

Consistent Double-Digit Returns Knowledge of Stocks Not Required Proven Back-Tested Track Record Small Investment Requirement 15 Minutes a Month to Implement Turnkey Method Provided

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QUESTIONS FOR THE AUTHOR

Mr. Kadavy maintains a question and answer section on the Arrow Publications Web site. Readers who would like to ask him a question regarding one of his books or about implementation of the strategies contained within them can go to the Web page and review the questions and answers that have been previously posted. If the question is new, the reader should click on the "E-mail Me" button and submit the question. A personal response will be provided. If the question would be of broader use to the reading audience, Mr. Kadavy's response may be posted on the Web site. These questions and answers can be a valuable tool for additional learning.

For questions, go to:

www.arrowpublications.net/Questions.html

OPTIONS BLOGS

A list is provided of Internet blogs on the practice of option writing as an investment strategy. To keep up with the latest ideas on option writing, visit:

www.arrowpublications.net/Blog.html

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PREFACE

Readers of my books know that I always attempt to achieve several key goals in proposing option writing strategies: simplicity insofar as possible, ease of understanding through education and providing support information, and a turnkey system for implementation. The program presented in this book is no exception. In fact, even though it presents the use of a reasonably complex option strategy, it is by far the easiest strategy of all to implement in that it requires virtually no knowledge of investments other than some easy to follow mechanics of trading and the basic principles of options. It is extraordinarily straightforward and requires no more than fifteen minutes per month. I continue to utilize this strategy myself.

This book will propose use of an investment idea I will refer to throughout as "Short Spider Straddles." I believe it will be demonstrated that this strategy can provide consistent double-digit annualized returns over time to investors who follow it precisely as outlined. While the utilization of a combination of uncovered puts and calls together would normally be considered an inherently high risk strategy, a case can be made that the specific use of the strategy outlined in this book can structure a program to be quite low in risk when employed as indicated over a long period of time. I have authored six other books regarding various option writing strategies, all of which I have personally employed for the past thirty years. The reader, however, will want to study the data behind my belief that the strategy in this book is low risk and remarkably easy to implement rather than simply taking my word that it works. Therefore all of that data is provided. I would solicit any comments or questions regarding the assumptions, data and conclusions contained in this book, particularly from readers who would disagree with any of them. Such comments or questions may be directed to arrowpublicationsUSA@gmail.com.

The strategy presented here solely utilizes the practice of writing uncovered straddles...the simultaneous writing, or sale, of put and call options at the same strike price and with the same expiration date...on a broad-based Exchange Traded Fund (ETF) known as the Standard & Poors® Depository Receipt (ticker symbol "SPY"). This ETF mirrors the performance of the highly diversified Standard & Poors® 500 Stock Index. A complete list of the stocks that comprise the S&P® 500 Index may be found by going on the Internet to www.sandp500stocks.com.

SPY, with over \$135 billion in assets, is the most actively traded ETF currently in existence, which also provides significant liquidity for option trading. This ETF was launched in 1992 and is the first ETF whose shares are still traded in the United States.

As Albert Einstein cautioned us, "Make everything as simple as possible, but not simpler." I intend to follow his directive. This book is not a primer on puts and calls, option writing, investing, or anything other than the specific information needed to implement this strategy. A minimal amount of review about options is provided to facilitate implementation. For investors needing additional information about the Spiders ETF, conduct a search using your favorite Internet search engine for "SPY Spiders ETF" and you will have thousands of links from which to choose. Investors needing more specific detail about the benefits and mechanics involved in call writing, put writing, ETFs, use of margin, combination writing (of which straddles are a specific kind), technical analysis, use of brokerage accounts, income tax consequences of option writing and many of the strategies associated with the writing of put and call options, I would call your attention to the following books by this author in addition to other books on these subjects:

- *Covered Call Writing Demystified:* Double-Digit Returns on Stocks in a Slower Growth Market for the Conservative Investor (ISBN 0-9715514-0-5)
- *Covered Call Writing with Exchange Traded Funds:* Double-Digit Returns, Diversification, Downside Protection (ISBN 0-9715514-2-1)
- *Covered Call Writing with Qs and Diamonds:* Double-Digit Returns on Ready-Made Portfolios (ISBN 0-9715514-3-X)
- *Put Option Writing Demystified:* Earn Double-Digit Cash Returns While Waiting to Buy Stocks at a Discount (ISBN 0-9715514-4-8)
- Writing Uncovered Put and Call Combinations: Earn Two Option Premiums from One Margin Requirement on Individual Stocks and Exchange Traded Funds (ETFs) Without Owning Them (ISBN 0-9715514-6-4)
- *Put and Call Option Writing for the Investment Advisor and Financial Planner:* Achieving Double-Digit Income Returns in a Slower Growth Market for You and Your Investor Clients (ISBN 0-9715514-7-2)

These books are available at a discount on the Arrow Publications Web site, <u>www.arrowpublications.net</u>. All of them are also available at the retail price on Amazon.com.

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The reader should be aware that brokerage commissions and other transaction costs have not been included in the investment calculations for the examples used in this book in order to simplify the subject matter presented. Such costs would need to be considered in actual calculations. Provisions have been made to customize the software available with this book to fit the commission schedule of the user's brokerage firm.

Market prices for the securities mentioned in this book may change materially over time, however the concepts behind the strategies outlined remain valid regardless of price changes.

Prior to trading any option, an investor must receive a copy of *Characteristics and Risks of Standardized Options*. A copy may be obtained from the investor's broker or on the Internet at www.cboe.com.

Paul D. Kadavy

NOTE REGARDING THE EXCEL® FILES DISCUSSED IN THIS BOOK

We have created custom Excel[®] file templates that will facilitate your use of the program outlined in this book.

The use of these templates will greatly assist you with the calculations necessary to make quality decisions using this straddle option writing program and in reviewing historical data referenced in the book. When you are ready to use them, please send an e-mail to arrowpublicationsUSA@gmail.com requesting the "straddle files." We will promptly provide you with the files by return e-mail. If you limit access to approved users of your e-mail account, please be sure you list arrowpublicationsUSA@gmail.com as an approved user so you will receive our files. Your e-mail address will *never* be sold or given to anyone.

If you do not have a computer, many libraries offer computers for use at no charge and they often have Excel® software installed on them that will enable you to run the above-mentioned files.

If you have a computer but do not have Microsoft Excel[®], you may download the Apache OpenOffice software for free at <u>www.openoffice.org</u>. This software includes Calc, a spreadsheet program with which you can fully utilize the Excel[®] file templates.

A QUICK REVIEW OF SOME BASICS



This book assumes that the reader already possesses a working knowledge of options and has prior experience writing covered calls (where shares are owned to back the option transaction) on individual stocks and/or Exchange Traded Funds (ETFs). Past experience writing uncovered puts and/or calls (where shares are not owned, but the transaction is supported by a margin requirement) would also be very beneficial, as they constitute the two components of the option writing strategy outlined here.

This chapter will briefly summarize the essentials of options as needed to implement the program. If more detailed background information is required, the reader is directed to other books by this author listed in the preface.

Writing "uncovered" (also sometimes referred to as "naked") put and call option combinations (the simultaneous writing, or sale, of put and call options where the underlying shares are not owned by the investor at the time of the transaction) can in some circumstances present a very attractive opportunity for option investors in taxable accounts (uncovered writing is not offered for retirement accounts). For the option investor, writing both a put and a call on the same security can provide, as we will see, a two-fold steady stream of income utilizing a single margin requirement for both options if structured properly. This book will give you the practical tools necessary to develop and implement an investment strategy that will provide the opportunity to achieve significant investment returns through writing an uncovered put and call combination known as a "straddle," which is a type of option combination utilizing the same "strike" (exercise) price for both of the options. A straddle also uses the same expiration date for both the put and the call.

WHAT IS THE "SPIDERS" ETF?

This strategy specifically utilizes options on the Exchange Traded Fund (ETF) known as the "Standard & Poors® Depository Receipt," usually referred as the "Spiders" or "SPDRs®" ETF, with the ticker symbol "SPY." It is a unit investment trust that is designed to hold a portfolio of the stocks that compose the Standard & Poors® 500 Composite Stock Price Index. The intent is that the price of the Spiders ETF will closely mirror the price and yield performance of that index. Investors in SPY and its options are in effect participating in the 500 stocks that compose the S&P® 500 Index. Spiders shares trade at approximately one-tenth of the value of the S&P® 500 Index. Investors desiring more

information are referred to the prospectus for the trust, which can be found at <u>https://www.spdrs.com/library-</u>

<u>content/public/SPDR_500%20TRUST_PROSPECTUS.pdf</u> on the Internet.

WHERE ARE OPTIONS TRADED?

Option contracts are considered to be securities. As such, they are bought and sold through a brokerage firm. Either a full-service broker or a discount broker can be used, although option trades through a discount broker are usually much less expensive. Option contracts trade on U.S. securities exchanges, with Spiders options being traded on all major exchanges. The contracts traded are issued, guaranteed and cleared, that is to say settled or finalized, by the "Options Clearing Corporation" (OCC). The OCC is a registered clearing corporation with the "Securities & Exchange Commission" (SEC). This provides you with needed protection to assure your transactions fit certain common standards and that they are all handled through an independent and unbiased third party.

THE OPTION BUYER

The "buyer" (also called "holder") of a Spiders option has the right to buy or sell Spiders shares for a specified price on or before a specific date. The specified price is termed the "strike price," and the specified date is called the "expiration date." A "call" is a right (but not the obligation) of the option holder to *buy* the shares...like calling them away...while a "put" is a right (but not the obligation) of the option holder to *sell* the shares...like putting them into someone else's hands. The investor who purchases an option, whether it is a call or a put, is the option buyer. One "option contract," which defines the rights and obligations of the parties involved, is for 100 shares.

Thus, the buyer of SPY June \$90 calls has the right to purchase 100 shares of SPY per option contract for \$90 per share through the June expiration date, which is the third Friday of the expiration month for standardized options. Option contracts are now offered that expire weekly and others that expire on the last Similarly, the buyer of SPY June \$90 puts has the right to sell 100 shares of SPY per option contract for \$90 per share through the June expiration date.

THE OPTION SELLER

Conversely, the investor who initiates a transaction by selling a call or put, or both, is the option "seller" or "writer" (which will be your side of the option transaction in all cases in this book).

The writer of SPY June \$90 calls would have the obligation to sell 100 shares of SPY per option contract for \$90 per share through the option expiration date if a holder of such contracts decides to "exercise" the options and if "assignment" is made to the writer (a lottery process conducted by the option clearinghouse and the affected brokers).

The writer of SPY June \$90 puts would have the obligation to purchase 100 shares of SPY per option contract for \$90 per share, regardless of the current market price of the shares, through the option expiration date if a holder of such contracts decides to exercise the options and if assignment is made to the writer.

Since the program outlined in this book specifies that option contracts subject to exercise be bought back to close out the position on the last trading day before expiration, you will not purchase or sell actual Spiders shares...you will only trade in Spiders options.

HOW A CALL OPTION BUYER PROFITS AND LOSES

The buyer of a call is speculating that the price of the underlying security, the Spiders, will significantly *increase* soon. The price that the buyer pays to purchase the call is the "premium." If an upward price movement occurs in the underlying security, the buyer hopes to capitalize on an increase in value of the premium so that he can sell the option for a greater premium than he paid for it. Although other factors also come into play (such as the proximity of the call expiration date), the direction in price of a call option premium will *positively* track the direction in price of the underlying security. Thus, if the price of a stock is increasing, the price of calls for that stock will increase. If the price of a stock is decreasing, the price of its calls will decrease.

Let's assume that the current market price of SPY shares is \$90 per share and that the current market price of SPY June \$90 calls is \$3 per contract. It would cost an investor who believes the market will go up \$9,000 to acquire 100 shares of SPY. But for a fixed cost of \$300 the investor can control 100 shares until June by purchasing one SPY June \$90 call contract (1 contract x \$3 premium x 100 shares). If the price of SPY should increase relatively quickly from \$90 to, say, \$95, the market price of the call option would increase along with the stock, perhaps to a price of, say, \$5 per contract. The option holder could then sell his option position at \$5, realizing a \$200 gain, a 66.6% investment return, in a relatively short period of time. Or he could continue to hold the position and face the prospect of additional gain or loss.

