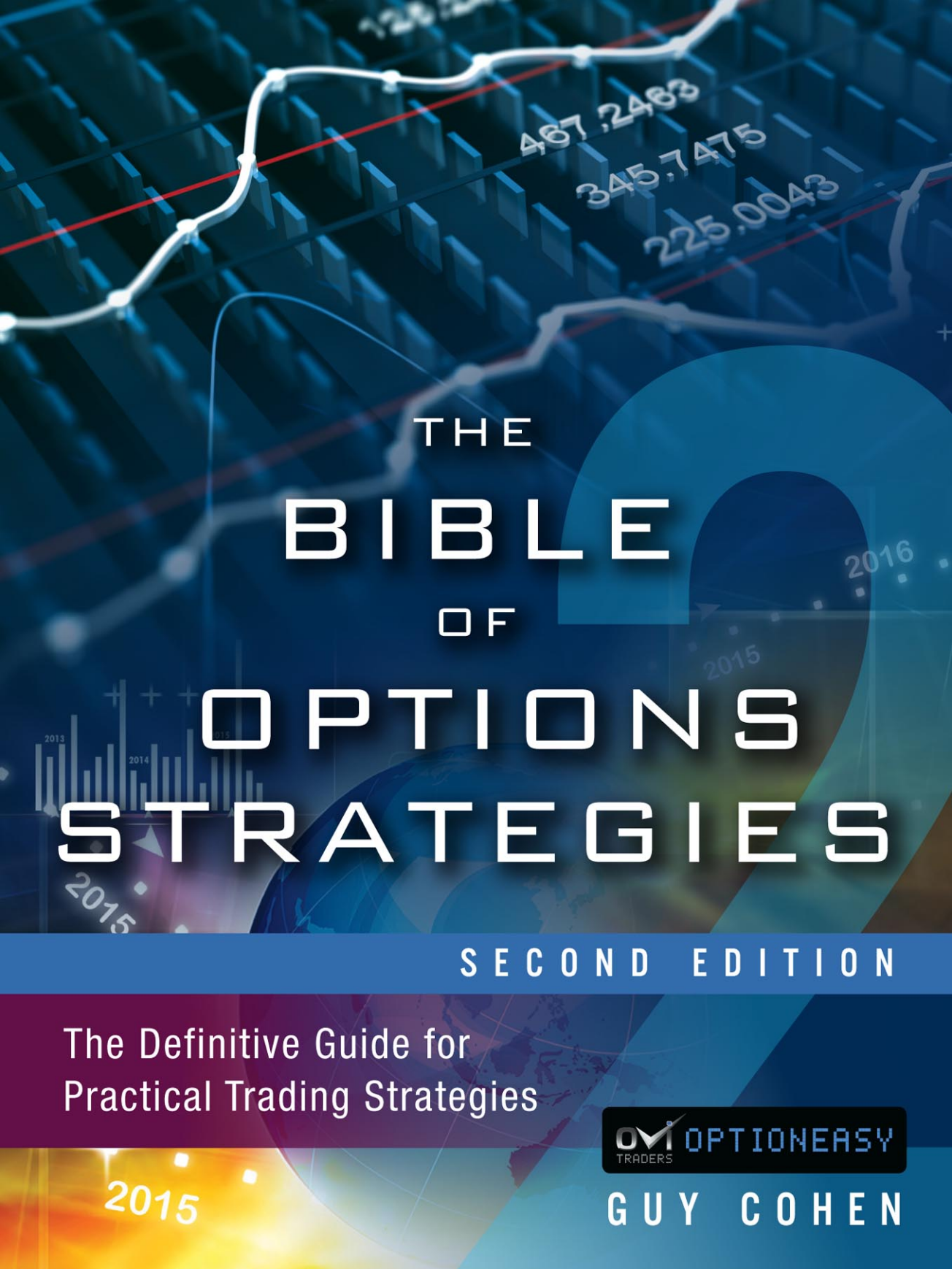
THE
BIBLE
OF
OPTIONS
STRATEGIES
SECOND EDITION
The Definitive Guide for
Practical Trading Strategies
OPTIONEASY
TRADERS
GUY COHEN
2015

Praise for the First Edition

"Guy Cohen is the master when it comes to taming the complexities of options. From buying calls and puts to iron butterflies and condors, Guy explains these strategies in a clear and concise manner that options traders of any level can understand. … *The Bible of Options Strategies* is a straightforward, easy-to-use reference work that should occupy a space on any options trader's bookshelf."
—**Bernie Schaeffer**, Chairman and CEO, Schaeffer's Investment Research, Inc.

"The author delivers clarity, insight, and perception, making learning about options a joy, and practicing the art of making money that much easier: truly a bible from a guru."
—**Alpesh B. Patel**, Author and *Financial Times* Columnist

"Guy Cohen truly makes learning about options easy in this fact-filled guide. Bullet points make for a quick and enlightened read, getting to the heart of what you really need to know about each options strategy. This book is a must for any serious trader's library."
—**Price Headley**, Founder, BigTrends.com

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The Bible of Options Strategies, Second Edition

The Definitive Guide for Practical Trading Strategies

Guy Cohen

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Preface

How to Use This Book

Options give investors so much flexibility that when it came to writing a book named *The Bible of Options Strategies,* I found myself cursing just how flexible they can be! Fifty-eight options strategies is a lot of ground to cover, but in reviewing them all again (I've done it several times), I was reminded of the beauty of these amazing trading instruments.

Options give you the ability to do so many things—they enable you to configure your investment aims in any way you like. The benefits of options are often trotted out to new students or prospective customers as the first salvo of an up-sell campaign, but they're worth looking at again, this time from a *practical* point of view.

Options enable you to:

- **Control more assets for less money.**

  One option contract represents 100 shares of stock and is usually a fraction of the cost of what you'd pay for the equivalent number of shares.

  For example, ABCD stock is priced at $26.20 on June 2, 2015.

  An option to *buy* ABCD shares (a call option) might be priced at 2.60. Because one contract represents 100 shares, you can therefore buy one ABCD call contract for $260.00 [100 × 2.60]. The alternative would be to buy 100 shares of the stock for a total sum of $2,620. So, in this example, you can buy ABCD call options for around 10% of the stock price in order to control $2,620 of ABCD stock until the appropriate expiration date of the option.

- **Trade with leverage.**

  Because the cost basis is so low, the position is much more sensitive to the underlying stock's price movements, and hence your percentage returns can be so much greater.

- **Trade for income.**

  You can design strategies specifically for the purpose of generating income on a regular basis.

- **Profit from declining stocks**.

  You can use puts and calls to ensure that you can make money if the stock goes up, down, or sideways.

- **Profit from volatility or protection against various factors.**

  Different options strategies protect you or enable you to benefit from factors such as time decay, volatility, lack of volatility, and more.

- **Reduce or eliminate risk.**

  Options enable you to substantially reduce your risk of trading, and in certain rare cases, you can even eliminate risk altogether, albeit with the trade-off of very limited profit potential.

So, with all the different benefits of options, why on earth would traders *not* be curious to learn more about them? Well, for a start, the initial barrier to entry is quite high, in that options are reasonably complex instruments to understand for the first time. After you're over that hurdle, though, they become more and more fascinating! The other reason is that there is such a multitude of other investment securities for people to choose from. Many will pick what seems like the simplest, rather than what may fit their investment aims the best.

Given that options can be a challenge, it's my job to make life as simple as possible for you. One of the ways in which I do this is to break things down into pictures so you can *see* what you're doing. As soon as you can see what you're doing, life becomes much clearer when you're creating options strategies. Everything to do with OptionEasy and all my material is designed to be visual-friendly. This goes back to when I started to learn all about options and the fact that the penny only started to drop when I converted the concepts into pictures. All of a sudden, everything fit into place, and I started to be able to extend logic faster and further than before.

This book is designed to be a reference book, one that you can pick up anytime to learn about and understand a strategy. It isn't an academic workbook. It's a practical book, written for traders, designed to work interactively with your trading activities. As the title suggests, it's a book about options strategies, of which we take on 58! That's not to say you need to learn about each and every one of them, but at least you have the choice!

In order to make life easier for you, we categorize the strategies into different descriptions for the following criteria:

Proficiency Level

Each strategy is assigned a "value" in term of its suitability for different levels of trader. Each level is given an associated icon.

 Strategies suitable for novices

 Strategies suitable for intermediates

 Strategies suitable for advanced traders

 Strategies suitable for expert traders

The allocations are defined according to a subjective view of complexity, risk, and desirability of the strategy. Therefore, some highly risky and undesirable strategies have been put into the *Expert* basket in order to warn novices and intermediates away. Also, *Novice* strategies are not exclusive to novice traders. It's simply a question of suitability, and novice strategies are highly relevant and suitable to all levels of trader.

In some cases, the strategy is not complex at all but is considered unacceptably risky for novice and intermediate traders (at least without a warning). I have tried to be objective here, but I'm mindful not just of my own experiences but also the many students who regularly show me their trading disasters! Conservative by nature, I'm a believer that *loss of opportunity is preferable to loss of capital*, and perhaps some of these rankings bear testimony to this philosophy.

Market Outlook

This is where we define whether a strategy is suitable to bullish, bearish, or direction-neutral outlooks.

 Strategies suitable for bullish market conditions

 Strategies suitable for bearish market conditions

 Strategies suitable for sideways market conditions

Volatility

Volatility is one of the most important factors affecting option pricing and therefore option trading. You really should familiarize yourself with the concept, which, forgive the plug, is dealt with in my first book, *Options Made Easy (Third Edition)*.

Here, we define whether a strategy is suitable for trades anticipating high volatility or low volatility in the markets. Some strategies, such as straddles, require high volatility after you've placed the trade, so a straddle would fall into the High Volatility category.

 Strategies suitable for high-volatility markets

 Strategies suitable for low-volatility markets

Risk

With any trade you're looking to make, you must be aware of your potential risk, reward, and breakeven point(s).

Some strategies have unlimited risk; others have limited risk, even if that "limited" risk means 100% of the trade. Believe it or not, sometimes with options it's possible to lose more than 100%. In such cases, or when there is no definable stop to the potential risk of a trade, you're well advised to be aware of such a position in advance!

Here, we show you which strategies have capped or uncapped risk. Strategies with uncapped risk aren't necessarily all bad, but you should at least be aware of what you are getting into. Often you can mitigate such risk with a simple stop-loss provision, in which case you're not going to liable to uncapped risk. Often, such uncapped risk scenarios only occur if the stock falls to zero or rises to infinity, which mostly are rare circumstances, but you're better off being aware!

Strategies with capped risk

Strategies with uncapped risk

Reward

Following the risk scenarios described previously, the strategies also have potential reward scenarios, too.

Just because a strategy has unlimited reward potential doesn't mean that it's necessarily a great strategy, and just because it may have capped reward doesn't mean it's necessarily a bad strategy.

Strategies with capped reward

Strategies with uncapped reward

Strategy Type

Strategies can be used for income purposes (usually short-term) or to make capital gains. Many traders like the covered call because it's suitable for novices and because it's an income strategy that they can use every month.

Income strategies

Capital gain strategies

Strategy Legs

Each strategy contains different legs. Some have just one, and others have up to four. Each leg must be composed of any one of the basic four option strategies (long or short call or put) or a long or short stock position. Here's how we identify them:

Long stock

Short stock

Long call

Short call

Long put

Short put

All strategies contain real-life examples at the end of each guide.

Chapter by Chapter

In terms of structure, I've tried to make this book as easily navigable as possible, and much of that is solved by matrix-style tables of contents.

Each chapter contains strategies that are commensurate with a specific style of options trading. Inevitably there's some overlap between chapters for certain strategies, which we address in the appropriate places.

This second edition of this book includes an "Introduction to Options" and also a "Trading with the OVI" indicator.

Options are useful instruments to trade—that's the main point of this book. However, their very existence can also be examined with a view to analyzing whether options activity can yield an edge for stock traders.

That may sound like the tail wagging the dog, but it is emphatically proven by independent studies. The logic for this is that the options market attracts intelligent, informed, and professional investors. If we can determine the direction of their position-building activity, we can follow that direction. If they are indeed "informed and intelligent," we should therefore have an edge.

Empirical studies reveal this to be the case, and therefore my stock analysis involves the OVI as well as very select technical patterns.

Following the two introductions we then get into the options strategies themselves.

Chapter 1 addresses the basic strategies, including buying and selling stocks and then buying and selling calls and puts. After you understand those cornerstones and how the pictures relate to each strategy, then you can fast-forward to any part of the book and any strategy you like. All strategy guides are modular and follow the same format so that you can become familiar with the style and structure of the content.

Chapter 2 is all about income strategies. An income strategy is when you're effectively a net seller of short-term options, which generates (monthly) income. You

have to be careful, though, not to expose yourself to unlimited risk scenarios, which is why we use icons to identify excess risk.

In Chapter 3, we cover "vertical spreads." A vertical spread is where we buy and sell the same numbers of the same options (calls or puts) but with different strike prices. Obviously, there's some overlap here with other chapters, which is why the chapter is comparatively small.

Chapter 4 goes into volatility strategies and is bound to be as popular as the income strategies chapter. Here we address those strategies that benefit from increasing volatility *after you've placed the trade*.

In Chapter 5, we reverse this and explore those strategies that benefit from decreasing volatility *after you've placed the trade*. So here we're looking for stocks that we think will be rangebound for some time. Typically these are short-term strategies.

Chapter 6 identifies the ratio spreads and backspreads, where you're using increasing leverage to increase your returns. These are for advanced and experienced traders only!

In Chapter 7, we look at synthetic strategies that mainly mimic other strategic goals, using a combination of stock legs, call legs, and put legs. For example, we can replicate owning a stock purely by buying and selling calls and puts in such a way that we hardly pay any cash out. In other words, we've simulated the risk of owning the stock, but with no cash outlay. We can also synthetically re-create straddle positions and other strategies.

Strategy by Strategy

Each strategy is presented in a modular format. In this way, the book should be easy to navigate. The modules are numbered, and the numbering system applies throughout each chapter and each strategy:

- The first number refers to the chapter itself. So, all headings in Chapter 2 will start with "2."
- The second number refers to the strategy in question. So, 2.1 refers to the first strategy (covered call) in Chapter 2.
- The third number refers to the module. So, 2.1.1 refers to the "Description" module for the first strategy (covered call) in Chapter 2. Because the modules are identical throughout the book, each module number is the same throughout all the strategies. Therefore, module "1," which appears as the third decimal place, is always "Description." The modules are outlined as follows:
  - x.y.**1** Description

  Here, we describe the strategy in both words and pictures. We identify the steps for each leg and some general comments about what the overall position will mean to you.

- x.y.**2** Context

  This section describes the *outlook* and *rationale* for the strategy. We also highlight the *net position* in your account as a result of the trade, as well as identify the effect of *time decay* and the *appropriate time period* for the strategy. *Stock* and *option-leg selection* are important elements of any trade, so these are covered as well.

