neutral debit strategy that utilizes three strikes (equidistant) on options of the same type (all calls or puts). Middle strike is sold with twice as many contracts as the outside protective strikes. Strategist is seeking spread expansion by stock settling at the inside or short premium strike. *Tip:* Think of the butterfly as a bull vertical and a bear vertical combined.

The idea behind adjustments is to lock in profits and minimize our potential losses, while simultaneously moving our position risk and reward profile in line with any changes that may have occurred due to both conditions in the underlying and any shifts in our perception that may have developed.

WHY ADJUST WITH LIMITED RISK STRATEGIES?

Before we get into example trades and show alternative adjustments as the underlying conditions change, first ask yourself why you might need to make an adjustment after assuming a limited-risk options position.

Directional (Delta) Risk

The delta (or directional risk) of the underlying shares is always fixed at +1 or -1 (often expressed as +100 or -100). For instance, 100 shares of OIH purchased at 130 will make a profit of \$500 if sold at 135, or stand to lose \$500 with an adverse move lower five points to 125. Options, on the other hand, have variable or shifting deltas that can move from near zero for OTMs, to an almost rock-hard and near identical delta of the underlying for deep ITMs, which are +100 deltas on standardized contracts.

When a trader assumes delta risk, a higher total count (number of contracts times delta) means the position is exposed to more directional risk, like that of a pure stock trader. In this situation, it stands to reason

that as the underlying moves, the options trader with delta risk will, at a minimum, consider an adjustment to his existing position. Offsetting the increased directional exposure lets the trader get paid, so to speak, and this can only be done by taking some kind of deliberate action or adjustment to the position.

Gamma/Delta Risk

Why do some purchased options contracts just seem to never move, even though the stock looks to be moving favorably in the anticipated direction? Then suddenly, as if somebody flipped on a light switch, those very same options start to explode in price and react with similar gains to that still being seen in the underlying? This phenomenon is a function of an option's gamma and is a very important concept for delta neutral traders.

As a refresher, gamma is the rate of change in an option's delta as the underlying moves up or down one point. At-the-money options nearing expiration have the highest gamma rate. This makes sense when you realize that with the clock ticking down, price changes in the underlying are magnified and have the ability to put that option into the category of either ITM or OTM permanently.

An option with a large gamma factor (such as ATM near or on expiration) needs only fractional price movement in the underlying and through the strike price to shift the option from being worthless to having real value only pennies from the striking price. A call option in this situation quickly piles on value and would essentially mimic the stock as the high gamma value shifts the delta rapidly toward +100 for every call contract. At the same time, of course, once the delta approaches the hard delta (+100 or -100) of acting like stock, the gamma component drops precipitously if the stock maintains that direction (see Figure 13.1).

On the other end of the spectrum, very deep ITM options will retain their hard stock-like delta, until the underlying moves aggressively closer to the strike price. At that point the gamma factor will begin to increase and affect the delta with a reduction in its directional value, so that it begins to act less like stock. OTM options work in the same capacity, except from the other side of the gamut, where they don't react (or barely) with the underlying stock movement until a severe move occurs and/or there is a substantial pickup in the implied volatility.

When a trader assumes gamma risk, which for our purposes is typically associated with being long a straddle, market movement equates to potential profitability. The gamma factor associated with this type of position has changed a delta neutral position to one that shows directional risk characteristics. For instance, if the underlying instrument moves dramatically higher in price, although the number of contracts

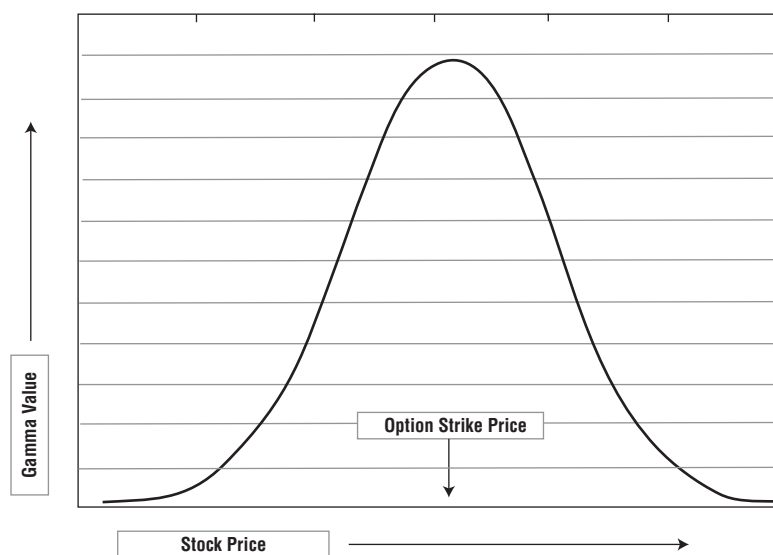


FIGURE 13.1 Impact of Stock Movement on the Value of Gamma

on the straddle hasn't changed, our positive deltas increase. The long calls' deltas move from approximately +50 deltas when the position was established, to possibly a delta near +100, if the move is severe enough. Simultaneously, the puts move from a -50 delta to one that is much lower and possibly approaching 0. This adds up to directional risk that needs to be adjusted in order to turn open position risk into some realized profits against the initial expense of the position.

The adjustment to the delta seeks to get the trader back to a directionally neutral position and is called *flattening out* or *gamma scalping*. Regardless of the approach, by adjusting the position—adding stock, selling existing contracts, or redeveloping the position by selling contracts on a different strike—the trader is acting appropriately. Managing the gamma and delta risk is vital to the success of this position type over the long run.

Theta or Time Decay Risk

Limited-risk strategies enable traders to sleep better at night. Knowing your maximum exposure reduces your stress potential because you no longer have to live with the uncertainty of unlimited risk. However, strategies such as the straddle are established with a very real up-front cost, a debit intrinsically tied (ironically enough) to an option's extrinsic value. Time may be on our side, but with limited-risk trades that involve extrinsic

value, time is there for a while but it certainly isn't permanent. The prepared trader needs to be ready to fend off this natural enemy gracefully.

Intrinsic and Extrinsic Value

To determine the amount of time value (or extrinsic value) remaining in a call or put option, traders can use the following formula:

Call time value = (Call strike price + Call option price) – Stock price

Put time value = (Stock price + Put option price) – Put strike price

The total value of the trade minus the extrinsic value equals intrinsic value.

Intrinsic value is one part of long contract ownership that doesn't involve the potentially hurtful effect of time decay, or position rot. Does it sound too good to be true? It's not. While time decay isn't a problem, these positions or contracts are comprised entirely of another one of our Greek friends, the delta. Unless you are actively pursuing delta or directional risk, intrinsic value doesn't mean a free ride.

The other potential component of an option's value is the extrinsic value. Straddle traders in particular need to be very aware of this position cost. Extrinsic value is also known as the time premium of the option. The general rule of thumb is that ATM options will have the most amount of time premium built into their current market price, and the further out that a trader looks (such as LEAPs), the more extrinsic value one will find in the options listed.

Potential value is a good way of thinking about this element of an option's existing price. Until an option actually expires in-the-money, any premium paid over the intrinsic value is speculating on price action in the underlying that does not exist at that moment. The reason why traders will pay for something that doesn't exist here and now is to gain the ability to participate in a move and to do so with the protective value of a purchased contract. It is similar in a sense to the premiums you pay for a life insurance policy. You pay premium for something that gives you no benefits unless something happens—you die.

Time decay can be very detrimental when holding options with a lot of extrinsic value, especially for an option that is near- or at-the-money with less than 30 days until expiration. Straddle traders need to be aware of this unwanted characteristic and take appropriate action by making necessary adjustments before it's too late. Maybe this means exiting part or all of an already profitable straddle. Or maybe taking appropriate action means taking a smaller, more manageable loss as the position enters

the theta-wrecking final 30 days of a contract's life. In either situation—and in all of those gray areas that exist between them—adjusting for time decay is a necessary, positive action on the part of the trader.

Vega Risk

While theta is the risk associated with time decay, vega is the risk in an option's value that is associated with changes in volatility. As you should know by now, there are different types of volatility, such as future or historical, which relate to what we know or wish we knew about the underlying product's movement. For the option player, though, implied volatility is the only kind that is associated solely with the value of the option in the marketplace.

Implied volatility is the market's consensus of the fair value in an option at any given time. The sum of all the participants that trade a particular contract—from market makers and institutions to the retail investor—reflects a fluid auction process that can change the market price of an option contract, as supply and demand characteristics shift.

Suppose a trader wanted to purchase an ATM call on the Biotech HOLDRs (BBH). With the sector proxy having closed that particular evening at \$201, the 200 level calls two months out finished off the day with an offered market price of 6.20. Early the next morning, with the underlying security flat on the session, our friend decides to commit to a trade, but finds that the options are now 6.70 bid and offered at 7.0. What happened? Ultimately, we can establish that the implied volatility in the contract went up. For whatever reason (maybe an institutional player was a size buyer of calls that morning), the current market price or implied volatility of that contract has spiked higher. It might be temporary, as demand for the option fades and more sellers enter the picture. But the impact to the option trader is the same regardless of the circumstances creating this spike—the price to enter has increased for the time being.

At that point, the trader can't know with any certainty whether the implied volatility will decrease or increase going forward. The movement in the underlying market and the combined risk acceptance of those participating in the traded options will be the key determinants of how the implied volatilities react in the days ahead.

Vega risk, or the ability for an option's price to expand and to shrink (i.e., supply outstrips demand, an earnings report is now public), becomes another factor for which the options strategist must account. This means learning to make educated, calculated adjustments to the position during the good, profitable situations and being just as proactive when the trader is in need of limiting unwanted risk associated with a volatility crush or decrease.

LIMITED-RISK STRATEGIES AND TYPES OF ADJUSTMENTS

Position adjustments can take on a number of different forms. The strategist can buy or sell shares, lock in profits by closing part of the trade, or use money management to reduce the size of the trade at a profitability level that has been determined. The trader can also roll the trade up (higher strike) or out (longer term option), or decide to add contracts and change the risk/reward profile altogether. The reader should be relatively comfortable at this point with the major risks that reflect the various strategies outlined thus far. The remainder of this chapter focuses on the S&P 500 ETF (SPY). With the help of some recent price action, we look at a series of example trades and their adjustments. Gamma scalping (with stock, options or both), rolling positions, reversing, and creating new dynamic spread opportunities as conditions change are some of the adjustments that we look at for various limited-risk strategies.

In each example, we give a brief background of the market at the time and the reason the option strategist may have initiated that particular position. These examples should give the reader a better grasp of options trading, a real appreciation for the adjustment process, and increased confidence in locating stronger alternatives that might not have been considered otherwise.

ADJUSTING A STRADDLE (CALL/PUT)

The S&P 500 hit some strong selling pressure during the first half of October 2005. Before price action began to unravel, though, the background evidence may have warranted the establishment of a long straddle purchase. Technically, after forging a double topping pattern in early September 2005, the SPY sold off nearly 4 percent. It appeared that the decline might be gathering momentum. In short, traders might have viewed the action of the SPY with some skepticism at that time.

Double Tops and Bottoms

Double tops and *double bottoms* are reversal formations that occur at the end of trends. These terms refer to the price action of a security or market average when it has declined (advanced) twice to the same approximate level, indicating the existence of a support (resistance) level and a possibility that the downward (upward) trend has ended. For example, Figure 13.2 shows the SPY meeting resistance at \$114 a share in June and July. From that point forward, it fell into a decline. In this case, the pattern is a double top formation.

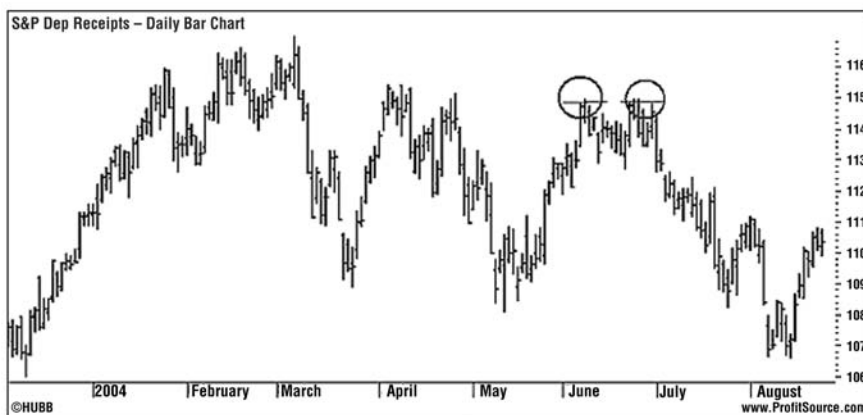


FIGURE 13.2 Double Top Formation for SPY (Source: www.ProfitSource.com)

Possibly confirming the technical picture were the implied volatility levels on the CBOE Volatility Index (\$VIX) at the time. In late September, the VIX had fallen back to the lower end of its range. In addition, with October being notorious for both rattling investors with intermediate-term technical lows and also setting the stage for many seasonally strong fourth quarters in the past, a trader might have seen the evidence as a reason for putting on a long delta neutral straddle.

Without having to pick a direction, the trader could have positioned himself for anticipated movement at a relatively affordable price. The low VIX serves as a guide that S&P 500 options were cheap and therefore a straddle or a strangle would be affordable at that time. The implied levels were trading above the statistical volatility of the underlying, but the aforementioned evidence may have led a trader to the same conclusion of a long straddle at the time. Figure 13.3 depicts the technical evidence outlined in the SPY, as the end-of-quarter celebration came to a close on September 30.

With the SPY trading at approximately \$123, a trader who wanted to execute the long straddle faces some decisions, including which strike is most suitable, what type of straddle, and the appropriate amount of time to stay in the position. The position selection needs to be consistent with expectations. In this case, the first two decisions can be made rather easily for a trader who wanted to establish a straddle in the SPY. Recall that many ETFs provide flexibility in the form of tighter strikes. The SPY happens to be one such product and in fact offers one-point strikes. Hence, let's use the 123 strike—the ATM strike and a very logical choice to initiate

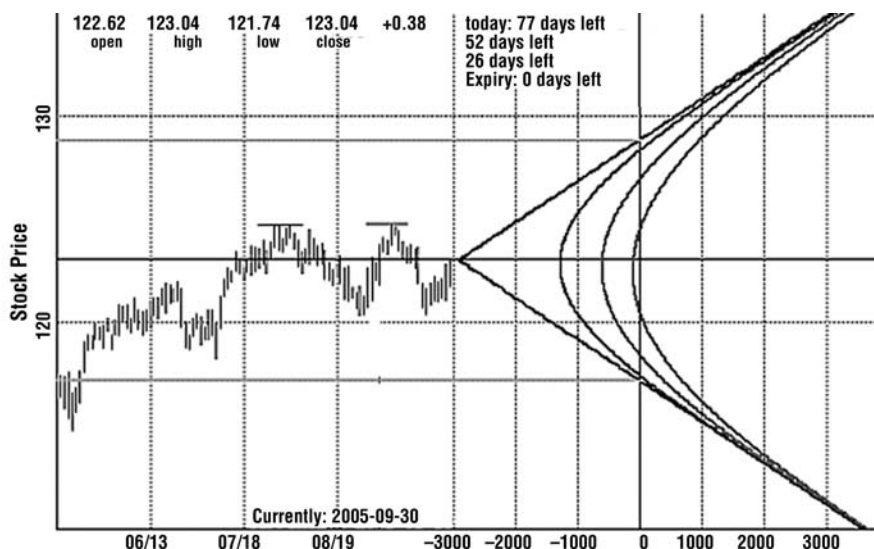


FIGURE 13.3 SPY Daily Chart/Straddle Risk Graph (Source: www.Optionetics.com Platinum)

from—to create a delta neutral position using an equal amount of ATM calls and puts.

This brings us to the next point. Should a natural straddle (put plus call) be used, or would a synthetic version that uses a combination of stock and options be a wiser solution? For the SPY, because of the liquidity provided in the derivatives market and the absolute dollar price of the underlying, the natural straddle is generally the better choice. Factors such as the amount of capital needed, commission rates on stock versus options, and how aggressive the trader is with his adjustments can all play a role in determining the appropriate choice.

Straddles—Natural versus Synthetics

A *natural straddle* is the position described in Chapter 7. It is a strategy that involves the purchase of a put and call, both with the same strike prices and expiration dates. A synthetic straddle uses shares (or futures) along with options. For example, a delta neutral synthetic straddle can be created by purchasing 100 SPY shares and two at-the-money SPY puts with deltas of -0.5 .

Now that the strategist has determined that the 123 strike natural straddle should be purchased, just how far out in maturity might make sense in this situation? Remember we talked about the time decay effect and how the last 30 days before expiration can lead to quicker losses if market conditions work unfavorably (i.e., the underlying hasn't moved sufficiently). At the time of this decision, October, November, December, and March are the first four contract months available. With only 21 days remaining on the October contracts, those might be viewed as being potentially costly. Even though on a dollar basis these contracts are the cheapest, as theta (time decay) accelerates during this period, if the SPY fails to produce enough movement, the straddle player will incur losses very quickly as the premium (debit) drops toward zero.

Given the remaining three choices, December looks to be a good selection month for our straddle. With 77 days left until maturity, the trader has nearly 50 trading days before the potentially destructive final 30 days of a contract's life. December also allows a trader to participate in a good percentage of the price action during the remainder of the fourth quarter—as we emphasized, this was the original basis for evaluating a trade. Now that we've determined the December 123 straddle is an appropriate position, let's assume that the trader wanted to purchase five contracts on that day near the end of trading. Using those prices, the trader's total debit for buying five calls at 3.30 and five puts for 2.50 is an outlay of \$2,900. Using Optionetics Platinum software, the initial risk of the position is shown in Figure 13.3.

With the maximum risk exposure of the position known and expiration breakevens of 117.20 and 128.80 (strike price $\pm$ debit), the straddle player now needs enough price movement to begin the process of making adjustments and reducing that initial debit incurred. The position may also benefit if implied volatility rises; this is more probable if the market heads south.

Going forward, the broader market, as represented by the SPY, provided the type of price action the straddle player anticipated when establishing the position. Over the course of the next two weeks, the SPY was hit with uniform but escalating price movement to the downside. The precipitous short-term price hit didn't go unnoticed by market participants either. The IVs in the broader market spiked up over 30 percent in the VIX during this same period, which amplified the beneficial effect to the long straddle. The largest relief (or concern?) for the straddle was the delta shift from neutral to a directional short as the index proxy dropped in price. However, due to the premium increases in the market (including those for the SPY), the going market price for options (implieds) was also working favorably. Is it time for an adjustment? You betcha.

Besides wanting and needing to make adjustments in order to provide relief from the initial cost of the position, when and where the strategist sets up those decision points will ultimately change the risk/reward profile of the position. This can be a highly mechanical decision that maintains the theoretical neutrality of the initial position, or it can be one that allows the trader to make adjustments based on an ongoing interpretation of market dynamics. There is no right or wrong selection here, and some traders will find they approach straddle adjustments from the gray area between those two extremes. Rather than thinking about a right or wrong approach to adjustments, developing a consistent and realistic style that fits your own risk tolerance level is a very important element of being successful.

Back to our example, the adjustments we ultimately used fell somewhere between two extremes. This was done to reflect the trader's appreciation for the technical conditions in place and the changing fundamentals, and seems to be a consistent approach given the reasons for entry. After the SPY broke down, carving out a series of lower highs and lows, the straddle was working to the trader's advantage and the opportunity existed to make a consistent adjustment.

It seemed then that market pessimism had reached an extreme. VIX hit a multimonth high on October 13 (see Figure 13.4). The day before, put volume across the U.S. market had swelled. On Wednesday, October 12, put volume across the six U.S. exchanges rose to 4.54 million contracts compared to 4.21 million calls. The following day 4.30 million puts were purchased compared to 3.99 million calls. So, in a relatively rare occurrence, more puts than call options traded during two consecutive trading

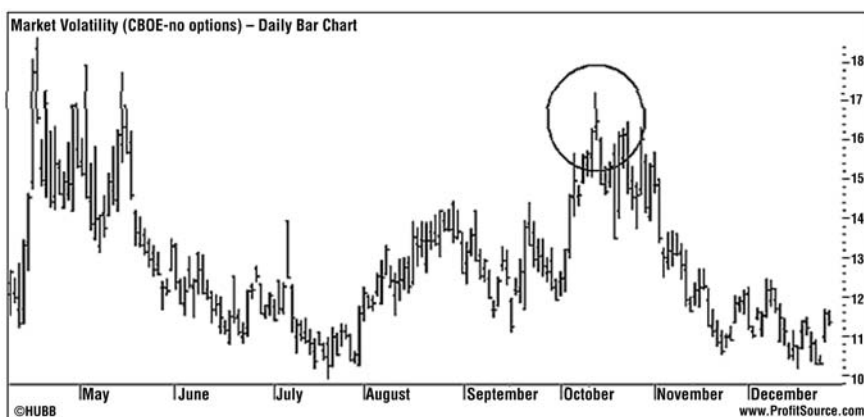


FIGURE 13.4 VIX Spike on October 13 (Source: www.ProfitSource.com)

sessions. It had only occurred one other time that year, when the market bottomed out on April 14 and 15. It was a sign that pessimism had reached an extreme and perhaps a bottom was in.

On October 13, the trader has now turned bullish on the SPY. However, a bearish directional (delta) straddle position now exists with roughly -250 delta. To flatten out this risk, a purchase of 250 shares of the SPY can be completed or adjustments in the options made. We've already explained the benefits for using options when it comes to this particular instrument. Now, with the implied volatility levels having picked up favorably, the decision to sell some of the long vega is in line with a disciplined and consistent approach.

In this case, the strategist takes advantage of the decline in the SPY and the spike in IV to sell some puts. Selling three of the existing puts at the market price of \$6 a contract brings the position close to flat. Using the Optionetics Platinum software, we can see how our risk profile looks after this step is made (see Figure 13.5). By making this adjustment we have reduced our maximum risk by 62 percent to \$1,100, from the initial \$2,900 debit. This reduction results from the banked put profits, as we took some money off the table.

Also, notice how we have changed our reward profile versus the original straddle position. The taking in of positive deltas to flatten out the

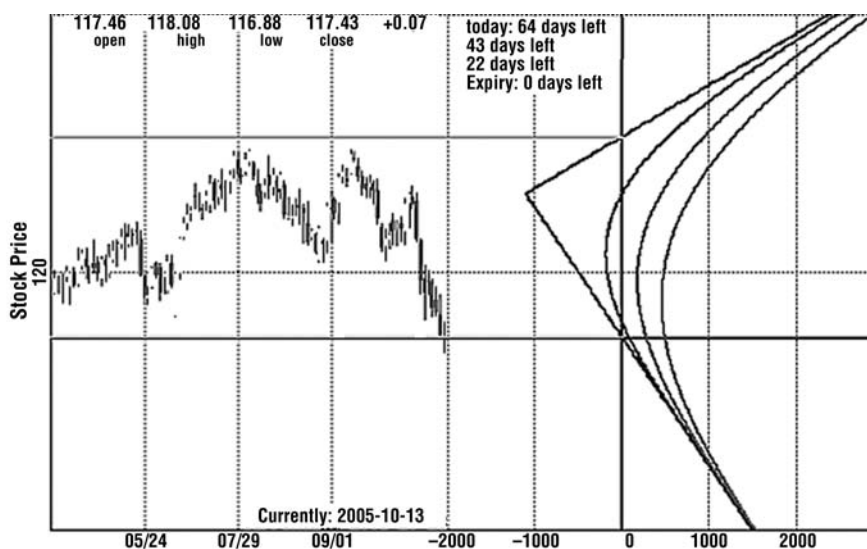


FIGURE 13.5 Risk Profile Adjusted Delta Neutral on October 13 (Source: www.Optionetics.com Platinum)

position has ultimately shifted what the position profile looks like because the position is no longer a contract neutral straddle. While the position can make further profits on the downside, the biggest potential profits now lie in directional movement to the upside. The adjustment has shifted the contract count in favor of the calls. The new position is long five calls and long two puts. However, since the position is long more call contracts, the trader does have very real directional risk to the upside if price movement in the SPY is not powerful enough. There is still \$1,100 of expiration risk if the trader does nothing and the SPY settles at the 123 strike. At that point, all of the options expire worthless.

An adjustment was made based on events that unfolded, and at a price level that appeared to keep the position consistent with changes in the underlying. However, a trader in this fortunate situation could look at other alternatives. For instance, the trader could call it a day, so to speak, and close out the remaining put contracts for the current price of \$6. This would leave the trader long five December 123 Calls for a very small credit of \$100 (existing debit of -\$1,100 plus credit of \$1,200 on sale of remaining puts). As an alternative, the trader could decide to close out the entire position. With the calls bid for \$0.80 at the time, this action would result in closing the straddle for a net profit of \$500. Furthermore, a trader might take the proceeds and use them toward establishing another limited-risk position based on risk and reward preference. The point is that the trader has the ability to be creative with adjustments while reducing risk and maximizing rewards.

