Is It Better to Go Naked on the Street--A Primer on the Options Market

Henry F. Johnson
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I. Introduction

Until recently, trading of puts and calls, more commonly termed options, were primarily limited to wealthy individuals or to professional traders. One reason for the failure of the general public to make greater use of stock options was the mistaken belief that such options were extremely complicated investment instruments. Many investors felt that there was no real opportunity in puts and calls unless they had large amounts of investment capital, or had access to professional expertise. Even the Securities and Exchange Commission (SEC) seemed to agree. In an early study, the SEC found that writers of puts and calls were generally individuals or institutions who held large stock portfolios. Regardless of public opinion, however, and armed with a proper understanding of the fundamentals, the individual investor may find that options allow him to enjoy a clear advantage over other investors. In many specialized investment situations, a proper understanding of options may provide the investor with a choice of ways in which to invest.

II. The Fundamentals of Options Trading

Basically, an option is a right. The option seller grants a right to do

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1 At the outset, it must be made clear that "options" in this context mean puts, calls, and combinations of these instruments. Commodity "futures," while resembling options in several respects, are beyond our scope of discussion.

2 J. CUNNION, HOW TO GET MAXIMUM LEVERAGE FROM PUTS AND CALLS 2 (1966).

3 Id. at 13.

4 SEC REPORT ON PUT AND CALL OPTIONS (1961) [hereinafter cited as SEC REPORT].

something, and the option buyer pays money to the seller to receive that right. The money that changes hands is called the option premium. If the buyer pays his premium so that he can take something from the seller, the option is termed a "call." If the buyer's right is to give something to the seller, the option is called a "put." Additionally, since only a specific amount of money is paid for the option, the option normally exists only over a limited period of time. If the buyer chooses not to exercise his right within that time, the option will merely expire, and the seller will pocket the premium.  

Originally, options markets were entirely private transactions. The option writer was usually a man of sophisticated knowledge, who was financially well-settled, and who wished to increase the yield from his portfolio. If the option was a call and the stock rose in value, the writer could have the stock "called" from him at any time during the life of the option. In return, the writer would be paid the agreed-upon "strike price" plus the option premium. If the writer already owned the underlying security, he was writing "covered" options. The buyer of the call secures his profit by calling the stock away from the writer and reselling the shares at the higher market price. If the stock price declined below the strike price, the call buyer would simply not exercise his call option because there would be no profit involved in doing so, as the stock could be purchased at a lower price on the open market. The writer then kept his stock, now worth less than before, but had the added premium income to cushion the decline in the stock.  

If the call writer did not own the underlying security, he might still write what was termed a "naked" call. In this situation, the writer assumed that the stock in question would not advance in price, and thus he could simply take the premium paid as pure profit. However, if the stock involved did advance in price, the naked call writer was often forced to deliver shares at a highly appreciated price, thus raising the necessity of "covering" at a substantial loss.

The operation of a put option was essentially the reverse of the call option. The put writer would insure his position by selling short the stock on which he had granted the put. If the stock declined, the writer was obligated to accept the shares "put" to him at the higher strike price, but his profit from the short sale would offset his loss on the put contract. If the stock rose, however, this approach would not result in an enviable position for the put writer. The buyer, of course, would not exercise the put, for the security continued to bring higher prices, and the put writer therefore pocketed the option price. But if the writer had established a short position, he would be faced with the fact that the market

6 J. Miller, Options Trading 2 (1975).  
7 The "strike price," also termed the "exercise price," is the price per unit at which the holder of the option may purchase or sell the underlying security upon exercise. For example, if an investor buys an XYZ 50 April call, the strike price is $50 per share, and the option will expire in April.  
8 J. Miller, supra note 6, at 11-12. See also Prospectus of the Options Clearing Corporation 17, 19 (Oct. 31, 1977) [hereinafter cited as Prospectus]; Chicago Board Options Exchange, Option Writing Strategies (1975).  
9 For a discussion of writing "naked" options, see N.Y. Times, Apr. 16, 1978, § F, at 2, col. 3. The author infers that in bear markets, writing naked calls can result in fairly substantial gains, while at the same time he cautions potential writers against the extreme risks involved. See also Prospectus, supra note 8, at 20; Gross, The Negative Option Writer, COM. & FINANCIAL CHRONICLE, Oct. 12, 1972, at 8.  
10 J. Miller, supra note 6, at 12. See also S. Gaylord, Sensible Speculating with Put and Call Options 153-56 (1976).
would eventually force him to cover at what could turn out to be exceedingly higher prices.\footnote{11}{See \textit{S. Gaylord}, \textit{supra} note 10, at 159-63; \textit{J. Miller}, \textit{supra} note 6, at 12; \textit{Prospectus}, \textit{supra} note 8, at 21.}

Perhaps the conservative method of writing puts would be to write naked puts on stocks the writer himself would not mind owning for his own portfolio. The cost of buying, even at a higher market price, is usually less of a risk than the necessity of covering a runaway short position. Strategy would dictate that the naked put writer would sell the underlying shares short if the price starts down. Conversely, the covered put writer would place a "stop order" to buy in his short position if the stock begins to rise.\footnote{12}{There are potential problems involved in this method, however. In today's market there are possibilities for wide and instantaneous price swings in the underlying security, thus negating the "insurance" of selling short and placing stop orders. Even though the CBOE has established strict criteria for the listing of an option by requiring the underlying stock to be a reasonably well-known stable corporation (see text accompanying note 37 infra), in this day of tender offers and mergers the risk factors cannot be dismissed lightly.}

There are a number of possible uses of options by both writers and buyers. Each use involves varying degrees of risk, and not every use is suitable for every investor. Buyers of options generally hope for a favorable change in the market price of the underlying security,\footnote{13}{As an example, if an investor purchases an XYZ Oct. 50 option when the market price of the stock is $50, he is paying for the unexpired time of the option plus the possibility that XYZ's stock will rise in value during that period. If the stock does rise in value before expiration, then the option is clearly worth more than the original premium paid. If the original premium was, say, $300, then the option purchaser will theoretically have a profit when the stock rises above 53 a share, since each option covers 100 shares of the underlying stock. In point of actual practice, however, the option will continue to be worth $300 plus appreciation, but will be reduced in part if the unexpired term has diminished, all other things being equal. Thus it can be seen that both time and price volatility affect option values. For a more complete discussion, see \textit{Chicago Board Options Exchange}, \textit{supra} note 5, at 7-10.} while option writers may profit if the underlying security does not change or declines in price. Put buyers profit if an underlying stock declines,\footnote{14}{Essentially, the effect of the put option is the reverse of the call. If the purchase of an XYZ 50 put option is followed by a decline in price to 40, the option should thus command a premium of about $10 per share. Had the market price of XYZ been above the exercise price of 50, the option of expiration would have been worthless.} while put writers hope for a stabilization or an actual rise in the price of the underlying security.

\section*{III. The Over-the-Counter Options Market and the Basics of the Business}

As interest in options grew, an over-the-counter market (OTC) was formed. A single option usually covered 100 shares, and the time of the option before expiration became standardized into 30-day, 60-day, 90-day, 180 + 10-day, and one-year intervals.\footnote{15}{Needless to say, the time intervals were shorter for specialized purposes, or longer in order to relate to the IRS holding periods for long-term gain. This, however, is now academic due to the changes in tax law recently enacted. See text accompanying notes 59-62 infra.} The expiration date was set at one of these intervals when the contract was formed.

At about the same time, sale of OTC options was taken over by a trade group known as the Put and Call Dealer's Association.\footnote{16}{H. Clasino, \textit{Dow Jones-Irwin Guide to Put and Call Options} 201-02 (1975).} This self-regulated group dealt almost exclusively in options. Each firm acted as a broker to bring
buyers and sellers together, and income for the dealer resulted from commis-
sions and from any profits derived from an option "inventory" the dealers
maintained in particularly active stocks.

Each option from the Association was guaranteed by a member firm of the
New York Stock Exchange (NYSE). This was deemed necessary because the
writer was promising to perform an obligation (that is, to buy or to sell 100
shares of stock) at any time during the life of the contract. The member firm
guaranteed that its customer would perform regardless of profitability.
Without this guarantee, the business would deteriorate to the level of a "bucket
shop," and because of the guarantee, brokerage houses usually required high
levels of customer capital to be available before the customer was allowed to
write options.17

Generally, the "strike price" is the price of the underlying stock on the
day the contract is entered into. A call where the strike price is below the
underlying stock price, or a put where the strike price is above the stock price,
is called an "in the money" option. A call where the strike price is above the
current stock price, or a put where the strike price is below the stock price, is an
"out of the money" option. If the contract is a "straddle" (one put and one
call on the same stock), the strike price will be the same for each side of the dou-
ble option.18

Since options are sold on 100-share lots, the prices of the options are
quoted in points per share. Thus, a 30-day call option on XYZ stock at 100
might be offered at 10½, which means the call would cost the buyer $1,050 for
the entire 100-share option, or $10.50 per share (excluding commissions). Put
options are quoted in the same manner.