- x.y.**3** Risk Profile

  This section provides, where possible, simple calculations for you to evaluate the *risk, reward,* and *breakeven* points for each strategy.

- x.y.**4** Greeks

  This is where we graphically explain each of the "Greeks." The Greeks are simply sensitivities of options to various factors, such as price movement, time decay, volatility, and interest rates. The Greeks are as follows:

  Delta:

  The movement of the option position relative to the movement of the underlying (say, stock) position. The resulting figure gives us an indication of the *speed* at which the option position is moving relative to the underlying stock position. Therefore, a delta of 1 means the option position is moving 1 point for every point the stock moves. A delta of –1 means the option position is moving –1 point for every point the underlying stock moves.

  Typically, at-the-money options move with a delta of 0.5 for calls and –0.5 for puts, meaning that ATM options move half a point for every 1 point that the underlying asset moves. This does not mean the option leg is moving slower in percentage terms, just in terms of dollar for dollar.

  Delta is another way of expressing the probability of an option expiring in the money. This makes sense because an ATM call option has a delta of 0.5; i.e., 50%, meaning a 50% chance of expiring ITM. A deep ITM call will have a delta of near 1, or 100%, meaning a near 100% chance of expiration ITM. A very out-of-the-money call option will have a delta of close to zero, meaning a near-zero chance of expiring ITM.

  So, delta can be interpreted both in terms of the *speed* of the position and the probability of an option expiring ITM. Some advanced traders like to trade with the sum of their portfolio delta at zero, otherwise known as delta-neutral trading. This is by no means a risk-free method of trading, but it is a style that enables profits to be taken regardless of the direction of market movement. However, this is only really suited to professional-style traders who have the very best technology solutions and a lot of experience.

Gamma:

Gamma is mathematically the second derivative of delta and can be viewed in two ways: either as the *acceleration* of the option position relative to the underlying stock price, or as the *odds* of a change in probability of the position expiring ITM (in other words, the odds of a change in delta). Gamma is effectively an early warning to the fact that delta could be about to change. Both calls and puts have positive gammas. Typically, deep OTM and deep ITM options have near-zero gamma because the odds of a change in delta are very low. Logically, gamma tends to peak around the strike price.

Theta:

Theta stands for the option position's sensitivity to *time decay.* Long options (i.e., options that you have bought) have negative theta, meaning that every day you own that option, time decay is eroding the Time Value portion of the option's value. In other words, time decay is *hurting* the position of an option holder. When you short options, theta is positive, indicating that time decay is *helping* the option writer's position.

Vega:

Vega stands for the option position's sensitivity to *volatility*. Options tend to increase in value when the underlying stock's volatility increases. So, volatility *helps* the owner of an option and *hurts* the writer of an option. Vega is positive for long option positions and negative for short option positions.

Rho:

Rho stands for the option position's sensitivity to *interest rates.* A positive rho means that higher interest rates are *helping* the position, and a negative rho means that higher interest rates are *hurting* the position. Rho is the least important of all the Greeks as far as stock options are concerned.

- x.y.**5** Advantages and Disadvantages

As indicated, this section highlights the strengths and weaknesses of the strategy in question and the context of suitability for the trader.

- x.y.**6** Exiting the Trade

This module indicates the steps required to *exit the position* or to *mitigate a loss.*

- x.y.**7** Margin Collateral

With certain strategies (particularly the net credit strategies) there will be an explanation of the margin requirement, which can often be complicated. In practice your broker will specify when a strategy requires margin, and will have a page explaining the calculation. The CBOE also has a good margin

calculator. Given that the URL of this could change, simply type in "CBOE margin calculator" to a search engine in order to locate the right page.

- x.y.**8** Example

Every strategy ends with an illustrated example. The examples are all taken from real stocks using real data. However, because they are intended to be objectively indicative of how the strategies work, I have renamed the stock "ABCD" for every example. This helps us keep our minds focused on the structure of the strategy and avoid any preconceived prejudices against the actual stocks that were selected.

As we go through the trade examples, I use the following notation standard when referring to the options:

Expiration month | strike price | call or put

December | 40 | call

July | 30 | put

- December 40 call—A call with a strike price of $40, which expires in December
- July 30 put—A put with a strike price of $30, which expires in July

Sometimes I include the word "strike" as follows:

- December 40 strike call—A call with a strike price of $40, which expires in December
- July 30 strike put—A put with a strike price of $30, which expires in July

Strike prices and option premiums are notated without the dollar symbol ($) sign.

Stock prices and real dollar amounts are generally notated with the $ sign unless they are part of a formula.

Breakeven figures and nominal risk or reward figures are notated without the $ sign.

Where appropriate, strategy names and jargon are depicted in lowercase. This is the contemporary way.

Tables of Contents

With so many strategies to choose from, it's crucial that you don't get lost! The multi-tables of contents are designed so that you can find the appropriate strategy easily, without having to thumb your way through the entire book to get there first. Familiarize yourself with this area because it's going to save you a lot of time as you

use it later on. In print, we're restricted to two dimensions, but on the website, you can use the Strategy Matrix completely interactively.

Software for Analyzing Strategies

You can use the Strategy Analyzers on www.optioneasy.com to analyze any strategy in this book. The dynamic Analyzers help you see the impact of changing any parameters (such as time decay and volatility) in a user-friendly and visual form. Creating these Analyzers enabled me to hone my expertise with numerous options strategies in a very quick time, and will do the same for you.

General Comments

Within the strategy modules, there are references to concepts and definitions that you'll be able to find in the Glossary. For example, "trading plan" is referred to throughout the guides and is defined in the Glossary.

As an options trader, you should also acquaint yourself with the concepts of fundamental and technical analysis. Fundamental analysis involves the interpretation of how economies, sectors, and individual corporations are performing in terms of assets, liabilities, revenues, and profits.

Technical analysis involves the interpretation of price charts for securities. You really should understand the basic chart patterns such as support, resistance, consolidations, head and shoulders, and cup and handles. Ultimately an option is a *derivative*—it is *derived* from an underlying security. Therefore, it makes sense for us to understand how that underlying security is likely to move and why, notwithstanding the premise that the options activity in itself can also help with that.

I hope you enjoy this reference book and use it for many years to come. By all means, read it from cover to cover, but you'll probably get the best value by dipping in whenever the need arises.

Good luck.

Guy Cohen

Acknowledgments

To my colleagues at OVI-FlagTrader, whose belief in the cause and enthusiasm have enabled us to create outstanding, institutional-grade investment tools.

Also, to my students online and offline. I continue to learn so much from you.

About the Author

Guy Cohen is the creator of OptionEasy, the world's most comprehensive and user-friendly online options trading and training application. A successful private investor and trader, Guy has developed a global reputation for transforming the fortunes of private investors through his complete trading solution.

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For all inquiries, write to support@flag-trader.com.

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Introduction to Options

Options have become remarkably popular, especially in the U.S. Far from being confined solely to the institutions and professional money managers, options trading is now mainstream for "retail" traders from all walks of life. The concept of options is still, however, treated with trepidation in some quarters. When I first embarked upon serious trading, a friend warned me about what I was getting into, but trading can be as safe as you want it to be.

The fact is you need to have a trading plan that works. It needs to keep your risk low and your potential for reward high. You need your plan to have structure and simplicity so you can follow it every time with complete clarity. Over the years, my trading plan has become progressively simpler.

The Definition of an Option

An *option* is defined as "the right, not the obligation, to buy (or sell) an asset at a fixed price before a predetermined date."

Let's have a look at that definition and see if we can pick out the component parts:

- The right, not the obligation
- To buy or sell an asset
- At a fixed price
- Before a predetermined date

These component parts have important consequences on the valuation of an option. Remember that the option itself has a value, which we look at after we finish with the definitions.

Before we go ahead and look at the ways in which options are valued, let's consider the words, "*the right, not the obligation*."

The Right, Not the Obligation

Buying Gives You the Right

- Buying an option (call or put) conveys the *right*, not the obligation, to buy (call) or sell (put) an underlying instrument (for example, a share).
- When you buy an option, you are NOT obligated to buy or sell the underlying instrument—you simply have the right to do so at the fixed (exercise or strike) price.
- Your risk when you buy an option is simply the price you paid for it.

Selling (Naked) Imposes the Obligation

- Selling an option (call or put) *obliges* you to buy from (with sold puts) or deliver (with sold calls) to the option buyer if he or she exercises the option.
- Selling options naked (for example, when you have not bought a position in the underlying instrument or an option to hedge against it) gives you an unlimited risk profile.

Combined with the fact that you are *obliged* to do something, this is generally NOT a preferable position in which to put yourself. Only advanced traders should contemplate selling naked options, and even then they should have a protective strategy in mind to cover the downside (see Figure A.01).

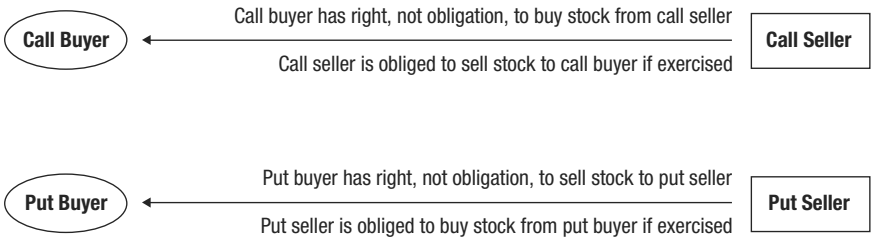


Figure A.01

Now let's consider the words, "to buy or sell an asset."

Types of Options—Calls and Puts

A *call* is an option to BUY.

A *put* is an option to SELL.

Therefore,

- A call option is the right, not the obligation, to BUY an asset at a fixed price before a predetermined date.
- A put option is the right, not the obligation, to SELL an asset at a fixed price before a predetermined date.

Types of Calls and Puts

Options can be either American-style or European-style:

- *American*-style options allow the option buyer to exercise the option at any time before the expiration date.
- *European*-style options do *not* allow the option buyer to exercise the option before the expiration date.

Most traded options are American-style, and all U.S. equity options are American-style.

American-style options are slightly more valuable than European-style options because of their added flexibility. It is logical that being able to exercise before expiration must be more valuable than not being able to.

As a rule, stock options are generally American-style. Futures options are generally European-style.

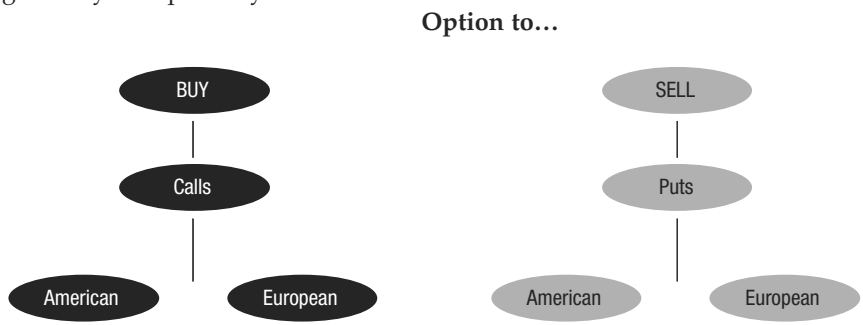


Figure A.02 American- and European-style options

Now we need to look at the words, "*at a fixed price*."

Exercise (or Strike) Price

The *exercise* (*strike*) *price* is the fixed price at which the option can be exercised.

So if you buy a call option with a strike price of 50.00, then you have bought yourself the option to buy the asset at a price of $50.00.

However, in the real world, you want to exercise your right to buy that asset only at $50 if the underlying asset is actually worth MORE than $50 in the market. Otherwise, there would be no point. It would mean buying the asset for $50 when it's only actually worth, say, $40 in the marketplace. No one would do that because they could buy it for $40 in the market.

This leads us to the words, "*before a predetermined date*."

Expiration Date

This is the date before which the option can be exercised.

At expiration, the call option's own value is worth only the price of the asset less the strike price, and at expiration, the put option's own value is only worth the strike price less the price of the asset. For U.S. equity monthly options, the expiration dates fall on the Saturday after the third Friday of every month. Weekly options have gained in popularity, but they are still not quite as actively traded as the traditional monthly options, and often have wider bid/ask spreads.

This leads us into the topics of *intrinsic value* and *time value*.

The Valuation of Options

As I mentioned earlier, options themselves have a value. Remember that options are totally separate entities from the underlying assets from which they are derived (hence, the term derivative). But in themselves they do have a value, which can be split into two parts: **intrinsic value** and **time value**.

In general:

- Intrinsic value is that part of the option's value that is in-the-money (ITM).
- Time value is the remainder of the option's value. Out-of-the-money (OTM) options will have no intrinsic value, and their price will solely be based on time value. Time value is another way of saying hope value. This hope is based on the amount of time left until expiration and the price of the underlying asset.
- A call is *ITM* when the underlying asset price is greater than the strike price.
- A call is *OTM* when the underlying asset price is less than the strike price.
- A call is *at-the-money (ATM)* when the underlying asset price is the same as the strike price.

Put options work the opposite way:

- A put is *ITM* when the underlying asset price is less than the strike price.
- A put is *OTM* when the underlying asset price is greater than the strike price.
- A put is *ATM* when the underlying asset price is the same as the strike price.

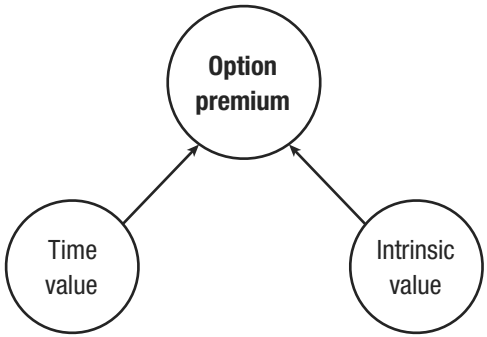


Figure A.03 Intrinsic value and time value

Why Trade Options?

The main reason for trading options is that for a smaller amount of money you can control a large amount of stock, particularly with call options. Call options are always cheaper than the underlying asset, and put options usually are. Options are generally more volatile than their underlying instruments; therefore, investors get "more bang for their buck" or more action. Clearly this can lead to danger, but as you'll see, it also can lead to more safety and security. You'll also see that it can mean much greater flexibility in your trading and even give you the ability to make profit when you don't know the direction in which the stock will move.

Those investors with portfolios can set up protective measures in the event of a market downturn. It is also quite possible to set up a position whereby you can only make profit. Perhaps not a hugely exciting profit in triple digits, but a certain profit nevertheless. Options make this type of scenario possible.

In short, traded correctly, options give the investor added flexibility, potentially much greater gains for a given movement in the stock price, and protection against risk.

