

" More choices . . .
more flexibility . . ."

These terms are frequently used to describe the benefits of options on financial futures. But for many newcomers, the first words that may actually come to mind are " more confusing."

Options on financial futures needn't be a difficult topic. With an understanding of just a few basic concepts, you can begin to reap the many benefits they afford. And that understanding doesn't have to come with a great deal of difficulty.

If you're new to the option market, but have had some exposure to financial futures, this booklet is designed for you. It is intended to give the financial professional, as well as the sophisticated individual investor, a basic introduction to options on financial futures.

Not too complex. Not too basic. Just enough information to help you ask the right questions so you can start using these markets to your advantage.

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Introduction

Options on financial futures began trading at the Chicago Board of Trade (CBOT®) in 1982. Since then, trading volume in these contracts has grown dramatically—placing them consistently on the lists of the most actively traded contracts in the world. They have become indispensable tools for risk management and speculative trading.

For all that, many potential users have yet to tap these markets and take advantage of the many benefits they offer. One of the major reasons for that is the frequently expressed perception that options are too difficult and time-consuming to learn. Without a doubt, these markets involve their share of terminology and jargon. But this booklet eliminates as much of that as possible and cuts directly to your most important question: **“What can options do for me?”**

In this booklet, we’ll help you take the first step toward answering that question. We’ll help you gain a basic understanding of how options work and how you might use them by focusing on potential applications. Before you begin trading, though, you’ll need to master the details of option trading.

If you decide you want to take the next step, we’ll point to additional resources you can use. Or you may choose to consult a qualified broker or professional money manager and ask them to guide you to additional resources.

Whatever course you choose, we’re certain that you’ll find an application to suit your needs.

Options Offer Flexibility

Since options are virtually synonymous with flexibility, let’s begin by getting a sense of the range of possibilities.

First, assume you manage a portfolio of bonds. Because you own bonds, your market exposure looks like this:



If the market goes up, your bond portfolio gains in value. But if the market goes down, so does the value of your bonds.

What if you were uncomfortable about assuming this much exposure to declining prices? You might be concerned that the market is heading toward a major downturn, and you don’t want to go unprotected. At the same time, you’d hate to miss out on an unexpected rally.

By using options, you could design a position that would change the performance of your portfolio, so that the payout would look like this:



Notice that this position provides downside protection while allowing you to participate in a bull market.

But let's assume that while you like the idea of setting a floor to protect the value of your portfolio, this floor is a little lower than you'd like. You'd rather buy more protection and raise the floor price a bit. If this is the case, you can modify your approach and design a payoff profile that looks like this instead:



Of course, this added protection, like any insurance policy, comes at a price—the cost of the options. While you're happy with this level of coverage, let's assume that you're not so happy with the cost. You may be asking yourself, "Is there some way to have my cake and eat it too?" Well, no there isn't. But there are more choices with options that might better suit your needs.

Since you don't think the chances for a rally are great, one possibility is to set a ceiling on the value of the portfolio by selling options. The income you'd receive from the sale would lessen the cost of your downside protection. In this case, your payoff profile would change to something like this:



You still have the floor set at the level you want, and you have some opportunity to participate in a rally. The big difference now is that you've considerably reduced your costs.

By now you're beginning to see just how flexible options can be. Pick your market direction. Set any floor or ceiling. Name your time parameters. An option position can be designed to suit virtually any combination of needs. Perhaps the hardest part is simply determining what your needs are and what sort of market exposure you want to assume.

Why Options Are Often the Best Choice
Options on financial futures may be perfect for your needs because they offer so many significant benefits, including:

Flexibility: As we've already demonstrated, with options you can tailor your market positions to match your risk-reward preferences.

Liquidity: CBOT financial options enjoy huge daily volume. That means the market can handle virtually any size transaction, and, more importantly, you can exit or alter positions easily and for minimal cost.

Pricing: Because CBOT financial options trade in an open, competitive marketplace, you can be assured of securing competitive and fair prices.

Creditworthiness: All trades are cleared through the Board of Trade Clearing Corporation—an institution with an exceptional record for ensuring the integrity of the CBOT's markets.

flexibility

Option buyers enjoy some additional advantages.

No Obligation: As implied by their name, options provide buyers with a right, not an obligation, to buy or sell the underlying futures contract.

Limited Risk: Once an option is purchased, a buyer's maximum risk is strictly limited to the initial amount (the premium) paid to acquire the option.

No Margin Calls: Technically, option buyers and sellers must post margin, much as futures traders do, but the margins for option buyers will never exceed the initial premium. That means no margin calls for option buyers.

Staying Power: With no demands for additional cash outlays, option buyers can typically maintain their market position even in the event of short-term adverse price moves. Option buyers enjoy "staying power."

And How About Caps, Floors, Collars . . . ?

You may already be acquainted with options and not even realize it. Caps, floors, collars, and other related products are frequently sold by financial institutions to offer their clients the ability to shape risk-return profiles to suit their needs. What many people don't realize is that these products are built on the same basic principles as any strategy using options on financial futures. Further, the institutions themselves often use exchange option markets to lay off the risks they assume in developing their customized option products.

In many cases, with only a little extra effort, you can design a comparable strategy using exchange-traded products.

That raises a question concerning how to choose between over-the-counter (OTC) and exchange-traded products in pursuing your investment or risk management goals. At the very least, you should think about cost, liquidity, and creditworthiness.

Cost: One important difference between OTC and exchange-traded

alternatives is cost. As elsewhere, you pay more for working through a middleman, particularly if the product is customized to your needs. Because of the role of standardized contract terms and the nature of the exchange price discovery process, options on financial futures typically trade at extremely competitive prices.