The adjustment shown here is a classic example of moving the straddle position toward a profitable trade and maintaining the delta neutral integrity. It is consistent with the trader's current view resulting in a decision to maintain that position type (uneven contracts). Going forward, another similar adjustment might be made, given the proper market opportunity. That, of course, would reduce the straddle risk even further. However, depending on new market conditions and how the trader wants to approach it, this type of adjustment may not be the strongest alternative. With this particular straddle, there is still plenty of time left before the December position approaches the last 30 days of its contract life. Although the trade has been properly maintained thus far, as conditions change, the strategist will always be looking to obtain a risk profile that is in line with his expectations and risk tolerance levels.

DIRECTIONAL LONG ADJUSTMENT

By October 19, the SPY has held its lows and is moving higher. However, during this period the strategist in our example has yet to make any

further adjustments. Unfortunately, trading has turned range-bound and choppy—not the type of volatility for which the strategist had hoped. Possibly a bit more alarming is that as SPY moved 2.35 points higher, the trader would actually have given back some open profits. Remember that on the day of our initial adjustment, had the trader removed the entire straddle, a profit of \$500 would have resulted. Since that time, the price volatility has resulted in choppy trade, with decreasing implieds and movement toward the strike price of the option, none of which help to make the straddle any easier.

Is our strategist wrong? No, but while he has been consistent with his rules and methodology, the market action that led to initial profitability has now worked against the trade. Fortunately, since it is late October, a strong seasonal period is about to begin that may help. Recall from Chapter 10, November 1 begins a bullish period for the market. In addition, on October 19, the SPY staged a high-volume reversal, which suggested that sellers had been washed out of the market (see Figure 13.6). Time to get bullish.

With new evidence weighing in suggesting a seasonal rally is coming, the strategist sees that opportunity may exist by getting a bit more bullish. However, let's say that the strategist is not fully convinced of the magnitude of a potential rally and is concerned over a slow move higher. Remember, at its absolute worst, a move to \$123 could result in a loss of \$1,100 at expiration. While that is still only slightly more than one-third of the initial straddle risk, the strategist is intent on minimizing risk and seeks to profit if SPY moves back toward the 123 strike.

What this means is that the trader needs to transfer his existing risk down to a lower strike that will expand in price if movement in the under-

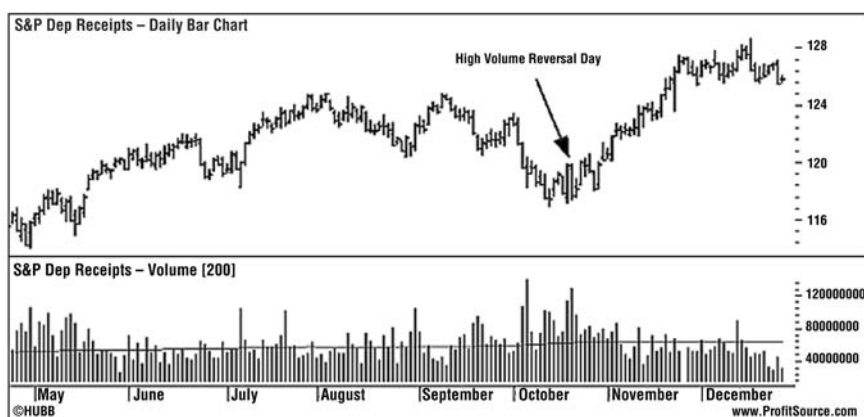


FIGURE 13.6 SPY High-Volume Reversal (Source: www.ProfitSource.com)

lying does start trending higher. By selling the five December calls and the remaining two December puts at the end of the day on October 19, the trader could have exited the straddle for a net profit of \$295. At the same time, the strategist is looking to take on a delta long position that will stand to profit from a move higher without worrying about time decay.

While we have discussed theta risk and how it works to the detriment of long premium as the final 30 days of an option's life are at hand, the strategist needs to remember that ITM options in this situation are more of a delta concern to the trader. If the trader has a technical reason that accounts for time and price when looking at directional risk, the trader may find that the strongest suitability exists with such option purchases. In our situation, with 30 days left until the November expiration and a strong seasonal period forthcoming—a powerful signal for the short to intermediate term—this looks to be a very appropriate position adjustment. It is a complete transition to accommodate changing market circumstances that the trader acknowledges, and one that is consistent with his outlook and risk. That is, we have turned the profitable straddle into an aggressive play in anticipation of the move higher. The SPY November 118 calls for 3.20 offer a suitable risk/reward profile based on delta positioning, maximum risk, and stop-loss exposure. A purchase of four contracts is completed after removing the December straddle—this is shown in the risk/reward profile in Figure 13.7.

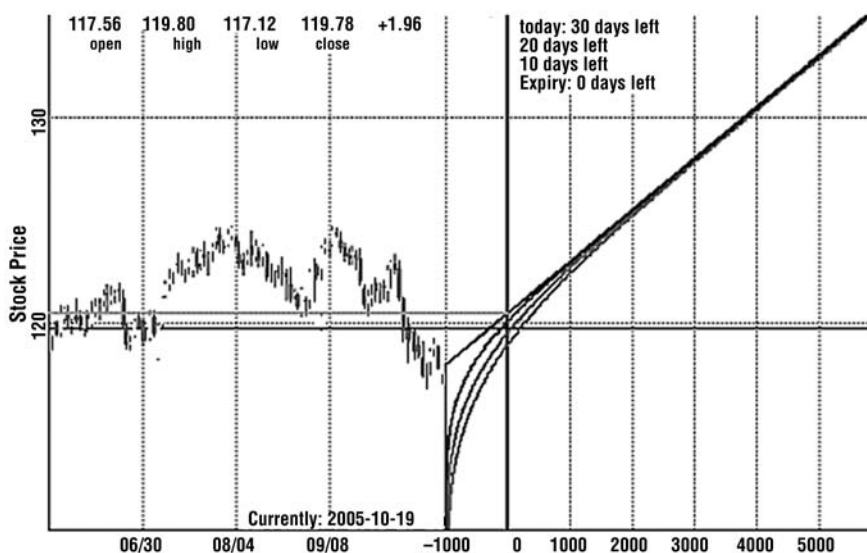


FIGURE 13.7 Adjustment into November 118 Calls (Source: www.Optionetics.com Platinum)

The position shift to a call position might be considered a simple one based on the market circumstances and how the trader wants to benefit from it. But that's the point of adjusting in the first place. There is no standard to follow except that a well-conceived position should realize the trader's expectations and keep to the plan of setting up stronger risk-to-reward profiles whenever possible. Sometimes the market will be wholly uncooperative and offer only the opportunity to minimize open position losses. At other times, as with the price action the SPY afforded during this time period (and depending on a trader's style), opportunity might mean adjusting, reducing one risk, while shifting into another and attempting to decrease the maximum loss exposure.

Thus far, by following fairly simple pattern rules and interpreting market action, the adjustments and repositioning have yielded very negligible net profits. In fact, the \$295 wouldn't even cover the cost of one contract of the November 118 calls at a price of 3.20. But the trader's adjustments have done a good job of shifting and reducing position risk while aligning it with the current market conditions. With the latest adjustment the trader has slightly lowered the maximum risk to \$985. More exciting is that given the fresh market circumstances, the trader has moved his breakeven downward and opened up his upside reward dramatically to reflect this situation.

This time around the position adjustment works. After further erratic price volatility for a week and a half following the first adjustment, the broader indexes finally rallied. By November 15 the call purchase performed according to plan and had unrealized profits of \$1,135 (see Figure 13.8). While the original purchase did entail buying some extrinsic premium, the higher delta component of being already slightly ITM at the time more than compensated and delivered a profit.

On a side note, had the strategist stayed with that delta neutral position—the adjusted December 123 straddle (five calls and two puts)—the performance would not have been nearly as good and it would be decision time. Consequently, the decision to adjust the position risk from one riddled with potential decay versus a harder directional delta was a good one. With the SPY closing at 123.24, the straddle has only yielded \$125, but it still contains \$1,100 of premium risk. There are now 31 days until expiration. Since it is an ATM straddle once more, a strategist still holding this position might be inclined to take further action and, at a minimum, roll out the position away from these time-sensitive options that are becoming increasingly affected by time decay. So the adjustment to a long call trade was clearly the right move. It shifted the risk from being pinned to the 123 strike price at expiration. It also accounted for the change in the VIX and the bearish sentiment that had developed from late September to mid-October.



FIGURE 13.8 Risk Graph on November 15 (Source: www.Optionetics.com Platinum)

DELTA BUTTERFLY ADJUSTMENT

Now the trade is in a profitable position with expiration around the corner—it includes four SPY November 118 Calls. If the strategist does nothing, he might be faced with owning 400 shares of the SPY, which for margin purposes incurs a great deal more capital. So what are the trader's remaining options with this position? One might be compelled to at least book most of the profits while still trying to maintain a bullish position since further bullish seasonal tendencies exist. In this situation, a bullishly positioned butterfly looks to offer a suitable risk/reward profile heading into the November option expiration.

The decision the trader needs to make in adjusting his SPY position is going to have to answer the questions how much, where to, and how long. In answering how much, the trader wants to keep profits that have been made. It is the same philosophy of scaling out of winners, which provides a trader with potential to ride winners further without having the risk of giving back profits. In this case, we'll assume a risk of 30 percent or about \$350 of the profits after closing out the November 118s for 5.30.

In terms of the second question, where to, the trader needs to determine the point to which SPY will move. Another issue is how it might move; depending on the situation, a gamma trade (straddle) might be considered. However, because the trader is seeking to enter a position with

very little capital at risk, the straddle is already a very unlikely candidate. With December options pushing the 30-day theta threshold, January options seem to be the better choice, but they come with additional extrinsic value in the form of a higher initial debit. With the ATM straddle offered at \$495, that's already more than what our strategist is looking to commit.

Getting back to a bullish delta butterfly, this is a strategy that can be implemented effectively using December options. With smaller debits and higher risk-to-reward ratios, the trader doesn't have the theta concern with this limited-risk position. Furthermore, with one-point strikes, the strategist has many variations at his disposal—establishing an appropriate risk/reward profile is easier. The downside to this strategy might be that we are looking for a definite range within which the underlying has to fall when expiration occurs. Remember that above and below our strikes, the maximum loss (our debit) will be realized. So let's take another look at the SPY on November 15. However, this time, let's try to gauge a price zone and then find an appropriate fit, given the initial risk assumption.

From our charting software, we estimate that the most significant technical resistance level is roughly \$126.50 a share, and we expect the SPY to gravitate toward that level by December expiration. Based on these expectations we adjust again, this time developing five bullish butterflies using 124 and 128 as our wings and 126 in the body. This happens to line up quite nicely with the targeted range (see Figure 13.9).

What a difference a day can make! Sometimes that's all it takes for a position to shift gears for the better. And sometimes, the opposite is true if the strategist isn't diligent about making necessary adjustments when

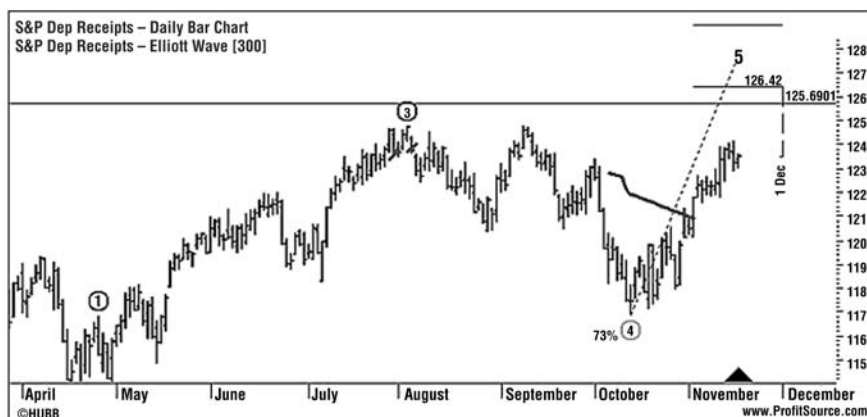


FIGURE 13.9 SPY Price Projection on November 15 (Source: www.ProfitSource.com)

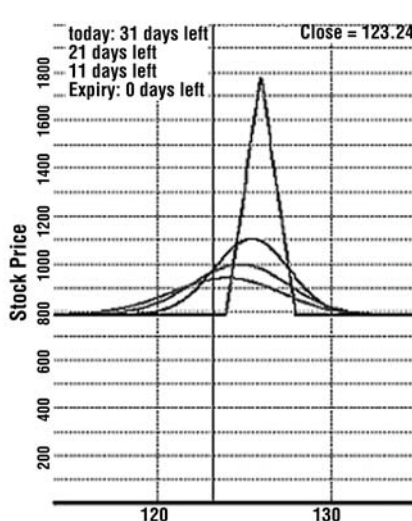


FIGURE 13.10 Bullish Butterfly, December 124/126/128 Calls (Source: www.Optionetics.com Platinum)

opportunity presents itself. In this situation, one day did make a substantial difference for the holder of the bullish butterfly. It actually turned into a bearish delta on the eve of the December option expiration. Price action that week just breached the top of the resistance zone before a hard price reversal on expiration day resulted in a closing price of 126.36. The butterfly, which cost \$0.70, or \$350 for five contracts, would have netted an additional \$470 for the trader (see Figure 13.10). However, as the risk graph in Figure 13.8 can attest, the trader in this position was in fine shape, regardless of the underlying price action.

CONCLUSION

As every good chiropractor knows, adjustments work. They don't always lead to profitability, but by moving or eliminating position risk to reflect changing market conditions, the successful options strategist continually strives to shift the risk/reward profile further in his or her favor. With risks ranging from time decay for the straddle player to pure directional risk (albeit limited risk), the option strategist who looks to adjust is also the trader poised to achieve healthy results over the long run.

We trust that the adjustment process shown in these working examples in the S&P 500 ETF (SPY) also demonstrate why these instruments might be strong choices for options trading. We shifted from a delta neutral straddle, to adjusting directionally for an anticipated technical event, to taking advantage of tight strikes by developing a stronger butterfly profile. It is our anticipation that those types of opportunities will continue to make the case for options trading in index and sector proxies.

CHAPTER 14

Risk Management

Making adjustments to positions goes hand in hand with risk management. In the previous chapter, we saw how to adjust a winning position based on changing circumstances. Sometimes, however, we are forced to adjust losing trades. This can mean exiting a position at a loss, which is not always an easy thing to deal with. In fact, studies have shown that the emotional pain and stress from a loss is greater than the emotional lift received from a winning trade. In order to avoid the pain from losses, we obviously want to develop a game plan that generates more winners than losers. We also want to use strategies that have high potential rewards with relatively limited risk (those strategies have been covered earlier in this book).

Another important consideration is risk management—understanding what needs to be done in order to limit the number of losses and, more importantly, limit the percentage lost relative to the portfolio's value. This is ultimately a personal decision. No one else can tell you how much you are comfortable risking on one trade, in one week, or on one position. There are no hard and fast rules about risk tolerance. Nevertheless, managing risk is a key part of any trading plan because all traders deal with losses. In fact, some very successful traders will tell you that they are not great traders; they are great risk managers. Risk management helps remove the emotional responses that sometimes lead to irrational decisions. This chapter explores some strategies that will help you become more proficient at this very important aspect of trading.

OVERVIEW

No market approach is complete without a discussion of money management, which includes personal financial management. The topic can be all-inclusive, covering each step along the way from financial planning through managing an individual trade. It can also cover different types of investors and traders. Our primary focus is money management for index-based trading, but many of the same principles apply to a variety of trade approaches. We begin with a brief discussion of asset allocation and risk management as it applies to investors, but we focus on trade management. We examine diversification and why it is important and then close out the chapter with a discussion of risk management as it applies to index trading (see Figure 14.1).

An individual needs to consider several factors when making a decision about which markets to invest or trade in. There are several markets to choose from—stocks, bonds, precious metals, energy, real estate, foreign exchange, and so on. Ultimately, the decision is guided by several considerations, including the individual's (1) knowledge of those markets, (2) total assets available, and (3) risk tolerance.

Since this financial markets decision is based on highly personal factors, it is up to each individual trader to determine which markets are most appropriate. Knowledge of the markets is obviously important and reading books like this one is a good first step. More importantly, new traders will want to track the market to get a feel for it over time.

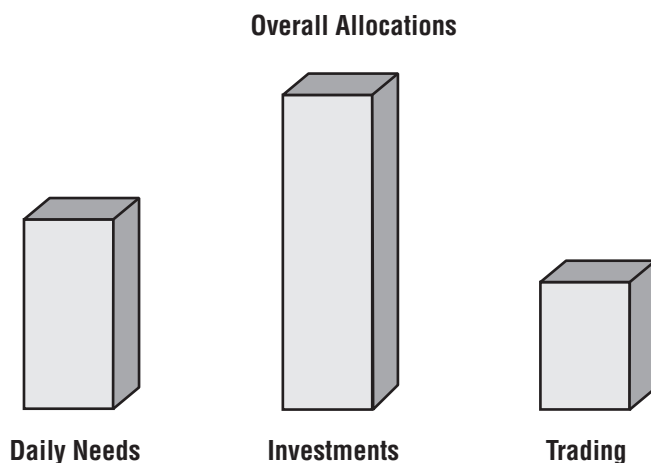


FIGURE 14.1 Asset Areas Requiring Our Attention

Different financial markets can behave very . . . well, *differently*. In addition, market conditions change over time. The more hours spent studying and observing a market, the better the knowledge base in which to begin.

In addition, traders must also decide whether to invest in a specific market or to trade it. A general rule of thumb is to trade only one or two markets at a given point in time, which will allow sufficient time to analyze and monitor conditions. It is very difficult to study and trade more than two markets simultaneously. As an example, an investor might choose to trade stocks and options. For most investors, there are simply not enough hours in the day to try to trade stocks, bonds, futures, foreign exchange, and the options market all at once.

Our discussion of risk management focuses on the U.S. equity market, looking at important elements that relate to both investing and trading. While these general concepts can be applied to other markets as well, the reader must be sure to understand the unique risks and characteristics of any given market. Each market is different and offers varying risk/reward opportunities. For now, our focus turns to risk management in the U.S. stock market.

Cash Is King

Maintaining some cash on hand never hurts. Readily available cash provides ammunition for that sudden, unexpected trading opportunity. More importantly, it can serve as a cushion or buffer in one's portfolio. In that respect, cash can help reduce the stress associated with having an entire portfolio invested in the market—particularly when large declines are encountered. Cash should be held in interest-bearing accounts, such as money market funds.

INVESTMENTS

Creating a solid financial investment plan is an important first step. It addresses two needs: (1) allocations for the long-term, and (2) allocations for trading. The term *allocation* refers to the amount of capital a trader wants to commit to a specific market. For instance, if my account consists of \$100,000, I might move \$40,000 to an investment account, \$40,000 to a trading account, and keep \$20,000 in a money market fund.

Having a plan for long-term assets as well as specific funds sidelined for the purpose of trading can significantly reduce trading stress. Within both the trading and investing accounts, diversification can occur on a

few different levels. *Diversification* means investing or trading within different assets and/or groups. For example, one can diversify across markets, followed by sectors, and finally industries (see Figure 14.2). By taking a systematic approach to diversification, you can more easily benefit from stronger markets and capitalize on opportunities as they arise. A trader who understands indexes, as well as the securities that track them, has some powerful diversification tools at his disposal.

The primary goal of the next few sections is to introduce a framework that traders can use to measure investment performance of long-term assets. Once a plan is put in place and monitored separately from trading activities, the individual can focus on their shorter-term outlook and trade with less distraction.

Why do investors diversify at all? There are two primary reasons:

1. Markets do not move in the same direction at the same rate, and
2. It is very difficult to time the markets.

We'll discuss each of these reasons shortly, but first let's revisit two types of securities available to investors who make use of an index approach to the markets.

A hypothetical investment portfolio might consist of mutual funds (MF) or exchange-traded funds (ETFs). Both can serve as proxies for broad markets, sectors, or industries. As we saw in Chapter 8, there are advantages and disadvantages to each. On the one hand, ETFs generate more costs in the form of commissions. On the other hand, these securities also add a great deal of flexibility for trading. Unlike mutual fund shares, there is no short-term redemption fee if an individual chooses to

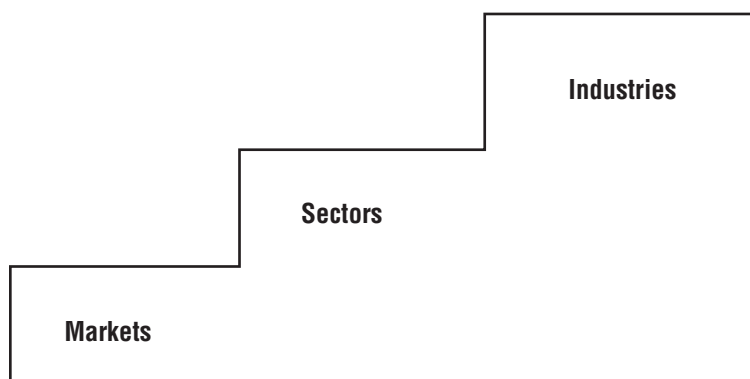


FIGURE 14.2 Diversification via Index-Related Securities Occurs on Various Levels

sell an ETF within 90 or 180 days. Additionally, an ETF investor can use basic option strategies to increase income for a position or create a partial or full hedge when markets decline.

Mutual fund investors have a very long list of prospective funds from which they can select. According to the Investment Company Institute (ICI), as of November 2005, there were more than 4,500 stock mutual funds in existence and nearly 8,000 mutual funds in all. The overwhelming numbers of funds can be a double-edged sword; not only is “analysis paralysis” a possibility, but one cannot assume that all funds act the same.

Those interested in an index approach to investing need to seek funds that are passively managed to obtain the best index proxies. Many of these so-called index funds have a “no transaction fee” rate with low expenses (recall the discussion on passive investments). However, other fees may apply to such investments. Individuals should consider using a fund screener to reduce the list of potential candidates for investment. Keep in mind that most of the strategies presented in this book involve the actual index (with options) and ETFs, not mutual funds. There are occasions from an investing standpoint when the market you wish to track does not have an associated ETF—maybe just not yet. Table 14.1 recaps some of the differences between these two different types of funds.

As with any investment, a key to successful use of index proxies is having a thorough knowledge of the instrument itself. For example, when does it make more sense to trade the SPDRs compared to the Vanguard 500 Index mutual fund? Be sure to understand the risks of the instrument as well as what drives its movement. Finally, consider tax impacts of both the instrument and the type of account in which it is held. All of these decisions are related to money management and can significantly impact investment results over the long term.

TABLE 14.1 Passive Mutual Funds and Exchange Traded Funds—Quick Comparison

Passively Managed Mutual Funds	Exchange-Traded Funds
Index proxy	Index proxy
No transaction fee available	Transaction fees (commissions)
Low management fee available	Low management fee available
Short-term redemption fees	No short-term redemption fees
Very large selection	Growing selection
No options available	Options available

DIVERSIFICATION

Diversification is an important part of any investment strategy. Markets simply do not always move in tandem. In fact, sometimes they can behave very differently. The statistical way to say this is that markets are not perfectly correlated and may actually be negatively correlated (one moves up while the other moves down). In addition, volatility can vary a great deal from one market to the next.

A simple look at various charts bears this out. For example, Figure 14.3 shows the very different price action of the Dow Jones Transportation Average (\$TRAN) and the PHLX Oil Service Index (\$OSX) in 1999. At times, one moves higher and the other moves lower. It's relatively easy to see the correlation between two index proxies using charting software that allows overlay charts. Optionetics Platinum and other software packages have also been developed to help investors search for correlated and inversely correlated indexes.

Correlation Analysis

Correlation is measured on a scale from 1.00 to -1.00 . A reading of 1.00 indicates that two assets are perfectly, positively correlated while -1.00 indicates that two investments are inversely correlated (perfectly, negatively). A reading of 0 suggests no correlation. When the correlation is at or near zero, the investments are said to be *uncorrelated*.



FIGURE 14.3 Daily Chart for Dow Transports and OSX (Source: www.ProfitSource.com)

The only way to truly diversify your portfolio is to understand (1) the extent to which it is currently diversified, and (2) how any new prospects are correlated to existing positions.

Using securities that are strongly positively correlated to a basket of different market indexes can provide an element of diversification. For example, owning shares of the iShares Long-term Bond Fund (TLT) and the Street Tracks Gold Fund (GLD) will add an element of diversification to a portfolio that previously only included an S&P 500 fund. As was noted in earlier chapters, the TLT holds government bonds and the GLD holds the precious metal. While it isn't possible to diversify market risk away completely, traders head toward that direction when they understand the types of investments in their portfolio and how those move in relation to one another. Remember, there is always a bull market somewhere (and likewise a bearish one as well).

Food for Thought

Which portfolio is riskier: one that is 100 percent invested in a single security, or a second portfolio that is invested in four securities that are *not* perfectly correlated? Remember, the question is not which will have the better returns—the question is, which is riskier? If you answered that the first portfolio is riskier, then you have a basic understanding of the statistical concept of correlation and how it applies to risk. The first portfolio is riskier because when the one holding in it declines there is nothing to dampen the impact of that decline. Imagine that one security was Enron stock in the early 2000s . . .