Intrinsic and Time Value for Calls

Example A.01 **Where there is intrinsic value**

Call intrinsic value	
Stock price	$56.00
Call premium	7.33
Strike price	50
Time to expiration	2 months
Intrinsic value	56 – 50 = **6.00**

Call time value	
Stock price	$56.00
Call premium	7.33
Strike price	50
Time to expiration	2 months
Time value	7.33 – 6.00 = **1.33**

Notice how: (Intrinsic value + time value) = the option price

Formulas for intrinsic and time values for calls:

- Call intrinsic value = stock price – strike price
- Call time value = call premium – call intrinsic value

The minimum intrinsic value is zero.

Example A.02 **Where there is no intrinsic value**

Call intrinsic value	
Stock price	$48.00
Call premium	0.75
Strike price	50
Time to expiration	2 months
Intrinsic value	48 – 50 = **0.00**

Call time value	
Stock price	$48.00
Call premium	0.75
Strike price	50
Time to expiration	2 months
Time value	0.75 – 0.00 = **0.75**

Intrinsic and Time Value for Puts

Example A.03 **Where there is intrinsic value**

Put intrinsic value	
Stock price	$77.00
Put premium	5.58
Strike price	80
Time to expiration	4 months
Intrinsic value	80 – 77.00 = **3.00**

Put time value	
Stock price	$77.00
Put premium	5.58
Strike price	80
Time to expiration	4 months
Time value	5.58 – 3.00 = **2.58**

Notice how: (Intrinsic value + time value) = the option price

Formulas for intrinsic and time values for puts:

- Put intrinsic value = strike price – stock price
- Put time value = put premium (or value) – put intrinsic value

The minimum intrinsic value is zero.

Example A.04 **Where there is no intrinsic value**

Put intrinsic value	
Stock price	$85.00
Put premium	1.67
Strike price	80
Time to expiration	4 months
Intrinsic value	80 – 85.00 = **0.00**

Put time value	
Stock price	$85.00
Put premium	1.67
Strike price	80
Time to expiration	4 months
Time value	1.67 – 0.00 = **1.67**

The Seven Factors That Influence an Option's Premium

There are seven factors that affect the pricing of an option. Again, we look to the definition of an option to give us the clues. An option is defined as the

- Right, not the obligation
- To buy or sell
- An asset
- At a fixed price
- Before a predetermined date

Now let's take the seven factors, starting with:

Quote from definition	Comment
"buy or sell"	The type of option (call or put) affects the option premium.
"underlying asset"	The *underlying asset* and its *own price* affect the option premium.
"at a fixed price"	The strike price affects the option premium.
"before a predetermined date"	The expiration date and time value affect the option premium.

There are three other major influences on option pricing:

Factor	Comment
Volatility	Volatility is a crucial and major influence in the pricing of options. Understanding volatility gives the options trader the ability to select specific trades most profitably. The most advanced traders always use volatility to their advantage.
Risk-free rate of interest	This is the short-term rate of government money. It is known as risk-free owing to the perceived covenant strength of (developed world economy) governments.
Dividends payable	This applies to any asset that offers an income "reward" for owners of the underlying asset. For stock options, this is the dividend payable.

Quick Summary

Option prices are affected by the type of option (call or put) as follows:

- The price of the underlying asset
- The exercise price (or strike price) of the option
- The expiration date
- Volatility—implied and historical
- Risk-free interest rate
- Dividends and stock splits

Remember that…

Buying Gives You the Right

Calls

- Buying a call option gives you the right, not the obligation, to buy an underlying instrument (such as shares of stock).
- When you buy a call option, you are not obligated to buy the underlying instrument—you simply have the right to do so at the fixed (strike) price.
- Your risk, when you buy an option, is simply the price you paid for it.
- Your reward is potentially unlimited.

For every call that you buy, there is someone else on the other side of the trade. The seller of an option is called an *option writer*. Logic and common sense tell us that the option seller's risk profile must be the opposite of that of the option buyer.

Puts

- Buying a put option gives you the right, not the obligation, to sell an underlying instrument (such as shares of stock).
- When you buy a put option, you are not obligated to sell the underlying instrument—you simply have the right to do so at the fixed (strike) price.
- *Y*our risk, when you buy an option, is simply the price you paid for it.
- Your reward is potentially unlimited. With long puts, your reward is unlimited to the downside until the stock hits zero, i.e., the strike price less the premium you paid for the put itself.

For every put you buy, there is someone else on the other side of the trade. The seller of a put option has the opposite risk profile to that of the put option buyer.

Selling (Naked) Imposes the Obligation

Calls

- Selling a call option obliges you to deliver the underlying asset to the option buyer.
- Selling options naked (for example, when you have not bought a position in the underlying instrument or an option to hedge against it) gives you a potentially unlimited risk profile.
- Combined with the fact that you are obliged to do something, this is generally not a preferable position in which to put yourself for anything other than a very short period of time, and in specific circumstances.

Puts

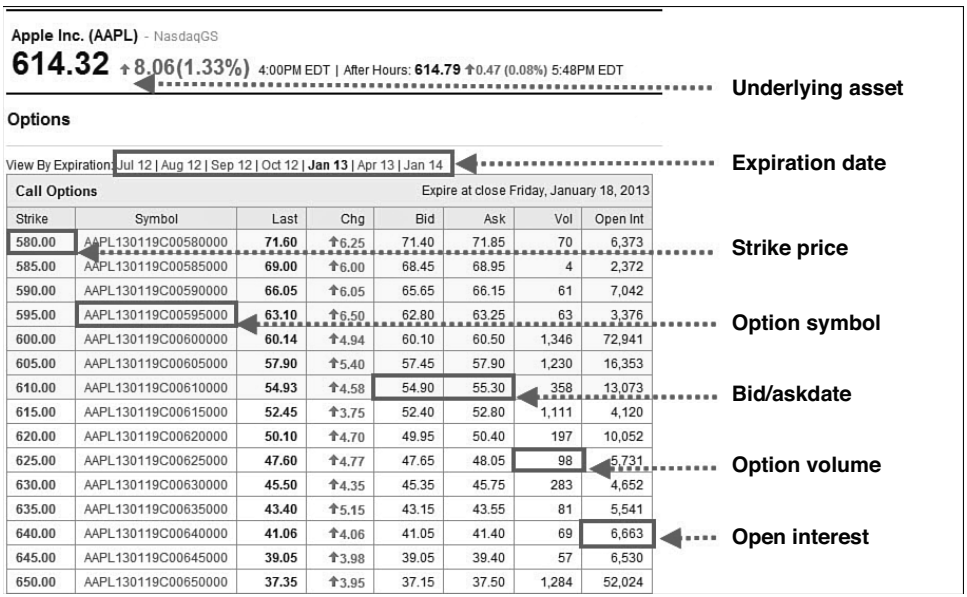
- Selling a put option obliges you to buy the underlying asset from the option buyer. Remember, when you sell a put, you have sold the right to sell to the person who bought that put.
- Selling options naked (for example, when you have not bought a position in the underlying instrument or an option to hedge against it) gives you an unlimited risk profile.
- Combined with the fact that you are obliged to do something, this is generally not a preferable position in which to put yourself for anything other than a very short period of time, and in specific circumstances.

More detail follows on a strategy-by-strategy basis in the main chapters.

Options in the Marketplace

The main components of an onscreen options price are as follows:

- The underlying instrument
- The expiration date of the option
- The option symbol
- The exercise (strike) price of the option
- The bid/ask of the option price
- The volume of the particular option on that day
- The open interest of the specific option



Strike	Symbol	Last	Chg	Bid	Ask	Vol	Open Int
580.00	AAPL130119C00580000	71.60	↑6.25	71.40	71.85	70	6,373
585.00	AAPL130119C00585000	69.00	↑6.00	68.45	68.95	4	2,372
590.00	AAPL130119C00590000	66.05	↑6.05	65.65	66.15	61	7,042
595.00	AAPL130119C00595000	63.10	↑6.50	62.80	63.25	63	3,376
600.00	AAPL130119C00600000	60.14	↑4.94	60.10	60.50	1,346	72,941
605.00	AAPL130119C00605000	57.90	↑5.40	57.45	57.90	1,230	16,353
610.00	AAPL130119C00610000	54.93	↑4.58	54.90	55.30	358	13,073
615.00	AAPL130119C00615000	52.45	↑3.75	52.40	52.80	1,111	4,120
620.00	AAPL130119C00620000	50.10	↑4.70	49.95	50.40	197	10,052
625.00	AAPL130119C00625000	47.60	↑4.77	47.65	48.05	98	5,731
630.00	AAPL130119C00630000	45.50	↑4.35	45.35	45.75	283	4,652
635.00	AAPL130119C00635000	43.40	↑5.15	43.15	43.55	81	5,541
640.00	AAPL130119C00640000	41.06	↑4.06	41.05	41.40	69	6,663
645.00	AAPL130119C00645000	39.05	↑3.98	39.05	39.40	57	6,530
650.00	AAPL130119C00650000	37.35	↑3.95	37.15	37.50	1,284	52,024

Figure A.04 Typical layout for a call option chain

Here is part of a call option chain for Apple Inc (AAPL). There are about one thousand individual options for Apple, spanning a number of strike prices and different expiration dates. Each option has a strike price and an expiration date. For each option, there is a different bid/ask price quote, a different volume, and a different open interest.

Definitions from the option chain page are as follows:

Last	The last price transacted (here the quote was delayed by 15 minutes).
Change	Change in option price since yesterday's close.
Bid	The highest price at which the floor trader is willing to bid (to buy). This is the price at which you will sell if you place a "market order." The floor trader makes his profit from the spread.
Ask	The lowest price at which the floor trader is willing to ask (to sell). This is the price at which you will buy if you place a "market order."
Volume	The amount of contracts traded during the day so far.
Open interest	The number of contracts currently open in the market.

Remember that the stock itself has figures for all of the above except for the open interest, which is specific to options.

The same headings as previously listed apply here.

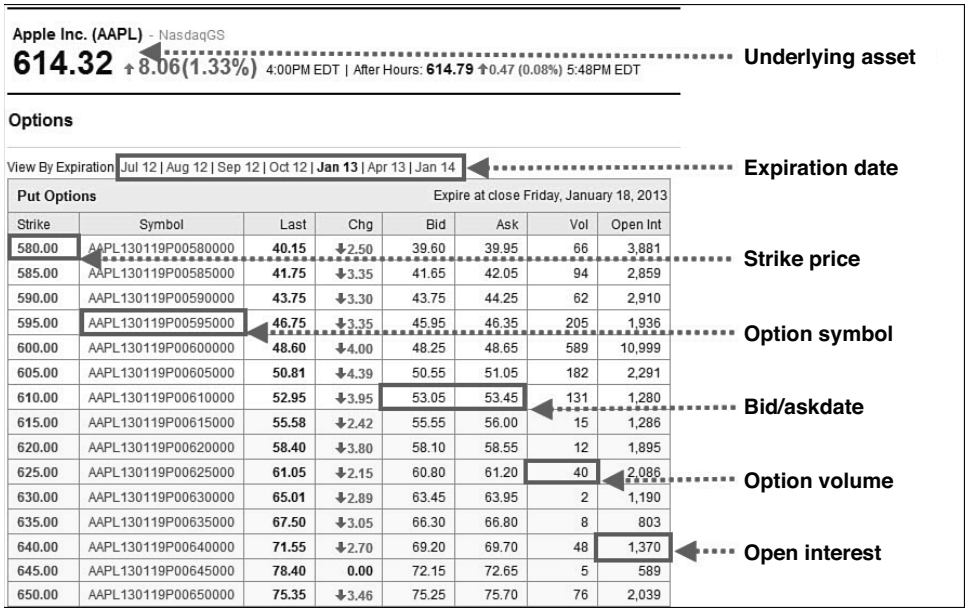


Figure A.05 Typical layout for a put option chain

Options Symbols Explained

Here's a quick review on options symbols. Each option has its own ticker symbol, which contains information pertaining to the stock, the expiration, whether the option is a call or a put, and the strike price. Take this option symbol from Apple Inc.:

AAPL160115C00130000

The constituent parts of the symbol are as follows:

Stock	Expiration year	Expiration month	Expiration day	Call/put	Strike price
AAPL	16	01	15	C	00130000
Apple Inc	2016	January	15th	Call	130

So the top-left option is an Apple January 2016 call that expires on the third Friday—the 15th of January. The equivalent put option would be identical, except the "C" would be replaced by a "P" as shown in the following:

AAPL160115P00130000

Options Contracts

Listed stock options are traded in contracts, each representing shares of the underlying security. This number is different for different types of assets worldwide. In the U.S. each contract controls 100 shares. In the UK option contracts represent 1,000 shares of the underlying stock.

Therefore, when you see a U.S. equity call option premium for 1.45, you will have to pay $1.45 × 100 for just one contract. One contract is the minimum amount you can trade, and for U.S. equity options, one contract represents 100 shares. In other words, by paying $145.00 you acquire the right to buy 100 shares of the stock.

The following table outlines the amount of underlying securities that represent one contract for all sorts of different markets where options are traded on an exchange.

Underlying asset	Units per options contract
U.S. equities	100 shares
UK equities	1,000 shares
S&P futures	1 future—worth $250 each
Gold futures	1 future—worth $100 each
Crude oil futures	1 future worth $1,000 each

So continuing with the theme of U.S. stock options, one option contract represents the right over 100 shares of stock. This is vitally important when considering spread orders combining stock trading with options trading to create a new risk profile. For every one contract you buy or sell, you trade 100 shares for complete cover.

Example **A covered call illustration**

This example is purely to demonstrate that one contract is "covered" by 100 shares of stock (for U.S. stock options).

We'll go through the strategy in more detail in Chapter 2, "Income Strategies," but the basic steps for trading a covered call are as follows:

1. Buy the stock.
2. Sell calls.

Buy stock Sell call Covered call

If you want to sell five contracts of ABCD 50 calls at 1.88 (where the ABCD share price is $46.88), you will receive a premium for selling the calls (before commissions) of $940. But you will need to buy 500 ABCD shares to be "covered." This will therefore cost 500 times the ABCD share price.

So your net cost of doing this trade will be as follows:

Description	Calculation	Cost
Sell 5 ABCD call option contracts	5 × $1.88 × 100	$940
Buy 500 ABCD shares at $46.88	500 × $46.88	($23,440)
		($22,500)

We discuss the relative merits of covered calls in Chapter 2. For now, just keep in mind that when you combine stocks with stock options, you need to remember that one option contract represents rights over 100 shares of a U.S. stock.