Liquidity: In the case of OTC products, the more customized, the less liquid. Reversing a position before expiration usually requires renegotiation with your original counterparty—frequently at terms dictated by the counterparty. Exchange trading puts you in contact with an active marketplace, so you can exit or alter positions easily and for minimal cost.

Creditworthiness: When you buy a customized product, you expose yourself or your firm to the credit of your counterparty. If that person or firm experiences financial difficulty, it may put your contract at risk. Not so with exchange products. Once the terms of the trade are matched, the Board of Trade Clearing Corporation becomes counterparty to every trade, virtually eliminating credit concerns.

control



Speaking the Language of Options

These terms answer these questions.

- Premium:
How much does the option cost?
- Expiration Date:
How long does it last?
- Call or Put:
Does it grant the right to buy, “go long,” or sell, “go short”?
- Strike Price:
At what price?
- American or European Style:
When can I exercise my rights?

As you can see, options on financial futures offer many benefits unavailable in other markets. Before we show you samples of actual applications, however, it is important to cover some basic terminology used in the option markets. Several terms are crucial to understanding the basic mechanics of options. We’ll cover the most important ones here.

Essentially, the basic option terminology provides you with a step-by-step analysis of the terms of your trade.

Before going into more detail, though, let’s first compare futures to options on futures. Futures contracts carry a specific obligation—a binding commitment to either buy or sell the underlying instrument at a predetermined date in the future. With each day’s price movement, your positions are marked to market to reflect gains or losses incurred on those positions during the course of the day.

Options, in contrast, offer more flexibility because they convey a right, not an obligation, to buy or sell the underlying futures contract. The terms of the option contract define certain common parameters.

These rights are granted by option sellers to buyers over a specified period in return for the payment of a premium. Like a futures contract, the price (called the premium) of an option is determined in the trading pits through competitive open outcry and under specific conditions set by the CBOT.

Types of Options

There are two types of options—*calls* and *puts*.

Call Options

Buyers (*also called holders*) of call options have the right to assume a long position in the underlying futures contract at the specified strike price.

Sellers (*also called writers*) of call options are obligated to assume the corresponding short futures position should the buyers choose to exercise the call.

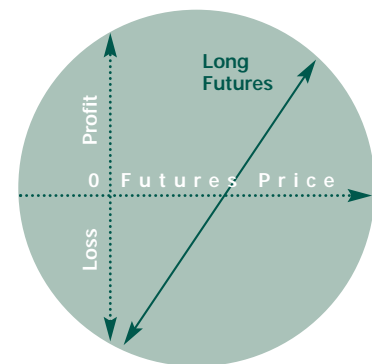
Put Options

Buyers have the right to assume a short position in the underlying futures contract at the specified strike price.

Sellers are obligated to assume the corresponding long futures position should the buyers choose to exercise the put.

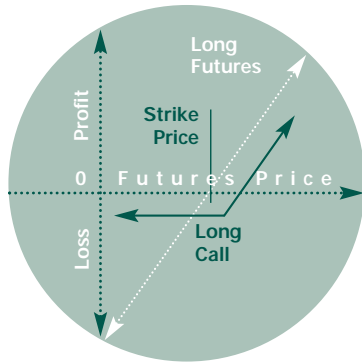
How Option Payoffs Differ from Futures Payoffs

The rights and potential obligations associated with buying and selling options create unique profit and loss payoff profiles. Where a long futures position would look like this . . .



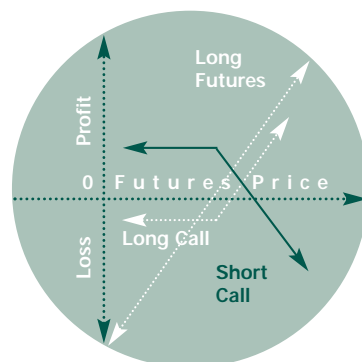
. . . the payoff profile for holding a comparable call option (which gives

the right to assume a long futures position) would look like this.



Notice that the chief advantage of the call option position is the ability to limit losses on the downside of the market. Of course, this benefit comes at a price. Option buyers must pay a premium for that right. If the market moves higher, the call option holder could participate in the rally, but not as quickly as the holder of a comparable long futures position. First, the option buyer must recoup the initial cost of the premium. Once this occurs, real gains will begin to accrue on the call position.

What about the seller of a call option? The diagram shows his position to be the mirror image of the call buyer's.

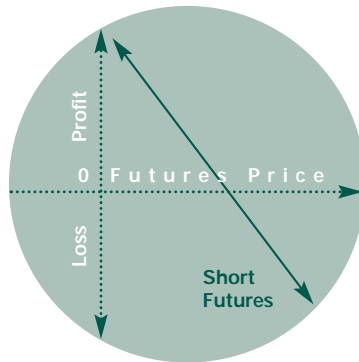


Because a call writer potentially assumes a short futures position, his market sentiment is essentially bearish. If the market stays flat or trends downward, it is likely that he will retain the premium received when he sold the option. But this is the most he can expect to gain on his position. If the market moves up instead, he could be exposed to significant losses. As with futures, though, option users can offset—that is, trade out of—their positions at any time to minimize such losses.

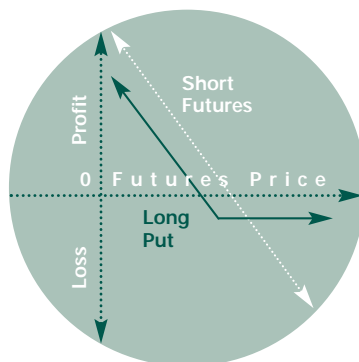
With a potential exposure to large losses and a cap on profits, you may be asking yourself why anyone would want to sell options. While option writers do take risks, they are typically well-calculated risks. The primary advantage of selling options is that the writer receives the premium up front—and keeps it as long as the market doesn't move against him. And if the market does sour, he can always liquidate his position and minimize his losses.