Difficulty in Timing the Markets

Since there are so many sectors and securities available to an investor, a top-down approach that evaluates markets first, then sectors and smaller subgroups, can be used to create a portfolio. Chapter 12 offered an example of compartmentalizing the market with the Select Sector SPDR funds. From there, the market can be dissected further in terms of specific industry groups.

One approach to investing is to create allocation ranges (see Table 14.2) for the different asset classes an individual chooses to use for diversification. This can include diversifying among markets such as stocks, bonds, and commodities; spreading risk across sectors; or allocating money to different groups such as value and growth stocks.

TABLE 14.2 Illustrative Benchmark Portfolio with Allocation Ranges

Asset Class	Performance Benchmark	Allocation Range	Sample Allocation
Stocks	S&P 500	40–65%	40%
Bonds	Lehman Aggregate Bond Index	15–45%	25%
Commodities	DJ-AIG Commodity Index	15–45%	20%
Cash	T-Bill Rate	5–20%	15%

Portfolio Ranges and Benchmark (For Illustrative Purposes Only)

The example in Table 14.2 does not represent a recommended portfolio. The purpose of this example is simply to show you one way you can identify allocation ranges for your investments. Portfolio development is an extremely personal process that blends an individual's constraints (time horizon, liquidity needs, taxes, etc.) and preferences (risk tolerance), along with knowledge of various markets. A one-size-fits-all approach to allocations does not exist.

Assuming the base portfolio shown is appropriate for a certain individual *and* that the indexes provided are good benchmarks for each respective asset class, the next step is to note the performance of this base portfolio over a period of time. So allocation ranges can vary based on an individual's constraints and preferences, while the actual investment level at a certain point in time is based on the outlook of the various markets.

An individual can create a portfolio that incorporates all appropriate asset classes. A portion of total investment dollars available may be invested in major market index proxies that mimic the performance of those markets, while other funds are allocated to relatively strong performers within those markets (i.e., sectors and industries). As a result, as the bullish and bearish trends develop, markets that include stronger performing groups will have larger allocations in the portfolio. This is effectively letting the winners ride.

UNCOVERING POCKETS OF STRENGTH

Traders often use relative strength analysis to add outperforming strong sectors and industries to a diversified portfolio. In Chapter 11 we introduced Jay Kaepfel's Pure Momentum system, which involves buying sector winners at the start of each month. As we saw, this approach handily beat the market on a consistent basis.

Constructing and monitoring a relative strength (RS) line and using benchmarks with volatilities similar to the security being evaluated can also help identify outperforming sectors. Using equity analysis, the RS line is constructed by taking the index level for the sector being analyzed and dividing that value by a broader benchmark index. Some charting packages include flexible RS indicators that allow the user to input any value for the numerator and denominator, while others may be more restrictive on the denominator. However, this line can readily be constructed in a spreadsheet graph by using the following value:

$$\text{RS line value (today)} = \frac{\text{Price equity (today)}}{\text{Benchmark index value (today)}}$$

A rising RS line means the security (numerator) is outperforming the index (denominator). A falling RS line tells us the security is underperforming the index. It is very important to note that a rising RS line *does not* imply that the price of the security is rising. It only tells us the security is outperforming the index. Both could be declining, with the price of the security declining at a slower rate.

Figure 14.4 shows a long-term upward move for IWN—the iShares Russell 2000 Value ETF—which corresponds to a rising RS line on the lower portion of the figure. This fund holds small cap stocks that are considered to be in the *value* category. According to Frank Russell, the

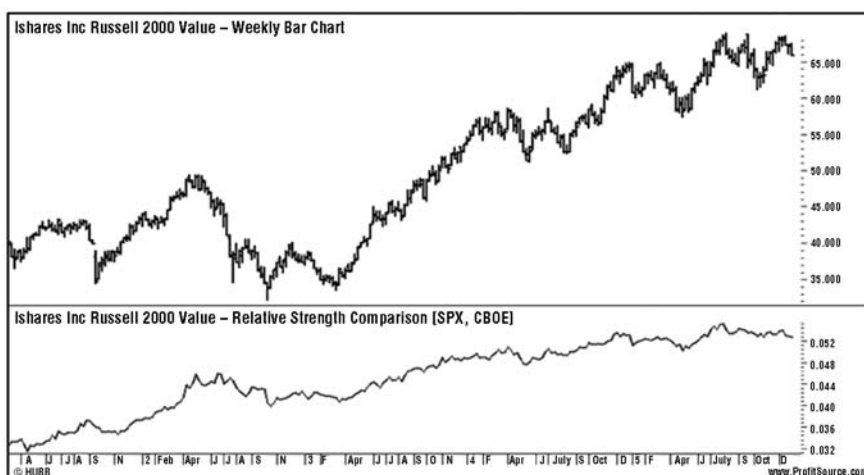


FIGURE 14.4 Relatively Strong Russell 2000 Value ETF versus S&P 500 on Weekly Chart (Source: www.ProfitSource.com)

creators of the index, *value stocks* in this case are companies with lower price-to-book ratios and higher forecasted growth rates. The relative ratio used to construct this line is:

$$\text{RS line} = \frac{\text{IWN price}}{\text{S\&P 500 cash level}}$$

Although there are periods of decline in the RS line, the long-term view shows one of outperformance for IWN compared to the S&P 500. This fits two of the anomalies discussed in Chapter 10: the size effect and the low price-to-book effect. A portfolio with heavier weighting toward securities with rising RS lines compared to their appropriate benchmarks does not guarantee gains but should at minimum result in dampened losses. Such performance should help reduce trading stress.

While we can use relative ratios to locate stronger performers (markets, sectors, and individual securities) there is an issue that must be addressed when adding volatile securities to the portfolio: Once the relative strength relationship changes, it will do so quickly. When adding securities to your portfolio, note the beta value so you have a basic feel for how that security moves relative to its appropriate benchmark. This is usually the S&P 500 for equities. The addition of high beta securities warrants additional attention to portfolio management. By recognizing this impact, you can build some mechanism into your plan that allows such management.

TRADING

Trading diversification can occur on a smaller scale and uses markets, sectors, securities, and strategies to minimize the need for a trader to be right. One of the best things you can do for yourself as a trader is to truly recognize that being wrong about the direction of a security (and having a position that declines in value) does not equate to being a bad trader. A shift in your reaction to losses must occur.

Being wrong actually provides an opportunity for an individual to display his talents as a good trader. All that is needed is to properly cut losses. It's like a professional golfer who hits his ball into the rough; it wasn't his goal to get the ball in that position, but once there he's able to display his skills by chipping the ball to a nice position on the green. These are the shots that are truly appreciated by the gallery.

Great traders are great money managers. This includes allocating appropriate amounts to individual trades and identifying a maximum loss.

Such an approach minimizes the impact of being wrong and helps traders withstand losses and keep trading another day. If it were really that easy to do, every new trader would be a good trader. Since this isn't quite the case, there must be some pretty powerful forces a new trader must overcome to reach the point of effectively trading the markets. These powerful forces are most often tied to emotion.

The experience part of money management includes spending enough time in the markets to recognize good opportunities and to have felt the pain financial markets can inflict. When failing to trade with discipline is more agonizing than having a loss, you begin to evolve as a trader. We teach strategies, rules, and exit strategies for this very reason. Experienced and successful traders have learned to depend on such discipline.

HAVING A PLAN

Successful traders have an approach that has been developed and refined, as well as a collection of rules for money management. Although the money management portion reflects the individual's personal experience, risk tolerance, and markets traded, there are a couple of components that will appear on many different lists: (1) Know your cut loss/exit point, and (2) execute an order to close a position if that point is reached.

Following these simple two rules will provide a launching point for making adjustments that improve the trader's overall results. It is not within the trade that adjustments should be made if the maximum risk for a position has been reached—approaching a position in that manner is a recipe for undisciplined, emotional trading. The exit strategy should be known in advance. This often includes placing a stop-loss order or maybe even reversing the trade. For example, using the Volex example from Chapter 9, the sell signal might trigger an order to close out the long position and, at the same time, a new order to short the SPY. These orders can be placed with the brokerage firm as soon as the position is opened. (Chapter 16 provides additional information about order entry.)

Stop-losses and exit strategies will reduce stress. After many stressful trade exits—those that include the “should I or shouldn't I get out” debate—it is great to see a cut-loss level reached and know there is no decision to make. The rules say to close the position, so the trade is closed out. This creates a significant shift in emotions that makes for a much better mind-set for market and position analysis. Importantly, once the stop or exit strategy is in place, only in rare circumstances should it be changed.

The next big shift in trading psychology comes about when an individual establishes rules for trade entry that include maximum cash allocated per position. The percentage allocation will vary by market. Many stock traders will not risk more than 5 percent of their trading capital on one trade. In the options market, that percentage might drop all the way down to 2 percent. Risking a relatively small percentage of the total portfolio on one trade reduces emotion and stress at the front end of the process by creating a trade that won't make or break the account. The exact percentage is an individual's decision. Some traders try to shoot for the moon, risking a large amount of capital on a highly leveraged trade. These are the same ones who tend to play slot machines or the lottery. There are far fewer winners than losers.

TRADE MANAGEMENT EXAMPLE

We now examine trade management through an example that reviews a technical trade and a trade system. Keep in mind that similar to investment allocations, there is no one-size-fits-all money management approach for traders. Understand that the amounts and percentages identified here should be seen only as a possible framework for you to create your own plan.

Assume a trader has allocated \$40,000 to an equity trading account. The plan is to use a combination of technical analysis and a trading system. Thirty percent of the account, or \$12,000, is allocated to a long-only trending system the individual backtested. The remaining 70 percent of the account (\$28,000) is allocated toward other trending and nontrending trade opportunities.

Since there are two approaches to trading this account, the trader first identifies the rules that manage risk and are rational for both approaches. Additionally, both the size of the account and the allocations will change over time. As a result, an annual review of the account is made to assess trade performance, reevaluate allocations, and make adjustments to reflect those allocations. During the review, balances in excess of \$50,000 will be removed from the trading account and placed with the trader's investment assets (see Table 14.3).

Technical Trading Portion of the Account

The technical trading portion of the account is available for directional equity trading, directional option trading, and option strategies that benefit from sideways trading or serve as a short-term position hedge. Aggressive

TABLE 14.3 Trading Account Summary

Account Size	\$40,000 to a maximum of \$50,000
Current System Trading Allocation	30% or \$12,000
Current Technical Trading Allocation	70% or \$28,000
Review Period	Annual in July

money management rules for these particular assets include maximum allocation per strategy (80 percent), maximum allocation per stock trade (30 percent) and maximum loss criteria based upon the trade value (15 percent).

To help the trader put the “maximum loss” criteria into action, exit prices are written down as soon as the trade is executed. Physical stop-loss orders are entered when consistent with the strategy. Money management requirements are reviewed on an annual basis to determine if they remain suitable for the trader’s risk tolerance and sustainable for the account. When possible, a 3:1 reward-to-risk ratio will be sought by the trader. Hence, for every \$1.00 at risk the trader stands to gain \$3.00. Technical price levels, options premiums, and maximum risk per trade determine the right level. Since the trader will not always be able to project a price target, this rule is not required for each trade (see Table 14.4).

The basic technical system is a moving average crossover system to capture moves in the NASDAQ 100 Index Trust (QQQQ) and other ETFs. When the 10-day exponential moving average (EMA) crosses up above the 20-day EMA, the trader buys the underlying ETF at the open on the next trading day. When the ETF price closes below the 10-day EMA for two consecutive days or the 10-day EMA crosses down below the 20-day EMA, the trader exits the position at the open on the following day.

The chart in Figure 14.5 shows a buy signal generated for the NASDAQ 100 Index ETF (QQQQ). The dotted line is the 10-day EMA and the solid line is the 20-day EMA. Assuming no other positions are currently held in this portion of the account, the trader can allocate up to \$8,400 for this trade. The signal occurs when QQQQ closes at \$35.85, so this value is used as to estimate the number of shares purchased ($\$8,400 \div \$35.85 = 234$ shares).

TABLE 14.4 Summary of Technical Trading Data

Allocation	\$28,000
Strategy Allocation	80% or \$22,400
Position Allocation	30% or \$8,400
Maximum Loss per Trade	15% of position or \$1,260
Review Period	Annual in July

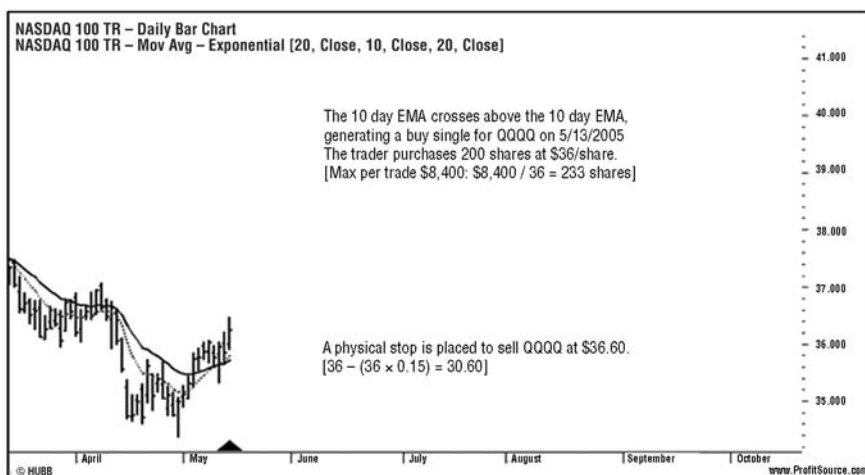


FIGURE 14.5 Daily Chart for QQQQ with a 10-day EMA and a 20-day EMA—View (Source: www.ProfitSource.com)

Rather than buying an odd lot of 234 shares, the trader rounds down to 200 shares and goes long at the open. QQQQ opens on May 13, 2005, at \$35.99 and the trader buys 200 shares of QQQQ at \$36 for a position value of \$7,200. Once a trade confirmation is received electronically, the trader enters a “good till cancelled” (GTC) stop order to sell the shares at \$30.60 [$\$36 - (\$36 \times 0.15)$]. This represents a relatively high 15 percent maximum loss, or approximately \$1,080, which translates to a potential loss of 2.7 percent of the total account ($\$1,080/\$40,000 = 2.7\%$).

On June 7, the QQQQ closes below its 10-day EMA, generating an alert for the trader. The next day, the second consecutive close occurs below this level, which generates a sell signal at the next day’s open. The trader exits on June 9 at \$37.66, resulting in a \$332 profit, less commissions. (See Figure 14.6.)

As can be seen, the reduced allocation of \$28,000 for the technical portion of the account results in high trade allocations when trading stock. Individuals with smaller accounts who are trading stock will likely have higher trade allocations and need to manage their risk extremely effectively to continue trading. Position allocations for options should be significantly smaller.

To trade with discipline, individuals need to make sure their money management requirements are satisfied for each trade—not some trades or most trades, but *all* trades (see Table 14.5). It was possible for the actual loss to exceed the stop-loss amount provided by the example. The Qs may have gapped down through the level of \$30.60, triggering a sell order for a

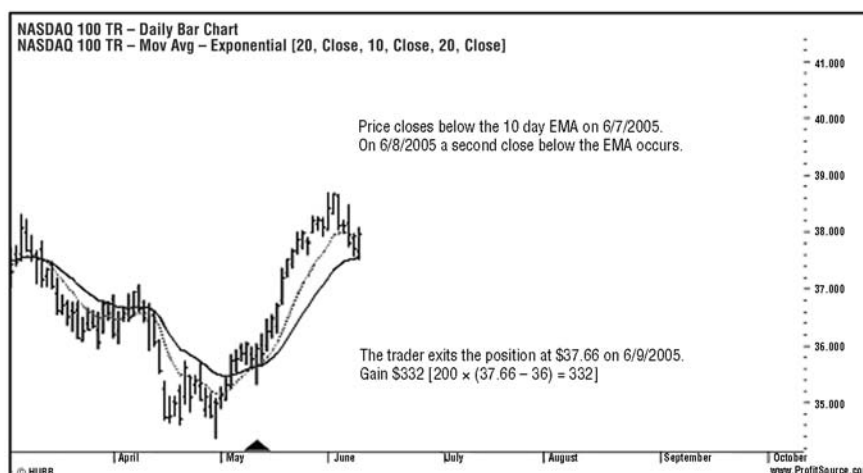


FIGURE 14.6 Daily Chart for QQQQ with a 10-day EMA and a 20-day EMA—View 2 (Source: www.ProfitSource.com)

TABLE 14.5 EMA Trade Review

Strategy Allocation	\$7,200 or 25%	Satisfies 80% allocation
Position Allocation	\$7,200 or 25%	Satisfies 30% allocation
Maximum Loss Allowed	\$1,040 or 15%	Satisfies 15% allocation

loss greater than 15 percent. This is simply an inherent risk of trading and one that must be recognized as a possibility. For the most part, however, a plain stop-loss should provide traders with the risk protection they seek.

The Trade System Portion of the Account

While the technical system of the account used a 10-day/20-day EMA crossover, the trade system includes signals based on the rate of change (ROC) and average directional index (ADX) indicators, as well as a stop-loss component based on system testing. We discussed this system in Chapter 9. Recall that the settings used are based on backtesting for the S&P 100 (OEX) index components from 1980 to 1998. The ROC is a basic momentum indicator that measures the rate of ascent and descent for price. Trade alerts and signals can be generated using a chart that combines ROC with a simple moving average (SMA) line. These two indicators—ROC and an SMA on ROC—were used to create a base trading system. The ADX indicator measures the trendiness of the price (see Table 14.6).

TABLE 14.6 Momentum Trading System

Momentum System	Long only 13-day ROC & 20-day ROC-SMA with ADX filter
Trade Entry	Buy when 13-day ROC crosses above the 20-day ROC-SMA <i>and</i> ADX is above 18 and increasing for 3 days.
Trade Exit	Sell when 13-day ROC crosses below the 20-day ROC-SMA <i>and</i> ADX is decreasing for 3 days.

In this case, the system will be used on the S&P Depository Receipts (SPY), or SPDRs. This ETF was created in 1993. The trader used the SPY in a system backtest ranging from 1993 to 2002. The SPDRs were selected to capture trending trades when the broad market indexes were moving upward. A system-dictated stop of 13 percent is used. The brokerage assumptions for the 1993–2002 SPY backtest included those in Table 14.7.

The results of the backtest (see Table 14.8) indicate that the system created by the trader can result in losses up to approximately 4 percent of the account, given the existing allocations ($30\% \times 15\% = 3.9\%$). This value can be even higher if gains in the system portion of the account or losses in the technical portion of the account occur and the allocation balances are skewed. At some point, consecutive losses of 4 percent or greater may impact the trader's ability to continue using this system.

Table 14.9 gives a breakdown of the results by profitable versus losing trades. Losses at this level are only slightly higher than the potential losses for the technical portion of the account, which are approximately

TABLE 14.7 Brokerage Assumptions

Account Size	\$12,000
Trade Size	100%
Stop Level	13%
Brokerage	\$20 (roundtrip)

TABLE 14.8 System Results

System Net Profit	Total # of Trades	Average P/L %	Maximum DD %	Average DD %	Total Costs
\$4,886	21	9.8%	–13.2%	–4.6%	420

TABLE 14.9 Results Breakdown

Gross Profit or Loss	# of Trades	% P or L Trades	Average P or L %	Consecutive P or L Trades
\$12,005	14	66.7%	5.9%	6
(\$7,119)	7	33.3%	(5.3)%	4

3 percent of the account $[(70\% \times 30\%) \times 15\% = 3.2\%]$. In each case, a string of losses will impact the value of the next position for the trader and the account allocations for each type of trading.

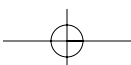
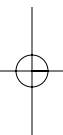
CONCLUSION

Trading requires a disciplined approach toward risk management and a plan that addresses both long-term investments and trading assets. By completing a reasonable, periodic assessment of a diversified investment portfolio, the trader minimizes stress. This can only serve to improve your trading results. Extending portfolio logic to a trade approach may also improve results.

You can't play if you don't enter, and you can't win if you don't stay in the game. Many trading accounts get wiped out due to poor risk management. The first step in establishing a sound management plan is obvious: Don't use a losing trading system. Use strategies and approaches to the market that work. If a trader suffers a string of losses using a plan or system, it's time to move on. There are enough systems that work that you don't want to waste time and money using something that doesn't.

Asset allocation and diversification are key risk management factors in both investing and trading. Betting the ranch on one trade can lead to a big lottery-type gain, but it can also quickly wipe out your account. Therefore, spreading funds across different types of investments or into inversely correlated groups can help mitigate some risk. Importantly, however, the strategist generally doesn't want to focus on too many markets at one time. Spending 100 percent of your time analyzing one market will probably produce better results than spending 20 percent of your time on five different markets.

Try to pay as much attention to detail when exiting a trade as when entering one. If you don't have a specific exit plan, don't open a position. An exit strategy can involve using price targets for the underlying index, stop-losses, or reversing the trade. Plan the exit and then exit the plan.



CHAPTER 15

Important Index Facts and Strategies

Not all indexes are created equal. As we have seen, some are proxies for the broader market, like the S&P 500 Index and the Dow Jones Industrial Average. Other indexes track specific sectors or industry groups, such as the AMEX Biotechnology Index and the PHLX Semiconductor Index. Still others are created around specific segments of the market. For instance, the Russell 2000 Index holds small capitalization stocks and the S&P Mid Cap Index consists of medium-sized companies.

In order to truly understand an index, however, the strategist needs to consider some of the details including the methodology used to construct it, as well as the number of components within the index. This chapter seeks to highlight these factors and show how they have an important influence on the price action and volatility of the index. Once that has been established, we can move on to discussing the last remaining strategies in the book, including portfolio tilts, the buy write indexes, and a phenomenon known as the *index effect*.

INDEX CONSTRUCTION AND METHODOLOGY

Understanding the methodology used to construct an index can be important because it often determines how much influence one specific company can have on the index. For instance, with market value-weighted or capitalization (cap)-weighted indexes, the larger companies will have a greater influence on the index. However, if an index is created using the

price-weighted methodology, higher-priced stocks will have a greater weighting within the index.

The S&P Retail Index (\$RLX) is an example of an index that is heavily influenced by the performance of one or two stocks. It is a market value or cap-weighted index of 35 stocks, but, due to the methodology used to create the index, big retailers will account for a larger percentage of the index when compared to smaller companies. Specifically, the two largest—Wal-Mart (WMT) and Home Depot (HD)—represent half of the value of the index.

Another example of a lopsided index is the iShares Biotechnology Fund (IBB). It is actually an exchange-traded fund. However, IBB tracks the NASDAQ Biotechnology Index, which is a market value-weighted index consisting of biotech stocks. Notice from Table 15.1 that the top 10 stocks within the fund account for a little less than half the index. Amgen (AMGN), the largest company by market value, represents one-fifth of the value of the index. Naturally, this one stock will have an important influence on the performance of the IBB.

The S&P 500 Index, S&P 100 Index, and Russell 2000 Small Cap Index (\$RUT) are all examples of cap-weighted indexes. The NASDAQ 100 Index (NDX) is another example. As of this writing, the top two stocks within the NDX are Microsoft (MSFT) and Qualcomm (QCOM). Together, those two companies represent approximately 14 percent of the NASDAQ 100, which means MSFT and QCOM determine 14 percent of the NASDAQ 100's price movements. The top 20 stocks represent 56 percent of the value of this index of 100 stocks.

In October 1999, when the NASDAQ was screaming to all-time highs,

TABLE 15.1 IBB Component Issues

IBB Component	Symbol	Weighting
Amgen	AMGN	17.96%
Gilead Sciences	GILD	4.91%
Teva Pharmaceuticals	TEVA	4.13%
Genzyme	GENZ	3.76%
Biogen Idec	BCEN	3.48%
Celgene	CELG	2.82%
Medimmune	MEDI	1.88%
Chiron	CHIR	1.69%
Sepracor	SEPR	1.58%
Vertex Pharmaceuticals	VRTX	1.51%
Total		43.72%

19 of the top 20 consisted of technology companies. The only nontech company was Amgen (AMGN). In addition, some stocks that were among the top 20 three and a half years ago have since fallen sharply in rank. For example, Sun Microsystems (SUNW), previously the sixth-largest market capitalization stock, now ranks 59th. Some companies, like WorldCom and Global Crossing, don't even trade anymore.

In short, remember that the NASDAQ 100 (and therefore the Qs) has changed a lot over the years. Unlike during the late 1990s when the NDX became America's favorite index, it is no longer a pure play on technology. Instead, retail, biotechnology, and other nontechnology groups play an important role in determining the day-to-day price movements. All indexes will change over time, and therefore traders should try to consider those changes if they incorporate indexes regularly on a discretionary basis or as part of a system.