Had SPY declined relatively quickly from \$90 to, say, \$85, the market price of the call option would decrease with the stock, perhaps to a price of, say, \$1 per contract. The option holder would then be faced with the decision of continuing to hold the position with the hope for a recovery in price and the risk of additional loss, or liquidating the position and realizing a \$200 loss, or 66.6%.

HOW A PUT OPTION BUYER PROFITS AND LOSES

Similarly, the buyer of SPY puts is speculating that the price of the underlying security will significantly *decrease* soon. If a downward price movement occurs in the underlying security, the buyer hopes to capitalize on an increase in value of the put premium so that he can sell the option for a greater premium than he paid for it. Although other factors also come into play (such as the proximity of the put expiration date), the direction in price of a put option premium will *inversely* track the direction in price of the underlying security. Thus, if the price of a stock is decreasing, the price of its puts will increase. If the price of a stock is increasing, the price of puts for that stock will decrease.

Let's again assume that the current market price of SPY shares is \$90 per share and that the current market price of SPY June \$90 puts is \$3 per contract. An investor who believes the market will go down could initiate a "short sale" for 100 shares of SPY, assuming all of the risks of such a transaction. But for a fixed cost of \$300 the investor can control 100 shares until June by purchasing one SPY June \$90 put contract (1 contract x \$3 premium x 100 shares). If the price of SPY should decrease relatively quickly from \$90 to, say, \$85, the market price of the put option would increase with the decline in the stock, perhaps to a price of, say, \$5 per contract. The option holder could then sell his option position at \$5, realizing a \$200 gain, a 66.6% investment return, in a relatively short period of time, or continue to hold the position and face the prospect of potentially additional gain or loss.

Had SPY increased relatively quickly from \$90 to, say, \$95, the market price of the put option would decline with the increase in the stock price, perhaps to a price of, say, \$1 per contract. The option holder would then be faced with the decision of continuing to hold the position with the hope for a recovery in price and the risk of additional potential loss, or liquidating the position and realizing a \$200 loss, or 66.6%.

HOW A CALL OPTION WRITER PROFITS AND LOSES

The writer (seller) of a call is an investor who is seeking to earn a premium that will represent a fixed return on investment. That investment is the amount of "margin" the investor is required to maintain in his brokerage account to support the call writing transaction, either in cash or securities acceptable to the broker. As the market for the underlying security fluctuates, the amount of the margin required to support the uncovered call writing position changes at the end of each business day. Should the margin requirement exceed the amount of cash or securities on deposit, the investor will need to deposit additional cash or securities into the account within a specified period of time or the broker will generate the additional margin required by liquidating some or all of the investment positions in the account. When an option seller initiates a new position by writing calls on a security he does not own (referred to by the broker as a "sell-to-open" or "uncovered call" transaction), the premium income is credited to his brokerage account the next business day following execution of the transaction. Again, the direction in price of a call option premium will *positively* track the direction in price of the underlying security. Thus, if the price of a stock is increasing, the price of calls for that stock will increase and the amount of margin requirement will increase. If the price of a stock is decreasing, the price of its calls will decrease and the margin requirement will correspondingly decrease.

Let's use the example of SPY calls. The assumed current market price of SPY shares is \$90 per share and the current market price of SPY June \$90 calls is \$3 per contract. By selling one SPY June \$90 call contract, the writer will receive \$300 into his brokerage account tomorrow (1 contract x \$3 premium x 100 shares), less commissions. Even though the margin requirement may increase or decrease on a daily basis, if the option is held until the June expiration date and the market price of SPY shares remain below \$90 on that date ("out-of-the-money"), the call option will not be exercised (an option buyer would not pay \$90 per share for stock he could buy on the open market for less). The writer keeps the entire premium and has no further obligation. The margin requirement is released, and the investor is able to write another option if desired.

If on the expiration date the market price of SPY shares is above \$90 ("inthe-money"), the buyer's call option will be exercised, in which case the writer's broker would need to sell short and deliver 100 shares of SPY at the strike price to the buyer. (Note: as stated previously, any exercisable option...in-themoney...will be bought back by the investor at the end of the last trading day before expiration to close out the position). The investor would incur a net loss if the market price was greater than \$93 (the writer received \$3 per share of premium income and would receive \$90 per share from the sale to the buyer at the strike price if the option position were not closed out). If the market price of SPY is between \$90 and \$93, the writer would have a net profit ranging from \$0 to \$300 per call contract, depending on the specific price of the shares.

Prior to expiration, the market price of SPY may at times increase beyond the call strike price. This would result in an increased margin requirement. The price of the option may well increase beyond the premium that was received when the call was written, depending on the amount of increase in the underlying shares above the strike price and the time remaining to expiration.

HOW A PUT OPTION WRITER PROFITS AND LOSES

The writer (seller) of a put is an investor who is seeking to earn a premium that will represent a fixed return on investment. That investment is the amount of margin the investor is required to maintain in his brokerage account to support the put writing transaction, either in cash or securities acceptable to the broker. As the market for the underlying security fluctuates, the amount of the margin required to support the uncovered put writing position changes at the end of each business day. Should the margin requirement exceed the amount of cash or securities on deposit, the investor will need to deposit additional cash or securities into the account within a specified period of time or the broker will generate the additional margin required by liquidating some or all of the investment positions in the account.

When an option seller writes puts (referred to by the broker as a "sell-toopen" or "uncovered put" transaction), the premium income is credited to his brokerage account the next business day following execution of the transaction. The direction in price of a put option premium will *inversely* track the direction in price of the underlying security. Thus, if the price of a stock is decreasing, the price of puts for that stock will increase and the amount of margin requirement will increase. If the price of a stock is increasing, the price of its puts will decrease and the margin requirement will correspondingly decrease.

Again, we will use the same example of a SPY put. The assumed current market price of SPY shares is \$90 per share and the current market price of SPY June \$90 puts is \$3 per contract. By selling one SPY June \$90 put, the writer will receive \$300 into his brokerage account tomorrow (1 contract x \$3 premium x 100 shares), less commissions. Even though the margin requirement may increase or decrease on a daily basis, if the option is held until the June expiration date and the market price of SPY remains above \$90 on that date ("out-of-the-money"), the put option will not be exercised (an option buyer would not sell his shares for \$90 when he could sell them on the open market for more). The writer keeps the entire premium and has no further obligation. The margin requirement is released, and the investor is able to write another option if desired.

If on the expiration date the market price of SPY is below \$90 ("in-themoney"), the buyer's put option will be exercised, in which case the writer's broker would purchase 100 shares of SPY from the option holder at the \$90 strike price. (Note: as stated previously, any exercisable option...in-the-money...at the end of the last trading day before expiration will be bought back by the investor to close out the position). The investor would incur a net loss if the market price was less than \$87 (the writer received \$3 per share of premium income and would purchase at \$90 per share from the buyer at the strike price if the option position were not closed out). If the market price of SPY is between \$87 and \$90, the writer would have a net profit ranging from \$0 to \$300 per put contract, depending on the specific price of the shares.

Prior to expiration, the market price of SPY may at times decline below the put strike price. This would result in an increased margin requirement. The price of the option may well increase beyond the premium that was received when the call was written, depending on the amount of decrease in the underlying shares below the strike price and the time remaining to expiration. As a seller, when you write both puts or calls on a security you receive the premiums paid by the buyers (less applicable brokerage commissions). The combined premium income is credited to your brokerage account the next business day following execution of the transactions. For uncovered put and call writers, the maximum gain is limited to the amount of the premiums you receive. Your potential for loss is, as we shall see, theoretically unlimited...at least on the call side of the transaction, however the history of stock market fluctuations, including many very sizeable ones, are fully taken into consideration in the profit models for this strategy.

As with stocks and ETFs, put and call options are "fungible." That is to say, all option contracts for the same underlying security with the same strike price and expiration date are identical and are interchangeable. For example, shares of SPY and the June \$90 SPY calls are both fungible. All SPY shares are the same and are interchangeable. All SPY June \$90 call contracts are the same and are interchangeable.

AVAILABILITY OF STRIKE PRICES AND EXPIRATION DATES

Strike prices for options in the Spiders underlying shares are established to support a broad range of trading. Currently strike prices are offered in a range extending as much as \$40 per share or more both above and below the current market price of SPY. Unlike most stocks and ETFs, the strike prices for Spiders options are set in \$1 increments above and below the current market price. This provides an opportunity to write both puts and calls at a strike price within \$1 of the actual current trading price of the underlying security and at many additional \$1 increments higher and lower. SPY trades in huge volume (almost 130 million shares on an average trading day). The put and call options for the closest strike price to the SPY market price and for the current expiration month typically trade tens of thousands of contracts per trading day, providing the highest degree of liquidity of any option contracts available. These are the exact option contracts we will be using with this short straddle strategy.

SELECTION OF STRIKE PRICES

Under this program you will write both puts and calls at the strike price closest to the price of SPY shares. This is referred to as being "at-the-money." These trades will be made each month on the Monday following the previous monthly expiration date. For example, when you initiate your trades on Monday, if SPY is trading at \$90.75, you would write an equal number of put and call option contracts at a strike price of \$91 to expire the following month. If SPY is trading at 88.14, you would write the \$88 strike price, and so on. This process is duplicated each month on the Monday following the previous month's expiration.

ONLINE PUT AND CALL OPTION TRADING

After reviewing the premiums available on SPY puts and calls for the next option expiration month and obtaining their ticker symbols, you are ready to proceed writing a put and call option straddle. It is assumed that you have been approved by your brokerage firm for the highest level of option writing (required for uncovered put and call trades) and that you use an online broker to execute your option transactions.

When you log on to your brokerage account you need to go to the Web page that is used for option trades. The information required by different brokers for their online system should be essentially the same. The pieces of it may just be located in different places on their Web pages. If you have not already placed option orders, you will become familiar with your broker's pages very quickly after you do a few option trades.

When you have reached your broker's online option trading page, several choices should appear for the kind of option trade you wish to place. The buyer of an option would click on "buy" to purchase a put or call option or "sell" in order to close out his position. As you are not a buyer, but are a writer of uncovered call and put options, to initiate a new transaction you would click on "sell-to-open." You are selling...that is, writing...the option, and the transaction is an opening transaction. (Note: your broker may have a different name for this, such as "write uncovered put" and "write uncovered call." If there is any question about how you execute your orders you should contact your broker). Enter the number of contracts, remembering that one option contract is for one hundred of the underlying shares. You then need to type in the option symbol in the appropriate place to be sure you get the right contract (note: if you use an "option chain" you should be able to simply click on the option of your choice and the symbol is entered for you, as a list of all available options is provided). Many online brokers use a minus sign, a period, or some other character(s) either before or after the option symbol to differentiate quotes and trades for options. You will need to determine from your broker if there are any such special requirements.

There will also be a section that will ask you to click whether you wish a "market order" or a "limit order." A limit order requires that a "limit price" be set. If you select market order, the transaction will be carried out at the "best price available" when the order reaches the marketplace. It assures you that the transaction will be executed at some price. There is usually only a spread of several cents between the bid and ask for at-the-money puts and calls on SPY. With the very large volume of contracts that are traded in these options, it will be safe to enter a market order rather than a limit order, and this will guarantee almost immediate execution of your trades.

If the spread between bid and ask is greater, you can set a limit price on the trades if you would prefer, recognizing that the orders will not be filled unless

your price is reached and with the needed number of option contracts. There is a risk you do run, however, when setting a limit price. If by the time you get your order placed the price of the underlying shares has declined (for a call) or risen (for a put), then the option prices will have also declined and your orders will not be filled unless the prices of the shares return to where they were and the options rise again. The best guard against this is to be sure you have a very current quote on the bid and ask for the option contract and that you enter your limit order as quickly as possible after you have made your decision to write the option. In the event the share price changes, however, you should be prepared to cancel your limit order and replace it with a lower limit price. Otherwise you would need to wait to see if the market price for your option recovers to your order price. You can see that much of this would be difficult if you were dealing with a live broker and had to be making phone calls back and forth until your trades were completed. Through an online broker, this is readily accomplished simply by pointing and clicking.