An OTC option confers virtually all the benefits of stock ownership on the
holder of the option. If the stock were to be split, the option would be modified
appropriately. If a dividend were paid on optioned stock, the strike price would
be reduced by the amount of the dividend.19 For the holder of a call, the effect
was to give the dividend to the option holder, but only in the event that the
holder exercised the option.

IV. The Chicago Board Options Exchange

While trading in options was becoming a booming business, the primary
problem with the OTC option market was the lack of any potential resale. The
holder of a profitable option had only two alternatives: either exercise the op-
tion or lock in the profit by trading against the option.20 However, additional
cash was required to finance either of these operations, and double commission
costs had to be paid. Conversely, an unprofitable option could almost never be

17 Id. See also R.R. NATHAN ASSOCIATES, INC., PUBLIC POLICY ASPECTS OF A FUTURES TYPE MARKET IN
OPTIONS AND SECURITIES, Section on Endorsements and Margin Requirements (1969) [hereinafter cited as
1969 NATHAN STUDY].
18 The use of straddles and other devices is discussed in the text accompanying notes 42-50 infra.
19 J. MILLER, supra note 6, at 16-17. See also SEC REPORT, supra note 4, at 11.
20 Note that exercise of a profitable call option was known in the brokerage trade as a "riskless" transaction. This was because the simultaneous exercise of the option and sale of the underlying stock resulted in an immediate generation of both commissions and cash, with no risk on either part of the transaction resulting in a default.
resold to another buyer, even if the time period remaining before expiration was great.\textsuperscript{21}

To alleviate this problem, on April 26, 1973, the Chicago Board Options Exchange (CBOE) began trading in call options. The CBOE, sponsored by the Chicago Board of Trade, totally revolutionized the option business. During its first year, the CBOE traded over two million call options, with steadily increasing volume.\textsuperscript{22} In direct contrast, new options issued by the members of the Put and Call Brokers Association dwindled during the same period to fewer than two thousand contracts per week.\textsuperscript{23} Additionally, with the success of the listed option market, the number of underlying stocks on which options are traded also increased rapidly, and today there are several hundred issues listed on five different options exchanges.\textsuperscript{24}

The CBOE introduced several important innovations. First, the expiration dates and exercise prices of exchange traded options were standardized. Trading is generally opened in options having four fixed expiration dates: January, April, July, and October.\textsuperscript{25} In addition, trading of options of a particular expiration month usually begins nine months prior, so that on any given date, options with three different expiration dates are available. When a new expiration month is added, the exercise price is usually fixed at a dollar figure most closely approximating the market price of the underlying stock. While the option is actively traded, the only remaining variable is the premium, and it is determined by an auction market process.\textsuperscript{26} The premium for an option is a function of the estimated profit potential over the life of the option, taking risk into consideration. The more the option is in the money, the greater is its intrinsic value. Similarly, the more valuable the option is, the greater is its cost. Of course, the longer an option has to run, the greater the possibility of profit, and therefore, the premium paid usually increases with longer exercise periods.\textsuperscript{27}

Another crucial innovation of the CBOE is that of severing the contractual relationship between the individual buyer and the individual seller. The Option Clearing Corporation (OCC)\textsuperscript{28} is now the primary obligor on every option contract. When an option is exercised, the OCC assigns an exercise notice to the writer's clearing member, selected at random, and the latter is obligated to deliver the underlying stock against payment of the exercise price. These innovations permit a continuous secondary market in which option holders may sell their options before expiration at current market prices, and in which op-

\begin{itemize}
\item \textsuperscript{21} See 1969 Nathan Study, supra note 17, Section on Absence of a Resale Market; see also J. Miller, supra note 6, at 53.
\item \textsuperscript{22} P. Sarnoff, The CBOE: The First Year, Herzog & Co. Release (April 26, 1974).
\item \textsuperscript{23} Id. Note that as of this writing, the OTC Options Market has ceased operations entirely.
\item \textsuperscript{24} Besides the CBOE, put and call options are also traded on the American Stock Exchange (AMEX), the Philadelphia Stock Exchange, the Pacific Stock Exchange, and the Midwest Stock Exchange.
\item \textsuperscript{25} As per the most recent OCC Prospectus, other expiration month cycles are now also available. See Prospectus, supra note 8, at 6-7.
\item \textsuperscript{26} Prospectus, supra note 8, at 14-15.
\item \textsuperscript{27} See J. Miller, supra note 6, at 53-58. See also The Merrill Lynch Guide to Buying Puts and Calls 14 (1973).
\item \textsuperscript{28} Organized in 1972 under Delaware Law, the OCC was a wholly owned subsidiary of the CBOE until Jan. 3, 1975, when the AMEX purchased a 50% interest.
\end{itemize}
tion buyers and writers may "close out" or "buy back" their obligations. For example, a buyer of an option on an XYZ July 50 call who paid 6 might find that several weeks later the underlying stock has risen and XYZ July 50 calls are selling at 9. Presented with this situation, the holder could realize the $300 gain in the call price in a closing sale transaction. The holder of a put option might similarly realize, in a closing sale transaction, any gain in the put price resulting from a decline in the market price of the underlying security. Accordingly, writers may similarly terminate their delivery obligations by entering into such a closing sale transaction. In writing situations, the writer buys an option on the same security as the option he previously wrote, and the buy position has the effect of cancelling the writer's prior obligation. The ready liquidity resulting from the OCC is the primary reason for the popularity of the CBOE.

Liquidity is perhaps the prime objective of the CBOE. To guarantee this liquidity, the CBOE system employs a board broker who handles customer orders, and who is, in some ways, similar to the specialist on the floor of the NYSE. The board broker buys and sells only for his customer's accounts, and cannot deal for himself at all. While there are also "market makers" on the CBOE floor, the board broker's trade price takes priority. Thus, within the CBOE, there will always be an "aftermarket" in which option buyers and writers can deal in order to realize profits on appreciated options. Of course, option holders can also allow their options to expire unexercised, or they can elect to take delivery of the underlying stock, as was the normal course of events in the now defunct OTC market.

There are several other features of the CBOE worthy of mention. The concept of "certificateless trading" has been initiated, in order to eliminate the need for issuance of option certificates. The only evidence of the option transaction is the broker's confirmation, although customers may obtain documentary evidence of option ownership for a small charge. Additionally, on the CBOE market the buyer takes delivery of stock free from any dividends declared during the life of the option, but only in the event that the option is exercised. And, the OCC rules permit CBOE options to be traded only on widely held stocks which meet strict listing, reporting, and disclosure requirements, insuring that the corporate issuer of the underlying security has a reasonably stable business history. The combination of liquidity, fungibility,
and the secondary market, along with significant changes from the OTC concepts, contributed to the growth and success of options trading on the CBOE.  

V. Option Trading—Basic Investment Strategy

Within the last few years, the CBOE has elevated investment in common stocks to a new level of sophistication. For the uninitiated, experimentation with exchange traded options involves peculiar and substantial risks, but for the imaginative and well-informed investor, options are a potentially safe, profitable form of investment where risk can be tailored to financial situations and personal investment objectives.

Most option buyers purchase options in the hope of increasing their leverage when they anticipate a significant move in the underlying stock, or when they wish to limit their risk on an investment. Option writers expect to generate additional income from their investment portfolios, although giving up certain rights in return for this additional income. Thus, the writer of a covered call gives up the right to participate in any appreciation of the underlying stock beyond a price equal to the striking price of the option plus the call premium.

The cost of a call is significantly lower than the cost of buying the underlying security. Therefore, a given amount of funds may purchase calls covering larger quantities of the security than a buyer could purchase directly. Compare two investors, one who purchases a call and one who purchases the underlying stock. The call buyer invests $500 for a call on 100 shares of XYZ at 50 per share. The stock buyer invests $5,000 for 100 shares of stock. Both investors, of course, expect a rise in the value of the stock to occur. If the stock rises to 60, the call buyer can exercise or resell his call for $1,000, a gain of $500 on his investment. The buyer of the stock can resell for $6,000, a gain of $1,000. The call buyer has realized a 100% gain on his investment, but the stock buyer has only a 20% gain. Hence, a call generates significantly greater leverage. Should the stock decline, however, leverage works in the other direction. The stock buyer will suffer a $1,000 loss on his investment if the stock slides to 40, but the call buyer has lost his entire investment. However, the $500 lost by the call buyer is still less in dollars than the loss suffered by the stock buyer, and it may be that this limitation on loss (that is, the maximum loss on calls is limited to the cost of the call) is all that the call buyer expected in the first place. Note,

the exchanges are currently proposing that OTC securities be approved as underlying securities for option trading, subject to SEC and OCC approval.