Option Exchanges

There are many (options) exchanges around the world. The U.S. is the mecca of the options trading world with more than ten major exchanges. Options volume is increasing almost every month, particularly stock options, as more and more retail (nonprofessional) traders become interested. The major U.S. option exchanges are the following:

Option exchange	Description
American Stock Exchange (AMEX)	• Stocks • Options on individual stocks • Stock indices
Chicago Board of Trade (CBOT)	• Futures • Options on futures for agricultural goods, precious metals, stock indices, and debt instruments
Chicago Board Options Exchange (CBOE)	• Options on individual stocks • Options on stock indices • Options on Treasury securities
Chicago Mercantile Exchange	• Futures • Options on futures for agricultural goods, stock indices, debt instruments, and currencies
International Securities Exchange (ISE)	• Options on stocks, ETF, index, and FX
New York Stock Exchange (NYSE)	• Stocks • Options on individual stocks • Stock index
Pacific Stock Exchange (PSE)	• Options on individual stocks • Stock index

Philadelphia Stock Exchange (PHLX)	• Stocks • Futures • Options on individual stocks • Currencies • Stock indices

Option Expiration Dates

Every option has an expiration date, which is always specified as a month, but there are now also weekly options. With the monthlies, U.S. equity, index, and Treasury/interest-rate options expire on the third Friday in the expiration month.

Strike Prices

Generally in the U.S., option strike prices used to start at $2.50, then rising in $2.50 increments up to $25; once they hit $25, they would go in $5 increments up to $200; and at $200, they would go up in $10 increments. While many less liquid stocks still broadly adhere to this structure for their options, the larger cap stocks tend to have more strikes and weekly expirations. Note that anomalies will often occur after stock splits and mergers.

Option Ticker Symbols

In 2010, options symbols changed to a more logical and more robust format.

Individual options have ticker symbols just like individual stocks do. The symbol identifies the underlying stock, the expiration month, the strike price, and the type of option.

Remember the AAPL example earlier where I deconstructed the symbol for an AAPL January 2016 130 strike call:

AAPL160115C00130000

The component parts are the following:

Stock	Expiration year	Expiration month	Expiration day	Call/put	Strike price
AAPL	16	01	15	C	00130000
Apple Inc	2016	January	15th	Call	130

The equivalent put option would be identical except the "C" would be replaced by a "P":

AAPL160115P00130000

Stock	Expiration year	Expiration month	Expiration day	Call/put	Strike price
AAPL	16	01	15	P	00130000
Apple Inc	2016	January	15th	Put	130

This symbology is infinitely better than its predecessor and doesn't need much explanation.

Margin

The margin requirement is the amount of cash and securities required on deposit to cover the broker's risks. A margin account is a mechanism to ensure adequate collateral for trading activity. This is particularly relevant to those traders who sell short, sell naked, or trade net credit spreads. With stock trades, margin works as a leverage mechanism—borrowed money—to expand holdings. With options, it is quite different because it is used solely to ensure adequate collateral.

When you buy shares, you either pay in cash or use a margin account (effectively borrowing funds from your brokerage) for up to 50% of the share purchase price. The *maintenance margin* is set to ensure that the balance in the margin account never becomes negative. This has in the past been set at around 25% of the value of the shares, although it varies.

When you buy call or put options, you must pay the purchase price in full. You cannot buy options on margin because options themselves already contain significant leverage, and buying options on margin would raise the leverage to unacceptable levels. Margin relates in this case to collateral requirements.

Selling (writing) options naked means that there are no covering trades to hedge the risk of the naked sale. The risk of selling naked calls and puts involves potentially uninterrupted downside that needs to be protected. Therefore, when you sell naked call or put options, you are required to maintain funds in a margin account as collateral. This ensures that the option writer does not default on the obligation if the option buyer (who has the right) exercises the right. The size of margin varies based on the type of trade entered.

When you sell short or trade a net credit spread, while money is deposited into your account by the trade itself, there is still a contingent liability risk, which must be covered by sufficient funds left on deposit in your account.

These funds can be represented in either cash or marginable securities. A *marginable security* is an asset deemed by the brokerage to be secure enough to stand as collateral against your risk on the trade. A blue-chip stock such as AAPL would be considered a marginable security, while low-priced stocks (under $10) with little trading history, low trading volumes, and high volatility will not be acceptable collateral.

Example A.05 **Buying stock**

Profile	Description	Risk	Reward	Breakeven
	Buy asset	Purchase price	Unlimited	Purchase price

XYZ Inc. has a stock price of $48.00 per share. You buy 300 shares and use margin to fund 50% of the total purchase price.

Stock Price	×	No. of shares	=	Total Purchase Price
$48.00	**×**	**300**	**=**	**$14,400**

Using 50% margin to fund your cost of acquisition, you will therefore need to pay $7,200 in cash for the trade.

$14,400 × 50% = $7,200

Example A.06 **Shorting stock**

Profile	Description	Risk	Reward	Breakeven
	Sell asset	Unlimited	Short sale price	Short sale price

Let's flip Example A.05, so instead, now you're selling the stock short. We will assume the same price information for the stock you are selling. The stock price is still $48.00.

Stock Price	×	No. of shares	=	Total short proceeds
$48.00	**×**	**300**	**=**	**$14,400**

However, in this example you require margin to cover your potential liabilities. The margin is calculated as follows:

100% of the amount of short sale proceeds in addition to the cash raised by the short sale

$14,400 × $14,400 (short sale proceeds) × $28,800

Example A.07 **Buying calls**

Profile	Description	Risk	Reward	Breakeven
	Buy call	Call premium price	Unlimited	Strike price plus call premium paid

Continuing with XYZ Inc., let's assume that the call options have a premium of 6.00 for the 50 strike, and you are buying four contracts.

Option premium	×	Units per contract	×	No. of contracts	=	Total purchase price
6.00	×	**100**	×	**4**	=	**$2,400**

Because you are not allowed to purchase options with margin, there is nothing else to work out here.

Example A.08 **Writing naked calls**

Profile	Description	Risk	Reward	Breakeven
	Sell call	Unlimited	Limited to the call premium received	Strike price plus call premium paid

Let's flip Example A.07, so instead now you're selling calls (naked). We will assume the same price information for the call options you are selling. The calls have a premium of 6.00 for the 50 strike, and you are selling four contracts. The stock price is still $48.00.

Because you're now selling options, you are required to show sufficient funds in your account to cover the risk of being exercised.

The initial margin cover you need to show is the greater of the following:

a.	100% of the option sale proceeds	+	20%* of the underlying share price	–	any amount by which the option is out-of-the-money (OTM)
	6.00 × 4 × 100	+	20% × $48.00 × 4 × 100	–	2.00 × 4 × 100
	$2,400	+	**$3,840**	–	**$800 = $5,440**
b.	100% of the option sale proceeds	+	10%* of the underlying share price		
	6.00 × 4 × 100	+	10% × $48.00 × 4 × 100		
	$2,400	+	**$1,920**	=	**$4,320**

* Note that the percentage figures quoted may not be those used by your broker account. These are simply examples to illustrate how margin works in principle.

You can use the option sale proceeds of $2,400 to set off against the initial margin requirement. This means that:

	Margin requirement	Sale proceeds	Additional funds required
a.	$5,440	$2,400	$3,040
b.	$4,320	$2,400	$1,920

Because you have to take the greater amount, the initial margin requirement is $5,440 in calculation (a), and you therefore need a further $3,040 in liquid funds in your account to facilitate this trade.

Example A.09 **Buying puts**

Profile	Description	Risk	Reward	Breakeven
	Buy put	Put premium	Strike price less put premium paid	Strike price less put premium paid

Continuing with XYZ Inc., let's assume that the put options have a premium of 7.50 for the 50 strike, and you are buying four contracts.

Option premium	×	Units per contract	×	No. of contracts	=	Total purchase price
7.50	×	**100**	×	**4**	=	**$3,000**

Because you are not allowed to purchase options with margin, there is nothing else to calculate here.

Example A.10 **Writing naked puts**

Profile	Description	Risk	Reward	Breakeven
	Sell put	Strike price less put premium received	Limited to the put premium received	Strike price less put premium paid

Let's flip Example A.09, so instead now you're selling puts (naked). We will assume the same price information for the put options you are selling. The puts have a premium of 7.50 for the 50 strike, and you are selling four contracts. The stock price is still $48.00.

Because you're now selling options, you are required to show sufficient funds in your account to cover the risk of being exercised.

The initial margin cover you need to show is the greater of the following:

a. 100% of the option sale proceeds	+	20%* of the underlying share price	–	any amount by which the option is out-of-the-money (OTM)
7.50 × 4 × 100	+	20% × $48.00 × 4 × 100	–	0 × 4 × 100 (remember this is a put and here the put is actually in-the-money [ITM])
$3,000	+	**$3,840**	–	**0 = $6,840**
b. 100% of the option sale proceeds	+	10%* of the underlying share price		
7.50 × 4 × 100	+	10% × $48.00 × 4 × 100		
$3,000	+	**$1,920**	=	**$4,920**

* Note that the percentage figures quoted may not be those used by your broker account. These are simply examples to illustrate how margin works in principle.

You can use the option sale proceeds of $3,000 to set off against the initial margin requirement. This means that:

	Margin requirement	Sale proceeds	Additional funds required
a.	$6,840	$3,000	$3,840
b.	$4,920	$3,000	$1,920

Because we have to take the greater amount, the initial margin requirement is $6,840 in calculation (a), and you therefore need a further $3,840 in liquid funds in your account to facilitate this trade.

Placing Your Trade

It's likely that you'll place most of your trades online.

Because options prices are not always "clean," and because bid/ask spreads are often quoted far apart, it is preferable to place limit orders, particularly on spreads. This ensures orders are filled at your specified price or not at all.

Types of Order in the Market

Market Order

With market orders, you authorize your broker to buy or sell stock or options at the best price in the market.

Limit Order

With limit orders, you do one of the following:

- Buy only if the share falls to a certain price or lower.
- Sell only if the share rises to a certain price or higher.

Limits are recommended with options, particularly for spreads and combination trades. The reason for this is that the bid/ask spread prices can fluctuate dramatically and often not in your favor, so it's better to specify your prices.

Stop Loss/Sell Stop (Defensive)

This is where you sell if stock falls below a certain price. (Sell stop is placed below the current price.) You can increase the stop loss if the share rises.

Buy Stops

This is where you buy only after the stock has reached or exceeded a certain price. This is the opposite of a limit order where you buy a stock when it has fallen to a certain price. A buy stop is appropriate when you expect a stock to rise beyond a resistance level or bounce up from a support level.

- *Buy stop with limit*: Buy only when the stock is between two prices.
- *Buy stop with limit and stop loss*: Buy between two prices and sell if it's below another price.

Time Limits with Trade Orders

Good Till Cancelled (GTC)

This is when the order is valid unless and until you cancel it or until it is filled. For example, a limit order GTC means you authorize your broker to buy the stock at a particular price or lower, today or any time in the future when the stock is selling at that particular amount, until you have bought the requisite number of shares.

Be careful with GTC orders because these orders generally do not go to the top of the list of floor traders' priorities.

Day Only

The order is cancelled if it is not filled by the end of the day. This is a good ploy because it encourages the floor traders to deal. If they don't by the end of the day, then they won't get their commission, so there is an incentive for floor traders to put this type of trade nearer to the top of their list. With some brokers, stop-limit orders can only be placed on a day-only basis, so they would need to be placed again the following day if you don't get a fill.

Week Only

The order is cancelled if it is not filled by the end of the week.

Fill or Kill

This is the order of maximum priority. If it isn't filled immediately, the order is cancelled. A fill or kill order is bound to capture the attention of the floor trader, but if it's a limit order, then you need to make it realistic.

All or None

Either the entire order is filled or none of it is filled. This is not generally a good idea given that many trades aren't filled all at once anyway because there has to be a buyer or seller on the other side, and most of the time they won't be specifically dealing in the same lot sizes as your order. So if you want to be sure to get filled, don't go for all or none.

Always Have a STOP in Mind Whenever You Make a Trade

It is critical to know where you intend to exit a position, whether it is in profit or otherwise.

Where you place your stops is up to you, but generally, with stocks, you should position them beyond the appropriate support or resistance area. I almost exclusively trade breakouts around support and resistance, so my stops are always positioned with that logic.

Trading Tips

Remember, the most important things you need to know about any options trade are

- Your maximum *risk* on the trade
- Your maximum *reward* on the trade
- Your *breakeven* point(s)

OptionEasy's Analyzer gives you these crucial figures in both nominal and actual formats for over 60 different strategies, though the reality is that you'll stick to a dozen or so, maximum.

In addition, you also should know in advance:

- The maximum loss you will accept and when to get out of a loss-making trade
- When to take your profits

These are crucial money-management criteria, which you must preset in your own mind (and preferably in your trade journal) before you commit to any trade. There are wide parameters concerning money-management techniques, and much depends on your own appetite and respect for risk.

Leverage and Gearing

The words "leverage" and "gearing" are used frequently in the financial world. In terms of a company's financial structure, they mean the ratio of borrowings over assets. The higher a company's gearing, the higher its return on equity. A higher gearing also means greater risk to the company because if fixed and variable costs are not exceeded by turnover, the company's creditors might be able to foreclose the company by calling in the loans.

The words have a similar but not identical meaning in the options world. Options have high leverage because a small percentage move in the underlying asset can mean a very high percentage move from the corresponding options.

How Does Leverage with Options Work?—A Worked Example

Example A.11 **Leverage with options**

ABCD Company has a stock price of $20.00. You decide to buy a call option with an exercise price (e) of 25.00. The call option costs you 1.00. Remember an option has two parts to its value:

- Time value
- Intrinsic value

In this example, until the stock price of ABCD rises above $25.00, there will be no intrinsic value because the strike price is 25.00. So even if ABCD stock rises to $25.00, there is still no intrinsic value until it goes above $25.00. *For this example, assume that there is no change to the time value element.* So if ABCD stock price now rises to $30.00, what is the intrinsic value of the option?

Answer: 30 – 25 = 5.00.

Therefore, in most cases the value of the call option must be *at least* 5.00. *Conclusion:* ABCD stock price has risen from $20.00 to $30.00; this is an increase of 50%. The option premium has risen from 1.00 to 5.00; this is an increase of **400%**. Now *that's* leverage.

But remember that leverage works the other way too, and this is why I encourage you to trade in certain ways, to protect you in the event that things go the other way.

If ABCD stock price moves back down to $20.00 from $30.00, this is a decrease of 33%.

The option price may move from 5 back down to 1—a far larger percentage decrease. It is these potential decreases that you need to be protected from.

What you have seen in Example A.11 is the phenomenon of *delta*. Delta is measured as the change in option price divided by the change in the underlying asset price, as follows:

$$\textbf{Delta} = \frac{\text{Change in option price}}{\text{Change in underlying asset price}}$$

As you just witnessed, when a call option becomes in-the-money (ITM), the delta increases. So the higher the delta, the faster the option price moves as compared with the stock price.