There is another element that needs to be mentioned...an "all-or-none order." When initiating an option trade, all-or-none is a further restricting element of a limit order whereby you specify that either your entire order be executed at the same time or none of it is to be executed. For example, if you are trying to sell-to-open ten contracts, it is possible that only part of your order might be filled...say two contracts, with the order for the other eight not filled if the price of the option should quickly back off from your limit price. If you have to go in later and alter your price to fill the rest of your order, or if the balance of your limit order is not filled until a later date, your commission costs would go up. These trades would be treated as separate transactions for commission purposes.

The all-or-none order is a good idea if you are dealing with options that are thinly traded. Due to the large volume of contracts traded in SPY options, I would suggest not using the all-or-none feature when you place limit orders. You have little or nothing to gain.

If you entered a market order, you are done. If you entered a limit order, there is one final element to add. With limit orders you also have an opportunity to indicate the time-in-force for the order. You can specify that the order will only be valid for the day, referred to as a "day order," or that it will be a "good-'til-canceled order," also referred to as "GTC." This is entirely up to you. If you use orders that are valid only for the day and the order is not filled, that provides an opportunity to reevaluate what you want to do at that point. You can then enter a new order on the following day. With a good-'til-canceled order, the order will remain on the broker's books until it is filled or until you cancel it. For at-the-money calls and puts on SPY, I recommend market orders be placed with no restrictions due to the active trading volume. You will be very happy with the results and the speed of execution.

When you have written puts or calls, these options will show up online and on your brokerage statements as a negative balance until the options expire or are assigned. This is a "short position" offset to the cash you received into your account from the premiums. It will reflect the current market price of the options as they fluctuate up and down based upon the price of the underlying shares. In addition to the price of the underlying shares, another variable that will affect the price of the option is the time remaining until expiration. If the price of the shares remains near your strike price, the negative balances of the options on your brokerage statement will eventually diminish toward zero as the time value decays on their journey to the expiration date.

CLOSING OUT (BUYING BACK) IN-THE-MONEY POSITIONS

While you may be interested in watching the progress your trades undergo between expiration dates (in addition to the dates when trades are initiated), with this program your alert attention is only required near the end of the last day of trading for each option expiration month. Toward the end of the last trading day before your options expire (as close to the end of the trading day with which you are comfortable), there will be virtually no time value left in the option contracts. All that will remain in their price will be intrinsic value, if any, (represented by the amount by which the option is in-the-money) and perhaps some volatility value if the market price is fairly close to the strike price. In most cases the difference between the current market price of SPY shares and your strike price will be sufficiently large for you to determine that either the puts or the calls will expire out-of-the-money so that no trading on them needs to be done...they can simply be allowed to expire. To avoid assignment, the contracts that are in-the-money need to be bought back to close out the position prior to the close of the market that day. Since both SPY put and call option contracts are highly liquid, you should in all cases be able to close out your in-the-money contracts by initiating a "buy to close" order at the market for the number of contracts you have written. If for any reason there is a wider spread that just a few cents between the bid and ask, you could initiate a limit order rather than a market order, but it is important that these in-the-money contracts be bought back before the end of the trading day to avoid assignment. Normally there will only be up to a few pennies difference between the bid and ask so that a market order can be utilized.

If the market price of SPY shares is very close to the strike price of your expiring options it may be difficult to assess which contracts need to be closed out, particularly if trading is volatile. In such cases when it could go either way, judgment is needed. On rare occasions it may be necessary to buy back both the put and the call position in an abundance of caution to avoid the risk of assignment after the close of the market. Even though this would require two trades, this is the best position for you to be in, as your profit for that month will

be the greatest when the market price of SPY shares are closest to your strike price. Just be sure that both of your positions are either bought back to close or that they expire out-of-the-money to avoid assignment as described in the next section.

EXERCISE AND ASSIGNMENT OF SPIDERS PUT AND CALL OPTIONS (HIGHLY UNLIKELY)

A call option holder can exercise his option (referred to as being "assigned") any time either your put or call option becomes in-the-money. This almost always occurs at expiration if the market price of the shares is higher than the strike price, although it could possibly happen at any time during the term of the option contract if the holder of the option wanted to exercise the right earlier. This would be highly unusual for broadly traded option contracts on the Spiders, as the option holder would typically sell his option position rather than exercise the option prior to the expiration date. If an uncovered call is exercised and assigned to you, your broker would sell short the underlying shares at the current market value (assuming you do not already own SPY shares in your account). You would then have an ongoing short position in SPY shares unless you elected to buy back the shares and close out the short position. The trading program in this book specifies that you buy back any in-the-money call positions before the close on the last trading day before expiration, so it is rather unlikely that you would ever find yourself in this situation. The exception to this would be when the calls are in-the-money, the expiration date is nearing, and the exdividend date for SPY will occur prior to expiration. In such a case your calls have an increasing risk of being assigned by the ex-dividend date. You will then be short SPY shares and will be charged with the dividend on the payment date. Note that the SPY dividend dates occur in March, June, September and December approximately two-thirds of the way through the months.

Likewise, a put option holder can exercise his option at any time causing the optioned shares to be put to you at the strike price. This almost always occurs at expiration, although it could possibly happen at any time during the term of the option contract if the holder of the option wanted to exercise the right earlier. As with the call, this would be highly unusual for option contracts on the Spiders. The option holder would typically sell his option position rather than exercise the option prior to the expiration date. If an uncovered put is exercised and assigned to you, your broker would buy the underlying shares at your strike price. You would then have an ongoing long position in SPY shares unless you elected to sell the shares and close out the long position. Again, the trading program in this book specifies that you buy back any in-the-money put positions before the close on the last trading day before expiration, so it is rather unlikely that you would ever find yourself in this situation.

NO COMMISIONS PAID ON NON-EXERCISED OPTION CONTRACTS

As a writer of put and call options, you pay an option commission when you initiate the transaction or close out a position by buying it back. If an option is not exercised and expires without value (out-of-the-money), you keep the entire amount of the option premium and pay no additional commissions at expiration.

THE SHORT SPIDERS STRADDLE STRATEGY



Writing at-the-money put and call straddles can provide outstanding returns if the price of the underlying security remains relatively flat or increases or decreases by less than the combined put and call strike premiums from the time the options are written up to the expiration date. In these circumstances, the straddle writer's investment percentage return over time will often significantly outperform the investor who simply owns the underlying security or the investor who only writes a put or call, but not both. Clearly there is also additional risk in any given month, as a straddle presents the chance that either the put or the call position could move against you during a significant shift in the market, resulting in an overall loss for that month. And there will be losses...sometimes very large losses.

SIX KEY QUESTIONS

My belief in this strategy and the plan of action will be based on the reasoning behind the answers to six important questions:

- What individual stocks and/or ETFs will serve us best as underlying securities in our straddle writing activity?
- What should the price differential be between the strike prices and the market prices of the underlying securities for optimal put and call option writing?
- Which put and call option expiration dates will serve us best in our straddle writing?
- How many uncovered option straddle contracts can I write before I potentially become overextended?
- At what point, if any, should action be taken if the market price of SPY shares move significantly past the put or the call strike price and losses begin to occur?

• What kinds of investment returns can I expect to realize based upon historical evidence so I know this isn't an overly risky strategy?

STRADDLE WRITING AS AN INVESTMENT ALTERNATIVE

First Question: What individual stocks and/or ETFs will serve us best as underlying securities in our straddle writing activity?

There is a two-part answer to this question. The first part deals with comfort, the second with diversification.

Comfort

Foremost and above all, we should *never* choose an underlying security for combination writing that we would not be comfortable owning for the long term. The Spiders ETF is the oldest and most highly traded ETF in the US, providing not only a great amount of historical information, as we shall soon see, but also providing the liquidity we need as option writers to assure we are getting our money's worth in well executed trades.

Diversification

As an investor you may or may not be comfortable with Wells Fargo & Co. (ticker symbol WFC) which is one of the 500 stocks in the S&P® 500 and is therefore one of the underlying stocks that determine the price of the Spiders ETF (ticker symbol SPY). Due to its national prominence, however, and the fact that I was employed by that company and its predecessor for almost thirty years, it will serve as a good example for discussion purposes. What we want to do is to assess the risk from a diversification standpoint of writing uncovered put and call straddles on Wells Fargo vs. the SPY. If you were going to write straddles on one of them, what would be the issues regarding diversification?

First we will consider Wells Fargo. You decide that you will write a straddle for one-month at a market strike price. The day following the execution of the transactions you receive the premiums in your account, which you will keep until expiration, subject to your need to buy back either the put or call position for an undetermined price based on the market price of WFC just before expiration. But what would happen to Wells Fargo's stock if one week later the corporate headquarters of the company burned to the ground (as it did on Thanksgiving Day 1982 with its predecessor, Norwest Corporation), with, say, the chairman of the board and several other top executives killed in the fire? Quite likely the stock would trade substantially below your put strike price and may continue to do so at expiration, resulting in a high cost to buy back the put component of your straddle position and probably a sizeable net loss for the month. Similarly, what if an economic downturn continued causing ongoing unexpected loan losses and the institution's regulators announced that the company needed to increase its capital by untold billions of dollars? Perhaps a similar effect on the stock. On the other hand, what if Warren Buffett's Berkshire Hathaway Corporation, currently the largest shareholder in Wells Fargo, decided to combine with American Express (Buffett, through Berkshire Hathaway, is also the largest shareholder in American Express) to make a tender offer for all of the outstanding shares of Wells Fargo (he has actually said he'd like to buy the entire company!) at a price substantially higher than the current market price? The stock would mushroom in price, likely well beyond your call strike price, creating the probability that at expiration you would realize a net loss after buying back the call component of your straddle position.

Now let's consider the SPY. You write a one-month straddle at the market strike price. Now let's assume that the exact same negative and positive events would occur with Wells Fargo as just described. What is the impact on your straddle position on the SPY? Since Wells Fargo is only one of five-hundred of the stocks composing the SPY, the impact is substantially tempered when compared with direct ownership in Wells Fargo. Furthermore, ironically American Express is also one of the securities comprising the SPY, so if it would decline as Wells Fargo advances on the announced tender offer, the net effect would be greatly muted. Whether the price of the SPY would be driven either lower or higher by these announcements is impossible to say, but one thing can be said with absolute certainty...the diversified position by writing puts and calls on an underlying security owning five-hundred different stocks substantially insulates you in comparison with writing a straddle on a single security.

You may make the case that such dramatic events are extremely rare or highly unlikely. This is true, but these are only two examples of many different things that could occur to drive the stock price of any individual security substantially up or down. We have seen the market price of individual stocks decline by large double-digits in a single day when an earnings shortfall is reported by a company. We have also seen large double-digit increases in a single day on positive earnings surprises, or on positive news, such as when a biotechnology company receives FDA approval for a new drug. When you add up all of the opportunities for positive and negative news, clearly there is substantial comfort to be gained by writing straddles on a security such as an ETF that contains five-hundred stocks within a broadly diversified market index. The best world for an investor writing straddles on an individual stock would be if there is no significant good news or bad news. This would help keep the price of the underlying security closer to the put and call strike price, which will help maximize profit. However, if there is market driving news, whether positive or negative, as is common regarding an individual security, the investor would

clearly be better off having written straddles on the diversified ETF SPY than on a single stock.

Second Question: What should the price differential be between the strike prices and the market prices of the underlying securities for optimal put and call option writing?

On the relative scale of option investment opportunities, writing put and call straddles would normally be considered to be on the high end of the risk spectrum, although it will be demonstrated shortly that, based on historical evidence utilizing the Spiders ETF, it can be converted to a somewhat volatile, yet rather conservative, potentially high yielding long-term strategy. A review of option writing opportunities utilizing a broker's option chain demonstrates that the closer the market price of the underlying security is to a given strike price, the larger the premium and the greater the *potential* return. Thus, if maximizing the potential return was the only consideration, we would routinely write at-themoney call and put straddles, which is precisely what the strategy outlined in this book prescribes. But the rub is that this return is only "potential." To keep the entirety of both the put and call option premiums, the SPY would have to be valued exactly at the strike price at the end of the expiration date...wishful thinking at best. A price above or below the strike price on expiration will reduce the profit or even cause a loss (puts if below, calls if above), depending on the magnitude of the difference. It will be demonstrated, however, that based on historical evidence using the S&P® 500 Index, a case can be made that such a strategy can result in high yield long-term returns. For non-believing investors or agnostics on the short Spider straddle program, pro-forma investing on paper rather than for real for a month or two may help make believers out of them.

