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# STAYING level-headed

**C**lichés like “holy grail” and “magic bullet” are familiar to any trader with even a few months of experience in the markets. There’s always a new technical indicator, trading system or software program that’s supposed to revolutionize trading and give even the most timid trader the ability to rack up Soros-sized profits.

The cliché du jour is “level playing field” — usually used in reference to the supposed parity provided by Internet technology and “Level II” Nasdaq quotes. Armed with multiple layers of real-time bids and offers, the buzz goes, you can now trade tick-for-tick with the big boys, muscling in on the territory the pros have long had to themselves.

It’s a nice thought, but what’s the reality? In “Level II quotes: Decoding supply and demand,” Gibbons Burke explores the Level II quote screen from top to bottom, explaining its origins and addressing the realities of relying on this information on a daily basis. Like any other aspect of trading, Level II information has its rewards and risks. This article will give you a practical appraisal of the benefits of Level II and help you understand the dynamics behind the numbers.

Although you won’t find them on the Level II screen, the “index tracking stocks” traded on the American Stock Exchange are offering a different kind of “parity:” the ability for traders to buy and sell shares of “stock” based on some of the largest market indices, challenging the long-time hegemony of stock index futures and index options.

In “Along came a SPIDER” , associate editor Jeff Ponczak looks at the SPDRs (the Standard & Poor’s Depository Receipts or “Spiders,”), DIAs (“Diamonds”) and QQQs, index stocks that track the S&P 500, Dow and Nasdaq 100 indices, respectively. You’ll find out what they are, how they trade and, most importantly, how they compare to their futures brethren and if and how they fit into your trading plan.

Another article in this month’s trading strategy section

explores an overlooked corner of the short-term trading landscape. Online initial public offering (IPO) trading is booming, but what do you really know about “flipping” rules and other restrictions that make trading IPOs the difficult game they are? Read “IPOpenings” to find out if this is a game short-term traders should really play.

Finally, our Trading Basics section contains a one-two punch of features on some of the most fundamental trading tools. In “Charting the market,” contributor Teresa Lo (of [www.IntelligentSpeculator.com](http://www.IntelligentSpeculator.com)) explains basic charting concepts and the different chart types traders use to decipher price action.

Our new “Indicator Insight” feature follows, this month explaining one of the most widely used technical studies — the moving average. Get a nuts-and-bolts look at how this popular tool is calculated and used in trading. If you’re just getting your feet wet, or looking for a quick refresher course, these features will do the trick.

One thing unites all traders, regardless of trading style or experience: stress. But dealing effectively with the uncertainty of the markets is essential to profitable trading. In the first installment of our Trading Psychology section, we talk to Dr. Ari Kiev, the psychiatrist, trading coach and author who consults some of the biggest traders in the business. Find out why he thinks most traders fail and what you can do to improve your own trading skills.

The markets are full of mind games. The best way to keep a level head is to educate yourself about the different tools at your disposal and appreciate the realities of trading.

**One thing unites  
all traders,  
regardless  
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style or  
experience:  
STRESS.**



Mark Etzkorn, Editor-in-chief

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Burke has 23 years of experience in the financial markets at firms such as CompuTrac/Telerate, Logical Information Machines, Dow Jones Markets and Quote.com. He has published hundreds of columns and articles in *Futures* magazine and spoken at industry conferences on topics such as the Internet, technical analysis and system development, and money management.

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Sykora has held positions as editor and reporter for newspapers in Minnesota, Iowa and Alaska and has worked as a freelance writer for *Reader's Digest*, among other publications.

**Ted Tesser** is a certified public accountant and president of Waterside Financial Services Inc., Boca Raton, Fla. He specializes in assisting traders create and manage more profitable trading businesses by implementing sound trading, business and tax management strategies. He also actively trades small-cap stocks, bonds, mutual funds, futures, options and currencies.

Tesser's clients have included many prominent traders and members of the U.S. government, including a former Secretary of State, a former Secretary of the Treasury and several members of Congress. He is a featured speaker at many trading conferences and has appeared frequently as a guest on CNBC and KWHY TV-Los Angeles.

Tesser has authored more than a dozen books and manuals, including *The Serious Investor's Tax Survival Guide*, *The Trader's Tax Survival Guide*, *The Ultimate Tax Shelter*, and *Tax Strategies for Traders*, among others. His latest book, *The Trader's Tax Solution* (John Wiley & Sons) was released in January. You can reach him at (800) 556-9829 or at [tbtester@aol.com](mailto:tbtester@aol.com).

# Screen play

BY JEFF PONCZAK

Web sites that list stocks with big increases in price and volume are all well and good. However, these lists rarely use screening criteria, and that can sometimes lead to useless information. If Generic Inc.'s average daily volume is only 20,000 shares, but it suddenly leaps to 100,000, the five-fold increase is sure to put the stock on the latest "hot" list. However, if your trading strategy is to avoid thinly traded stocks, the list does you no good.

TraderBot ([www.traderbot.com](http://www.traderbot.com)) hopes it has the solution. While it provides the standard lists of stocks with big price and volume moves, it allows users to customize those lists to meet their trading criteria, and it updates those lists in real time. The site (\$39.95 a month, \$249.95 a year; a 15-day free trial is available) has all the features of a typical financial site — quotes, news, a portfolio tracker — but its stock screener is its marquee attraction.

On the home page, TraderBot features nearly a dozen price lists, ranging from the standard (price changes, volume gainers) to the atypical (high volatility in last 10 minutes, reversal candidates in the last 30 minutes). All are updated every minute. From the home page, clicking on the "My Bot" tab gets to the good stuff.

On that page, TraderBot has seven categories: price gainers, price losers, volume gainers, price momentum, trading near extreme price, big volume spikes and high-low spread. TraderBot lists stocks in all the categories using its own default criteria, but all seven can be edited using TraderBot's "search engines."

For example, when searching for stocks in the price gainers category, you can use criteria such as: trading range, minimum (or maximum) volume, PE ratio, relationship to moving average, news announcements, etc. In momentum you can choose, among other things, volatility and time, meaning you can perform a search for stocks that have moved between 3 and 5 points in the last 20 minutes.

All the searches return real-time results, and the lists can be refreshed as often as every minute. So, if you're searching for stocks trading between 20 and 30, with average daily volume

The screenshot shows the TraderBot website interface. At the top, it says "TRADERBOT" and "The Internet's Real-time Financial Search Engine™". There are navigation tabs for Home, My Bot, My Portfolio, News Bot, Learning Center, Member Center, and Sign Off. A search bar is present with "Enter Symbol" and "Get Quotes" buttons. Below the search bar, there are sections for "Market Bot" (showing NASDAQ COMP, DJIA, and S & P 500), "Customize My Profile" (with a "No Refresh" dropdown and a "Refresh" button), and "Customize Power Searches" (with a "Delete All X" button). A "Quick Real-Time Searches" section lists categories like Price Gainers, Price Losers, Volume Gainers, Price Momentum, Trading Near Extreme Price, Big Volume Spikes, and High Low Spread. A "Quick Historical Searches" section lists categories like Price/PE Ratio, Price/Avg. Volume/PE Ratio, Price/PE Ratio 5 Year Low, and Price/52 Week High. A "Real-Time Watch List" table is visible with columns for Symbol, Last, Chg, Volume, Bid, Ask, and Remove. The table contains four rows of stock data: AOL, HD, DRCL, and TVLY.

Symbol	Last	Chg	Volume	Bid	Ask	Remove
AOL	60.00	-1.00	8,893,200	60.00	60.06	[X]
HD	59.94	0.94	2,814,100	59.80	59.94	[X]
DRCL	74.20	-1.36	14,834,400	74.19	74.25	[X]
TVLY	16.75	0.62	44,900	16.90	16.75	[X]

TraderBot ([www.traderbot.com](http://www.traderbot.com)) features customizable stock screening and ranking features. Both fundamental and technical inputs can be used.

less than 500,000 whose average volume during the last 30 minutes is 50 percent higher than the average volume for the day, TraderBot will provide the list. And, if you choose to refresh the list every minute (2-minute and 5-minute intervals are also choices, as is no refresh), any new stocks that meet the criteria will be automatically added to the list. Clicking on a stock in a list will bring up its quote, which, in addition to providing price, volume and the usual info also gives relative strength, and 5-, 10-, 20-, 50- and 200-day moving averages.

Historical searches can be performed in four categories: price/PE ratio, price/average volume/PE ratio, price/PE ratio 5-year low, and price/52-week high. Data goes back as far as 1991, and these categories can also be configured to meet your criteria.

TraderBot's best feature might be its customizable "Power Searches." After you set base parameters for price and volume, you can mix-and-match other parameters, such as price action, volume action, technical indicators, fundamentals and news. Once all the criteria has been selected, you can give it a name (e.g., 50-day MA crossers, price loss/volume gain, etc.) and save it so it appears on your screen each time you log on.

TraderBot also features a "Learning Center," which offers trading strategies and instructions on how to set up Power Searches to find stocks that fit the patterns described in the strategies.

If you're a trader who likes to "crunch the numbers," TraderBot will provide plenty of food for thought. ☺

# Help for a taxing problem

BY JEFF PONCZAK

**D**eath. Taxes. The kid at the fast-food restaurant will put ice in your drink even when you specifically tell him not to.

OK, maybe the last one isn't a guarantee. And we haven't yet found a Web site that can help with the first one. But taxes? GainsKeeper Inc. ([www.gainskeeper.com](http://www.gainskeeper.com)) won't lower them, but it can make the paperwork a little more tolerable.

As any active trader knows, filling out a Schedule D, which tracks capital gains and losses, is a huge headache. Every purchase and/or sale of a stock must be itemized, along with the profit (or loss). If you're a sloppy record-keeper, finding the cost basis of a stock can be problematic; even if you're not, totaling the final numbers can be a chore for someone with

of a stock 30 days or less after it was sold for a loss). Wash-sale losses are not deductible like typical capital losses (the loss is deferred by adding it to the cost basis of the new purchase), but GainsKeeper will do the math for you. GainsKeeper will also provide a report of unrealized gains (a good way to gauge the potential tax implications of a sale), and any splits, mergers, etc., are recorded automatically.

GainsKeeper allows you to compile a "watchlist" — stocks you'd like to track that won't be added to your actual portfolio — and has many of the standard features typical to most Internet stock sites (i.e., quotes, news, education).

If there's a problem with GainsKeeper, it's the amount of time it takes to enter data. Using a 128 MB RAM computer

**GAINSKeeper**

**REPORTS**

PORTFOLIO REPORTS WATCHLIST CORPORATE ACTIONS NEWS & NOTES EDUCATION SETTINGS TRADES ABOUT US CONTACT

A. Trader

GainsKeeper.com  
Created: 4/26/00 1:26:50 PM

2004 Realized Capital Gains & Losses  
\$1,811,298.00 - \$426,288.00

ST Gain	8,009.09	LT Gain	26,238.00
ST Loss	-17,841.27	LT Loss	
ST Net	-11,834.77	LT Net	26,238.00
ST Sales (14)	41,880.09	LT Sales (0)	36,386.25
ST Cost (14)	54,712.27	LT Cost (0)	9,148.25

Sell Date	Buy Date	Security	Shares Total	Sales	Cost	Gain/Loss	ST Gain/Loss	LT Gain/Loss
04/26/2000	03/09/2000	BERON CORP (BERC)	200	5,148.25	14,027.82	-8,879.57	-8,879.57	
03/27/2000	01/06/2000	INTEL CORP (INTC)	100	14,260.75	9,404.00	4,856.75	4,856.75	
04/26/2000	03/05/1999	ORACLE CORP (ORCL)	500	36,386.25	9,148.25	26,238.00		26,238.00
04/17/2000	04/14/2000	QUALCOMM INC (QCOM)	100	11,879.50	10,526.75	1,352.75	1,352.75	
04/12/2000	03/03/2000	SPRINTLOGIX COMM INC (TSLY)	500	11,882.00	20,754.00	-8,872.00	-8,762.00	
<b>TOTAL:</b>				<b>76,476.75</b>	<b>63,872.82</b>	<b>14,604.25</b>	<b>-11,834.77</b>	<b>26,238.00</b>

numerous trades to claim.

That's where GainsKeeper can help. After opening an account (it's free), you can enter all your stock purchases and sales, just like you could on many portfolio trackers available all over the Internet. However, when it comes time to fill out a Schedule D, GainsKeeper does much of the work for you. It will track transactions and produce a report that calculates short-term (or long-term) gains/losses, both for individual trades and your overall portfolio. You'll still have to copy, by hand, the information to your Schedule D, but with no need to do any calculations, this might seem like a less arduous task than usual. You can track multiple portfolios, so traders who are also investors can keep their accounts separate.

One of GainsKeeper's best features is that it will automatically handle the tax implications of a wash sale (the repurchase

with DSL Internet access, it still took several seconds for an entry to be recorded and the page to be reset. The site claims the response time will be better by entering trades chronologically, as opposed to inputting all buy orders, then all sell orders (or vice versa), and we found this was a help.

Still, if you're a hyperactive trader, making dozens and dozens of trades a week, the time required to enter all the information in GainsKeeper may not be worth the effort. For everyone else, a small amount of time invested now can mean fewer headaches come April. ☹

*Editor's note: For tax purposes, there is a significant difference between filing as a trader or as an investor. Read Active Trader's monthly segment, "The Business of Trading," for more information on gaining trader status.*

# ... and you shall receive

BY JEFF PONCZAK

These days, visiting financial Web sites that don't offer a wide variety of options is kind of like buying dinner at a restaurant that doesn't offer dessert. While ASK Research ([www.askresearch.com](http://www.askresearch.com)) features an enticing main course of free charting (real-time charts are available for \$25/month), it also provides a number of attractive appetizers.

ASK's charting service features price and volume charts that can be overlaid with up to three exponential moving averages or Bollinger Bands. There is also a limited set of indicators — on balance volume (OBV), stochastics, Williams %R, relative strength index (RSI), moving average convergence-divergence (MACD), rate of change (ROC) and money flow index (MFI).

Each indicator has two or three different time frames to choose from (four for the RSI), and all or none (or any combination in between) of the indicators can be plotted along with the chart. Whatever choices you make, clicking on the "Save these settings" button will keep the settings for the next time you visit the site. The chart will automatically refresh, as quickly as every 30 seconds or as infrequently as every five minutes (you can choose from six different time frames).

Clicking on a chart will take you to an intraday (5-, 10- or 15-minute intervals) chart of that stock, which is also modifiable using the same indicators as the daily chart. Click again and you're back to the daily chart, although it will be one with the default settings you originally chose. If you've plotted a chart with different characteristics than your standard settings, all the new information will be lost (or, if you haven't saved any settings, you'll go back to the basic price-volume chart).

ASK also gives you a few choices to customize the size and background of the chart image (nice touches), and the ability to display prices linearly or logarithmically. Each chart appears with a quote window (bid, ask, size, etc.) and contains links to option chains, news and a "company snapshot" (background information and fundamental information) for the symbol. (Also, for those of you north of the border, Canadian stocks can be charted as well.)

Besides charting, ASK also includes: Portfolio, News and Commentary, Day Trader, Indices & Indicators, Watch List, Option Chain and Trading Pit.



Portfolio, while featuring the typical opportunity to track stocks, also offers information (most active, big gainers/losers, etc.) on the major indices, and the options market. News and Commentary is simply a link to CBS MarketWatch ([cbs.marketwatch.com](http://cbs.marketwatch.com)), while Day Trader provides four charts (5-minute bars with 50-minute EMA, OBV, stochastics and Money Flow) for six indices — the Nasdaq, the S&P 500, the S&P 100, the Toronto 300, the Philadelphia Stock Exchange Gold and Silver Index and the AMEX Oil and Gas Index. However, we had problems with the Nasdaq charts and no charts showed up for the Toronto 300.

Indices and Indicators provides quotes for 28 different indices, including obscure ones such as the PSE High Technology Index and the Mexico Index. Watch List allows you to track several stocks in one sector (this section is a bit confusing; click on the link "change this group" to make things a little clearer). Trading Pit keeps track of the 25 most requested symbols that day by ASK users.

If you can put up with the not-so-subliminal messages underneath certain ads ("New features come quicker if you're an ad clicker"; "Alan Greenspan recommends raising the federal ad-click rate"), you may receive something of value from ASK. ☺

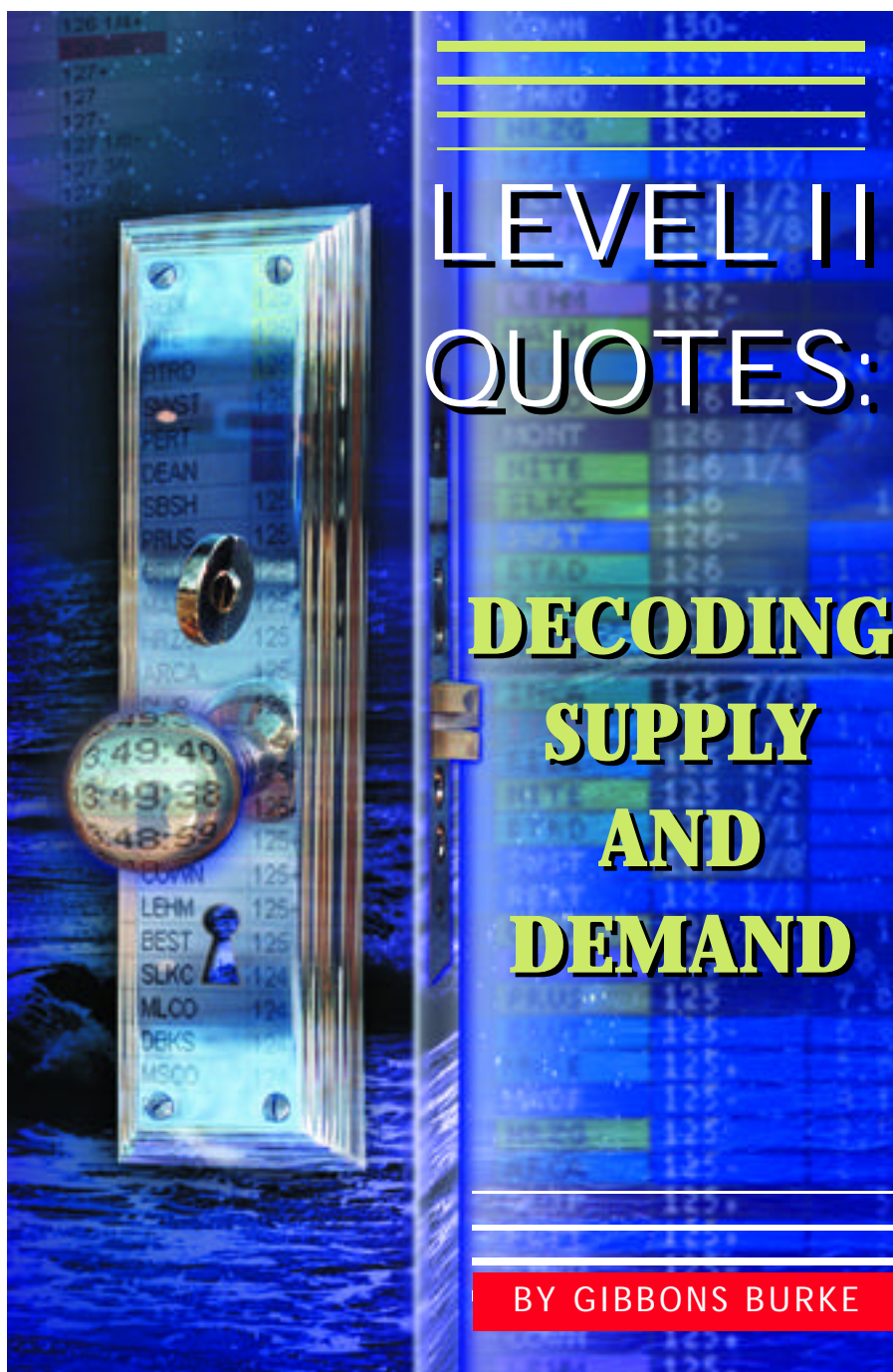
# NEW Products

- ▼ Online broker **Suretrade** has added wireless securities trading as part of its investor services. Powered by w-Trade Technologies ([www.w-trade.com](http://www.w-trade.com)), the feature allows customers with any handheld wireless device to manage their portfolio, access market information and place trades from a remote location. A monthly fee applies.
- ▼ **Acme Analytics** has launched its FundsTrader investor Web site — [www.FundsTrader.com](http://www.FundsTrader.com). The free service predicts the daily close of 1,600 mutual funds' Net Asset Values (NAV) and provides performance rankings for all the funds, broken down by daily, weekly and monthly data. Funds can be located by name, type or performance rankings. The statistical analysis for determining the closing NAVs in advance was developed by Acme Analytics Corp.'s founder John Bollinger. The analysis is done using a proprietary correlation system and the analysis is based on ratings from FundsTrader's sister site, [www.EquityTrader.com](http://www.EquityTrader.com). For more in-depth information, the site offers historical charts with various technical indicators.
- ▼ **Velocity Trade LLC** has introduced FloorPass, an electronic trading service built on a private network directly linking traders to the pits of the Chicago Mercantile Exchange, Board of Trade and other electronic exchanges. FloorPass provides a dedicated trade terminal, real-time data feed, live verbal feed from the S&P pit and direct-to-the-pit order entry. Orders are transmitted directly from the trader's terminal to a body-mounted receiving monitor carried by an executing broker in the pit. FloorPass subscribers have direct access to all domestic futures index and financial markets including the S& P 500, the S&P mini, the Dow Index, the Dow e-mini, the Nasdaq, the Nasdaq E-mini, currencies and bonds. For more information go to [www.floorpass.com](http://www.floorpass.com).
- ▼ MetaStock 7.0, a charting and analysis software from **Equis**, has new real-time features for end-of-day traders including DataOn Demand — a tool that searches and provides chart information from typing in a stock symbol through Reuters DataLink. This link also allows free access to broker recommendations, and research, financial highlights and statements, Market Guide performance, Vickers insider trading, ration comparison and more. Additionally, the software users can now determine percentages or set their own retacement levels with the Custom Fibonacci Retracement Levels tool. For more information: [www.equis.com](http://www.equis.com).
- ▼ **Data Broadcasting Corporation** in mid-April announced the preview launch of My eSignal, a Java-based quote service. (At press time, an official launch was expected by late spring). My eSignal customers get real-time streaming quotes and access to market data, news, research, charts and links to other trading tools through the Web. Users have instant connection to their online brokers and can view individual trades as they occur. Online customer service and chat service are also features. For more information go to <http://my.esignal.com>. Data Broadcasting Corporation also has launched a wireless financial portal which enables traders and investors to receive real-time market indices, market quotes, breaking news and fundamental data. Accessible to all Wireless Application Protocol (WAP)-enabled cell phones, pages and Palm devices worldwide, the service transmits information to mobile users using Phone.com's embedded mini-browser. For more information about the application, visit [www.esignal.com/phonequotes](http://www.esignal.com/phonequotes). WAP-enabled device users visit <http://phone.esignal.com>.
- ▼ Expected to be up and running as of May is [www.thericepaper.com](http://www.thericepaper.com) — a free Web site dedicated to Japanese Candlestick and technical market analysis training, developed by **Matheny Enterprises** ([www.ment.com](http://www.ment.com)). Geared to deliver educational and market information to beginners and seasoned investors alike, the site will feature monthly articles from industry professionals, interactive message boards, a hypothetical trading portfolio, and reviews of the major commodity markets and a select number of equities and indices.