38 See The New Thrust in Call Options, Bus. Week, Aug. 11, 1973, at 90. Also note that the foregoing discussion is by no means an exhaustive explanation of options or the OCC. For a more complete understanding, see Prospectus, supra note 8; Chicago Board Options Exchange, Constitution and Rules (1974).

39 See Note, supra note 29. The general idea that option trading is "practically safe," however, is well rebutted in several texts and articles, as well as the CBOE Prospectus itself.


41 Note that there are ways to hedge this situation as discussed in the text accompanying notes 43-50 infra. Also note that in this and all ensuing examples transaction costs (commissions) are not considered. The examples given, and many other situations and strategies, may be explained further in many of the books and articles already cited in this article, and in numerous other pamphlets and publications.
however, that the call buyer has to predict not only that the price of the underlying security will rise, but that it will rise within the time span of the option. The stock buyer, on the other hand, has only a paper loss which is unrealized unless he sells the stock.

The common use of a put option purchase is to cover an anticipated decline in the price of the underlying security. If the put buyer has stock originally acquired at 25 per share but is now worth 50 per share as the result of a sharply rising market, the stockholder may decide to protect his gain by purchasing a put option on XYZ at 50. In such a case, he has guaranteed a price of 50 for his shares over the life of the put. Of course, this gain on exercise will be reduced by the premium paid for the put.

If the put buyer does not own the underlying security, but believes the market will decline, he may nonetheless participate in such a market decline by purchasing puts. The advantage to the put buyer who is essentially a short seller in this situation, is that he is not subject to margin calls, as is the short seller. However, the put buyer will lose his entire investment if the market price does not decline as expected.

Both the writer of a call and the writer of a put hope to realize premium income. The writer of a covered call (that is, a situation where the writer owns the underlying security) gives up any opportunity for profit from a price increase in return for the premium paid. He has, however, retained the risk of loss should the price of the security decline, but his loss is lessened by the amount of premium income received. An uncovered call writer also reaps premium income, but he hopes to do so without the necessity of committing additional capital. Should the price of the underlying security rise, however, the writer of "naked" calls stands to incur substantial losses until he "covers," either by purchasing the security in the market or by purchasing a call in a closing sale transaction.

The put writer is in a similar position. Usually the writer will sell the underlying security short and write his put on that same security. Although the investor may incur a loss on his put writing position if the price of the underlying security falls, his loss may be offset by the profit realized in the related short position. If the investor writes an XYZ 50 put and receives a premium of $500, he may also sell XYZ short and realize $5,000 from the short sale. If XYZ falls to 40, the investor may have to purchase XYZ at 50 pursuant to an exercise of his put, or he may close out his put position by entering into a closing transaction. In either event, his loss of $1,000 would be offset by premium income of $500, for a net loss on the put position of $500, but he makes a $1,000 gain on his short position, giving him a net gain of $500 on the "covered" transaction. Note, however, that a short position presents extreme risk, for if the underlying security rises, the loss on the short position may be astronomical, and will only be offset by the amount of premium income received. Accordingly, put writing is a more complex transaction and should not be entered into except by knowledgeable investors.

VI. Option Trading—Sophisticated Strategies

The ordinary investor who might consider option trading will often have
difficulty understanding arbitrage or hedging. The concept of arbitrage is to seek profit through price disparities that exist simultaneously between the same or related securities in the same or different markets. Hedging is simply the effect of counterbalancing a sale or purchase of one security by making a purchase or sale of another. The basic hedge, that of buying a stock and writing a call against that stock, has already been considered. Some more sophisticated investing techniques will be considered in this section.

Perhaps the simplest advanced strategy available to the option writer is that of "variable hedging." In a variable hedge, the investor writes several calls on the same security, thus giving him additional premium income in order to provide additional downside protection. The investor usually begins by writing one covered call and, if the price of the security declines, writes an additional naked call. If the call writer buys 100 shares of the stock and sells calls on 200 shares, the result is that the owner-writer is protected from loss in relationship to the amount of premiums received. For example, if the investor owns 100 shares of XYZ and sells two calls with a 50 exercise price and a $5 premium, the premium income is equal to $10 for each share owned. Thus, the price must decline to below 40 before the investor will incur a loss. Should the price of the stock increase, for instance to 60 a share, the investor will deliver his 100 covered shares, and will deliver another 100 shares bought on the market, incurring a $10 per share loss. Thus, he breaks even on the entire transaction. If there is an increase of less than $10 in the stock price, he has a net profit. Note that with the CBOE, the investor may not have to deliver, but may "buy in" his earlier option as the stock price rises, thus insuring a profit.

A variation on the variable hedge is the "step-up" or "step-down" option. If the investor owns 100 shares, he may write an XYZ 50 call option, earning a $5 premium. If the stock declines to 45, the investor "buys in" the option, at a lower price since the stock has declined, and thus has a small profit on the transaction. He then writes a new option with a 45 exercise price, again receiving a premium of $5. If the profit on the first option was $2, with the new $5 premium the investor has $7 worth of downside protection. If the stock continues to decline, the "step-down" may be repeated again, thus earning additional premium income. In addition, since there is no uncovered option at any time, the risks of writing naked are eliminated. The "step-up" hedge is accomplished in a similar manner, with the result that premium income will again always exceed "buy in" costs. While in both cases the change in price in the underlying security will result in a loss, the premium income will, if the hedge is properly executed, exceed the loss. And, if the stock is one the investor wishes to hold, there is only a paper loss that is unrealized.

One of the oldest forms of hedging is the "straddle," which consists of selling a call and a put at the same time, on the same stock, for the same strike price. As with other options, the straddle can be either covered or naked. If an investor writes a naked straddle on a stock that sells for 100, he can receive, for

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42 For a further explanation of this and other investment terms, see the pamphlets issued by the CBOE, supra notes 5, 8.

43 Again, note that the sophisticated strategies discussed herein are discussed in numerous books and pamphlets. The interested investor is invited to sample such strategies by referring to the previously cited materials.
example, a call premium of 10 and a put premium of 5. If at expiration the stock is 110 or higher, the writer loses on the call, but has additional $5 premium on the put, which means the straddle writer can make a profit unless the stock goes to 115 or higher. On the down side, if the stock falls below 100 the put will be exercised, but the price would have to decline below 95 before loss on the put would exist due to the $5 premium. However, since the writer also sold a call at $10 which will not be exercised, the stock must fall to below 85 before the investor will incur a net loss.

While straddle writing thus increases the range of prices between which the writer will make a profit, should the price rise or fall beyond the $15 in either direction the writer is liable for loss. However, with the CBOE aftermarket, the investor can "buy in" in the side of the option likely to incur the loss, and thus again insure a potential gain.

If the investor writes a covered straddle, he protects himself against price increases. He will then make a profit on the upside no matter how high the price may rise on the underlying stock, the gain being the premium received. On the down side, however, he loses for each point the stock falls below 100, and in addition loses on the put. 44 Hence, he loses two points for each point the stock drops. Since our covered writer realized a total of $15 in premiums, he is only covered on the downside to 92 ½ due to the double risk on the loss side. Again, however, the sophisticated option trader would attempt to insure his position by covering his losing option in a closing sale transaction.

A variation on the straddle is the "spread." This device involves the sale of a call and a put on the same stock but with different strike prices. On a naked spread, with a stock selling at 100, an investor might sell a put with a strike price of 90 and a call with a strike price of 110. Although the premium income would be less than those received on a straddle, the spread writer makes his full profit if the stock finishes anywhere between the strike prices. If the spread writer receives, for example, a total of $7 in premiums, he makes a profit if the stock finishes between 83 and 117, although the profit is less than the full amount of the premium. To clarify this, neither the put nor the call would be exercised if the stock finished between 90 and 110, giving the writer the entire premium as profit; however, if the stock declined to 85, the writer would have to cover the put at 90 for a loss of $5, but would offset the loss with the premium income of $7, for a total $2 per share gain.

The covered spread writer, who owns 100 shares of the stock, protects himself from any price rise. As his call strike price is 110, he will keep his premiums and his stock if the stock finishes between 100 and 110. If the stock finishes above 110, the investor's profit will be fixed at $17, the total of a 10-point rise in the owned stock (which was at 110 when the spread was written), plus the entire $7 in premiums. If the stock declines, however, the spread writer loses $1 a point down to 90, but when the put becomes exercisable the writer will lose 2 points for every point the stock declines. 45

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44 Assuming our investor bought XYZ at 100, every point below 100 results in a loss on the stock position in addition to the loss on the put. Thus the maximum profit is limited to the premiums paid, but the potential loss is much greater.