Third Question: Which put and call option expiration dates will serve us best in our straddle writing?

As the number of days increases to expiration, *the rate of increase* in the amount of the premium tends to slow down. Accordingly, many put and call option writers prefer to stick with the shorter term expiration writing opportunities. The time value component of an option premium gradually decays over the life of the option. The rate of decay in the option price accelerates as the time to expiration draws nearer, so time decay often tends to work in favor of option writers who write shorter term contracts. Shorter term put and call options, while typically providing the writer with more premium dollars of income per day until expiration and therefore a higher annualized investment return, will however not give you as much downside protection as longer-term options, short-term at-the-money options (strike price and market price of the

underlying security as close as possible) strikes a balance between keeping the time short to expiration and maximizing the amount of premium that can potentially be retained as profit.

Assume for a moment that the price of the underlying SPY shares remains exactly the same during the entire period until the put and call options that were written in May expire at-the-money in June. This obviously will never happen, but will help make an important point. Since the time value of options is a decaying asset, one might expect that the price of the options would decline prorata in a straight line progression day by day over their life until they expire without value on the expiration date...like this.



time remaining to expiration

That is not typically the way things work, however. Usually the time value of an option retains more of its value until it gets closer to the expiration date. Thus, if SPY's share price were to remain exactly the same, for a one month put and call option, for example, the decay in the price of the options as they get closer and closer to the date of expiration might look something more like the following. As you can see, with a flat price for SPY the options, even though they are slowly decaying in value over the early days in the expiration month, hold more of their value until closer to expiration.



time remaining to expiration

If you were to use the "straddles" template to calculate several alternatives using longer expiration dates you would find that they provide greater premium income. If, however, you divide the total premium income by the number of days to expiration, you will find that you receive greater premium income per

day from a one-month expiration contract than for any with a longer term. As just seen by the previous graphs depicting the rate of decay for options, much of the premium is captured by the faster rate of decay that occurs in the last month, and particularly in the last days prior to expiration, which makes this particularly attractive. There is also obviously less time for the market to move against an investor with a one-month option than one written for a longer term.

Fourth Question: How many put and call straddle contracts can I write before I become overextended?

Writing uncovered put and call option straddles allows the investor to potentially achieve solid double-digit and in rare months triple-digit annualized returns, in part due to the substantial leverage available from the low initial margin requirement. The result is that it may be tempting for the investor to overextend himself by writing too many option contracts. If the prices of the underlying securities on which you are writing straddles move below the put strike prices or above the call strike prices, the result could be a significantly increased margin requirement. A proclivity of some investors to overextend themselves by writing too many contracts, thereby risking unmanageable losses, is one of the primary disadvantages of straddle writing for the undisciplined investor.

From the standpoint of the broker's margin requirement, it may appear that writing a large number of put and call straddle contracts can be supported by the assets in the brokerage account. It must be recognized, however, that a significant downward or upward move in the SPY may necessitate adding additional cash or securities to the account to avoid being sold out by the broker at a loss if a margin call is not met in time. Due to this leverage, the investor must have discipline. There are some precautions that should be taken to make overextension less likely:

- Either keep sufficient cash and/or securities in your brokerage account, or have such additional resources in other accounts that could be added to your account, if you receive a margin call. Recognize that if you do not have access to sufficient resources to do this, you may be compelled at times by your broker to buy back your contracts at a loss if you cannot meet a margin call.
- Prior to trading, use the Excel® "straddles" template to model different assumptions on the number of put and call contracts and price changes in the underlying securities and option contracts to see what the margin requirements would be under those assumptions. Compare the results with the cash/securities you have in your brokerage account or otherwise have available for adequacy.

Start out with a lower number of contracts that you think would be advisable for you, then conservatively grow the number of contracts as the value in your account builds up over time and your knowledge, experience and comfort level increases. "Walking" before "running" is a good practice. You will always be safe if you have sufficient cash in your brokerage account to handle the transactions on a "cash covered" basis (an amount equal to the strike price x the number of put or call contracts x 100). Your return on investment on a cash covered basis will only be about 1/3 of what it would be on a margin basis, as computed in the "straddles" template, but it is the safest of all positions.

Sometimes brokerage firms will take steps themselves to reduce the risk you are taking. They do this by assigning a higher margin requirement for certain underlying securities than for others. For example, under the second margin calculation method a broker might at times assign a 30% margin requirement for ETFs such as the Spiders, 35% to most other stocks, and as much as 50% to 60% for riskier stocks with a very high beta. Requiring a greater margin has the effect of reducing the number of option contracts you should write. If in doubt, check with your brokerage firm or prospective brokerage firms to determine their policies and adjust the percentages in your calculations accordingly.

Fifth Question: At what point, if any, should action be taken if the market price of SPY shares move significantly past the put or the call strike price and losses begin to occur?

Once the straddle writing selection decision has been made and the option transactions have been executed, what follows is a waiting game to see what happens. Hopefully you wait until the expiration date and nothing much happens. Time is the option writer's best friend. Every day that passes with the market price of the underlying security remaining near the straddle strike price is a step closer to success. Option writing is a strategy that can make you good money if little movement occurs as the time value of the options decay.

If there is a major market shift and the market price of the SPY begins a significant move in either direction, the investor does not necessarily need to take action as evidenced by historical data that will be presented in response to the next question. Nonetheless, the investor may choose to have a plan of action established in advance that will be followed to mitigate the possibility of significant losses in any given month. I will suggest consideration of a single strategy for this contingency. You may decide to develop a modification of your own, if you use one at all (I do not). As with many other aspects of this straddle writing program, the choice should reflect the investor's own personal risk

tolerance. Most important is that you do have a plan with which you are comfortable, even if it is to take no action regardless of what the market does. While there are many ways to succeed as an investor, those investors with consistent results are inevitably the ones who have a logical plan and persistently stick to it.

Clearly if the market price does wander very far in either direction from the selected strike price, you are likely to become increasingly concerned. First, your margin requirement *may* increase beyond the cushion recommended shortly (you can always use your template to compute the requirement at any time). Under such conditions you should also check with your brokerage firm frequently (especially if you do online trading, as it is very easy to check) to determine changes in your margin requirement on their records. The broker will, of course, always notify you if you have insufficient margin, online and in writing.

Unless you are comfortable with taking no action based on the historical evidence that will be provided shortly, I would advocate that an investor adopt a specific option buyback regimen that would apply to all uncovered put and call writing transactions. At any time during the month between option expiration dates, if the SPY increases or decreases by greater than 10% from the date of the last expiration to the current date, buy back and close out the offending position (the call if the SPY is more than 10% higher, the put if the SPY is more than 10% lower) and wait until the Monday following the expiration date to initiate a new straddle as usual. This will limit your maximum losses in that there have only been 20 expiration months out of a total of 713 (2.81%) in which the S&P® 500 Index either rose or declined by more than 10%. By doing this, however, you may miss some opportunity, as there is always the possibility that the price of SPY shares could reverse the trend after you lave liquidated your problem position and before the next new straddle is written.

Clearly, *you will incur losses* (sometimes large ones) in some of your option writing straddles. This is to be expected. Our objective is that on an ongoing basis the collective amount of premiums you earn significantly outweighs the amount of premiums you buy back to close so that overall your return on investment achieves or exceeds your expectations.

Sixth Question: What kinds of investment returns can I expect to realize based upon historical evidence so I know this isn't an overly risky strategy?

As stated previously, writing an uncovered call subjects the investor to potentially unlimited risk of loss in that theoretically there is no limit to the heights that any stock or ETF may reach. Regarding puts, the loss is theoretically limited to a function of the strike price, as the underlying security cannot go below zero. All this sounds rather dire and risky. But what is really important is not theory, but reality. If you have not already sent us an e-mail requesting the "straddles" files, please do so now, as we will also send you an Excel® file called

"Short Spider Straddles (Excel Data)" containing a large amount of historical data that will help you understand the very real limitations to risk you are incurring when you write an at-the-money straddle on the SPY. That is not to say that you are not assuming any risk or that you will not experience losses in some months. You most certainly will have losses. In a moment we will dig into the data to understand the risk and the likelihood of losses as well as the opportunity for gain. To assist with understanding that data, we first need to discuss in some detail the subjects of option pricing using the Black-Scholes option pricing model and volatility using the VIX.

CALCULATING THEORETICAL PREMIUMS USING THE BLACK-SCHOLES OPTION PRICING MODEL

How would we determine updated market prices for options we have written based upon the assumption that SPY would rise or decrease in price? Estimates of price movement in the options would be needed for our template to determine what the margin requirement would be under such scenarios. The Black-Scholes option pricing model, although complicated in its content, can be easily used on the Internet to price option contracts. For an online calculator, type in "Black-Scholes Option Calculator" into your favorite search engine. You will find many calculators available. The calculator used for the examples in this book is located at www.tradingtoday.com/black-scholes.

By simply entering the following information, the calculator will give you the information you need: the strike price of your straddle (\$89 in the following example); the stock price (which is assumed in this case to go to up by 10% to \$97.92); the time in days (I assumed 15 days remaining to expiration); the volatility (the current number can be looked up through any brokerage account's quotation system by entering ".VIX" (note: I assumed the volatility of the VIX to be 25 for purposes of this example, which will be discussed further momentarily); and the risk free interest rate (.2% was used, which is the current rate for 90-day U.S. Treasury bills...the current rate can always be found in *The Wall Street Journal* or by a search on the Internet). The results of the newly calculated call and put is as follows:



~ 21 ~

These numbers can be entered into the Excel® template to determine the new margin requirement (see Chapter 4). If you use the Black-Scholes model to calculate the value of a current SPY option, you will be amazed how closely this theoretical value calculator compares with the actual current trading price.

HOW THE BLACK-SCHOLES MODEL WORKS

While it is not at all necessary for you to understand anything about the calculation methodology underlying the Black-Scholes option pricing model, the formula follows. As Abraham Lincoln quipped, "For those who like this sort of thing, this is the sort of thing they like." Most readers will have no interest in this level of detail, but for anyone who does, it is there. The model is used to calculate a theoretical call or put price (ignoring dividends paid during the life of the option) using the five key determinants of an option's price: stock price (in this case, the market price for SPY), strike price of the put and call contracts you have written in your straddle, volatility for SPY (as measured by the VIX), time to expiration in days, and short-term risk free interest rate (90-day U.S. Treasury Bill rate).

The formula for calculating the theoretical option price (OP) under the Black-Scholes pricing model is as follows:

$$OP = SN(d_1) - Xe^{-rt}N(d_2)$$

Where:

$$d_1 = \frac{\ln\left(\frac{S}{X}\right) + \left(r + \frac{v^2}{2}\right)t}{v\sqrt{t}}$$

$$d_2 = d_1 - v\sqrt{t}$$

The variables are:

S = stock price

X = strike price

t = time remaining until expiration, expressed as a percent of a year

- r = current continuously compounded risk-free interest rate
- v = annual volatility of stock price (the standard deviation of the short-term returns over one year).

In = natural logarithm

N(x) = standard normal cumulative distribution function

e = the exponential function

More than enough said!

VOLATILITY AND THE "VIX"

The VIX can be viewed as a "fear and greed" index. It measures the implied volatility of S&P® 500 Index options and is therefore the best possible fit to measure expected volatility of SPY, the S&P® 500 ETF. The VIX is calculated and disseminated in real time by the Chicago Board options Exchange (CBOE). It is a weighted blend of prices for a range of options on the S&P® 500 Index. A high value means a more volatile market and correspondingly higher priced options, and conversely. It represents a measure of the market expectation for volatility over the next thirty days.

