Understanding and using Options for Investing
Instructional Unit

Tim Boileau
CIS 6110

April 19, 2004

Email: timboileau@yahoo.com
Ph: 313.378.7549

Why Should You Consider Options as Part of Your Investment Strategy?

Most people are familiar with two forms of securities investment: equity and debt. An equity investment provides a form of part ownership in a company, generally through the purchase of shares of stock. A debt investment is an investment in the form of a loan that is made to earn interest, such as in the purchase of a bond.

There is actually a third type of investment that you will learn about in this unit, which is an option. Both equity and debt investments contain a tangible value that we can grasp and visualize either as part ownership in a company or the contractual right for repayment. An option is a contract that gives you the right to buy or to sell 100 shares of stock at a specified, fixed price and by a specified date in the future. Unlike stocks and bonds, options do not have any tangible value and become worthless if they are not exercised or sold prior to their expiration date.

To understand how an option works, consider an example of purchasing an option on a house. You find a house that you would like to buy and negotiate a price of $100,000 to purchase it within a year. In exchange for the right to purchase the house at a set price within a set time frame, you pay the seller a premium of $5000. In essence, the price of the house one year in the future has now been set at $105,000. In six months time, you decide you are no longer interested in purchasing the house, but the value has increased to $130,000. At this point, you could exercise the option to purchase the house for $100,000 and turn around and sell it for $130,000, realizing a $25,000 profit ($130,000 - $100,000 - $5000 premium). As an alternative, you could sell the option to another buyer for $30,000 and make the same profit, without having to purchase the home. This represents a $25,000 or 500% profit on the option contract from a $5000 investment! Had you purchased the house for a $100,000 investment, and then sold it for $130,000 six months later, the profit would have only been 30%.

This unit introduces you to the strategies for using options to leverage your investments.

Stocks and Options

What is a Stock?

Most people are familiar the concept of a stock with as being able to own an **equity share** in a company. Stocks represent value to an investor as a **tangible asset**, which is the same as owning physical property. When you own a stock, a profit or loss is realized when you sell the stock or receive a **dividend**.

Let’s take a look at an example. Say that you were to purchase an apartment in a building that has become condominium. Your equity share in the building is represented by your apartment and access to all common areas. Your apartment is a tangible asset that could be used as collateral to borrow money against. When you sell the apartment, any appreciation in value that occurred would be your profit. Conversely, any depreciation in value would represent a loss on the property. You could rent the apartment out for a part of the year and the rent payment received would represent a dividend for owning the asset.

What is an Option?

For some investors, options provide a strong enhancement to their portfolio so long as you understand what options are and how they work. In the booklet “Characteristics and Risks of Standardized Options” published by the Securities and Exchange Commission, the following definition is offered:

> *An option is the right either to buy or sell a specified amount or value of a particular underlying interest at a fixed exercise price by exercising the option before its specified expiration date. An option which gives a right to buy is a call option, and an option which gives a right to sell is a put option.*

Based upon the above definition, an option is a <u>contract</u> that gives you the right to either buy or sell 100 shares of stock. (Each option always refers to a 100 share unit.)

To understand best how options work, consider the example provided in the introduction for this unit. In this case, you would not actually be buying the apartment. Rather you would acquire a contract granting you the right to purchase the apartment at a specified price within a pre-determined time frame (call option). You would then have control to exercise the option by purchasing the apartment, decline the option by allowing it expire and thus become worthless, or sell the option to somebody else. The key benefit is that you gain *control over the asset* for considerably less money than it would take to purchase the asset. This can provide you with significant leverage if the apartment appreciates in value, which is what we hope will happen, before the option expires.

How are Options Similar to Stocks?

Options are securities, which are traded on national Securities Exchange Commission (SEC) regulated exchanges, just like stocks. Option orders are transacted through market makers and retail participants with bids to buy and offers to sell, and can be traded like any other security.

How do Options Differ from Stocks?

Options have an expiration date, whereas common stocks can be held forever (unless the company goes bankrupt). If an option is not exercised on or before expiration, it no longer exists and expires worthless.

Options only exist as "book entry, which means they are held electronically. There are no certificates for options like there are for stocks.

There is no limit to the number of options that can be traded on an underlying stock. Common stocks have a fixed number of shares outstanding.

