

A Look at Put Options

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Put options are recognized as a speculative tool when the investor is bearish. Put options, however, in combination with calls, offer an investment versatility that can be used, not only for speculation, but for hedging and tax planning.

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While a limited number of listed put options on common stocks are now trading on the nation's exchanges, it appears that expansion of put trading to a wide range of stocks will occur early in 1980. Puts, particularly in conjunction with calls and their common stocks, provide a range of investment and speculative opportunities for the individual investor. Most investors are aware that puts can provide a means of leveraged speculation for the bearish investor but there are other uses and a common stock that has both puts and calls trading on it provides opportunities not otherwise available.

BASIC CONCEPTS

A stock option is an agreement giving the option buyer (holder) the right (not the obligation) to buy from or sell to the option seller (writer) a specified number of shares of a stock (underlying stock) at a predetermined price (exercise price) until a certain date (expiration date). If the option is the right to buy it is a call option and if it is the right to sell it is a put option. Listed options have standard terms and are for 100 shares of stock initially (adjustments are made for stock splits and stock dividends but not for cash dividends).

To obtain the above right, the buyer of an option pays a price to the seller. The price, also called the premium, of listed options is determined in an open competitive market. There are a number of standard exercise prices and expiration dates and an active secondary market exists for options so that buyers or sellers of options can liquidate their positions without exercising or being exercised.

Most information about an option is given in its name (IBM JAN-70 Call) is a call option on 100 shares of IBM stock at an exercise price of 70 expiring on the standard January expiration date. If IBM stock is currently selling at 70 the option is said to be "at the market", if IBM is at 75 the option

would be "in the money" (by five points) and if IBM stock is at 60 the option would be "out of the money" (by ten points). Since a put is the right to sell stock on IBM an IBM JAN-70 Put would be in the money if IBM stock were below 70 and out of the money if it were above 70.

To understand some of the relationships to be discussed it is necessary to consider another concept — time premium. Time premium is the excess of an options price or premium over the immediate exercise value. If IBM is selling at \$73 and the IBM JAN-70 Call is selling for \$8, then the time premium is \$5 since the option is \$3 in the money. An individual can exercise the option paying \$70 for the stock and immediately sell it for \$73 thus realizing an immediate gain of \$3. The excess of the price over the conversion value or intrinsic value is the time premium. If IBM stock were at \$65 and the IBM JAN-70 Call were at \$4 the entire price would be time premium since there is no immediate conversion value. The IBM JAN-70 Put would be in the money by \$5 if the price of IBM were \$65 because the stock could be bought at \$65 and the option buyer could sell the stock at \$70 to the put writer for a \$5 profit. Thus, if the price of the IBM JAN-70 Put were \$9 the time premium would be \$4. The price of at the market and out of the money options is all time premium but the price of in the money options is a combination of intrinsic value (amount in the money) and time premium.

GENERAL USES

Puts like calls can be used for leveraged speculation. The buyer of a put can speculate that the price of a given stock will go down. If the purchase is of an at the market put the buyer will make one dollar per share for every point the stock goes down minus the price he paid for the put. If the stock fails to go down in price, the entire premium will be lost. This use of puts is direct and it does not require an understanding

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of the basic relationships between the stock and the options.

Another direct use of puts is the purchase of a put by the owner of the stock. This put buyer has guaranteed that the stock can be sold at the exercise price of the option. An individual who wishes to purchase stock at a given price may sell a put at the appropriate exercise price. If the stock reaches that price it will be put to the buyer and the purchase is made. The cost of the stock will be reduced by the premium received for the put and if the stock never reaches the exercise price the seller will have a profit and will not wind up with the stock. All of these approaches to puts are useful and are basically ways of implementing the purchase or sale of stock. Other uses which we will discuss later require understanding the relationship of the stock, its calls and its puts.

OPTION RELATIONSHIPS

The basic relationship between a stock and its options can be expressed by the following equation and its five variations:

$$\begin{aligned} S &= C - P \\ -S &= P - C \\ P &= C - S \\ -P &= S - C \\ C &= S + P \\ -C &= -S - P \end{aligned}$$

The meaning of the equation, under the assumption that the put and the call have the same exercise price and dividends are ignored, is that owning stock is the same as owning a call and being short a put. Since all of the other equations are just algebraic variations of the first, we will concentrate on that. Owning stock means that the value of your investment will increase \$1 per share for every dollar the price of the stock goes up and will decrease \$1 for every dollar the price of the stock goes down. Exactly the same risk position exists if you are long a call and short a put (if they have the same exercise price). This comes about because either the put or the call (not both) will be in the money

and lose or gain as the stock goes up or down. The same is true of the five other relationships. Being short stock is the same position as being long a put and short a call (second equation) and the other relationships follow (a minus sign means a short position exists in whatever follows the minus sign). Work through the relationships and you will see that they hold.