The following chart depicts a 10-day moving average of the VIX during a point in time. While the VIX over the years has ranged from a low of under 10 to a high in the 80s during the highly volatile market in late 2008, the long-term average for the VIX has been about 20. Extreme readings greater than 30 may constitute a buy signal (possibly a better time to write puts) and less than 20 a sell signal (perhaps a better time to write calls). Readings above 30 may indicate excessive bearishness, panic or an extremely high implied volatility (the up arrows). Readings below 20 may indicate excessive bullishness, complacency or low implied volatility (the down arrows).



The further the VIX increases, the more panic there is in the market. The further the VIX decreases, the more complacency there is in the market. As a measure of complacency and panic, the VIX is often used as a contra indicator. Prolonged and/or extremely low VIX readings indicate a high degree of complacency and are generally regarded at bearish. Conversely, prolonged

and/or extremely high VIX readings indicate a high degree of anxiety or even panic and are regarded at bullish. High VIX readings usually occur after an extended or sharp decline and sentiment is still quite bearish. The VIX Index can be found by requesting a quote and entering ".VIX" through many online brokerage accounts. It is also available on a daily basis by going to www.cboe.com and selecting "Market Data."

EXAMINING THE HISTORICAL DATA

Now we have all of the components we need. At this time, open up the Excel® file "Short Spider Straddles (Excel Data)" on your computer and click on the "Pricing (Daily) & VIX" tab at the bottom. In column B you will see the date for every trading day beginning with January 3, 1950 through May 22, 2009 (the historical data period). In column C you will find the closing price of the S&P® 500 Index for all of those dates and in column D the percentage change in the index for the most recent trading day compared to the previous trading day. This is very interesting information, but since we are dealing with prices in this index on option expiration dates (the last trading day for most options being the third Friday of each month), we need to know what the closing price of the index was on those dates. In column A you will find an "x" next to the expiration date for every month during the above mentioned period of time. Each of those option expiration dates have been transferred to the spreadsheet in the tab called "Pricing (Monthly)." Click on that tab now and note that this information is located in column A. In column B is the closing price of the S&P® 500 Index for each of those option expiration dates, followed by the month-to-month point gain or loss in column C. The monthly percentage change, either up or down, is entered into column D. Column E is useful in that an "x" is placed into each cell where the increase or decrease in the index is 10% or more. If you scroll down column E it is interesting to note the amount by which the index varied beyond 10%. For example, for the option expiration month of October 2008 (during the financial crisis), the index declined by 25.06%, by far the greatest variance, up or down, of any month since January 1950. While the investment return data that will be presented here takes that decline fully into consideration in the overall results, months such as this one and others where the variance significantly exceeded 10% are the basis for the previous suggestion that the investor may wish to consider liquidating the offending option position at any time when the S&P® 500 Index moves in either direction by greater than 10% during any given option expiration month. Certainly, had an investor liquidated his option position as soon as possible after the initial 10% decline in October of 2008, the loss for that option month would have been considerably less than if the option position were closed out toward the end of the last day of trading that month.

By scrolling down to cell E718 you will see that there were only 20 option expiration months in which the S&P® 500 Index moved by 10% or more, or

2.81% of the total months since January 1950 when the data begins. Discussion of the significance of column F will be deferred until later.

Now go back to the "Pricing (Daily) & VIX" tab. You will see under column K that the VIX (volatility index for the S&P® 500) has been entered for every day since information is available beginning on January 5, 1990. In cell K7 is the average for that period of approximately 18 ½ years of 20.13. The VIX data in column J is for the last ten years and shows an average of 22.00. The five-year VIX data averages to 20.21, the three-year average is 24.81, the two-year average is 30.69, and finally, the one-year average is 39.58. Clearly the level of volatility, as measured by the VIX, was rising significantly in years leading up to 2009 when compared with its long-term average. These numbers are important to our analysis of future investment return prospects, as volatility, represented by the VIX, is a very significant component of option pricing calculations in the Black-Sholes model.

Now click on the "6.7% Premium" tab. Note that in cell E5 the number 10 has been entered for the number of put and call contracts being written for each option expiration month. The pre-tax investment return information contained in the other columns is based on that number of contracts, however, any number of contracts can be entered and the rest of the data will be automatically changed. So, based on your financial wherewithal, if 5 contracts is more appropriate for you, enter 5 in that cell, or any other number. Enter 1 if you wish to see the resulting data on a per contract basis. For discussion purposes, however, let's leave the number at 10.

We are going to make some investment projections that involve different assumptions about what the VIX will be in the future, so the VIX volatility in cell E6 should be left at 30 in this case as will become clear shortly. The starting point in making long-term investment projections for this straddle program is to determine the amount of combined put and call premium that will be received from each straddle written. To do this we need to utilize the Black-Sholes option pricing model. As we have seen, market volatility has been increasing significantly, with the daily average for the year ended May 2009 being almost 40. This is quite likely unsustainably high, meaning that the very high option premiums that result from this historically excessive level of volatility is also likely unsustainable. The first scenario we will examine assumes an ongoing future VIX of 30, which has been the approximate daily average for the past two years.

PROJECTED INVESTMENT RETURN IF FUTURE VIX AVERAGES 30

At the indicated SPY market price when this book was written, and assuming a VIX of 30, the following put and call premiums are calculated at a strike price of 89 and with a full month remaining to option expiration.

The combined option premiums of \$6.11 yield 6.86% of the current market price of SPY shares. Accordingly, we can assume that if volatility had been at 30 in the past, then we can apply that percentage to the closing price of SPY at each of the past option expiration dates to determine what the combined option premiums per contract would have been for each option expiration month. The correctness of this assumption can be verified by testing the numbers using the Black-Scholes pricing model for various dates. The numbers projected in the spreadsheet correlate very closely with the option premiums calculated by Black-Scholes.



You will see those calculations made in column E on the "6.7% Premium" tab. In an attempt to factor brokerage commissions into the projections, the percentage has been rounded down to 6.7% (vs. 6.86% actual). While column E carries out the option premium calculation down to January 1950, the information for investment return calculation purposes in only utilized for periods of 5, 10, 15, 20 and 25 years.

Begin by going to cell G68, where you can see a balance of \$0 in earnings, as this is the starting point. Since the dollar value of the SPY is very closely correlated to the S&P® 500 Index (one-tenth being the intent), we can use the closing price of the index as a proxy for the price of SPY in establishing the amount of premiums for the following option month. The cells in column F calculate the cost to buy back the in-the-money premium on the last day of trading prior to expiration of each month based on the number of contracts that were written. Therefore, in cell F67, the cost is \$4,146, as the index closed 41.46 points higher for the month (equivalent to 4.15 points for the SPY). This, nonetheless, leaves a net profit of \$3,458.63 in cell G67 which takes the combined straddle premiums of \$760.46 in cell E67 times the number of contracts written, less the cost to buy back the in-the-money premium. This calculation is carried forward each month to a cumulative balance in column G. After five years, the investment balance from net profits of writing ten straddle contracts per months would have been \$226,979.41 as is seen in cell G8. Similarly the cumulative profits over a ten-year period would have been \$396,057.32, for a fifteen-year period \$563,423.98, for a twenty-year period \$672,077.04, and for a twenty-five year period \$707,249.08.

This projected growth in profits based on past performance of the S&P® 500 Index can be compared with results that would be achieved at various rates of return. Now click on the "Investment Returns" tab and compare the results of a \$40,000 investment with the straddle profits. As discussed earlier, since the amount of marginable assets in an investor's brokerage account required to support the straddle writing will vary on a daily basis as the market price of the SPY and the options written change in price, a cushion is needed in order to avoid margin calls. For an account writing 10 at-the-money put and call contracts on the SPY, we have seen that the margin requirement is just under \$30,000. Therefore, it would seem prudent to set aside \$40,000 in the account to support the changing margin requirement. The return comparison between the option profits shown and a \$40,000 margin account therefore seems reasonable.

Note that the annual compounded option profits that would have been realized using the straddle program over the twenty-five year period equate to a return on the \$40,000 (an average of \$4,000 per straddle) investment between 12% and 12½%. The twenty-year profits equate to a return between 15% and 15½%; the fifteen-year profits to between 19% and 19½%; the ten-year profits to between 25½% and 26%; and the five-year profits are off the charts. This assumes a 30% margin requirement factor in this and the following examples (as discussed in Chapter 4). If a brokerage applies a lower number, then the amount of margin would be less and the annualized investment gains or losses would be greater.

PROJECTED INVESTMENT RETURN IF FUTURE VIX AVERAGES 25

A strong case could be made that the VIX is unlikely to average 30 for the indefinite future, even though it had been above that level on average every trading day for the two years at the end of the data. What would the profits from the straddles be if the volatility was reduced to an average of 25?

Again, we look to the Black-Scholes model to assist us. At the current SPY market price, and assuming a VIX of 25, the following put and call premiums are calculated at a strike price of 89 and with a full month remaining to option expiration.

The combined option premiums of \$5.09 yield 5.72% of the current market price of SPY shares, reflecting smaller option premiums due to the lower volatility reflected in the VIX. Accordingly, we can assume that if volatility had been at 25 in the past, then we can apply that percentage to the closing price of SPY at each of the past option expiration dates to determine what the combined option premiums per contract would have been for each option expiration month. The correctness of this assumption can be verified by testing the numbers using the Black-Scholes pricing model for various dates. The numbers projected

in the spreadsheet correlate very closely with the option premiums calculated by Black-Scholes.

Now click on the "5.6% Premium" tab. You will see those calculations made in column E. In an attempt to factor brokerage commissions into the projections, the percentage has been rounded down to 5.6% (vs. 5.72% actual).



Note again the information for annual compounded investment return calculation purposes for periods of 5, 10, 15, 20 and 25 years based on historical price movement of the S&P® 500 Index and compare this with the returns in the \$40,000 portfolio under various return scenarios. The results are as follows:

	Comparable Annualized
Number of Years of Straddles	Investment Returns
25-year straddle profits	between 10% and $10\frac{1}{2}$ %
20-year straddle profits	between $12\frac{1}{2}$ % and 13 %
15-year straddle profits	between $15\frac{1}{2}$ % and 16 %
10-year straddle profits	between 19% and $19\frac{1}{2}$ %
5-year straddle profits	between 29% and $29\frac{1}{2}$ %

Click on the "Pricing (Monthly)" tab for a moment. Notice in column F that an "x" has been placed in each cell where the S&P® 500 Index increased or decreased by greater than 5.6% during the option expiration month. Cell F721 shows that this has happened only 16.55% of the time since January 1950, meaning that in 83.45% of the expiration months the variance was less than 5.6%, which would have made them profitable months for the short Spider straddle.

PROJECTED INVESTMENT RETURN IF FUTURE VIX AVERAGES 20

I would be remiss if calculations were not also provided at a VIX of 20. In fact, interference in the marketplace by the Federal Reserve with its ZIRP (Zero

Rate Interest Policy) and quantitative easing has resulted in a steadily declining VIX.

At the indicated SPY market price, and assuming a VIX of 20, the following put and call premiums are calculated at a strike price of 89 and with a full month remaining to option expiration.

The combined option premiums of \$4.07 yield 4.57% of the current market price of SPY shares, reflecting even smaller option premiums due to the further lowering of volatility reflected in the VIX. Accordingly, we can assume that if volatility had been at 20 in the past, then we can apply that percentage to the closing price of SPY at each of the past option expiration dates to determine what the combined option premiums per contract would have been for each option expiration month. The correctness of this assumption can be verified by testing the numbers using the Black-Scholes pricing model for various dates. The numbers projected in the spreadsheet correlate very closely with the option premiums calculated by Black-Scholes.



Now click on the "4.4% Premium" tab. You will see those calculations made in column E. In an attempt to factor brokerage commissions into the projections, the percentage has been rounded down to 4.4% (vs. 4.57% actual). Note again the information for annual compounded investment return calculation purposes for periods of 5, 10, 15, 20 and 25 years based on historical price movement of the S&P® 500 Index and compare this with the returns in the \$40,000 portfolio under various return scenarios. The results are as follows:

	Comparable Annualized
Number of Years of Straddles	Investment Returns
25-year straddle profits	between 6% and $6\frac{1}{2}\%$
20-year straddle profits	between $7\frac{1}{2}$ % and 8%
15-year straddle profits	between $7\frac{1}{2}$ % and 8%
10-year straddle profits	between $4\frac{1}{2}$ % and 5%
5-year straddle profits	between $6\frac{1}{2}\%$ and 7%

WHAT'S THE BOTTOM LINE?