Further, an option seller may be writing some options while buying others or may have related futures positions. When taken in the aggregate, the combined position may not carry as much risk as an outright option sale. Nevertheless, selling options is more risky than buying them, so option writing becomes a viable strategy only after an investor has gained knowledge and experience with options.

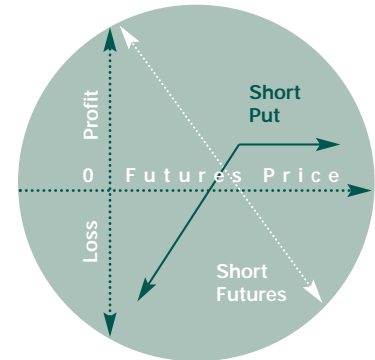
Put options are completely separate and distinct from call options. They are similar to calls, though, in setting limits on gains or losses. But since puts provide the buyer with the right to assume a short futures position, the payoff profiles for puts “change direction” as compared to calls. To illustrate, the diagram shows the payout profile of a short futures position.



Compare that with the payout profile for holding a put option.



The put buyer still has a bearish market sentiment but can limit losses on the upside. Like the call buyer, he pays the premium up front for the rights granted by the option. In contrast, the person who sold the put option would experience a mirror image payoff profile.



Writing put options entails risks comparable to selling calls and should only be undertaken after gaining sufficient market experience.

Reading Option Prices

Most financial futures contracts listed at the CBOT are quoted in points and 64ths of a point. Options on financial futures tend to have a smaller minimum price increment. For the most part, option premiums for the CBOT’s financial contracts are quoted in points and 64ths of a point. One major exception is the 2-year Treasury note option, which has a minimum price fluctuation of 1/2 of 1/64th.

Because options are quoted in terms of premium value, their prices look much different from futures prices. While T-bond futures may be priced at 110-00 (for a market value of \$110,000 a contract), a call option with the same strike price could be quoted as 2-00 (meaning a premium of \$2,000 a contract).

Because option contracts are available over a wide range of strike prices and expirations, option price quotes typically consume more space than their

futures equivalents. Numerous national and local newspapers and screen-based quote vendors carry futures and options prices and volume and open interest figures. To illustrate, the table shows CBOT T-bond option prices as they appear in *The Wall Street Journal*.

1. The first column lists several strike prices for T-bond options. In reality, the exchange lists many more strike prices, but the newspaper only displays those closest to the current futures prices.

2. Option premiums for calls expiring in December, January, and March appear in the next three columns. One-point strike intervals are listed only for the current month and all serial months (nonquarterly). Here, March has two-point strike intervals.

3. The last three columns show the same expiration months for put options.

4. Estimated total volume appears below the columns; actual volume from the previous trading day, separated by calls and puts, is on the following line.

5. Actual open interest (the number of outstanding contracts) from the previous trading day, also broken down by calls and puts, appears on the last line.

Understanding Premium Values

One of the most important aspects of option trading is pricing. Recall that options convey rights rather than underlying market prices. Not surprisingly, determining the value of a right is often more difficult than determin-

The table is titled "INTEREST RATE" and is divided into two sections: "T-BONDS (CBT)" and "T-NOTES (CBT)". Both sections are for "\$100,000; points and 64ths of 100%".

T-BONDS (CBT) Data:

Strike	Dec	Jan	Mar	Dec	Jan	Mar
115	3-49	2-60	...	0-00	0-37	...
116	1-53	...	3-12	0-07	0-57	1-53
117	1-43	1-43	...	0-30	1-19	...
118	0-28	1-12	2-10	0-46	1-52	2-50
119	0-09	0-52	...	1-27
120	0-02	0-03	1-25	2-29	...	3-63

Below the table, it lists: Est. vol. 185,000; Fr vol. 49,883 calls; 77,583 puts; Op. Int. Fri 394,834 calls; 396,909 puts.

T-NOTES (CBT) Data:

Strike	Dec	Jan	Mar	Dec	Jan	Mar
101
102
103

ing the underlying market price. Detailed pricing models that are generally accepted by the market allow investors to compute option values. It is not critical to study these models, but it is important to know what factors they measure in order to determine the price for an option. In the broadest sense, an option's premium can be divided into two major categories—intrinsic value and time value.

Intrinsic Value

Intrinsic value is the easiest to compute. It represents the amount realized by the option holder if he were to exercise his option immediately. In other words, intrinsic value reflects the relationship of the option strike price to the current underlying futures price. An option that has positive intrinsic value is said to be in the money.

For example, if you held a call option with a strike price of 108-00 and the current futures price was 110-00, your

pricing

option would have two points of intrinsic value. In other words, you could exercise that option, assume a long futures position at 108-00, and immediately realize a gain of \$2,000 a contract (\$1,000 per point).

Your option would be at the money, however, if the futures price was equal, or nearly equal, to the option strike price.

If the futures market were trading below your strike price of 108-00, the option would be considered out of the money since there would be no value in exercising it.