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Amy Brader, Managing Editor or  
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The Level II quote display may give you a more complete view of the action in Nasdaq stocks, but it's still not the whole market story. Find out how to make the most of this information and avoid becoming a victim of the games market makers play.

The Nasdaq has long touted itself as the marketplace of the future. This assertion is largely correct. Insofar as the Nasdaq was at the forefront of electronic trading, it has been the marketplace of the future since its inception nearly 30 years ago.

The National Association of Securities Dealers (NASD), a self-regulating group of brokers, created an electronic marketplace powered by participants in remote locations. The rest of the world, powered by the Internet, is just now starting to catch up.

The Nasdaq Level II quote display, which displays the bids and offers of market participants around the globe, is essentially the same system originally switched on in the early 1970s for use by the Nasdaq dealers themselves. Now this information is powering a new revolution in which markets are being made not only by retail trading desks at large brokerage and trading firms but in home offices and day-trading dens around the country.

Is the Level II display useful to the active trader? You bet — as long as you realize the type of game being played and know how to avoid being the sucker at the table.

#### **The Nasdaq market-maker system**

In 1971 the NASD launched the Nasdaq (National Association of Securities Dealers Automated Quotation) system, which was composed of a network of electronic terminals created in conjunction with Bunker-Ramo, a stock quotation service.

The system provided an electronic bulletin board system where “over-the-counter” stock dealers could post the price and amount of stock they would be willing to buy or sell. (“Over the counter” referred to stocks not “listed” on the NYSE or American Stock Exchange.)

The quote display could be sorted so



**TABLE 1** WHERE TO GET LEVEL II

Here is a list of software and Internet data feed providers who offer Nasdaq Level II quotes. An increasing number of brokerage firms are offering Level II access to their more active customers. Check with yours to see what they provide.

Product	Company	Web Address
BridgeChannel	Bridge	www.bridge.com/
eSignal	Data Broadcasting	www.esignal.com/
Interquote	Interquote	www.interquote.com/
Investor RT	Linn Software	www.linnsoft.com/
NexTrend	NexTrend Inc.	www.nextrend.com/
QCharts	Lycos/Quote.com	www.qcharts.com/
RealTick III	Townsend Analytics	www.taltrade.com/
TradeScape	Tradescape.com	www.tradescape.com/
Window on Wall Street	Omega Research	www.windowonwallstreet/
Xpresso	S&P Comstock	www.spcomstock.com/

that the best bid and offer were shown at the top of the list. It wasn't an electronic order-entry system — dealers used the phone to call other dealers to execute trades — but the electronic bulletin board made it easier to know whom to call for the best price.

Unlike the NYSE, which uses “specialists” (individuals who handle all the order flow in a particular stock) to maintain orderly markets, the Nasdaq uses a “market maker” system, through which multiple broker-dealers make bids and offers in stocks.

Market makers make money by taking the other side of customer orders. When someone comes in and wants to buy, the market maker sells it to them at the higher offer price. When another person comes in and wants to sell, the market maker buys it from them at the lower bid price. They do this all day long, handling many transactions and making as little as  $\frac{1}{8}$  or  $\frac{1}{16}$  of a point on each. Market makers profit from the bid-ask spread in return for providing liquidity to the market — that is, always being willing to supply bids and offers in the stocks they trade. A liquid market is one where you can transact business quickly and easily without paying a premium (in the form of an abnormally large bid-ask spread) for doing so.

### The next level

The development of the modern Nasdaq

Level II display came along after 1982 when the Small Order Execution System (SOES) was launched to provide electronic market access to a wider range of brokers and participants. After the stock market crash in 1987, the SEC mandated that SOES should be opened up to the retail investor to provide liquidity and the ability to trade in high-volume periods (such as the crash) when customers were unable to get brokers on the telephone to make trades.

An entirely new class of brokerage firm emerged out of this change: Day-trading firms, which opened the SOES system to a new breed of individual trader, called “SOES bandits” by the established Nasdaq dealers. These traders made the market much more efficient by picking off market makers slow to update their quotes in fast-moving markets.

Where the old boys network of established market makers were reluctant to “break the spread” by competing at a better price, the new SOES bandits and ECN players had no qualms, providing additional liquidity and tightening the spreads in Nasdaq stocks. This additional liquidity is a great benefit to all investors in the market. Software providers emerged to provide software that could display the Level II information and allow traders to act upon it.

The Nasdaq provides several different types, or “levels,” of price quotes:

**Level I:** shows the “inside quote” — i.e., the highest bid price and size, the lowest ask price and size and the last trade. Exchange fee for real-time data: \$1 per month.

**Level II:** shows all bids and asks, the size of the quotes and identifies the market participant who is posting that quote. Exchange fee: \$50 per month.

**Level III:** same as Level II, with some additional statistics. Adds the ability to post and change bids and offers. To use it, you must be a registered broker-dealer and have special equipment, connection and software.

Level I quotes are available from the Nasdaq on a real-time or delayed basis. (You can see the bid-ask quotes on most online broker order screens.) Level I quotes are limited — you see the inside bid and ask and the number of shares being bid for or offered. It's not a complete picture; you only see the most recent quote at a particular price. There may be several market participants bidding or offering more shares at that price. The bid price is important for an additional reason: You are only allowed to sell short if the bid price is an “uptick” or higher than the previous bid price.

Level II quotes are available from a variety of firms. Several software vendors and a growing number of online brokerages provide Level II quotes for their more active clients. See “Where to get Level II” for a list of providers of this information.

### The Level II screen: components

The Level II screen lists the limit orders of all market participants who want to buy or sell a Nasdaq-listed stock at a given moment in time. The display shows each participant's best bid and best offer and the amount of shares they want to buy or sell. They may have other orders in their individual order books at less favorable prices.

The Level II display is split in two, separating the buyers from the sellers. The most common layout has the buy orders on the left-hand side and the sell orders on the right, as shown in Figure 1 (left). The bids and offers are color coded so the best four price levels are easy to distinguish. The best prices are colored

**FIGURE 1 LEVEL II SCREEN: YAHOO (YHOO)**

The standard Level II screen is divided between bids (left) and offers (right) with color coding to highlight the four best bid and offer levels.

Bids				Asks			
MMD	Bid	Size	Time	MMD	Ask	Size	Time
INCA	125 1/2-	1,000+	13:49:41	INCA	125 7/8-	1,800+	13:49:41
ISLD	125 1/2	800-	13:49:41	ISLD	125 7/8-	300-	13:49:39
RECI	125 1/2+	500	13:49:34	BTRD	126	1,300+	13:49:28
NITE	125 1/2+	300-	13:49:40	SWST	126-	100	13:49:20
BTRD	125 7/16	400-	13:49:38	SLKC	126	100-	13:48:36
SWST	125 1/8-	100	13:48:59	NITE	126 1/4+	500	13:48:04
PERT	125 1/16+	100	13:49:27	MONT	126 1/4+	100	13:47:44
DEAN	125 1/16+	100-	13:43:09	FBCO	126 5/8	100	13:42:26
SBSH	125	8,100	13:40:31	RECI	127+	2,500+	13:49:23
PRUS	125	7,600+	13:45:50	MASH	127	800+	13:47:55
BRUT	125-	6,800+	13:49:36	LEHM	127-	100	13:45:24
MADF	125-	4,100+	13:49:21	MADF	127 1/8+	100	13:49:21
HRZG	125	3,500+	13:49:22	SBSH	127 3/8	1,000	13:40:27
ARCA	125-	2,200+	13:49:27	FLTT	127 1/2+	100	13:47:00
DLJP	125+	500+	13:45:28	MYSE	127 7/8+	100	13:49:41
FLTT	125+	300+	13:49:18	HRZG	128	1,000	13:43:02
SHND	125-	200+	13:49:18	SHND	128-	200+	13:45:09
SHND	125-	200+	13:46:22	BRUT	129 1/2+	1,200+	13:49:26
MASH	125+	100	13:49:13	CONN	130-	100	13:47:56
CONN	125+	100	13:47:57	SNDV	130 3/16-	100	13:45:23
LEHM	125+	100	13:46:59	TYPT	130 5/8+	100	13:45:42
BEST	125	100-	13:45:22	ATTN	130 15/16	400	13:25:03
SLKC	124 1/16-	100	13:48:32	DLJP	130 15/16	100	13:22:51
MLCO	124	1,000	13:36:50	MLCO	131	500	13:25:37
DBKS	124-	100	13:45:23	FCAP	131	100	13:38:45
MSCO	124-	100	13:45:22	PERT	131	100	13:37:02
PFSI	124	100	13:13:19	JFMS	131	100	13:22:03
GSCO	123 15/16-	1,000	13:48:51	PRUS	131 5/16	100	13:26:40

Source: QCharts by Quote.com

yellow, the second-best prices are green, the next-best are aqua and the fourth-best are red. Most vendors use a similar color-coding scheme — it has emerged as a standard convention. Although there are variations, many Level II displays will let you modify colors as you see fit, and some software allows you to color code more than the four best price levels. (The aqua coloring shown on some of the rows indicates this quote has changed within the last five seconds.)

The columns on both sides of the Level II display show, from left to right, the four character Market Maker ID (MMID), the bid or ask price, the size of the bid or ask and the time that quote was last updated. The +/- tick marks after the price and size indicate the market maker has either raised or lowered the price or size of the bid or offer in the last update.

Above the Market Maker display is a horizontal graph. The colors in the graph indicate the volume available, on both the bid and ask side, at the price levels represented by the same color on the quote display, relative to the width of the bar. (The background color, in this case white, shows the remaining volume.)

Each small hash mark on the volume graph represents 1,000 shares. The large hash marks represent 10,000 shares. This indicator can show, at a glance, the big-picture buying or selling pressure. Again, different programs will display this information different ways, but the information is the same.

The Level II display helps you see the dynamics of supply and demand in action. Looking at Figure 1, the market shows more inventory or demand on the bid (buy) side than on the ask (sell) side. You can also see how the bidders tend to accumulate near the whole number 125. There is a virtual “wall” of support at this price — many market makers bidding on many thousands of shares. One could interpret this as perhaps an indication that the short-term path of least resistance would be to the upside.

Some providers of Level II data offer alternatives to the standard view of the market that can make it easier to see relationships in the data. For example, Quote.com’s QCharts allows you to flip the ask side upside down, putting the bid-ask spread in the middle in a stacked display where all prices are sorted from

highest at the top to lowest at the bottom, as shown in Figure 2.

This Level II screen was captured at almost the same time as the display in Figure 1. A horizontal gray bar in the middle separates the best bid (INCA) on the bottom from the best ask (ISLD) above the gray line. (In this case, the inside bid and ask are identical — the market is “overlapped”) The color scheme is different, too, according to the user’s preferences. Here the best bid and offer are colored white. The next best prices are color-coded using successively darker shades of gray and the background color is a pastel green. The update color is yellow.

Now that we’ve reviewed the data that makes up the Level II screen, let’s look at the market participants who are supplying it.

### Identifying the players

The Nasdaq market is made up of many different types of participants with different motivations, methods, capital and intestinal fortitude. There are four basic types of players on the Nasdaq: market makers, brokers filling customer orders, proprietary traders and Electronic Communications Networks (ECNs). Table 1 lists the various kinds of market participants and their functions in the Nasdaq market. Telling the players apart is an important skill required for using the Level II display effectively.

Market makers come in a few varieties, but the most important are the registered market makers who are obliged to provide a bid-ask quote at all times. They have certain rules governing how they can operate and are granted privileges in return for making the market. They watch the market all day long and know their stocks well.

Order-entry firms are present in the market to represent customer orders. These brokers come in to do their customers’ business in that stock and disappear when that business is done.

Proprietary traders are participants who are trading their own or their firm’s capital in the market. Individual traders and large firm proprietary traders are included in this category. Proprietary traders at larger firms — who also participate as brokers, market makers and investment bankers — tend to be well-informed and well-capitalized. This gives them holding power and the ability

ty to muscle the market in the direction they want it to go, or prevent it from going in a direction they don't.

They also benefit from information generated from the firm's other activities. For example, Knight-Trimark (NITE) acts as a market maker executing trades for firms who cannot justify running a trading desk of market makers of their own. NITE pays these firms for their order flow and makes a significant portion of its revenue through proprietary trading. Some firms benefit from

being able to see the retail order flow and market open imbalances.

ECNs are automatic, computer-based market participants. Each is like a mini-Nasdaq exchange within the exchange, as they have their own "book" of limit orders that are often matched with other orders on the ECN rather than on Nasdaq. (Although there are exceptions, if the best bid or offer at an ECN is not matched internally, it will appear on the Level II quote display.)

Instinet, represented under the "INCA" identifier on the Level II screen, is the oldest ECN (created in 1969), and probably the most important. It is an electronic network set up for institutional traders to do business quickly, efficiently and anonymously. For example, when the Fidelity Magellan fund wants to accumulate a large amount of stock, they could use INCA to do this with some degree of secrecy rather than using Fidelity's own market makers. For retail traders, the largest, most liquid player is the Island ECN, which is owned by Datek. (See "Islands and Archipelagos: Navigating the ECNs," *Active Trader*, April p. 46, for more information about these ECNs.)

Table 2 is a list of several ECNs and their Market Participant Identifiers from the Nasdaq site. The Island ECN and Archipelago offer public access (via the Internet) to their order books at no charge.

A market participant's function can overlap several of these categories, especially the major omnibus brokerage firms such as Merrill Lynch (MLCO) which engage in proprietary trading and retail and institutional brokerage, as well as market making. ECN orders can be motivated in a variety of ways as well. It is extremely important to know how the different players operate in the particular stocks you are dealing with.

You can learn the trading

personalities of the various market participants by observing them over time and using common sense. The Nasdaq Trader site ([www.nasdaqtrader.com](http://www.nasdaqtrader.com)) helps by providing reports of the daily and monthly history of trading volume in various stocks. The most useful of these is the Monthly Share Volume report which shows, for a given market participant, which stocks they traded and how their trading activity ranked compared to other market participants for that stock. The site lets you generate this report for an individual stock so you can see, for any given issue, who the largest players were. The report is issued monthly; data is available for the previous month, two months prior, and year-to-date totals in the standard reports, but historical monthly data is available for the previous 12 months. The Web address is: [www.nasdaqtrader.com/static/tdhome.stm](http://www.nasdaqtrader.com/static/tdhome.stm). Less detailed daily reports are available as well.

In the stacked Level II display in Figure 2, some of the MMID codes appear in various colors. The retail ECNs appear in orange, the larger institutional ECNs appear in red, online brokers (or their usual market makers) appear in purple and the larger traditional brokerages appear in green. This helps convey, at a glance, who the different players are and how they behave.

You can identify market makers through the Nasdaq Trader site. For example, say I wanted to find out who MADF is. The following URL will get the information from the Nasdaq Trader site: [www.nasdaqtrader.com/asp/symbol.asp?searchwith=starting&searchby=symbol&issues=market&searchfor=MADF](http://www.nasdaqtrader.com/asp/symbol.asp?searchwith=starting&searchby=symbol&issues=market&searchfor=MADF).

Some software packages, such as Interquote, allow the name of the market participant to be included in the Level II display. This, however, takes up a lot of space and most traders quickly learn who the key players are from their codes.

### Interpreting the Level II display

Making sense of the Level II display is like peeling back the layers of an onion — there are many layers and sometimes they will make you cry.

The most basic use of the Level II display is to determine the current supply and demand picture for a given stock — the whole onion. You can simply glance at the volume graph or eyeball the mar-

**FIGURE 2** ALTERNATE LEVEL II DISPLAY

*Ocharts provides a unique Level II display that allows users to stack the bid and ask columns, listing prices in descending value from top to bottom.*

MMID	Price	Size	Time
ATTN	130 15/8	400	13:25:0
TWPT	130 5/8	100	13:45:4
SNOW	130 3/1	100	13:45:2
COVN	130-	100	13:47:5
ERUT	129 1/2	1,200	13:49:2
SHND	128-	200	13:45:0
HRZG	128	1,000	13:43:0
MWSE	127 13/8	100	13:49:3
FLTT	127 1/2	100	13:47:0
SESH	127 3/8	1,000	13:40:2
MADF	127 1/8	100	13:49:2
LEHM	127-	100	13:45:2
MASH	127	800	13:47:5
REDI	127	2,500	13:49:2
FECO	126 5/8	100	13:42:2
MONT	126 1/4	100	13:47:4
NITE	126 1/4	500	13:48:0
SLKC	126	100	13:48:3
SWST	126-	100	13:49:2
BTRD	126	1,300	13:49:2
INCA	125 15/8	1,500	13:49:3
ISLD	125 7/8	300	13:49:3
INCA	125 7/8	200	13:49:4
ISLD	125 1/2	1,000	13:49:4
REDI	125 1/2	500	13:49:3
NITE	125 1/2	300	13:49:4
BTRD	125 7/1	400	13:49:3
SWST	125 1/8	100	13:48:5
PERT	125 1/1	100	13:49:2
DEAN	125 1/1	100	13:43:0
SESH	125	8,100	13:40:3
PRUS	125	7,600	13:45:5
ERUT	125-	6,800	13:49:3
MWSE	125-	5,800	13:49:3
MADF	125-	4,100	13:49:2
HRZG	125	3,500	13:49:2
ARCA	125-	2,200	13:49:2
DLJP	125	500	13:45:2
FLTT	125	300	13:49:1
SHND	125-	200	13:46:2
MASH	125	100	13:49:1
COVN	125	100	13:47:5
LEHM	125	100	13:46:5
BEST	125	100	13:45:2
SLKC	124 1/1	100	13:48:3
MLCO	124	1,000	13:46:5

Source: OCharts by Quote.com

**TABLE 2 IDENTIFYING THE LEVEL II PLAYERS**

Market Participant Type	Function/Behavior	Typical Examples
Market Makers	Registered MMs required to quote bid and ask at certain size; provide liquidity	MLCO, MADF, WARR, GSCO
Order Entry Brokers	Filling customer orders	MLCO, DLJP, DEAN, LEGG
Order Flow Market Makers	Filling customer orders on behalf of a broker; they pay brokers for "order flow"	NITE, SLKS, HRZG, MASH
Retail ECN	Retail customer orders for online firms	ISLD, BRUT, RED1, ARCA, STRK, MWSE
Institutional ECN	Institutional electronic market for large trade crossing and well-capitalized day traders	INCA, BTRD
Proprietary Traders	Firms trading their own capital for profit	MLCO, GSCO, JPMS, DBKS, FLTT, WARR

ket makers and see whether there is more stock for sale than being bid on.

This total is a good raw measure of where the path of least resistance is for the price of the stock. If there is more supply than demand (more shares offered than bid), price is more likely to go down. When price goes down, the discount will attract buyers, and supply and demand will balance out. Your job as a trader using this tool is to assess those moments when supply and demand are out of balance and likely to affect price — to anticipate and profit from those price movements. The whole onion is also useful for longer-term investors who have developed a value-based opinion of their stock and are trying to time their entry into the stock.

### Analyzing the inside market

After looking at the big picture (all the bids and asks up and down the scale), the next thing to focus on is the inside market — the best bid and the best ask, and the number of market makers and shares bid to purchase or offered for sale. This is where the action is and where trades are taking place — where the immediate supply-and-demand bumps and grinds take place.