45 There are numerous variations on spreads. See S. GAYLORD, supra note 10, at 130-48; Snyder, CBOE Spreading Strategies (1974).
Perhaps a final example of the sophisticated hedge might well be a combination strategy involving convertible securities and options. The convertible security is a hybrid security that displays both debt and equity characteristics. The holder of the convertible may exchange his bond for a fixed number of shares at any time or, alternatively, he may hold the bond, collect the semiannual interest, and recover his principal at maturity. Thus the bond, in effect, constitutes a call on the underlying stock, while at the same time the investor has the option to sell the underlying stock (equivalent to a put) for the market value of the bond during the life of the bond, or at face value at maturity. The bond will act as a stock in the event the underlying stock rises, while it will be protected from severe decline by the amount of its interest payment.

With these elements in mind, it is apparent that such bonds may be used in connection with option strategies. One potential strategy would be to buy such bonds and also to buy puts. If the common declines, the put becomes valuable and may be sold for gain. The loss on the convertible would be limited by its interest payment (that is, the bond will decline to a point equivalent to its so-called investment value, which is approximately equal to the value of nonconvertible bonds with similar maturities and interest rates). This loss will often be less than the gain on the put. On the other hand, should the stock increase in value, there will be a loss on the put, but the gain on the bond may more than offset the loss of the put premium.

Another convertible strategy is to sell the convertible short and buy calls. If the price increases, the call becomes valuable; if the common price falls, the short position becomes valuable. This, clearly, is effectively the reverse of the earlier situation.

Perhaps the best convertible strategy is to write calls against convertible bonds. By substituting the convertible for the common stock, there is still a fully covered position, and a conservative hedge is established. Income is generated not only by premium income in this instance, however, but also by the interest paid on the bond. Thus, the total income return is already greater than if the call were covered by common stock. If the stock price remains unchanged, the call will expire and a new call can be written. If the price goes up, the loss on the common is offset by the gain in the convertible. If the price goes down, the call will expire unexercised. If the stock rises and the call will be exercised, the convertible writer has several alternatives. He may convert and deliver the underlying stock; he may sell short against the convertible to obtain the shares; he may sell the bond and buy the common in the market; or he may simply buy the stock and deliver, and at the same time write a new call to offset his delivery costs. In any event, he will be fully covered and should not incur any loss unless he is careless in his execution.

46 For purposes of this section, we will deal with convertible bonds, and omit discussion of convertible preferred stock. The basic differences between the two are immaterial for purposes of this discussion, except that the convertible stock has no maturity date.

47 In the event of decline, the convertible bond will, in theory, act much like a "straight" bond, and will act in the market as a function of its interest and maturity dates. Two bonds with similar interest rates and maturity dates will trade at similar prices, all other things being equal. If the interest rate is sufficiently high, the bond will theoretically be limited in its decline.

48 To implement these bond strategies, bonds should be purchased at or below par.

49 In this instance, the bond should be bought while selling at a premium.
These so-called sophisticated strategies are not a complete catalog of possibilities. An intelligent investor can probably think of numerous others. Those investors considering option trading should seek knowledgeable assistance and analyze potential benefits and possible risks before proceeding.

VII. The Taxation of Options

Clearly, options on securities may be utilized as a conservatively oriented investment tool in some investment strategies, with the overall result of improving the income yield from portfolios while providing some protection from volatile market swings. As in any investment, however, there are tax consequences to be considered, and in this section we will look at some (but not all) such consequences.

Prior to the advent of exchange traded options, the mere receipt of a premium by the seller (writer) of either a put or a call did not result in recognition of income. Such recognition was deferred until the option expired, terminated, or was exercised. When the option expired unexercised, the amount of the premium received by the seller constituted ordinary income, and was includable in gross income for the year in which the option expired. The sale by an option investor (buyer) of either a put or call option resulted in short-term or long-term capital gain or loss treatment, depending on the holding period of the option. Additionally, if the put or call option expired unexercised while in the hands of an investor, the option was considered to have been sold or exchanged on the day of expiration, and capital losses resulted as if the option had been sold.

Subsequent to the trading of exchange-listed options, but prior to the Tax Reform Act of 1976, tax treatment of listed options rested largely on the strength of two private letter rulings issued to the CBOE in which the Service interpreted the application of sections 1233 (short sales) and 1234 (options to buy or sell) to options trading. These private rulings, in essence, concluded that options were capital assets in the hands of their holders, and that the underlying securities involved were also capital assets in the hands of options writers.

The private rulings, however, led to several loopholes. In a CBOE closing transaction, the writer of an option cancels his outstanding obligation to deliver

50 See also strips, straps, butterfly spreads, and other such esoteric devices. The interested reader should see H. Filer, UNDERSTANDING PUT AND CALL OPTIONS (1968); Colgan, Puts, Calls, and Other Options, 27 N.Y.U. INST. FED. TAX. 1157 (1969).
51 See generally Turov, Irresistible Call—Options Trading on the Amex off to a Brisk Start, Barron’s, Feb. 10, 1975, at 11.
56 See Special Rulings of Sept. 7, 1975, and April 8, 1974, reprinted in [1979] 7 FED. INC. TAX REP. (CCH) ¶ 4742.14. While generally individual taxpayers cannot rely on private rulings issued by the Service, tax counsel to the Options Clearing Corporation stated that, in its opinion, the tax consequences set forth in the rulings would apply to all holders and writers of exchange-traded options.
by purchasing an option with identical terms to that of the previously written option. The difference between the amount paid in the closing transaction and the premium that was originally received by the writer constituted ordinary income or loss.\(^5^7\) Thus, prior to 1976, such options transactions resulted in ordinary gains or losses, while related transactions in the underlying security usually received capital treatment. Taxpayers were able, therefore, to recognize ordinary losses and capital gains, or ordinary gains and capital losses, from the same series of transactions.\(^5^8\)

The Tax Reform Act, signed into law on October 4, 1976, changed the ordinary income and loss treatment of options writers to capital gain and loss treatment. The bill became effective for options written after September 1, 1976, and essentially directs that options buyers and writers should be given similar tax treatment.

The "new" section 1234 provides for gains or losses from closing transactions on "property" to be considered as capital gains or losses, and gains on expirations of options are to be treated as short-term capital transactions as well.\(^5^9\) The new law thus makes it irrelevant whether the writer's underlying position is a capital asset or not, whether it was held long-term or not, and whether in fact there was a sale or exchange, since anything but an exercise is to be treated as a sale or exchange of a short-term capital asset.\(^6^0\) Tax planning is rendered much less crucial with the current treatment. The investor can no longer sustain ordinary losses from options, but it is still possible to generate long-term capital gains from underlying long positions. If a call is exercised, the holding period of the underlying stock determines whether the resulting gain is short- or long-term.\(^6^1\) Generally, however, for options written after September 1, 1976, short-term treatment results, irrespective of the length of time of the option or whether the option was a put, a call, or some combination of the two.\(^6^2\)

The present tax treatment of options is best explained by example. The termination of a writing (selling) position, through either a lapse or a closing purchase transaction, will result in a short-term capital gain or loss, although if

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\(^5^7\) See Treas. Reg. § 1.1234-1(b), prior to the Tax Reform Act of 1976, which held that any gain to the writer was ordinary income.

\(^5^8\) The effect of this anomaly is presented in H.R. Rep. No. 1192, 94th Cong., 2d Sess. 2 (1976):

Assume, for example, that a taxpayer in the 50 percent tax bracket purchases 100 shares of IBM for $200 per share; he also writes a call on the stock at a striking price of $200 per share, for a premium of $2,500. If the value of the stock rises to $250 per share, and the taxpayer has held his stock for more than six months, he may sell the stock, realizing a long-term capital gain of $5,000 on which he owes $1,250 tax. He also enters a closing transaction with respect to his call by purchasing a call on IBM at a striking price of $200 per share; he would pay a premium of about $5,000 under these circumstances, and the resulting loss of $2,500 (determined by subtracting the premium the taxpayer received for the call he wrote from the premium he paid for the call he purchased) would be ordinary loss which could be offset against ordinary income for a tax saving of $1,250. The net result is that the taxpayer pays no tax on transactions producing a net economic income of $2,500.

\(^5^9\) See I.R.C. § 1234(b)(1). “Property” is defined under § 1234(b)(2)(B) as “stocks and securities (including stocks and securities dealt with on a ‘when issued’ basis), commodities, and commodity futures.”

\(^6^0\) See Auster, The Erratic History of the Taxation of Option Writers With Special Reference to the Straddle, 2 Rev. Tax. INDIVIDUALS 333 (1978).