There are two aspects of such positions that require some thought — the time dimension and the amount of time premium in the put and call. Options have an expiration date but an option position can be maintained by switching to options with further out expiration dates and thus can be maintained indefinitely if there is a reason to do so. The second concern, time premium, is the key consideration in the possible use of option positions as substitutes for stock positions. If the time premium (not the price or the premium) of the put and call are the same then an investor can buy a call and sell a put instead of buying the stock. The time premium received would equal the time premium paid and there would be no extra or reduced cost to consider. The same would be true of an investor who wants to short the stock. The same position could be obtained by buying a put and selling a call and if the time premiums were equal there would be no advantage or disadvantage from time premiums.

Time premiums for the put and the call are likely to be different however, so there may well be an advantage or disadvantage to the option approach when compared to the stock position. There are two other factors that influence the desirability of the stock position versus the option equivalent — dividends and the amount of capital invested. The holder of stock is entitled to dividends and an individual who shorts stock must pay dividends. A long stock position thus has an advantage over being long a call and short a put if the stock pays dividends. But the long put and short call position has

an advantage over being short a stock because dividends do not have to be paid.

The investment required to maintain a stock position is greater than the equivalent option position. This is true for being either long or short the stock. Buying 100 shares of a \$50 stock would require \$5,000. A call could be purchased and a put sold for approximately \$1500 which means \$3500 could be put out at interest and this return might well make up for the lost dividend. In the case of shorting the stock, approximately \$2500 would be required versus \$1500 and \$1,000 could be put out at interest. In addition, the dividend would not have to be paid if the option equivalent were used.

In the real world the time premium for calls is almost always greater than for puts. This makes buying a call and selling a put only rarely better than buying the stock because the only advantage is the interest earned on the unused funds. Off-setting this is the loss of dividends and the payment of more time premium for the call than is received for the put. In addition, option positions cannot qualify for long-term capital gains and if there are gains this would be an additional disadvantage. There are occasional exceptions to the above and it never hurts to be aware of the option alternative to owning stock.

On the other hand it becomes clear that except in rare cases buying a put and selling a call is preferable to shorting stock. In addition to the factors just discussed, it also does not require the borrowing of stock and thus avoids the possible squeeze of those that are short. Once puts and calls are traded on a stock you would expect short positions to virtually disappear except for a few hedgers and arbitrageurs. Short positions have not disappeared on those stocks that have puts and the reasons for continued heavy short positions in these stocks is somewhat of a mystery.

AN EXAMPLE

An example of the difference between shorting stock versus buying a put and selling a call is desirable and the exercise will also be useful for other concepts to be discussed later.

On August 9, 1979, IBM stock closed at 68-3/4. The January options had 5 months to run. The stock had just paid a dividend so only one dividend of 86¢ would be paid during the option period. Overlooking commissions, which would be approximately the same for either approach, let us compare shorting the stock to buying the put and selling the call with an exercise price of \$65. For calculations assume the cost of money is 1% a month.

First consider shorting 100 shares of stock. In addition to making \$100 for every point the stock goes down in the five month period and losing \$100 for every point it goes up (which will be the same for either approach), the shorter of the stock must put up \$3,438 at a cost of 1% a month for five months or \$172 and pay \$86 for dividends. The capital gain or loss is reduced by a total of \$258.

If the January 65 put were purchased at 1-9/16 and the January 65 call for 7-5/8 (time premium 3-7/8) there is an immediate gain in time premium from the 3-7/8 received and the 1-9/16 paid of 2-5/16 or \$231. The investment is approximately \$840 (current margin requirements) and thus the interest cost for five months is \$92. No dividend must be paid. Thus at the end of five months the option position will have the capital gain or loss plus \$139 (\$231 - \$92).

Compare that to the short stock position of capital gain or loss minus \$258 and you will see that no matter what happens in the stock the individual putting on the option position will be \$397 better off. That is the equivalent of a 4 point or 5.7% move in the stock.

We are not suggesting that shorting stock is a good investment policy only that those investors who

from time to time consider shorting should consider the option alternative. Remember the advantage of not being put in a position where the party lending the stock might want it back. Consider also that short sales require an up tick while the option positions do not.

CONVERSION AND HEDGING

It may occur to the reader that it is possible to put on a position by buying a stock and completely off-set that position by buying a put and selling a call. This can and is done and is called conversion. The individual who is long a stock, long a put and short a call has no market risk position. Upon expiration of the options such an investor will either be exercised on the call or will exercise the put and the positions will be gone. The excess of call premium over put premium will be gained and the interest cost of maintaining the position will be lost. Conversion is profitable if the difference in time premiums is greater than the interest costs of maintaining the position. Generally conversion is profitable only to dealers who can trade for minimum transaction costs but the process keeps the relative time premium of puts and calls within a limited range of one another and makes the option market more efficient.