Options do not confer voting rights or dividends. They are strictly contracts to buy or sell the underlying stock or index. If you want a dividend or wish to vote the proxy, you need to exercise the call option and purchase the shares of the stock.

Your Turn!

List three benefits to owning a stock:

1) ______________________________

2) ______________________________

3) ______________________________

List three benefits to owning an option:

1) ______________________________

2) ______________________________

3) ______________________________

OPTION COMPONENTS

Options are evaluated using five different pieces of information or components as we discuss each of these, please refer to the partial options table below for Apple Computer (Stock Symbol AAPL). Each row in the table represents an option, which is identified by it's own unique ticker symbol. The market price for an underlying stock is the price that one share is currently valued at in the market. In this case, the last market price for a share of Apple stock was $29.18.

Market Price

Intrinsic Value

Premium

Time Value

Expiration Date

Strike Price

APPLE COMPUTER INC (AAPL)

Symbol	Last	Time	Net	Bid	Ask	Ope
AAPL	29.1800	04/16	-0.1200	17.5600	40.8100	29.0

Calls							May 2004
Ticker	Last	Intrinsic Value	Bid	Ask	Vol	Open Interest	Strike
AAQ EY	0.0000	21.68	21.6000	21.8000			7.5
AAQ EB	0.0000	19.18	19.1000	19.3000			10
AAQ ER	0.00	16.68	16.60	16.80			12.5
AAQ EC	14.10	14.18	14.10	14.30	4		15
AAQ ES	0.00	11.68	11.60	11.80			17.5
AAQ ED	9.11	9.18	9.10	9.30	10	108	20
AAQ ET	6.70	6.68	6.60	6.80	5	1232	22.5
AAQ EE	4.40	4.18	4.30	4.40	491	4467	25
AAQ EA	2.35	1.68	2.30	2.40	1214	14828	27.5
AAQ EF	1.00	0.00	1.00	1.05	5108	15489	30
AAQ EZ	0.40	0.00	0.30	0.40	1416	2135	32.5
AAQ EG	0.20	0.00	0.05	0.15	5	418	35
AAQ EU	0.05	0.00	0.00	0.10		107	37.5
AAQ EH	0.10	0.00	0.00	0.05		10	40
AAQ EJ	0.1500	0.00	0.0000	0.1000		20	50
AAQ EK	0.1500	0.00	0.0000	0.1000		20	55

Partial Options Table from BusinessWeek Investor's Toolbox

<u>Strike Price</u> – the per share price to be paid for 100 shares of stock specified in the option contract. This is the price that will be paid (or received) by the owner of the option contract if it is exercised, regardless of the current market price of the stock.

Premium – the price paid (times 100 shares) for the option contract. The lower the strike price of the option is, relative to the market price, generally the hire the premium will be. An option with a strike price below the current market price for the stock is said to be *in-the-money*.

Intrinsic Value – the portion of an option's current value equal to the amount that the option is in-the-money. Even though this is listed in the table, intrinsic value is calculated by simply subtracting the strike price of the option from the market price of the underlying stock. An option with a strike price above the current market price for the stock is said to be *out-of-the-money*. Notice that options which are out-of-the-money have no intrinsic value.

Time Value – (not shown as a column in the table) refers to that portion of an option's current value above intrinsic value. Time value of an option is variable and will decline predictably over time as expiration approaches. In the table above, time value (TV) is equal to current option premium (P) minus intrinsic value (IV) expressed in the formula $TV = P – IV$. Taking a look at the option with the symbol AAQ EA, we see $TV = 2.40 – 1.68 = 0.72$ or roughly 30% of the option's current value.

Expiration Date – date on which an option becomes worthless, which is specified in the contract. The expiration date is always the third Saturday of the expiration month. Since the markets are close on Saturday, this means that must be executed before close of business on the third Friday of the month.

Hint: there is a simple mnemonic device you can use to help remember the parts of an option. **SPITE** stands for **S**trike Price, **P**remium, **I**ntrinsic Value, **T**ime Value, and **E**xpiration. So, you won't "spite" yourself in remembering the components of an option!

Your Turn!

Take a few moments to memorize the 5 primary components of an option, using the SPITE mnemonic. When you think you have it, test your recall by listing the components and a brief description of each in the table below.