Intrinsic Value vs. Time Value

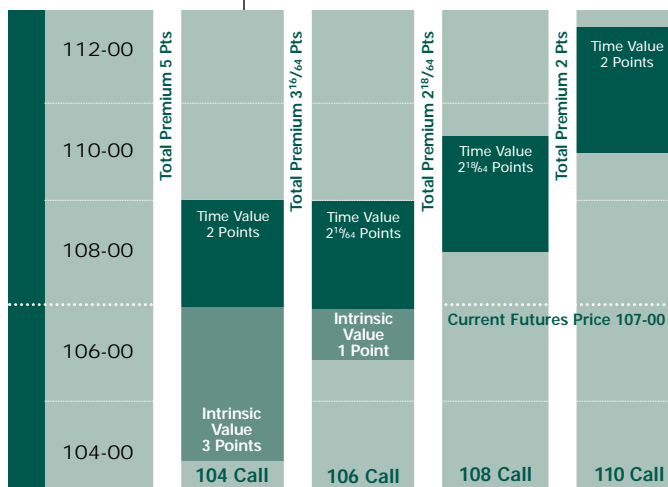
The labels in, at, and out of the money always apply from the perspective of the option buyer. Option sellers, on the other hand, prefer that they remain at or out of the money, because this improves their chances of retaining the premium income received.

Calculating Intrinsic Value		
	Call Option	Put Option
In the Money	Futures > Strike	Futures < Strike
At the Money	Futures = Strike	Futures = Strike
Out of the Money	Futures < Strike	Futures > Strike

Keep in mind, too, that the relationship between the futures price and strike price reverses for puts. The table shows how to evaluate the “moniness” of an option.

Time Value

Time value, the other major component of an option’s premium, refers to its value over and above its intrinsic value. Time value reflects the possibility that an option will gain in intrinsic value and move into the money before it expires. In other words, even out-of-the-money options have a price because they may move into the money. As an option holder, you own a right contingent on that possibility.



The chart shows four hypothetical call options. With the futures price at 107-00, only two options are in the money and, as a result, have any intrinsic value. In terms of time value, all four options share the same expiration date and volatility levels, so they would tend to have similar time value premiums. Time value, however, is also affected by the relationship of the strike price to the futures price. In this case, the two “near-the-money” options have more time value than those with more distant strike prices.

An option's time value is based on several option features:

Volatility

Volatility measures how much the underlying futures price is likely to change, regardless of direction, over a given time period. The more volatile the underlying market, the greater the chance that an option could move into the money. As a result, option sellers demand more time value premium for options with higher volatilities.

Time to Expiration

With all else equal, the more time an option has until expiration, the greater its time value. An option that has more time before expiration has more time to increase in value. As the time to expiration nears, however, its time value declines more and more rapidly. Because of that, options are considered "wasting assets."

Futures Price vs. Strike Price

Time value is typically greatest when an option is at the money. This is because at-the-money options have the greatest likelihood of moving into the money before expiration. In contrast, most of the time value in a deep in-the-money option is eliminated, because there is a high level of certainty that the option will not move out of the money. Similarly, a deep out-of-the-money option is unlikely to move into the money.

Short-Term Interest Rates

Short-term interest rates are important only insofar as they relate to financing the option premium purchase.

The effect of this variable is minimal relative to the other factors. But it is a standard component of option pricing models.

A simple table pulls together all that information. The table shows how various factors affect the values of puts and calls. If the current futures price rises, the down arrow shows a corresponding decrease in the value of the put. If an option has more time to expiration, the value of both puts and calls increases. And so on.

Option Pricing Factors		
	Put	Call
Current futures price		
increases	↓	↑
decreases	↑	↓
Strike price		
higher	↑	↓
lower	↓	↑
Time to expiration		
more	↑	↑
less	↓	↓
Futures volatility		
increases	↑	↑
decreases	↓	↓

volatility

Options frequently follow different trading schedules than the underlying futures contracts. An option on a CBOT financial futures contract stops trading toward the end of the month prior to the futures expiration month. For example, a March T-bond option will stop trading in late February. Options on most cash-settled contracts, such as options on municipal bond futures, stop trading on the same day as the underlying futures.

How to Exit an Option Position

Options also differ from futures in terms of how you can liquidate positions. If you want to exit an option position, you can exercise your option, offset it, or let it expire.

1. Let it expire. If the option is out of the money, this is the most logical choice. In-the-money options will be automatically exercised at expiration, unless you give notice to the Board of Trade Clearing Corporation.

2. Offset it. If an option has gained in value, the holder can realize his profits simply by selling it back into the market. Similarly, a seller may want to eliminate his exposure to losses or secure some portion of his premium income by buying the option back and liquidating his position.

3. Exercise into futures. For option holders, exercise means assuming a futures position at the strike price—long futures for call holders, short futures for put holders. When an option holder initiates exercise, the Board of Trade Clearing Corporation assigns a short position to a randomly chosen option writer.

Expiration Style

An important distinction among options concerns expiration style. The rights an option conveys have a finite life—up to the expiration date. During the life of the option, though, European style and American style options provide very different opportunities to investors. European style exercise occurs only at expiration while American style exercise may occur at any time up to and including expiration. Nearly all options trading on U.S. futures exchanges are American style.

Using Options for Risk Management and Profit

Now that you're familiar with the most important terminology and the rudiments of pricing and payout, you can begin to see how to use options on financial futures. The following section shows several examples of how options might be applied to speculative trading or for risk management purposes.

call

The range of possible applications for options on financial futures is virtually limitless—certainly extending well beyond the scope of this booklet. In this section, we'll look at just six examples. In each case, you'll get a clear sense of how the application works and what sort of trade-offs are involved in designing the strategy.

For the sake of simplicity, we'll only show hypothetical payoff profiles, and we'll assume that the option position is held until expiration. Also, many technical details on how to structure the trade are intentionally omitted. Numerous books and articles are rich with further details on technical issues (see Appendix A).

EXAMPLE #1

Situation: As a result of continued easing by the Fed, you expect a decrease in interest rates and a corresponding increase in bond prices.

Objective: You want to profit from the expected rally while limiting your loss potential if interest rates actually increase.