A Brief Introduction to the Greeks

The Greeks are simply sensitivities to options risk characteristics. The names are taken from actual Greek words. To understand why options have sensitivities to various factors, go back to the original definition of an option:

- The right, not the obligation
- To buy or sell an asset
- At a fixed price
- Before a predetermined date

There are seven factors that affect an option's premium:

(i) **Type of option (call or put)**

(ii) **The underlying asset price**

(iii) **The strike price of the option**

(iv) **The expiration date of the option**

(v) **The volatility of the underlying asset**

(vi) **The risk-free rate of interest**

(vii) **Dividends payable and stock splits**

If these factors affect the pricing of an option, then option premiums must be sensitive to them. You can distill this further by highlighting the following sensitivities:

Factor affecting option premium	Sensitivity of option to…
Underlying asset price →	…Speed of the underlying asset price movement
Expiration date →	…Time decay
Volatility of underlying asset →	…Volatility
Risk-free rate of interest →	…Interest rates

Each sensitivity has a corresponding "Greek":

Sensitivity of option to…	Greek
Speed of underlying asset price movement →	Delta Gamma*
Time decay →	Theta
Volatility →	Vega
Interest rates →	Rho

* Gamma measures the option sensitivity to delta

The Greeks

Greek		Sensitivity to…
Delta	Δ	Change in option price relative to change in underlying asset price (that is, **speed**)
Gamma	Γ	Change in option delta relative to change in underlying asset price (that is, acceleration)
Theta	θ	Change in option price relative to change in time left to expiration (that is, time decay)
Vega	K	Change in option price relative to change in the asset's volatility (that is, historical volatility)
Rho	ρ	Change in option price relative to changes in the risk-free interest rate (that is, interest rates)

A simple summary of the Greeks defines and explains them as follows:

Greek	Definition	Comment
Delta	Measures the sensitivity of an option price relative to change in underlying asset price (that is, speed). A positive delta means that the options position will become more valuable as the stock price rises. A negative delta means that the options value will increase as the underlying asset's value decreases.	Delta ratio is also known as the hedge ratio. We can view delta as the probability of an option expiring ITM (in-the-money). An ATM (at-the-money) option will have a 50:50 chance of expiring ITM. A call means a delta of 0.5, and a put means a delta of –0.5 (because the put will rise as the stock falls and vice versa).

Greek	Definition	Comment
Gamma	Measures the sensitivity of the option delta relative to the underlying asset price movement (that is, acceleration). Gamma is positive for long call and long put positions and has the same value for equivalent ATM calls and puts. A low gamma means that large shifts in the stock price will be beneficial, whereas a high gamma signifies that even small shifts in the stock price will be beneficial to the options position.	Rate of change of delta, that is the curvature of delta risk. You can view gamma as the odds of a change in delta. The odds of a change in delta will be highest where there is a turning point in the risk profile chart. So for a long call or put, gamma will peak ATM.
Theta	Measures the sensitivity of the option price relative to change in time left to expiration. For long options positions, theta is usually negative, signifying that time decay hurts the long option position and that the passage of time will reduce the value of that long position.* For combination options trades theta can be positive, showing that time decay can help the spread position (for example, covered calls).	Time decay is fastest during the last 30 days until expiration and when option is ATM.
Vega	Measures the sensitivity of the option price relative to the change in the asset's volatility. Vega is always positive for long options positions and is identical for equivalent ATM calls and puts. A high positive vega signifies that small increases in volatility will be helpful to the options position, whereas a low vega signifies that high volatility will be required to augment the options position.	Historical volatility.
Rho	Measures the sensitivity of the option price relative to changes in the risk-free interest rate. Higher interest rates will be beneficial to calls and detrimental to puts. Also, the longer the time to expiration, the greater value (positive or negative) rho will have, because interest rates need time to bite.	Interest rates.
Zeta	Measures the percentage change in option price per 1% change in implied volatility.	1% implied volatility change.

*The one exception to the rule being with deep ITM put options.

Major Learning Points

In this introduction, you learned some broad basics about options that will certainly help you navigate around the strategies to follow.

A more comprehensive narrative about options in general is available in my other options book, *Options Made Easy*.

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Trading with the OVI

In this section I summarize my proprietary OVI indicator. For more details and video tutorials go to my website, www.ovitraders.com.

While options enable us to create strategies, there is a lot of intelligence we can use directly from options transaction data.

For many years academic studies have suggested that options data can at times be a bellwether for future stock price movement. With my own academic background I sought to investigate whether this was an anomaly or a phenomenon. I was subsequently contracted by one of the major exchanges to research how their own transaction data may relate to future stock price movement.

The answer to their question was not as straightforward as they or other exchanges would like. Options are not traded simply for position building. They are traded for a myriad of other purposes such as hedging other positions, income generation, and volatility plays. Therefore it cannot be a simple matter of just looking at transaction data.

However, my research did conclude without any doubt that there is serious intelligence within the data which must also include option pricing. The findings are emphatically endorsed by independent hedge fund quantitative analysts and can be used together with stocks and select options strategies to give a powerful edge.

Researching options data has been my focus for many years, and like many other research quests, the aha moment was dramatic.

From January 1, 2008, to February 28, 2008, Bear Stearns (BSC) shares were trading in a range between $68.18 and $93.09.

On March 3, 2008, Bear Stearns closed at $77.32 (see Chart B.01). Around this time many commentators were suggesting that BSC could be an aggressive takeover target and were therefore bullish on the stock.

What they could not see was an indicator that had dropped to its lowest possible reading for BSC. For the next two weeks the indicator remained at its most negative reading for all but two days. If they had been, they could never have been bullish about BSC's prospects.

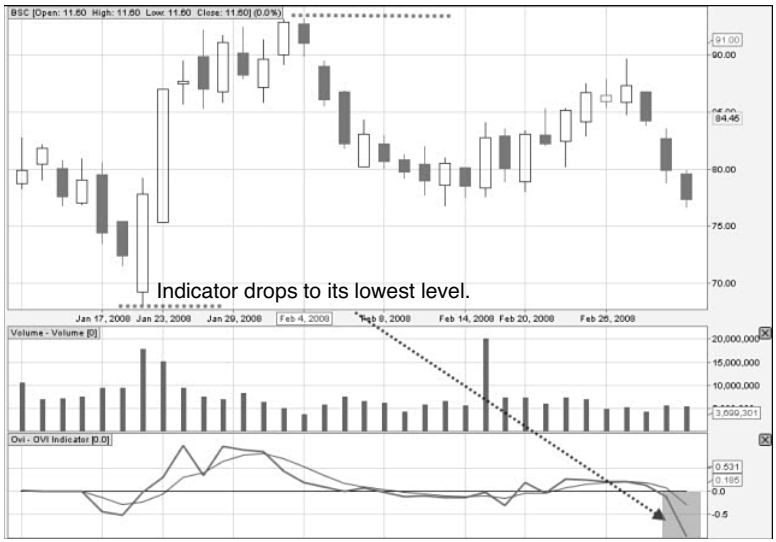


Chart B.01 BSC March 3rd, 2008

Source: OVI Charts. Courtesy of FlagTrader.com. Go to www.ovitraders.com for more information.

Exactly two weeks after the nameless indicator had plummeted, BSC went into free-fall, reaching a low of $2.84. Bear Stearns was not so much taken over, but more rescued from oblivion by JP Morgan at $10 per share. This was a far cry from the heights of $77.32 just two weeks before (see Chart B.02).

Not one commentator saw this coming, even though it proved to be one of the most dramatic falls from grace in stock market history.

But the indicator itself highlights the fact that there were traders who certainly did see it coming…that's why the indicator was so negative, because it was following their trading activities, and of course those traders made a fortune from the demise of Bear Stearns.

The indicator we're referring to is called the OVI. It measures options transactions for individual stocks. And in the case of BSC, when the indicator plummeted to the

downside and stayed down, it was telling us that the options transactions were dramatically bearish. The BSC share price took some time to reflect this.

In other words the BSC's options activity preceded the share price. And for something like that to happen, someone, somewhere had to know something.…

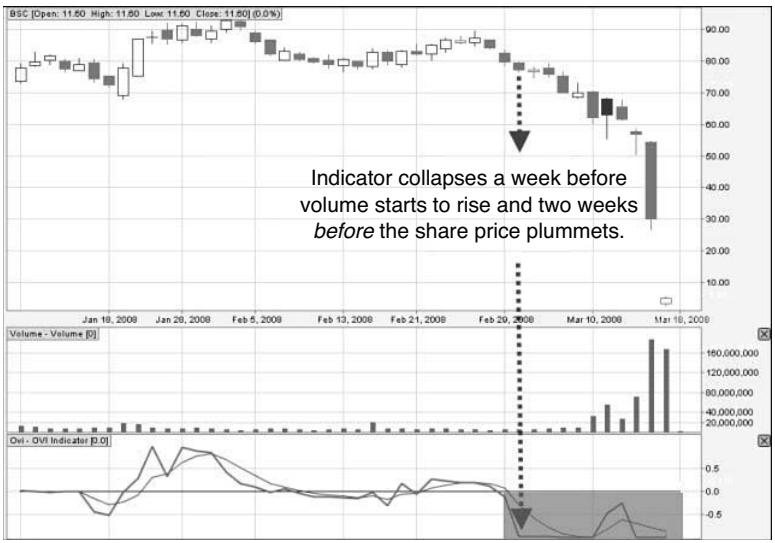


Chart B.02 BSC March 17th, 2008

Source: OVI Charts. Courtesy of FlagTrader.com. Go to www.ovitraders.com for more information.

What Is the OVI?

The OVI measures options transactions data for any individual stock that is optionable, and then plots it as a line that oscillates between –1 and +1. In the middle of this range is the horizontal zero line.

Essentially the OVI is an algorithm that measures the buying and the selling of share options and simplifies it into that line.

Not all of the options for a particular stock are relevant to the sentiment toward the stock in question. The art is understanding which options are most relevant for each stock and when. As such this needs to be a highly dynamic indicator.

In terms of the line itself, we look to correlate a positive OVI with a bullish chart pattern (like a bull flag or bullish channel breakout), and a negative OVI with a bearish chart pattern (like a bear flag or bearish channel breakout).

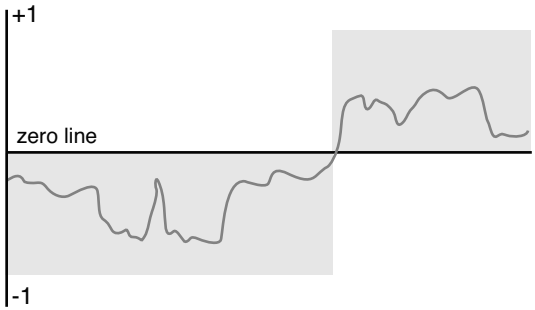


Diagram B.01 OVI simple line

The OVI provides a powerful qualifier for placing the trade.

The ultimate signal is where the OVI has been persistently positive for several days and the stock is forming a bullish setup, or where the OVI has been negative for several days and the stock is forming a bearish setup. These scenarios give extra confidence that if the breakout materializes, it's likely to take us to our first profit target.

The OVI Is Easy to Use

The OVI works particularly well with trending stocks where the indicator and the price chart are uncannily well correlated with rarely any lag between the two. From an automated trading point of view it actually works better on its own, but understandably most traders selecting their own trades prefer to juxtapose their entries and exits against a tangible technical setup.

With that in mind, consider the following chart. The OVI is the thicker and more jagged of the two lines displayed below the blanked-out price chart of GS. The smoother line is a moving average of the OVI, which we do not tend to use.

Running from left to right, the OVI is persistently negative in the left half, and turns positive in the right half and remains there as the stock price trends upwards.

Assuming at this stage you know nothing, take an instinctive guess at the general direction of the GS chart, just by looking at the OVI.

When the OVI is persistently positive or negative, it is often correlating strongly with a trend in the stock price. In the GS chart, this is exactly the case.

This is just an illustration to show how well the OVI can correlate with trending stocks, and you can see how immediate the correlation can be. This is extraordinary when you consider that the OVI has no direct link with the price chart. The OVI is derived from options transaction data, which means there is often a definite link between options trading activity and the overall direction of a stock.

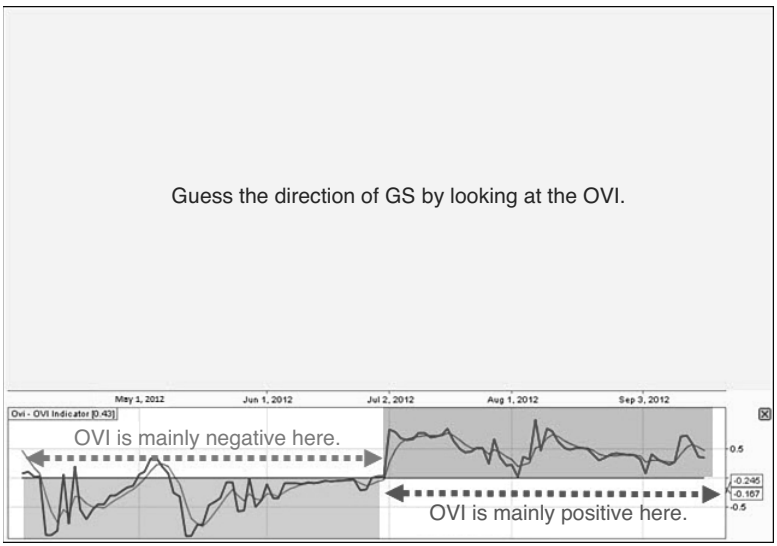


Chart B.03 GS blank chart with OVI

Source: OVI Charts. Courtesy of FlagTrader.com. Go to www.ovitraders.com for more information.

Chart B.04 GS chart with OVI

Source: OVI Charts. Courtesy of FlagTrader.com. Go to www.ovitraders.com for more information.

We use the OVI as a leading indicator with breakout patterns, because this radically increases the odds of success. If the breakout materializes, there is likely to be correlation between the options transactions and the market direction. This means our trade has a good chance of hitting the first profit target.

AAPL has excellent correlation statistics with the OVI, yielding several excellent windfall profits. I could refer to many similar setups since this particular chart, but this particular one led to a 50% move in just over three months after the stock had formed a textbook bull flag in the context of a persistently positive OVI. This is about as good as it gets, and during the move there were several opportunities to take profits or add to the position using my method of breakout trading.

Chart B.05 AAPL flag December 2011

Source: OVI Charts. Courtesy of FlagTrader.com. Go to www.ovitraders.com for more information.

The top of the bull flag in late December 2011 was at $58.44 ($409.09 pre-split). We would need a move to break through this level, say at $48.48 ($409.35 pre-split) to activate the trade.

Similarly, RIG has repeatedly given many opportunities for traders to prosper as it breaks from established levels of support and resistance. In Chart B.07, you can see levels of support crumbling as the OVI is persistently negative.