Component Name	**Description**
S	
P	
I	
T	
E	

Basic Option Strategy

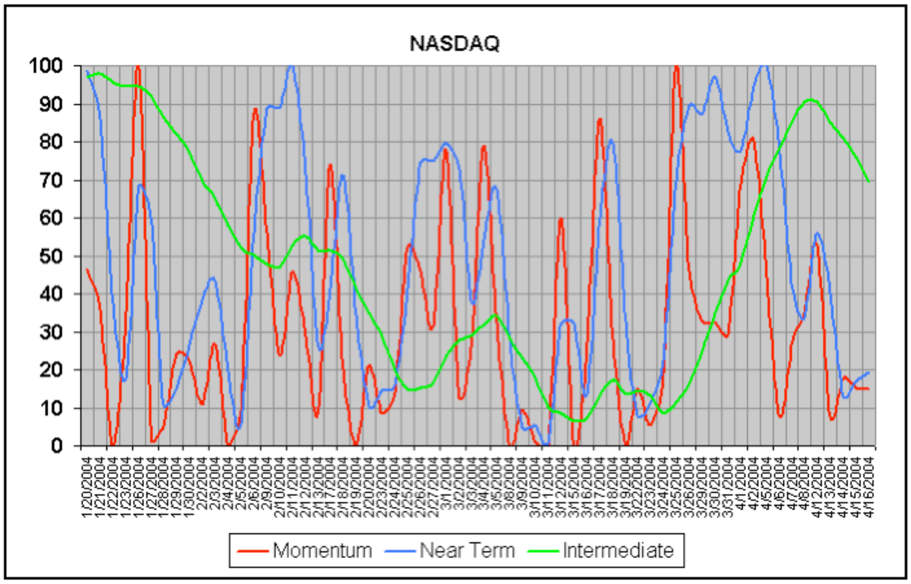
The primary benefit of using options as part of your investment strategy, is to be able to make money regardless of whether the market is moving up or down. This requires taking a look at the overall trend in the Market, the individual Sectors (e.g., blue chip, tech, etc.), and the underlying Stock. These three trends need to be analyzed together in order to reach an informed option trading decision. An illustration of this relationship is given below.

Market Forecast

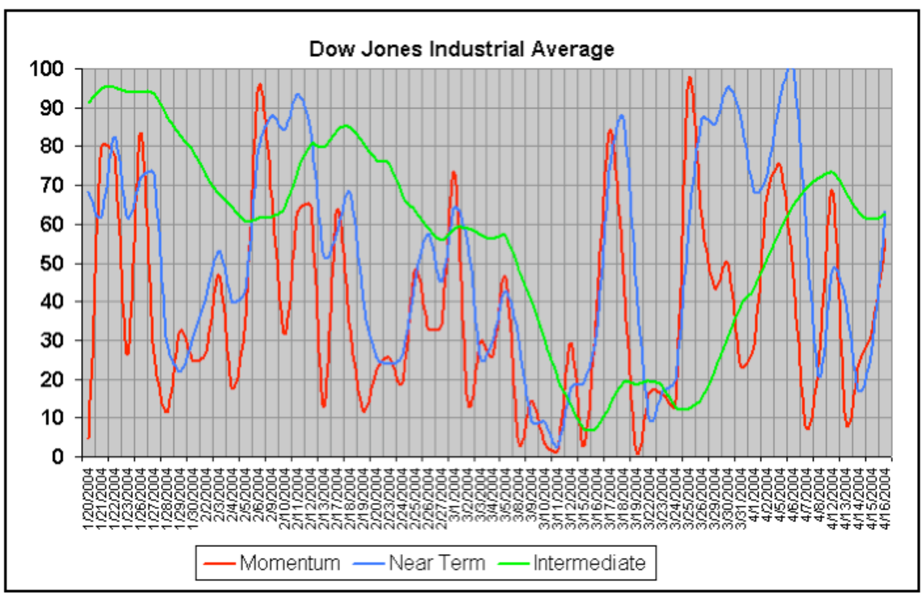
The stock market is highly cyclical with periods of growth (referred to as Bull Markets) and periods of consolidation (referred to as Bear Markets). These swings from highs to lows are natural permutations affected by global politics, business, and technology. It is possible, using charting tools, to track these changes and, to some degree, predict the short-term direction of movement.