The price difference (spread) between the best bid and ask is important — this is the most rudimentary measure of the transaction cost of a stock. It shows how much it would cost you to buy a stock (at the higher offer price) and turn around and sell it immediately (at the lower bid

price). This is often a good indication of the liquidity of the stock. When a stock is "overlapped" — meaning the bid price is equal to or greater than the best ask price — a great deal of liquidity or trading activity often ensues. Overlapped markets don't usually last for more than a minute at most — it's the equivalent of a clearance sale and usually has the same effect on the available inventory. Mark Friedfertig and George West, in their book *The Electronic Day Trader*, point out that such overlaps are not mistakes, but rather situations in which a market maker either wants to bully a stock higher to be able to sell at a higher price or is simply alerting potential sellers that he has a massive buy order. They also caution that overlaps usually trigger volatile market reactions.

### "Movement" on the screen

If your Level II display lists bids and asks side by side (as in Figure 1), and you perceive a clockwise movement in the display where bid quotes are disappearing from the inside and new offer prices are being added on the right side, it is usually a sign of price going lower — it shows an increase in supply and a decrease in demand. The opposite is true if the movement is apparently counter-clockwise — when more bids start piling in and the offers start disappearing or are raised. On the stacked display (Figure 2), the concept mentioned above has the effect of an elevator going up or down a shaft in accordance with price rising or falling.

### Analyzing the players

The next thing to consider is the quality of the bids and offers, or *who* is on the inside market. Here is where it is helpful to know the players involved and how they operate. It's one thing for INCA to come in with an order for 30,000 shares, but quite another if it is GSCO (Goldman Sachs) or even ISLD.

Some quotes are more trustworthy than others. Certain market makers may not show the entire amount of the stock they have at a particular level. For example, they may show 100 shares offered at a certain price but actually have 5,000 shares to sell there. They don't want to tip their hand. But they will "park" at a level, and the price effectively dead-ends at that price until they have run out of stock to sell. There is no way to know how deep their pocket goes at that price. Sometimes a market maker will "flash" a large order and quickly withdraw it, hoping to shake out weak holders.

Also, market makers have a few ways to back away from their quotes if someone actually bites — which makes their quotes a form of false advertising. You can only learn which market makers represent realistically tradeable quotes under different circumstances by trial and error; the education can be costly. War is hell.

The most honest quotes are those submitted by the ECNs — if a limit order shows up from the Island book, for example, it will be honored quickly if someone else hasn't hit it first. There is no time allowance, such as the rules that govern the SOES that give the market maker a limited amount of discretion if someone else gets there first. Also, the Island book tends to update a second or two faster than the Nasdaq display — it gives you a slight early-warning edge that can be critical in certain situations.

The ISLD and other ECN market makers can often be a sign of the activity of the day traders. If all the ECNs are stacked up on the inside bid it's a sign day traders think a stock is going up and, usually, this hot money causes the market to do a quick bump up. INCA is the 800-pound gorilla in these markets. Institutional players use INCA to operate anonymously and often in large size. In a market where the average quote size is 100, 500 or maybe 1,500 shares, it is not uncommon to see INCA step up with a

30,000-share bid. When this happens, the smaller players on the offer scatter (canceling their offers to sell) and a rapid run-up in price often follows. Sometimes a big player who wants to sell 100,000 shares will come in and anonymously bid 30K on INCA, and when the price moves up to their higher offer price they will unload (perhaps using their regular market maker ID) into the short-term rally.

The next layer of the onion to peel away is to look beyond the inside market and find out where the inventory is located away from the bid-ask spread. You can usually see congregations of orders near whole price numbers or technical breakout points such as the high and low of the day so far, yesterday's close or prices at which important news hit earlier in the day. Again, the size of the orders is important, but nearly as important is who is showing a quote.

So far, all the layers of the onion have reflected a static and unchanging *current* situation. The next step is to watch the change in these various factors over time. There is a great deal of invisible supply and demand in the market; the movement of the inside bid and ask relative to other orders and the changes in the size of orders is key to detecting the subtle shifts in supply and demand that can affect subsequent price movement.

It is useful to think of the action in the Nasdaq system as a big game of high-stakes stud poker, where each market maker sitting around the table has two cards facing up — his bid and offer quotes. The trouble is, there is no way to know how many cards are in the deck, or how many each participant holds — all you see are the two cards up. You have to infer the rest from the type of player they are and how they have historically operated in the market. This can give you the edge you need to determine how to play the game profitably. Remember, these market participants are well-funded professional traders whose sole purpose in life is to make money by trading. The head fakes and sleight of hand that take place can be costly to smaller traders.

It is important to realize that the Level II display, while providing a much more complete picture of the depth of the market than Level I, still paints an incomplete picture. In this game of stud poker where the players are showing only two of their cards, there is an

**TABLE 3** ECNS — THE SOUL OF THE NEW NASDAQ MACHINE

Name	ID	Web Address
Archipelago L.L.C.	ARCA	<a href="http://www.tradearca.com/">www.tradearca.com/</a>
Attain	ATTN	<a href="http://www.attain.com/">www.attain.com/</a>
B-Trade Services L.L.C.	BTRD	<a href="http://www.bloomberg.com/">www.bloomberg.com/</a>
The BRASS Utility	BRUT	<a href="http://www.sungard.com/">www.sungard.com/</a>
Instinet Corporation	INCA	<a href="http://www.instinet.com/">www.instinet.com/</a>
The Island ECN	ISLD	<a href="http://www.isld.com">www.isld.com</a>
MarketXT	MKXT	<a href="http://www.marketxt.com/">www.marketxt.com/</a>
NexTrade	NTRD	<a href="http://www.nextrade1.com/">www.nextrade1.com/</a>
Spear, Leeds & Kellogg	REDI	<a href="http://www.redi.com/">www.redi.com/</a>
Strike Technologies	STRK	<a href="http://www.strk.com/">www.strk.com/</a>

unknown quantity of supply and demand in the cards they are not showing. You can see the entire order book for the Island ECN as a good example. Consider that each market maker in turn has their own order book and you can never know what they contain until price movement forces them to reveal their customer's orders. Likewise, these quotes can disappear as price moves away from that level. The only way to know about this is to watch closely, remember and think — something you can't do if you are chasing every "pump-and-dump" stock that comes along.

### Who is the Level II display useful for?

The Level II display is a requirement for most active traders, whether they are day traders or swing traders. One of the most important reasons hasn't been mentioned yet — last trade reports coming out of the Nasdaq can be significantly delayed. The exchange feed system gives priority to quotes (bids and offers) over trade reports.

When things get busy, the Level II display is the true state of where the market is right now. Charts, built from the history of trades can be very deceptive and are often several points away from the true level of the market. This delay is especially evident in busy stocks at the open, but can occur any time the market is extremely busy. The Level II display can even be useful to longer-term value investors who want to maximize their returns by getting better executions on trades. Mostly, though, the Level II display illuminates shorter-term plays and momentary advantages by outlining the ever-changing supply and demand pic-

ture. It can be hypnotic and fascinating to watch and to try to understand.

The Level II display is most suited to traders who are content to trade only a small handful of stocks all the time because it takes an investment in time — and sometimes capital — to learn who the players are and how they behave. A particular market maker can behave one way in one stock and completely different in another. This is probably because a given firm will have a market maker that specializes in making the market in a small number of stocks.

If you plan to go against these players the smart thing to do is to avoid situations where their strengths come into play. Long and careful study of the Level II screen is the only way to understand the nuances of the market makers for a particular stock and to learn the rules of the game they play. 🕒

### Additional reading:

- *Reminiscences of a Stock Operator*, by Edwin Lefevre (the original tape reader)
- *The Electronic Day Trader*, by Marc Friedfertig and George West
- *How to Get Started in Electronic Day Trading*, by David S. Nasser
- *The Strategic Electronic Day Trader*, by Robert Deel
- *The Underground Level 2 Daytraders Handbook* ([www.undergroundtrader.com](http://www.undergroundtrader.com))

Diamonds.

Spiders.

QQQs.

No, they're not the latest bands from Europe. They're index stocks, and they allow you to trade the entire market without delving into futures contracts or index options. Want to know more?

WE'VE GOT THE SKINNY.

Along came a SPIDER



BY JEFF PONCZAK

Until recently, traders who wanted to trade the overall market rather than individual stocks had two choices (not counting index mutual funds): futures, such as the S&P 500 contract traded on the Chicago Mercantile Exchange, or index options, such as the OEX and SPX options traded on the Chicago Board Options Exchange.

However, dealing with futures contracts or index options is not everybody's cup of tea. Long-time stock traders are often uncomfortable with what they perceive (rightly or wrongly) to be the intricacies of these instruments.

That probably explains the appeal of

index tracking stocks. These American Stock Exchange (AMEX) issues track the movement of the Standard & Poors 500 (SPY or Spiders), the Nasdaq 100 (QQQ), the Dow Jones (DIA or Diamonds) and the S&P MidCap 400 (MDY) and began in 1993 with the introduction of Spiders. MDY began trading about two years later, and Diamonds and QQQs have hit the market in the last two years.

Index-tracking stocks are commonly described as alternatives to mutual funds, but traders can just as easily use them to profit from short-term movement in the indices. They have a number of attractive features for stock-oriented traders: They represent various broad market indices and have trading advantages similar to futures (more on that later), but they function and are quoted like common stock.

Which are better for short-term traders, the index stocks or futures? Some questions need to be answered first: What do the index stocks instru-

ments represent? How do they trade? Do they have any special rules or restrictions? How do futures and index stocks compare in terms of volatility and liquidity?

#### A matter of trust

A purchase of an index stock is actually a purchase in a unit investment trust. These trusts have equal ownership in every stock in a particular index (whether it be the 30-company Dow Jones or the S&P500) and any changes in the indices are reflected by changes in the makeup of the trust. Ownership in an index stock is more or less ownership of every stock in that index.

Each index stock was designed to trade near a certain percentage of the actual index they represent — Spiders at 10 percent, Diamonds at 1 percent, QQQs at 2.5 percent and MDYs at 20 percent. In other words, if the Dow Jones was at 11,000, the DIAs would trade around 110; if the Nasdaq 100 closed at 4,500, a share of QQQ would cost about 112%.

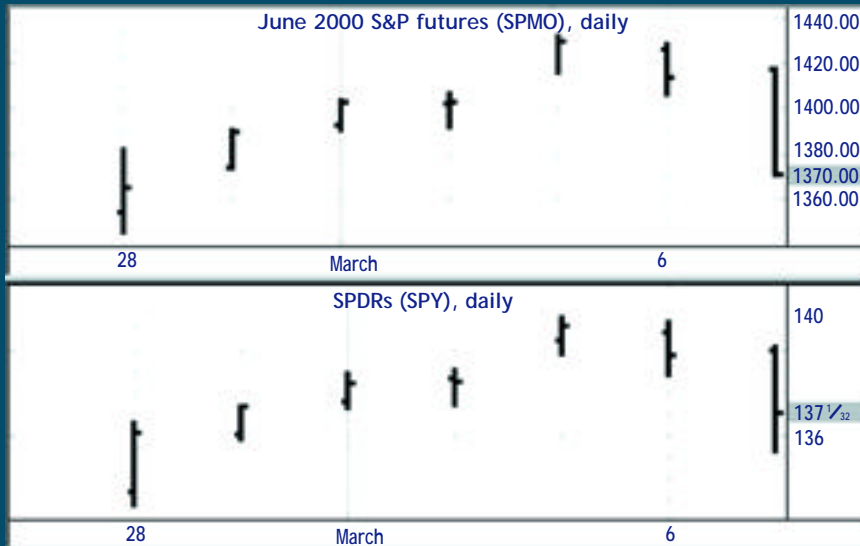
**TABLE 1 TAKING STOCK**

Name	Underlying instrument	Symbol	Exchange	Traded in	Size	Tick size and value (per contract for futures; per 100 shares for index stocks)	Tradable in odd lots?	Margin (as of April 5)	Sell short on downtick?	Average daily volume (Jan. 1 - April 5)	Typical Spread	Average daily range (close-to-close) (Jan. 1 - April 5)
Standard & Poor's Depository Receipts (SPDR)	S&P 500	SPY	AMEX	shares	Approx. $\frac{1}{10}$ of the S&P 500	$\frac{1}{64}$ (\$1.56)	Yes	50% (long); 150% (short)	Yes	9.5 million	$\frac{1}{16}$	1.36%
S&P futures	S&P 500	SP	CME	contracts	\$250 times index	.10 (\$25)	n/a	\$23,437 per contract	Yes	107,000	0.5	1.21%
E-mini S&P futures	S&P 500	ES	CME	contracts	\$50 times index	.25 (12.50)	n/a	\$4,688 per contract	Yes	67,300	0.5	—
Nasdaq 100 Index Trading Stock	Nasdaq 100	QQQ	AMEX	shares	Approx. $\frac{1}{40}$ of the Nasdaq 100	$\frac{1}{64}$ (\$1.56)	Yes	50% (long); 150% (short)	Yes	18.2 million	$\frac{1}{32}$	2.78%
Nasdaq 100 futures	Nasdaq 100	ND	CME	contracts	\$100 times index	.05 (\$5)	n/a	\$37,500 per contract	Yes	20,500	5	2.78%
E-mini Nasdaq futures	Nasdaq 100	NQ	CME	contracts	\$20 times index	.5 (\$10)	n/a	\$7,500 per contract	Yes	20,400	1	—
DIAMONDS	Dow Jones Industrial index	DIA	AMEX	shares	Approx. $\frac{1}{100}$ of the Dow	$\frac{1}{64}$ (\$1.56)	Yes	50% (long); 150% (short)	Yes	1.7 million	$\frac{3}{16}$	1.28%
Dow futures	Dow Jones Industrial index	DJ	CBOT	contracts	\$10 times index	1 (\$10)	n/a	\$6,750 per contract	Yes	18,000	5	1.29%
MidCap SPDRS	S&P MidCap 400	MDY	AMEX	shares	Approx. $\frac{1}{5}$ of the S&P 400 MidCap	$\frac{1}{64}$ (\$1.56)	Yes	50% (long); 150% (short)	Yes	.75 million	$\frac{1}{8}$	2.94%
S&P MidCap futures	S&P MidCap 400	MD	CME	contracts	\$500 times index	.05 (\$25)	n/a	\$13,500 per contract	Yes	1,200	1.5	1.47%
Common stock	—	—	—	shares	—	—	—	—	No	—	—	—

Exchanges: AMEX — American Stock Exchange  
CME — Chicago Mercantile Exchange  
CBOT — Chicago Board of Trade

FIGURE 1 TRACKING THE S&P 500

The S&P 500 futures contract and shares of SPY had a huge run-up the week of Feb. 28



Source: QCharts by Quote.com

### Trading specs

All index shares have a minimum tick of  $\frac{1}{4}$ , and in mid-March typical spreads (checked randomly across several trading days) ranged from  $\frac{1}{32}$  to  $\frac{1}{16}$ . Spreads at times were as wide as  $\frac{1}{16}$  (on the MDY) and even  $\frac{1}{8}$  (on the QQQ).

Index stocks can be traded through your regular broker, just like any other issue. They can be traded in odd lots (as opposed to mandatory purchases of round lots of 100 shares). The margin requirements are the same — 50 percent for long positions, 150 percent if you're selling short. It is also possible for index stocks to split — QQQs, in fact, split 2-for-1 in late March.

While index stocks have much in common with regular equities, the things that make them attractive to active traders are the traits they *don't* share with stocks. The great advantage of index stocks is they (like futures) are not subject to the uptick rule, which means you can sell them on a downtick. In terms of being able to trade both sides of the market, the benefits of this flexibility cannot be overestimated.

### Characteristics

Volume statistics show the index stocks have been relatively popular with traders. Spiders and QQQs are almost

always the two most actively traded stocks on the AMEX, although their combined volume on most days would not crack the Nasdaq top five. (From Jan. 3 through late March, QQQ averaged 16.1 million shares per day, Spiders 9.5 million.) Daily volume in the DIAs is more sporadic, averaging 1.6 million through the first three months of 2000 but ranging from 470,000 to 4.5 million. MDY's average daily volume hovers around 750,000, occasionally reaching seven digits.

By comparison, the S&P 500 contract at the Chicago Mercantile Exchange (CME) had an average daily volume of more than 100,000 for the first three months of 2000 (almost half the volume for the entire equity and index futures category). But because an S&P contract trading at 1,400 has a cash value of \$350,000 (per the contract size of \$250 times the index's value), the daily cash value in the S&P futures is \$37.45 billion. The average daily volume for Spiders gives them a daily value (with the stock trading at 140) of "only" \$1.33 billion.

As a result, a trader would have to buy 2,500 shares of SPY to control the same amount of capital as one S&P futures contract. Likewise (assuming the Dow at 11,000, the Nasdaq 100 at 4,700 and the S&P MidCap at 500), it would

take 1,000 Diamond shares, 4,000 shares of QQQ and 2,500 shares of MDY to equal the value of their respective futures contracts.

Another difference between the index stocks and futures contracts is that index stocks do not expire. Stock index futures trade in contracts that typically expire in March, June, September and December. While expirations are rarely an issue for extremely short-term traders, they can be annoying if you hold a position long enough that it spans two different contract months. In that case, you must liquidate the position in the expiring contract and reestablish it in the new contract (a process called rolling over) — paying commissions on both the transactions.

Index shares have no expirations, making them easier to manage in this regard. (Actually, the trusts representing the index stocks have expirations, but none of them, barring unforeseen circumstances, are until the 22nd century).

Table 1 (below) compares the characteristics of the various index stocks and their futures contract counterparts.

### Position sizes and trading costs

Because of the unprecedented current bull market, the price of a Chicago Mercantile Exchange S&P 500 future (which trades at \$250 times the index value) or Nasdaq 100 future (which trades at \$100 times the index value) has become too prohibitive for many individual traders.

Even with the low margin amount required to purchase a futures contract (margins are set by the exchanges; the rates differ depending on the commodity), buying an S&P contract (at March prices) required a minimum account balance of almost \$25,000 (the Nasdaq 100 is slightly more than \$30,000).

Aware that many traders were priced out of the market, the Merc created "E-mini" contracts, which are scaled-down versions of the full S&P and Nasdaq contracts. E-minis trade at one-fifth the value of the full contracts, meaning a trader needs about \$5,000 (for the S&P) or \$6,000 (for the Nasdaq) to buy an E-mini.

While the high margins of the full-sized S&P and Nasdaq contracts scare off



many traders, the index stocks are actually more expensive to trade (for positions of equal dollar size) because they have the same 50 percent margin rate common to all (long) stock purchases. The \$25,000 margin per S&P contract actually calculates out to a rate of a little more than 7 percent of the contract's value of \$350,000 (with the index at 1,400). The 2,500 shares of SPY required to control a position of equal dollar size would, when margined at 50 percent, mandate a minimum account balance of \$175,000.

The advantage of the index stocks is that you can purchase them in any size, down to a single share, thus giving smaller individual traders greater flexibility, even more than that provided by the smaller E-mini contracts. Also, for many traders, the increased leverage of futures is, at best, a double-edged sword: Excited at the prospect of being able to trade more with less money, they overlook the fact that this privilege means they can lose proportionally more money as well.

But, for strict day traders who close out all positions at the end of each ses-

sion without exception, these overnight margin requirements are less relevant.

### Side-by-side analysis

To get a better feel for how the index stocks and futures compare from a practical perspective, we'll analyze a week where the market boomed and see the respective performances of the Spiders and E-mini S&P contract.

Let's take a look at the week of Feb. 28 — a big up week for the S&P. The cash index gained 5.7 percent, rising from 1,333.36 to 1,409.17. Both the index stocks and the March 2000 E-mini gained similar amounts percentage-wise, but the potential profits of the two instruments were vastly different. Figure 1 (above) shows a chart of the S&P 500 futures and SPY over this time period.

With an account balance of \$4,700 (the approximate margin requirement for one E-mini contract), a trader could, with 50 percent margin, buy 70 shares of SPY (not counting commission) when the market opened that Monday morning. At market's close on Friday, those shares could be sold for a \$542 profit —

a return of more than 11 percent.

If a trader let his profits run on a futures contract, though, that same initial purchase (because of leverage) would produce \$3,662.50, an almost 80-percent increase. However, here's what we mean by that leverage being a double-edged sword: If you were shorting an E-mini that week, your account would decrease by \$3,662.50. If your account was not properly funded beyond the initial margin deposit, it would have been closed long before the end of the week.

By comparison, a short-seller of Spiders would lose about \$350 that week (margin requirements would limit the short trader to 45 shares of SPY).

For those interested in trading the overall market, the index stocks offer a flexible alternative to stock index futures. Like stocks, they are traded in shares. Like futures, they can be sold short just as easily as they can be bought. Individual traders can buy and sell them in odd lots, making it easy to trade at a level that fits your account level and risk threshold. 📌

## HOLD me

**M**uch the way index stocks have allowed traders to track the major indices with a single investment, HOLDRs offer the chance to own 20 companies with the purchase of just one stock.

HOLDRs, created by Merrill Lynch, are baskets of stock in the 20 leading companies of eight hot sectors. The Internet (symbol HHH), Biotech (BBH), Telecom (TTH), Pharmaceutical (PPH), B2B (BHH), Internet Architecture (IAH), Internet Infrastructure (IIH) and Broadband (BDH) HOLDRs all trade on the American Stock Exchange. More HOLDRs were planned as of press time.

Unlike index stocks, however, HOLDRs must be traded in round lots (increments of 100 shares), so an initial purchase of BBH, as of early April, would cost nearly \$17,000.

Merrill Lynch also offers Telebra HOLDRs (TBH), which represent interest in 12 foreign companies trading in the United States as American Depositary Receipts. Telebra HOLDRs trade on the New York Stock Exchange.