\(^6^2\) Note, however, that the tax treatment discussed herein applies to individual investors only. "Dealers" in options are subject to other rules. See, e.g., I.R.C. § 1234(b)(3); Treas. Reg. 1.471-5 (1958); Reinach v. Comm’r, 24 T.C.M. (CCH) 1605 (1965), aff’d, 373 F.2d 900 (2d Cir. 1967).
the option is exercised, the entire transaction is treated as a purchase or sale of the underlying stock. 63 The premium, on exercise, is added to the cost of the stock, so if a call is involved, the premium increases the amount realized by the writer on the sale of the stock. Therefore, a call writer must elect either a closing purchase transaction or exercise.

Assume that an options investor buys 100 shares of XYZ Corporation in January at $100 per share, and then writes an XYZ April 90 call, which gives him a premium of $15. If, in April, the stock is selling for 95 and the call is selling at 6, the results of a closing purchase transaction may be more advantageous to the writer than awaiting exercise. The advantage obtains because the closing purchase transaction would result in a $900 short-term gain, computed by subtracting the closing premium from the original premium received, while an exercise of the option would result in a short-term gain of only $500. The exercise gain is computed by finding, first, the total proceeds received on exercise (the exercise price plus the option premium received), and then subtracting the cost of the stock. 64 Of course, had the stock moved below the strike price, the call writer would have realized a short-term gain on the option of the entire premium, or $1,500, which would be offset by an unrealized loss in the underlying stock. Similar computation methods are used to determine the gain or loss to option buyers and to writers of puts. 65

Although the Tax Reform Act of 1976 substantially clarified many of the existing problems in the taxation of options, some additional problems still remain. For example, under section 1091 of the Internal Revenue Code, a loss on a sale of securities is deferred if the seller purchases "substantially identical" securities or acquires a call option covering such securities within a period beginning 30 days prior to and ending 30 days after the sale of a security. 66 This so-called "wash sale" rule effectively denies deductions on any losses sustained on the sale of stock if a call option on the same stock is acquired within the established time period of the rule. 67 Problems may also arise in the

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64 This computation may be more readily seen in the following fashion:

<table>
<thead>
<tr>
<th>A. Closing Purchase</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Opening Premium</td>
<td>$1,500</td>
</tr>
<tr>
<td>Closing Premium</td>
<td>- 600</td>
</tr>
<tr>
<td>Short-term Gain</td>
<td>$ 900</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>B. Exercise</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Proceeds of Exercise</td>
<td>$ 9,000</td>
</tr>
<tr>
<td>Exercise Price</td>
<td>$ 1,500</td>
</tr>
<tr>
<td>Premium Received</td>
<td>$ 1,500</td>
</tr>
<tr>
<td>Total</td>
<td>$10,500</td>
</tr>
<tr>
<td>Cost of Stock</td>
<td>- 10,000</td>
</tr>
<tr>
<td>Short-term Gain</td>
<td>$ 500</td>
</tr>
</tbody>
</table>

65 For a more complete discussion, see the informative booklets produced by the CBOE and the AMEX concerning tax planning for options investors. These publications may be obtained without charge from any NYSE member firm and any firm dealing in CBOE and AMEX options. See also Prospectus, supra note 8, at 19.
67 Note, however, that if the call is exercised, the basis of the acquired stock will be the basis of the underlying stock previously sold adjusted for the exercise price of the call plus the premium paid for the call. The holding period for the acquired stock under a "wash sale" violation will include the period the previous underlying stock was held, but there will be no "tacking" of the holding period of the call. I.R.C. § 1091(d); Treas. Reg. § 1.1091-1.
area of short sales. In general, if an underlying stock is held short-term and a put is purchased, the holding period of that stock does not begin to run until the disposition of the put. In effect, therefore, all gains in such instances are short-term in nature. If an investor purchases stock and then buys a put within one year, a sale of the stock after a holding period of, say, 14 months would still result in short-term gain. If the stock had been held after the disposition of the put, the holding period would only begin to run from the date of the puts' disposition, and any earlier holding period disappears entirely. Note, however, an exception to this general rule: if a put is acquired the same day as the underlying stock, and the underlying security is identified as stock which will be tendered if the put is exercised, then "normal" tax rules (that is, those previously discussed) will apply. Alternatively, if such a put is exercised with other than the identified stock, the short sale rules will apply. Additionally, if the put lapses without exercise, the cost of the put will be added to the tax basis of the identified underlying stock.

Despite these (and other) problems, some combinations of options and transactions in underlying securities can result in tax advantages, principally through a deferral of taxation. An investor with a profitable call, for example, could hedge his profit by making a short sale of the underlying security while deferring taxes to a future taxable year. Similar results could be obtained by purchasing a put to "lock-in" the gain on a profitable long position in the underlying stock while concurrently maintaining the stock itself for upside appreciation potential. Thus, with proper tax planning, investors may use options to "time" their tax liability, which may effectively defer such liability to a more favorable taxable year.

VIII. The "Prudent Man Rule" as an Obstacle: Fiduciaries

A proper understanding of the role of options in fiduciary investment programs calls for the realization that the ultimate aim of the typical trust is to provide a reasonable income for the life tenant and to preserve the trust principal for the remainderman. The trustee, who must fulfill these goals, must therefore try to invest so as to obtain maximum return with the least risk. Fiduciaries, executors, trustees, or professional managers are under a duty to

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68 I.R.C. § 1233(b)(2). Recall from our earlier discussions that a put is essentially equivalent to a short sale.
69 See Treas. Reg. § 1.1233-1(c)(2) (1956); Rev. Rul. 58-384, 1958-2 C.B. 410. The revenue ruling also states that a call option is not to be considered equivalent to the underlying stock for purposes of the short sale rules.
70 I.R.C. § 1233(c).
72 Other areas where problems might arise include: different tax treatment for different "legs" in a "spread"; the tax treatment accorded personal holding companies; nonresident alien taxes; and taxation of options transactions by Tax-Exempt Organizations, Regulated Investment Companies, Subchapter S Corporations, and Pension Trustees under the Employee Retirement Income Security Act of 1974, 29 U.S.C. § 1001 (1976).
employ profitably the funds in their hands under penalty of personal liability for their neglect.\textsuperscript{75}

The overriding source of fiduciary liability in dealing with trust assets stems from the well-known "Prudent Man Rule," first articulated in \textit{Harvard College v. Amory}\textsuperscript{76} in 1830. In general, the rule required only that the trustee exercise "prudent discretion" in the selection of investments with the provision that the rights of the life tenant and the remainderman be preserved.\textsuperscript{77} Clearly, as originally written, trustees had a wide choice of investments under the \textit{Harvard College} standard.

Over the years, however, several jurisdictions have adopted quite different versions of what they conceive as the Prudent Man Rule,\textsuperscript{78} and some states have adopted "legal lists," which limit a fiduciary's choice of investment to pre-screened, specified issues.\textsuperscript{79} In selecting legal lists, legislatures have specified certain investments as "proper" for the investment of trust funds, and by so doing have afforded some measure of protection for fiduciaries. But neither the Prudent Man Rule nor the legal lists excuse the fiduciary in case of loss where he invests in securities of the permitted classes without proper investigation and the exercise of reasonable care.\textsuperscript{80} The ever-present danger of personal liability requires the average intelligent prudent man to be extremely careful in the selection of the investments which will best suit his objectives, whether he is located in a legal list state or one which permits him to make investments using "reasonable care and skill."\textsuperscript{81}

The problem, of course, is how to define "prudent" in today's sophisticated investment environment. The field of investments has changed so drastically that it has left its legal environment miles behind; even with numerous restatements and interpretations, the Prudent Man Rule remains a vague, misunderstood law.\textsuperscript{82} Some authorities believe minimizing losses is especially important, and stress diversification in investments,\textsuperscript{83} while others feel that overconcentration on losses may lead to imprudent investment decisions.\textsuperscript{84} However, because trust investments are to be examined individually if the trustee's prudence is challenged,\textsuperscript{85} no fixed approach appears certain to insulate a fiduciary from potential liability.

If potential liability is the watchword, what treatment is to be afforded the professional investor-trustee who wishes to invest in options? The original prudent man approach in \textit{Harvard College v. Amory}\textsuperscript{86} appears to give the trustee the...
needed flexibility in his decision-making process. The modern prudent man should act as a professional, seeking to improve the return on the assets entrusted to him through any "reasonable" means available. Indeed, the professional trustee is held to a higher standard of skill and knowledge than the ordinary investor, and is thereby under a duty to exercise a degree of skill greater that that of an ordinary man.87 Consequently, the manner in which investment decisions are handled is to be evaluated in the light of that superior skill.88

A professional fiduciary who must maximize return while at the same time limit risk may find the use of an exchange-traded options strategy extremely helpful. When a covered options writer writes a call and receives the premium, the writer is effectively reducing his risk of loss by the amount of the premium received.89 Of course, the writer effectively gives up any opportunity for large capital gain. On the other hand, he has effectively gained downside protection, and, if the stock price doesn’t rise appreciably over the life of the call, the writer may continue to hold the underlying security indefinitely. Viewed in perspective, the effect of writing a covered call may serve to reduce losses, conserve principal, and increase yield, all of which are desirable ends and lead to the conclusion that writing such calls may be a most prudent investment technique. Similar results can be obtained when put options are utilized,90 where purchasing puts may be used, for example, to "lock-in" a current profit on an underlying security originally purchased at much lower levels.