Market forecast provide a gauge of investor sentiment in terms of outlook for the overall markets, and investor fear is what causes markets to rise and fall. Investor fear and uncertainty can be tracked using market forecasting for the NASDAQ and the Dow Jones Industrial Average.

As an example, here a fairly complex looking chart for the NASDAQ index showing an overall downward trend.



What we see in this chart is that tech stocks, which make up the NASDAQ are trending down, or as a group, are bearish. In contrast, the Dow Jones Industrial average is looking more bullish in the chart below.



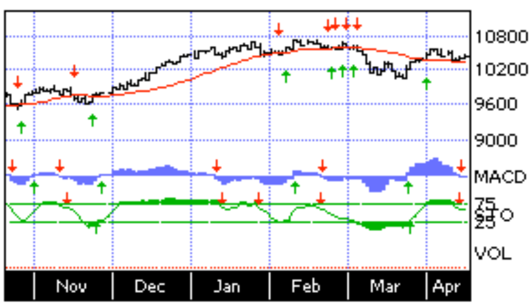
Professional investors spend days analyzing market trends and this type of information is readily available through different services. The general rule is to follow the trend, instead of trying swim against the current.

> *When markets are bullish or moving up, look at call options and when the markets are bearish, or trending downward, look at put options.*

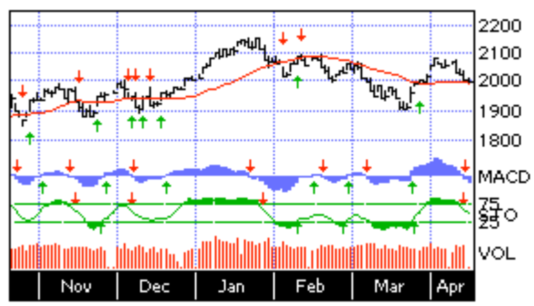
Current Market Sector Posture

The second level down in our basic option strategy is looking at the trend in terms of price momentum and volume of trading for the major market indexes and leading sector indexes. Charts for this information are available in all of the daily business newspapers. An example is provided below:

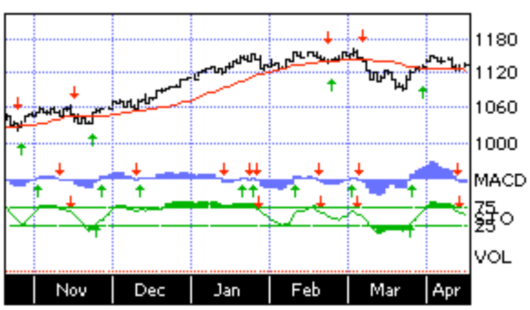
.DJI Dow Jones 30



NASD NASDAQ



SPX S&P 500



OEX S&P 100

Once again, stocks that are included in a particular segment tend to follow the direction of the overall index.

> *The trend is your friend. It's important you establish as one of your personal trading rules to never go against the trend you recognize in your analysis.*

Stock Trend

The final piece of information you'll need to evaluate is the trend for the underlying you are considering purchasing an option for. Most investors maintain some sort of watchlist for stocks that they may be interested in purchasing. It's a good idea to maintain a watchlist for just those stocks you would like to purchase options on, since all stocks do not have listed options. Another difference in your options watchlist is that you are generally most concerned with only the past 30 days of activity.

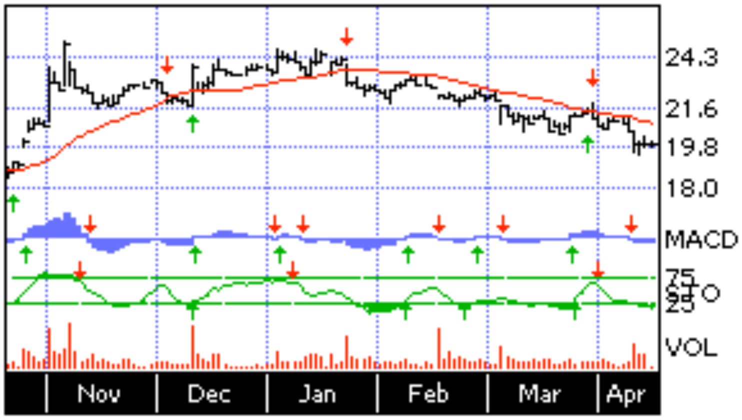
Let's take a look at the chart for Apple Computer, since that was the options table we looked at in the last lesson, to come up with a list of things to look for when considering buying an option on a stock.