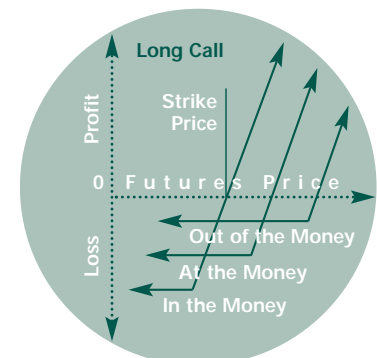
Strategy: Buy call options on Treasury bond futures.

If you anticipate a decrease in long-term interest rates—and a resulting increase in bond prices—buying T-bond call options offers the opportunity to earn a highly leveraged profit while taking a known and limited risk. You'll realize a profit at the expiration of the option if its intrinsic value is greater than the premium paid to purchase it. The initial premium defines the loss potential.

In executing this strategy, you'll have to decide which option to purchase. Typically a wide range of strike prices will be available, all sharing the same expiration date. This provides several choices ranging from deep in-the-money to deep out-of-the-money options.

As with other investments, you must balance risk and potential reward in

choosing a strike price, and that can be a complex task. In-the-money options have higher premiums but offer higher probability of expiring in the money. Out-of-the-money options look enticingly inexpensive, yet they offer lower probability of expiring in the money. The chart illustrates the difference in payoff profiles for in-, at-, and out-of-the-money options held until expiration.



Of course, you don't have to hold your option to expiration. Various factors can cause in-, at-, and out-of-the-money options to perform differently before then. If the market has rallied and your option has increased in value to the extent that you want to take your profits, you can always offset it (sell) or exercise it. This may be to your advantage if you're concerned that the market will reverse direction, and you'll lose your gains prior to expiration. Keep in mind, your option can gain value without going into the money because of increasing volatili-

ty, for example. Then, offset is the obvious choice. Offset is also more helpful in cases where the option is in the money and retains considerable time value. In that case, exercise captures only the intrinsic value. Offset captures both. Exercise is the obvious choice when the option is deep in the money, little or no time value remains, and liquidity factors come into play. Also, because options lose most of their time value in their final month, you may offset early to capture that extra value.

put

EXAMPLE #2

Situation: Concern over the tax-exempt status of municipal bonds is expected to drive down prices in the muni market.

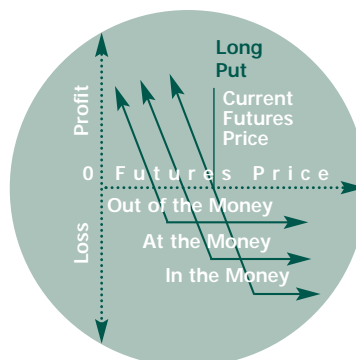
Objective: You want to profit from the potential bearish move while limiting your losses in case the market stays flat or even rallies.

Strategy: Buy put options on municipal bond futures.

A put option purchase offers the same benefits and advantages of buying calls, but is used when a bear market is expected instead of a bull move. Once again, you'll realize a profit on the position as long as the option's intrinsic value at expiration is greater than the amount you paid for it. The premium is the most you can lose in a put purchase.

You'll have to decide which strike price best suits your needs and level of risk tolerance. As was the case with calls, in-the-money puts cost more but offer better break-even points. If you purchased an out-of-the-money put

you'd pay less up front, but the market would have to move much further in your favor for you to see a profit. A comparison of put option payoff profiles appears below:





call

EXAMPLE #3

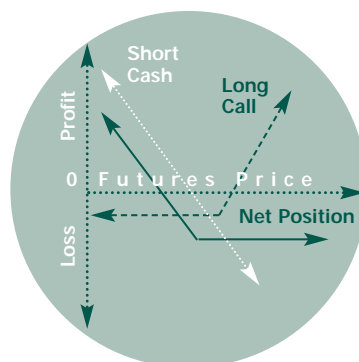
Situation: The bank you work for is planning a substantial bond purchase next quarter but is concerned that Fed actions may drive rates lower in the meantime.

Objective: You want to protect the bank against an increase in bond prices while retaining the ability to profit from a price decline.

Strategy: Buy call options on Treasury bond futures.

Call options can be a good strategy for hedging anticipated purchases. Prior to the availability of options, this type of situation would most likely have been hedged with a long futures position. But with this approach, you could only lock in a purchase price, regardless of which direction the market subsequently moved. By buying calls, you can put a ceiling on the bank's purchase price and still take advantage of potentially lower prices.

The graph below shows your cash market position and the call option purchase—as well as the net effect when the two are combined. Because you don't currently own the bonds, your cash market position is considered short and is represented by the dotted line.



The call purchase is represented by the dashed line. It gains in value if the market rallies. If prices decline, however, the option simply expires with no value, and the maximum loss is the amount of premium paid.

The net effect—or hedged position—is shown as a solid line. If prices do go up, you'd have to pay more for the bonds. But this loss is largely offset by gains on the call option. As a result, you're able to lock in a maximum purchase price.

On the other hand, if prices decline, you'd still be able to take advantage of the lower purchase price. Your net position gains in value, although not quite as quickly as the unhedged short cash market position. This is due to the initial cash outlay for the option. In other words, the hedged position lags the unhedged position by the amount of premium paid.

EXAMPLE #4

Situation: As a portfolio manager heavily invested in long-term notes, you anticipate rising interest rates and declining note prices.

Objective: You want to protect the portfolio's current market value while retaining the opportunity to profit from a rally.

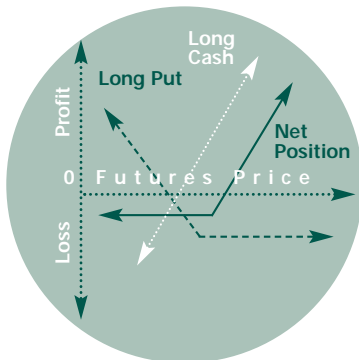
Strategy: Buy put options on 10-year Treasury note futures.