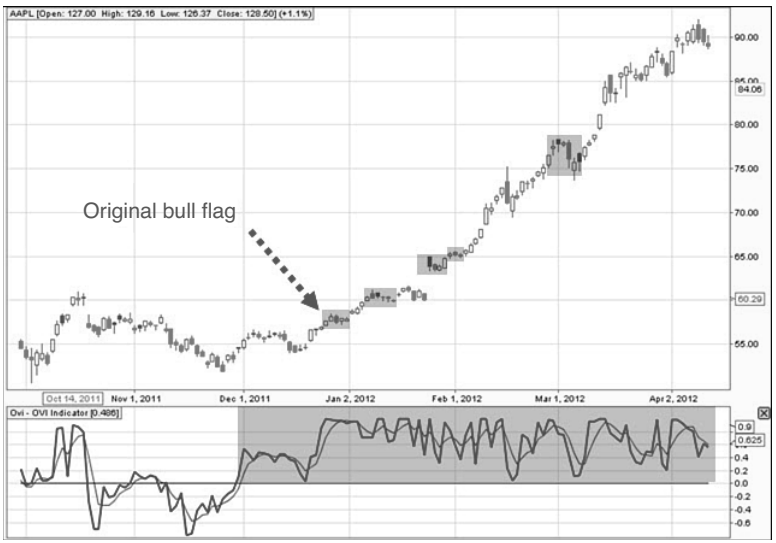


Chart B.06 AAPL flags and breakouts 2012

Source: OVI Charts. Courtesy of FlagTrader.com. Go to www.ovitraders.com for more information.

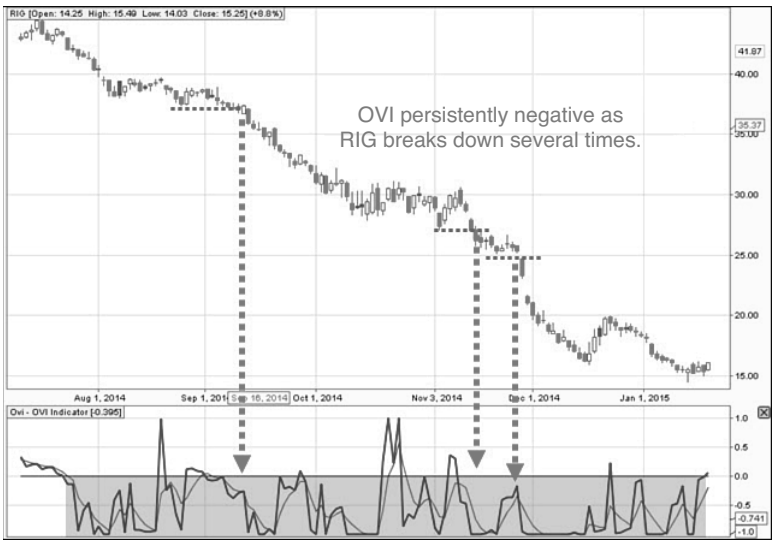


Chart B.07 RIG bearish breakouts

Source: OVI Charts. Courtesy of FlagTrader.com. Go to www.ovitraders.com for more information.

Remember, if the breakout doesn't materialize there is no trade. Ultimately we're looking for the confluence of the pattern, the OVI, and the breakout in order for our involvement to be restricted to only the best opportunities. This is our unique edge.

Why the OVI Works (If You Use It the Right Way)

Consider a serious player who has good information about a stock and wants to accumulate a big position in it.

Ultimately they'll want to keep their trades discreet so they can accumulate a large position without affecting the share price. Also, because their confidence in that information means they'll want as much leverage as they can get with it.

The only place they can achieve this discretion and leverage is in the options market, so that's where they go. The OVI is able to highlight this kind of activity—just like in the Bear Stearns case and countless others which are less dramatic, but equally tradable.

For discretionary trading we use the OVI together with our favored continuation patterns, namely flags, consolidations, and channel breakouts. Using it this way, the OVI effectively becomes a leading indicator like no other.

The pattern must come first. Without a pattern there is no trade because we have to define our entry and exit levels around the pattern'sparameters. The premise of our trading plan is

Continuation or Breakout Chart Pattern + OVI + Trading Plan

Components of the OVI

Essentially the OVI is derived from three main components:

- Option volume
- Open interest
- Implied volatility

The weightings of these components and which options to use at different times are dynamic.

As a rule, the biggest concentration of options volume occurs near the money. Typically the nearby out-of-the-money strikes have slightly greater volumes than the nearby in-the-money options. This is because the nearby OTM options attract both buying and short selling activity.

When a liquid stock is trending, the OVI will often correlate closely by remaining in the positive zone (bullish) or negative zone (bearish).

The OVI is also useful in sideways markets where it can often indicate the most likely direction of the breakout.

In choppy markets the OVI may also be choppy, in which case we wait until we can get a clear signal.

When to Use the OVI, and When Not to Use It

The OVI is not always "readable" as such. Only the stocks with adequately liquid options are suitable for our purposes. Sometimes stocks fall in and out of OVI tradability as a flurry of activity may be followed by relative inertia. This is actually an advantage because you can then recognize when a stock's OVI is relevant for that point in time.

OVI Qualifying Stocks

Only optionable stocks can have an OVI reading. These options must be liquid with consistent and regular transaction activity together with a decent volume traded most days. This will ensure the OVI is responsive and "wiggles" almost every day. This is what we want to see.

Typically a stock with ample options liquidity will tend to be a large cap stock with actively traded shares as well.

In the figure below (Chart B.08) you can see that the OVI is responsive and moves virtually every day. There is not a prolonged series of days where the OVI is completely flat horizontal. Even during the time where it is relatively flat from mid-August to the end of September, it is still wiggling most days. Also it helps that this is a chart of XOM (Exxon Mobil), which we know is very actively traded.

Notice also how the OVI breaks into positive territory at the beginning of October just before the stock breaks out of its two-month resistance. The OVI went positive a few days beforehand as the stock was drifting upwards but before it actually broke out through $75.00.

Chart B.08 A qualifying OVI

Source: OVI Charts. Courtesy of FlagTrader.com. Go to www.ovitraders.com for more information.

When the OVI Is Unreadable

The OVI needs to be responsive and wiggle on a daily basis. Where the OVI becomes horizontal and does not wiggle, this means it cannot be interpreted for our purposes.

In Chart B.09 CBEY's OVI rarely wiggles and spends much of the time stuck horizontally on the zero line. This is reflecting a lack of liquidity in the options, and therefore an unreadable OVI.

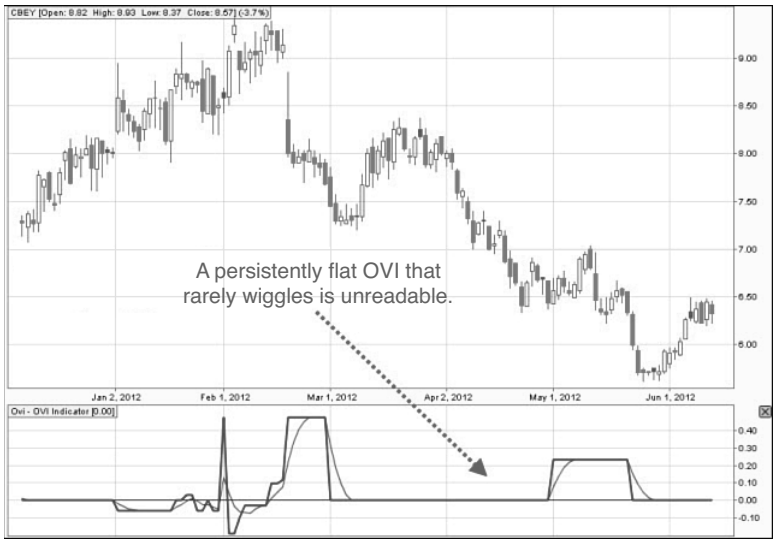


Chart B.09 A non-qualifying OVI

Source: OVI Charts. Courtesy of FlagTrader.com. Go to www.ovitraders.com for more information.

Any kind of persistently flat, horizontal action for the OVI is unreadable for our strategy. Some stocks' OVIs have horizontal lines that then swing from one extreme to another (Chart B.10).

Chart B.10 Horizontal OVI

Source: OVI Charts. Courtesy of FlagTrader.com. Go to www.ovitraders.com for more information.

The Ultimate OVI Setup

These are the two main setups we're looking for with the OVI:

(i) A persistently positive OVI for several days, combined with a bull flag or an imminent upside channel breakout.

(ii) A persistently negative OVI for several days, combined with a bear flag or an imminent downside channel breakout.

In Chart B.11 PCYC forms two excellent bullish setups after its earnings report, and for the second setup the OVI has been unambiguously positive for over a month.

The first setup (1) is a gap-up and bull flag immediately post-earnings, one of my favorite setups. The second (2) is a follow-up protracted consolidation with a persistently positive OVI. These are both excellent opportunities as I highlighted to my private group at the time. For the second setup we require a breakout above $172.11, which is the high of the large consolidation.

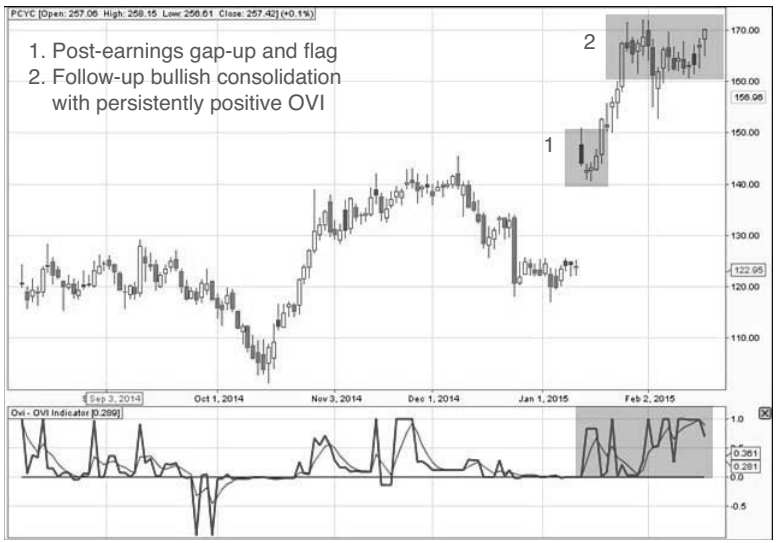


Chart B.11 PCYC bullish setup

Source: OVI Charts. Courtesy of FlagTrader.com. Go to www.ovitraders.com for more information.

PCYC breaks out cleanly and within two weeks rises to over $230 (a jump of 35%) before consolidating again (3). The OVI is still persistently positive.

Chart B.12 PCYC consolidation breakout

Source: OVI Charts. Courtesy of FlagTrader.com. Go to www.ovitraders.com for more information.

As good as this is, and many of my OVI traders enjoyed this particular ride, there was more to come. PCYC became subject to a takeover bid (4), which sent the stock gapping up to over $258, a rise of 50% in less than two months from the second setup (2), and a rise of 69% in three months from the first setup after the earnings announcement (1).

As I've said on many occasions with many situations similar to this, someone somewhere must have known something. It's right there in the chart, which shows persistent bullish options activity immediately after earnings but well before the really large move. The stock rose by over 69% after the post-earnings gap-up (1). With leverage, everyone trading bullish options strategies on PCYC during that time made out even better than that.

Chart B.13 PCYC takeover breakout

Source: OVI Charts. Courtesy of FlagTrader.com. Go to www.ovitraders.com for more information.

The OVI is a unique indicator that gives a simple graphical representation of what the most sophisticated players in the market are doing.

The largest trading fortunes have been made in the stock market, and notably with trending stocks. It stands to reason that anything that can improve our performance with trending stocks must be an excellent way to increase the size of our trading accounts. This is borne out with actual results with real traders of all levels of experience, from all over the globe, and from all walks of life.

The ultimate signal is where the OVI has been persistently positive for at least several days and the stock is forming a bullish chart setup, or where the OVI has been persistently negative for at least several days and the stock is forming a bearish

chart setup. These scenarios give us extra confidence that if the breakout materializes, it's likely to take us to a modest first profit target where we can protect our profits and give the trade a chance to make a windfall.

For more information, go to www.ovitraders.com, watch the videos, and start learning my methods. For options-specific tools go to www.optioneasy.com.

1

The Four Basic Options Strategies

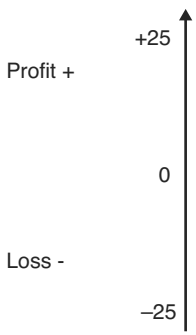
Introduction

The easiest way to learn options is with pictures so that you can begin to piece together strategies step-by-step. However, first you need to understand the four basic strategies. From that point, logic kicks in, and your learning can progress exponentially.

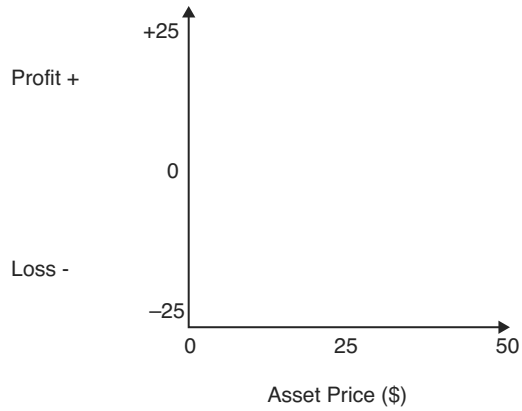
A risk profile chart shows your profit/loss position for each trade. It differs from a standard price/time chart that you're used to seeing when you're monitoring stock prices.

There are four easy steps to creating a risk profile chart:

Step 1: Y axis for profit/loss position

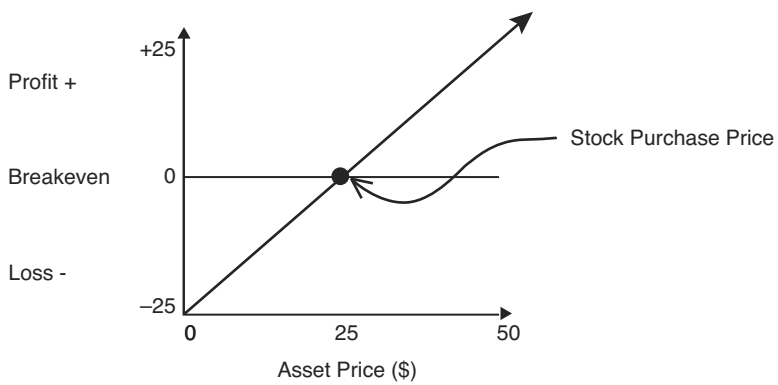


Step 2: X axis for underlying asset price range



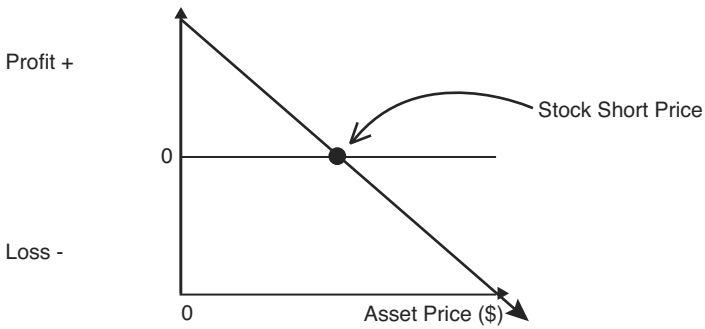
Step 3: Breakeven line

Step 4: Risk profile line



This chart shows your risk profile for a long stock position. As the asset price rises above your purchase price (along the x-axis), you move into profit. Your risk is capped to what you paid, as is your breakeven point, and your potential reward is uncapped.