The new "respectability" of options91 may be more clearly demonstrated when considering their use in connection with the Employee Retirement Income Security Act of 1974 (ERISA).92 ERISA creates a federal "Prudent Man Rule" that must be considered in the investment of pension fund assets, and which may be a harbinger of the future. The federal law requires that a fiduciary discharge his duties "with the care, skill, prudence, and diligence under the circumstances then prevailing that a prudent man acting in a like capacity and familiar with such matters would use in the conduct of an enterprise of a like character and with like aims.93 Of course, employee benefit plans have no conflicts between income beneficiaries and remaindermen, but the thrust of the legislation is clear: whether an individual investment is prudent is to be determined in light of the nature of the investment and the character and aims of the plan, all the while employing the above-mentioned standards.94

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88 326 A.2d 372.
89 This can be shown by a simple example. If our fiduciary bought 100 shares of a $50 stock for a total cost of $5,000 and then the stock declined to $45, the loss would be $500. If, however, a call option was written and the writer received a $500 premium, no actual loss would be felt until the price of the underlying stock dropped to below $45.
90 See Thayer, Put Options: Heads You Win, Tails You Win, 117 TRUSTS & ESTATS. 618 (1978). Thayer goes even further, stating that failure to properly utilize options in a professional investment program may be considered, in some circles, "gross incompetence."
91 Thayer, Options Achieve Respectability with Trust Departments, 115 TRUSTS & ESTATS. 592 (1976).
93 Id. § 1104(a)(1)(B).
94 The Department of Labor, it should be noted, is charged with the primary responsibility for enforcement of the Act, and has listed criteria which the fiduciary should consider under 29 C.F.R. § 2550 (1978). See also Wall St. J., Sept. 10, 1979, at 40, col. 1.
Clearly, however, the prudent man under ERISA is not the same prudent man as he who deals with his own property. ERISA funds are managed by professional fund managers, who are normally more sophisticated in modern investment techniques than the ordinary fiduciary. But a literal interpretation of the Prudent Man Rule under ERISA provides statutory authority for the investment professional to utilize the same investment techniques that are also being used by other experts in the field.\footnote{For a general discussion of fiduciary limits under ERISA, see Klevan, \textit{Fiduciary Responsibility Under ERISA's Prudent Man Rule: What Are The Guideposts?}, 44 J. Tax. 152 (1976).}

Although there is authority to the effect that Congress expects the courts to "interpret the (Federal) Prudent Man Rule—bearing in mind the special nature and purpose of employee benefit plans,"\footnote{See S. Rep. No. 93-1090, 93d Cong., 2d Sess. 302 (1974).} it seems desirable that individual and professional trustees should also have the flexibility in their investment decisions that \textit{Harvard College v. Amory} intended. If pension fund managers can prudently invest in options and other sophisticated investment vehicles, it is arguably unrealistic to prevent an individual trustee from doing the same. If the trustee does not possess the necessary expertise, he can acquire that expertise easily enough from traditional sources. If covered call writing and other options transactions can be sanctioned by government regulators who are entrusted with the protection of the public,\footnote{Besides the federal government under ERISA, many states now permit trading in options by insurance companies, mutual funds, and bank trust departments. For a listing of various state authorities which specifically permit such trading, see American Stock Exchange, \textit{Options for Institutions: Insurance Companies and Mutual Funds} (1978).\footnote{\textit{Price Fluctuations: CBOE Options Related to Underlying NYSE Stocks}, 4 Hofstra Univ. Y.B. of Bus. 171-92 (1977); Schwartz, \textit{The Theory and Application of Securities Options} (1973). Later studies indicate that the reason these earlier investigations bore so little fruit is that they attempted to analyze the flow of funds into and out of options, which was an impossible task at such an early stage. See S. Robbins, R. Stobaugh, S. Sterling, & T. Howe, \textit{infra} note 126, at 70.}} it is eminently reasonable to suppose that exchange-listed options trading is less of a speculation and more of an investment "tool" than many courts and trustees might believe. Therefore, responsible options trading should be available to all fiduciaries, regardless of the amount or source of the assets entrusted to them.

\section{IX. The Impact of Options Trading on Trading in Underlying Stocks}

Options trading is a manner of speculation on the stability of the stock market. The question thus naturally arises as to what effect exchange-traded options have (or will have) on the market for the underlying stock. This section will deal with some of the questions raised by commentators, principally those dealing with the possible effects of exchange options trading on the trading volume and price volatility of equity securities.

Early studies dealing with the general relationships between exchange-traded options and their underlying stocks have been largely inconclusive.\footnote{"Liquidity," as used in this instance, is a measure of the average amount by which a buy or sell order pushes the price of a stock up or down. As an example, assume a brokerage house is asked to bid on a block of stock. To the extent that the house can write call options against that block, the risk is reduced and the price offered the seller may increase. This ability to "lay off" all or part of the risk is important, because any appreciable reallocation of risk has the effect of improving overall market liquidity and efficiency.} Beyond an accepted theory that listed options have resulted in an improvement in the liquidity of the stock market,\footnote{\textit{infra} note 126, at 70.} such studies, based primarily in the area
of statistical analysis rather than investments, have been a disappointment. An improvement in liquidity, however, may provide something that portfolio managers have been seeking for many years: an ability to "smooth-out" the risks of market fluctuations. An institutional manager (or an individual investor) who writes options may therefore be able to reduce the volatility of his portfolio without the necessity of selling securities or otherwise repositioning equity into debt.

Implicit in this concept of reduced volatility is the idea that exchange options trading does indeed stabilize the risks of market fluctuations. One of the earliest studies in this area was that commissioned by the Chicago Board of Trade in 1969, relating to the feasibility and merits of national options exchange.\(^\text{100}\) That study concluded that exchange trading in options would be more likely to stabilize, rather than destabilize, the capital markets, thereby reducing risk and enhancing investment opportunities for both buyers and sellers.\(^\text{101}\)

Shortly after the commencement of options trading on the CBOE, the CBOE again prepared an economic evaluation of the options market, utilizing approximately nine months of data. The new study\(^\text{102}\) concluded that (1) the market for underlying stocks had not been adversely affected by the trading of exchange-listed call options, (2) total trading volume in underlying stocks in the period after the start of CBOE operations was not significantly different from trading volume before the CBOE, (3) the liquidity of underlying stocks improved and volatility diminished, and (4) markets for low-priced securities had not been adversely affected, nor had the new issue market suffered substantially.\(^\text{103}\)

Additionally, while CBOE premiums were initially overvalued in relation to their "intrinsic" value,\(^\text{104}\) with the rapid increase in volume experienced on the CBOE those premiums have since declined to a more realistic price structure.\(^\text{105}\) Of course, under established supply and demand theory, an increased supply of options will clearly benefit the buyer, who will be able to purchase such options more cheaply, and thus (if it is desired) enjoy the benefits of a debt portfolio coupled with the appreciation potential of equity securities.\(^\text{106}\) If the investor places most of his assets in fixed income securities and purchases options with the remainder (or with the interest payments), he may protect himself from loss of capital (inflation excepted) while at the same time being able to participate in equity market appreciation. Therefore, the ability to purchase inexpensive options may be a stimulus that will bring the small investor back into the stock market.

\(^\text{100}\) 1969 Nathan Study, supra note 17.

\(^\text{101}\) Id.


\(^\text{103}\) Id. at xx-xx.

\(^\text{104}\) Id. at 33. See also Scholes, Rational Options Pricing and Price Movements on the CBOE, reprinted in 1974 Nathan Study, supra note 102, App. B.

\(^\text{105}\) E.g., during the two-day trading period of Apr. 14-16, 1978, the NYSE alone traded a total of over 100 million shares. Much of the volume was due to institutional "covering" of naked call options, at least according to one source. Wall St. J., April 19, 1978, at 1, col. 6. See also 1974 Nathan Study, supra note 102, at xxviii.

