OCTOBER 2000 ISSUE

Wielding the tools of trading

More tools, more speed, greater reach.

Never has there been so much technology devoted to giving traders greater power over their trades — how they get and use the information that goes into making a trading decision, how they execute their trades and how much they pay for them.

But with that power comes responsibility. Much trading technology is the proverbial double-edged sword: Its potential rewards can only be reaped if you have the time and patience to learn its nuances and accept its realities.

You can go out and buy a set of top-of-the-line tools or a sports car, but that doesn't automatically make you a master carpenter or a Formula One driver. Similarly, a trader armed with real-time data and a direct-access brokerage does not become a seasoned market maker overnight. In fact, he or she can't become a market maker — period — because, despite the technological advances retail traders now enjoy, the existing Nasdaq order execution rules still heavily favor professional market makers.

> Trading technology is the proverbial double-edged sword.

We've commented before on the myth of the level playing field (see "Level II quotes: Decoding supply and demand," *Active Trader*, June, p. 30). Simply, market makers are allowed to do things we can't, such as watch order flow come in while they decide whether or not to take a particular trade (or only fill part of it). Although developments such as SuperSoes and SuperMontage (see "Inside the Market," *Active Trader*, September, p. 15) may eliminate some of these advantages (if and when they come to pass), for now, the game is what it is. If you want to play, you have to pay.

That it's still a market maker's game is partially the subject of "What you see is (not) what you get" on p. 36. This story underscores the reality that direct-access, Level II trading is a battlefield that must be tread with open eyes and instincts just as quick to flight as fight, depending on the situation. If you're not familiar with the games market makers play — bidding when they need to sell, offering when they want to buy, hiding size and shifting orders — you can quickly find yourself on the losing end of the trading equation. Careful study and lengthy preparation are necessary to be able to recognize the patterns that provide a clearer picture of order flow.

Also in the Trading Strategies section is a look at a short-term IPO strategy designed to isolate an intraday pullback and catch stocks as they're taking off. The "hot IPO" market might have cooled off lately, but there are still ways to take advantage of profitable short-term moves in new stocks.

It's not often you can have your trading cake and eat it, too, but in "More bang for your buck: patterns within patterns," (p. 48) we look at how you can structure trades with very short-term risk and longer-term profit potential by looking for consolidations within consolidations. Rounding out the Strategies section is an article by Teresa Lo on how to combine Western test and retracement analysis with Japanese candlestick reversal patterns.

Also this month, we kick off a new section, "Advanced Strategies," dedicated to higher-level trading and analysis techniques. Senior editor Thomas Stridsman addresses two key weaknesses of many common technical indicators and illustrates ways to build more reliable, statistically sound short-term trading tools.

In this month's Hardware, Software & Communications story ("Tech frontier," p. 30), CyberCorp chairman Philip Berber points out the hurdles to tomorrow's electronic, global, 24-hour direct-trading environment have more to do with regulation than technology. However, it is technology that is forcing proposed changes in trading regulations and how exchanges do business.

In our Inside the Market section, associate editor Jeff Ponczak takes a look at some long-standing rules — including the short-sale (uptick) rule, and the selective disclosure of important company/financial news to preferred clients and analysts — that are coming into question or falling by the wayside.

In today's trading world, the challenge doesn't seem to be so much developing the necessary technology to empower traders, but developing a market and regulatory structure that can respond quickly enough to the sweeping changes technology is forcing on the trading industry.

Mark Etzkorn, Editor-in-chief

THIS MONTH'S Contributors

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▼ **Steve Wendlandt** has more than 15 years of trading experience in the stock, futures and options markets. He is currently the chairman of Sequoia Capital Management Inc. and a full-time trader with Online Investment Services in Houston. He was also a former Commodity Trading Advisor specializing in mechanical systems trading. Wendlandt primarily focuses his time researching and trading U.S. equities and options. He can be reached at (713) 822-5855 or tradersdw@aol.com.

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▼ **John Saleeby** is a Chicago-based trader who was featured in the May *Active Trader* Interview (see "John Saleeby: Mastering the trading arcade" on p. 70 of that issue). During the course of the interview, Saleeby made the stock market calls (and trades) that are the subject of his article in this month's Big Picture section ("Profiting from intermarket analysis," p. 96). He can be reached at incatrading@hotmail.com.

▼ **Kiara Ashanti** is a Florida-based writer, editor and private trader. He has been in the financial industry for the last five years, and trading the last two. As a freelance writer, he has written for BET.com, the *Tampa Tribune*, and *Profit Magazine*. Currently, he is working on a book about day trading.