Another substantial difference between HOLDRs and index stocks is that HOLDRs can be sold, for a \$10 fee, for shares of the underlying stocks, which can then be sold in the open market. The proportion of stocks in the trust is pre-determined, so no matter what happens to the price of particular stocks, anybody converting their Internet HOLDR would receive 21

shares of AOL, 18 shares of Amazon, 13 shares of Yahoo, etc. And, unlike index stocks, HOLDRs cannot be sold short on a downtick or offer a stock split.

Further, while the investments in index stock trusts can change when the makeup of the indices changes, HOLDRs do not get rebalanced. The same 20 stocks will remain in the basket for the life of the HOLDR. In the event a merger swallows up a company in a HOLDR, that HOLDR will then consist of only 19 stocks.

Select Sector SPDRs — an offshoot of Spiders — provide another opportunity for traders to have a holding in one of nine sectors with the purchase of a single stock. Select Sector SPDRs are designed to track the performance of the S&P Select Sector Index they represent.

Available sectors include: Basic Industries (AMEX symbol: XLB), Consumer Services (XLV), Consumer Staples (XLP), Cyclical/Transportation (XLY), Energy (XLE), Financial (XLF), Industrial (XLI), Technology (XLK) and Utilities (XLU). Select Sector SPDRs can be sold short on a downtick.

Trading is very light on both HOLDRs and Select Sector SPDRs. With the exception of Internet HOLDRs (1.2 million) and Technology SPDRs (960,000) average daily volume for any "basket" stock had not exceeded 700,000 through March.



## TRADING Strategies

Online investment banks were supposed to give individual traders more opportunities to participate in the formerly closed world of initial public offerings (IPOs). But is there any room for short-term traders to maneuver, or are IPOs still long-term plays for the big boys? We take a look at the realities of “flipping” hot IPOs.

BY JEFF PONCZAK

**W**hile the market in general has enjoyed an unprecedented run up in the past year or so, there's one area that has been particularly profitable — IPOs.

It seems that every day, some company in a hot sector sees its IPO increase by 50, 100 or even 200 percent on its first trading day. These stocks don't always

stay hot, though. After the initial feeding frenzy, many stocks pull back substantially within a few weeks, some within a few days, some within a few hours.

Still, there's no doubt that there's big money to be made in trading certain IPOs. But for many years, that's been much easier said than done. Having the opportunity to purchase an IPO at the offering price — i.e., the price set by the underwriter, not the opening price, which can sometimes be much higher — has previously been limited to a select group of institutions. All but the highest net-worth individual traders were locked out of the process.

However, thanks to a new crop of online bankers/brokerages, it is now possible for smaller individual traders and

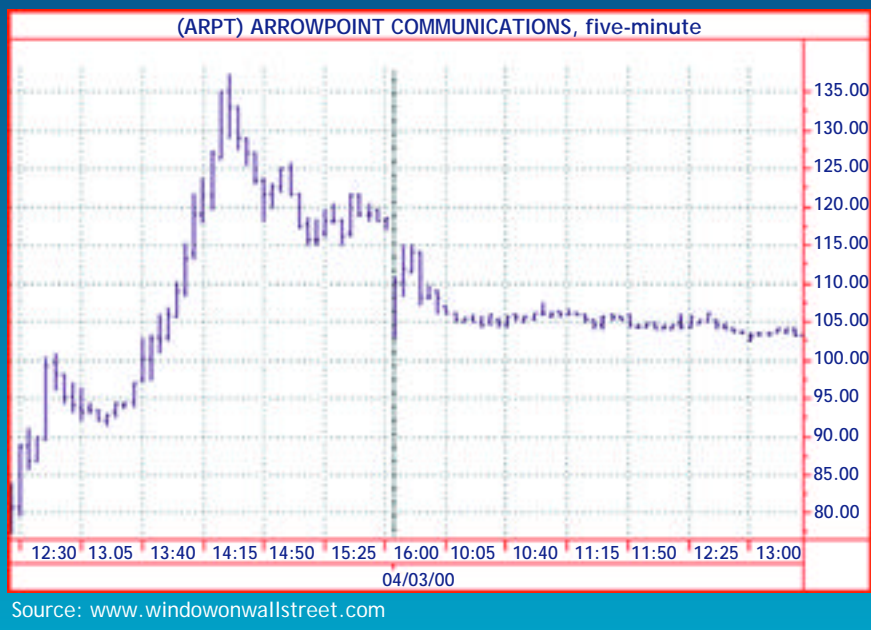
investors to participate in IPOs. Wit Capital ([www.witcapital.com](http://www.witcapital.com)), E\*Trade ([www.etrade.com](http://www.etrade.com)) and Schwab ([www.schwab.com](http://www.schwab.com)) are the best known of the companies offering IPO allocation. The others include Friedman Billings Ramsey ([www.fbr.com](http://www.fbr.com)), Wedbush Morgan Securities ([www.einvestmentbank.com](http://www.einvestmentbank.com)), Mercer Partners ([www.iposyndicate.com](http://www.iposyndicate.com)) and W.R. Hambrecht ([www.wrhambrecht.com](http://www.wrhambrecht.com)). While Schwab, E\*Trade and Hambrecht only make IPOs available to clients who meet strict suitability requirements, an account at any of the other firms is all you need to qualify to buy shares of an IPO (in theory, if not in practice).

At all firms, the purchase is handled essentially the same way. Before the offering price is officially set, traders make a “conditional offer” (usually a limit order, although market orders are allowed in some cases) indicating the number of shares they want to purchase (generally, orders must be placed in round lots, or 100 shares), then cross their fingers. Sometimes shares are allocated to them, sometimes not. While FBR and E\*Trade allocate shares randomly, all the others distribute shares on a first-come, first-served basis. Some firms give e-mail notification to customers alerting them to new IPOs, but to have a decent chance of participating, it's advisable (if not necessary) to frequently check the Web site to get the most up-to-date information.

The number of shares available to the individual trader varies greatly depending on several factors, such as the broker, the IPO underwriter and the hype leading up to the IPO (i.e., the more anticipated the IPO, the fewer shares will be available). Moreover, the popularity of online IPO trading has skyrocketed recently, glutting the market with fortune hunters

**FIGURE 1 TO FLIP OR NOT TO FLIP**

Explosive first-day moves in IPOs, like the recent one in Arrowpoint Communications (ARPT), present tempting opportunities to take quick profits — regardless of potential penalties.



and decreasing the odds of receiving shares. Discussions with a few online IPO traders revealed a few realities of the current online IPO environment:

- Over the past 12 months or so, acceptance rates have decreased dramatically. Traders who estimate receiving shares on 20 to 25 percent of the IPOs they bid on a year ago say they were shut out of the most recent 10-15 offerings.

- Participation in high-profile IPOs has decreased even more.

- Even when bidding on 1,000 or more shares, allocation of more than 100 shares has become increasingly rare.

For the short-term trader, opportunities are limited because of the penalties imposed on traders who immediately sell, or “flip,” their shares to pocket a quick profit in IPOs that skyrocket on their first day of trading. Penalties for flipping are very real — don’t expect the bank/broker not to notice. You will be locked out of future IPOs for a period of time.

In some cases, though, the practice can be justified (see sidebar below), as illustrated by the typical hot-IPO example shown in Figure 1. Arrowpoint Communications (ARPT), an Internet-routing company, went public on March 31. Arrowpoint’s offering price was \$34, and the pre-IPO hype caused the stock to open for trading at 65. It traded as high as 137½ before closing at 118½. It opened the next trading day at 106 and traded as low as 84⅙ on April 4 — certainly justifying (at least in retrospect) a trader’s decision to take profits on the first day of trading. While holding this stock past the offering date would still produce a profit, flipping would have locked in a windfall gain, penalties notwithstanding.

## Flip flop

The authors of a new book on IPOs offer their take on “flipping.”

One strategy you can follow is to buy every IPO you can get your hands on and then sell on the first day, capitalizing on the immediate gain that often occurs on the first day of trading.

Also known as “flipping,” selling on the first day is completely legal, but often discouraged by most online investment banks. Some firms penalize flipping by excluding you from future offerings for a limited period of time (typically 60 or 90 days). (*Editor’s note: Mercer charges an additional 5-percent commission on sell orders made before 30 days have expired.*)

It is important to remember the flipping strategy because it is sometimes wise to take large profits, even if it means going through a penalty period during which you may not be allocated shares. This is especially true when an IPO “moon shots,” or jumps 100 percent or more in the first day of trading.

We do not encourage or discourage flipping. You need to weigh the consequences of being excluded from future offerings before deciding to flip or not to flip. Our advice? If you’re going to flip with an investment bank that will penalize you for it, flip on a moon shot to make it worthwhile.

We typically try to hold onto our initial shares for a minimum of 30 to 75 days in order to avoid flipping penalties imposed by some online investment firms. But it is difficult to pass on the opportunity to make a quick, short-term gain, and we have capitalized on moon shots on occasion. We also remind ourselves of the golden rule: Never be afraid to take a profit. This is especially true in a market filled with such volatility — the tides can turn against you just as quickly as they turn in your favor.

A profitable trade, even if it has to be a flip, is money in the bank. We have seen profits turn into losses by investors who feared being penalized for flipping. Taking profits is also especially important for your first IPO trade. Having profits to reinvest should make it easier for you to withstand the fluctuations of your future IPO purchases you decide to hold for the long-term.

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**TABLE 1** MINIMUM REQUIREMENTS

The seven online banks/brokerages that let individual traders purchase IPOs, and the minimum account balance for each

Bank	Minimum account balance
Wit Capital	\$2,000
FBR	\$2,000
IPO Syndicate	\$2,000
Wedbush	\$2,000
E*Trade	\$2,000*
Schwab	\$10,000*
Hambrecht	\$25,000

\*These firms also have suitability requirements, meaning clients' account and financial situations will be reviewed before they are allowed to trade IPOs. Schwab's deposits are greater for traders who do not make a minimum number of trades per year.

### Be quiet

Even if you're not able to get in at the beginning, there are still ways to profit from IPOs. One method is to look for potential short-term trade opportunities associated with the end of an IPO's quiet period or lock-up period.

During the quiet period, which begins when the company files for an IPO and lasts 40 or 90 days after the offering, the company is prohibited from promoting or talking about itself, other than issuing general statements. When the quiet period ends, there is often a significant amount of self-promotion from the company (not to mention good recommendations from analysts, who sometimes work for a firm that had a hand in the IPO's underwriting). The good publicity can often lead to increased buying and a price run-up.

The lock-up period, which typically lasts 180 days, is the time frame when insiders are prohibited from selling their shares. Since these insiders often purchase shares for literally pennies, the expiration of the lock-up period is the

first chance they have at realizing enormous gains on their investment. As a result, a sell-off sometimes follows the end of the lock-up period as insiders liquidate their shares.

### Money talks

Obviously, the IPO market has not been transformed overnight into a democracy. The big players still get the big favors. Charles Schwab has a reputation for receiving more, and better, IPOs, but to be eligible Schwab customers need to have a balance of \$10,000 (\$100,000 for clients trading fewer than 12 times per year). Schwab's top customers receive greatest priority for IPOs, but that level requires an account balance of at least \$50,000 (\$1,000,000 if you trade fewer than 48 times per year).

Still, there are opportunities to trade IPOs that didn't exist a few years ago. Getting in — and, more importantly, out — of an IPO at the right time can be another effective tool in your trading arsenal. 📈



BY JERRY WOOD .....

Always trying to figure out price direction?

Professional option traders know the secret to profits lies in understanding volatility, not the direction of the next trend.

Take a look at a few strategies you can use to take advantage of volatility fluctuations.

**M**ost traders and investors consider stock buying and its evil twin, short selling, as the only two ways to pry profits from the unpredictable grip of the stock market.

Experienced option players, however, know those two tactics are child's play when compared to the diverse trading strategies you can create with stock and index options. In fact, option professionals spend most of their time not guessing the direction of a stock, but estimating the future direction of the volatility (the level or degree of price fluctuations) of a stock. Smaller traders, too, can take

advantage of the methods the pros use to profit from volatility movements.

We'll explore some of the strategies traders can use to take advantage of this aspect of price behavior, but let's first take a quick look at the concept of volatility and how it relates to option pricing.

#### **The dynamics of price fluctuations**

Several factors influence option prices, including underlying market price, time to expiration and interest rates. But perhaps the most important option pricing factor for an option trader to understand is implied volatility, which is a measure of expected future price fluctuations that option prices are currently forecasting for an underlying stock.

What exactly does this mean? Simple. All other things being equal, the higher

the implied volatility of a given stock's options (that is, the greater the price fluctuations traders expect the underlying market to make in the future), the higher the option price will be. This is true for both calls and puts.

The opportunity for the trader, however, lies in the reality that the future actual volatility of a security very often turns out to be different from what the market is currently implying. Therefore, by forecasting the future increase or decrease in the volatility of a stock, you can design strategies to profit by playing the corresponding rise or fall in option prices as well. Volatility is not static. It fluctuates frequently, and traders can buy or sell volatility on a stock or stock index to take advantage of those fluctuations.

The following table illustrates the effect of implied volatility on the option

prices of two very different stocks: Coca Cola (KO) and Global Crossing (GBLX), a fiber optic firm. Although the two stocks are trading near the same price, GBLX is nearly twice as volatile as Coke, a difference reflected in the prices of the May 45 call options.

Stock	Stock price	May 45 call price	Implied volatility
KO	46	3 1/2	41%
GBLX	46 1/8	6 1/8	79%

(Prices on March 28, 2000)

When you buy volatility, you assume the stock is going to make larger price moves in the near future than its current option prices and implied volatility are predicting. The advantage is your position can be structured to profit from a large stock price move in either direction. Conversely, when you sell volatility, you assume the stock price will settle into a smaller trading range than the current option prices are predicting.

Let's look at the best positions to use when you feel a stock or market index is about to make a large, unusual price

anticipation of large price moves, negating much of the profit potential of an option's position designed to profit from increased volatility.

For this reason, one of the best times to buy volatility is when you think a stock is about to break out from a narrow trading range. In these cases, implied volatility (and thus, the option's price) is relatively low compared to historical volatility (which is a measure of actual price changes during a specific time period in the past). Look for stocks in which the implied volatility of the options is 25 percent or less than the recent 30-day historical volatility. These situations can often create excellent risk-reward opportunities.

Actual historical volatility for stocks with listed options can be obtained from the Chicago Board Options

**FIGURE 1 STRADDLE AND STRANGLE PROFIT-LOSS PROFILES**

A long straddle (blue line) is the simultaneous purchase of a call option and a put option with the same strike price and expiration date on the same underlying security. The strangle (red line) is similar to the straddle, except the strike prices of the call and put options are different.



## Buying and selling stocks and futures is child's play when compared to the diverse trading strategies you can create with options.

move. We will also examine the situations that present the best short-term volatility buying opportunities.

### Buying volatility

There are many reasons to buy volatility. Maybe you expect a bombshell earnings report to catch a stock by surprise. Perhaps there is an upcoming economic release, such as unemployment, that you think will rock a stock market index one way or the other. Interest rate hikes, takeovers and lawsuits are just some of the other events that can move an individual stock or stock index violently.

The key is this movement has to be unexpected. Option prices are typically inflated before many of these events in

Exchange (CBOE) Web site ([www.cboe.com](http://www.cboe.com)). The site also has a useful calculator that computes the current market implied volatility for comparison.

There are a variety of option positions that can profit from large sudden moves in the price of a stock, but most of them are derived from two basic strategies — the straddle purchase and the backspread.

### The straddle

Along straddle is the simultaneous purchase of a call option and a put option on the same underlying security. To be a true straddle the call and put must have the same strike price and expiration date.

The great feature of this position is that the straddle buyer can realize very large profits with a move in either direction, while only risking a limited amount of money.

For example, say on March 29 you thought Coca Cola was poised to make a big move and current option prices did not reflect this. With the stock trading at \$46, you could purchase the April 45 call for 2 1/2 and the April 45 put for 1 1/2, for a total straddle cost of 3 1/2, or \$387.50. This is your maximum loss for the position. As Figure 1 shows, however, the position can pay off with substantial profits if a large near-term stock move occurs.

Keep in mind this chart shows the profit/loss at April expiration, a little more

# Option professionals spend most of their time not guessing the direction of a stock, but estimating the future direction of its volatility.

than three weeks away. All the option time value has been deducted from the position value. But if a large enough stock move occurs well before expiration, the position can still generate significant profits because the options will still have time value left in them and the options' implied volatility will increase as the market adjusts to the sudden stock move-

% and the April 40 put for  $\frac{1}{16}$ . This would result in a net cost for the position of only \$93.75. As Figure 1 shows, the strangle purchase can provide a lot of bang for the buck for such a small investment. Of course, compared to the straddle, the stock must make a larger move to get above or below the strike prices of the options.

is, but we will get to that later. For now, let's look a little deeper into the construction of the backspread.

It's not a hard-and-fast rule, but the typical ratio for a backspread is 2 to 1. In other words, you would buy two cheaper calls for every lower strike call you sell. Generally, if you buy enough calls so that the total cost of the position is zero or slightly positive, the backspread will suit its intended purpose. (This applies to put backspreads as well.) Numerous option software packages offer option pricing and spreading functions using more advanced statistical concepts. While these can be very helpful in implementing option spreads, they are not a necessity for the average trader.

Here's a good example of a recent put backspread opportunity in networking company Cabletron Systems (CS).

Imagine it is March 28 and Cabletron's earnings are due out on March 30. Evaluating the recent action in the stock and the high rate of insider stock sales leads you to believe the firm might miss the Street's earnings estimates. You decide to look into a put backspread to profit from a possible surprise drop in the stock's price. These are the prices of near-term puts with strike prices close to Cabletron's current stock price of \$51  $\frac{1}{8}$ :

	April 45	April 50	April 55
Price of CS Put	$1\frac{5}{8}$	$3\frac{5}{8}$	$6\frac{1}{4}$

Looking at these prices, you decide to buy two April 45 puts and sell one April 50 put. This will result in a net credit of  $\frac{1}{8}$ , or \$37.50 ( $3\frac{5}{8} - [1\frac{5}{8} \times 2]$ ). Alternatively, you could have bought two April 50s and sold one April 55. This position would give you slightly greater downside profit potential, but because it requires you to pay out  $1\frac{1}{8}$  ( $6\frac{1}{4} - [3\frac{5}{8} \times 2]$ ), or \$100, you will lose more money if the stock does not drop in price. In fact, as Figure 2 shows, even if you are wildly wrong and the stock increases dramati-

A note on trade execution: When entering an order to either buy or sell your straddle, you must express the total price of both options for the trade. In the Coke example, you would tell your broker that you wish to pay  $3\frac{1}{8}$  for the KO April 45 straddle. Never enter this type of trade, or any other option spread, as a market order. Placing a limit on your price will save you from becoming the market makers' best friend.

## The backspread

Another favorite long-volatility position of option professionals is the backspread. Unlike the straddle, the backspread uses either puts or calls, but not both.

A call backspread consists of a short call at one strike price and two or more long calls at a higher strike price. A put backspread consists of a short put at one strike price and two or more long puts at a

lower strike price. Generally, but not always, the call backspread is used to take advantage of large up moves in stocks or futures, while the put backspread is used to capitalize on down moves.

Why would you bother to sell an option at all? To hedge your position. Sometimes (believe it or not) you will be wrong, and with backspreads it is even possible to be so wrong that you make money. Is there a catch? Of course there

**FIGURE 2** BACKSPREAD PROFIT-LOSS PROFILE

A put backspread consists of a short put at one strike price and two or more long puts at a lower strike price. A call backspread consists of a short call at one strike price and two or more long calls at a higher strike price.



ment. Thus, the volatility buyer can get a double dose of profit action by accurately predicting a near-term move.

A related option strategy is the strangle. Like straddles, strangles consist of the purchase of both a put and a call on the same stock, usually with the same expiration date. The distinction is that the strike prices are different.

Using Coke options as our example again, we could buy the April 50 call for

cally, you can still pocket a small profit.

Although the backspread in the CS example is executed for a net credit, limited but significant losses can occur if the stock does not move below 45 or above 50. For example, if on expiration day the stock is at \$45, your short April 50 puts would have to be bought back for \$5, but the long April 45s would expire worthless.

Of course, if the earnings announcement does not move the stock, the entire position can be taken off well before expiration to prevent the full maximum

things, of course, it comes with a significant catch.

When you buy volatility using a backspread or a straddle, you are long time premium. As the passing of time erodes the value of your long options, you will gradually lose money if the underlying stock or index does not move significantly. You are essentially fighting time.

There are two ways to minimize this damage. First, since options decay faster as the expiration date nears, it is best not to implement positions with less than

traders who believe the key to making money in options is to always sell them short, because when you are short puts and calls, time decay is on your side. As long as the underlying stock or future does not make a large move, the short volatility position will continue to work in your favor.

The easiest way to sell volatility is simply to short a straddle or strangle instead of buying it. For example, here are the prices for the April 810 call and the April 810 put for the S&P 100 Index (OEX), with the index at 812 on April 4th.

## Profits can come and go astonishingly fast in options trading. Taking quick profit on part of your position is often the prudent course of action.

loss. Figure 2 illustrates the profit-loss scenario for this position at expiration.