By purchasing put options, it is possible to establish what amounts to a “floor” for the value of the notes held in your portfolio—with the floor level determined by the strike price of the options you purchase. In this case, the higher the strike price, the higher the option premium and floor level. On the other hand, purchasing out-of-the-money puts provides less protection at a lower cost.

If interest rates rise and note prices decline, the gain realized from the put option would offset the decrease in the market value of the notes below whatever floor price you’ve established.

As with any financial management decision, your decision whether to buy put options and the amount of protection needed are judgement calls. Obviously, net portfolio return will be reduced by the amount you pay for the options. In the end, your decision to protect the portfolio with puts should be influenced by your market expectations and willingness to incur the risk of a decline in portfolio value.

But keep in mind that the purchase of put options does not preclude profit from an increase in note prices. In this case, your puts would expire, the notes could be sold or held at their higher market value, and the cost of the options could be regarded as the cost of having insurance.



put

call

EXAMPLE #5

Situation: You manage a tax-exempt municipal bond portfolio and expect relatively stable interest rates and bond prices.

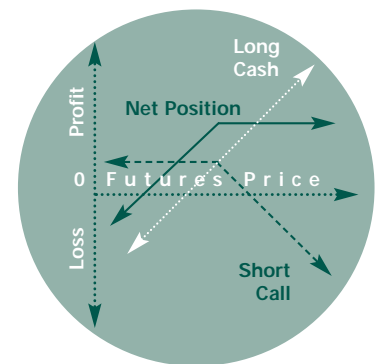
Objective: You want to increase your current portfolio return.

Strategy: Write call options on municipal bond futures.

The premium income received from writing call options can substantially increase your investment return. Simply stated, option writing strategies are essentially strategies for earning option time value. Writing options can be especially attractive at times when prices are expected to be relatively stable.

The primary trade-off with this strategy is that as a call writer, you limit your opportunity to benefit from an increase in prices during the life of the options. Writing call options establishes a “ceiling” for the potential value of the municipal bonds, with potential opportunity losses should municipal bond prices rise above that ceiling.

For this reason, your choice of option strike price is a major strategic decision. While writing out-of-the-money calls provides less premium income than at-the-money calls, the out-of-the-money calls are less likely to be exercised. And if they are, it will be at a higher price. On the other hand, writing at-the-money calls produces more premium income and may be appropriate if you feel strongly that bond prices are unlikely to rise.



Call writing programs are common in both the options on futures markets and the over-the-counter options markets. Options on futures, however, can provide more flexibility both prior to and after a potential exercise notice. If you're concerned about hitting the ceiling you've established, you can easily liquidate your position or roll into a higher strike price. And even if you did receive an exercise notice, you'd still have flexibility with regard to what you did with your resulting futures position. In contrast, an option writer on actual cash bonds who receives a notice of exercise has no choice other than to deliver the bonds.

EXAMPLE #6

Situation: You plan to add 5-year T-notes to your portfolio in the following quarter. T-note prices at that time are expected to be about the same as they are now.

Objective: You want to acquire the notes for less than the market price.

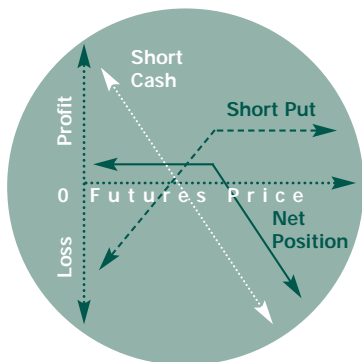
Strategy: Write put options on 5-year Treasury note futures.

This is another strategy that can be used effectively in flat markets. But recognize that if cash prices move down substantially, the purchase price at exercise will be greater than the price at which notes might be purchased in the cash market. Just as writing call options establishes a maximum selling price, writing puts sets a minimum purchase cost. The price of notes in the cash market, however, could be lower than this.

On the other hand, if prices rise above the option strike price, the notes will have to be purchased in the cash market at this higher market price. Even so, the puts would not be exercised against you, and the net cost of your notes would be reduced by the amount of the option premium retained.



put



The Next Steps

opportunity

Now that you've seen a few examples of how options on financial futures can be used, it should be apparent just how versatile these options can be in any number of applications. Also, the strategies shown here can be fine-tuned (by selecting the appropriate strike price) to create any level cap or floor that suits your needs.

Further, there are many other strategies that we didn't cover. For example, you can use a combination of long and short options to create both a floor and a ceiling—or a “collar,” as this strategy is commonly called in the over-the-counter markets. This can be a good approach if you have definite parameters in mind within which you want to limit your exposure. Also, such a long and short option strategy can often buy protection at a lower price or enhance returns with more limited risk.

Besides investigating other option strategies, you may want to consider the CBOT's Flexible Treasury Options contracts. These important new option contracts allow you to further customize your positions by choosing any strike price, any expiration date, and either American or European exercise style—while maintaining the security of exchange-traded products. They're offered on all four underlying Treasury futures contracts (Treasury bond, and 10-, 5-, and 2-year Treasury note futures). Since the CBOT sets a minimum of 100 contracts to request a quote or to initiate a trade, Flexible Treasury Options are designed primarily for institutional users.

If you'd like to explore more applications for trading in any CBOT financial option contracts, or for using them in financial risk management, simply visit the CBOT web site at www.cbot.com to find helpful information and a list of related publications. Also, a list of several reference books appears in Appendix A. Keep in mind that you should have a thorough understanding of your risk-reward profile before trading options on financial futures.

As you continue to develop your knowledge about options on financial futures, we're sure you'll agree—options are often the best choice.