Big screen

In the past few years, there's been no dearth of Web sites that allow traders to use and customize charts, and news and research sites have been around almost as long as the Web itself. A newer and expanding "genre" of trading-related Web sites is the screening site, which allows traders to find stocks that meet specific technical and fundamental criteria.

One of the latest entries into the field is MarketScreen (www.marketscreen.com). On the home page, in addition to selected news stories from six different organizations, is one of MarketScreen's pre-selected stock screening lists. Using a drop-down menu, you can sort stocks based on 21 different screening categories, ranging from Bollinger Bands to Moving Average Convergence/Divergence and MACD Histogram to Market Overview to Weighted Moving Average Crossover.

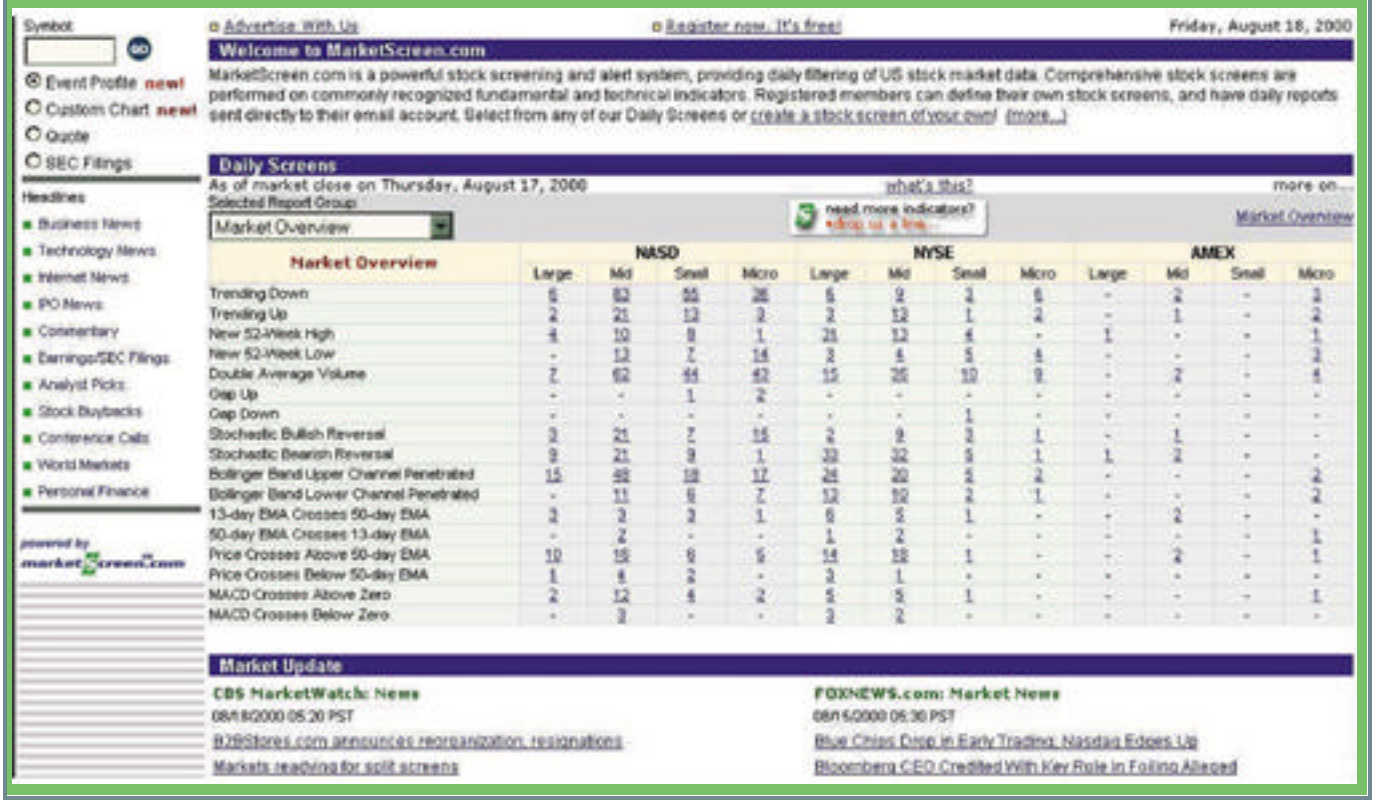
The subcategories for each screen are different. For example, in the Relative Price category, there are 10 different criteria such as new 52-week high, 40 percent off 52-week low and 80 percent off 52-week high. In the Market Overview category, there are 17 different sub-sections, from trending down to stochastic bullish reversal to MACD crosses below zero (there's an extensive education section on the site that provides an explanation of all these different terms; often you can click on the term and a separate box with a definition will appear). Unfortunately, searches are not real-time — MarketScreen's biggest drawback. All screens are based on a stock's most recent closing price (i.e., Tuesday's screens will be based on Monday's close).