Defining the Divisor

Many indexes are computed using a divisor. In a price-weighted index, for instance, the sum of all the stock prices is added together and divided by a number, the divisor. In Table 15.2, we can see that the divisor for the Dow Jones Industrial Average is 12.56. To arrive at the value of the Dow, the stock prices are added together and the sum is divided by 12.56. Market value indexes are also computed using a divisor. This helps to ensure that stock splits and dividends do not affect the value of the index.

While the market value-weighted index is probably the most common, there are two other types of indexes. The Dow Jones Industrial Average, for instance, is a price-weighted average. The computation is similar to computing the mean or average. As a result, the higher-priced stocks will have a greater influence on the performance of the overall index.

Table 15.2 shows the components of the industrial average, their share prices, and their weighting (in May 2006). 3M Company has the highest share price and accounts for more than 6 percent of the average. Traders using the Dow Jones Industrial Index or Dow Jones DIAMONDS need to know the respective weightings because weakness or strength in the higher-priced stocks can have a significant influence on the performance of the Dow.

The equal-dollar-weighted method of creating an index has become the method of choice for many sector indexes. Using this methodology, all of the components of the index have approximately the same weighting within the index. Table 15.3 shows an example of an equal-dollar-weighted index. The components of TheStreet.com Internet Index (\$DOT) share an almost equal percentage within the DOT. As a result, one stock will not influence the index a great deal more than any other.

TABLE 15.2 Dow Components and the Divisor (May 2006)

Dow Jones Industrial Average			
As of 5/17/06			
Current Divisor = 12.49			
Symbol	Name	Last Price	Weight
AA	Alcoa, Inc.	33.64	2.36%
AIG	American International Group Inc.	64.05	4.49%
AXP	American Express Co.	52.98	3.71%
BA	Boeing Co.	86.40	6.06%
C	Citigroup	49.54	3.47%
CAT	Caterpillar Inc.	77.64	5.42%
DD	E.I. Du Pont de Nemours & Co.	44.68	3.13%
DIS	Walt Disney Co.	30.35	2.13%
GE	General Electric Co.	34.79	2.44%
GM	General Motors Corp.	25.53	1.79%
HD	Home Depot Inc.	38.45	2.70%
HON	Honeywell International Inc.	43.24	3.03%
HPQ	Hewlett-Packard Co.	31.11	2.18%
IBM	International Business Machines	82.16	5.76%
INTC	Intel Corp.	19.06	1.34%
JNJ	Johnson & Johnson	60.25	4.22%
JPM	JP Morgan Chase and Co. Inc.	44.32	3.11%
KO	Coca-Cola Co.	43.84	3.07%
MCD	McDonald's Corp.	34.70	2.43%
MMM	3M Company	86.76	6.08%
MO	Altria Group Inc.	71.75	5.03%
MRK	Merck & Company Inc.	35.12	2.46%
MSFT	Microsoft Corp.	23.01	1.61%
PFE	Pfizer Inc.	24.90	1.75%
PG	Procter & Gamble Co.	56.04	3.93%
T	AT&T	25.77	1.81%
UTX	United Technologies Corp.	65.19	4.57%
VZ	Verizon Communications Inc.	31.70	2.22%
WMT	Wal-Mart Stores Inc.	48.07	3.37%
XOM	Exxon Mobil Corp.	61.96	4.34%

Source: Dow Jones.

TABLE 15.3 Components of TheStreet.com Internet Index
(May 2006)

Stock	Symbol	Weighting
Adobe Systems	ADBE	3.97%
Amazon.com, Inc.	AMZN	4.15%
Avocnet Corp.	AVCT	3.54%
Check Point Software Tech	CHKP	4.64%
CheckFree Corporation	CKFR	4.41%
Cisco Systems, Inc.	CSCO	4.32%
eBay, Inc.	EBAY	3.57%
FedEX Corp.	FDX	4.61%
Google, Inc.	GOOG	4.26%
Emdeon Corporation	HLTH	4.79%
InterActiveCorp	IACI	4.04%
International Business Machines	IBM	4.52%
Intuit, Inc.	INTU	4.37%
Internet Security Systems, Inc.	ISSX	4.61%
McAfee, Inc.	MFE	4.62%
Monster Worldwide Inc.	MNST	4.80%
Microsoft Corp.	MSFT	3.87%
Oracle Corp.	ORCL	4.65%
Research in Motion	RIMM	4.24%
Symantec Corp.	SYMC	4.65%
Time Warner Inc.	TWX	4.72%
Verisign Inc.	VRSN	4.11%
Yahoo!, Inc.	YHOO	4.53%

Source: The Philadelphia Stock Exchange (www.phlx.com).

NUMBER OF COMPONENTS AND VOLATILITY

Trading indexes is different than trading stocks because an index is diversified, since an index includes shares of several different companies. The fact that an index can hold many companies also reduces volatility because gains in one stock or sector can offset losses in others. Recall from Chapter 11 that there can be times when the major averages move sideways but specific sectors are moving higher or lower. The extent of

diversification and volatility will vary by index and is largely a function of (1) the method used to compute the index, and (2) the specific components within the index.

A market value-weighted index or a price-weighted index that is heavily influenced by just one or two companies will be more volatile than a similar equal-dollar-weighted index. For example, we saw that Amgen accounts for more than 20 percent of the IBB. As a result, a large move in AMGN will have a significant impact on the volatility of the iShares Biotechnology Fund. The fund is not very well diversified.

The number of components and the industry group representation within the index will also affect volatility. For instance, the S&P 500 Index (\$SPX) holds 500 stocks from nine different economic sectors and a large number of industry groups. However, the AMEX Airline Index (\$XAL) holds only 10 stocks from the airline industry. Therefore, if airline stocks fall, XAL must also. At the same time, SPX might not decline because airlines account for only a fraction of the S&P 500 Index. As a general rule, the fewer stocks within the index, and the less diversification among industry groups, the greater volatility in the index.

Where to Find Index Info

The components of various indexes and ETFs are always changing. In addition, sometimes the method used to compute an index changes. For example, Standard & Poor's changed the method for computing the S&P 500 Index in 2005, from a strict market value-weighted index to a float-adjusted market value-weighted index. These changes can be subtle or significant, depending on the modifications. For that reason, the strategist will want to monitor the changes over time to better understand what is happening within the index. There are several web sites to visit for information on components and methodology:

- Standard & Poor's: www.spglobal.com
- Frank Russell Company: www.russell.com
- The Chicago Board Options Exchange: www.cboe.com
- The Philadelphia Stock Exchange: www.phlx.com
- The American Stock Exchange: www.amex.com
- The International Securities Exchange: www.iseoptions.com
- The Options Clearing Corporation: www.optionsclearing.com

PORTFOLIO TILT

The S&P 500 Index is a market value-weighted index consisting of 500 of America's biggest companies. The index is also considered the best benchmark for the U.S. stock market. The pros are always trying to outperform or "beat" the SPX. Unfortunately, very few professional investment managers actually accomplish that feat on a consistent basis. For that reason, many investors prefer to use passive investments such as the Vanguard 500 Index (see Chapters 8 and 14) or the S&P 500 Depositary Receipts, which have been discussed throughout this book.

If investors take a position in an SPX fund, they are using a passive approach that will track the market. They have created what is known as an equal-weighted portfolio. It is equal to the market. In many cases, these passive investors are content getting returns from their stock holdings that match the performance of the broad market. However, the SPX is a market value-weighted index. Therefore, owning the SPDRs represents a position that is also heavily weighted towards large companies.

The largest stock in the S&P 500 Index is the Exxon Mobil Corp. (XOM), and that one stock alone accounts for 3.24 percent of the index. Table 15.4 shows XOM along with the other top 10 companies within the S&P 500 during 2005. Although these 10 stocks represent only 2 percent of the index (because 10 out of 500 equals to 2 percent), these companies account for approximately 20 percent of the *value* of the index. So, while the

TABLE 15.4 Top 10 S&P 500 Stocks (May 2006)

Ticker Symbol	Company Name	% of S&P 500 Index
XOM	Exxon Mobil Corp.	3.24%
GE	General Electric	3.03%
C	Citigroup Inc.	2.10%
BAC	Bank of America Corp.	1.95%
MSFT	Microsoft Corp.	1.81%
PG	Procter & Gamble	1.61%
PFE	Pfizer, Inc.	1.57%
JNJ	Johnson & Johnson	1.47%
AIG	American Int'l. Group	1.42%
JPM	JPMorgan Chase & Co.	1.33%
Total		19.53%

S&P 500 Index is considered a benchmark for the U.S. stock market, large companies also dominate it. The top 100 stocks (or 20 percent) account for more than two-thirds of its current value.

It is also possible to view a sector breakdown of the S&P 500 Index. Table 15.5 shows the market value of the S&P 500 sectors (as of Tuesday, January 11, 2005). The breakdown of the index is by market value. The financials sector included 82 companies and accounted for more than 20 percent of the index. The financials were, therefore, the biggest sector within the index. The weighting will change over time due to changes in the share prices and market values of the companies within each sector.

Once the makeup of the S&P 500 Index is understood, it becomes relatively easy to overweight or underweight specific stocks or sectors. Since the SPX is a benchmark for the U.S. stock market and represents an equal-weight portfolio, 100 shares of SPY and 10 shares of General Electric is overweight GE in the portfolio. However, a portfolio that owns 100 shares of SPDRs and is short 10 shares of GE is underweight General Electric.

What about specific sectors? Table 15.6 shows the nine Select Sector SPDR Funds. Recall that these nine funds hold the same 500 stocks from the S&P 500 Index, but grouped by economic sector. Notice that the list is similar to Table 15.5, with one exception. Using the SPDRs, it is possible to underweight and overweight specific sectors. For example, buying 100 shares of SPY and 10 shares of Select Sector Energy Fund (XLE) creates a

TABLE 15.5 S&P 500 Sector Breakdown

Sector	Number of Companies	Market Value (in millions)	Percent of SPX
S&P 500	500	11,727,030	100.00%
Energy	29	1,156,216	9.86%
Materials	31	367,818	3.14%
Industrials	53	1,393,062	11.88%
Consumer Discretionary	87	1,208,761	10.31%
Consumer Staples	40	1,107,669	9.45%
Health Care	56	1,442,283	12.30%
Financials	86	2,540,071	21.66%
Information Technology	79	1,767,611	15.07%
Telecommunications Services	8	368,913	3.15%
Utilities	31	374,625	3.19%

TABLE 15.6 Select Sector SPDRS

Select Sector SPDR	Symbol
Financials	XLFX
Information Technology	XLK
Health Care	XLV
Consumer Discretionary	XLX
Industrials	XLI
Consumer Staples	XLP
Energy	XLE
Basic Materials	XLB
Utilities	XLU

portfolio that is overweight energy. However, buying 100 shares of SPY and selling short 10 shares of XLK is underweight technology.

The goal behind underweighting and overweighting portfolios is to generate returns that are superior to the S&P 500 Index, or to beat the market. Many investors try to beat the market with aggressive trading and superior timing. However, with a modest portfolio tilt in favor of a strong stock or sector, the individual investor can also beat the market. This can be done in a long-term portfolio holding the SPY combined with placing just one stock or ETF trade each year.

BUY WRITE INDEXES

An alternate way to potentially enhance returns is through covered call writing. A covered call, sometimes called a *buy write*, is a strategy that involves buying shares and selling call options. It was discussed in greater detail in Chapter 5. Traders interested in covered calls in the index market can track the strategy’s performance using the buy write indexes.

The S&P 500 Index Buy Write Index (\$BXM) is an index developed jointly by the Chicago Board Options Exchange and Standard & Poor’s. The index was created with the help of Professor Robert Whaley of Duke University. Some investors consider the buy write as a separate unique asset class, and distinctly different from stock ownership. The BXM was created as a tool for monitoring the rewards of the covered call strategy. Traders can get the latest readings and create charts using the symbol \$BXM. The changes in the index will give a sense of how the covered call strategy is performing relative to the market.

The BXM index is constructed using a hypothetical long position consisting of the 500 stocks of the SPX. Then one-month term ATM call options are sold against the portfolio. The call position is held until maturity and then another round of calls are sold. Any dividends paid and any premiums received are reinvested in the S&P 500 long stock portfolio.

According to the CBOE, the BXM outperforms the broader market (i.e., the S&P 500 Index) when stock prices fall or remain unchanged, but underperforms when stocks move broadly higher. For example, when the S&P 500 rose 20 percent annually from 1995 to 1998, the covered call strategy lagged the market. However, when the market fell in 1990 and 2000, the BXM rose 4 percent and 7.4 percent respectively. In addition, from 1992 until 1994, while the S&P 500 gained 6.3 percent annually, the BXM rose more than 10 percent. The historical data for the index dates back to 1988 and can be found on the Chicago Board Options Exchange web site (www.cboe.com).

More recently, this strategy has performed relatively well. In 2005, the BXM rose 4.7 percent, compared to a 3 percent gain for the S&P 500 Index. In 2004, both indexes performed the same, gaining approximately 9 percent. However, in 2003, the S&P 500 Index rallied 26 percent. The buy write strategy lagged, as the BXM rose 15.3 percent. Figure 15.1 graphs the side-by-side performance of the SPX and the covered call index during the past few years.

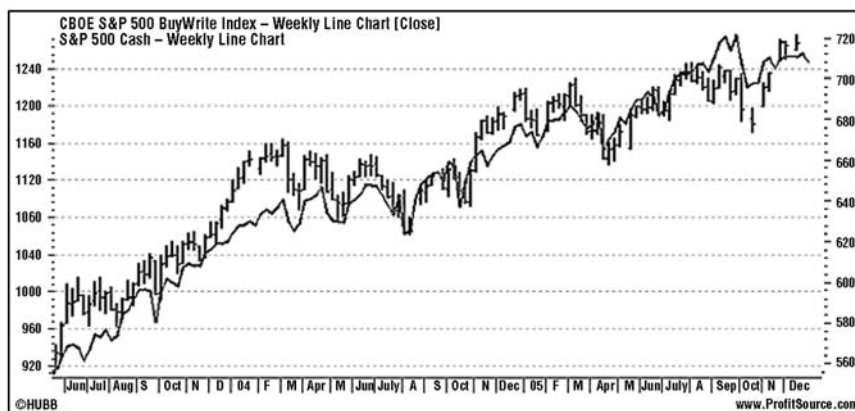


FIGURE 15.1 BXM and S&P 500 Index (Source: www.ProfitSource.com)

Two More Buy Write Indexes

- **The Dow Jones Buy Write Index (\$BXD):** The BXD is a benchmark index that measures the performance of a theoretical portfolio that sells DJX call options against a portfolio of Dow stocks (Table 15.2).
- **The NASDAQ Buy Write Index (\$BXN):** The BXN is a benchmark index that measures the performance of a theoretical portfolio that owns shares of the companies included in the NASDAQ 100 Index (NDX) and writes NDX call options.

INTER-INDEX SPREADING

Inter-index spreading is used to take advantage of long-term relationships between two indexes. It is used in the same way as the pair-trading example discussed in Chapter 11. However, rather than using stocks, it uses index products. Larry McMillan outlined the strategy in his book *Options as a Strategic Investment* (Upper Saddle River, NJ: Prentice Hall, 2001) using futures. Let's consider it with respect to exchange-traded funds and options.

An *inter-index* spread is a bet that one market will outperform another. It doesn't care about direction. For instance, a spread can be established with short shares of one ETF and long shares of another. For the strategy to work, the two ETFs should have a history of correlation but also experience a period of divergent performance. Once the divergence occurs, the strategist establishes a position that will profit when the divergence disappears. An example might clarify things a bit.

Medium- and large-cap stocks tend to perform in a similar manner over the long term but occasionally experience periods when the two asset classes behave very differently. Figure 15.2 shows the performance of the MidCap SPDRs (MDY) and the iShares S&P 100 Index Fund (OEF) from 2000 to 2004. In late 2000, the MDY started trading higher. However, the large cap OEF, which holds the S&P 100 stocks, started trading lower.

The strategist might, at that point, have determined that the divergent performance was not sustainable. If so, an inter-index spread could be created by shorting the MDY and buying the OEF. When this divergence was initially observed, the mid-cap fund was trading near \$100 and the large-cap fund could be bought for \$52.50. Assuming the strategist wants an equal dollar amount in both positions, two OEF shares are purchased for every MDY share sold short.

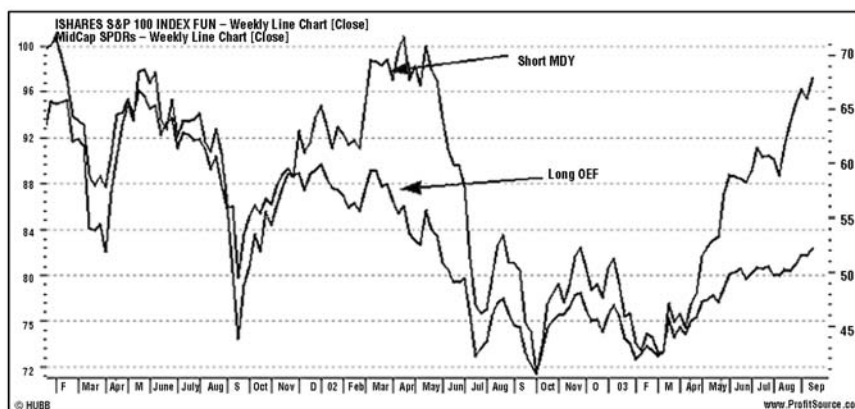


FIGURE 15.2 MDY and OEF Divergence (Source: www.ProfitSource.com)

About a month after the trade is initiated, both indexes begin to fall. However, as expected, the gap begins to narrow, as the mid-caps begin falling much faster than the OEF. By October, the divergence has disappeared on the charts. The strategist closes out the MDY short position for \$76 a share, netting a profit of \$24 a share. The long position is closed out for \$42.50, which results in a \$10 loss per share. Two long OEF shares were purchased for every short MDY share. So the net profit is \$4.00 per MDY share (or \$24.00 – \$20.00).

As an alternative approach, the inter-index spread can be created with options. For instance, rather than using shares, the strategist might consider using deep in-the-money options, or options with high deltas and relatively little theta decay. As an example, when the divergence is noted in May, rather than buying shares, the strategist buys 20 OEF September 50 calls for \$5.00 a contract and buys 10 MDY September 110 puts for \$10.90 a contract. The cost of the trade is equal to combined premium: $[(20 \times \$5) + (10 \times \$10.90)] \times 100 = \$20,900$. By mid-September, the OEF calls were almost worthless. However, the MDY 110 puts could be sold for \$30.60 a contract. At that point, the position is closed out for a healthy \$9,700 profit.

With options, the inter-index spread becomes very similar to a strangle, but it uses two underlying indexes instead of one. On a percentage basis, the position has larger potential profits than the inter-index spread with shares because of leverage. In the MDY example, the September puts increased in value from \$10.90 a contract to \$30.60. The position can also benefit from an increase in implied volatility. At the same time, the loss from the calls is limited to the premium paid. Obviously, this type of

spread works best when the strategist expects an explosive move in the underlying indexes, but is not sure about direction.

Option Ratio Formula

The formula for computing the correct number of contracts in an inter-index spread is as follows:

$$\text{Ratio} = (v_1/v_2) \times (d_1/d_2) \times (p_1/p_2)$$

where

v = implied volatility

d = delta

p = price

In the example provided, the deltas of the OEF and MDY equal 0.70 and 0.85, respectively; the volatilities are 0.165 and 0.18; and the prices are \$100 and \$52.50. The formula yields:

$$(0.165/0.18) \times (0.85/0.70) \times (100/52.5) = 14.03/6.62 = 2.12$$

So two calls are purchased for every one put.

THE INDEX EFFECT

No book on index trading would be complete without a discussion about the index effect, which is our final strategy discussed in this book. Although the index effect doesn't involve trading an index, profit opportunities are possible for savvy stock traders who want to identify the next stocks to be added to the S&P 500 Index.

When a company is added to the S&P 500 Index, the share price will often rise. There is a large price move because many fund companies and other institutions try to mimic the performance of various indexes. As explained in Chapter 8, trillions of dollars are linked directly to the SPX. Examples of so-called index funds include the Vanguard S&P 500 Index Fund, which is one of the largest mutual funds in existence today, as well as the S&P 500 Depositary Receipts (SPY), one of the largest exchange-traded funds today.

When the Standard & Poor's committee decides to add a new company to its index, the news triggers a flurry of buying in the company's shares. All of the funds and other portfolios that try to mimic the index are forced to buy the stock. There is no choice in the matter. This sudden increase in demand for the new S&P 500 stock causes the share price to rise. It is known as the *index effect*.

Since the Standard & Poor's index committee meets behind closed doors, predicting which company will be added to the S&P 500 Index is no easy task. While it is difficult to know what stock will next be added as companies are periodically deleted from the S&P 500 Index, traders know a new company must be added in the event of a merger. If two S&P 500 stocks merge and form one company, this creates a vacancy and the committee will seek a replacement candidate.

The replacement will often come from within the same industry. S&P tries to maintain a reasonable sector balance and will look first to the industry group from the deleted company when selecting its replacement. As an example, if two banks merge and open a spot in the index, the next entrant into the S&P 500 Index may very well be a financial company.

In addition, Standard & Poor's establishes fairly strict criteria for S&P 500 stocks. First, the company must be headquartered in the United States. Second, shares must have adequate liquidity. The stock must have a market capitalization of \$4 billion or more. Initial public offerings (IPOs) must also be "seasoned" for 6 to 12 months before being considered. Finally, Standard & Poor's wants to see financial viability, which they measure by four consecutive quarters of profitability.

Therefore, in order to find the next SPX candidates, one must first identify those stocks that meet the criteria. The larger companies that are not yet part of the index are the most likely candidates.

As of this writing, Google (GOOG) has a market value of more than \$120 billion, which would make it one of the top 20 SPX stocks. In addition, it has been trading for more than 12 months and has a track record of profitability. By the time this book is published, it will probably be a part of the S&P 500 Index. (In fact, shortly before this book went to print, GOOG was added to the S&P 500 as expected.) However, the same analysis can be repeated:

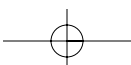
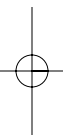
- Create a list of large-cap stocks that are not yet part of the S&P 500 Index.
- See if they meet the criteria discussed in the previous paragraph.
- Wait for a merger to create an opening in the S&P 500 Index.
- Go long shares or set up bullish trades on the stock that seems most likely to get a boost from the index effect.

CONCLUSION

While it doesn't take a PhD in indexes to make money trading them, understanding the products you trade is naturally important. For example,

the NASDAQ 100 Index is one of the more actively traded index products and has been since the late 1990s. However, the index is a lot different today than it was when options started trading on the index. Understanding how it is constructed and what companies comprise the index will certainly help make sense of its daily movements, or nonmovement. For that reason, early in this chapter, the reader was encouraged to learn about the different methodologies used to construct indexes.

Understanding how indexes are built can also open up trading opportunities. The index effect can be used to capitalize on the one-time price movement of a stock when it is added to an index. A modest portfolio tilt can sometimes outperform the S&P 500 Index and provides smaller investors with the opportunity to do something most institutions can't—namely, beat the market on a consistent basis. The buy write indexes can help traders identify periods of time when covered call writing makes sense. Finally, inter-index spreading can be used to profit from long-term relationships between two indexes, but the success of the strategy does not depend on market direction. Bottom line, all of these strategies can be quite lucrative as you endeavor to successfully trade the index market.



CHAPTER 16

Getting Started

Now that you've read the entire book, you're raring to go and ready to start making trades. But hold on, we don't want to rush into using real money until we're totally prepared to do so. This chapter goes through the various things every trader should understand before ever putting the first amount of money into a trade.

This final chapter is designed to empower you to successfully trade the index markets. To get there, you'll need to find the right broker, set up an account, and become familiar with the various types of orders available. We also highly recommend paper trading the markets in order to test strategies before ever placing a dollar into a real trade. After all, airplane pilots use simulators to learn how to fly before ever risking their lives by flying a real plane. Likewise, we need to paper trade to gain the skills we need to keep our financial lives intact. This being said, let's get started.

FINDING A BROKER

There are many types of brokers, which is why it's so important to be able to identify exactly what we're looking for as options traders. While we cover the basics here, readers are encouraged to read the plethora of information on various brokers on the Optionetics web site. (The link to this feature is www.optionetics.com/broker/review.asp.) This is a free service geared toward helping new traders find the most appropriate broker for their situation.

There are several things that a broker needs to provide a trader. First and foremost is the ability to make option trades and make them seamlessly and quickly. Many new traders look solely for brokers with the least expensive commissions, but these aren't necessarily the brokers you should use. Price is important, but not at the cost of execution and ease of use.

Not all brokers cater to option traders, so it is important to find one that does. The line between discount brokers and full-service brokers has narrowed in the past few years, but there are still some key differences. First, a discount broker is mainly there to allow orders to be processed. They do not provide advice, but the amount of research and tools they provide has improved dramatically. Full-service brokers provide advice and numerous tools and research, but these extra services come at a price: higher commissions.

The Optionetics web site lists many brokers and ranks them using various criteria, including site design, commission cost, and account minimums. After reviewing the various brokers, choose the one that seems like a good fit for you. If you don't like their services, you can always move later. However, before choosing a particular broker, you might want to ask around with other traders about who they use and why. This can be done on the Optionetics forum as well.