If you are considering a call option (assuming the value of the stock will continue to go up), then the trend over the past 30 days must be up. Within the past 30 days, you should also look for higher than average volume on the up days. Note that the chart indicates we've met both of these conditions. Finally, you want to look for price support, meaning that the price of the stock stays above the moving average (indicated by the red line on the chart). Based on the analysis in this example, you would want to give strong consideration to purchasing a call option for this stock.

> *Analyze the trend for the broad market, market sector index, and underlying stock, looking bearish and bullish investment indicators. If all three trends are bullish, then a call option represents a solid investment strategy. If the indicators are bearish, consider a put option.*

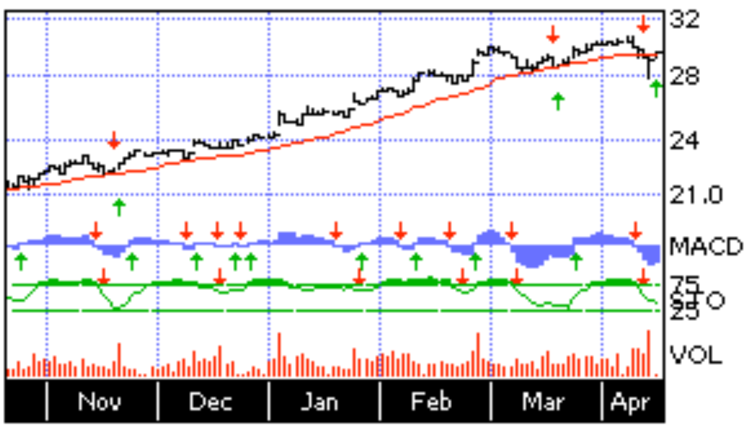
Your Turn!

For each of the three charts below, indicate whether you would purchase a call or a put for each, and your reasons why.



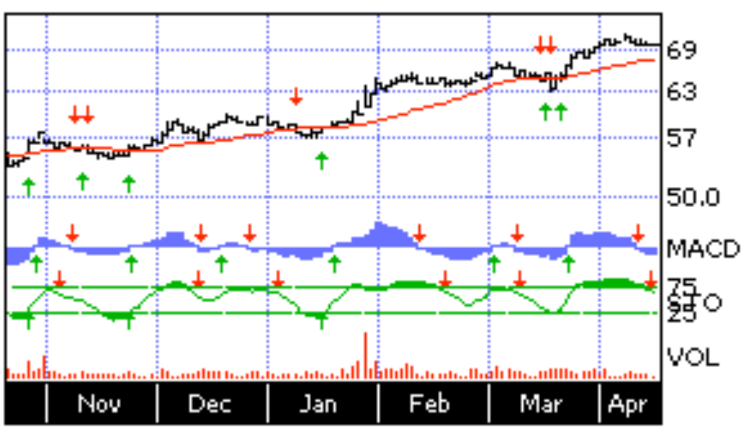
Market indicators are bearish, sector is bullish.

____
____
____
____
____
_____



Market indicators are bullish, sector is bullish.

____
____
____
____
____
_____



Market indicators are bearish, sector is bullish.

____
____
____
____
____
_____

PULLING IT ALL TOGETHER

You have now reached the final lesson in the unit when we pull everything together in knowing how to effectively trade options. There are a total of seven steps involved, the majority of which are the same things you do when you trade stocks.

Pick a Stock to Play

MVL is a stock I've had in my watchlist for quite awhile now. Marvel Enterprises Inc. in the company that provides Marvel Comic books, video games and movies. The new movie, The Punisher, is out and it's box office receipts have been average. The Spiderman 2 movie and video game are set for release in June and, based on the success of Spiderman 1, they have a better than average chance of landing another blockbuster.