When showing screening results, MarketScreen separates stocks into Nasdaq, NYSE and American Stock Exchange, then into Large Cap, Mid Cap, Small Cap and Micro Cap, showing the number of stocks in each category. On the day we reviewed the site, for example, there were 29 Nasdaq Mid-Cap stocks whose 7-day moving averages crossed their 13-day moving averages. Clicking on the number gives you a list of all the stocks along with their previous closing price, volume and percentage from 52-week high and low. You can get a profile and/or quote of all the stocks (both courtesy of Silicon Investor), or you can access a chart, which, if you're a registered member, is customizable (registration is free).

MarketScreen allows you to configure your own screens and combine different screening criteria. You must be a registered user to access customized screens. You can mix and match 16 different fundamental indicators (such as market cap, P/E ratio, earnings) and 20 different technical indicators (such as EMA crossover, relative price, candlesticks). Unfortunately, you can only mix technicals with technicals and fundamentals with fundamentals; you cannot cross-mix the indicators.

MARKETSCREEN.COM

MarketScreen.com allows you to search for stocks using a wide variety of criteria.



You can, for example, search for stocks that have gapped up more than 5 percent on bullish On Balance Volume. Or, stocks in the financial industry priced between 50 and 75 that closed at a 52-week high. All customized searches can be saved and used again. However, you cannot adjust the parameters of individual indicators (the number of days used to calculate a moving average or stochastic, and so on). The site shows screening results for several indicator-length values (for example, 20 different moving average combinations), but this still isn't the same as being able to customize your own indicators to use in a screen.

Another benefit for registered users is the stock alert feature. Users can be alerted daily via e-mail as new stocks meet their screening criteria.

MarketScreen also offers an Event Profile. This allows you to type in the name of a stock and receive all the categories it fits into for any day from the most recent close to the close five days ago. For example, when we typed in ORCL (Oracle), MarketScreen told us on that particular day Oracle met 20 different criteria, such as it closed above its 7-day weighted moving average and its OBV was bullish. However, when we checked the site over several days in mid-August, it had a bad habit of listing every stock as 20, 40, 60 and 80 percent off its 52-week low or 52-week high — even the ones that did not come close to meeting this criteria. And, when you clicked on these terms to get a definition, all that came up was an error message.

Despite the lack of real-time data, MarketScreen is a useful search tool as its many possible permutations allow traders to get quite specific in their screens. That, coupled with the charting and e-mail delivery options, makes MarketScreen a handy tool for traders.

On the chart

The numerous interactive charting sites available on the Web won't do you any good if you don't have a basic understanding of charts (and the indicators that go with them) in the first place. ChartHelp (www.charthelp.com), which only began in July, is just what it sounds like — an educational site that provides a good explanation of different chart patterns and indicators. Best of all, it's free (registration is required).

Actually, the site gives minimal information on the four basic types of price charts (bar, line, point and figure, and candlestick), but it more than makes up for it with the detail it has on patterns and indicators. For starters, you can download (in either Adobe Acrobat or Word) the formulae for 18 different indicators, from simple and exponential moving average to the swing index.

CHARTHELP.COM

ChartHelp.com provides information on charts and indicators.

The bare minimum needed to decipher price charts is an understanding of basic patterns, and ChartHelp does a good job of explaining trendlines, breakouts, triangles, and tops and bottoms. Descriptions and rules of interpretation of each specific type are given (i.e., support and resistance, ascending and descending triangles, head-and-shoulders) with visual help provided by price chart examples.

In-depth chart analysis, though, requires knowledge of numerous indicators, and ChartHelp lists 50. However, because of the newness of the site, it doesn't give a definition or analysis of all of them. That's too bad, because when ChartHelp does explain an indicator, it does a thorough job of it, again using visual examples from charts to make it easier to understand.

ChartHelp eventually plans on having a definition and explanation for all the indicators, and when they do, there's an on-site charting option so you can apply what you've just learned. There's also a fairly extensive technical glossary (you can have it open in another window so you always have access to it), and ChartHelp will send you a bi-monthly newsletter. (The first newsletter dealt with trendlines and moving averages; the second with the moving average convergence/divergence.)