Appendix A

Sources of More Information

Selected Bibliography

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Appendix B

CBOT Contract Specifications

Trading Hours: For the most current trading hours and contract specifications, visit our web site at www.cbot.com or call 312-435-3570.

Options on U.S. Treasury Bond Futures

Trading Unit	One CBOT U.S. Treasury Bond futures contract (of a specified delivery month) having a face value at maturity of \$100,000 or multiple thereof
Tick Size	$\frac{1}{64}$ of a point (\$15.625/contract) rounded up to the nearest cent/contract
Strike Prices	1-point strikes (\$1,000) for the two front-month serial expirations and the front-month quarterly expiration in a band consisting of the at-the-money, 15 above, and 15 below. 2-point strikes (\$2,000) are listed outside this band. Back months are also listed in 2-point strike price intervals.
Contract Months	The first three consecutive contract months (two serial expirations and one quarterly expiration) plus the next two months in the quarterly cycle (Mar, Jun, Sep, Dec). There will always be five months available for trading.
Last Trading Day	Options cease trading in the month prior to the delivery month of the underlying futures contract. Options cease trading at the same time as the underlying futures contract on the last Friday preceding by at least five (two*) business days the last business day of the month preceding the option contract month.
Exercise	The buyer of a futures option may exercise the option on any business day prior to expiration by giving notice to the Board of Trade Clearing Corporation by 6:00 p.m. Chicago time. Options that expire in the money are automatically exercised into a position, unless specific instructions are given to the Board of Trade Clearing Corporation.
Expiration	Unexercised options expire at 10:00 a.m. Chicago time on the first Saturday following the last day of trading.
Ticker Symbols	Open Outcry: CG for calls/PG for puts Electronic: OZB
	Flexible Treasury Bond Options have flexible terms for strike prices and contract months.
	Ticker Symbols: CG for American style calls PG for American style puts EBC for European style calls EBP for European style puts

* Effective with June 2001 contracts

Options on 10-Year U.S. Treasury Note Futures

Trading Unit	One CBOT 10-Year U.S. Treasury Note futures contract (of a specified delivery month) having a face value at maturity of \$100,000 or multiple thereof
Tick Size	1/64 of a point (\$15.625/contract) rounded up to the nearest cent/contract
Strike Prices	1 point (\$1,000/contract) to bracket the current T-note futures price. If 10-year T-note futures are at 92-00, strike prices may be set at 89, 90, 91, 92, 93, 94, 95, etc.
Contract Months	The first three consecutive contract months (two serial expirations and one quarterly expiration) plus the next two months in the quarterly cycle (Mar, Jun, Sep, Dec). There will always be five months available for trading.
Last Trading Day	Options cease trading in the month prior to the delivery month of the underlying futures contract. Options cease trading at the same time as the underlying futures contract on the last Friday preceding by at least five (two*) business days the last business day of the month preceding the option contract month.
Exercise	The buyer of a futures option may exercise the option on any business day prior to expiration by giving notice to the Board of Trade Clearing Corporation by 6:00 p.m. Chicago time. Options that expire in the money are automatically exercised into a position, unless specific instructions are given to the Board of Trade Clearing Corporation.
Expiration	Unexercised options expire at 10:00 a.m. Chicago time on the first Saturday following the last day of trading.
Ticker Symbols	Open Outcry: TC for calls/TP for puts Electronic: OZN Flexible 10-Year Treasury Note Options have flexible terms for strike prices and contract months. Ticker Symbols: TC for American style calls TP for American style puts ENC for European style calls ENP for European style puts

* Effective with June 2001 contracts

Options on 5-Year U.S. Treasury Note Futures

Trading Unit	One CBOT 5-Year U.S. Treasury Note futures contract (of a specified delivery month) having a face value at maturity of \$100,000 or multiple thereof
Tick Size	1/64 of a point (\$15.625/contract) rounded up to the nearest cent/contract
Strike Prices	One-half point (\$500/contract) to bracket the current T-note futures price. For example, if 5-year T-note futures are at 94-00, strike prices may be set at 92.5, 93, 93.5, 94, 94.5, 95, 95.5, etc.
Contract Months	The first three consecutive contract months (two serial expirations and one quarterly expiration) plus the next two months in the quarterly cycle (Mar, Jun, Sep, Dec). There will always be five months available for trading.
Last Trading Day	Options cease trading in the month prior to the delivery month of the underlying futures contract. Options cease trading at the same time as the underlying futures contract on the last Friday preceding by at least five (two*) business days the last business day of the month preceding the option contract month.
Exercise	The buyer of a futures option may exercise the option on any business day prior to expiration by giving notice to the Board of Trade Clearing Corporation by 6:00 p.m. Chicago time. Options that expire in the money are automatically exercised into a position, unless specific instructions are given to the Board of Trade Clearing Corporation.
Expiration	Unexercised options expire at 10:00 a.m. Chicago time on the first Saturday following the last day of trading.
Ticker Symbols	Open Outcry: FL for calls/FP for puts Electronic: OZF
	Flexible 5-Year Treasury Note Options have flexible terms for strike prices and contract months. Ticker Symbols: FL for American style calls FP for American style puts EFC for European style calls EFP for European style puts