This program provides the greatest investment return (triple digits annualized) during a virtually flat market. It will outperform the broad market (the S&P® 500 Index) until monthly market increases or declines exceed 5.6%...67% annualized...(assuming your monthly combined put and call premiums total at least 5.6% of the market price of SPY). This has occurred in 83.45% of all months since January 1950.

The program will underperform the broad market and will progressively lose more money when monthly market increases or declines exceed 5.6%...67% annualized. This has occurred in 16.55% of all months since January 1950 up to the time of this book's publication.

Res ipsa loquitur (the thing speaks for itself).

USING MARGIN FOR YOUR STRADDLE TRADES



All brokerages, both full-service and discount, require a margin account be established to trade uncovered calls and uncovered puts. By establishing a margin account, you are also able to trade such option contracts with a third or less of the investment that would otherwise be required in a non-margin account...but more about this later. To trade uncovered puts and calls will require your brokerage's highest level of option approval. Check with your broker to complete the necessary paperwork to be approved for this type of trading activity. For ease of trading and lowest commissions, it is the author's view that it is best to trade online if at all possible. This is especially true of the strategy outlined in this book. Everything you need is in this book and no investment advice is required.

MARGIN

For investors in the stock market, margin refers to buying stock or selling stock short on credit provided by the broker. Margin customers are required to keep securities on deposit with their brokerage firms as collateral for their borrowings. When writing uncovered put and call options, margin means the cash or securities required to be deposited by the option writer with the brokerage firm to support the uncovered writing transaction. Minimum margin requirements are currently imposed by the Board of Governors of the Federal Reserve System, the options markets and other regulatory organizations. Higher margin requirements may be imposed either generally or in specific cases by individual brokerage firms.

The calculation of your margin requirement is one of the more complicated aspects of uncovered put and call option writing. Fortunately the Excel® template provided with this book does it all for you. If you have not already received the Excel® files, please send an e-mail to arrowpublicationsUSA@gmail.com requesting the "straddle files."

In this book we are using a conservative method of margin calculation that is typical for the brokerage industry for uncovered writing on individual stocks and ETFs. It consists of three separate calculations each for the uncovered call and uncovered put, with the calculation resulting in the highest amount constituting the margin requirement. Your broker likely uses these same calculation methods, however the percentages applied in the calculations may vary from broker to broker. This is an important issue, and you should always determine how margin is calculated by any broker with whom you are considering trading. The Excel® template can be customized to apply your broker's specific percentages as long as they use the same calculation methodology.

Your broker recalculates the margin requirement each day after the market closes based upon the new closing price for the underlying security and the closing price for the put and call options that have been written. Again, the margin requirement for the straddle is the largest of the three calculations for both the put and the call. If you do not have sufficient cash and/or securities on deposit in your account based on the new calculation on any given day, you will receive a "margin call" from your broker requiring the deposit of additional cash or securities into your account immediately to meet the new margin requirement. In the event you do not meet a margin call within the time constrictions imposed by your broker, assets in your account may be sold to meet the requirement.

After finishing the discussion on the rest of the spreadsheet we will outline different margin requirements in sample situations so you can get a better understanding of how the margin requirements work and how they change depending on price volatility. The following is the margin calculation methodology used in the "straddles" template, which is made automatically for you on the spreadsheet. We will review specific examples shortly.

Margin Calculation #1:

- 15% of the stock price
- Add the per share amount of the premium
- Multiply times 100 (the number of shares per contract)
- Multiply times the number of contracts written

Margin Calculation #2:

- 30% of the stock price (some brokerages have gone to 25%)
- Add the per share amount of the premium
- Subtract the amount by which the share price is out of the money
- Multiply times 100 (the number of shares per contract)
- Multiply times the number of contracts written

Margin Calculation #3:

• Multiply the number of option contracts by \$1,000.

It was mentioned earlier that your broker may apply different percentages to the first two calculations, or a higher percentage may be applied to certain riskier stocks. If that is the case, the template can be customized to calculate your broker's margin requirements. In cell reference R5 insert the lower of the two percentages in your broker's calculations and in cell reference R6 insert the higher of the two percentages (the calculation that subtracts the out-of-themoney amount). You broker also likely sets a minimum dollar amount per contract (typically \$1,000). If your broker uses a different number, it can be entered in cell reference R7. It is now adapted for your use. Be sure to save the file.

UNCOVERED PUT WRITING

In order to begin our discussion on writing short Spider straddles, we will examine the put and call segments of the combined transaction separately to identify the margin requirement for each component and the return on investment for each. From this point forward, the assumption is made that the investor writes 10 put and 10 call contracts each time. This number is used for example purposes only, as this program would be valid for any number of contracts. The margin requirement and net premium income per contract can be determined by entering "1" under the number of contracts or by simply mentally moving the decimal place one number to the left.

First we will focus on the put writing leg of the straddle using an at-themoney put for SPY. At the time the Excel® spreadsheet was prepared, the shares were trading at \$89.02. The portion of the straddle spreadsheet pertaining to the put side of the transaction follows.

PUTS										
х	x	x	x	x	x	x				
									NET	% MAX.
SEC.	OPTION	EXPIR.	# OF	SECURITY	STRIKE		MARGIN	# OF	PREM.	ANNUAL
SYMBOL	SYMBOL	DATE	CONT.	PRICE	PRICE	PREM.	REQ.	DAYS	INCOME	RETURN
SPY		19-Jun	10	\$89.02	\$89.00	\$3.10	\$29,786	25	\$3,100	151.95%

Spiders (SPY) – Uncovered Puts

For purposes of completing the Excel® spreadsheets, you should enter the approximate midpoint between the bid and ask prices for the option contract you are considering. The spreadsheet will automatically compute the highest margin requirement based on the three different methodologies of calculation. In this case, the three alternatives are computed as follows:

- Margin Calculation #1: \$16,453
- Margin Calculation #2: \$29,786
- Margin Calculation #3: \$10,000

The initial margin for the put side of the transaction would be \$29,786, the largest of the three numbers.

The put writing portion of the combination indicates income of \$3,100 for the one-month period and a maximum annualized return of 151.95% based on the initial margin requirement of \$29,786. The maximum annualized return assumes you would write the same option each month for the next year.

UNCOVERED CALL WRITING

Next we will turn to the call writing leg of the straddle using an at-themoney call for SPY. Again, the market price of the shares is \$89.02. The portion of the straddle spreadsheet pertaining to the call side of the transaction follows.

CALLS										
x	x	x	x	x	x	x				% MAX
SEC.	OPTION	EXPIR.	# OF	SECURITY	STRIKE		MARGIN	# OF	PREM.	ANNUAL
SYMBOL	SYMBOL	DATE	CONT.	PRICE	PRICE	PREM.	REQ.	DAYS	INCOME	RETURN
SPY		19-Jun	10	\$89.02	\$89.00	\$2.74	\$29,466	25	\$2,740	135.76%

Spiders (SPY) - Uncovered Calls

The spreadsheet will automatically compute the highest margin requirement for the call based on the three different methodologies of calculation. In this case, the three alternatives are computed as follows:

- Margin Calculation #1: \$16,093
- Margin Calculation #2: \$29,466
- Margin Calculation #3: \$10,000

The initial margin for the call side of the transaction would be \$29,466, the largest of the three numbers.

The call writing portion of the combination indicates income of \$2,740 for the one-month period and a maximum annualized return of 135.76% based on the initial margin requirement of \$29,466. The maximum annualized return assumes you would write the same option each month for the next year.

WRITING A SPY PUT AND CALL STRADDLE: HOW IT WORKS

4

You have seen a sample computation of the maximum return that could be derived from separate at-the-money puts and calls on the Spiders ETF. This is an absolute best-case scenario, as the price of SPY on expiration will be either higher or lower than the strike price when the option contracts were written (there have only been five times since 1950 that the S&P® 500 closing price was exactly the same for two successive expiration months). The greater the distance between the strike price and the market price on expiration, the less net profit you will have earned, and losses, sometimes large ones, will be certainly be experienced in some months when the variance between the strike price and the SPY market price exceeds your combined put and call premiums. The long-term potential return on investment, however, is significant as we have seen, even when considering all of the worst performing months of the market.

Now it's time to take a look at the results that can be achieved with a put and call writing straddle combination by completing the "straddles" template that you will use each month as you write new straddle combinations.

Let's begin by using the previous SPY put and call writes, looking at them together as our first writing straddle.

HOW MANY PUT AND CALL CONTRACTS?

This issue was touched upon in Chapter 2. One of the most important decisions you will make is the number of put and call option contracts you will write. The reason this is so important is that the easiest way a straddle writer can become overextended financially is by writing more contracts than can be supported by his financial wherewithal. The amount of cash or securities required by the broker to be on deposit is usually quite low in proportion to the market value of the underlying shares for the number of contracts written. Therefore, should the price of SPY rise or decline significantly, this leverage causes the margin requirement to increase. When examining put and call straddle writing opportunities, the initial margin requirement may seem very manageable. As previously stated, however, it may potentially change every trading day as the prices of the underlying security and the put and call option contracts change. An upward movement in SPY will increase the margin requirement for the calls, while a declining share price will increase the requirement for the puts. Should there be a major move either upward or downward in the price, the margin you are required to maintain could rise

significantly, as you will need to maintain the margin required for either the call *or* the put, whichever is highest. Should the margin requirement rise beyond the level supported by the assets in your account, a margin call will be issued. This will require your *immediate* attention, as you are normally allowed only a short period of time (a week or less) to either liquidate positions in your account or add additional cash or securities to support the higher margin requirement.

During the process of reviewing put and call straddle writing opportunities using the Excel® "straddles" template, you should calculate different upward and downward price scenarios in the underlying security and the corresponding estimated price movements in the put and call contracts (quickly using the Black-Scholes option pricing model as was demonstrated earlier). This will allow you to easily determine whether you have adequate margin in your account or if you may need to deposit additional assets into your account to support the number of contracts you are writing. If you would be at risk of a margin call under a significant price movement scenario that you think is a possibility, then you may wish to reduce the number of contracts you are planning to write to make it more manageable. The short Spiders straddle program works exactly the same for any number of option contracts, except that brokerage commissions would be proportionately greater for very small trades. The historical data supplied earlier in this book and on the accompanying Excel® file should give you a good feel for the amount of marginable assets required in your account. All of the tools you will need are provided.

As you work the program outlined in this book, you should accumulate profits from your straddle writing transactions that will build a cushion over time if you retain the profits in your brokerage account. In fact, as this cushion builds significantly, it can be used to write a larger number of straddle contracts, although the program described in this book assumes you continue to write the same number of straddles each month in which you use the program. If you increase the number of straddle contracts written over time as profits mount, the investment returns realized could substantially exceed those that are conservatively projected in this book.

USE OF THE "STRADDLES" TEMPLATE

What you see on the next page is how the "straddles" template will appear when you bring up the file in Excel®. Let's review how you would enter the data and the information that you would be given.

Note rows 6 and 17 with the small "x"s in columns B through G. This means you need to supply the information in the cells under those columns, both for the call writing transaction and the put writing transaction. For several columns (expiration date, number of contracts, security price and strike price), all you have to do is enter the data in the calls section and it will be duplicated in the

puts section. If there is no "x" in a column, the information in that column is automatically calculated for you.