\(^\text{106}\) See, e.g., Nehl, Evaluating CBOE Option Prices, Commodities Magazine, May 1974, at 45.
Perhaps the most important public policy concern with respect to listed options relates to the possibility that trading activity in options might divert funds away from investment in the underlying stock itself, with the result that lower trading volume would naturally lead to higher price volatility and illiquid markets in those underlying stocks. "Volatility" reflects the changes in the price of a stock, and several studies have shown that, compared to a random sample of other similar stocks, proportionally fewer optioned stocks were more volatile after the beginning of exchange-listed options trading than before.\textsuperscript{107} Additionally, relative to the market as a whole, nearly all the optioned stocks were less volatile since inception of options trading than they had been before.\textsuperscript{108}

The initial study\textsuperscript{109} determined that the volatility of the New York stock market itself had increased substantially since the inception of options trading when compared with the market before the CBOE. The volatility of optioned stocks also rose during this period, but for almost all of the optioned stocks the rise in volatility was significantly less than the rise for the overall market.\textsuperscript{110} It should also be noted that the optioned stocks involved in this study possessed a greater than average risk factor than the stock market as a whole,\textsuperscript{111} thereby leading to the conclusion that the options market contributed in some measure to the greater relative stability of the prices of the underlying stocks.\textsuperscript{112}

Later analyses confirmed this conclusion. A 1975 study\textsuperscript{113} found that, during market rallies, CBOE underlying stocks exhibited the same pattern of behavior as random samplings of other NYSE issues, but also determined that the relative volatility of CBOE underlying stocks was lower, on average, than it had been in the pre-options trading periods.\textsuperscript{114} This suggested that there was a clearly demonstrated diminution of volatility relative to the market among CBOE underlying stocks as compared to other NYSE stocks.\textsuperscript{115} A later examination, covering periods of extreme market fluctuations, confirmed that optioned underlying stocks were not more volatile than the market, even during sharp price swings.\textsuperscript{116}

Although it is clear that interactions do exist between stock prices and options activity, as options prices are determined by price fluctuations in the underlying security, the reported data suggests that such price changes reduce price volatility and thereby improve liquidity in the securities in question. Exercise, however, may have produced a different effect on underlying stocks.

\textsuperscript{107} See 1974 Nathan Study, \textit{supra} note 102, at 45. See also Chicago Board Options Exchange, Analysis of Volume and Price Patterns in Stocks Underlying CBOE Options from Dec. 30, 1974, to Apr. 30, 1975, 14-17 (July 1975) [hereinafter cited as 1975 CBOE Study]; Chicago Board Options Exchange, Volatility of CBOE Underlying Stocks 1-3 (April 1978) [hereinafter cited as CBOE Report].

\textsuperscript{108} 1974 Nathan Study, \textit{supra} note 102, at 45.

\textsuperscript{109} 1974 Nathan Study, \textit{supra} note 102.

\textsuperscript{110} Id. at 64.

\textsuperscript{111} The risk factor in common stocks is expressed by experts as the "Beta-coefficient," which estimates the percentage change in the rate of return for any specific stock that has accompanied a 1% change in the rate of return for the market as a whole. For a discussion of "Beta," see B. Malkiel, \textit{A Random Walk Down Wall Street} 173-75 (1973).

\textsuperscript{112} 1974 Nathan Study, \textit{supra} note 102, at 67.

\textsuperscript{113} See 1975 CBOE Study, \textit{supra} note 107.

\textsuperscript{114} Id. at 17.

\textsuperscript{115} Id. at 19.

\textsuperscript{116} CBOE Report, \textit{supra} note 107, at 7.
and a further study was undertaken to probe the effects of options exercises.\textsuperscript{117} It was determined, as it had been earlier, that price movements in underlying stocks were not significantly affected during exercise periods (usually occurring near expiration),\textsuperscript{118} neither did the optioned underlying stocks in any way "lead" the market during market rallies which occurred near exercise periods.\textsuperscript{119}

In the first month of listed options trading, over 54,000 options contracts were exchanged. Only four months later, 266,000 contracts were sold.\textsuperscript{120} Because option volume had expanded so rapidly and had reached a substantial level, a public policy question arose whether the dynamic growth in options trading had been at the expense of the volume of trades in the underlying securities themselves.

The 1974 Nathan Study\textsuperscript{121} found no statistical significance between trading volumes in underlying stocks before and after the commencement of listed options trading. Investors, had not substituted investments in options for investments in stocks, insofar as reflected in sales of the underlying stocks relative to total NYSE volume.\textsuperscript{122}

Later studies have borne out this earlier hypothesis. Even though investors can realize much greater leverage by purchasing options rather than underlying stocks, the difference between trading activity in most underlying stocks during pre- and post-options trading periods was not found to be statistically significant.\textsuperscript{123} It was found that only a small percentage of funds actually goes into an options purchase program, and represents a small amount of the average investor's holdings.\textsuperscript{124}

Other possible public policy questions concern the extent to which exchange-traded options divert funds from low-priced securities or from new equity issues. Because options can be used to invest small amounts, it is arguably possible that their leveraged position would attract funds that would otherwise be invested in low-priced stocks or new issues from small companies.\textsuperscript{125} In view of the fact that the CBOE began operations at the same time as a decline in the capital markets, a special study\textsuperscript{126} was commissioned. The study determined that the trading of options had no appreciable negative effect upon the market for small new issues.\textsuperscript{127} It concluded that small new issues and options fell into significantly different risk categories and therefore did not draw on the same "pool" of funds,\textsuperscript{128} and that only a minority of op-

\begin{footnotesize}
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  \item \textsuperscript{117} Chicago Board Options Exchange, Analysis of Volume and Price Patterns in Stocks Underlying OBOE Options from Dec. 31, 1975, to Jan. 16, 1976 (Feb. 1976) [hereinafter cited as 1976 CBOE Study].
  \item \textsuperscript{118} \textit{Id.} at 5-15.
  \item \textsuperscript{119} \textit{Id.} at 12.
  \item \textsuperscript{120} See P. Sarnoff, supra note 22.
  \item \textsuperscript{121} 1974 \textsc{Nathan Study}, supra note 102, at 56-57.
  \item \textsuperscript{122} \textit{Id.} at 57.
  \item \textsuperscript{123} See 1975 CBOE Study, supra note 107, at 8; 1976 CBOE Study, supra note 117, at 4.
  \item \textsuperscript{124} For the week ending Jan. 11, 1974, for example, when options volume represented almost 80% of the share volume on the NYSE, the dollar amount involved in options trading was only 4% of the dollar value of the underlying stocks traded on the NYSE. See 1974 \textsc{Nathan Study}, supra note 102, at 22.
  \item \textsuperscript{125} See, e.g., the comments of former SEC Chairman Roderick Hills, \textit{Barron's}, August 2, 1976, at 31.
  \item \textsuperscript{127} \textit{Id.} at 4, 67.
  \item \textsuperscript{128} \textit{Id.} at 73.
\end{itemize}
\end{footnotesize}
tions purchasers had ever purchased new issues in the past. Clearly, options represented a differentiated product that can be used to reduce risk as well as to incur it. Therefore, options do not compete on a one-to-one basis with other "speculative" instruments such as new issues, real estate, or tax shelters. And, to the extent that options are bought in connection with risk-avoidance strategies, the demand is likely to come from investors who would not place these funds in new issues of small and untested companies in any event.

Options trading markets appear, therefore, to constitute only a negligible fraction of the billions of dollars invested in new and established securities, and consequently are of limited significance in the overall supply and demand equation of the equity capital markets. Even an enlargement of the options market would not have any significant effect on the cost of capital, or on the demand for equity securities, because the market would still represent only a minute portion of the total value of the equity markets. If there are public policy arguments to be made against the options trading markets, they arise from more established abuses of securities dealings: inside information, price manipulation, and inadequate supervision of brokers.

X. The Regulatory Climate

Unlike the more established securities markets, the options market is not directly regulated. Since options began trading on the CBOE, they have become a significant source of revenue for the securities industry. Despite this thriving business, or perhaps because of it, the SEC has been attempting to assert more regulatory authority over options trading than has been previously exercised.

In order to assess the SEC's regulatory authority over the options market, it is necessary to consider previous regulatory patterns, the pertinent statutory authority under which the SEC asserts jurisdiction, whether options are securities, and finally the most recent attempts by the SEC to thwart abuses in the options market.