Other applications of the above concepts can be used even by the conservative investor. Suppose you have had stock for a great many years and do not wish to sell it and pay capital gains tax. At the same time you feel that the market or your stock is likely to be weak for the next few years. By buying a put and selling a call you can be out of the market without liquidating your stock. During this period you will get your dividends and may also make a small profit on the difference in time premium. It can be a very effective strategy for playing cycles while still deferring taxes. Several words of caution are necessary:

1. As the option positions get close to expiration you should close

them out before the time premium disappears and simultaneously establish the equivalent positions in options that have longer to run. This should reduce the possibility of being exercised.

2. If for some reason the call you are short is exercised against you even though you have taken the precautions indicated above, do not deliver the stock you wish to keep but buy a new 100 shares and deliver that stock and then sell a new call option to replace the one exercised. This will maintain your position in the older stock without taking the gain on it.
3. Whenever you buy a put you may start a new long-term holding period for the stock owned so be careful with any stock you wish to sell for a gain within a year.
4. It is possible to be exercised on an ex-dividend date. If you are you may have to buy the stock the next day and you will have to pay a dividend without receiving one. This is not too serious since the price of the stock generally drops the next day by the amount of the dividend but this is not always the case and you should be aware of the possibility. This problem will ordinarily arise only if the ex-dividend date is just prior to option expiration and in stocks where this is the case you may want to switch your positions into longer term options prior to the ex-dividend date.
5. If a stock makes dramatic moves you may find it profitable to close out the option positions and establish new positions at an exercise price closer to the market price of the stock. Check the time premiums of the puts and calls at different exercise prices regularly. In this decision transaction costs should be considered.

OTHER APPROACHES

There are other uses of puts, or
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however, an overriding problem that is not really solvable. That problem is that it is in the nature of a free enterprise system for consumers to switch their purchase patterns to reflect price changes. With relative price changes consumers change their "market basket" and the "market basket" used to calculate the CPI will not be adjusted until many periods later. Invariably the items coming out of the consumer's market basket are the ones going up in price the most and the ones going into it are the ones whose prices have gone up the least. This change in the market basket cannot be picked up immediately so there is an upward bias in the CPI. There is really no solution to the problem — the overall approach of the CPI is excellent as a general guide. The real problem is that any such measure has limitations and it should not be locked into an automatic adjustment system that influences wages automatically. Certainly the CPI and other indications of inflation are useful at the wage bargaining table, but if we are to break the inflationary spiral, cost of living adjustments tied directly to the CPI are going to have to be replaced with other adjustment approaches. It should be pointed out that the same danger exists in the opposite direction if we ever have a deflationary - recessionary period. Wages tied to the CPI would be cut too quickly, which would accelerate the recessionary effect. In many cases peoples' common sense is a better guide to the real world than a statistical measure and we feel that case by case wage bargaining will be better for everyone than automatic changes based on a statistical estimate of reality.

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puts in conjunction with calls, that are based on the intrinsic relationship between a stock, its puts and its calls. One such use is in premium trading — an investment approach that is oriented to making a return from the writing of options and the collection of time premium while avoiding exposure to market risk. This is a significant investment approach by itself and we will save discussion of it for a separate article. The intent of this article was to show that a market position in a stock can also be taken in its options provided both puts and calls are traded and to alert the investor to the existence of such alternatives. Sometimes the alternative option position is better, sometimes it is not, but options provide a choice and the prudent investor always considers choices. While the major applications considered were for those who might wish to short stock or for those who might wish to neutralize their position in a stock without selling the stock it is also possible on occasion that buying a call and shorting a put is more effective than buying the stock particularly in the case of stocks that have no dividends or negligible dividends.

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tion of an index approach. It is an approach that invests equally over the *entire market*. The article in the October *AAIL Journal*, "How's the Market Doing," pointed out that there is a problem in defining the market. Is it all companies, or just large companies. Is it each company treated equally or each weighted by the number of shares outstanding. Most index funds will use a market value index with only larger com-

panies to define the market. That might not be your definition so an index fund may not be an index of the stock market but only of a certain portion of it. Any index fund based on the S & P 400 industrials over the past 5 years was only going to do as well (less costs) as the S & P 400 — considerably poorer than the broader Value Line or M/G index not to mention the amazing American Stock Exchange performance.

A second problem is that while a broadly diversified portfolio (of which an index fund is the most broad) will eliminate unsystematic error, it will have systematic error equal to the market (as the index defines the market) or a beta of 1.0. Efficiency in the economic system awards higher yields to those who accept higher risk. You will get average yield for average risk in an index approach, but perhaps average risk is not suitable for you. You may be in a position to assume more risk to get higher yields or you may not be in a position to accept risk as high as the market average. In either case you should choose a diversified portfolio of stocks in the appropriate risk class rather than go into an index fund. Even with the assumption of an efficient market using an index fund depends on a match between your definition of "the market" and the fund's and on a match between the average risk of the stock market and level of risk suitable for you.

Under an efficient market assumption an index approach is very appropriate to a large pension fund since they must assume an average risk attitude and cannot effectively invest in small companies anyway.