Two days after establishing this position, Cabletron Systems released their earnings, which were good enough to beat analysts' estimates. This would normally not bode well for our long-put volatility position, but in this case, we got lucky: The firm also released a statement saying they expected future earnings to be well below expectations. This dropped the stock more than 19 points and the prices for the April puts in the position exploded. The April 50 put that we sold was trading for \$22, but our two long April 45s were trading at \$17. The value of our backspread, which we put on for a \$37.50 credit, jumped to \$1200 ( $\$1,700 \times 2 - \$2,200$ ). Removing the position at that point would have rewarded the trader \$1,237.50 per contract.

The highly profitable Cabletron trade was unusual, and lucky, but the example illustrates the amazing leverage volatility spreads sometimes offer.

### Time concerns

We have already seen how buying volatility can create outsized profits with a limited investment. Like all good

two weeks until expiration. While it is true that greater potential return on investment can be gained using cheap near-term options, the increased rate of time decay makes this practice risky.

The second tactic is to simply take off the position after a short amount of time if the desired move does not occur. In the Cabletron example, you could have removed the backspread soon after the earnings release if no move had occurred in the stock. Some money would be lost because of time decay and implied volatility contraction, but not nearly as much as if the spread was held to expiration.

The decision about when to take profits is the same as in other types of trading. How much is enough? While it generally is a good idea to "let profits run" as the adage goes, it would be smart to take at least part of your money off the table in a trade like the CS example.

Profits can come and go astonishingly fast in options trading. Selling part of your straddle or a portion of your long options in the case of the backspread is often the prudent course of action.

### Selling volatility

There are some professional option

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OEX April 810 Call	OEX April 810 Put
22 $\frac{1}{4}$	17 $\frac{1}{2}$

---

The stock market had just gone through a very volatile few days and the option prices were very high. With only 16 days until April expiration, the 810 (at-the-money) straddle was trading at 39%.

If you expected the market to soon settle down into a tighter trading range, you could short the straddle and wait for the options to gradually decrease in value. The index would have to move below 730 or above 850 (810 plus or minus the collected premium of 39%) for the straddle seller to lose money on the position — a large move for such a short time frame.

The big risk with this position, as with any option selling strategy, is that the underlying security could make a monstrous move and the seller would have to buy back the short options at a significant loss. This characteristic of option short selling — unlimited risk and limited return — make these positions suitable only for advanced traders who can stomach this risky concept. In fact, many retail brokerage firms will not allow these positions and the ones that do require significant margins to cover the risk of loss.

Picking the direction of volatility can be as frustrating as discerning the price movements of the stock itself. Stock volatility is very much like a spring being wound tighter and tighter. Eventually it will pop, creating great opportunity. The nimble trader, using the strategies we have discussed, can ride those explosive volatility bounces. 🎯



# PLAYING THE NUMBERS GAME

BY ALLEN SYKORA

**D**ay trader Vince Notardonato has a simple philosophy: The more trades he makes, the greater his odds of hitting some winners. To take advantage of his thinking, he developed a methodology that trades anywhere from 30 to 70 stocks a day.

Notardonato devotes long hours to his trading, studying charts for 3½ hours after the close every day, looking for stocks poised to cross above or below certain moving averages he monitors. He ends up with scores of potential trades.

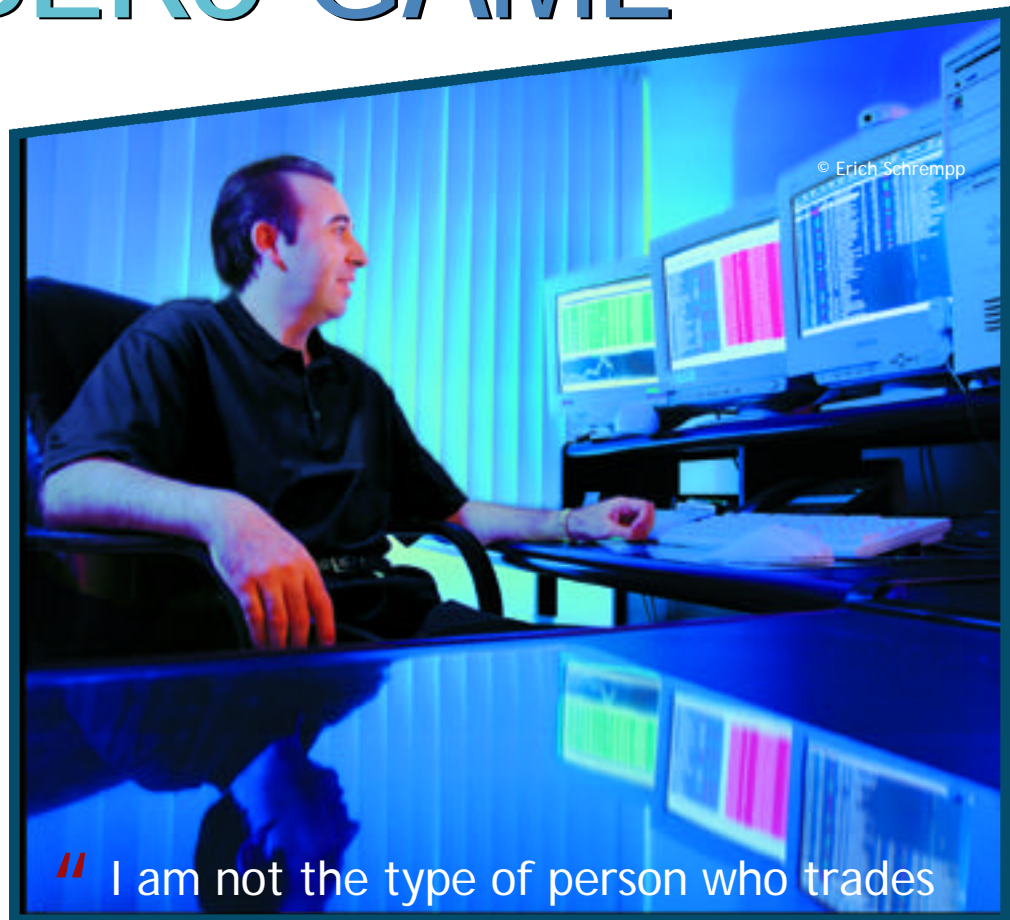
If somebody trades just five stocks in a day, Notardonato points out, none of them may move in his favor enough to result in an after-commission profit. However, trading 60 stocks in a day increases the chances of finding winners.

“To me, it is a numbers game,” he says. “The more you have on your plate, the greater the chance of making money.”

On the day he was interviewed, the

Chicago man traded 45 stocks. The major indices rose sharply that day and 70 percent of Notardonato’s trades turned out to be winners.

But even on days when his losing trades outnumber the winners, Notardonato will often make money anyway because he uses stops to keep losses small. Also, he won’t take a profit on a winner until it pulls back enough to hit a trailing stop. That keeps him from exiting a trade prematurely, only to watch the stock move in his favor a few more points.



“ I am not the type of person who trades one side of the market. I think that’s suicidal. ”

"You capitalize on the winners as much as you can and hold onto the position as long as possible," he says. "On the losers, I only risk a little bit because of the trailing stops. But on the winners, there really is no limit on how far a stock could go. It could go up \$10."

Notardonato's placement of protective and trailing stops is discretionary, although he takes volatility into consideration. For less volatile, "old economy" stocks, he might put his initial stop, as well as his trailing stop, a half point to a point away from the current price. But for more volatile stocks such as America Online (AOL), he might put his stop 1½ points away.

But even this distance can change daily.

"It changes according to market conditions," he says. "Today, a half point might be appropriate. But if you trade the same stock tomorrow or in three days or next week, it might be a lot more volatile, and that would require a wider stop. It's not the same all of the time."

Notardonato got into the markets by happenstance after moving to the United States from Italy 11 years ago. He needed work, so a friend on the floor of the Chicago Board Options Exchange (CBOE) helped him land a job as a clerk. Notardonato had no previous market experience.

He worked at the CBOE for several months before taking a position as a sales representative for a jewelry company, where he was responsible for 300 or so stores in a multi-state area. After three and a half years, though, Notardonato grew weary of the travel and wanted to get back into the markets. In late 1993, he took the first of three jobs he would hold at the Chicago Mercantile Exchange (CME), ranging from a pit clerk to desk clerk.

Eventually, Notardonato wanted to trade for himself and opened an account in 1997. Initially, he made small trades to get a "feel" for the market. He tried to become a tape reader, studying the price, bid, offer and volume to gauge supply and demand. He tried scalping small profits on a handful of Dow stocks, looking for moves as small as an eighth- or

quarter-point.

However, Notardonato discovered he was spending a lot of money on commissions and realizing only small profits.

"I thought, 'There has to be a better way of trading,'" he recalls.

Notardonato began experimenting with other trading ideas. After back-testing them on a computer program, he eventually arrived at the methodology he uses today.

Notardonato will only trade New York



Stock Exchange stocks priced between \$30 and \$130 with an average daily volume of at least 100,000. Of the 3,900 stocks on the New York Stock Exchange, around 800 fit Notardonato's criteria.

At the end of each day, Notardonato uses TradeStation (a system testing and analysis program) to determine which of the 800 stocks are poised to move above or below a particular moving average, and which are showing sudden volume changes. By doing this, he narrows his list of stocks he will consider trading the next day to a "manageable" 200 to 300.

Notardonato uses daily charts and monitors primarily — but not exclusively — 5-, 25- and 50-day moving averages. After hundreds of hours of study-

ing charts, he's come to the conclusion that different time periods work best with different stocks.

"After you look at them every day for a long time, you'll see some stocks respond differently than other ones," he says. "Some stocks may only move up or down a lot if they're breaking above or below a 50-day average. Other stocks may display a lot of activity when they move above or below a 10-day moving

" If you're not ready to dedicate a tremendous amount of time to trading, you had better not start at all. "

average."

Notardonato also watches for volume surges that signal interest in a stock. For example, if a stock's typical daily volume is between 90,000 and 100,000, but it suddenly jumps to 500,000, he knows "there is something going on and somebody wants to buy or sell the stock." With these criteria in place, he then looks for stocks to move above or below their most recent highs or lows.

Notardonato bases his trading solely on technical analysis — he pays no attention to fundamentals.

"I never wanted to get into [fundamental] research, because it takes too much time," he explains. "There is not enough time to see what every company is doing and keep track of their earnings."

On the day he was interviewed, his most profitable trade was Lowe's Companies (LOW). And, says Notardonato, "I have no idea what they do, to tell you the truth." (For the record, Lowe's is a home improvement retailer.)

What he did know about Lowe's, though, was that it had moved above its 10-day moving average.

After the market closed the previous afternoon, Notardonato noticed that LOW had closed at 45 3/8, above the 10-day moving average of 44 1/8. The high of the day had been 45 1/2. Notardonato decided he would buy the stock the next day if it hit 45 1/2 again.

Although the stock opened above that high the next day, at 46 3/8, Notardonato didn't get in immediately because one of his rules is to never trade during the first half-hour of a session. Too often, he explains, much of the early activity consists of traders squaring up previous positions or reacting to early-morning economic reports released by the government, and the market still has not found its direction. When he finally did get into the trade, LOW was at 46 1/8.

Notardonato has two ways of getting

## Trading setup

**Hardware:** One Micron Millennia Max 733 Mhz Pentium III PC, 256MB RAM, Windows NT, two 17-inch monitors. One 300 Mhz Pentium II PC with 256MB RAM, Windows NT and 17-in. monitor.

**Data provider:** PCQuote

**Communications:** DSL 400K connection

**Software:** TradeStation by Omega Research for analysis and to generate orders.

**Brokerage:** Direct access

out of a trade: Either price moves against him enough to trigger his trailing stop, or else he exits his position during the final few minutes of the session. On his Lowe's trade, he liquidated his position at 2:58 p.m. CST — two minutes before the close of the market — at a price of 50 1/8.

One benefit of adopting a strict methodology is that it takes the emotion out of trading, Notardonato says.

"Once you let your emotions get involved, you're not going to win. You get attached to things, make the wrong decisions and never know when to get out. It's easy to get into a trade, but it's

very tough to decide when to get out."

He is willing to go either short or long; thus, he figures he'll be just as effective in a bear market as he will be in a bull market.

"I am not the type of person who trades one side of the market," Notardonato says. "I think that's suicidal."

Notardonato's system evolved over a period of a couple of years, during which he constantly tweaked it, establishing a unique trading approach. "I don't know many people who trade the same way I do," he says. "This requires a tremendous amount of time. You need to dedicate your time to doing this, or you had better not start at all.

"A lot of people don't feel comfortable trusting their money to a computer. To me, there's no other way around it. This is the way of the future. It's going to get more and more sophisticated."

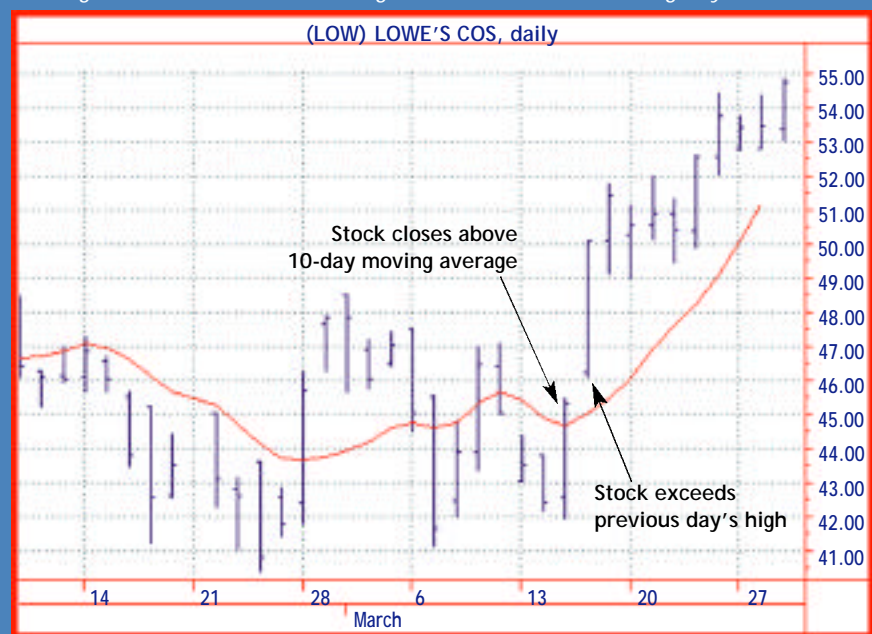
In all, Notardonato figures he works about 11 hours on a typical trading day, from an office in his home. The long days don't bother him, though.

Some traders look to outside activities, such as physical exercise, as a way to relieve the pressures of trading. Notardonato's hobbies include music, watching Formula One auto racing, and playing tennis and soccer. However, he partakes in these activities because he enjoys them, not because he is trying to escape the rigors of day trading.

"I'm a very calm person by nature," Notardonato says. "I'm doing this because I enjoy it. If it stops being fun, I wouldn't want to do it any more. I would stop. I'm happy with what I'm doing." 📍

**FIGURE 1** LONG TRADE IN LOWE'S (LOW)

A long trade triggered in LOW when price closed above the 10-day moving average and traded above the high of this bar the following day.



Source: www.windowonwallstreet.com

# Trader finds SYSTEM TO FIT lifestyle

BY ALLEN SYKORA

**H**ouston-based trader Sharona Koret deals with enough pressure selling real estate. So she didn't want to have to deal with more when she started trading. As a result, she turned to using mechanical trading systems in the stock market.

"I cannot tell you enough how helpful this was, because I don't have to worry about my trades any more," Koret says. "I'm not emotionally involved."

But she also points out that risking her money with a trading system designed by someone else wasn't initially the easiest thing to do.

"It's hard to immediately trust mechanical systems," she says. "But once you see it working, it's just a matter of doing the research and executing the plan."

Koret, who is originally from Israel, spent three years in Italy and has lived in the United States since 1977. She studied both law and architecture before settling on a 22-year career in real estate. Her interest in the market was sparked when a couple of friends invited her to observe their trading.

"There was something that triggered me in terms of competition," she says. "I'm a very competitive person. I thought, 'If they can do that, I can do it too.'"

She soon found herself reading about the market in the newspapers, watching television and attending seminars and courses. But, like many new traders, she ended up suffering from information overload.

"I was drowning," she says. "The more I read, the more I felt like I didn't

Koret says. "I never knew exactly when to get in. And as soon as a stock would go down a little bit, I would pull out and then miss out on the move up when it went back up."

Koret then briefly traded a methodology she discovered on the Internet, but it required her to perform a series of calcu-



know what I was doing."

Initially, Koret looked at relative strength (which compares a stock's price change to that of another stock or index), but relied largely on fundamental factors such as news and analysts' comments.

"It was not a method; it was chaos,"

lations for each stock she wanted to trade. More importantly, she was doing no better than breaking even.

"I decided I needed to be more organized," she says. "I was getting lost in the forest instead of having a path."

Eventually Koret and her husband, Ami, decided to turn to computerized analysis and mechanical systems. They bought testing and analysis software, and were referred by the vendor to various system designers. They began testing the numerous trading systems they came across, searching for a comfortable trading approach. They eventually settled on two systems designed by Joe Krutsinger, a professional trading system designer and former brokerage firm executive.

The process begins with stock selection. Koret scans a 10,000-stock database

## Trading setup

**Hardware:** One Pentium 700, 768 MB Ram, 21-inch monitor;  
one Pentium 500 laptop, 128 MB Ram;  
one Pentium 400, 128 MB Ram, 19-inch monitor

**Data provider:** PCQuote

**Communications:** Cable Internet access

**Software:** TradeStation by Omega Research; TC2000 charting service

**Brokerage:** Direct access



**“ It’s hard to immediately trust mechanical systems. But once you see it working, it’s just a matter of doing the research and executing the plan. ”**

for issues with strong ADX (the average directional movement index, an indicator that measures trend strength) and relative strength (RS) readings. She trades only stocks with ADX readings higher than 35 and RS readings above 95 — in other words, stocks that are in a relatively strong trend (high ADX) and are outperforming the market (high RS).

Once Koret has chosen a stock, she runs its historical price data through the mechanical strategies to see if it trades profitably in testing. She generally ends up with at least one stock a day to trade.

The exact formula for the first system (which tries to anticipate short-term reversals) is proprietary, but the basic rule is: Buy today on a move above yesterday’s close plus a percentage of yesterday’s range (if the current trend is down). The rule is reversed for short positions. Another proprietary rule dictates when to exit a trade.

The second system is a filter that helps Koret determine the appropriate side of the market — long or short — to trade on a given day. If it says to play the long side of the market, she would trade only

“buy” signals, ignoring all “sell” signals.

Koret puts on 15 to 20 trades a month, typically holding a position anywhere from two to seven days.

She uses discretion in trading the systems. While purely technical trading systems enable traders to ignore fundamentals, Koret does take them into account when trading. If she’s about to enter a position, she’ll check the Internet to see if there’s any fresh news on the stock. If there is bearish news, she may not buy, even if her systems tell her to.

“I think it’s my nature,” she says. “I like to cover all my bases.”

Koret also uses discretion in placing stops, opting not to use the protective stops parameters built into the system. She keeps as close an eye as possible on her trades, but because of her job, she cannot remain glued to a computer screen all day. She had the option of carrying a beeper that would alert her when a buy or sell trigger was hit, but as a real-estate agent, she says, “I have enough beepers and telephones — I don’t need another one.” So she enters trades only when she can be at her trading station and acts when an alert appears on her screen.

Of course, her real-estate career means there are times she cannot trade. But as much as possible, she schedules appointments for after the stock market has closed.

“If I cannot baby-sit it like I should, I will not do the trade,” she says.

If she has already entered a position, then finds out she must leave her trading station, she will simply exit if she’s feeling unsure about the trade. But if the position is going in her favor, she might leave it unattended, although never for long.

Koret seems to have found the trading approach that fits within her time constraints and risk tolerance level.

“Trading,” she concludes, “is the most fun I’ve ever had.” ☺

## Savvy system shopping

Here are a few things to keep in mind if you’re interested in buying a mechanical trading system designed by a system vendor.

First, make sure the system’s rules are fully disclosed. If you don’t know how a system works, chances are you won’t have the confidence to follow it.

Second, use an approach that makes sense to you, that is practical for you to trade and fits your risk level. You should be able to say, “I understand why this strategy should work, I can execute it and I’ll be able to stick with it.” Also keep in mind that simpler, more “robust” systems tend to work better than highly complex ones.

Third, ask for proof of performance. Brokerage statements showing trades are best. Thorough historical testing figures can accurately reflect a system’s trading potential, but can be fudged. Any trading idea can look good on a particular market over a particular (short) time period. Look for tests that cover multiple markets and long time periods (and preferably, multiple, distinct time periods), and look for consistency from market to market and time period to time period. Test systems yourself if possible.

Finally, be skeptical. Be wary of too-good-to-be true performance claims. If someone’s willing to sell you a system for \$500 (or \$1,000 or \$2,000) they claim can make you \$250,000 per year (with 90 percent winners and low risk!), ask yourself a simple question: If you had a trading idea that good, would you sell it to people or trade it yourself?

The goal is to fully understand the trading approach so you A) can judge its usefulness and B) have the confidence to follow it over the long haul. A trading system won’t do you any good if you don’t stick to it.

— Active Trade

# Entering the trading zone:

## Q&A with Dr. Ari Kiev

BY MARK ETZKORN

Having coached champion athletes  
and world-class traders,

**Dr. Ari Kiev's business is knowing  
what it takes to excel.**

Find out what he has to say about  
handling the ups and downs of trading.



Given his past career as a consultant to Olympic athletes, it's not surprising that psychiatrist and trading coach Dr. Ari Kiev draws frequent parallels between success on the athletic playing field and success in the market.