In the early part of the century, options were recognized by the NYSE so that trading could take place on the exchange floor. If an investor desired more protection in trading at this time, he would most likely trade on the London Stock Exchange in the American issue listed there. Years later, during the great bull markets of the twenties, options often played a central role in many of the manipulative abuses that were later attacked by the SEC. In fact,
options came under such intense attack that an early draft of the Securities Exchange Act of 1934 prohibited options trading entirely.\textsuperscript{135} Congress, however, was persuaded to change its mind, and only manipulative devices were prohibited by the final statute.\textsuperscript{136} At the same time, options were made subject to the rulemaking power of the SEC.\textsuperscript{137}

In 1935, after the establishment of the Put and Call Dealer’s Association, Inc.,\textsuperscript{138} the SEC proposed rules for the regulation of options trading. The Put and Call Dealer’s Association, however, successfully deterred direct federal regulation by incorporating the proposals into the bylaws of the Association.\textsuperscript{139} But although the SEC never asserted direct regulatory control over the Association, it closely followed operations through regular weekly reports.\textsuperscript{140} The SEC has consistently expressed concern over options trading because of the “speculative nature” of the transactions. Put and call options contracts, it was felt, were securities of a most complicated and technical kind, whose intricacies and complex nature are not fully understood even by many persons engaged in the securities business itself, much less by the average or unsophisticated investor.\textsuperscript{141} The SEC’s concern has increased with the expansion of the options market, and in recent years it has moved to assert more regulatory authority.

The SEC supports its claim for jurisdiction on sections 9(b) and (c) of the Exchange Act,\textsuperscript{142} but litigation has not yet clarified the extent of this rulemaking authority. Section 9(b) prohibits transactions made in violation of SEC rules by use of any facility of a national securities exchange, while section 9(c) permits the SEC to regulate options endorsement by stock exchange member firms. These rules are clearly applicable to options traded on recognized exchanges.

The logical starting point, when considering options as securities, is section 2(1) of the Securities Act of 1933.\textsuperscript{143} Before listed options trading, the SEC did not recognize options as securities.\textsuperscript{144} Subsequent SEC proceedings, however, clearly demonstrate a change in the SEC’s position supporting the inclusion of options as securities.\textsuperscript{145} And, although the SEC would prefer not to

\textsuperscript{135} S. 2693, 73d Cong., 2d Sess., 78 CONG. REC. 2267 (1934).
\textsuperscript{137} Securities Exchange Act of 1934, § 9(b), 15 U.S.C. § 78i(b) (1976), provides: “It shall be unlawful for any person to effect, by use of any facility of a national securities exchange, in contravention of such rules and regulations as the Commission may prescribe as necessary or appropriate in the public interest or for the protection of investors . . . .” (emphasis added).
\textsuperscript{138} See text accompanying note 16 supra.
\textsuperscript{139} Gates, supra note 133, at 425. See also SEC REPORT, supra note 4, at 100.
\textsuperscript{140} In addition, the SEC has issued reports on the options market in 1935, 1939, 1944, 1945, and 1961. The latest such report was issued in early 1979. See text accompanying note 156 infra.
\textsuperscript{141} See Investment Advisers Act Release No. 228 (Aug. 30, 1968). It should be noted that such comments were the norm before the presence of a centralized market gave options trading increased respectability.
\textsuperscript{142} 15 U.S.C. §§ 78i(b), 78i(c) (1976).
\textsuperscript{143} Id. § 77b(1). This section provides:

When used in this title, unless the context otherwise requires (1) the term “security” means any note, stock, treasury stock, bond, debenture . . . . or, in general, any interest or instrument commonly known as a “security,” or any certificate of interest or participation in, temporary or interim certificate for, receipt for, guarantee of, or warrant or right to subscribe to or purchase, any of the foregoing.
\textsuperscript{144} See Anderson, Chicago Options, 27 Bus. L. 9 (1971).
\textsuperscript{145} Gates, supra note 133, at 437.
distinguish puts and calls when defining options, that distinction has been recognized.  

Section 2(1) of the Securities Act\textsuperscript{147} and section 3(a)(10)\textsuperscript{148} of the Exchange Act include a "right to subscribe to or purchase" a security within the definition of a "security." This language would clearly encompass the call option, which is actually a short-term "right" to purchase a security,\textsuperscript{149} and the inclusion of call options as securities is even more compelling when one considers the relationship between the call option and its underlying security, because the option holder's financial success is determined by the activity of the underlying stock. The options investor is therefore clearly in the passive role which has classically resulted in SEC protection.\textsuperscript{150}

Put options are more difficult to classify. The SEC refers to rule 3a11-1\textsuperscript{151} to support its inclusion of put options as securities, where puts are part of the definition of equity securities "for the purposes of clarity."\textsuperscript{152} Although section 2(1), which defines a security, does not include a "right to sell," commentators note that the recent history of options trading, the tone of investment literature, and the general attitude of investors supplies sufficient support for classifying puts as "instruments known as securities."\textsuperscript{153}

Policy reasons also support the classification of puts and calls as securities. The options market has become a significant source of revenue for the securities industry, and recent events have shown that self-regulatory procedures have been abused.\textsuperscript{154} The investor arguably needs the protection of the SEC. And, while the SEC makes no attempt to usurp the self-regulatory power of the exchanges, it clearly envisions a more active supervisory role for itself in options trading situations.\textsuperscript{155}

The purpose of SEC regulations is to protect investors. Recently, the SEC expressed concern about abuses inherent in an unregulated options market, and as a result, imposed a moratorium on the listing of any new options on any national exchange. While this moratorium continued, the SEC issued a staff study that identified abuses and recommended improvements in the regulation  

\textsuperscript{148} Id. § 78c(a)(10).  
\textsuperscript{150} When a purchaser is in a passive role in the investment process, the SEC usually finds a security to be present. In SEC v. W.J. Howey Co., 328 U.S. 293, 298-99 (1946), the Court articulated the classic definition of a security as a situation where "a person invests his money in a common enterprise and is led to expect profits solely from the efforts of the promoter or a third party, it being immaterial whether the shares in the enterprise are evidenced by formal certificates or by nominal interests . . . ." The Court went on to say that the definition is capable of broad adaptation "to meet the countless and variable schemes devised" by others.  
\textsuperscript{151} 17 C.C.R. § 240.3a11-1 (1979).  
\textsuperscript{153} See Gates, supra note 133, at 437; 1 L. Loss, SECURITIES REGULATION 469 (2d ed. 1961).  
and trading of options. In general, the study called for significant improvements in the way exchanges police options trading, and urged tougher controls by exchanges and their member firms on options sales practices. The SEC Study, in effect, provides a blueprint for lifting the moratorium, but it also provides an indication that the SEC will exert more influence over options trading than it has in the past.

Maintaining the scheme of self regulation contained in the Exchange Act, the SEC requested each self-regulatory organization on which options are presently traded or which has proposed to initiate a program of options trading, to cooperate with the SEC in order to implement the recommendations contained in the Study. The SEC announced that the moratorium was in effect and would continue in effect until the steps outlined had been completed. And although the SEC requested voluntary compliance with its recommendations, it also asserted that without an acceptable response the moratorium would not be lifted.

Thus, it is clear that the SEC has statutory authority and jurisdiction over options trading, and is currently taking a more active role in regulation. And as it is also clear that rule 10b-5 applies to options, it remains to be seen how the SEC and the courts will treat other securities law violations. The public interest in requiring SEC intervention is one indicator of direction; arguably, the full range of SEC powers will be brought to bear upon the industry if trading abuses continue, while the full range of investor rights should be available in the legal arena, whether the investor deals in puts, calls, or some combination of the two. The SEC, clearly, is presently attempting to create an atmosphere of adequate investor protection while issuing reasonable restraints upon a reborn investment community, by insuring that the public is served by sales personnel who are trained and competent and who are supported by self-regulation.

XI. Conclusion

The study of options and its use as an investment strategy is a full-time

159 Id. The recommendations included, first, that self-regulatory organizations should amend their options rules to provide a standard options information form which requires that broker-dealers obtain and record sufficient information to support a suitability determination and to insure that firms have recorded information on which to base account approval; second, the self-regulatory organizations should amend their options account opening rules to require that the management of each firm send to every new options customer a copy of the suitability form; third, the self-regulatory organizations should confirm the suitability information at least semiannually; fourth, self-regulatory organizations should prohibit a broker-dealer from recommending options positions unless he has a reasonable basis for believing that the customer can evaluate the risks and is financially able to bear those risks; and fifth, to require self-regulatory organizations to prohibit options transactions with any customer who refuses to provide information, and for whom the firms do not otherwise have independently verified information. See Options Study, supra note 156, ch. V.
Note that there are several other pertinent areas of improvement suggested as well.
162 The application of rule 10b-5 to call options was sustained in SEC v. Texas Gulf Sulphur, 258 F. Supp. at 292.
proposition. There are numerous variables involved in an options program, including an uncertain, but emerging, regulatory climate. The market, however, is still being developed, and many legal questions are unresolved. For the knowledgeable investor, fiduciary, or legal advisor, this new and fast-moving market is both challenging and potentially rewarding. With a new era in investments comes the need for a new investment device, but as with any investment, there are risks in proportion to rewards. And although those risks are slowly being removed through listed trading, legislation, and regulation, one rule remains: investigation before investment. That rule is most appropriate in the new and dynamic market of options trading, for the investor, for the fiduciary, and for the attorney.