* Effective with June 2001 contracts

Options on 2-Year U.S. Treasury Note Futures

Trading Unit	One CBOT 2-Year U.S. Treasury Note futures contract (of a specified delivery month) having a face value at maturity of \$200,000 or multiple thereof
Tick Size	½ of 1/64 of a point (\$15.625/contract) rounded up to the nearest cent/contract
Strike Prices	One-quarter point (\$500/contract) to bracket the current T-note futures price. For example, if 2-year T-note futures are at 94-00, strike prices may be set at 93.25, 93.50, 93.75, 94.00, 94.25, 94.50, 94.75, etc.
Contract Months	The first three consecutive contract months (two serial expirations and one quarterly expiration) plus the next two months in the quarterly cycle (Mar, Jun, Sep, Dec). There will always be five months available for trading.
Last Trading Day	Options cease trading in the month prior to the delivery month of the underlying futures contract. Options cease trading at the same time as the underlying futures contract on the last Friday preceding by at least five (two*) business days the last business day of the month preceding the option contract month.
Exercise	The buyer of a futures option may exercise the option on any business day prior to expiration by giving notice to the Board of Trade Clearing Corporation by 6:00 p.m. Chicago time. Options that expire in the money are automatically exercised into a position, unless specific instructions are given to the Board of Trade Clearing Corporation.
Expiration	Unexercised options expire at 10:00 a.m. Chicago time on the first Saturday following the last day of trading.
Ticker Symbols	Open Outcry: TUC for calls/TUP for puts Electronic: OZT Flexible 2-Year Treasury Note Options have flexible terms for strike prices and contract months. Ticker Symbols: TUC for American style calls TUP for American style puts ETC for European style calls ETP for European style puts

* Effective with June 2001 contracts

Options on Long-Term Municipal Bond Index Futures

Trading Unit	One CBOT Long-Term Municipal Bond Index futures contract (of a specified delivery month)
Tick Size	1/64 of a point (\$15.625/contract) rounded up to the nearest cent/contract
Strike Price	1 point (\$1,000) to bracket the current muni bond futures price
Contract Months	The first three consecutive contract months (two serial expirations and one quarterly expiration) plus the next two months in the quarterly cycle (Mar, Jun, Sep, Dec). There will always be five months available for trading.
Last Trading Day	Quarterly options cease trading at the same time as the underlying futures contract on the last day of trading of the Municipal Bond Index futures of the corresponding delivery month. Options not in the quarterly cycle cease trading at noon on their last day of trading. The last day of trading for these options is the last Friday preceding by at least five (two*) business days the last business day of the expiration month.
Exercise	The buyer of a futures option may exercise the option on any business day up to and including the expiration day by giving notice to the Board of Trade Clearing Corporation by 6:00 p.m. Chicago time. Options in the money on the last day of trading are automatically exercised.
Expiration	Unexercised options expire at 6:00 p.m. Chicago time on the last day of trading.
Ticker Symbols	Open Outcry: QC for calls/QP for puts Electronic: OZU

* Effective with May 2001 contracts

CBOT® Dow Jones Industrial AverageSM Futures Options*

Trading Unit	One CBOT® Dow Jones Industrial Average SM futures contract
Tick Size	.05 (\$5)
Strike Price	100 index points (\$1,000)
Daily Price Limit	<p>Floor Trading: Successive 10%, 20%, and 30% price limits based on the average daily close of the cash index in the last month of the preceding quarter. Price limits are effective only for limit moves <i>below</i> the previous day's close.</p> <p>Project A Trading: 2.5% price limit based on the average daily close of the cash index in the last month of the preceding quarter. The price limit is effective for limit moves <i>above</i> and <i>below</i> the previous day's close.</p> <p>If trading in the CBOT® DJIASM futures halts, the options will also cease trading.</p> <p>For the most current daily price limit information, visit our web site at www.cbot.com or call 312-435-3570.</p>
Contract Months	The front month of the current quarter plus the next three contracts of the quarterly cycle (Mar, Jun, Sep, Dec). Additionally, serial month options will be added such that four consecutive contract months will be listed.
Last Trading Day	For quarterly expirations, the trading day preceding the final settlement day for the underlying futures contract. For serial expirations, the third Friday of the option contract month.
Exercise	Any business day the option is traded
Expiration	Unexercised quarterly expiration options expire at 7:00 p.m. Chicago time on the business day following the last trading day. Unexercised serial expiration options expire at 7:00 p.m. on the last trading day.
Ticker Symbols	Open Outcry: DJC for calls/DJP for puts Electronic: OZD

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MidAm Contract Specifications

Trading Hours: For the most current trading hours and contract specifications, visit our web site at www.midam.com or call 312-341-3000.

Options on U.S. Treasury Bond Futures

Trading Unit	One CBOT U.S. Treasury Bond futures contract (of a specified delivery month) having a face value at maturity of \$50,000 or multiple thereof
Tick Size	$\frac{1}{64}$ of a point (\$7.81/contract) rounded up to the nearest cent/contract
Strike Prices	1-point strikes (\$500) for the two front-month serial expirations and the front-month quarterly expiration in a band consisting of the at-the-money, 15 above, and 15 below. 2-point strikes (\$1,000) are listed outside this band. Back months are also listed in 2-point strike price intervals.
Contract Months	The first three consecutive contract months (two serial expirations and one quarterly expiration) plus the next two months in the quarterly cycle (Mar, Jun, Sep, Dec). There will always be five months available for trading.
Last Trading Day	Options cease trading in the month prior to the delivery month of the underlying futures contract. Options cease trading at the same time as the underlying futures contract on the last Friday preceding by at least five (two*) business days the last business day of the month preceding the option contract month.
Exercise	The buyer of a futures option may exercise the option on any business day prior to expiration by giving notice to the Board of Trade Clearing Corporation by 6:00 p.m. Chicago time. Options that expire in the money are automatically exercised into a position, unless specific instructions are given to the Board of Trade Clearing Corporation.
Expiration	Unexercised options expire at 10:00 a.m. Chicago time on the first Saturday following the last day of trading.
Ticker Symbols	XBC for calls/XBP for puts

* Effective with June 2001 contracts

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