In discussing whether market success at the "super-trader" level is about innate talent or learned skills, Kiev says, "If you think of it in terms of sports, Michael Jordan probably has some extra God-given talent, which was further developed by coaching and training. Not everybody who makes it to the pros is Michael Jordan, but they still have certain requisite skills."

The New York-based Kiev has helped more than a few of the Jordans of the trading world (mostly top institutional traders and hedge fund managers) develop their "requisite skills." Among his clients is Steve Cohen, head of SAC

Capital Management, LLC, and one of the top-performing stock traders on the Street.

For Kiev, 66, who has degrees in medicine and law, his work in the trading field is just the latest chapter in a multifaceted professional life, which includes authoring a dozen books on psychiatry and anthropology (including *A Strategy for Daily Living: The Classic Guide to Success and Fulfillment*). From 1978 through 1980 he was chairman of the psychiatry division of the U.S. Olympic Sports Medicine Committee. He worked with athletes in a variety of sports, helping them reach their goals and maximize their performance.

Using the techniques he honed in that practice, Kiev went on to run a series of public seminars (called the Life Strategy Workshops) designed to help people access their untapped potential and master their fears. His entrée to trading occurred when, in the early '90s, Cohen approached him, telling Kiev the principles in the workshops would be relevant to traders. A partnership was born, and Kiev went on to work with Cohen and

the traders at his firm.

The program Kiev developed for SAC became his first trading book, *Trading to Win* (John Wiley & Sons, 1998). Cohen credited Kiev's techniques with helping SAC grow from a \$20-million hedge fund to one managing in excess of \$500 million in 1998 (the firm now trades more than \$2 billion). "If you want to learn how to be a super-trader, then closely examine the concepts in this book," Cohen stated in the book's forward.

According to Kiev, both *Trading to Win* and his upcoming book (scheduled for early 2001 release) detail his "experiences helping traders master the emotional roller-coaster ride of trading; to ride out their fear, anxiety and carry out the discipline of their trades — to stick with their discipline in the face of discomfort."

Kiev shared some of his insights about how traders must manage the stress of trading, and how they can improve their results by identifying and curbing bad habits.

*AT: Does it take a particular kind of personality to succeed at trading?*

**AK:** There's a wide range of personalities that trade and a wide range of trading disciplines, but there are certain fundamental things people have to learn how to do, irrespective of how they experience trading.

I think there are probably some characteristics like drive, ambition, competitiveness, willingness to take risk in a measured way, discipline. Those are things that are there but probably have to be developed over time.

*AT: What separates successful and unsuccessful traders?*

**AK:** I think the willingness to commit to a result is critical to both Olympic athletes who win gold medals and to traders who produce outsized returns.

It's the willingness to set a target and then really ride out discomfort in order to reach it — to follow their discipline in the face of anxiety.

Successful traders are willing to deal

with the uncertainty of trading and the markets, and are willing to self-examine and review their performance — correcting what they may have done wrong, or figuring out what they may have



**"I think the willingness to commit to a result is critical to both Olympic athletes who win gold medals and to traders who produce outsized returns."**

stopped doing that previously worked.

They're also willing to be objective about themselves and recognize how their emotions get in the way of what they're trying to do. Trading is a very intense, emotionally arousing activity; it produces euphoria and despair. The skillful trader really learns to ride those things and follow his discipline in the face of his own reactions.

*AT: Can emotions ever work in your favor?*

**AK:** They can, to the extent that you're able to use your emotions as an indicator of what the market may be doing. From your own responses to the market you can extrapolate what other people are likely to be feeling and doing and, thus, have some sense of what's happening in

the market. A skillful trader can then counter-intuitively trade in the opposite direction.

*AT: What are some of the reasons so many traders fail?*

*AK:* Ego, complacency, relaxing your guard and getting away from your discipline, and fear. Traders can take too much pride — or too much self-criticism — out of their trading. And there's the vicious

*you've worked with had similarities in terms of their basic trading philosophies or approaches?*

*AK:* No. I think the most critical thing is that the best traders, regardless of their method, stick to it — in the face of tough markets, drawdowns. They're really able to tow the line.

On a short-term basis, the critical thing is to stick to the discipline. On a longer-term basis you want to review

challenge and find it more interesting.

*AT: Is good trading necessarily comfortable?*

*AK:* It's not about being comfortable, it's about doing all the work and preparation and focusing to trade the best possible way given your methodology. It's not necessarily about feeling good. There are certain times when it all comes together, it works, and feels good and so

**“The best traders, regardless of their method, stick to it — in the face of tough markets or drawdowns.”**

cycle of doing more and more stupid things to try to recover from a loss. So, you might hold on to a loser instead of admitting your mistake, getting out of it and moving on to the next trade.

Another problem is the inability to “be in the moment” — psyching yourself out of being in the game.

*AT: How can traders identify their weaknesses and take steps to fix them?*

*AK:* You have to review your trading experiences, kind of like an athlete looking at game film. You review what your options were, what you were experiencing at the time, why you decided to do what you did, what alternatives there might have been, what kept them from using them if you didn't.

I teach people to ride out their anxiety, visualize their objectives and develop skills to review various scenarios in advance, things they may be able to follow in the midst of trading to increase their flexibility.

*AT: Are there kinds of thought patterns or behavioral characteristics useful in other areas of life that can be particularly harmful in trading?*

*AK:* Being stoic, persevering and putting up with a lot of pain may be good in dealing with some problems in your life, but it may not be that useful in a trade when it would be better to admit you're wrong and get out. Perseverance can lead to stubbornness, which can sometimes get in the way in trading, where you need to be a little more nimble.

*AT: Have the successful traders*



your trading statistics with an objective observer, make decisions about what can be improved and try to adhere them.

*AT: Do you find that good trading is a matter of learning some rules, or is it an ongoing process?*

*AK:* I think you have to keep doing it because the game keeps changing. You have to keep honing your skills to better read or adjust to the market.

There's always more to learn. The master traders are always increasing their efforts to keep up with things. And also, once they've succeeded at a certain level, part of it has to do with raising the bar so they're bringing more of their resources into play. They have a greater

forth — and that's fine, but that can also lead to euphoria which may take you out of the game.

Say you have a multiple-choice question with five possible answers. The first three are absolutely wrong, and the fourth looks right — it's the sucker answer. When you're anxious, you'll pick that one and feel really good.

The fifth answer is the right one. Selecting it takes a little “body English” — it isn't exactly comfortable, but if you've studied, you know that the one that doesn't look quite right is the right answer.

After you start taking those answers, you start to feel like you're really in the zone, even though you're doing something that's a little bit uncomfortable. 🎯



# Probability vs. profitability

**“90% Winning Trades!”** may sound great on paper, but in real trading, it’s not the winning percentage that counts, it’s how you manage positions and control losses. Find out how to focus on the statistics that really matter.

BY ROB KEENER

**T**ake your pick of the following two games of chance, both of which involve spinning a roulette-like wheel:

Game 1: “Try your luck — four out of 10 winners guaranteed.”

Game 2: “Try your luck — six out of 10 winners guaranteed.”

Each game costs \$10 to play.

All other things being equal (and temporarily ignoring skepticism), most people probably would walk right past game 1, which promises a 40 percent win rate, to play game 2, which promises a 60 percent win rate. It’s a no-brainer, at first glance. Both games have the same entry price and the second one has a guaranteed winning percentage of more than 50 percent.

What’s missing from this picture? Well, what if you discovered that in game 2, you made \$5 (profit) for each winning bet, and in game 1, you made \$25? That puts things in a different light. With game 2, you’ll lose \$10 every 10 games ([six wins \* \$5] - [four losses \* \$10]). However, game 1, with that “lowly” 40 percent winning percentage, nets a \$40 profit every 10 games ([four wins \* \$25] - [six losses \* \$10]).

We’ll take a closer look at the relationship between risk and reward in different trading approaches and examine the characteristics of profitable trading strategies.

## Appearances can be deceiving

Our intuition tells us trading systems with high winning percentages will be profitable over time, a premise reflected

in the common bit of trading wisdom, “You can’t go broke taking profits.” But the truth is you could easily lose the farm by taking profits. How is this possible?

There are several practices that can result in disaster when implementing trading strategies. Two of the most common are small profit objectives and poor risk management — that is, cutting profits short and letting losers run, instead of the other way around.

Strategies that take small profits can have very high winning percentages, but when this practice is combined with poor risk management (i.e., large losses),

the end result is a losing system.

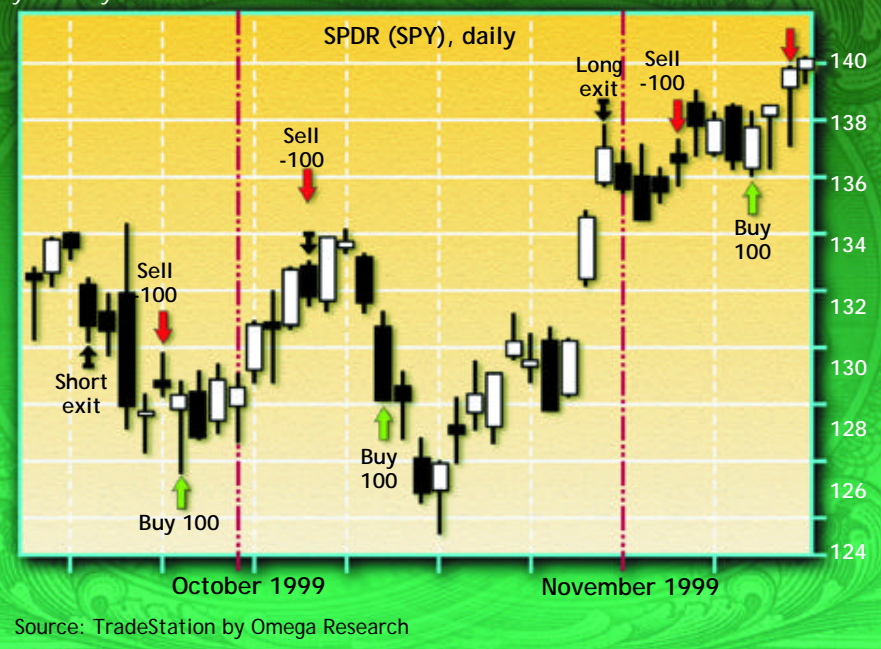
## Tracking Bigfoot

To find out how winning percentage relates to actual profitability, we’ll test a trading strategy called “Bigfoot” that uses a simple set of entry rules: If today’s open is lower than yesterday’s close, buy when today’s price crosses above yesterday’s close. The rules are reversed for sell signals.

Here’s what’s happening in terms of a long trade: Imagine price opens lower than yesterday’s close (suggesting a downturn). If price rallies and crosses

**FIGURE 1** TRIGGERING TRADES

Examples of “Bigfoot” trades. The basic entry technique goes long when the market opens lower than yesterday’s close, then reverses to cross above yesterday’s close. Sells are reversed.



back above yesterday's close (suggesting strength), you would buy.

The test spanned two years, using daily price data for the Standard & Poor's Depository Receipts (or SPDRs, ticker symbol SPY) that trade on the American Stock Exchange. (The SPDR is a security that tracks the performance of the S&P 500.) The trade size was 100 shares. No deductions were made for slippage or commissions.

This entry technique was combined with several risk-management (i.e., stop-loss and exit) rules. The first risk-management approach, referred to as a "bail-

it target will increase substantially (and vice-versa if the previous day's range shrinks). So, if the market really begins to move, the exit level will automatically adapt to this change in market conditions. Allowing the market to have some input in determining exit levels creates a more dynamic and, as we shall see, more profitable system

### Analyzing the "footprints"

Table 1 summarizes the performance of these system variations, showing the winning percentage, total profit, drawdown (the maximum equity loss

lowest winning percentage (59.8 percent) but makes more money than Bigfoot 1, 2 or 3.

### Middle ground

Further analysis suggests there is a happy medium in all this. Keeping in mind all the system variations use the same entry technique but use different exit and risk-management techniques, notice that although the strategy with the highest winning percentage didn't lose the most money, it was very close.

Similarly, the strategy with the lowest winning percentage was not the most profitable. The medium lies between the strategies that use pure cash stops and the ones that use the dynamic profit target. The drawdown for Bigfoot 2 was \$1,000 (using a \$1,000 stop) and the drawdown for Bigfoot 3 was only \$1,500 (using a \$2,000 stop). What does this suggest? Although Bigfoot 3's drawdown was less than its stop amount, its lower net profit shows it still suffered from taking profits too quickly.

One of the more important points is the most profitable strategy (Bigfoot 5) is also the strategy with the lowest dollar risk (\$1,000 drawdown). This is proof that controlling risk and using precise money management techniques are key to achieving the goal of low risk and maximum profit.

### Trading reality

What kind of strategy would you rather trade, one with 90 percent wins that makes \$100 a trade or one with 60 percent wins and \$3,000 winners? While most of us would prefer systems with both a high winning percentage and a large winning trade size, the truth is it is essentially impossible to reconcile these two aspects of trading.

There are a few basic conclusions we can draw from these results:

- You can go broke taking profits.
- Trading strategies that sound too good to be true probably are.
- A loose stop is not the road to trading profits.

The most important — and obvious — lesson is that a high winning percentage is not necessarily a characteristic of a profitable trading approach. The use of protective stops and money management rules — not high winning percentages — create a robust trading approach. Remember the roulette wheel! 🎰

**TABLE 1** WINNING PERCENTAGE VS. PROFITABILITY

*The performance of several variations of simple trading system highlights the inverse relationship of winning percentage and profitability.*

System	% wins	Net profit	Drawdown	Number of trades	% in market
Bigfoot #1 (No stop)	78.47	\$1,671.80	\$1,500.00	144	67.41
Bigfoot #2 (\$1,000 stop)	78.77	\$1,368.70	\$1,000.00	146	66.99
Bigfoot #3 (\$2,000 stop)	77.85	\$1,060.00	\$1,500.00	149	67.82
Bigfoot #4 Dynamic Target (No stop)	63.41	\$3,859.40	\$1,500.00	123	84.19
Bigfoot #5 Dynamic Target with \$1,000 stop	63.49	\$4,043.80	\$1,000.00	126	83.77
Bigfoot #6 Dynamic Target, stop and reverse	59.80	\$2,175.00	\$1,500.00	102	94.24

out" strategy, exits the market on the next profitable open or reverses if a signal is generated in the opposite direction of the current position ("stop and reverse"). In other words, if you were long 100 shares of SPY and received a sell signal, you would liquidate the initial long position and establish a new short position by selling 200 shares of SPY

The second and third approaches combine the bail-out strategy with fixed-dollar stops of \$1,000 and \$2,000, respectively. This method to control risk is very common — name your pain tolerance in the form of a dollar amount — but the problem is the market doesn't care if you are only willing to risk \$2,000 or \$2.

Approaches four, five and six use a dynamic profit-target technique that adjusts the exit level based on recent market volatility. Basically, if the previous day's range is exaggerated, the prof-

between new equity highs — a useful measure of risk), number of trades and time spent in the market. These test results fly in the face of conventional wisdom that higher winning percentages translate into bigger profits.

Notice a higher winning percentage is characteristic of the worst-performing strategies: Bigfoot 1, 2 and 3 — variations with winning percentages near 80 percent — were actually the least successful strategies in terms of overall profitability. Also, Bigfoot 3, the strategy with the largest stop (\$2,000), actually made the least money — evidence the adage "give trades room to breath" may be false.

By contrast, the strategies with the lower winning percentages (4, 5 and 6) were the most profitable in testing. Bigfoot 6, which incorporates the dynamic profit target and the stop-and-reverse exit/entry technique, has the

# CHARTING the MARKET

Price charts are your road map to the markets.

Find out how to navigate the twists and turns of price action with the different kinds of price charts at your disposal.

BY TERESA LO

Once upon a time, before the age of computers, traders plotted price charts by hand each day after the market closed.

Today, with abundant computing power and the widespread use of reasonably priced (or even free) charting

applications over the Internet, the world of technical analysis is available to all. However, one thing has not changed: the need to understand market behavior. Price charts are basic tools traders use to accomplish this goal.

We'll look at a variety of charts and how they depict price behavior. While all charts represent the same thing — price data — the different types offer unique perspectives of a market. Depending on what type of information a trader needs, one type of chart may be more useful than another.

**FIGURE 1 BASIC PRICE CHART**

Most price charts depict rising and falling prices (vertical axis) over time (horizontal axis).



## Price chart basics

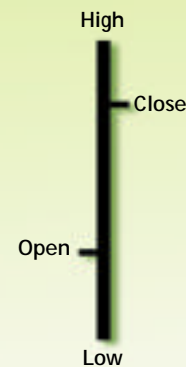
All price charts have one thing in common: They display the price changes of a stock, futures contract, currency or other instrument over time.

Figure 1 shows a basic chart: The vertical (Y) axis shows the price level, and the horizontal (X) axis shows time. With a couple of minor exceptions (which we'll discuss later), all price charts are variations on this theme. In this case, the chart is depicting an uptrend: Prices are rising as time goes by.

The two most commonly used price chart types are bar and Japanese

**FIGURE 2 PRICE BAR**

On a bar chart, the top of the vertical line represents the high and the bottom represents the low. The opening price is plotted as a small horizontal line attached to the left-hand side of the price bar. The closing price is plotted as a small horizontal line attached to the right-hand side of the price bar.



candlestick. We'll look at these first.

## Bar charts

The bar chart is the most popular price chart type. Each vertical price bar represents a period of time such as one day (on a daily chart), one week (on a weekly chart), one hour (on an hourly chart), one minute (on a one-minute chart) and so on. Each bar plots four price points that occurred during the time period it reflects: the open (the first price of the trading period), high, low and close (the final price of the trading period).

Figure 2 shows a price bar for a daily chart. The dash on the left side of the



**FIGURE 3 DAILY BAR CHART**

A daily chart of QCOM, with volume. Each bar represents one day's trading activity; the volume for each session is shown by the histogram at the bottom of the chart.



Source: Omega Research

**FIGURE 4 LINE CHART**

Dots representing the daily closing prices of QCOM (for the same period shown in Figure 3) are joined together, forming a line chart.



Source: Omega Research

price bar is the open, the dash on the right side of the bar is the close. The bar's high point marks the highest price the market traded at that day; the bar's low represents the lowest price of the day. Some traders prefer to use bars with only three points, ignoring the opening price.

The bar would look exactly the same for any other time period — one-minute, weekly, monthly, etc. (see Figure 8, which shows 65-minute bars). For example, for a weekly chart, the bar's high would be the highest price of the week, the low would be the lowest price of the week, the open would be the first price of the week (i.e., Monday's opening price, unless there was a holiday) and the close would be the final price of the week (Friday's close, unless there was a holiday).

Figure 3 shows a daily bar chart for Qualcomm (QCOM). Volume is often plotted at the bottom of a price chart, as it is in this chart (shown by the vertical lines, or histogram).

### Line charts

Although it is not as common as the bar chart, the simplest type of chart is the line chart (or close-only or line-on-close chart). It plots only the closing price of each bar. Figure 4 is a line chart of the same price action shown in Figure 3.

Some traders believe the closing price of the daily bar is the most significant price of the day because it's the price buyers and sellers arrived at by day's end. These traders prefer to plot only the closing price, producing a series of dots, which connect to form the line chart. Incidentally, the line chart is also known as the stopping chart, the first type of chart used by the Japanese.

Some traders think the simplified view of the line chart gives a clearer picture of the market by filtering out the intrabar price swings shown on the bar chart, while others believe the high and opening prices are essential to understanding price action.

### Japanese candlestick charts

Like bar charts, Japanese candlestick charts use vertical lines to display price

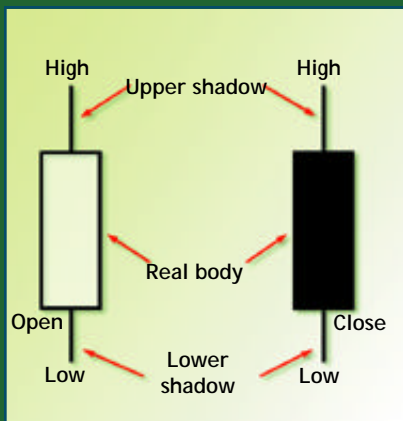
## Some traders think the simplified view of the line chart gives a clearer picture of the market... others believe the high, low and opening prices are essential to understanding price action.

action for a particular period. However, candlestick charts add another dimension to this information by highlighting certain aspects of price movement.

Figure 5 shows two candlestick bars. The high and low prices of a candlestick

**FIGURE 5 CANDLESTICKS**

Candlestick bars use shading to highlight the intraday (or intrabar) momentum of each period. The "real body" of a candlestick bar that closes higher than the open is hollow, or white (left); the "real body" of a candlestick bar that closes lower than the open is shaded, usually black.



are the ends of the vertical line (just like the bar chart), but the open and close are horizontal lines that intersect the vertical line.

These two lines are joined to produce a rectangular area called the real body of the candlestick. If the close of the bar is higher than the open, the real body is hollow, usually white. If the close is lower than the open, the real body is filled, usually black. The portion of the vertical line above the real body is called the upper shadow. The portion of the

vertical line below the real body is called the lower shadow.

The color of the candlestick denotes whether the intraday momentum was up (white) or down (black), and groups of candlesticks create unique visual patterns candlestick traders use to interpret price movement. Individual candlesticks are classified and named depending on the amount of space between the open and the close compared to the length of the upper and lower shadows.