	Α	В	С	D	E	F	G	н	I	J	к
1											
2				DATE:	24-May						
3											
4	CALLS										
5											
6		x	x	x	x	x	x				
7	070	OPTION				0704/5					% MAX.
8	SEC.	SYMBOL	EXPIR.			STRIKE	DDEM	MARGIN		PREM.	
9 10	STWDUL	STWBOL	DATE	CONT.	FRICE	FRICE	FREIM.	NEQ.	DATS		RETORN
11	SPY		19-Jun	10	\$89.02	\$89.00	\$2.74	\$29,466	25	\$2,740	135.76%
12					·	·		. ,			
13											
14		_									
15	PUTS										
16											
17		x	х	х	x	x	x				
18											% MAX.
19	SEC.	OPTION	EXPIR.	# OF	SECURITY	STRIKE		MARGIN	# OF	PREM.	ANNUAL
20	SYMBOL	SYMBOL	DATE	CONT.	PRICE	PRICE	PREM.	REQ.	DAYS	INCOME	RETURN
21											
22	SPY		19-Jun	10	\$89.02	\$89.00	\$3.10	\$29,786	25	\$3,100	151.95%
23										¢o	
24 25	ADDITION	AL FIRST CC	MIRACI MA	KGIN				;	>	ΦU	
26	TOTAL MA			ORT THIS S	TRADDLE TR	ANSACTIC)N		>	\$29,786	
27	COMBINE	D % ANNUAL	RETURN IF	BOTH OPT	IONS EXPIRE	AT STRIKE	E PRICE		·>	286.26%	
28	COMBINED TRANSACTION INCOME IF BOTH OPTIONS EXPIRE AT STRIKE PRICE> \$5,840										

Spiders (SPY) – Uncovered Put and Call Straddle

INFORMATION YOU NEED TO ENTER INTO THE SPREADSHEET

Option Symbol: Column B is the ticker symbol for the option you are considering. This is important to have available for use when you decide to make a trade. Full-service brokers can provide this information and all online brokerage accounts provide an "option chain" with their quotation systems whereby current information can be obtained on all available options, including those on SPY.

Expiration Date: Column C is the option expiration date for the following month. Remember to use the third Friday (the last day of trading before

expiration) as the day of the month. A list of expiration dates is provided in the "Expiration Dates" tab at the bottom of the "straddles" template that can be copied and pasted. (Note: When you look at an option chain for the SPY ETF, you will find a few option contracts that expire on the last day of the month rather than the third Friday, and also some weekly option contracts. While you are certainly free to experiment, it is best at this point to stick with the traditional options that expire on the third Friday. The contracts that expire at the end of the option month often trade with less volume, making them less liquid. Also, the historical data is based upon traditional monthly options.)

Number of Contracts: Column D is the number of put and call contracts you wish to write. An option contract always applies to one hundred shares, also called a "round lot." You cannot write an option contract for an "odd lot," which is less than one hundred shares. Therefore, the number of contracts you write must be in multiples of 100 shares. For example, 3 contracts represent 300 shares, 5 contracts 500 shares, and, in this example, the 10 contracts represent 1,000 shares. While contracts can be written for any multiple of 100 shares, the larger the number of contracts sold, the more cost efficiency there typically is in brokerage commissions on option trades. When writing put and call straddles, it is not required that the same number of contracts of both puts and calls be traded, however the most efficiency in the use of margin will be obtained when the same number of contracts are written for both puts and calls, as the highest margin requirement will be applied in any case. The strategy in this book always makes use of an equal number of put and call option contracts and the historical investment return calculations are based on that assumption.

Security Price: Enter the current share price for SPY in column E.

Strike Price: The strike price entered in column F should be the one that is closest to the current market price of SPY.

Premium: Column G is your final entry. Plug in the current quote for the option, which you will get from your broker. Take the bid and ask prices, add them together and divide by two to get the approximate midpoint and enter that figure.

CALCULATIONS AUTOMATICALLY MADE FOR YOU ON THE SPREADSHEET

The rest of the data on the spreadsheet are calculations that are made for you.

Margin Required: Cell J26 states the initial margin that you will be required to have in your account before you can execute this trade. You will recall that the spreadsheet separately calculates the margin requirement for the put and the call component based on the three different margin calculations, which you will find to the right of the spreadsheet data. It then enters the margin for the call in cell H11 and for the put in cell H22 (these will be close to the same number since with a straddle we are using the same strike price). The larger of these two calculations is then entered into cell J26. The total margin requirement for the combination is \$29,786.

Some brokers also establish an additional margin requirement for the *first uncovered writing position*, but not for additional ones as long as there is at least one uncovered put or call writing position open. This is often an extra \$1,000 per contract, up to a maximum of \$10,000, *in addition* to the highest of the other margin calculations. In our example, if either the put or the call was the first transaction in the account, \$10,000 should be entered in cell J24. Then the total margin requirement would be \$10,000 higher. You should check with your broker to see if you have to meet such an additional margin condition. If so, keep a mental note of it, as you will need to enter the amount on the spreadsheet at such times as it applies. The additional margin requirement will also affect the annual return.

Number of Days: Column I calculates the number of days from the date you are using the spreadsheet through the date of expiration you entered. So, for example, for the SPY option expiring June 19 there are 25 days remaining from the date the spreadsheet was prepared through the last trading day.

Premium Income: You will see the approximate total premium income you would receive into your brokerage account the day after your order is executed under column J. The commissions obviously vary from broker to broker. You can customize your template to accommodate the charges for your brokerage accounts by entering the appropriate information on the template to the right of the put calculation cells in "R1" and "R2."

Percent Annual Return: Column K calculates the maximum annualized yield from the net premiums based upon the initial margin requirement.

In our example of a SPY straddle expiring on June 19, the annualized yield is calculated as if you could continue to write the same options contracts at the same premium prices and with the same frequency—about a month to expiration—for an entire year, thereby realizing a maximum annualized return from premium income of 286.26% on your margin requirement, before commissions. Obviously it is rarely going to occur even close to that, because the price of SPY will change on a daily trading basis, and that means the price of the put and call options in the future will change as well. You will almost never realize the full amount of the combined put and call premiums as profit on the expiration date, as the SPY will close on the last day of trading before expiration either above or below the strike price of the option contracts you have written, thereby reducing your profit, or at times even causing a loss.

When you write the next SPY straddle, you will most likely be utilizing a different strike price, depending on the opening price of SPY shares on the Monday following expiration. But even though the annualized rate of return on subsequent writing opportunities, and your actual monthly gain (or even loss) will differ from the return shown on the initial calculation, this is the best information we have at a given point in time, which is why it is used. Obviously we cannot predict where prices will be in the future, so we must use the measurements we have now. And since your broker's margin requirement changes from day to day, the actual amount of cash or securities you need to have in your account at any given time to support that requirement may be more than the initial requirement.

ACTUAL RETURN AT EXPIRATION

The actual gain or loss you experience in any given month will obviously entirely depend on the price of SPY toward the end of the last trading day before option expiration. Here is a summary of what the monthly and annual gain/loss and return might be, based on the initial margin requirement at the time the straddle was written using ten put and call contracts:

SPY CLOSE	GAIN/	MO. %	ANN %	SPY CLOSE	GAIN/	MO.%	ANN %
CLUSE	L033	RETURN	KEIUKIN	CLU3E	L033	REIURIN	RETURN
\$89.00	\$5,800	19.47%	283.52%	\$90.00	\$4,840	16.25%	236.59%
\$88.00	\$4,800	16.11%	234.63%	\$91.00	\$3,840	12.89%	187.71%
\$87.00	\$3,800	12.76%	185.75%	\$92.00	\$2,840	9.53%	138.82%
\$86.00	\$2,800	9.40%	136.87%	\$93.00	\$1,840	6.18%	89.94%
\$85.00	\$1,800	6.04%	87.99%	\$94.00	\$840	2.82%	41.06%
\$84.00	\$800	2.69%	39.11%	\$95.00	-\$160	-0.54%	-7.82%
\$83.00	-\$200	-0.67%	-9.78%	\$96.00	-\$1,160	-3.89%	-56.70%
\$82.00	-\$1,200	-4.03%	-58.66%	\$97.00	-\$2,160	-7.25%	-105.59%
\$81.00	-\$2,200	-7.39%	-107.54%	\$98.00	-\$3,160	-10.61%	-154.47%
\$80.00	-\$3,200	-10.74%	-156.42%	\$99.00	-\$4,160	-13.97%	-203.35%

The historical data provided should be consulted regarding the statistical likelihood of experiencing these outcomes.

CHANGING MARGIN REQUIREMENT

As we have said, your broker will adjust the margin requirement at the end of each business day based upon the changes in market price for the underlying security and the option premium. Since you are writing both a put and call combination on SPY, when the price changes the margin requirement will increase for one of the two legs and will decrease for the other. The calculation that results in the greatest number then becomes the new margin requirement. For example, let's assume for purposes of illustration that ten days after you have written SPY contracts the market price of SPY increased from \$89.02 by 10% to \$97.92 and, correspondingly, the price of the call increased from \$2.74 to \$8.98 and the price of the put declined from \$3.10 to \$.05. The result is as follows.

Note that a 10% increase of \$8.90 in the price of SPY and a corresponding increase in the call option price from \$2.74 to \$8.98 results in an almost 60% increase in the margin requirement from \$29,786 to \$47,276. The margin requirement for the puts is reduced to \$20,506. Thus, the new margin is the greater of the two numbers, or \$47,276. The premium income and % annual return calculations are at this point meaningless, as we are only interested in the new margin requirement under this scenario.



It is always a good idea to have an additional cushion of cash or securities in your account to accommodate an increased margin requirement. A suggested cushion was outlined earlier for your consideration. Should it become insufficient, however, an immediate deposit of additional cash or securities would be required to avoid liquidation. This demonstrates the impact of a significant change in the price of the underlying security on the margin requirement.

WORST CASE SCENARIO?

Based on historical information, what would be the greatest percentage increase or decline in the history of the S&P® 500 and what would the margin requirement be under that scenario? The file called "Short Spider Straddles (Excel Data)" provides historical information about percentage changes in the S&P® 500 Index. Now bring up this spreadsheet on your computer and click on the tab at the bottom titled "Pricing (Monthly)," which includes closing price data of the S&P® 500 Index on every option expiration date since January 1950. You will note in cell D12 that in October of 2008 the index declined by 25.06% for that option expiration month. If you look down column D you will find that this was the largest monthly percentage decline or increase in the S&P® 500 Index since the data became available beginning in January 1950.

We will base our worst case scenario on that month by assuming that the current market price of SPY would decrease by 25.06% from 89.02 to 66.71. We will assume that this decrease has occurred over the period of the past month, so there is one day remaining to expiration. The volatility (VIX) and the risk free interest rate are assumed to remain the same as in the previous example. The calculation of the option premiums using the Black-Scholes model is as follows:



Using these put and call premiums, the spreadsheet under this scenario appears as follows. Under this worst case scenario based upon over a halfcentury of data, the highest amount of margin that could be needed for ten straddle contracts would be \$64,593, a bit more than double what the margin requirement was when the contracts were first written.

Two comments need to be made here. First, the projected investment returns that were discussed previously take into consideration all the large market fluctuations that have historically occurred between option expiration dates in a number of months, including this one. Second, over time the value of the investor's account should increase from the straddle trades, which will provide an additional cushion to satisfy such a large margin requirement. The principal risk would be if such a large decrease (or increase) in the share price of SPY would occur very early after beginning the program. In such case the investor would have to add additional cash or marginable securities to the account in order to satisfy the margin requirement. As we have seen, out of a total of 713 expiration months since January 1950 up to the time of the writing of this book, there has been an increase or decrease in the S&P® 500 of 10% or more only 20 times, or 2.81% of the total number of months. While it is always possible that something akin to this worst case scenario could occur, only once since January 1950 has the S&P® 500 increased or decreased by 25% or more in any month from expiration to expiration.