OPENING A TRADING ACCOUNT

Once you find the broker you want to use, you must fill out the paperwork to open the account. Then you have to get approval to trade options, as not all traders are allowed this privilege. Most firms will allow you to apply online using the appropriate digital forms. Before applying for an account, a trader should assemble key information that will be needed.

First, the type of account you are setting up is crucial. This can include individual, joint, custodial, and IRA accounts. There are different tax laws for each of these types of accounts and you should consult with your tax adviser to make sure you are entering the appropriate account type.

Next, you must choose whether you want to use margin. This is only possible in a nonretirement account, and it requires extra paperwork and usually a larger minimum deposit. Margin can be a curse or a blessing, depending on how it is used. This is because it involves using leverage, which is a good thing if used properly. You can always add margin to your account at a future date, so there is no need to sign up for margin initially if you are not sure what to do with it.

Besides setting up a brokerage account and choosing the account type, you must also fill out an options trading agreement. Brokerages need to gather information about potential traders before allowing them to trade options. At first, you might need to start with basic strategies, like buying calls and puts. The highest level, as discussed earlier in the book, is Level Five, which is the ability to write uncovered equity and index calls and puts. Optionetics rarely touts using naked positions, so a Level Five account isn't necessary. In order to get the experience you need to apply for the level you want, you can start by paper trading.

PAPER TRADING

Getting experience trading options and the various strategies involved doesn't need to cost you a lot of money. We often hear how people have learned to trade from the school of hard knocks. Why learn the hard way when there are ways to learn without losing a lot of capital?

Everyone has probably heard the term *paper trading*, but there are various ways this practice can be done. One way is to use a portfolio tracker, like the one found on the Optionetics web site. Here you can enter mock trades, track them, and see how they fare over time using paper money. Of course, the key is to treat the trade as if it were a real trade, trying to duplicate the feelings and decisions you would make if it were real money. Emotions are a big part of trading and can cause traders to do things they shouldn't do, so you need to treat paper trading like the real thing.

Another way to paper trade is to go back in time and see how a particular trade would have fared if we had entered it. This might seem hard to do, but with the Optionetics Platinum software, this is an easy and very powerful way to learn to trade. Platinum allows us to go back in time, set up a trade, and then move forward in time to see how it would have fared. By using this type of paper trading, you can learn strategies in just a fraction of the time it takes to paper trade in the present. In order to see this more clearly, let's review an example of a paper trade made using Platinum.

In Platinum, we choose a date in the past, and the program handles the data from that date as if it were the present. Once we have entered the mock trade we want to paper trade, we can then move the date forward one day at a time or until option expiration to see how the trade performed. By moving forward day-to-day, we can see how the market shifts and try to visualize how we would feel and react to the trade. We also can exit when our stops are hit and/or our profit goal is realized. Once again,

we must treat the trade as if it were real money to closely duplicate a real-world trade.

Paper Trade Example

Back in late April 2005, the Nasdaq 100 Trust (QQQQ) experienced a bullish candlestick pattern called a *hammer*. This is when a stock or index moves sharply lower intraday, but recovers and finishes higher in a current downtrend. Once this pattern developed, we could enter a call on the Qs to see how this trade would have fared.

To paper trade this hammer pattern, we would set Platinum back to April 29, 2005—the day this bullish formation developed. Let's assume we get in at the open on April 30 for roughly the same cost. Though there are many bullish strategies, let's explore the use of a long call. Now which strike price and expiration should we use?

When looking at the option data tables for QQQQ, there are a number of option strikes to choose from. In general, when buying a call or put, it's preferable to buy at least 60 to 90 days of time, as time erosion occurs fastest in the last month of an option's life. The Qs closed trading on April 29 at \$34.98. Let's use the July options, as they give us 77 days until expiration. We now must choose the strike we want to use. We can choose an in-the-money (ITM) strike, an at-the-money (ATM) strike, or an out-of-the-money (OTM) strike. Depending on our outlook for the stock, our best reward-to-risk ratio is found using an OTM strike. Many traders prefer to use the strike that has a delta near 25 to 30, which in this scenario would mean using the 37 strike. The Qs are different from stock options, as they have strikes set at every point, making them very flexible. The cost for the July 37 QQQQ option is about \$0.50 per contract. (See Figure 16.1 for a summary of the opening trade.)

Now that we have decided on the trade, we need to decide where our

Nasdaq 100 Tr Series 1 (QQQQ) Option Trade Stock News																									
Leg Date	Position	Num	OptSym	Expire	Strike	Type	Entry	Bid/Ask	Model	IV %	Vol	OI	Days												
04-29-05	Bought	6	000GK	JUL05	37	Call	0.5	0.45/0.55	0.575	19.1	1095	3617	77												
														Entry Debit (Cost)		Profit	Max Profit	Max Risk	Delta (Shares)		Gamma	Vega	Theta		
														\$300.00		\$-30.00	\$Unlimited	\$-300.00	177.86		67.472	\$33.34	\$-4.55		
														Downside Breakeven			Upside Breakeven		Max Profit/Max Risk			Max Profit/Cost			
														37.50			37.50		Unlimited%			Unlimited%			

FIGURE 16.1 QQQQ Option Trade Specifics (Source: www.Optionetics.com Platinum)

exit points will be. Setting exit points ahead of time helps keep the emotion out of the decision-making process. In this example, let's set our profit goal at double. At this point, we would sell half of the options so that we would then have a risk-free trade. We also need an exit point in case of a loss. We might decide that we don't want to lose more than half the value of the option, which in this case would be if the option is only worth \$0.25. If neither of these events occurs, we will exit the trade with 30 days left until expiration.

By looking at this data we can see that our maximum risk is \$300, the total debit to enter the trade. The breakeven is easy to figure—it is the strike price used plus the debit of \$0.50 per contract. Using the exits we decided on earlier, we would sell half the contracts if the options can be sold for \$1.00 each. If the Qs fall, we would get out once the contracts are worth just \$0.25. Figure 16.2 shows the risk profile of our paper trade.

There are two ways we can see how this trade would have fared. One would be to go forward one day at a time in Platinum to see if our exit points are reached. The other would be to forward the Platinum date to the point where we are 30 days from expiration and then view the back data from entry point until this point in time.

Looking at the data from April 29 to June 15, we see that our first profit exit would have been reached on May 18 with the closing price for

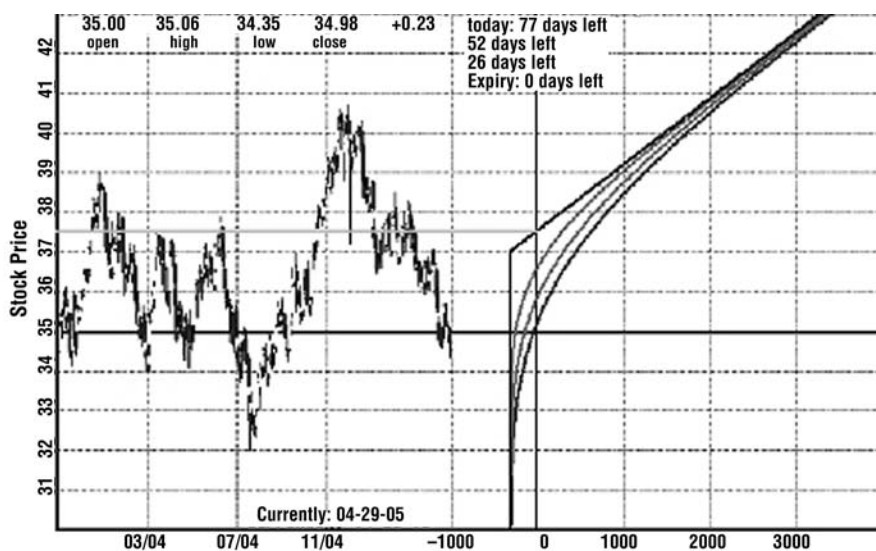


FIGURE 16.2 QQQQ July Long Call Risk Profile (Source: www.Optionetics.com Platinum)

the Qs at \$37.20. At the close of trading that day, we could have sold three of the July 37 options for \$1.15 each, or \$345. This would bring in more than we paid to enter the trade by \$45, which ensures that a loss cannot occur. On June 2, the Qs rose to 38.66, which pushed our profit up to \$660 total as the remaining three contracts were now worth 2.05. This would have been a point to close the trade and take profits. Whenever you can make 200 percent return, take it. Of course, if we would have held all our contracts until this point, we would have made 400 percent, but we want to take out as much risk as possible.

This was an example of a winning trade, but we often learn more from our losses than from our wins. When paper trading, we welcome losses that teach us important lessons. However you decide to go about paper trading is fine; just make sure you learn the strategies by using paper trading to avoid large losses of capital at the beginning of your trading career.

TYPES OF ORDERS

One of the most stressful functions of the new trader is actually to place that first trade. Picking up the phone or turning to the broker's web page is, without a doubt, a time of considerable angst. After all, you are trying something totally new. There is a seemingly endless number of choices, you are on your own, and if you mess it up, it could conceivably cost you a lot of money—*your* money.

As you gain experience, you will settle into a style of order placing that works for you and your broker, often forgetting that there are many other ways that might possibly solve a particular problem. However, to get started you need to understand the basics of how to place a trade, as well as some of the available options that even the more experienced trader may have forgotten.

To place a trade, you need to communicate several things to your broker. Although we offer a list—the particular order of which is only suggested, not mandatory—you will soon find an order structure that works best for you and your broker. The following list is designed around a single asset (stock, call, or put) but will work just as well for any of the Optionetics-style combination (or hedge) trades.

To place a trade, you'll need to give your broker the following information:

- Whether you want to buy (go long) or sell (go short) the security.
- The underlying stock (and possibly ticker symbol).
- The actual vehicle (stock, ETF, HOLDR, call, or put).

- If an option, the particular month and strike (and possibly the appropriate symbol).
- The number of shares or contracts.
- The type of order (market, limit—and if so, what limit).
- Whether you are opening a position (initially setting up the position—long or short) or closing a position (selling an existing long position or buying back an existing short position).

Some brokers and most web sites require you to provide the exact ticker symbol for your transaction. Other brokers will accept an order using a plain English description of your transaction. Using the coded description (which you can search for on Optionetics.com) is just too easy to mess up, especially for a beginning trader or a semiactive trader (one who attempts to remember the code from last week or month). For instance, “AEQFT” and “AEQRI” appear to be almost identical (at least with my handwriting!) and in fact are both options for Adobe Systems, Inc. (ADBE). However, the “FT” is the descriptor for the June 45 call, while the “RI” is the descriptor for the June 45 put—both fine options, but hardly interchangeable. If you are using a broker who cannot look up the symbols for you (or remember them—they, after all, do this many, many times per day), then be *very careful* that you in fact have the correct symbol—it is your money that is on the line, and no one cares more about it than you do.

For our purposes here, we assume that you have researched and decided on just the appropriate type of trade. The question now is how to put the trade on. There is a major decision to make: Do you want to put it on as a *market order* or a *limit order*, and, if the latter, what type of limit order?

Market orders are generally not the preferred way to trade. By placing a market order, you are assured of getting the trade filled immediately, but at whatever price the floor chooses to charge you! You are, in effect, handing them a blank check. In reality, if you are trading a stock or option with a lot of activity, the price that the broker gives you on the phone and the price the stock is trading at by the time the order reaches the floor (a few seconds or minutes later) will not be much different. However, thinly traded stocks and options may find a fairly large swing. Also, if your broker happened to give you a bad quote or you didn't hear it correctly and you place a market order expecting a similar price, you may be quite disappointed. You would choose a market order only if you absolutely, positively had to have the trade consummated right now, no matter what. Therefore, under most circumstances, the limit order is the preferred way to trade.

Limit orders come in many forms, but the basic concept is that you

only want the trade filled if it meets your requirements (primarily a price that you have set). This protects you in several ways, not the least being that it protects you from the floor traders (manipulating the prices just as your trade reaches the floor) and from yourself (making an error in calculation, reading, hearing, or whatever). In a limit order, you will typically give the broker a price for the trade. If it is a debit trade (you are paying money out of your account), that price is the maximum price you will pay; if the trade is a credit trade (you are receiving money into your account), that price is the minimum amount you will accept. *Note:* If the stock is moving rapidly, you can always set a limit outside the bid-ask spread.

For instance, if the stock is moving up, and you want to be sure to buy it, you can set a buy price of \$55, even if the bid-ask quote is \$49–\$50. Your broker should be able to get the stock (or option) even if it is moving, but you are protected from finding that the price is \$60 or \$70 by the time your order is filled. If the stock price does jump up to \$70 by the time your order hits the floor, your order will not be filled. But in that case, not getting filled is probably a good thing, especially if it was trading at \$50 only moments ago.

When setting exit points, you can often use different order types to make sure you can easily exit at these points. Brokers use various order types, so let's go through them and discuss how they are used. In addition to previously discussed market and limit orders, the following order types are commonly used:

- **Fill or kill:** The broker is instructed to fill the order immediately or else kill (cancel) the order.
- **Day order:** This is the most common type of order for options. It keeps your order in the system until the market close, and if it is not filled, it is cancelled. In order to place the order for the next day, a new order would need to be placed as either a day order or good-till-cancelled (GTC) order. Many brokers only allow day orders on options.
- **Good till cancelled (GTC):** Unlike a day order, a GTC order stays in the system until filled or for a specified amount of time. Most brokers allow GTC orders to remain in the system for 30 to 60 days.

The list that follows details other types of trades that can be placed with your broker. Some orders may have broker deadlines for submission (i.e., buy on close). Check with your broker for specific details.

- **At-the-opening order:** This type of order provides the trader with the price at the open of trading. Perhaps you expect a large gain in the stock price after the open and you want to make sure to get the initial

price of the option before it starts heading higher. This type of order does not have to be filled, but it won't be filled at a price other than the opening price.

- **Buy on close:** This type of order provides the trader with the closing price for an option. This is useful on expiration day when the owner of an option might want to wait until the last possible moment to buy back an option that is in-the-money.
- **Buy on opening:** This is the buy side of the at-the-opening order.
- **Cancel former order:** If you have previously placed a limit order that hasn't yet been filled and you now want to cancel it, you would place a cancel former order.
- **Exercise:** If you are long an option and you either want the stock (if you are long the call) or you want to sell stock you own (if you are long the put), you would exercise your option. You would choose to exercise the option as opposed to either buying the stock and selling the call or selling the stock and selling the put if there was no time value in the option (typically if the option is deep in-the-money). You will then get the strike price of the option (buying or selling) no matter where the stock is presently trading, and with no slippage for the spread between the bid and ask prices. The exercise of the option takes place after the market has closed for the day—it doesn't happen immediately.
- **Market-if-touched (MIT):** This type of order automatically becomes a market order if the specified price is reached. If a stock is falling and you want in at a certain price, you could place a MIT order. However, if the stock falls through your price, your order might not get filled at the market price you had hoped for. Remember, once a certain price is reached, the order becomes a regular market order.
- **Buy stop order:** Set a price, usually lower than the current price, and if the market price falls to that specified price, the order becomes a market buy order. This is the same as the market-if-touched order, but specifically to repurchase a short position.
- **Sell on opening:** This is the sell side of the at-the-opening order.
- **Sell stop order:** Set a price lower (as protection) or higher (to capture a profit) than the current price, and if the market price reaches that price, the order becomes a market sell order. This is the same as the market-if-touched order, but specifically to sell your position.

Placing an order is not a simple process, especially for the beginner. The variations are many, and the consequences of being wrong are great. This is why, when asked by new traders about the type of broker to get, I strongly recommend a full-service broker. In the beginning of a trading career, it is very helpful to have someone who is willing to take the time to

walk the novice trader through the intricacies of the system, generally protecting traders from themselves. Even after many years of trading, many professional traders find full-service brokers very helpful, especially when they are trying to do anything out of the ordinary, something new, or something that they haven't done in some time. Also, not all brokers allow all types of orders for options, so if you have a particular order you expect to use more often, make sure it is available at the brokerage you choose to work with.

THE IMPORTANCE OF LIQUIDITY AND MULTIPLE LISTING

A final but very important factor to consider when evaluating index options is liquidity. How liquid are the options? Some indexes have options but not much activity. Others, however, such as the S&P 500, S&P 100, and some of the PHLX sector index options do trade actively. In general, the more volume and open interest associated with an index option, the better it is as a trading vehicle.

Simply looking at the volume and open interest statistics can help to determine whether the options contract is actively traded. *Open interest* is the number of contracts that have been opened but not yet closed out. For example, if I sell five calls to establish a covered call, open interest in that contract will increase by five. Open interest will also change due to exercise and assignment. If I am assigned my five calls, then open interest will decline by five. Or if I close out my covered call trade, open interest will fall by five contracts.

Looking at an options chain or an options quote will provide open interest information. If open interest is zero, the contract does not see much trading activity. If the open interest across all of the contracts of an underlying asset is zero or close to zero, it has low volume and not much liquidity.

In general, we are looking for actively traded options and high liquidity for trading spreads and other advanced strategies. This means looking for contracts that not only have steady volume and high open interest, but also are listed on multiple exchanges. Multiple listing means that market makers will be competing for orders and the spreads will therefore be more favorable for the trader. In short, when looking at an index contract, the strategist wants to see (1) steady volume, (2) open interest, and (3) multiple listing on competing exchanges. Not all index contracts will have those three characteristics, but the ones that do are superior from a liquidity standpoint.

FINAL SUMMARY

Trading options is not for everyone; but, for the person who is diligent and willing to learn, it can be a very profitable endeavor. Of course, there is a learning curve, so it is important to study and test ideas and strategies to gain an understanding of the options trading field. Paper trading is a key aspect of the learning curve and will continue to be important throughout your option trading career. Even seasoned traders still test new ideas before putting real money into the market.

Given the predetermined life of an option, the strategies you use will often require two things: a careful eye and the ability to make quick decisions without regret. Inevitably, there will be costly errors in judgment, but that's also part of the learning process. These errors will be less costly if they are made in paper trades. There is a big difference between trading with your own money and trading on paper. Bottom line, one of the most important factors in mastering trading is investing enough time into the art of paper trading.

Besides gaining knowledge, there are some things that need to be done before trading options. First, a relationship must be established with a broker who can handle option trades. Whatever broker is chosen should cater to your needs and provide the services you desire. Even if you plan on trading mostly through the Web, it still is important to have a broker who understands options trading. The Optionetics free web site has a section specifically designed to help you choose an appropriate broker.

Decades ago, stock traders had to create their own charts of stocks or order from a chart service. With the advent of the computer, there are many advanced charting tools available for low cost, sometimes free. A computer is almost a necessity for trading in this day and age, but a computer can be purchased relatively inexpensively. Software programs that specialize in helping both stock and option traders can be had for little capital as well, especially considering the time they can save a trader. The one problem is that there are so many companies pushing trading software that it can become overwhelming trying to choose the one best suited for your needs. Don't buy any software that won't provide some sort of trial first so you can see how well it works for you.

The Internet is an amazing thing, and it is hard to imagine that we ever lived without it. There are a multitude of web sites that provide free trading information, including our own web sites: www.optionetics.com and www.profitstrategies.com. The learning curve has been cut down substantially by the depth of easy-to-get information available on the Internet.

We get a lot of enjoyment and satisfaction from trading and from teaching others. After writing four books on stocks and options, writing

one on index trading provided some very interesting challenges and opportunities. On the one hand, we wanted to avoid too much overlap with our other books. For that reason, we tried to minimize the discussion of the stock market and options trading basics. At the same time, we also wanted to provide readers with new material that can deliver positive real-world results. The chapters on indicators, system trading, and index strategies were designed to answer that call.

Readers who have made it this far through the book have clearly increased their odds of success. I have never met a trader who has given it 100 percent effort and failed. Taking the time to read this material shows a real commitment and dedication to success. Congratulations!

It takes some of us more time than others to become proficient at trading, but by using a disciplined approach and the strategies outlined in this book, it is possible to develop a winning system. The first step is knowledge and, after reading these 16 chapters, any reader will have developed a very solid knowledge base pertaining to index option trading. It won't hurt to reread some of the strategy rules and guidelines, as well as keep the book on your trading desk as a reference.

To summarize and conclude, let's try to tie things down by reviewing a few key points. First, the index market is clearly an exciting market for traders. It offers opportunities to trade a variety of different instruments, including gold, bonds, the stock market, sectors, and specific industry groups. There are two tools for doing so: exchange-traded funds and indexes.

However, not all index products are created equal. Some have options, some do not. As a general rule, the strategist will want to focus on those products that have options contracts with the greatest amount of liquidity or those that reflect a market or industry group where the trader has special knowledge or skill. As a first step, readers are encouraged to develop a list of a dozen or so indexes that might be used as trading vehicles. In addition, as we saw in Chapter 15, understanding the methodology and components of the index can help make sense of its daily moves.

Specific markets and sectors will sometimes chop around sideways, but more often develop into bullish and bearish trends. There is always a bull market somewhere and always a bear market somewhere. Consequently, the index trader wants to develop a variety of different trading strategies that can deliver profits regardless of the current market environment. Chapters 5, 6, and 7 explained a variety of different options trading strategies that can be used in the index market.

Catalysts and technical indicators can help with the timing of index trading strategies. A catalyst is an event that triggers a response in the financial markets. For index traders, examples include economic reports,

changes in energy prices, and interest rate announcements from the Federal Reserve. You may want to review the list of fundamental catalysts in Chapter 8.

A variety of technical indicators can also help index traders get an edge. Some reflect the internal action of the market. Examples include volume, market breadth, and the new high–new low index. Seasonal patterns and sentiment analysis are also helpful timing tools. Chapter 10 provides an explanation of the variety of different technical indicators used in the index market.

Some traders prefer using systems, however. A trading system can provide a clear set of rules for when to enter and exit the market. The key in developing a winning system is in the software, the data, and the backtesting. Chapter 9 provides some insightful examples, along with guidelines for building and backtesting trading systems.

Sector trading is another approach to the index market. Rather than focusing on the market as a whole, this type of trading uses a combination of fundamental and technical analysis to find opportunities within specific sectors or industry groups. Chapter 11 provides examples of the index products used to trade sectors.

Regardless of the approach or the market, volatility is an important element when trading options. Volatility, discussed at length in Chapter 12, measures the speed of the price movement of an investment or asset. In addition, implied volatility is a component of an options premium. It tells us whether options are cheap or expensive, which can help us identify the best trading strategy for a specific situation.

Risk management and adjustments go hand in hand. An adjustment can help salvage a losing position or protect gains from a winning trade. Meanwhile, risk management is often overlooked, but vital to the long-term success of an index trader. In that respect, diversification and asset allocation can help manage risk and reduce the stress related to trading. A complete discussion of using adjustments and risk management is covered in Chapters 13 and 14.

Equipped with an understanding of the variety of index products; the options strategies for different trends and volatility situations; indicators and systems; and adjustments and risk management, readers are now in a position to begin looking at potential trading opportunities in the index market. Importantly, however, new traders will want to start small. Additionally, we highly recommend paper trading the index markets to get some practical experience. In addition, understanding order entry and the role of the brokerage firm in handling the trade is equally important, as discussed earlier in this final chapter.

Now it's time to get started. Even if you are not ready to put real money to use yet, take the time to paper trade to see if trading options is

something you enjoy and at which you could be successful. Starting small can keep new traders in the game, even if they make mistakes early in their trading careers.

Trading options is fun and profitable. For us, it's hard to imagine a more enjoyable way to make a living. We enjoy it and we also enjoy seeing others succeed. In that respect, we hope this book has been helpful. Stop by our message boards at www.optionetics.com and let us know.

APPENDIX A

Important Tables and Lists

INDEXES CLASSIFIED BY MARKET CAPITALIZATION

Market capitalization refers to the total dollar value of all outstanding shares and is a measure of corporate size. Below is a list of indexes that have been created to gauge the performance of U.S. stocks based on market capitalization.

- ***S&P 500 (large-cap)***: The S&P 500 is one of the primary market indexes to gauge the health of the U.S. stock market. It is comprised of 500 leading companies, as determined by S&P, and includes large-cap names.
- ***S&P 100 (large-cap)***: The S&P 100 is the top 100 large-cap names listed in the S&P 500 index.
- ***S&P MidCap 400 (mid-cap)***: S&P's MidCap 400 covers approximately 7 percent of the U.S. stocks and is a commonly used benchmark to monitor performance of mid-cap mutual funds. There are 400 names in this index, selected by S&P analysts and economists.
- ***S&P SmallCap 600 (small-cap)***: S&P's SmallCap 600 covers approximately 7 percent of the U.S. stocks and is used as a benchmark to monitor performance of small-cap mutual funds. There are 600 names in this index, selected by S&P analysts and economists.
- ***S&P Composite 1500 (large-cap, mid-cap, and small-cap)***: S&P's Composite 1500 combines the S&P 500, the S&P MidCap 400, and the S&P SmallCap 600, covering leading companies in each of the three primary capitalization sizes. It represents approximately

90 percent of the U.S. stocks and gauges the broadest market exposure of the four listed indexes.