Figure 6 shows a slightly smaller portion of the time period captured in Figures 3 and 4, to better distinguish between the bars.

### Point-and-figure charts

The point-and-figure chart is unique in that it removes the time element of the typical price chart. Uptrends are dis-

played in columns of ascending Xs and downtrends are displayed in columns of descending Os.

The key to the point-and-figure chart is the box size, which determines how much of a price movement is necessary to add another X or O to a column. If the box size is one point, you add an X to the column of Xs every time the price of a stock rises one point.

You continue to add Xs to this column until the price drops by a specified amount, called the reversal size. The reversal size is often three times the box size, meaning if the box size is one point, a down move of three points is required to start a new column of Os (and vice versa, when the market reverses to the upside).

In a change from Xs to Os, the first O of a new column is plotted next to the second-highest X of the previous col-

**FIGURE 6 DAILY CANDLESTICK CHART**

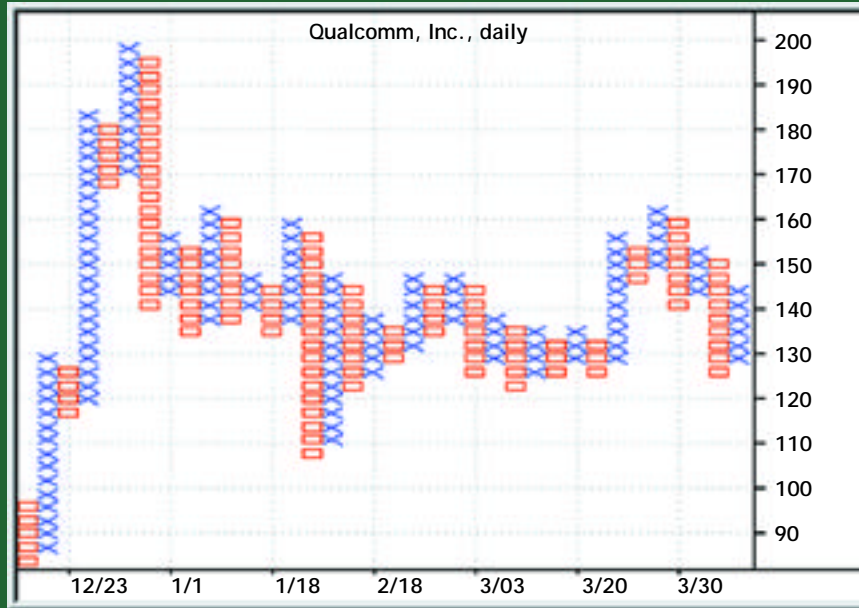
Candlesticks help highlight the up and down price movement of individual bars, forming patterns candlestick traders use to interpret price action.



Source: Omega Research

**FIGURE 7 POINT-AND-FIGURE CHART**

*A point-and-figure chart for QCOM. Each X and O represents three points.*



Source: Omega Research

umn; the first X of a new column starts next to the second-lowest O of the previous column. Also, the reversal size determines the number of Xs or Os to chart when a change occurs (i.e., if the reversal size is three, each new column starts with three Xs or Os).

The box size and reversal amount you choose depend on the absolute level of the stock and the amount of detail you wish to capture. A large box size will filter out smaller price moves. That may be inappropriate for lower-priced stocks that move in relatively small increments. Shorter-term traders interested in smaller-scale price movement would use smaller box sizes.

Figure 7 shows a point-and-figure chart for QCOM covering approximately the same time period as the previous bar and candlestick charts of the stock. Both the box size and reversal amount are three points.

### Tip for short-term traders

Active traders typically use intraday charts to view price action on smaller time frames. U.S. stocks trade for 390 minutes during the regular day session. To avoid comparing apples to oranges, traders should use time frames that evenly divide the 390-minute session.

This guarantees that each intraday price bar represents the same amount of time.

For example, when you use a 60-minute chart, you see seven bars plotted for a single day, but the last bar represents only 30 minutes of data. Changing

the chart to a 65-minute time frame will produce six bars, each containing 65 minutes of data, as shown in Figure 8.

### Other chart varieties

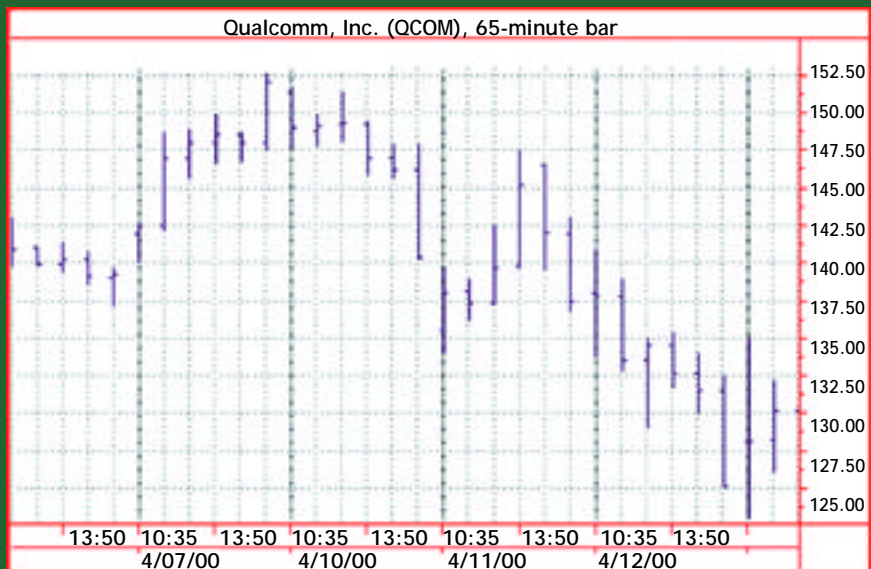
While we've provided a good introduction to the common chart types, there are several other varieties, including:

- Swing charts, usually credited to W.D. Gann, which highlight price swings of a certain magnitude, independent of time (like point-and-figure charts);
- Tick charts, which are intraday charts that plot each trade;
- CBOT Market Profile charts, originally developed in the mid-1980s by Peter Steidlmeyer, which highlight the times and prices at which the most trading is taking place; and
- Renko, Kagi and three-line break charts, which are other types of Japanese charts that do not use candlesticks.

As records of market behavior, price charts are useful tools for technical and fundamental traders alike. The different chart types provide different perspectives from which to analyze price action and make trading decisions. Understanding how charts work is the first step toward more in-depth analysis. 📈

**FIGURE 8 INTRADAY BAR CHART**

*Each 390-minute daily trading session is divided equally into six 65-minute bars.*



Source: WindowOnWallStreet.com

Indicator Insight is designed to give you a basic understanding of the calculation and use of various technical indicators, market studies and trading concepts.

# Simple moving average

**Calculation:** The simple moving average (SMA) is the average price of a stock, future or other instrument over a specific time period.

$N$ -day moving average =  $\text{Sum}(\text{Price}_t, \text{Price}_{t-1} \dots \text{Price}_{t-N})/N$   
where,

$\text{Price}_t$  = today's price

$\text{Price}_{t-N}$  = price  $N$  days ago

For example, a 20-day moving average is the average price of the most recent 20 days. (The closing price is usually used in the calculation, although the high, low, opening or average price of a price bar can be substituted.) To calculate, you add the closing prices of the last 20 days and divide by 20.

As the market moves forward in time, the newest price is added to the average and the oldest is dropped from it. Table 1 (below) shows a series of daily closing prices and the five-day SMA values that result from progressively averaging the

**TABLE 1** CALCULATING THE SMA

Calculating a five-day simple moving average. With each new day, the most recent closing price is added to the moving average calculation and the oldest price is dropped from it.

Date	Close	Five-day moving averages
Day 1	13.00	
Day 2	12.25	
Day 3	12.13	
Day 4	12.19	
Day 5	11.88	12.29 Average of Day 1 to Day 5
Day 6	12.00	12.09 Average of Day 2 to Day 6
Day 7	11.94	12.03 etc.
Day 8	11.31	11.86

five most recent days' prices.

Moving averages can be calculated for any time increment — daily, intraday, weekly, monthly, etc. For a five-minute bar chart, for example, a 10-bar moving average would be the average price of the 10 most recent five-minute bars.

## Applications

Moving averages smooth price action and are primarily used to highlight and define trends. Longer moving averages (e.g., 50, 100, 200 days) reflect long-term trends; shorter moving averages (e.g., 10 days, 20 days) reflect short-term trends.

A basic moving average-based definition of a trend is that a market is in an uptrend when it is trading above its moving average and in a downtrend when it is trading below its moving average. The magnitude of the "trend," though, depends on the length of the moving average. For example, a stock may be trading above its five-day moving average, and thus be in a

very short-term uptrend, but at the same time be trading below its 50-day moving average, and be in a intermediate- to longer-term downtrend.

Figure 1 shows three moving averages: a 10-day (blue), a 30-day (red) and a 50-day (yellow). Each reflects the sharp uptrend that kicked in at the beginning of 2000. Notice that the longer the moving average, the smoother the line — the more the shorter-term market fluctuations ("noise") are filtered out.

The basic moving average trend signal is the *crossover*, which occurs when price moves from below the moving average to above it (signaling rising prices and an uptrend) or moves from above the moving average to below it (signaling falling prices and a downtrend).

Similarly, trend changes can be signaled by a *moving average crossover*, which occurs when a shorter-term moving average (say, 20 days) crosses above or below a longer-term moving average (say, 60 days). When the shorter average crosses above the longer average, an uptrend is implied; a downtrend is suggested when the shorter average crosses below the longer average.

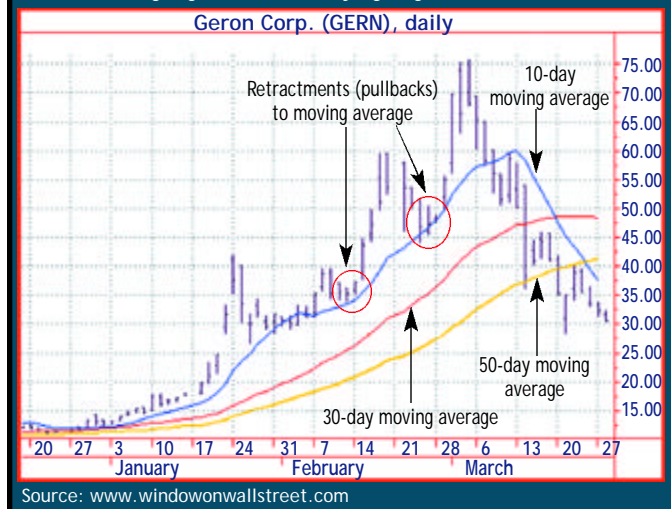
Moving averages also can be used to denote support and resistance. For example, in an uptrend, price can retrace (pull back) to its moving average (just touching or slightly penetrating it, as is the case with the 10-day moving average in Figure 1) and then reverse in the direction of the trend, indicating the conclusion of a temporary correction within the trend.

## Key points

Because they track average price over time, moving averages lag price action in direct proportion to the number of days (referred to as the *period length* or *look-back period*) used to cal-

**FIGURE 1** SIMPLE MOVING AVERAGES

10-day, 30-day and 50-day simple moving averages smooth price action and highlight trend to varying degrees.



culate them. The longer the moving average, the greater the lag. This means that trend changes signaled by longer-term moving averages will occur long after the actual change in price direction has taken place.

Figure 1 highlights this. The longer the moving average, the longer it takes to signal the downtrend (by price crossing below the moving average) that began in early March. The 50-day moving average (yellow) indicates the change more than two weeks after the top.

Notice also that there were many penetrations above and below the 10-day moving average throughout the period shown on this chart. Moving averages do a good job filtering out market noise and highlighting price direction in trending markets. But they are subject to frequent whipsaws (when price crosses repeatedly above and below the average) in non-trending markets, or in any kind of market when the moving average is too short — and thus too sensitive — to price fluctuations.

Figure 2 shows how price stays consistently above the moving average during a strong up move, but repeatedly jumps above and below it when the stock enters a choppy trading range. A basic moving-average trend-change signal — a crossover above or below the moving average — would technically occur with each one of these penetrations, underscoring one of the primary limitations of using moving averages.

One method to avoid overly frequent moving-average penetrations is to increase the length of the moving average. However, this also decreases the timeliness of trade signals.

## Variations

There are other types of moving averages besides the simple moving average. Most of these variations alter the basic moving average calculation to emphasize more recent price action. The two most popular are the weighted moving average (WMA) and the exponential moving average (EMA).

A five-day simple moving average is simply the sum of the five most recent closes divided by five; each day's price is given equal emphasis in the calculation. By comparison, a five-day weighted moving average would multiply each day's

**FIGURE 3** SIMPLE, WEIGHTED AND EXPONENTIAL MOVING AVERAGES

Weighted and exponential moving averages are variations of the simple moving average that place additional emphasis on more recent price action.



price by a certain factor, with the most recent price receiving the heaviest weighting. The sum of these weighted closes would then be divided by the sum of the weighting factors to derive the WMA.

The EMAs a special kind of weighted moving average that uses all the prices available (rather than a set number of bars, e.g., 20 or 50), using what is called a smoothing constant (ranging from 0 to 1) to weight prices.

A full discussion of weighted and exponential moving averages is outside the scope of this introductory article. Visit [www.activetradermag.com](http://www.activetradermag.com) for more information on these tools and consult the other resources listed below.

Figure 3 compares 30-day simple, weighted and exponential moving averages. The distinguishing characteristic of weighted and exponential moving averages is that they will exaggerate the most recent price activity, which is sometimes helpful and sometimes misleading. In this case, the weighted (especially) and exponential moving averages respond more quickly than the simple moving average to the downside reversal.

## Bottom line

The simple moving average is a basic indicator useful for smoothing price action and defining trends, but it is not a sophisticated trading tool. It is impossible to know the “best” moving average length to use to define the dominant trend (despite popular references to 50- and 200-day moving averages) because market conditions constantly change.

In non-trending or highly volatile markets, moving averages can result in repeated “whipsaws” and false signals. Trading strategies built on moving averages generally require extra filters or rules to compensate for these limitations. 📌

## Additional resources

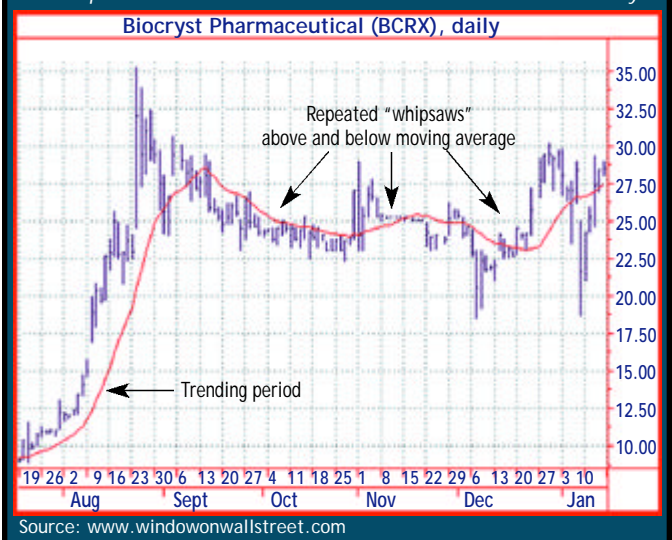
*Technical Analysis of the Financial Markets*, John Murphy 1999, New York Institute of Finance, New York.

*Schwager on Futures: Technical Analysis*, Jack Schwager, 1996, John Wiley & Sons, New York.

*Trading Systems and Methods (3rd Edition)*, Perry Kaufman 1998, John Wiley & Sons, New York.

**FIGURE 2** MOVING AVERAGE WHIPSAWS

Price remains above the moving average during the trending period but “whipsaws” above and below it when the market moves sideways.





# IT ALL ADDS UP

Think you know all there is to know about trends? Take a look at what historical testing reveals about stock market price behavior on different time frames. The results may shape your trading decisions.

BY THOMAS STRIDSMAN

**P**robably your most important job as a trader — especially if you're a fairly short-term trader — is to thoroughly research the price data you use to make a living.

Doing so, if nothing else, gives you an in-depth feel for the markets you are trading, which in turn should help you better interpret the current market situation and determine what time frame to trade on and what kinds of indicators to use.

We'll look at the statistical characteristics for different types of trending and correctional moves in the S&P500 index. In doing so, several questions will be answered, such as: How long does a typical trend last? What are the typical characteristics of corrections? When can a move be considered to have gone too far? What is the likelihood the market will move in the same direction for a certain number of days in a row? And most

**TABLE 1** S&P 500 UP MOVE/DOWN MOVE SUMMARY

*Characteristics of price moves in the S&P 500 index from January 1983 to December 1994 and January 1995 to October 1999 (in parentheses).*

	Move per bar	Number of bars in move	Size of move
Daily data			
All moves	0.68%	1.95	1.34%
Up moves	0.69% (0.77%)	2.04 (2.17)	1.41% (1.68%)
Down moves	0.68% (0.71%)	1.86 (1.93)	1.26% (1.36%)
Weekly data			
All moves	1.52%	1.97	2.99%
Up moves	1.44% (1.78%)	2.29 (2.21)	3.30% (3.98%)
Down moves	1.64% (1.67%)	1.65 (1.52)	2.70% (2.52%)
Monthly data			
All moves	3.32%	1.72	5.73%
Up moves	3.22% (3.47%)	2.09 (3.31)	6.72% (11.93%)
Down moves	3.56% (3.50%)	1.35 (1.25)	4.82% (4.36%)

Source: CSI, proprietary calculations

important: How can I use this information to my advantage in my trading?

The answers to these questions about price behavior depend on the time frame used when asking them. As you shall see, the longer the time frame used to analyze price, the larger the statistical differences between uptrends and downtrends, and the more likely these differences will change over time. That

means what was typical price behavior in the past might not be so typical now and, thus, may be a dangerous guide to making trades.

But because these differences are less noticeable on shorter-term price data, the only type of strategy that will work well regardless of current, long-term market conditions is a short-term strategy with a trade length and look-back

period no longer than the time it takes to make these differences significantly distinguishable from each other.

### Distinguishing characteristics

While market action is not predictable, study reveals different market phases or modes are defined by certain basic characteristics.

These tendencies provide useful guideposts for developing trading strategies. For example, if the market has been in a downtrend four straight months but your research tells you a typical downtrend should last only two months, it probably isn't a good idea to go short when your breakout system triggers another sell signal. Alternatively, if you already are short, perhaps it is a good idea to start scaling back, no matter what your system is telling you.

Similarly, if you know that only 22 percent of all down moves (measured on daily data) last for more than two days, you could set up a contrarian trading strategy that probes the market with a small position whenever the market has fallen for two days or more (based on the high statistical likelihood of a short uptrend to follow). What's more, if you know that only 9 percent of all down moves will result in a decline of 8 percent or more (measured on monthly data), you could take a long position as soon as the market has declined by that

**TABLE 2** LENGTH OF MOVES

*Duration of moves (measured in number of bars) in the S&P 500 index from January 1983 to December 1994 and January 1995 to October 1999 (in parentheses).*

Length of move:	1 bar	>1 bar	>2 bars	>3 bars
Daily data				
All moves	50%	50%	23%	11%
Up moves	46% (43%)	54% (57%)	25% (33%)	13% (15%)
Down moves	53% (53%)	47% (47%)	22% (25%)	10% (12%)
Weekly data				
All moves	50%	50%	25%	11%
Up moves	41% (43%)	59% (57%)	33% (28%)	17% (15%)
Down moves	60% (67%)	40% (33%)	17% (13%)	6% (4%)
Monthly data				
All moves	57%	43%	16%	6%
Up moves	37% (38%)	63% (61%)	23% (46%)	9% (46%)
Down moves	76% (83%)	24% (17%)	9% (8%)	3% (0%)

Source: CSI, proprietary calculations

amount, betting on an extended up move to follow.

### Historical market performance

Tables 1, 2 and 3 provide good starting points to begin experimenting with ideas like these. They compare the characteristics of different kinds of market moves in the S&P 500 over two distinct periods: January 1985 to December 1994 and January 1995 to October 1999. They are broken down according to the time period used to measure the market activity — daily, weekly or monthly. The figures for the January 1995 to October

1999 period are shown in parentheses, next to the figures for the 1985-1994 period.

Table 1, which breaks down the length and size of up moves and down moves, shows from Jan. 1, 1985, to Dec. 31, 1994, the average up move for the S&P500 (measured on weekly data) lasted for 2.29 weeks for an average total gain of 3.3 percent. The average down move (measured on monthly data) lasted 1.35 months with an average total decline of 4.82 percent. (Up moves and down moves are measured from the close of one bar to the close of the next bar. For daily moves only daily bars are used, for weekly moves only weekly bars are used and for monthly moves only monthly bars are used.)

Table 2, which breaks down price moves according to duration, shows that (measured on daily data) 25 percent of all up moves lasted longer than two bars, while only 6 percent of all down moves (measured on weekly data) could be expected to last for three bars or more.