So if you're new to the trading game or just looking to brush up on your technical analysis basics, chart a course to ChartHelp next time you're surfing the Web.

NEW Products

▼ **Terra Nova Trading** (www.terranovatrading.com) now offers its customers business-class DSL access. This comes as a result of a deal between the online brokerage firm and broadband service providers Big Net and Covad Communications. Terra Nova clients who execute more than 50 trades per month will receive the DSL connection free. Less active traders can get the service at a discount.

▼ **On-Site Trading Inc.** (www.onsitetrading.com) has partnered with trading and investment software developer Neovest Inc. (www.neovest.com) to add Neovest's FirstAlert trading software to its system. FirstAlert filters stocks according to criteria set by the trader and alerts the user to actionable opportunities as they occur in real time. The On-Site Trading version of the FirstAlert system will include the company's proprietary S.M.A.R.T. Trading Technology, which searches all market makers and ECNs for the best price.

▼ **SwingWire** (www.swingwire.com) is an online investment "community" where investors and traders can share real-time market ideas, stay updated on market conditions and movements, and learn from experienced market players. Launched in late August, the site allows members to test their stock-picking skills or new trading methods in real time, access chat and message boards, and view, in depth, portfolios of the SwingWire CyberAnalysts. Visit the Web site for more information on joining or on becoming a CyberAnalyst.

▼ Traders using **MarketXT** can now get after-hours equity market news and analysis from MidnightTrader.com, as a result of a recent partnership between the two companies. MidnightTrader.com began streaming its customized news feed on Market XT's Web site in late summer.

▼ New traders looking for pointers may want to check out **TradersCoach.com**, an educational Web site focusing on aspects of trading from system development to psychology. Bennett McDowell, who is a trader and manages many active trading accounts, developed the site and has published "The Survival Guide for Traders," another tool for novice traders with tips on how to set up and organize a trading business. For more information visit www.traderscoach.com.

▼ **CyBerCorp** has released its CyBerX2 platform, which combines features from its CyberX product and CyberTrader including charting capabilities and streaming Level II data. (CyBerX2 can be ordered with the Level II data feed function deactivated.) With CyBerX2, users also have the ability to trade options from a real-time streaming option quote chain. A complete list of options for each individual month is displayed, along with the price, symbol, net change, bid and ask. Visit www.cybercorp.com for a demo of the product.

▼ Online broker **RJT.com** has added free real-time streaming quotes to its client offerings. With "Jet Stream," users can program up to nine pages of quotes containing a total of more than 200 individual stocks and choose whether quotes appear in fractions or decimals. Fundamental data, such as 52-week, high-low price and date, P/E ratio, EPS and ex-dividend dates, and a customizable toolbar are features, as is an alarm that signals when pre-programmed levels are reached. For more information go to www.rjt.com.

▼ **BigEasy Investor** (www.bigeasyinvestor.com) is a free screening, charting and investment support program intended for both novice and seasoned traders/investors. Among the product's features are two screening tools: Easy Screening, with which users can select from more than 120 pre-defined screens using popular criteria; and Big Screening, with more than 300 configured screens that users can choose "as-is," or customize. Another component is BigEasy Investor's Candlestick Guru, which recognizes more than 70 significant candlestick patterns and paints a red box around the pattern for easier identification.

▼ **Paritech,** a provider of tools for traders/investors in Asia, has entered the U.S. with an office in San Francisco. The company is distributor for analysis programs such as Meta Stock and OmniTrader and also runs software training courses globally. For more information, visit www.paritech.com.

Send your new product information to:
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TECHFRONTIERS

What will trading be like a year from now?

Emerging technology promises to plug traders into the markets more directly than could have been imagined just a few short years ago. We'll take a look at some of the new developments on the hardware, software and communications front.

BY MARK ETZKORN AND THOMAS STRIDSMAN

It's more than a little ironic that the communications technology threatening the traditional brick-and-mortar exchanges is actually on the verge of making electronic trading a more "human" experience. While proponents of open-outcry auction markets argue face-to-face is still the best way to do business, new developments in real-time audio, video and voice recognition, among other advancements, promise to give online trading a much more personal — and sophisticated — touch in the not-too-distant future.

The picture of today's short-term trader is primarily that of an individual tethered to a computer screen during regular market hours, scrolling through quote screens and charts, and pointing, clicking and pecking away at a keyboard to enter orders.