The reverse position is when you short a stock, in which case the opposite occurs. Here, as the stock price rises above your short price, your short position shows a loss, which can be unlimited as the stock continues to rise. Your risk is uncapped as the stock rises, and your potential reward is the price you shorted at, as is your breakeven point.



Now that you know how to interpret a risk profile chart, you can proceed with analyzing each strategy.

The four basic strategies that underpin your entire options trading knowledge are

- Long call
- Short call
- Long put
- Short put

You should already know that owning an option exposes you to time decay, so typically you like to own options with expiration dates that are reasonably far away to give yourself a chance of your option increasing in value.

With options, my "Rule of the Opposites" states that if one thing isn't true, then the opposite must be true. Therefore, if time decay *hurts* you when you buy options, it must *help* you when you sell options. Because time value decreases (or time decay increases) exponentially during the last month to expiration, you typically don't like to own options into that last month, but you *do* like to sell options with one month left to expiration.

With these four strategies, you would buy calls and puts with at least three months (or more) left to expiration, thereby looking for the options to increase in value during that time.

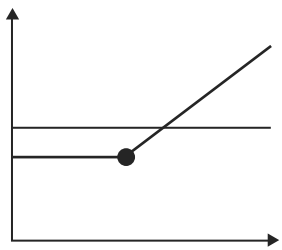
You would short calls and puts with a month or less to expiration, thereby looking for short-term income as the option hopefully expires worthless.

The Four Basic Options Risk Profiles

Imagine that the dotted lines are mirrors and see how each strategy is the opposite of the one on the other side of the mirror.

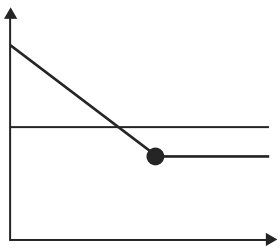
Buying a Call

- Belief that stock will rise (bullish outlook)
- Risk limited to premium paid
- Unlimited maximum reward



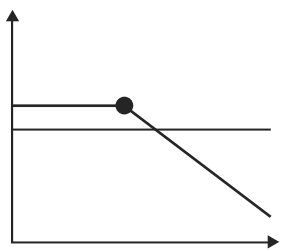
Buying a Put

- Belief that the stock will fall (bearish outlook)
- Risk limited to premium paid
- Unlimited maximum reward up to the strike price less the premium paid



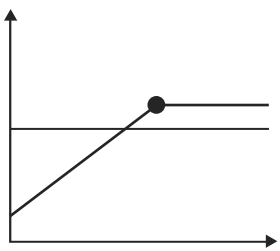
Writing a Call

- Belief that the stock will fall (bearish outlook)
- Maximum reward limited to premium received
- Risk potentially unlimited (as stock price rises)
- Can be combined with another position to limit the risk



Writing a Put

- Belief that stock will rise (bullish outlook)
- Risk "unlimited" to a maximum equating to the strike price less the premium received
- Maximum reward limited to the premium received
- Can be combined with another position to limit the risk



1.1 Long Call

Proficiency	Direction	Volatility	Asset Legs	Max Risk	Max Reward	Strategy Type
Novice	Bullish	N/A	Long Call	Capped	Uncapped	Capital Gain

1.1.1 Description

Buying a call is the most basic of all option strategies. For many people, it constitutes their first options trade after gaining experience buying and selling stocks.

Calls are easy to understand. A call is an option to buy, so it stands to reason that when you buy a call, you're hoping that the underlying share price will rise.

ITM	In the Money	stock > call strike price
ATM	At the Money	stock = call strike price
OTM	Out of the Money	stock < call strike price

Buy call

Steps to Trading a Long Call

1. Buy the call option.
   - Remember that for option contracts in the U.S., one contract is for 100 shares. So when you see a price of 1.00 for a call, you will have to pay $100 for one contract.
   - For S&P Futures options, one contract is exercisable into one futures contract. If the option price is 1.00, you will pay $250 for one futures contract upon exercise.

   Steps In

   - Try to ensure that the stock is trending upward, and is above a clearly identifiable area of support.

Steps Out

- Manage your position according to the rules defined in your trading plan.
- Sell your long options before the final month before expiration if you want to avoid the effects of time decay.
- If the stock falls below your stop loss, then exit by selling the calls.

1.1.2 Context

Outlook

- With a long call, your outlook is **bullish**. You expect a rise in the underlying asset price.

Rationale

- To make a better return than if you had simply bought the stock itself. Do ensure that you give yourself enough time to be right; this means you should go at least six months out, if not one- or two-year LEAPs. If you think these are expensive, then simply divide the price by the number of months left to expiration and then compare that to shorter-term option prices. You will see that LEAPs and longer-term options are far better value on a per-month basis, and they give you more time to be right, thus improving your chances of success. Another method is to buy only shorter-term deep ITM options.

Net Position

- This is a **net debit** transaction because you pay for the call option.
- Your maximum risk is capped to the price you pay for the call.
- Your maximum reward is uncapped.

Effect of Time Decay

- Time decay works against your bought option, so give yourself plenty of time to be right.
- Don't be fooled by the false economy that shorter options are cheaper. Compare a one-month option to a 12-month option and divide the longer option price by 12. You will see that you are paying far less per month for the 12-month option.

Appropriate Time Period to Trade

- At least three months, preferably longer, depending on the particular circumstances.

Selecting the Stock

- Ideally, look for stocks where the OVI is persistently positive for at least the last few days.
- Choose from stocks with adequate liquidity, preferably over 500,000 Average Daily Volume (ADV).
- The stock should be trending upward, and be above a clearly identifiable area of support.

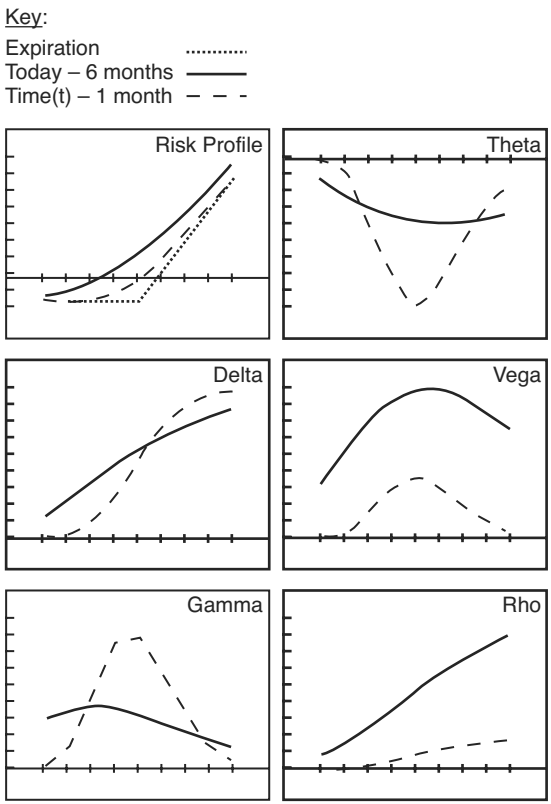
Selecting the Options

- Choose options with adequate liquidity; open interest should be at least 100, preferably 500.
- **Strike**—Look for either the ATM or ITM (lower) strike below the current stock.
- **Expiration**—Give yourself enough time to be right; remember that time decay accelerates exponentially in the last month before expiration, so give yourself a minimum of three months to be right, knowing you'll never hold into the last month. That gives you at least two months before you'll need to sell. Longer would be better, though.

1.1.3 Risk Profile

- **Maximum Risk** [Call premium]
- **Maximum Reward** [Uncapped]
- **Breakeven** [Call strike + call premium]

1.1.4 Greeks



Risk Profile
As the stock price rises, the long call moves into profit more and more quickly, particularly when the stock price is greater than the strike price.

Theta
Theta is negative, illustrating that time decay hurts the long call position.

Delta
Delta (speed) is positive and increases at its fastest rate around the strike price, until it reaches 1. Notice how delta is zero when the option is deep OTM.

Vega
Vega is positive, illustrating that volatility is helpful to the position because higher volatility translates into higher option values.

Gamma
Gamma (acceleration) is always positive with a long call, and it peaks when delta is at its fastest (steepest) rate.

Rho
Rho is positive, illustrating that higher interest rates would increase the value ofthe calls and therefore help the position.

1.1.5 Advantages and Disadvantages

Advantages

- Cheaper than buying the stock outright.
- Far greater leverage than simply owning the stock.
- Uncapped profit potential with capped risk.

Disadvantages

- Potential 100% loss if the strike price, expiration dates, and stock are badly chosen.
- High leverage can be dangerous if the stock price moves against you.

1.1.6 Exiting the Trade

Exiting the Position

- Sell the calls you bought.

Mitigating a Loss

- Use the underlying asset or stock to determine where your stop loss should be placed.

1.1.7 Margin Collateral

- Being a long net debit strategy, there is no margin requirement per se because the risk of the trade is limited to the initial cost.

1.1.8 Example

ABCD is trading at $28.88 on February 19, 2015.

Buy the January 2016 27.50 strike call for 4.38.

You Pay	Call premium **4.38**
Maximum Risk	Call premium **4.38** Maximum risk is 100% of your total cost here
Maximum Reward	Unlimited as the stock price rises
Breakeven	Strike price + call premium **27.50 + 4.38 = 31.88**

1.2 Short (Naked) Call

Proficiency	Direction	Volatility	Asset Legs	Max Risk	Max Reward	Strategy Type
		N/A				
Advanced	Bearish		Short Call	Uncapped	Capped	Income

1.2.1 Description

Although simple to execute, shorting a call (without any form of cover) is a risky strategy, hence its categorization as an advanced strategy. A short call exposes you to uncapped risk if the stock rises meteorically, and brokers will only allow experienced options traders to trade the strategy in the first place.

A call is an option to buy, so it stands to reason that when you buy a call, you're hoping that the underlying share price will rise. If you're selling or shorting a call, it's therefore logical that you'd want the stock to do the opposite—fall.

Sell call

Steps to Trading a Short Call

1. Sell the call option with a strike price higher than the current stock price.
    - Remember that for option contracts in the U.S., one contract is for 100 shares. So when you see a price of 1.00 for a call, you will receive $100 for one contract.

    Steps In

    - Try to ensure that the stock is rangebound or trending downward, and is below a clearly identifiable area of resistance.

    Steps Out

    - Manage your position according to the rules defined in your trading plan.
    - Hopefully the stock will decline or remain static, allowing your sold option to expire worthless so you can keep the entire premium.
    - If the stock rises above your stop loss, then exit the position by buying back the calls.
    - Time decay will be eroding the value of your call every day, so all other things being equal, the call you sold will be declining in value every day, allowing you to buy it back for less than you bought it for, unless the underlying stock has risen of course.

1.2.2 Context

Outlook

- **Bearish**—You are expecting a **fall** in the stock price; you are certainly **not** expecting a rise in the stock.

Rationale

- To pick up short-term premium income as the stock develops price weakness.

Net Position

- This is a **net credit** transaction because you are receiving a premium for the call.
- Your maximum risk is uncapped.
- Your maximum reward is capped to the price you receive for the call.

Effect of Time Decay

- Time decay is helpful to your naked sold option, so take advantage of the maximum time erosion. Maximum time decay (or theta decay) occurs in the last month before the option's expiration, so it makes sense to sell one-month-or-less options only.
- Don't be fooled by the false economy that selling longer options would be more lucrative. Compare a one-month option to a 12-month option and multiply the shorter option price by 12. You will see that you are receiving far more per month for the one-month option. Also remember that you want the person on the long side of this trade to have as short a time as possible to be right.
- Give yourself as little time as possible to be wrong because your maximum risk is uncapped.

Appropriate Time Period to Trade

- One month or less.

Selecting the Stock

- Ideally, look for stocks where the OVI is persistently negative for at least the last few days.
- Choose from stocks with adequate liquidity, preferably over 500,000 Average Daily Volume (ADV).
- The stock should be rangebound or trending downward, and below a clearly identifiable area of resistance.

Selecting the Options

- Choose options with adequate liquidity; open interest should be at least 100, preferably 500.
- **Strike**—Look for OTM strikes above the current stock price.
- **Expiration**—Give yourself as little time as possible to be wrong. Remember that your short position exposes you to uncapped risk, and that time decay accelerates exponentially (in your favor when you're short) in the last month

before expiration, so only short the option with a maximum of one month to expiration, preferably less.

1.2.3 Risk Profile

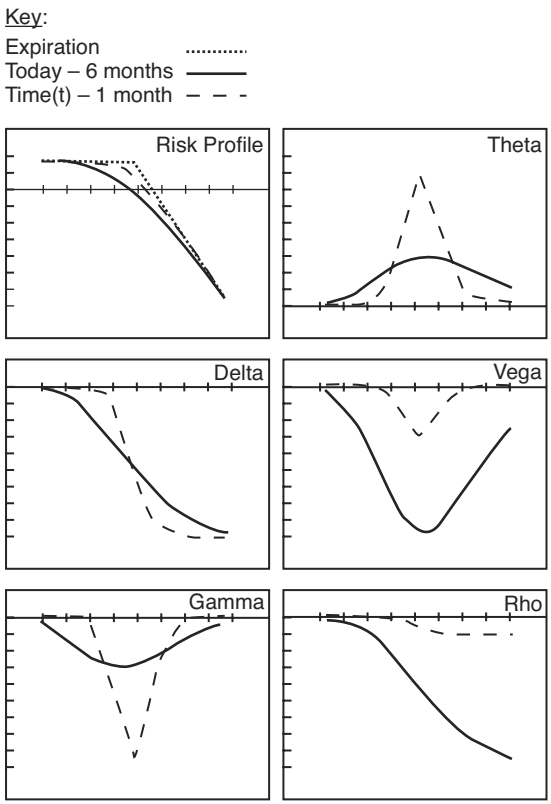
- **Maximum Risk** [Uncapped]
- **Maximum Reward** [Call premium]
- **Breakeven** [Call strike + call premium]

1.2.4 Greeks

Risk Profile
As the stock price rises, the short call loses money more and more quickly, particularly when the stock price is greater than the strike price.

Delta
Delta (speed) is negative and moves at its fastest (negative) rate around the strike price, until it reaches -1. Notice how delta is zero when the option is deep.

Gamma
Gamma (acceleration) is always negative with a short call, and it peaks inversely when delta is at its fastest (steepest) rate. Gamma is zero when the position is deep OTM or ITM (i.e., when delta isn't moving).