Table 3 shows how many price moves exceed a certain size, indicated by the percentage

**TABLE 3** PERCENTAGE OF MOVES OF A CERTAIN SIZE

*Size of moves in the S&P 500 index from January 1983 to December 1994 and January 1995 to October 1999 (in parentheses).*

Size of move:	1 (2)%	>1 (2)%	>2 (4)%	>3 (6)%	>4 (8)%	>5 (10)%
Daily data						
All moves	55%	45%	20%	9%	4%	2%
Up moves	51% (42%)	49% (58%)	22% (28%)	11% (18%)	4% (11%)	2% (4%)
Down moves	59% (57%)	41% (43%)	18% (25%)	8% (11%)	4% (6%)	2% (3%)
Weekly data						
All moves	26%	74%	53%	36%	25%	16%
Up moves	23% (10%)	77% (90%)	61% (75%)	42% (59%)	28% (41%)	18% (24%)
Down moves	28% (28%)	72% (72%)	45% (43%)	31% (27%)	22% (21%)	14% (18%)
Monthly data						
All moves	25%	75%	45%	35%	19%	12%
Up moves	26% (0%)	74% (100%)	57% (92%)	46% (62%)	29% (46%)	17% (46%)
Down moves	24% (25%)	76% (75%)	32% (33%)	24% (17%)	9% (8%)	6% (8%)

Source: CSI, proprietary calculations

**TABLE 4** PERFORMANCE SUMMARY FOR GOLD DIGGER I, JANUARY 1995 - OCTOBER 1999*Performance of a simple system based on the characteristics of the data in Tables 1-3.*

Total trades	105	Winners	66.67%	Losers	33.33%
Profit factor	2.27	Lrg. winner	3.45% \$11,644	Lrg. loser	-4.20% -\$14,175
Avg. profit	0.43% \$1,467	Avg. winner	1.16% \$3,928	Avg. loser	-1.02% -\$3,456
St. Dev.	1.40% \$4,719	Cum profit	56.10% \$189,338	Drawdown	-7.20% -\$24,300

Source: CSI, proprietary calculations

## Glossary

### Curve-fitted:

The process of tailoring the rules of a trading system or strategy to perform well on specific historical price data. Curve-fit systems usually perform poorly in real trading.

### Look-back period:

The number of days (or hours, minutes, weeks, etc.) used to calculate a trading approach, market study or indicator. A 20-day moving average, for example, has a look-back period (or period length) of 20 days.

### Drawdown:

The amount lost between new equity highs in a trading account. For example, if your current account balance is \$75,000 and you lose \$25,000, you have suffered a 33.3 percent drawdown. If you then trade profitably until your account equity reaches \$150,000, and then lose \$30,000, your latest drawdown is 20 percent. The second drawdown is the largest in dollar terms while the first drawdown is larger in percentage terms.

### Profit factor:

The gross profit of a trading system divided by the gross loss. The higher the profit factor, the higher the profits relative to losses. A profit factor above 1.00 indicates that the system is profitable. A profit factor of 2.00 means that you make two dollars for every dollar lost, and so on.

figures in the column headings. Because the monthly moves are likely to be considerably larger than the daily and weekly moves, the levels for the monthly moves are twice those of the daily and weekly moves (shown in parentheses). For instance, from Jan. 1, 1985 to Dec. 31, 1994, 42 percent of all up moves (measured with weekly data) resulted in an increase of more than 3 percent. Measured with monthly data and over the same time period, 46 percent of all up moves resulted in increases of more than 6 percent.

### From statistics to strategy

To test how these kinds of statistics can translate into a trading plan, you can, for instance, design a system that only goes long as soon as you have a down day that follows a down week that follows a down month. These rules are derived from the information in Table 2 that shows only 47 percent, 33 percent and 17 percent of all down moves measured on the most recent daily, weekly and monthly data, respectively, will last longer than one of the respective bar lengths. In other words, in each instance we have a greater than 50 percent likelihood that the market will go up the following respective periods.

Because of the natural upward drift in the stock market and because of what the statistics in Tables 1-3 have revealed about up moves lasting longer than down moves, the requirements for entering a short position could be two up days, two up weeks and two up months.

Long trades would be exited on the close after two up days in a row; short trades would be exited on the close after one down day on the assumption that a short-term move in the other direction

was likely to follow.

Table 4 shows the result from testing this strategy (called "Gold Digger I," see Trading System Lab, *Active Trader*, April p. 96) on the S&P 500 futures contract from January 1995 to October 1999. The system produced 105 trades, with approximately 67 percent profitable, for an average gain per trade of 0.43 percent (or approximately \$1,392 per contract with today's market value after a \$75 deduction for commissions and slippage). A fairly low drawdown and standard deviation also make this strategy look interesting.

Although these results aren't too bad, it is important to remember this system is designed only to illustrate a simple approach for taking advantage of a market's statistical characteristics. One reason this system is not a particularly good one to trade can be seen if you compare the statistical characteristics in Tables 1-3 for the market during the first 10-year period with the characteristics for the latest five years (in parentheses).

For instance, Table 1 shows that the average magnitude of an up move, measured on monthly data, has grown from 2.09 months and 6.72 percent to 3.31 months and 11.93 percent. In Table 2, for the 10-year period through 1994, there was only a 9 percent chance for an up move to last for more than three months, but for the subsequent five-year period there was a 46 percent chance for the same type of move.

Table 2 also shows that, for the most recent five-year data period, 57 percent of up moves measured on weekly data lasted more than one bar. This is two percentage points less than the 10-year period ending in 1994.

The bottom line is that while the num-

**TABLE 5** PERFORMANCE SUMMARY FOR GOLD DIGGER II, JANUARY 1995 - OCTOBER 1999

*Performance of a simple system based on the shorter-term (daily and weekly only) statistics in Tables 1-3.*

Total trades	107	Winners	62.62%	Losers	37.38%
Profit factor	1.98	Lrg. winner	7.31% \$24,671	Lrg. loser	-4.06% -\$13,703
Avg. profit	0.31% \$1,045	Avg. winner	1.00% \$3,364	Avg. loser	-0.84% -\$2,840
St. Dev.	1.38% \$4,666	Cum profit	37.84% \$127,710	Drawdown	-7.26% -\$24,503

Source: CSI, proprietary calculations

ber of persistent up trends measured on daily and weekly data has decreased slightly, the number of persistent up trends measured on monthly data has increased dramatically.

The same phenomenon also can be seen in Table 3, which shows the percentage of up moves larger than 5 percent (measured on weekly data) has only

ified version of Gold Digger I (we'll call it Gold Digger II) based only on the daily and weekly statistics, ignoring monthly observations. This means that, for instance, a short position now gets triggered as soon as we have had two up weeks and two up days in a row. Looking at Table 2 you can see that, measured on the most recent daily and

a simpler system (less curve fitted) than Gold Digger I, its performance is not quite as good, as reflected by a slightly lower profit factor, a smaller percentage of profitable trades and a much lower cumulative profit. It does, however, seem to be a little more robust, as indicated by its lower standard deviation. This means despite the fact that Gold Digger II is

## The longer the time frame, the larger the statistical differences between uptrend and downtrends.

increased from 18 percent to 24 percent, while the number of up moves larger than 10 percent (measured on monthly data) has skyrocketed from 17 percent to 46 percent, an increase of 170 percent.

This illustrates that such changes can be very hard to detect when looking at shorter time frames. In other words, no matter what long-term mode the market is in, the short-term statistical characteristics are likely to still look the same and be close to stationary.

### Better trading

This is a very important conclusion, because if it is true, the only way to build a reliable mechanical trading system with a good chance of behaving the same way in the future as it did in testing (no matter what the longer-term underlying trend looks like) is to focus on the shorter time perspective. This means using trades that, on average, last no longer than approximately a week or two, using as little historical data as possible for each signal.

To investigate this, we can test a mod-

weekly data, only 33 percent and 28 percent, respectively, of all up moves will go on for longer than two of the respective bar lengths. That is, in each instance we have a greater than 50 percent likelihood that the market will go down the following respective periods.

Even though the corresponding monthly data also suggests a greater than 50 percent likelihood for a down month to follow, we don't use this observation because we cannot trust it as much as we can the daily and weekly observations. This becomes evident if you look at how much the respective differences have changed between the two time periods we analyzed. In almost every instance, the monthly observations are likely to fluctuate much more than their daily and weekly counterparts. The results for Gold Digger II are shown in Table 5.

From January 1995 to October 1999 this strategy generated 107 trades, of which 63 percent were profitable, for an average profit of 0.31 percent (or \$970 in today's market value after slippage and commissions.) Because Gold Digger II is

using less data than Gold Digger I for its inputs, it is more likely to produce similar results in the future to those produced in historical testing and, thus, is a better model for real-time trading.

This suggests the only type of strategy that will work well no matter what the current, long-term market conditions look like is a short-term strategy that keeps the look-back period and the trade length shorter than the amount of time it takes to make these differences significantly distinguishable from each other. That is, keep the look-back period shorter than a month (20 bars if you use daily bars) and the average trade length to one to two weeks, with a maximum trade length no longer than a month.

However, if you still like to trade longer-term, or filter out trading opportunities with the longer-term trend filter, you will be better off using a smaller number of weekly and monthly bars (instead of, perhaps, 20 times as many daily bars, which only will clutter your analysis with unnecessary noise) to more easily identify the trend. 📌

# The trader's TAX EDGE:

## THE 475 ELECTION



Although recent tax laws have given active traders certain advantages when filing taxes, you can't benefit from them if you don't understand them. Here's a look at the bottom-line effect of using the "mark-to-market" election.

BY TED TESSER, CPA

an unrealized gain in your position at year end, which would have to be marked-to-market. This would result in taxable income from open positions.

Other than those two factors, there is really no downside to the 475 election,

and the potential for many benefits remains.

An advantage to electing Section 475 is there is no *wash-sale rule* consideration on a mark-to-market election. Usually, an active trader who buys and sells the

I am often asked by active traders what the benefits are of making a Section 475 (mark-to-market) election. The answer I usually give them is, "It depends."

If an active trader trades anything and has a loss greater than \$3,000 in any one year, the benefits of electing 475 are tremendous. If an active trader shows a gain, there are still some benefits to the election, but there may also be a downside if those gains come from trading either commodities or OEX options — known as Section 1256 contracts. Declaring mark-to-market would negate the benefits of this type of income.

Also, there is the possibility of having

**TABLE 1** THE 475 ("MARK-TO-MARKET") ELECTION: PROS AND CONS

*A breakdown of the advantages and disadvantages of a 475 election.*

Advantages and disadvantages of a 475 election:	
Advantages	Disadvantages
Take losses as ordinary	Must take unrealized gains, if any, at year end
No wash sale considerations	Do not get long-term capital gain treatment for commodities and OEX options
Can carry back losses to prior years	Election is permanent unless you apply for a rescission
Must comply with strict time deadlines and format	

same stock or option on a regular basis would have to defer any loss taken on a trading vehicle he or she sold and then purchased again within 30 days. A trader who elects Section 475 does not have to worry about this compliance.

In 1997, Congress somewhat redeemed the active trader (see "Give Me Trader Status Or Give Me...", *Active Trader*, April, p. 88). The tax act put into law that year contained a landmark section that placed active traders in an even more advantageous position than professional floor traders. With the inclusion of sections 475 (e) and (f) in the new law, traders had the opportunity to elect

were recently enacted by an IRS Revenue Procedure issued in March of last year (Rev. Proc. 99-17).

### **Electing mark-to-market**

You must elect mark-to-market by the time the previous year's tax return is either filed or extended, whichever comes first. What this means is that to elect section 475 for the year 2000, the election must have been made by the filing date of the 1999 tax return or the date the return was extended. (If that date is missed, the only way to elect Section 475 for the year 2000 is to set up a new entity — i.e., a corporation, LLC, or partner-

**If a trader has a loss greater than \$3,000 in any one year, the benefits of electing 475 are tremendous.**

ship — and trade through it.)

Section 475 and to treat all losses as ordinary. Further, in December 1997, the Joint Committee on Taxation issued the Blue Book explaining the new tax law. This report states that, for the first time, trading income is not subject to self-employment tax. (That position has been tempered by the fact the IRS still considers the income to be self-employment income if the trader is operating from the floor of an exchange.) This report, though, will hopefully end the discussion I have been having for years with most of my colleagues, IRS officials and many traders misinformed by erroneous information given to them by their (many times, former) accountants.

The good news is that the Blue Book states:

*"Congress intended that the gain or loss that is treated as ordinary solely by reason of the (475) election would not be treated as...net earnings from self employment..."*

The bad news is that once the IRS got wind of this, they promptly tried to close the barn door before any more horses got away. Constraints on the 475 election

A statement must be attached to last year's extension (or tax return), indicating you have decided to elect Section 475 this year. The statement we use is something along the lines of this:

Election for mark-to-market accounting treatment for traders in securities and commodities for tax year (\_\_\_\_):

Taxpayer is engaged in business as a trader in securities and commodities. The taxpayer herewith elects mark-to-market accounting treatment for traders in securities and commodities pursuant to IRC Sec. 475(F)(1) and (2). This election is made in accordance with IRS revenue procedure 99-17 for tax year (\_\_\_\_) and for its business as a trader in securities and commodities. Income and expenses for this business will be reported on Form \_\_\_\_\_ (whatever tax form the return is filed on — e.g., 1120 for corporations).

Accordingly, the taxpayer records both realized gains or losses for the year, and any unrealized gains or losses on open security positions held on 12/31/\_\_\_\_. Furthermore, in connection with its trading business the

## Glossary

### **Capital asset:**

Property that is not held for inventory or for sale to customers. In this context, it is an asset such as a stock, option or commodity.

### **Capital gain income (loss):**

The income (loss) realized on the sale of a capital asset. Long-term capital gain income (on capital assets held a year or more) is taxed at a maximum 20 percent rate.

### **Ordinary gain (loss):**

The gain or loss generated from the sale of a non-capital asset. The rate of taxation is the taxpayer's ordinary tax rate — as high as 39.6 percent

### **Mark-to-market:**

The process of taking an open position at year end and treating it as having been sold even though the position may still be open. The result of this is the recognition of income or loss (for tax purposes) on positions that are not yet closed out.

### **Section 1256 contract:**

A commodity or OEX index option that is taxed in a preferential manner: 60 percent of its value is taxed as a long-term gain (maximum 20-percent tax rate) and 40 percent of its value is taxed as a short-term gain (which can be taxed at rates as high as 39.6 percent). A 475 election on this type of a gain would make it ordinary and eliminate the preferential tax treatment.

### **Wash-sale rule:**

A sale is considered to be a wash sale if it results in a loss and the item is purchased again within 30 days of the time it was sold. Under most circumstances, wash-sale losses cannot be taken as tax losses. Instead, the loss is carried forward to the next position of the same stock, option or commodity.

income is reported as ordinary income. The unrealized gains and losses are recognized at the close of the taxable year as if such security were sold for its fair market value on the last business day of the year. Proper adjustment to the cost basis will be made for any gain or loss subsequently realized.

Taxpayer agrees to all the terms and conditions in revenue procedure 99-17.

When the actual return is filed, in most cases, a Form 3115 must be included with the return. There are some exceptions when a form 3115 does not have to be filed, but in most instances, it formalizes the election.

The 3115 is a very complicated form, and must be filed in duplicate. If it is not filled out properly, or not filed on a timely and accurate basis, the 475 election will be nullified.

I strongly suggest consulting with a tax professional familiar with this procedure rather than trying to do it yourself.

What you pay the professional will be worth it, as he or she will be able to get you deductions you might miss on your own.

### The significance of a 475 election to a trader with a loss

Let's look at an example using a taxpayer with the following set of circumstances:

- Trading/investment loss: \$100,000
- Other income as follows:
  - Salary: \$200,000
  - Real Estate Income: \$200,000
  - Investment/Trading Expenses: \$200,000
  - Estimated tax payments

made: \$100,000

Looking at the Form 1040 of someone who does not have a Section 475 election (Figure 1), you will note several things. First of all, on line 13 (capital gain or loss) you will see that of the \$100,000 loss, only a \$3,000 deduction was allowable.

By comparison, Figure 2 shows the Form 1040 of a trader who has elected section 475. On the same line, there is no capital loss deduction. Instead, the full loss (\$100,000) is added to trading expenses and marked as a \$299,178 deduction on line 12 (Business income/loss). This is because a trader making the 475 election has now transformed a capital loss (limited to \$3,000) into a fully deductible business loss.

Additionally, much of the trading expense could not be deducted by someone who is an investor (as opposed to a

**FIGURE 1 FILING WITHOUT A 475 ELECTION**

Without a 475 election, capital losses are limited to \$3,000 per year.

**FIGURE 2 FILING WITH A 475 ELECTION**

With a 475 election, losses and expenses related to trading can be deducted as business losses.

# What you pay **the professional will be worth it**, as he or she will be able to get you **deductions you might miss on your own.**

trader) in the eyes of the IRS. (See "Atale of two returns," *Active Trader*, May p. 96, for a discussion of the implications of being able to transform investment expenses to trading expenses.) For a trader, these expenses are deductible "above the line," and many more expenses can be taken in any one year.

Figures 3 and 4 highlight the other differences that result from electing 475 and trader status. On line 36 of Figure 3 (the second page of the investor's Form 1040), you will see that out of the \$199,178 taken as ordinary deductions for the trader, the investor got to deduct only \$78,827.


In Figure 4 (the second page of the trader's Form 1040), line 36, you will

notice the trader received the standard individual deduction of \$4,250 in addition to the \$199,178. As also discussed in "Atale of two returns," in most cases, there will be no Alternative Minimum Tax for traders, whereas many investors will be subject to it (line 51, Figures 3 and 4). A trader in this case also will be entitled to a \$2,700 exemption, where an investor will not, because of an income-based phase-out (line 38, Figures 3 and 4).

If you look at Figures 3 (line 68) and 4 (line 66a), you will see the difference in tax. As an investor not filing with a section 475 election, the taxpayer would owe another \$7,660 in tax. This is in addition to the \$100,000 paid in esti-

mates throughout the year. By contrast, as a trader filing with a section 475 election, the taxpayer would get back more than \$76,000 in tax refunds.

This swing of \$83,660 in Federal Tax between an investor not electing Section 475 and a trader who does clearly shows the significance of the Section 475 election.

Again, please keep in mind that this is a very complicated section of the code and I strongly suggest you consult with your tax professional prior to doing this yourself. 

For Free Trader Status evaluation question - naire call (800) 556-9829 or e-mail [TBtesser@aol.com](mailto:TBtesser@aol.com).

**FIGURE 3 FILING WITHOUT A 475 ELECTION**

Although this trader had already paid \$100,000 in taxes, he owes another \$7,660.

**FIGURE 4 FILING WITH A 475 ELECTION**

The 475 election allows this trader to receive a tax refund of \$76,036.



# Fourplay pyramiding strategy

**Market:** Stocks, stock derivatives, index shares (SPDRs, DIAs, QQQs).

**System logic:** This system really is more of an intermediate-term pyramiding technique to take advantage of a strongly trending market. It can be combined with any entry technique that tries to capture trends that could be expected to last between two and four weeks.

**Rules:**

**Enter on the close (long side only) if:** today's close crosses above its 50-day moving average.

**Pyramiding technique:**

1. Add the same number of shares/contracts as in the initial entry (in this case 100 shares) as soon as the market moves 1 percent in your favor.
2. Continue to add the same number of shares/contracts as soon as the market moves twice the distance of the last add-on (i.e., as soon as the market has moved 2 percent, 4 percent, 8 percent, 16 percent and so on from the initial entry).

**Exit:**

Exit on the close on a cross below the 50-day moving average.

**Test period:** Jan. 1, 1990, to Feb. 15, 2000.

**Test data:** Daily stock prices for all stocks comprising the Dow Jones Industrial Average; no money deducted for commissions.

**Starting equity:** \$100,000 (nominal).



trade. Too many bad signals during consolidation periods because of the general drawback of using a moving average as the initial entry trigger, but also because of the many add-on trades. It often takes as many as four add-on trades to produce a profit (hence, the name).

**Conclusion:** Considering the low number of profitable trades it is amazing this model still manages to produce a return of more than 10 percent per year. The results would likely be improved considerably by changing the moving average entry/exit technique, by adding a tighter trailing stop, by using a fixed fractional money management regimen and by adding a percentage-based stop.

SYSTEM SUMMARY			
<b>Profitability</b>		<b>Trade statistics</b>	
End equity (\$):	272,832	No. trades*:	7,962/2,904
Total (%):	173	Avg. trade (\$)*:	22/60
Year (%):	10.56	Tr./Mark/Year*:	26.5/9.7
Profit factor:	1.23	Tr./Month*:	66.4/24.2
<b>Risk measurers</b>		<b>Time statistics</b>	
Max DD (%):	29.70	Longest flat (m):	15.10
Largest loss (\$):	-3,931	TIM (%)**:	100/64.8
Winners (%):	14	Avg. days:	17.13

Source: CSI, Unfair Advantage

\* First value indicates all entries, including add-on trades. Second value indicates the initial entry only.

\*\* First value indicates the entire portfolio. Second value indicates average time per market.

**Buy-and-hold stats:** Total return — 267percent  
 Max DD — 22 percent  
 Longest flat period — 12 months

**System drawbacks:** Very low average profitability per

Legend:
Total (%): total percentage return over test period
Year (%): annualized avg. return per year
Profit factor = gross profit/gross loss
No. trades: number of trades
Avg. trade: dollar amount of average trade
Tr./Mark /Year: trades per market per year
Tr./Month: trades per month
Max DD (%): maximum drawdown (equity loss)
Largest loss: biggest losing trade
Winners (%): percentage of winning trades
Longest flat (m): longest period spent between two equity highs, in months
TIM (%): amount of time system is in the market
Avg. days: average trade length

*Disclaimer: The Trading System Lab is intended for educational purposes only to provide a perspective on different market concepts. It is not meant to recommend or promote any trading system or approach. Traders are advised to do their own research and testing to determine the validity of a trading idea. Past performance does not guarantee future results; historical testing may not reflect a system's behavior in real-time trading.*