- ***Russell 3000 Index (large-cap, mid-cap and small-cap):*** The Russell 3000 Index includes the top 3,000 U.S. equities by market capitalization, resulting in an index that includes large-cap, mid-cap, and small-cap names. The average capitalization of stocks in this index is \$4.8 billion while the median capitalization is just under \$1 billion (as of July 2005).
- ***Russell 1000 Index (large-cap, mid-cap, and small-cap):*** The Russell 1000 Index includes the largest 1,000 stocks by market capitalization from the Russell 3000 Index, resulting in an index that includes predominantly large-cap and mid-cap names. The average capitalization of stocks in this index is \$13 billion while the median capitalization is \$4.6 billion. The smallest capitalization for stocks included in the list is \$1.8 billion—the high end for small-cap stocks (as of July 2005).
- ***Russell 2000 Index (small-cap):*** The Russell 2000 Index includes the smallest 2,000 stocks by market capitalization from the Russell 3000 Index, resulting in an index that includes predominantly small-cap names. The average capitalization of stocks in this index is \$665 million while the median capitalization is \$540 million. The largest capitalization for stocks included in the list is \$1.8 billion—the high end for small-cap stocks (as of July 2005). This index is also a widely used benchmark for small-cap fund performance.
- ***Russell Microcap Index (micro-cap):*** The Russell Microcap Index uses the smallest companies from the Russell 2000 Index plus the next 1,000 publicly traded companies by market capitalization to construct this index. The average capitalization of stocks in this index is \$217 million while the median capitalization is \$183 million. The largest capitalization for stocks included in the list is \$540 million and the smallest is approximately \$55 million (as of July 2005).

INDEXES CLASSIFIED BY INDUSTRY SECTORS

Indexes have been created to reflect the performance of different sectors of the market place, such as financial, utilities, health care, and so on. Most sectors have at least one representative index. The following list details a variety of sector indexes constructed by various exchanges. We have included indexes from the AMEX and PHLX in this list.

- ***AMEX Airline Index (XAL):*** An equal-dollar-weighted index comprised of major U.S. airlines. Currently 10 companies are listed in this index.

- **AMEX Biotech Index (BTK):** An equal-dollar-weighted index comprised of companies that provide biotechnology research and products or firms that provide services to them. Currently 17 companies are listed in this index.
- **AMEX Disk Drive Index (DDX):** An equal-dollar-weighted index comprised of companies that design and manufacture storage devices for computers or related software. Currently 10 companies are listed in this index.
- **AMEX Gold Bugs Index (HUI):** A modified equal-dollar-weighted index comprised of companies that are involved in gold mining and do not significantly protect their interests through hedging techniques. Currently 15 companies are listed in this index.
- **AMEX Gold Miners Index (GDM):** A modified market capitalization-weighted index comprised of companies that are involved in gold and silver mining. Currently 39 companies are listed in this index.
- **AMEX Oil Index (XOI):** A price-weighted index comprised of companies that are involved in oil exploration, production, and development of petroleum. Currently 13 companies are listed in this index.
- **AMEX Natural Gas Index (XNG):** An equal-dollar-weighted index comprised of companies that are involved in natural gas exploration and production and in pipeline transport and transmission. Currently 15 companies are listed in this index.
- **AMEX Pharmaceutical Index (DRG):** A market capitalization-weighted index comprised of companies that are involved in the pharmaceutical industry. Currently 15 companies are listed in this index.
- **AMEX Securities Broker/Dealer Index (XBD):** An equal-dollar-weighted index comprised of companies that provide securities brokerage services, market making U.S. Treasury dealer functions, and other security-related activities. Currently 12 companies are listed in this index.
- **PHLX/KBW Bank Index (BKX):** A modified market capitalization-weighted index comprised of national money center banks and large regional banks. Currently 24 companies are listed in this index.
- **PHLX Defense Sector (DFX):** An equal-dollar-weighted index comprised of companies that are involved in the defense and aerospace industry. Currently 17 companies are listed in this index.
- **PHLX Drug Sector (RXS):** An equal-dollar-weighted index comprised of companies that are involved in the pharmaceutical industry. Currently 14 companies are listed in this index.
- **PHLX Gold/Silver Sector (XAU):** A market capitalization-weighted index comprised of companies that are involved in gold and silver mining. Currently 13 companies are listed in this index.

- **PHLX Housing Sector (HGX):** A modified market capitalization-weighted index comprised of companies involved in the housing sector, including builders and construction companies, material providers, and mortgage insurers. Currently 21 companies are listed in this index.
- **PHLX Oil Service Sector (OSX):** A price-weighted index comprised of companies that are involved in oil drilling and production, field equipment, and related services. Currently 15 companies are listed in this index.
- **PHLX Semiconductor Sector (SOX):** A price-weighted index comprised of companies that are involved in the design, distribution, manufacturing, and sale of semiconductors. Currently 19 companies are listed in this index.
- **PHLX Utility Sector (UTY):** A market capitalization-weighted index comprised of public utilities located throughout the United States. Currently 20 companies are listed in this index.

TABLE A.1 Popular Indexes and Sectors

Sector	Industry	Index	Symbol
Transportation	Airlines	AMEX Airline Index	\$XAL
	Airlines, Trucking, Rail	DJ Transportation Average	\$TRAN
Health Care	Biotech	AMEX Biotech Index	\$BTK
	Pharmaceuticals	AMEX Pharmaceutical Index	\$DRG
Financials	Banks	PHLX Bank Index	\$BKX
	Wall Street	AMEX Broker/Dealer Index	\$XBD
Energy	Major Oil	AMEX Oil Index	\$XOI
	Oil Drillers	MS Oil Service Index	\$MGO
	Natural Gas	AMEX Natural Gas Index	\$XNG
Utilities	Utilities	DJ Utility Average	\$DUX
	Utilities	PHLX Utility Average	\$UTY
Technology	Computers	GSTI Computer Hardware Index	\$GHA
	Software	GSTI Computer Software Index	\$GSO
	Internet	PHLX Internet Index	\$DOT
	Semiconductors	PHLX Semiconductor Index	\$SOX
Cyclicals	Retailers	MS Retail Index	\$MVR
	Cyclicals	MS Cyclical Index	\$CYC
Basic Materials	Precious Metals	PHLX Gold Mining Index	\$XAU
	Steel	PHLX Steel Index	\$STQ
Consumer Staples	Consumer Products	MS Consumer Product Index	\$CMR

TABLE A.2 Popular Market Acronyms

AAF—asset allocation fund	COO—chief operating officer
AAGR—average annual growth rate	CPA—certified public accountant
AAR—average annual return	CPI—consumer price index
ABS—automated bond system	CPM—cost per thousand
A/D Line—advance/decline line	CSI—Commodity Selection Index
ADR—American Depositary Receipt	CUSIP—Committee on Uniform
ADX—Average Directional Movement Index	Securities Identification Procedures
AGI—adjusted gross income	DAT—direct access trading
AMEX—American Stock Exchange	DD—due diligence
AMT—Alternative Minimum Tax	DI—disposable income
AON—all or none	DJIA—Dow Jones Industrial Average
APR—annual percentage rate	DJTA—Dow Jones Transportation
APV—adjusted present value	Average
APY—annual percentage yield	DJUA—Dow Jones Utility Average
AR—accounts receivable	DMI—Directional Movement Index
ARM—adjustable rate mortgage	DPSP—deferred profit sharing plan
ASX—Australian Stock Exchange	DRIP—dividend reinvestment plan
ATM—at-the-money	EAFE—European and Australasian, Far
ATP—arbitrage trading program	East Equity Index
ATR—average true range	EBIT—earnings before interest and
BICs—bank investment contracts	taxes
BIS—Bank for International Settlements	EBITDA—earnings before interest,
BOP—balance of payments	taxes, depreciation, and
BOT—balance of trade	amortization
BP—basis point	ECN—electronic communication
CAPEX—capital expenditure	network
CAPM—capital asset pricing model	EDGAR—Electronic Data Gathering
CAPS—convertible adjustable preferred stock	Analysis and Retrieval
CBOE—Chicago Board Options Exchange	EMA—exponential moving average
CBOT—Chicago Board of Trade	EPS—earnings per share
CCE—cash and cash equivalents	ERISA—Employee Retirement Income
CCI—Commodity Channel Index	Security Act
CD—certificate of deposit	ESO—employee stock option
CEO—chief executive officer	ETF—exchange-traded fund
CFA—chartered financial analyst	FAD—funds available for distribution
CFO—chief financial officer	FASB—Financial Accounting Standards
CFP—certified financial planner	Board
CFPS—cash flow per share	FDIC—Federal Deposit Insurance Corp.
CFTC—Commodity Futures Trading Commission	FFO—funds from operations
COGS—cost of goods sold	FIFO—first in, first out
	FHLMC—Federal Home Loan Mortgage
	Corp
	FNMA—Federal National Mortgage
	Association (Fannie Mae)

(Continued)

TABLE A.2 (Continued)

FOMC—Federal Open Market Committee	MSCI—Morgan Stanley Capital International Index
FRA—forward-rate agreement	NASD—National Association of Securities Dealers
FRB—Federal Reserve Board	NASDAQ—National Association of Securities Dealers Automated Quotations
FRS—Federal Reserve Systems	NAV—net asset value
GAAP—generally accepted accounting principles	NMS—normal market size
GARP—growth at a reasonable price	NOI—net operating income
GDP—gross domestic product	NPV—net present value
GIC—guaranteed investment certificate	NSO—nonqualified stock options
GNMA—Government National Mortgage Association (Ginnie Mae)	NYSE—New York Stock Exchange
GO—general obligation bond	OBV—on-balance volume
GSE—government-sponsored enterprise	OI—open interest
GTC—good till canceled order	OID—original issue discount
HOLDRs—Holding Company Depositary Receipts	OPEC—Organization of Petroleum Exporting Countries
HTML—hypertext markup language	OTC—over-the-counter
IFCI—International Finance Corp. Investible Index	OTM—out-of-the-money
IPO—initial public offering	PDF—portable document format
IRA—individual retirement account	P/E—price-to-earnings ratio
IRR—internal rate of return	PEG—price/earnings to growth
ISO—International Organization for Standardization	POP—public offering price
ITM—in-the-money	PPI—producer price index
IV—implied volatility	QQQQ—ticker symbol for NASDAQ 100 Index Trust
JSE—Johannesburg Stock Exchange	R&D—research and development
KCBT—Kansas City Board of Trade	REIT—real estate investment trust
LBO—leveraged buyout	RIC—return on invested capital
LEAPS—long-term equity anticipation securities	ROA—return on assets
LIFO—last in, first out	ROE—return on equity
LLC—limited liability company	ROI—return on investment
LP—limited partnership	RPI—retail price index
MA—moving average	RSI—relative strength index
MACD—moving average convergence divergence	SAI—Statement of Additional Information
MEM—maximum entropy method	SAR—stop and reverse
MER—management expense ratio	SEC—Securities and Exchange Commission
MIPS—Monthly Income Preferred Securities	SEMI—Semiconductor Equipment & Materials International
MIT—market if touched	SEP—simplified employee pension
MPT—modern portfolio theory	SIC—Standard Industrial Classification

TABLE A.2 (Continued)

SIPC—Securities Investor Protection Corp.	TRIN—Traders Index
SOES—small order execution system	TSE—Toronto Stock Exchange
SOX—Philadelphia Semiconductor Index	UN—United Nations
S&P—Standard and Poor’s	VIX—CBOE Market Volatility Index
SPDR—Standard & Poor’s Depository Receipts (ETF)	VXN—NASDAQ Volatility Index
SSR—sum of squared residuals	VPT—volume price trend
SV—statistical volatility	WSE—Winnipeg Commodity Exchange
SWIFT—Society for Worldwide Interbank Financial Telecommunication	XD—ex-dividend
TPO—time price opportunity	XR—ex-rights
	XY—ex-warrants
	YTD—year-to-date
	YTM—yield to maturity

TABLE A.3 Government Reports

Component	Release Dates	Advancing Numbers	Declining Numbers
Employment Report	First Friday of the month.	A rise in the unemployment rate is often seen as a negative for stocks but a positive for bonds.	A decrease in unemployment numbers is a positive sign for the economy.
Wholesale Trade	Second week each month.	Wholesale trade inventories: If this number rises, consumption is slowing. Inventory-to-sales ratio: Rising numbers again reflect a slowdown in the economy.	Wholesale trade inventories: If inventories are falling, consumption is on the rise. Inventory-to-sales ratio: If this number begins to fall, a consumer spending increase means more confidence.

(Continued)

TABLE A.3 (Continued)

Component	Release Dates	Advancing Numbers	Declining Numbers
Import and Export Prices	Around midmonth.	Imports constitute 15% of U.S. consumption; also directly affect the profitability of U.S. companies. Higher prices from imports translate to higher prices of domestic goods. Good news for business, bad for consumer.	If import prices fall U.S. companies must lower prices to compete. Bad for businesses, good for consumers.
Employment Cost Index (ECI)	Once a quarter toward end of month for preceding quarter.	Analyzes wages and fringe benefits. Rising wages alone have less meaning but are used in conjunction with other reports, like housing starts.	Lower wages mean a slowing economy, and will be used in conjunction with other economic measurements to gauge the economy's strength.
Consumer Price Index (CPI)	Around 15th of each month.	Since the CPI describes price changes of a basket of consumer goods, a rising number means inflationary pressures at work.	Bad for the market because inflation is held in check with rising interest rates. A drop in prices is generally considered a good sign for consumers and good for the market. Too much of a drop is a negative.
Producer Price Index (PPI)	Previous month's data are released during the second full week of the current month.	Increases may or may not be good news: If interest rates are declining then a rising PPI number means the economy is reacting to the rate cuts. If rates are increasing, this is bad because further rate hikes may be required.	Decreases mean the economy is slowing. Best to look at trends. Prolonged slowing may lead to deflation and a recession.
Institute of Supply Management Index (ISM)	First of month.	Above 50% indicates economic expansion.	Below 50% suggests economic contraction.

TABLE A.3 (Continued)

Component	Release Dates	Advancing Numbers	Declining Numbers
Retail Sales	Midmonth.	People are spending more and confidence is high—it's a good sign for the market.	People spend less and confidence shrinks—it's a bad sign for the market, especially retail stocks.
Gross Domestic Product (GDP)	Released one month after end of quarter.	Takes into account consumer demand, trade balance, etc. Economy expanding is good news, but not too fast—the Fed raises rates when that happens.	Economy slowing. If it continues Fed will (possibly) lower rates; good for market.
Housing Starts/ Sales of New and Existing Homes	Third week of month.	Increasing starts indicate confidence—a good sign for the market.	Economy slowing. Red flag for Fed to be on lookout for downturn in economy. Market reaction is anybody's guess.
Construction Spending	First of month.	Lagging indicator. Reports come in only after building is finished. An increase in numbers is a good sign.	Since it's a lagging indicator, it may serve to confirm the economy is slowing and rates need to be lowered. Good for the market.
Industrial Production Index	Midmonth.	This would indicate the slack is being taken out of the economy; we're maxing out.	Factories are slowing down. Might be considered bad for the market, is considered bad for the economy.
Personal Income and Consumption Expenditures	Third or fourth week after the month it reports on.	Doesn't contribute new knowledge. It reports after other key data (employment and retail sales).	Prolonged decrease in consumer demand is definitely bad for consumer stocks.
Factory Orders: Durable Goods and Nondurable Goods	Four weeks from end of reporting month. However, everyone keys off of the advance release one week prior.	Leading indicator of industrial demand. Numbers going up is generally a positive for the markets.	Slowing demand means a slowing economy if it stays in a declining mode for a few months. Might adversely affect markets, but if it prompts interest rate reductions it could be good.

TABLE A.4 Fundamental Analysis Tools

Method	Description	Usage
Price to Earnings (P/E)	The cost of a stock per dollar of profit. Earnings over the previous 12-month period are commonly used (TTM: trailing 12 month).	This measure is used to monitor a company's period-over-period performance or for comparative purposes. Evaluating period-over-period performance gives a more accurate picture than looking at one P/E measurement (snapshot).
Price to Earnings (estimated) (P/E)	The cost of a stock per dollar of estimated profit for the next 12 months.	Although it is difficult to measure future earnings, use of estimated earnings over the next 12 months is more useful for future valuation considerations.
Price to Cash Flow (P/CF)	The cost of a stock per dollar of cash flow.	Since cash flow is less impacted by accounting choices, this measure reflects a more straightforward calculation. The use of capital leases can make CF appear artificially high, thus requiring adjustments to CF for an apples-to-apples comparison.
Price to Sales (P/S)	The cost of a stock per dollar of sales.	Corporate losses instead of profits can result in a P/E calculation that is not meaningful. Sales figures, which are less subjective to accounting method choice, can be used to monitor a company's progress or compare two or more firms. Growth companies and turnaround strategies may use P/S in place of P/E.
Price to Book Value (P/BV)	The cost of a stock per dollar of book value.	Book value is a valuation of a company's assets. Firms with low P/BV are potential takeover targets since the market is undervaluing the company.
Price to Earnings Growth (PEG)	A forward measure of the cost of a stock per dollar of expected earnings growth.	Stocks with low PEGs are generally considered more attractive than stocks with high PEGs (higher price relative to earnings growth).
Current Ratio	Amount of current assets compared to current liabilities.	Most commonly used solvency ratio. Available cash is also important.

TABLE A.5 Sentiment Analysis Tools

Indicator	Type	Trend	Usage
Confidence Index	Sentiment	Parallel	Index rises as investors shift from high-grade to lower-grade bonds with bullish expectations.
Adviser Sentiment	Sentiment	Contrary	Excessive adviser bearishness (60%) signals bottoms; optimism (10% bearish) signals tops.
Put-to-Call Ratio	Sentiment	Contrary	Excessive puts (70/100) or calls (40/100) signal bottoms or tops early.
Odd-Lot Trading	Sentiment	Parallel	Odd-lot investors step up their buying at bottoms and sell into market tops.
Specialist Trading	Sentiment	Parallel	Specialists buy and sell ahead of the trend.
Money Fund Balances	Cash Flow	Contrary	Rising balances draw money from shares; declining balances are bullish.
Mutual Fund Liquid Assets Ratio	Cash Flow	Contrary	Cash balances rise as the trend nears a bottom when increased buying power exerts a bullish effect.
Customer Credit Balances	Cash Flow	Contrary	Cash balances rise or fall as the market bottoms or peaks.
Customer Margin Debt	Cash Flow	Parallel	Margin buyers are half as much in debt at tops as at bottoms.
Short Interest	Short Sale	Contrary	Increased short selling fuels rallies and at extremes signals trend turning points.
Short Interest Ratio	Short Sale	Contrary	Ratios of short interest to average daily trading volume above 1.75 are bullish; ratios under 1.0 are bearish for the market.
Odd-Lot Short Sales	Short Sale	Contrary	Odd-lot short sellers are wildly speculative in the wrong direction.
Specialist Short-Sale Ratio	Short Sale	Parallel	Ratios of specialist short sales to public short sales above 3.5% are bearish; ratios below 1.8% are bullish.
Up/Down Volume	Breadth	Parallel	Daily volume change of 90% or more signals trend reversal.

(Continued)

TABLE A.5 *(Continued)*

Indicator	Type	Trend	Usage
OTC Relative Volume	Breadth	Contrary	OTC volume breakouts above 80% provide bearish signals of excessive speculation.
Advance/Decline Line	Breadth	Parallel	The broad market peaks and bottoms ahead of the indexes; divergence signals turning points.
Traders Index (TRIN)	Breadth	Parallel	Measures average volume of advancers relative to decliners; readings above 1.5 are bullish.
Market P/E Ratio	Breadth	Contrary	Price/earnings ratios of 5 and 25 are approximate lower and upper trend boundaries.
DJIA Dividend Yield	Breadth	Contrary	DJIA yield gets as low as 3% at market tops and as high as 18% at bottoms.

TABLE A.6 Technical Analysis Tools

Indicator	Description	Usage
Volume	Number of shares or contracts traded during a certain time period.	Volume should increase as the trend progresses (up or down) to confirm price.
Trend Line	A horizontal or sloping line added to a chart using price peaks or troughs.	Drawn from two price points, a third successful touch of price on the line confirms it.
Support	A price floor where buyers entering the market exceed supply.	Long strategies (buyers) have a logical entry point when this price area holds or an exit when it fails.
Resistance	A price ceiling where sellers entering the market exceed demand.	Long strategies (buyers) have a logical exit point when this price area holds or an entry when it fails.
Upward Trend	A sloping support line for price.	Trend traders are long and have a logical entry point when this price area holds or an exit when it fails.
Downward Trend	A sloping resistance line for price.	Trend traders are short (or put traders) and have a logical entry point when this price area holds or an exit when it fails.
Moving Average (MA)	A lagging line constructed by calculating the average price for a security using a set number of periods.	Used alone or in combination with other MA lines to gain unbiased insights about trends and/or to generate buy and sell signals.
Bollinger Bands	Contracting and expanding bands around price based upon MAs and standard deviation.	Contracting bands indicate price volatility is decreasing, and expanding bands indicate it is increasing.
Oscillators	Wave-like lines displayed in a graph below price that provide different price and/or volume information.	Oscillators can be used to provide insight on overbought or oversold conditions and/or to provide price confirmation or divergence.
MACD	An oscillator and histogram display that combines moving average data and rate of change.	MACD is used to display price confirmation or divergence and has both leading and lagging properties.
Elliott Wave	Price patterns that reflect crowd behavior in the markets. A five-wave pattern reflects an impulse move and a three-wave pattern reflects a corrective move.	Traders use the latter portion of the wave pattern to establish positions (higher probability trades). These include moves from the end of wave 4 to wave 5 and from wave 5 to the next pattern.

TABLE A.7 Charting Patterns

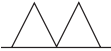
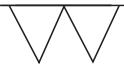
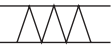
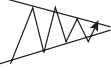
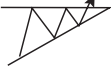
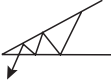
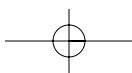
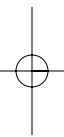
Pattern	Description	Usage	Trend/Profile
Double Top	<i>Reversal:</i> Forms at price tops. Volume rises into second peak which is roughly the same height as the first.	<i>Time:</i> Longer term. <i>Projection:</i> Peak to dotted baseline.	
Double Bottom	<i>Reversal:</i> Forms at price bottoms. Volume declines into second trough which is roughly the same depth as the first.	<i>Time:</i> Longer term. <i>Projection:</i> Trough to dotted baseline.	
Triple Top	<i>Reversal:</i> Forms at price tops. Volume rises into third peak which is roughly the same height as the first.	<i>Time:</i> Longer term. <i>Projection:</i> Peak to dotted baseline.	
Triple Bottom	<i>Reversal:</i> Forms at price bottoms. Volume declines into the third trough which is roughly the same depth as first.	<i>Time:</i> Longer term. <i>Projection:</i> Trough to dotted baseline.	
Head and Shoulders	<i>Reversal:</i> Specialized triple top—the middle peak is higher than peaks 1 and 3. Volume increases out of pattern.	<i>Time:</i> Varies. <i>Projection:</i> Peak to dotted neckline.	
Inverted Head and Shoulders	<i>Reversal:</i> Specialized triple bottom—the middle trough is deeper than troughs 1 and 3. Volume increases out of pattern.	<i>Time:</i> Varies. <i>Projection:</i> Trough to dotted neckline.	
Rectangle	<i>Consolidation:</i> Range-bound price that moves between support and resistance. False breakouts often return to pattern.	<i>Time:</i> Longer term. <i>Projection:</i> Width of pattern.	
Symmetrical Triangle	<i>Continuation (usually):</i> Downward sloping resistance and upward sloping support form triangle that consolidates price. Volume decreases into the apex.	<i>Time:</i> Constrained by apex. <i>Projection:</i> Width of triangle at opening.	
Flag	<i>Continuation:</i> A rectangular pause that occurs midway in a strong move (up or down). The strong move resembles a flagpole.	<i>Time:</i> Shorter term. <i>Projection:</i> Same as move into flag.	

TABLE A.7 (Continued)

Pattern	Description	Usage	Trend/Profile
Pennant	<i>Continuation:</i> A triangular pause that occurs midway in a strong move (up or down). The strong move resembles a flagpole.	<i>Time:</i> Shorter term. <i>Projection:</i> Same as move into pennant.	
Ascending Triangle	<i>Upward bias:</i> Horizontal resistance and upward sloping support form triangle with price breaking to the upside.	<i>Time:</i> Constrained by apex.	
Descending Triangle	<i>Downward bias:</i> Downward sloping resistance and horizontal support form triangle with price breaking downward.	<i>Time:</i> Constrained by apex.	



APPENDIX B

Focus on Technical Analysis

There are three core concepts to understand about technical indicators and technical analysis in general, which are the basis by which all technical analysis is carried out:

1. Market action represents all information.
2. Price moves in trends.
3. Everything repeats but not exactly in the same manner.