Theta
Theta is positive, illustrating that time decay helps the short call position. As an option seller, this is of course completely logical.

Vega
Vega is negative, illustrating that volatility is unhelpful to the position because higher volatility translates into higher option values. As the seller of option premium, we'd rather the option value decreases.

Rho
Rho is negative, illustrating that higher interest rates would harm the short call position.

1.2.5 Advantages and Disadvantages

Advantages

- If done correctly, you can profit from falling or rangebound stocks in this way.
- This is another type of income strategy.

Disadvantages

- Uncapped risk potential if the stock rises.
- A risky strategy that is difficult to recommend on its own.

1.2.6 Exiting the Trade

Exiting the Position

- Buy back the options you sold or wait for the sold option to expire worthless (if the underlying stock falls and stays below the strike price) so that you can keep the entire premium.

Mitigating a Loss

- Use the underlying asset or stock to determine where your stop loss should be placed.

1.2.7 Margin Collateral

- The minimum requirement specified by the CBOE is 100% of the option proceeds, plus 10% of the share value. Many brokers specify 100% of the option proceeds, plus 20% of the share value.

1.2.8 Example

ABCD is trading at $28.20 on February 19, 2015.

Sell the March 2015 30.00 strike call for 0.90.

You Receive	Call premium **0.90**
Maximum Risk	Uncapped
Maximum Reward	Call premium **0.90**
Breakeven	Strike price + call premium **30.00 + 0.90 = 30.90**

1.3 Long Put

Proficiency	Direction	Volatility	Asset Legs	Max Risk	Max Reward	Strategy Type
Novice	Bearish	N/A	Long Put	Capped	Uncapped	Capital Gain

1.3.1 Description

Buying a put is the opposite of buying a call. A put is an option to sell. When you buy a put, your outlook is bearish.

ITM	In the Money	stock < put strike price
ATM	At the Money	stock = put strike price
OTM	Out of the Money	stock > put strike price

Buy put

Steps to Trading a Long Put

1. Buy the put option.
   - Remember that for option contracts in the U.S., one contract is for 100 shares. So when you see a price of 1.00 for a put, you will have to pay $100 for one contract.
   - For S&P Futures options, one contract is exercisable into one futures contract. If the option price is 1.00, you will pay $250 for one futures contract upon exercise.

   Steps In

   - Try to ensure that the stock is trending downward, and is below a clearly identifiable area of resistance.

   Steps Out

   - Manage your position according to the rules defined in your trading plan.
   - Sell your long options before the final month before expiration if you want to avoid the effects of time decay.
   - If the stock rises above your stop loss, then exit by selling the puts.

1.3.2 Context

Outlook

- With a long put, your outlook is **bearish.** You expect a fall in the underlying asset price.

Rationale

- To make a better return than if you had simply sold short the stock itself. Do ensure that you give yourself enough time to be right; this means you should go at least six months out, if not one- or two-year LEAPs. If you think these are expensive, then simply divide the price by the number of months left to expiration and then compare that to shorter-term put prices. You will see that LEAPs and longer-term options are a far better value per month, and they give you more time to be right, thus improving your chances of success. Another method is to buy only deep ITM options.

Net Position

- This is a **net debit** transaction because you pay for the put option.
- Your maximum risk is capped to the price you pay for the put.
- Your maximum reward is uncapped until the stock falls to zero, whereupon the maximum profit is the strike price less what you paid for the put.

Effect of Time Decay

- Time decay works against your bought option, so give yourself plenty of time to be right.
- Don't be fooled by the false economy that shorter options are cheaper. Compare a one-month option to a 12-month option and divide the longer option price by 12. You will see that you are paying far less per month for the 12-month option.

Appropriate Time Period to Trade

- At least three months, preferably longer depending on the particular circumstances.

Selecting the Stock

- Ideally, look for stocks where the OVI is persistently negative for at least the last few days.
- Choose from stocks with adequate liquidity, preferably over 500,000 Average Daily Volume (ADV).
- The stock should be trending downward, and be trading below a clearly identifiable area of resistance.

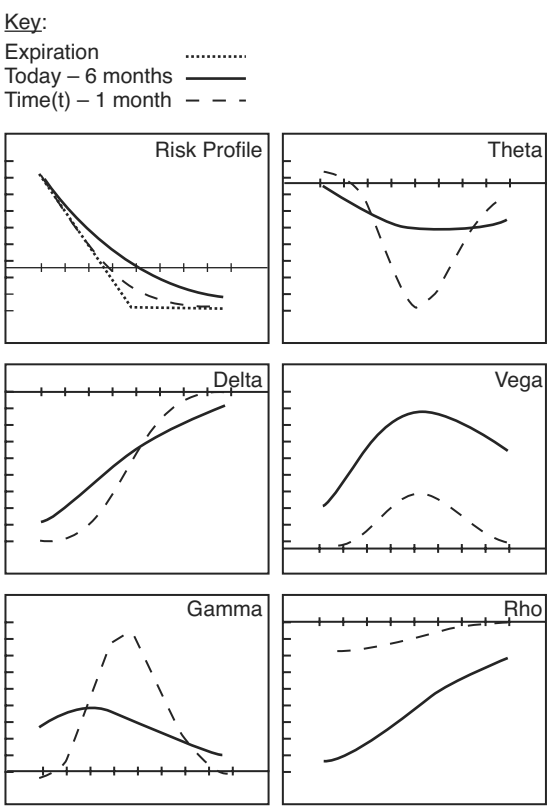
Selecting the Options

- Choose options with adequate liquidity; open interest should be at least 100, preferably 500.
- **Strike**—Look for either the ATM or ITM (higher) strike above the current stock.
- **Expiration**—Give yourself enough time to be right; remember that time decay accelerates exponentially in the last month before expiration, so give yourself a minimum of three months to be right, knowing you'll never hold into the last month. That gives you at least two months before you'll need to sell. Longer would be better, though.

1.3.3 Risk Profile

- **Maximum Risk** [Put premium]
- **Maximum Reward** [Put strike − put premium]
- **Breakeven** [Put strike − put premium]

1.3.4 Greeks



Risk Profile
As the stock price falls, the long put moves into profit more and more quickly, particularly when the stock price is lower than the strike price.

Theta
Theta is negative, illustrating that time decay hurts the long put position.

Delta
Delta (speed) is negative and moves at its fastest rate around the strike price, until it reaches -1. Notice how delta is zero when the option is deep OTM.

Vega
Vega is positive, illustrating that volatility is helpful to the position because higher volatility translates into higher option values.

Gamma
Gamma (acceleration) is always positive with a long put, and it peaks when delta is at its fastest (steepest) rate.

Rho
Rho is negative, illustrating that higher interest rates would reduce the value of the puts and therefore hurt the position.

1.3.5 Advantages and Disadvantages

Advantages

- Profit from declining stock prices.
- Far greater leverage than simply shorting the stock.
- Uncapped profit potential with capped risk.

Disadvantages

- Potential 100% loss if the strike price, expiration dates, and stock are badly chosen.
- High leverage can be dangerous if the stock price moves against you.

1.3.6 Exiting the Trade

Exiting the Position

- Sell the puts you bought.

Mitigating a Loss

- Use the underlying asset or stock to determine where your stop loss should be placed.

1.3.7 Margin Collateral

- Being a long net debit strategy, there is no margin requirement per se because the risk of the trade is limited to the initial cost.

1.3.8 Example

ABCD is trading at $28.88 on February 19, 2015.

Buy the January 2016 30.00 strike put for 4.38.

You Pay	Put premium **4.38**
Maximum Risk	Put premium **4.38** Maximum risk is 100% of your total cost here
Maximum Reward	Strike price – put premium **30.00 – 4.38 = 25.62**
Breakeven	Strike price – put premium **30.00 – 4.38 = 25.62**

1.4 Short (Naked) Put

Proficiency	Direction	Volatility	Asset Legs	Max Risk	Max Reward	Strategy Type
		N/A				
Intermediate	Bullish		Short Put	Capped*	Capped	Income

*Risk uncapped until the stock falls to zero.

1.4.1 Description

Selling a put is a simple, short-term income strategy. A put is an option to sell. When you sell a put, you have sold someone the right to sell. As the stock falls, you may be obligated to buy the stock if you are exercised. Therefore, only sell puts out of the money and on stocks you'd love to own at the strike price (which is lower than the current stock price).

The maximum risk of a naked call is the strike price less the premium you receive. Some people consider this to be an unlimited risk profile, and others consider it to be limited risk. A compromise is to consider it unlimited until the stock falls to zero.

Sell put

Steps to Trading a Naked Put

1. Sell the put option with a strike price lower than the current stock price.
   - Remember that for option contracts in the U.S., one contract is for 100 shares. So when you see a price of 1.00 for a put, you will receive $100 for one contract.
   - For S&P Futures options, one contract is exercisable into one futures contract. If the option price is 1.00, you will pay $250 for one futures contract upon exercise.

   Steps In

   - Try to ensure that the stock is rangebound or trending upward, and is trading above a clearly identifiable area of support.

Steps Out

- Manage your position according to the rules defined in your trading plan.
- Hopefully the stock will rise or remain static, allowing your sold option to expire worthless so that you can keep the entire premium.
- If the stock falls below your stop loss, then exit the position by buying back the puts.
- Time decay will be eroding the value of your put every day, so all other things being equal, the put you sold will be declining in price every day, allowing you to buy it back for less than you bought it for, unless the underlying stock has fallen of course.

1.4.2 Context

Outlook

- **Bullish**—You are expecting the stock to rise or stay sideways at a minimum.

Rationale

- To pick up short-term premium income as the share develops price strength.
- To lower the cost basis of buying a share (if the put is exercised).

Net Position

- This is a **net credit** transaction because you receive a premium for selling the put.
- Your maximum risk is the put strike price less the premium you receive for the put. This is considered a high-risk strategy.
- Your maximum reward is limited to the premium you receive for the option.

Effect of Time Decay

- Time decay works with your naked sold option. To take advantage of the maximum rate of time decay, sell the put in the last month before the option's expiration.
- Don't be fooled by the false economy that options with longer to expiration are more lucrative. Compare a one-month option to a 12-month option and multiply the shorter option price by 12. You will see that you are receiving far more per month for the one-month option.

Appropriate Time Period to Trade

- One month or less.

Selecting the Stock

- Ideally, look for stocks where the OVI is persistently positive for at least the last few days.
- Choose from stocks with adequate liquidity, preferably over 500,000 Average Daily Volume (ADV).
- The stock should be rangebound or trending upward, and be trading above a clearly identifiable area of support.

Selecting the Options

- Choose options with adequate liquidity; open interest should be at least 100, preferably 500.
- **Strike**—Look for OTM (lower strike) options, below the current stock price.
- **Expiration**—Give yourself as little time as possible to be wrong; remember that your short position exposes you to uncapped risk (until the stock falls to zero) and that time decay accelerates exponentially (in your favor when you're short) in the last month before expiration, so only short the option with a maximum of one month to expiration, preferably less.

1.4.3 Risk Profile

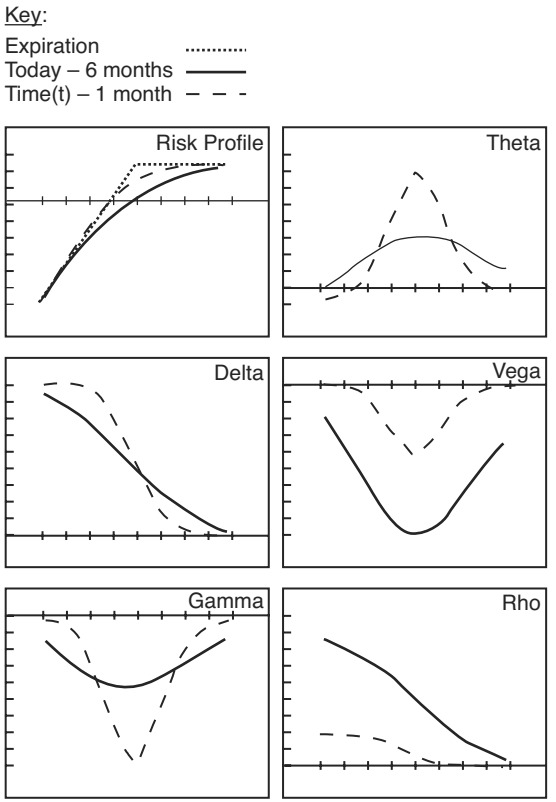
- **Maximum Risk** [Put strike − put premium]
- **Maximum Reward** [Put premium]
- **Breakeven** [Put strike − put premium]

1.4.4 Greeks

Risk Profile
As the stock price falls, the naked put moves into loss more and more quickly, particularly when the stock price is lower than the strike price.

Delta
Delta (speed) is positive and falls to zero after the position reaches its maximum profit potential after the stock has risen above the strike price.

Gamma
Gamma (acceleration) is always negative with a naked put (because you are a net seller of options), and it peaks inversely when delta is at its fastest (steepest) rate, which is when the position is ATM.



Theta
Theta is positive, illustrating that time decay helps the naked put position.

Vega
Vega is negative, illustrating that volatility is harmful to the position because higher volatility translates into higher option values.

Rho
Rho is positive, illustrating that higher interest rates would help the naked put position.

1.4.5 Advantages and Disadvantages

Advantages

- If done correctly, you can use naked puts to gain a regular income from rising or rangebound stocks.
- The naked put is an alternative way of buying a stock at a cheaper price than in the current market. This is because if you're exercised, you're obligated to buy stock at the low strike price, having already received a premium for selling the puts in the first place.

Disadvantages

- Naked puts expose you to uncapped risk (as the stock falls to zero) if the stock falls.

- Not a strategy for the inexperienced. You must only use this strategy on stocks you'd love to own at the put strike price you're selling at. The problem is that if you were to be exercised, you'd be buying a stock that is falling. The way to avoid this is to position the put strike around an area of strong support within the context of a rising trend. A Fibonacci retracement point would be the type of area you'd use to position your naked put strike…well below the current stock price.

1.4.6 Exiting the Trade

Exiting the Position

- Buy back the options you sold or wait for the sold put to expire worthless so that you can keep the entire premium.

Mitigating a Loss

- Use the underlying asset or stock to determine where your stop loss should be placed.

1.4.7 Margin Collateral

- The minimum initial margin requirement is the premium received plus [10% of the strike price, multiplied by the number of contracts and multiplied by 100]
- In practice you'll use a margin calculator either with your broker or on the CBOE website.

1.4.8 Example

ABCD is trading at $27.35 on May 12, 2015.

Sell the June 2015 25.00 strike put for 1.05.

You Receive	Put premium **1.05**
Maximum Risk	Strike price – put premium **25.00 – 1.05 = 23.95**
Maximum Reward	Put premium **1.05**
Breakeven	Strike price – put premium **25.00 – 1.05 = 23.95**
Return on Risk	4.38%
Cushion (from Breakeven)	3.40 or 12.43%

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