	Α	В	С	D	E	F	G	Н	1	J	K
1						_					
2				DATE:	18-Jun						
3						-					
4	CALLS										
5											
6		x	x	x	x	x	х				
7											% MAX.
8	SEC.	OPTION	EXPIR.	# OF	SECURITY	STRIKE		MARGIN	# OF	PREM.	ANNUAL
9	SYMBOL	SYMBOL	DATE	CONT.	PRICE	PRICE	PREM.	REQ.	DAYS	INCOME	RETURN
10											
11	SPY		19-Jun	10	\$66.71	\$89.00	\$0.00	\$10,007	1	\$0	0.00%
12											
13											
14											
15	PUTS										
16											
17		v	v	v	v	v	v				
10		^	^	^	^	^	^				94 MAY
10	SEC	OBTION	EVDID	# OF	SECUDITY	STDIKE			# OF	DDEM	
19	SEC.	OFTION	EAFIR.	# UF	SECORIT	STRIKE		WARGIN	# UF		ANNUAL
20	SYMBOL	SYMBOL	DATE	CONT.	PRICE	PRICE	PREM.	REQ.	DAYS	INCOME	RETURN
21											
22	SPY		19-Jun	10	\$66.71	\$89.00	\$22.29	\$64,593	1	\$22,290	12595.56%

CONCLUSION



Based on the data provided in this book, it is my belief that a program of writing at-the-money straddles on SPY...the Spiders ETF...(a combination of put and call options in equal number at the closest strike price to the current market price, both having the following month as the expiration date) can produce well above average investment returns. While this strategy is not without risk, I believe that the historical data demonstrates the risk is both acceptable and can be significantly mitigated by investors desiring to do so.

What could go wrong with the assumptions made in this book? There are several, and they are important to understand before proceeding to implement the strategy.

WHAT COULD GO WRONG?

The data presented makes the assumption that future price change in the S&P® 500 Index, and correspondingly the Spiders ETF, will mirror what has occurred historically for selected periods of time (1 year, 5 years, 10 years, 15 years, 20 years and 25 years). It is possible the market volatility could be greater or less than has been true historically. None of us have a crystal ball, so the historical data of almost six decades used here and our educated guesswork is all we have. A huge amount of data has been presented under a wide variety of trading conditions, with the VIX ranging from below 10 to above 80. Since volatility is a key factor in option premium prices, what the future holds for this strategy will largely depend on levels of volatility. We have seen that the higher the VIX (within the range of 20 to 30), the more profitable this strategy will likely be. If the VIX reverts to long-term historic norms at the 20 level, or below, this strategy will likely be less profitable, but should still exceed the level of returns available by most alternative measures. Fortunately there is nothing that locks an investor into this strategy. We have the opportunity to measure the VIX and our investment results using this straddle strategy on a monthly, even a daily basis. If the returns stop being attractive and other better alternatives present themselves, we can simply stop using this strategy and begin using other ones. In the meantime, by the measures used in this book, I believe the short Spiders straddle strategy has been demonstrated to be very attractive from the standpoint of long-term returns.

The greatest risk for an investor implementing the straddle program would be the occurrence of a very large advance or decline in the market soon after the strategy is implemented. This would not allow the investor time to accumulate an additional cushion of cash in the brokerage account, which would mean the possibility of margin calls and losses incurred from the beginning. The investor needs to assess the possibility of such an event occurring and what action, if any, he would take to limit risk and losses. If major market moves do not occur soon after implementing the strategy, additional cash will be built that will not only provide a cushion against the possibility of losses in future months, but will also assist in meeting the possibility of greater margin requirements should wide market fluctuations occur at any time in the future.

One very important point needs to be made regarding the cash from straddle profits that are projected to accumulate while using this straddle program. It is assumed in the spreadsheets that a constant number of SPY put and call straddle contracts will be written by the investor during the entire time the program is being used. This means that potentially a large amount of unutilized reserve cash will be accumulated. In order to increase long-term returns beyond the previously discussed projections, as cash builds up significantly the number of straddle contracts can be gradually increased to provide more premium income and potential profits. Out of conservatism, this compounding effect has not been factored into the investment return projections in this book or on the accompanying spreadsheets. If it were, the amount of additional profit could be very substantial (potentially a multiple of the numbers projected) with correspondingly much higher overall percentage investment returns.

The program outlined in this book is structured so that many more gains than losses should occur based on historical evidence, resulting in the opportunity for long-term double-digit annualized returns. No one need risk a dime to test the strategy, as all of the information and tools required to implement it and measure results for any length of time has been provided. Whether practicing on paper or committing real assets to the program, investors are encouraged to try this easy to implement strategy and witness the results for themselves.

PRIMARY PROGRAM

The following is a summary of the simple monthly steps prescribed by the short Spiders straddle program:

(1) Monday morning following the previous Friday's option expiration, obtain quotes on the SPY put and call options that will expire in the following month at the closest at-the-money strike price for both options and enter the data onto the Excel® template "straddles." Note the amount of premium income, maximum potential return and the required margin.

- (2) Place trades immediately for these at-the-money options (market orders unless spread between bid and ask is more than a few cents, then consider limit orders if desired).
- (3) Observe day-to-day movement in SPY and your options as you wish.
- (4) Toward the end of the trading day on the Friday when the options expire, buy back the in-the-money option contracts (market order unless spread between bid and ask is more than a few cents, then consider limit order if desired) so that all contracts either expire out-ofthe-money or are closed out.
- (5) Repeat the previous steps every month.

ALTERNATE PROGRAM

For investors who will be writing multiple contracts each month (e.g., 10 or more), you may wish to consider another approach to this program that could further smooth out the returns. If this idea appeals to you, give it a try.

Follow the previously indicated steps, however instead of writing all of your straddle contracts on the Monday following expiration, consider saving some of your powder until the second Monday following expiration. So, instead of writing, say, 10 straddles on the first Monday, write only 5 on the first Monday and write 5 more on the second Monday following expiration at the strike price that is *now* closest to the current market price of SPY (or for months that have five weeks before expiration, write half of the straddles on the first Monday and half on the third Monday). The effect of this would be to write half of your straddles based upon whatever the prevailing market price of SPY is on the second date rather than committing all of your straddles to one price on the first Monday following expiration. I have not calculated projected returns based on this approach, but logic tells me that it could further mitigate the risk of a significant move in the price of SPY soon after writing the straddles. It may also have the effect of somewhat reducing the overall put and call premiums you will receive in that some additional time has elapsed.

I will maintain an ongoing record of actual investment returns and provide details of the performance of the primary program on the Arrow Publications Web site (<u>www.arrowpublications.net</u>). On the home page click on the image of this book, then on "Investment Returns" and you will be able to access this performance data.

APPENDIX:

INTERESTING STATISTICS ABOUT THE S&P 500

Note: S&P 500 data goes back to January of 1950

Five Largest One Day Point Gains:

1. October 13, 2008	+104.13 points
2. October 28, 2008	+91.59 points
3. March 16, 2000	+66.33 points
4. January 3, 2001	+64.29 points
5. September 30, 2008	+59.94 points

Five Largest One Day Point Losses:

-106.85 points
-90.17 points
-83.95 points
-80.03 points
-75.02 points

Five Largest One Day Percentage Gains:

+11.58%
+10.79%
+9.10%
+7.08%
+6.92%

Five Largest One Day Percentage Losses:

1. October 19, 1987	-20.47%
2. October 15, 2008	-9.03%
3. December 1, 2008	-8.93%
4. September 29, 2008	-8.81%
5. October 26, 1987	-8.28%

Note: Yearly Data Since 1929

Five Best One Year Performances (in points):

1998	+258.80 points
1999	+240.02 points
2003	+232.10 points
1997	+229.69 points
2009	+211.85 points

Five Best One Year Performances (in %):

+45.02%
+38.06%
+34.11%
+31.55%
+31.01%

Five Worst One Year Performances (in points):

-565.11 points
-268.26 points
-172.20 points
-148.97 points
-28.99 points

Five Worst One Year Performances (in %):

2008	-38.49%
1974	-29.72%
2002	-23.37%
1973	-17.37%
1957	-14.31%

Five Best Single Month Performances (in points):

March 2000	+132.16 points
April 2001	+89.13 points
August 2000	+86.85 points
October 1998	+81.66 points
December 1999	+80.34 points

Five Best Single Month Performances (in %):

October 1974	+16.30%
January 1987	+13.18%
January 1975	+12.28%
January 1976	+11.83%
August 1982	+11.60%

Five Worst Single Month Performances (in points):

October 2008	-197.61 points
August 1998	-163.39 points
February 2001	-126.07 points
June 2008	-120.38 points
September 2008	-116.47 points

Five Worst Single Month Performances (in %):

October 1987	-21.76%
October 2008	-16.94%
August 1998	-14.58%
September 1974	-11.93%
November 1973	-11.39%

Five Best Single Week Performances (in points):

Week of May 30, 2000	+99.24 points
Week of November 24, 2008	+96.21 points
Week of October 27, 2008	+91.98 points
Week of April 17, 2000	+77.98 points
Week of June 28, 1999	+75.91 points

Five Best Single Week Performances (in %):

Week of October 7, 1974	+14.12%
Week of November 24, 2008	+12.03%
Week of March 9, 2009	+10.71%
Week of October 27, 2008	+10.49%
Week of August 16, 1982	+8.83%

Five Worst Single Week Performances (in points):

Week of October 6, 2008	-200.01 points
Week of April 10, 2000	-159.79 points
Week of September 10, 2001	-119.98 points
Week of September 29, 2008 -	114.04 points
Week of October 11, 1999	-88.61 points

Five Worst Single Week Performances (in %):

Week of October 6, 2008	-18.20%
Week of October 19, 1987	-12.20%
Week of September 10, 2001	-11.05%
Week of April 10, 2000	-10.54%
Week of September 29, 2008	-9.40%

Average Monthly Performance Since 1971:

1%
-0.3%
1.09%
1.51%
0.41%
0.03%
0.9%
0.13%
-0.62%
0.56%
1.59%
1.65%

Highest Volume Day Ever:

October 10, 2008	11,456,230,400 shares traded
	,,,

Lowest Volume Day Ever:

December 24, 1951

680,000 shares traded

Largest One-Day Swing (in points):

April 4, 2000

110.04 points (from high to low of day)

S&P 500 Landmarks:

The S&P 500 first hit 250 points on June 25, 1986 The S&P 500 first hit 500 points on March 24, 1995 The S&P 500 first hit 750 points on November 25, 1996 The S&P 500 first hit 1,000 points on February 2, 1998 The S&P 500 first hit 1,250 points on January 6, 1999 The S&P 500 first hit 1,500 points on March 2, 2000 The S&P 500 first hit 1,750 points on October 23, 2013 The S&P 500 first hit 2,000 points on August 26, 2014

BOOKS BY PAUL D. KADAVY

AVAILABLE ON THE FOLLOWING WEBSITES: ARROW PUBLICATIONS (www.arrowpublications.net); AMAZON.COM (www.amazon.com):

Covered Call Writing Demystified: Double-Digit Returns on Stocks in a Slower Growth Market for the Conservative Investor

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Covered Call Writing with Qs and Diamonds: Double-Digit Returns on Ready-Made Portfolios

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ABOUT THE AUTHOR

As a thirty-year career banker and trust officer for Norwest Corporation, now Wells Fargo & Co., one of the nation's largest financial institutions, Paul D. Kadavy was president of numerous banks in three states. He also headed a multi-billion dollar trust department, managed a team of investment professionals, and was a trusted advisor to many of the banks' individual clients. He also subsequently served as president and chief executive officer for another banking enterprise in Las Vegas, Nevada. Now retired from banking, he is a writer, teacher and public speaker.



Kadavy has served as a faculty member of the National Graduate Trust School at Northwestern University, The Schools of Banking, Inc., the American Institute of Banking and numerous community colleges in several states. He was a lecturer on trust, investment and banking subjects to FDIC and Federal Reserve Bank examiners in Washington, D.C. He has been a public speaker for the past twenty-five years.

In addition to authoring *Short Spider Straddles*, Kadavy has also written financial and other books including *Covered Call Writing Demystified*, *Covered Call Writing with Exchange Traded Funds* (ETFs), *Covered Call Writing with Qs and Diamonds*, *Put Option Writing Demystified*, *Writing Uncovered Put and Call Combinations*, *Put and Call Option Writing for the Investment Advisor and Financial Planner*, *Finding Financial Freedom* and *The Book of World-Class Quotations*: *The Best of the Best Quotations on Earth*. His books are available on the Internet through Arrow Publications (www.arrowpublications.net) and Amazon.com.

He is the author of banking, trust and investment articles for such national publications as *Financial Review*, *Trusts & Estates*, *Pension World*, *The Collector/Investor*, *Cases & Comment* and *American Bankers Association Trust Management*.



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