Information such as earnings forecasts, market conditions, OPEC meetings, mergers, and announcements by the Federal Reserve impact various markets. Prices may move up or down as a result of the interpretation of these and other factors. To the technical analyst, the market absorbs that information, which is then reflected in current prices. By the time an investor hears the news of a major bit of information, the market has already acted on it. If an investor or trader attempts to figure out the impact of every ounce of information, that individual would play a catch-up game forever and probably lose. The technical analyst is not concerned with the reasons for a price change. The technician accepts the change and is more interested in the direction of the price change than in the rationale behind it. The technician leaves the rationale to the fundamental analyst. In addition, prices move up, down, or sideways. The important thing to be aware of is that they move in a direction until something changes the direction. Prices do not change by themselves, and the current trend will remain in effect until more economic news or other influences appear.

It is this momentum of trends that allows for technical forecasting, which is a key strength of charting. Also, when using technical indicators, patterns start to emerge and these patterns are predictable. In many ways, charting and the study of human psychology go hand in hand. Price patterns repeat because human behavior repeats. In today's high-tech world the technician has the capability to apply and view an abundance of technical indicators with the click of a button. It is important for the trader to understand what the indicator is saying because it provides the trader with a better sense of what is moving prices and, more importantly, in what direction.

ON-BALANCE VOLUME

The *on-balance volume*, commonly referred to as the OBV indicator, was first introduced in 1963 by Joseph Granville and was one of the earliest and most popular indicators to gauge positive and negative volume flow. This indicator basically relates volume to price change. The OBV uses the change in the closing price from one period to the next to value the volume as positive or negative volume flow. It does this by maintaining a cumulative total volume figure, which is adjusted by either adding the current period's volume to the cumulative amount if the period closes higher than previously, or by subtracting the current volume from the cumulative amount if the period closes lower. Therefore, when a stock is rising, the day's volume is added; when it is declining, the day's volume is subtracted. The same can be done for weekly and monthly periods, but daily is the most common.

The OBV is typically calculated and viewed graphically using a technical analysis and charting package. It is plotted and presented as a line below the price chart. An example is provided in the chart of Lehman Brothers (LEH) in Figure B.1. Since the technician wants to see rising volume when the stock price is increasing, a rising OBV line is a bullish sign (i.e., there is more volume on the up days than down days, and on-balance volume is confirming the trend). Conversely, when OBV is downward-sloping, it suggests more volume on days when the stock is falling, and that is interpreted as a negative sign. The sellers are dominating trading and there is more volume during the declines.

In addition to analyzing the trend of OBV, the indicator generates trading signals in two other ways. First, when OBV develops a clear trend or direction and then suddenly changes direction, as occurs in this graph in late September and early October, it hints at a trend reversal. In other words, the momentum has shifted and the stock price is likely to follow



FIGURE B.1 OHLC of Lehman Brothers Using the On Balance Volume Indicator
(Source: www.ProfitSource.com)

OBV in reversing direction. Second, if a stock rises to new highs, but OBV falls or fails to set a new high, it suggests that the trend is running out of steam and a potential reversal is at hand. Notice on this chart that in September and October, Lehman's OBV began to slope downward prior to the stock starting to decline.

MOVING AVERAGES

Moving averages (MAs) are simply the average price of a stock over a specific number of days. For instance, for a nine-day average, the technical analyst would take the closing prices of the underlying asset for the past nine days, compute the sum, and divide by nine. Of course, to create an ongoing nine-day moving average, every day we would drop the ninth day back and add today's new closing prices. A moving average is a trend-following device. It helps you see when an old trend has reversed and a new trend has begun. While it does not have any predictive properties, it can nevertheless provide excellent guidance. The technical analyst can use any time frame to create a moving average—a 9-day, 20-day, 50-day, or 200-day MA—which can provide a wealth of information.

Before using moving averages as a tool, an important factor to consider is the number of days used to compute the average. A 50-day MA, for

example, will behave differently than a 200-day MA. The shorter the time frame, the more sensitive the moving average will be to price changes in the stock. Consider Figure B.2, which shows the stock price action of Coventry Healthcare (CVH) along with both the 50-day MA (solid line) and the 200-day (dotted line). Notice that the 50-day moving average fluctuates more than the 200-day. It captures a shorter time frame. Some traders will use very short-term moving averages, like a 9-day MA. The general rule is to use a moving average that corresponds with the time frame of your trading strategy. For instance, in looking at a stock for a long-term strategy like a bull call LEAPS spread, a 9-day moving average will be simply too short a time frame.

The first way to use a moving average is to consider its slope. For instance, if a moving average is upward sloping, it suggests that the trend is healthy. It is a bullish sign for the stock. On the other hand, a downward-sloping moving average indicates weakness and is considered bearish. Notice on the chart of Coventry Health (see Figure B.2) that the 50-day MA will change direction much faster than the longer-term (200-day) MA. In November 2004, the 50-day MA started and stayed on a downward slope and did not change direction until late December 2004. When it eventually developed an upward slope, it was followed by a large price increase in the stock.

A second way to study moving averages is to look for buy and sell

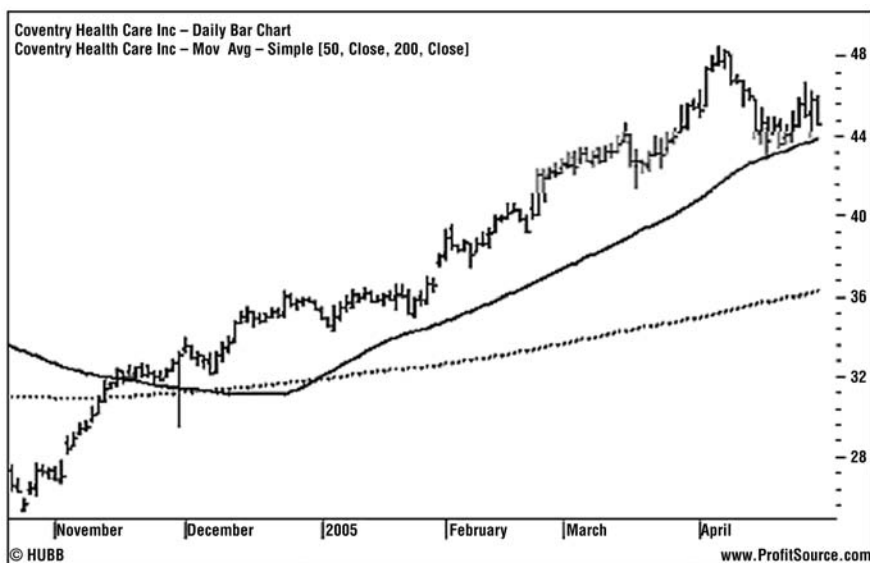


FIGURE B.2 OHLC Chart of Coventry Healthcare with 50-Day and 200-Day Moving Averages (Source: www.ProfitSource.com)

signals by considering when the stock price crosses over the moving average. For instance, when the stock price of Coventry Health fell below the 50-day MA in late November, the indicator gave a buy reading.

Again, the fewer the number of days used to compute the moving averages, the greater the number of buy and sell signals. For that reason, a break of a long-term (i.e., 200-day) MA holds more technical importance than a break of a shorter-term MA (i.e., 50-day); it occurs less often. In the CVH example, the stock broke both moving averages, giving a very powerful buy signal.

Moving averages can also serve as support and resistance zones. For instance, on the chart of Coventry Health, the stock rose along its 50-day moving average in an orderly manner. In late April (on the very right of the chart) it bounced off of that MA several times. This is typical of a moving average. It can serve as support or a floor for falling prices. The opposite also holds true—sometimes moving averages can create resistance.

The final way of using moving averages is to look at the crossovers between two moving averages. When the short-term MA crosses up over the longer MA, it triggers a buy signal. This occurred on the Coventry Healthcare chart in early January 2005 and the stock increased. Conversely, when the 50-day MA drops below the 200-day MA, a sell signal is triggered. On the Coventry Healthcare chart, this occurred in early December 2004 and shortly before the stock started to drop. Moving averages work very well in uptrends and downtrends and not as well in sideways markets. That's because in sideways markets, you can get buy signals near tops and sell signals near the bottom. If you trade on those signals, you will surely incur a loss.

MACD

The moving average convergence-divergence (MACD) indicator can be among the most useful tools to the technical analyst. It can effectively provide trading signals on long-term or short-term charts (i.e., daily, weekly, and monthly graphs). The MACD is considered a trend-following indicator. Therefore, it can help determine if a trend in a stock is healthy and likely to continue, or is set for a reversal instead.

The MACD is viewed on a stock chart either as lines or as a histogram. The MACD shows the relationship between two moving averages. It can be plotted using two lines: a fast line and a slow line. The fast line is computed as the difference between two exponential moving averages (EMA) with different time periods. One moving average will be the average over a relatively short period of time—for example, 12 days. The second moving

average is the average price change in a stock over a longer period of time, such as 26 days. Therefore, after computing the 12-day and 26-day EMAs, the 26-day EMA is subtracted from the 12-day EMA to create the fast line. The slow line (sometimes called the “signal” line), on the other hand, is the 9-day EMA of the fast line.

Because MACD is a trend-following indicator, it is not a reliable indicator in sideways-moving markets. During periods when a stock or index is rising, the shorter-term MA (fast line) will rise more rapidly than the slow line. During times when one line changes faster than the other, the difference between the two lines will increase. This is known as the *divergence*. In a downward-trending market, the fast line will drop below the slow line. The fast line reacts faster to the most recent price changes and moves quicker than the slow line. Technical analysts look for crossovers between the two lines to generate trading signals. For example, if the fast line is above the slow line, then moves lower and crosses the slow line, a sell signal is triggered. Conversely, when the fast line is below the slow line and then rises above it, a buy signal is triggered. The daily chart in Figure B.3 shows some examples using Google Incorporated. In the middle of the chart, in mid-October, the fast line (shown here as the dashed line) is below the slow line. Then it rises above the slow line and gives a buy signal.

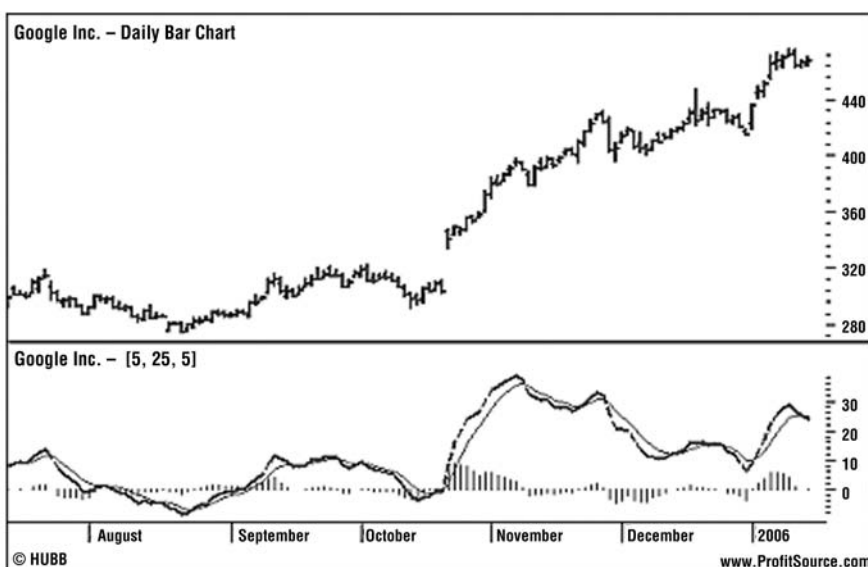


FIGURE B.3 OHLC Chart of Google Incorporated Using MACD (Source: www.ProfitSource.com)

MACD is often plotted as a histogram. When using a technical analysis package, the MACD histogram is typically depicted graphically on the bottom of a stock or index chart along a zero line. When the fast line is above the slow line, MACD-histogram will be positive and sit above the zero line. If the fast line is below the slow line, the histogram will be below the zero line and negative. Therefore, MACD-histogram shows the difference between the long-term and short-term moving averages, and is either positive or negative.

MACD-histogram is generally used as a confirmation tool. For instance, when the fast line is moving up at a faster pace than the slow line, MACD-histogram rises into positive territory and confirms the move higher in the stock or index. If the stock or index is rallying and MACD-histogram is not moving higher, the rally is not confirmed and is likely to prove short-lived. The same analysis is used during market declines. Therefore, MACD-histogram is primarily used to measure the strength of the trend in a stock or index; if it is moving in the same direction, the stock's trend is considered strong.

The most powerful trading signals from MACD-histogram occur when the histogram fails to confirm the rise or fall in the stock. For example, on the Google chart, in late November the stock rose to new highs, but MACD-histogram did not. That, in turn, signaled what is known as a *bearish divergence* or *bearish nonconfirmation*, which was a sign that the rally in Google was running out of steam. MACD can also provide a bullish signal when price trends lower, but the indicator fails to make new lows. In other words, MACD will make a higher low. This is known as a *bullish divergence*.

MACD can also be applied to weekly and monthly charts. On a monthly chart, the moving averages would represent not days or weeks, but months. In general, the most important trading signals occur on the longer-term chart. As a rule, when MACD gives conflicting signals on the daily, weekly, and monthly charts, the analyst defers to the longer-term (monthly) chart's trading signal.

STOCHASTICS

Stochastic values are functions of momentum, but from a more sophisticated point of view compared with other oscillators. Stochastics use the daily high, daily low, and closing price. The concept of stochastics is based on the premise that as prices move higher, the daily close tends to be closer to the high of the daily range. The reverse is true in downtrends: As prices decrease, the daily close tends to move closer to the

daily range. This concept holds true for daily, weekly, and monthly charts.

Stochastics give an indication of the relationship between a stock's current price and its recent trading range. In a bullish market, when a stock is moving higher, the stock has a tendency to close near the high points of the day. When the rise is running out of steam, however, the stock will have a tendency to close away from the highs of the day. The bulls, who were previously driving the stock higher, are running out of buying power. At that point, investors are hesitant to continue driving the stock higher and they begin taking profits. As the buyers run out of gas, the stock price starts to close below the highs of the day. In the opposite situation, during a bearish market, a stock will close near the lows of the day. Near the end of the downtrend, however, sellers have exhausted their supply and the stock begins closing above the day's lows.

There are a number of different ways to use stochastics as a trading tool. In general, the indicator is best used for stocks that are moving within a trading range rather than trending dramatically higher or lower. For example, Figure B.4 shows the stock price action of Chicago Mercantile Exchange (CME) over the course of six months along with stochastics. Notice that the indicator consists of two lines—a fast and slow line. On the far right-hand side of the chart, the fast line is above the slow line.

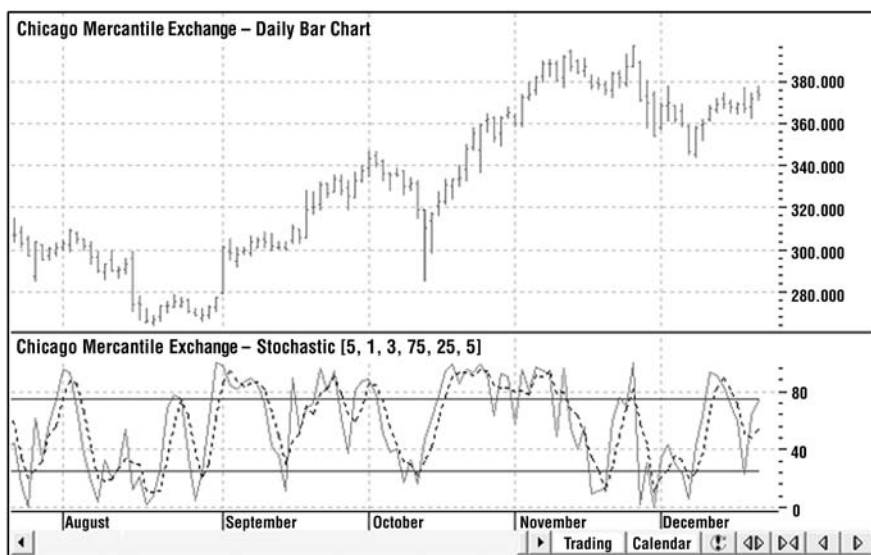


FIGURE B.4 OHLC of the Chicago Mercantile Exchange Using Stochastics (Source: www.ProfitSource.com)

Typically, stochastics are used to gauge overbought and oversold conditions. If a stock is overbought, it has risen very rapidly and is likely to make a move lower. An oversold stock, by contrast, has fallen dramatically and is due for a short-term rally. Using stochastics, when both the fast and slow lines rise above 80 percent (top horizontal line), the stock is considered overbought. Conversely, when the indicator falls below 20 percent (lower horizontal line), the stock is oversold. Notice on this CME chart that the stock became overbought in late September, but oversold by the middle of October.

Stochastic lines may diverge with price to warn of a potential top or bottom. In fact, according to the indicator's developer, George Lane, the most powerful signals occur when stochastics show divergences from the stock price. For instance, if a stock price rises to a new high, but stochastics makes a lower high, the indicator triggers a sell signal. When stochastics (or any other indicator) fail to confirm new highs in a stock, it is known as a bearish divergence. Conversely, if a stock price sets a new low, but stochastics begins a move higher, it is considered a bullish divergence and a buy signal. An example of a bullish divergence occurred with shares of the CME in late August 2005. As depicted in Figure B.4, the stock was approaching new lows, but the stochastics indicator was moving higher.

RELATIVE STRENGTH INDEX

The relative strength indicator (RSI) is another type of oscillator. Developed by Welles Wilder, RSI is common on almost all computer trading software programs available today and, therefore, does not require manual computation. Instead, the RSI is generally viewed on a stock chart underneath the price chart. For instance, the chart in Figure B.5 includes the recent price action of Apple Computer, along with its RSI. The RSI can warn you when a market is near a top or bottom. It all depends on whether it is in the overbought or oversold section of the chart and whether you have a bullish or bearish divergence.

There are basically three ways to use the RSI. The first is to identify overbought and oversold conditions. The RSI will fluctuate between 0 and 100. On the Apple Computer chart (Figure B.5), RSI had been between roughly 40 and 80 percent, which is the normal range. When the indicator dropped below 40 percent in mid-April, it was a sign of a relatively oversold condition and hinted at a snapback. And indeed Apple did snap back.

The second way to use oscillators is as a confirmation tool. When looking at trends, RSI should be setting new highs or new lows along with

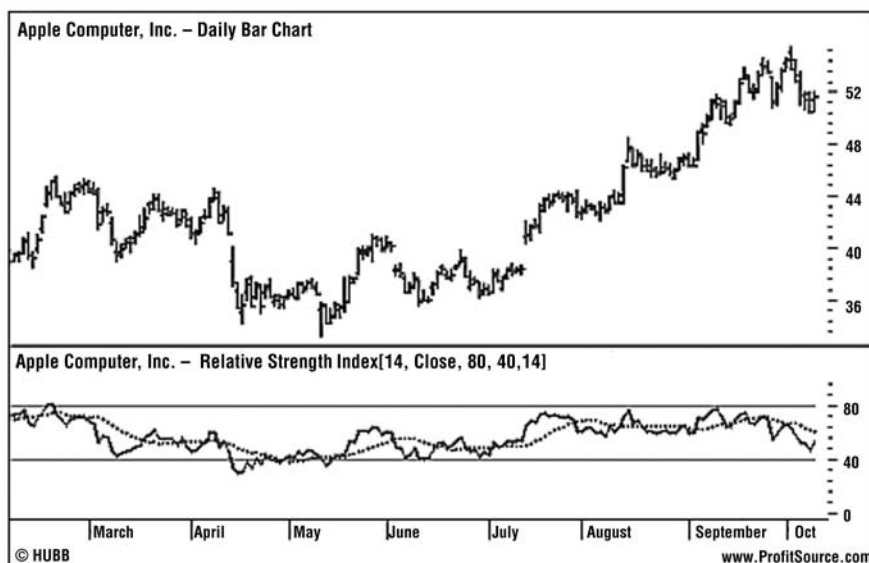


FIGURE B.5 OHLC of Apple Computer Using the Relative Strength Index
(Source: www.ProfitSource.com)

the index. For instance, when Apple Computer set a new high in late September, the RSI did not. In fact, the indicator had taken on a downward slope. That delivered a sell signal, which is known as a bearish divergence or nonconfirmation. It hinted that a reversal might be on the way.

Finally, when looking at the RSI, the technical analyst wants to consider the slope of the indicator. An upward-sloping RSI is the sign of a healthy advance and a downward-sloping RSI is evidence of a strong decline. Most oscillators are used in the same fashion as RSI, but each is unique in its own way and must be considered individually.

BOLLINGER BANDS

John Bollinger is credited with the development of Bollinger bands, which appear as three lines overlaid on the main price chart. The center line is a simple moving average. Above and below it are bands plotting two standard deviations away from the simple moving average. The indicator is computed as the standard deviation of the moving average. Standard deviation is a measure of how far from the average the data is distributed. One standard deviation will include about 68 percent of all data, while two

standard deviations will include 95 percent of the data. Three standard deviations include 99 percent of the data. For the less mathematically inclined, stocks with wildly swinging price movements will have a greater standard deviation than a stock with a relatively stable price. Importantly, according to statistical probabilities, regardless of whether a stock has a high or low standard deviation, its price tends to remain within two standard deviations of its moving average 95 percent of the time. Therefore, stocks should stay within the ranges defined by Bollinger bands 95 percent of the time.

Bollinger bands indicate the volatility of the market. A volatile market has much more dramatic price movements, and in order to incorporate 95 percent of all price data, the Bollinger bands have to move further away from the moving average. In a less volatile market, the stock price doesn't move as much, and the Bollinger bands will be much narrower.

Bollinger bands can be used in two ways. The first is as an overbought or oversold indicator. Using Bollinger bands in this manner is based on the assumption that once a stock price diverges meaningfully from its average value, it has a tendency to move back toward its moving average. This is based on the phenomenon of reversion to the mean. In the case of Bollinger bands, if a stock moves above two standard deviations of its normal range, it will rise above the upper Bollinger band and is likely to fall back toward its moving average. Conversely, if a stock falls below the lower band, it is likely to respond by moving higher. Therefore, a stock is considered overbought when it rises above the top Bollinger band (or more than two standard deviations above its moving average) and oversold below the lower Bollinger band (or more than two standard deviations below its moving average).

Figure B.6 provides some specific examples of an index penetrating a Bollinger Band and signaling overbought or oversold conditions. The chart looks at the NASDAQ Index Trust (QQQQ). In September 2005, the chart breaks above its upper Bollinger band and then makes a significant move lower. It was overbought. In October, however, the stock falls below its lower band and signals oversold conditions. Notice the sharp rally during the next few days. Used in this manner, Bollinger bands can be applied to daily, weekly, or monthly charts. The longer the time frame on the chart, the more important the overbought and oversold readings.

The second way to use Bollinger bands is as a tool for measuring the volatility of a stock. Stocks with high standard deviations tend to swing more wildly and move a greater distance from their moving averages. In that case, the bands are wide and reflect the higher standard deviation and greater volatility. Stocks that trade in a narrow range have lower standard deviations around the mean. In that case, the



FIGURE B.6 OHLC of the NASDAQ 100 Index Trust Using Bollinger Bands
(Source: www.ProfitSource.com)

bands will contract and become narrow, typically followed by a sharp increase in volatility. Again, reversion to the mean affects both stock prices and volatility.

AVERAGE TRUE RANGE

The average true range (ATR) is derived from past prices and is another tool for measuring historical volatility. Developed by Welles Wilder, ATR is used to gauge an asset's daily price swings. As a result, the ATR does not provide an indication of price direction or duration, but simply the degree of price movement or volatility. Most other measures of historical volatility, such as statistical volatility, consider only closing prices for a stock or index and do not consider the open, high, and low prices of the day. The ATR, by contrast, considers the close, high, and low prices. The average true range is the average of the true ranges (TR) over a period of days—usually 14. As each day of new data is added, the last is dropped. The true range is computed as the greatest of:

- The distance between the current day's high and low.
- The distance from the previous day's high to the current day's low.
- The distance from the previous day's high to the current day's high.