MVL is listed on the NYSE, and the market trend has been mostly bullish in since the beginning of the year. Marvel is consistently in the top five stocks for it's industry group, which is Leisure-Toys/Games/Hobby (symbol .LTG). Overall, the sector has not been performing very strong, relative to other market sectors, and is somewhat bearish.

Check the Stock Chart

MVL's trend is positive over the past three months, however, for the past 30 days, the stock has been trending sideways. Reading the news reports indicates that the company has been taking steps to consolidate character-based licensing into three categories, and that an expected positive quarterly earnings report is due out later this week. While I would prefer a decidedly positive trend in the chart, the underlying fundamentals for the stock are all strong, with better than average volume on the up days.

Choose an Expiration Date

The only near term options available are for May, June, and September. The period I'm most interested in the time around the new Spiderman movie release, which opens June 30. I selected September for the expiration, which is a little more conservative at 5 months out. The more time until expiration, the more conservative the play. In general, don't buy more time than you need, but buy enough.

Choose a Strike Price

Generally, you want to start *at-the-money* which is the strike price closest to the market price for the stock. To go a little conservative, select a strike price of one strike lower. For more aggressive plays, go one strike higher. Strike prices are usually in increments of $2.50.

The current market price for MVL is at $20. Since I have a little time, I'm going to select a strike price of $22.50. The premium for the option I've selected is $1.75 or $175 for a contract.

Plan your Exit

When you purchase an option, you generally have no intention of exercising it, which means you have to plan on selling it prior to the expiration. We know that intrinsic value of an option is the difference between the market price and the strike price, so I could set a target for the price of the stock as my sell the option. A more direct method is to set a percentage gain on the option of say 40%. I also have to plan on an exit strategy if the stock prices falls.

My exit strategy is to sell the option when the premium reaches $2.45, which will represent a profit of $70 for each contract. On the down side, I'll sell the option if the premium drops by 10% to limit my potential loss.

Place your Order

An option transaction always consists of two parts. The most common is *buy to open – sell to close*. This means I first place and order buy the specified number of contracts from my broker. When I opened by brokerage account, I added options trading capability, which allows me to complete options trades over the Web. To purchase the option, simply login, enter the symbol, the number of contracts, and hit send. Placing my order is the same as buying a stock.

Monitor your Position

Options require more of a daily discipline than stocks, given their volatility and decaying time value. I have established a habit of doing a price check at least on a daily basis. I need to follow my exit strategy and sell when I'm happy with the profit target I've set, or when I reach my stop loss point.

Your Turn!

Using the steps covered in this lesson, create a checklist for yourself by listing each of the steps with a note to yourself on how you will complete each step, based on your investment style.

Next, practice using the checklist to complete an option trade (on paper only!) using stock and option information available on line (e.g., Yahoo! Financials), or from your business newspaper.

CHECK YOUR KNOWLEDGE

(1) Using the space on the left of each statement, indicate whether it applies to a Stock **(S)**, an Option **(O)**, or Both **(B)** by writing in the correct letter.

______Security which is traded on SEC regulated exchanges.

______Represents and equity share or part-ownership in a company.

______A contract granting you control over 100 shares of stock.

______Becomes worthless upon expiration.

______Allows for trade of unlimited shares of underlying stock.

______May pay dividends upon approval of the board of directors.

______Represents value as an owned asset.

______Suited for short-term investment strategy

(2) For each of the definitions on the left, select the letter for the correct option component, from the list on the right, in the space provided.

____Price paid for an option	a. Strike Price
____Date an option becomes worthless	b. Commission
____Portion of an option's current value above intrinsic value	c. Dividend
____Share price of stock if option is exercised	d. Premium
____Portion of an option's current value equal to the amount that the option is in-the-money	e. Time Value
	f. Expiration Date
	g. Intrinsic Value

(3) In your own words, describe the basic strategy you would use in buying a call or put option, and the indicators for each.

____

____

____

____

____

____

____

____

(4) Using the information provided and the checklist that you created in the lesson, complete the seven steps to buy a call option, by filling in your own criteria for each:

Option Trading Step	Evaluation Criteria
1) Pick a stock to play	
2) Check the stock chart	
3) Choose an expiration date	
4) Choose a strike price	
5) Plan your exit	
6) Place your order	
7) Monitor your position	