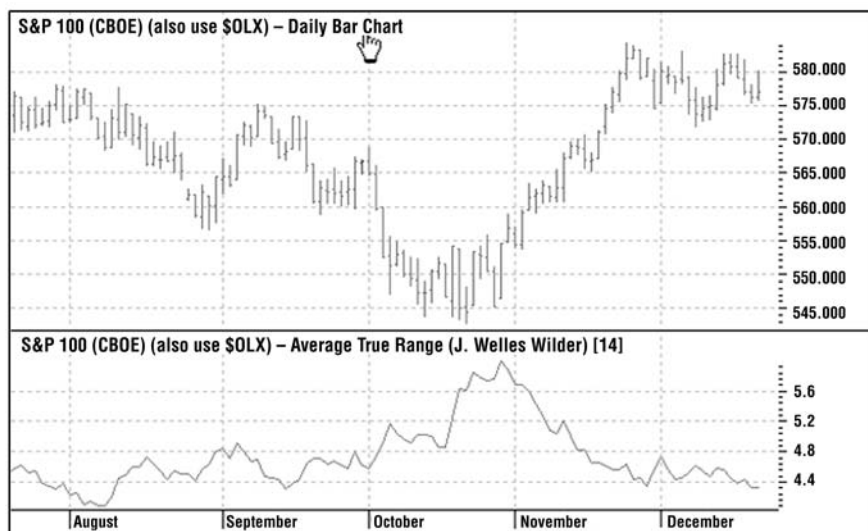


FIGURE B.7 OHLC of the S&P 100 Using the Average True Range (Source: www.ProfitSource.com)

Like most indicators, ATR is generally viewed graphically rather than numerically. Figure B.7 shows the ATR for the S&P 100 Index (\$OEX). The ATR is generally not used to predict future price movements in a stock or index. Rather, it gauges the price swings or activity level of a stock or index. Low levels occur during periods of narrow and quiet trading. High levels occur during sharp moves and violent swings. Either case—extremely high or low levels of volatility—is usually short-lived and not likely to be sustained for long periods of time. Notice on the chart of the OEX that the ATR spiked higher after the September-through-October sell-off in 2005, but then began a move lower. Again, it is reversion to the mean at work.

RATE OF CHANGE INDICATOR

The rate of change (ROC) indicator is a type of momentum indicator that attempts to measure the speed of price changes and is normally used to determine whether the stock or index is overbought or oversold and possibly due for a correction. The ROC is considered to be a leading indicator and works best in nontrending or range-bound markets.

The ROC is calculated by dividing the latest price by the price from n periods ago. This gives the percentage change in price over the given

period. Typically the default parameter on many charting packages is 10. Figure B.8 shows the ROC in action with the S&P 500 index (\$SPX), which depicts a distinct overbought condition in September 2005.

AVERAGE DIRECTIONAL INDEX INDICATOR

The average directional index (ADX) is an indicator that can help the technician time profitable exit points when holding a particular stock or index position. Traders who use ADX follow a very simple rule: A climb by the ADX line above 40 followed by a downturn indicates an imminent end to the current trend. Based on this rule, when the ADX line moves above 40 and then turns down, a trader should consider taking a profit. It does not matter if the primary trend is up or down. Once the ADX line turns down, it's a signal to exit and take a profit. While the ADX can indicate the end of an existing trend, a reversal in the trend line is not always the next step. Instead, prices may enter a consolidation phase and move sideways for a period of time.

The ADX is not helpful during sideways markets. During an extended consolidation period, an ADX line can fall below 20 and even approach

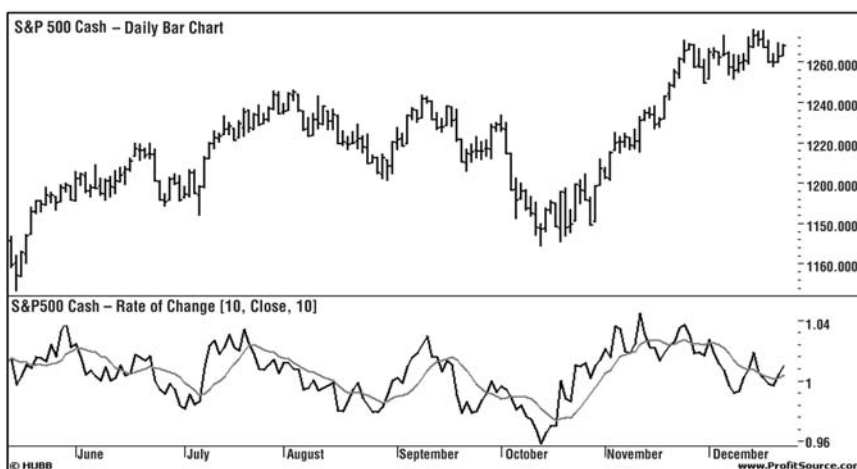


FIGURE B.8 OHLC of the S&P 500 Using the Rate of Change Indicator (*Source: www.ProfitSource.com*)

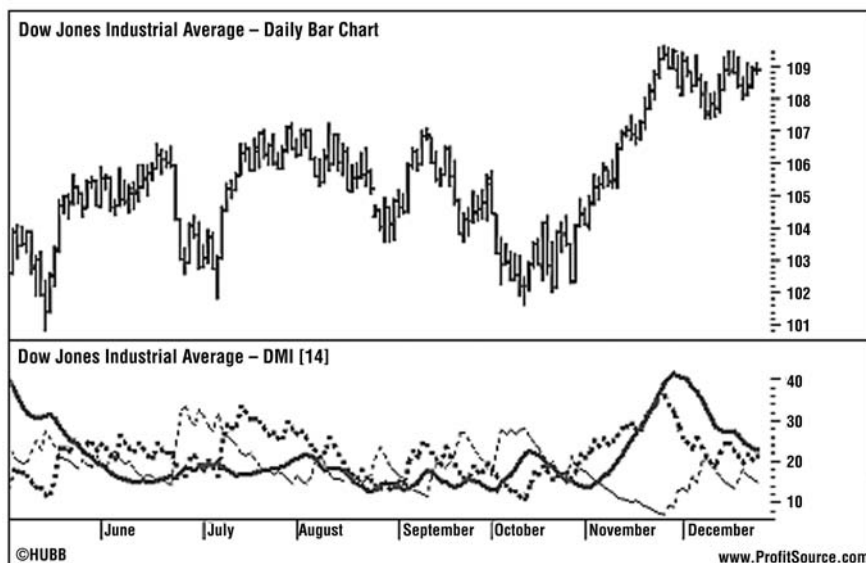
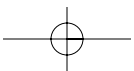
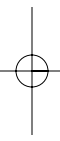


FIGURE B.9 OHLC of the DJIA Using the Average Directional Index (Source: www.ProfitSource.com)

10 on the scale. When the ADX approaches 10, a major move is usually about to take place. However, the ADX will not indicate which direction the move will go. You have to rely on other indicators for the probable direction of the next move. The ADX combines the dashed lines positive directional indicator (+DI) with negative directional indicator (−DI) and then smoothes the data with a moving average. The positive directional indicator (+DI) indicates the strength of upward price pressure, and the negative directional indicator (−DI) indicates the strength of downward price pressure. On Figure B.9, we can see one dashed line moving higher during uptrends and one moving lower during downtrends. These are +DI and −DI, respectively.



APPENDIX C

Option Strategy Reviews

Long Stock

Strategy: Buy shares of stock.

Market Opportunity: Look for a bullish market where a rise in the price of the stock is anticipated.

Maximum Risk: Limited to the price of the stock as it approaches zero.

Maximum Profit: Unlimited as the stock price rises above the initial entry price.

Breakeven: Price of the stock at initiation.

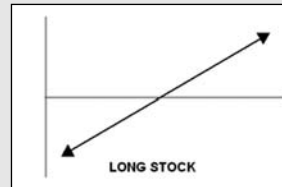


FIGURE C.1 Long Stock

Short Stock

Strategy: Sell shares of stock.

Market Opportunity: Look for a bearish market where a fall in the price of the stock is anticipated.

Maximum Risk: Unlimited as the stock price rises.

Maximum Profit: Limited to the full price of the stock shares as they fall to zero.

Breakeven: Price of the stock at initiation.

Margin: Required—usually 150 percent of the total cost of the shares.

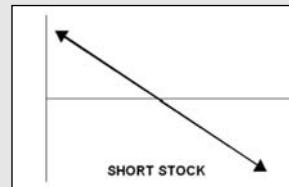


FIGURE C.2 Short Stock

Long Call

Strategy: Buy a call option.

Market Opportunity: Look for a bullish market where a rise above the breakeven is anticipated.

Maximum Risk: Limited to the amount paid for the call.

Maximum Profit: Unlimited as the price of the underlying instrument rises above the breakeven.

Breakeven: Call strike + call premium.

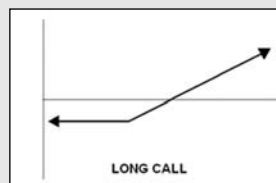


FIGURE C.3 Long Call

Short Call

Strategy: Sell a call option.

Market Opportunity: Look for a bearish or stable market where you anticipate a fall in the price of the underlying below the breakeven.

Maximum Risk: Unlimited as the stock price rises above the breakeven.

Maximum Profit: Limited to the credit received from the call option premium.

Breakeven: Call strike + call premium.

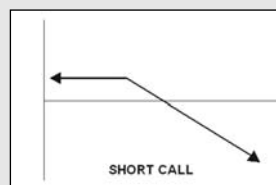


FIGURE C.4 Short Call

Long Put

Strategy: Buy a put option.

Market Opportunity: Look for a bearish market where you anticipate a fall in the price of the underlying below the breakeven.

Maximum Risk: Limited to the price paid for the put premium.

Maximum Profit: Limited as the stock price falls below the breakeven to zero.

Breakeven: Put strike – put premium.

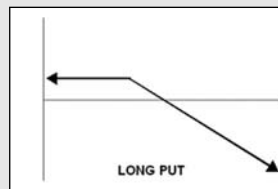


FIGURE C.5 Long Put

Short Put

Strategy: Sell a put option.

Market Opportunity: Look for a bullish or stable market where a rise above the breakeven is anticipated.

Maximum Risk: Limited as the stock price falls below the breakeven until reaching a price of zero.

Maximum Profit: Limited to the credit received from the put premium.

Breakeven: Put strike – put premium.

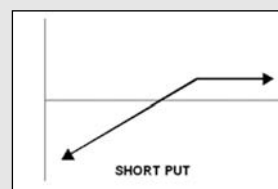


FIGURE C.6 Short Put

Bull Call Spread

Strategy: Buy a lower-strike call and sell a higher-strike call with the same expiration dates.

Market Opportunity: Look for a bullish market where you anticipate a modest increase in the price of the underlying above the price of the short call option.

Maximum Risk: Limited to the net debit paid: (lower-strike premium – higher-strike premium) $\times$ 100.

Maximum Profit: Limited to (difference in strikes – net debit) $\times$ 100.

Breakeven: Lower strike + net debit.

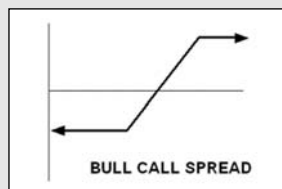


FIGURE C.7 Bull Call Spread

Bull Put Spread

Strategy: Buy a lower-strike put and sell a higher-strike put with the same expiration date.

Market Opportunity: Look for a bullish market where you anticipate an increase in the price of the underlying asset above the strike price of the short put option.

Maximum Risk: Limited to (difference in strikes – net credit) $\times$ 100.

Maximum Profit: Limited to the net credit received: (Higher strike premium – lower strike premium) $\times$ 100.

Breakeven: Higher strike – net credit.

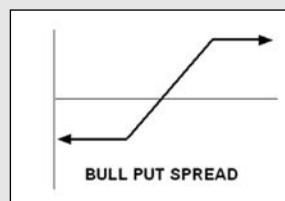


FIGURE C.8 Bull Put Spread

Bear Put Spread

Strategy: Buy a higher-strike put and sell a lower-strike put with the same expiration date.

Market Opportunity: Look for a bearish market where you anticipate a modest decrease in the price of the underlying asset below the strike price of the short put option.

Maximum Risk: Limited to the net debit paid: $(\text{higher-strike premium} - \text{lower-strike premium}) \times 100$.

Maximum Profit: Limited to $(\text{difference in strikes} - \text{net debit}) \times 100$.

Breakeven: Higher strike – net debit.

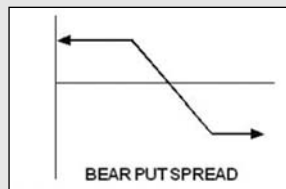


FIGURE C.9 Bear Put Spread

Bear Call Spread

Strategy: Buy a higher-strike call and sell a lower-strike call with the same expiration date.

Market Opportunity: Look for a bearish market where you anticipate a decrease in the price of the underlying asset below the strike price of the short call option.

Maximum Risk: Limited to $(\text{difference in strikes} - \text{net credit}) \times 100$.

Maximum Profit: Limited to the net credit: $(\text{lower-strike premium} - \text{higher-strike premium}) \times 100$.

Breakeven: Lower strike + net credit.

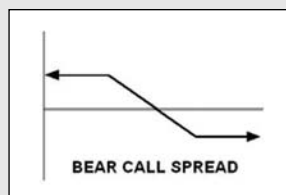


FIGURE C.10 Bear Call Spread

Long Straddle

Strategy: Purchase an ATM call and an ATM put with the same strike price and the same expiration.

Market Opportunity: Look for a market with low implied volatility options where a sharp volatility increase is anticipated.

Maximum Risk: Limited to the net debit: (call premium + put premium) $\times$ 100.

Maximum Profit: Unlimited to the upside and limited to the downside (as the underlying can only fall to zero). Profit requires sufficient magnitude of market movement, but does not depend on market direction.

Upside Breakeven: ATM strike price + net debit.

Downside Breakeven: ATM strike price – net debit.

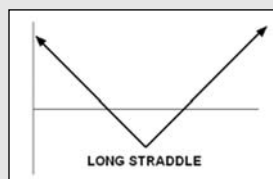


FIGURE C.11 Long Straddle

Short Straddle

Strategy: Sell an ATM call and an ATM put with the same strike price and the same expiration date.

Market Opportunity: Look for a wildly volatile market where you anticipate a period of low volatility.

Maximum Risk: Unlimited to the upside and limited, but high, to the downside (as the underlying can only fall to zero).

Maximum Profit: Limited to the net credit: (call premium + put premium) $\times$ 100. Profit is possible when the underlying stays between the breakevens.

Upside Breakeven: ATM strike price + net credit.

Downside Breakeven: ATM strike price – net credit.

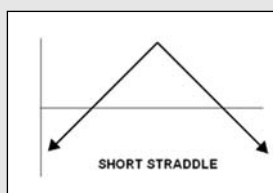


FIGURE C.14 Short Straddle

Long Strangle

Strategy: Buy an OTM call and an OTM put with the same expiration date.

Market Opportunity: Look for a stable market where you anticipate a large volatility spike.

Maximum Risk: Limited to the net debit paid: $(\text{call premium} + \text{put premium}) \times 100$.

Maximum Profit: Unlimited to the upside and limited to the downside (as the underlying can only fall to zero).

Upside Breakeven: Call strike + net debit.

Downside Breakeven: Put strike – net debit.

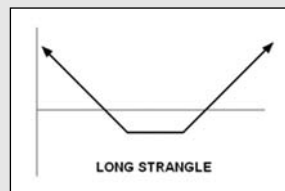


FIGURE C.13 Long Strangle

Short Strangle

Strategy: Sell an OTM call and an OTM put with the same expiration date.

Market Opportunity: Look for a wildly volatile market where you anticipate a drop-off into a very stable market with low volatility.

Maximum Risk: Unlimited to the upside and limited, but high, to the downside (as the underlying can only fall to zero).

Maximum Profit: Limited to the net credit: $(\text{call premium} + \text{put premium}) \times 100$.

Upside Breakeven: Call strike + net credit.

Downside Breakeven: Put strike – net credit.

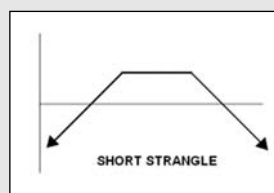


FIGURE C.14 Short Strangle

Covered Call

Strategy: Buy the underlying security and sell an OTM call option.

Market Opportunity: Look for a bullish to neutral market where a slow rise in the price of the underlying is anticipated with little risk of decline.

Maximum Risk: Limited, but risky, to the downside (as the underlying can only fall to zero).

Maximum Profit: Limited to [short call premium + (short call strike – price of long underlying asset)] $\times$ 100.

Breakeven: Price of the underlying asset at initiation – short call premium.

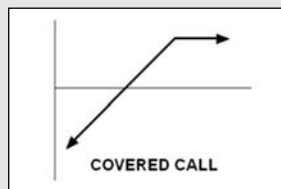


FIGURE C.15 Covered Call

Covered Put

Strategy: Sell the underlying security and sell an OTM put option.

Market Opportunity: Look for a bearish or stable market where a decline in the price of the underlying is anticipated with little risk of the market rising.

Maximum Risk: Unlimited to the upside beyond the breakeven.

Maximum Profit: Limited to [short put premium + (price of underlying asset at initiation – put option strike)] $\times$ 100.

Breakeven: Price of the underlying asset at initiation + short put premium.

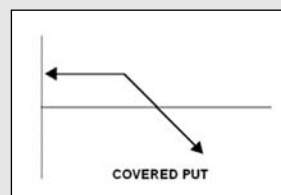


FIGURE C.16 Covered Put

Call Ratio Backspread

Strategy: Sell lower-strike calls and buy a greater number of higher-strike calls (the ratio must be less than 0.67).

Market Opportunity: Look for a market where you anticipate a sharp rise with increasing volatility; place as a credit or at even.

Maximum Risk: Limited to $[(\text{number of short calls} \times \text{difference in strikes}) \times 100] - \text{net credit}$ (*or + net debit*).

Maximum Profit: Unlimited to the upside above the breakeven.

Upside Breakeven: Higher strike + $[(\text{difference in strikes} \times \text{number of short calls}) \div (\text{number of long calls} - \text{number of short calls})] - \text{net credit}$ (*or + net debit*).

Downside Breakeven: Lower strike + $(\text{net credit} \div \text{number of short calls})$. No downside breakeven exists if the trade is entered at a net debit.

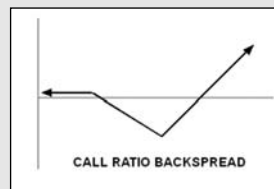


FIGURE C.17 Call Ratio Backspread

Put Ratio Backspread

Strategy: Sell higher-strike puts and buy a greater number of lower-strike puts (the ratio must be less than 0.67).

Market Opportunity: Look for a market where you anticipate a sharp decline with increased volatility; place as a credit or at even.

Maximum Risk: Limited to $(\text{number of short puts} \times \text{difference in strikes} \times 100) - \text{net credit}$ (*or + net debit*).

Maximum Profit: Limited to the downside below the breakeven (as the underlying can only fall to zero).

Upside Breakeven: Higher strike - $(\text{net credit} \div \text{number of short calls})$. No upside breakeven exists if the trade is entered at a net debit.

Downside Breakeven: Lower strike - $[(\text{number of short puts} \times \text{difference in strikes}) \div (\text{number of long puts} - \text{number of short puts})] + \text{net credit}$ (*or - net debit*).

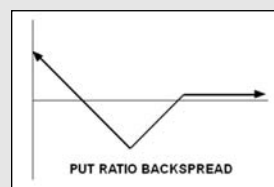


FIGURE C.18 Put Ratio Backspread

Long Butterfly

Strategy: Buy lower-strike option, sell two higher-strike options, and buy a higher-strike option (all calls or all puts).

Market Opportunity: Look for a range-bound market that is expected to stay between the breakeven points.

Maximum Risk: Limited to the net debit paid: $(\text{long premium} - \text{short premium}) \times 100$.

Maximum Profit: Limited to $(\text{difference between strikes} - \text{net debit}) \times 100$. Profit exists between breakevens.

Upside Breakeven: Highest strike – net debit.

Downside Breakeven: Lowest strike + net debit.

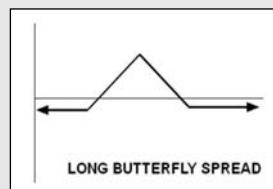


FIGURE C.19 Long Butterfly Spread

Long Condor

Strategy: Buy lower-strike option, sell higher-strike option, and buy an even higher-strike option (all calls or all puts).

Market Opportunity: Look for a range-bound market that is expected to stay between the breakeven points.

Maximum Risk: Limited to the net debit: $(\text{long premium} - \text{short premium}) \times 100$.

Maximum Profit: Limited to $(\text{difference between strikes} - \text{net debit}) \times 100$. Profit exists between breakevens.

Upside Breakeven: Highest strike – net debit.

Downside Breakeven: Lowest strike + net debit.

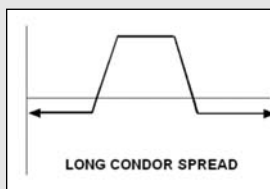


FIGURE C.20 Long Condor Spread

Long Iron Butterfly

Strategy: Buy a higher-strike call, sell a lower-strike call, sell a higher-strike put, and buy a lower-strike put.

Market Opportunity: Look for a range-bound market that you anticipate will stay between the breakeven points.

Maximum Risk: Limited to (difference between long and short strikes – net credit) $\times$ 100.

Maximum Profit: Limited to the net credit: (Short premium – long premium) $\times$ 100.

Upside Breakeven: Strike price of upper short call + net credit.

Downside Breakeven: Strike price of lower short put – net credit.

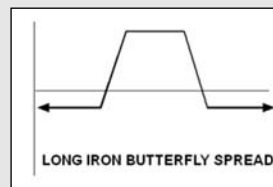


FIGURE C.21 Long Iron Butterfly Spread

Calendar Spread

Strategy: Sell a short-term option and buy a long-term option using at-the-money options with as small a net debit as possible (use all calls or all puts). Calls can be used for a more bullish bias and puts can be used for a more bearish bias.

Market Opportunity: Look for a range-bound market that is expected to stay between the breakeven points for an extended period of time.

Maximum Risk: Limited to the net debit paid for a put calendar spread. For a call calendar spread, the risk can be greater for a dividend-paying stock. Normally, one would want to consider the risk equal to the debit paid plus one quarterly dividend. If the stock pays no dividend, or if it is an index, the risk on a call calendar is equal to the debit.

Maximum Profit: Limited. Use software for accurate calculation.

Upside Breakeven: Use software for accurate calculation.

Downside Breakeven: Use software for accurate calculation.

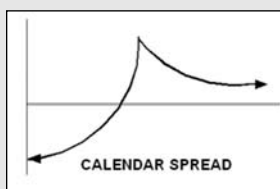


FIGURE C.22 Calendar Spread

Diagonal Spread

Strategy: Sell a short-term option and buy a long-term option with different strikes and as small a net debit as possible (use all calls or all puts).

- A *bullish diagonal spread* employs a long call with a distant expiration and a lower strike price, along with a short call with a closer expiration date and higher strike price.
- A *bearish diagonal spread* combines a long put with a distant expiration date and a higher strike price along with a short put with a closer expiration date and lower strike price.

Market Opportunity: Look for a range-bound market that is expected to stay between the breakeven points for an extended period of time.

Maximum Risk: Limited to the net debit paid.

Maximum Profit: Limited. Use software for accurate calculation.

Upside Breakeven: Use software for accurate calculation.

Downside Breakeven: Use software for accurate calculation.

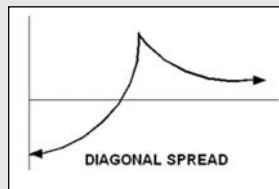


FIGURE C.23 Diagonal Spread

Collar Spread

Strategy: Buy (or already own) 100 shares of stock, buy an ATM put, and sell an OTM call. Try to offset the cost of the put with the premium from the short call.

Market Opportunity: Protect a stock holding from a sharp drop for a specific period of time and still participate in a modest increase in the stock price.

Maximum Risk: Initial shares price – (put strike + net debit) (*or* – *net credit*).

Maximum Profit: (Call strike – initial shares price) – net debit (*or* + *net credit*).

Breakeven: Initial share price + [(put premium – call premium) ÷ number of shares].

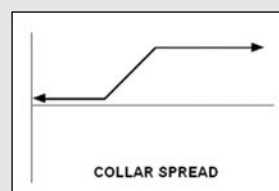


FIGURE C.24 Collar Spread

Long Synthetic Straddle

Market Opportunity: Look for a market with low volatility where you anticipate a volatility increase resulting in stock price movement in either direction beyond the breakevens.

Long Stock and Long Puts

Strategy: Buy 100 shares of underlying and buy two long ATM puts.

Maximum Risk: Net debit of options + [(price of underlying stock at initiation – option strike price) × number of shares].

Maximum Profit: Unlimited above upside breakeven and limited below the downside breakeven (as the underlying can only fall to zero).

Upside Breakeven: Price of underlying at initiation + net debit of options.

Downside Breakeven: $[(2 \times \text{option strike}) - \text{price of underlying at initiation}] - \text{net debit of options}$.

Short Stock and Long Calls

Strategy: Sell 100 shares of underlying stock and buy two long ATM calls.

Maximum Risk: [net debit of options + (option strike – price of underlying at initiation)] × number of shares.

Maximum Profit: Unlimited above upside breakeven and limited below the downside breakeven (as the underlying can only fall to zero).

Upside Breakeven: $[(2 \times \text{option strike}) - \text{price of underlying stock at initiation}] + \text{net debit of options}$.

Downside Breakeven: Price of underlying stock at initiation – net debit of options.

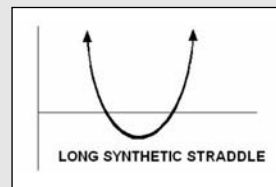
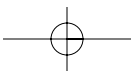
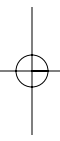


FIGURE C.25 Long Synthetic Straddle



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Recently, these two men returned to college for their 25th reunion.

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