But if you listen to Philip Berber, founder and chairman of direct-access broker CyberCorp, a trading future filled with hands-free technology, increased mobility and greater access to round-the-clock global trading is not far off. Increased integration of brokerage services, data and analytical tools — fueled by fatter bandwidth — will bring the markets more directly to individuals. Traders will effectively be wired into a "virtual trading room" that gives them direct access to not only stocks, but options, futures, currency and interest rate markets — around the clock, nearly every day of the week.

Berber, who delivered the keynote address on emerging trading technology at the Online Trading Expo in Ontario, Calif., in August, portrayed a rapidly evolving industry that will be driven by the need to bring ever-more sophisticated services to an increasingly demanding trading public. Among the developments he sees on the horizon:

• Improved voice-recognition software technology ("natural language parsing") that will allow traders to enter orders by voice.

• A multi-stock Level II screen.

• A move away from tabular, text market information toward more graphical, "cognitively intuitive" data displays.

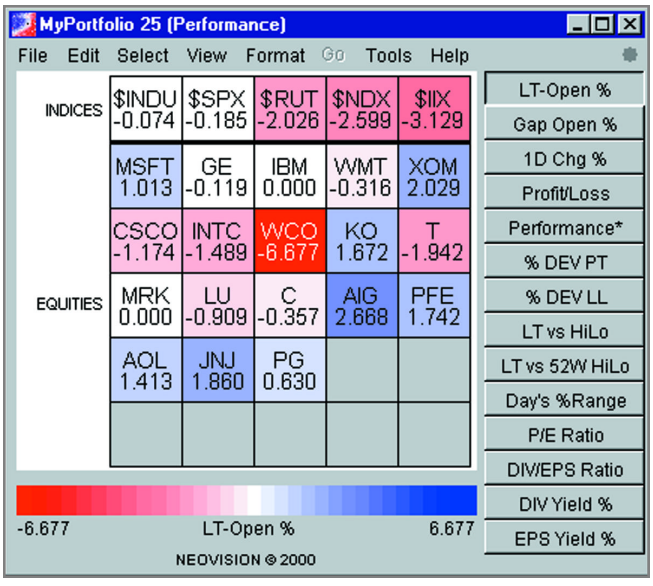
• Real-time chat and audio that will allow you to do things such as communicate with your broker's support in real-time without a phone, as well as interact with other traders.

• Expanded wireless technology that will give traders more mobility, enhanced by integration with the aforementioned voice-recognition technology. Going on the road? Talk into your Personal Digital Assistant (PDA) to enter your order.

• Integration of advanced screening and analysis tools that will allow you to find stocks and other instruments that fit your specific fundamental and technical criteria, in real time.

• Enhanced conditional order capability, and intelligent order entry and routing functions will allow you to place orders away from the market based on various price, technical, or fundamental factors, further freeing you from your computer screens.

Some of these develop-



Neovision Heatmap

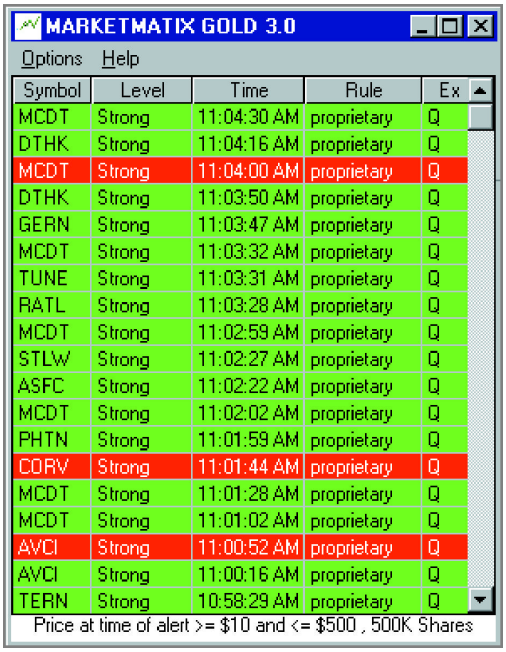
ments, such as real-time chat support and wireless technologies, are already in use, in one form or another. Others, such as a new generation of voice-recognition software that doesn't require the extensive "training," and which can process speech regardless of accent or other small idiosyncrasies, may be rolled out in the next 12 months or so.

The technology that made the Electronic Communication Networks (ECNs) and direct-access brokers possible has had a profound impact on the trading industry, Berber says. For one thing, technology is blurring the lines between traditional exchanges and ECNs (as evidenced by several ECNs' ongoing efforts to acquire exchange status and Archipelago's merger with the Pacific Stock Exchange). The trend is irrevocably toward integrated, electronic markets.

FloorPass

In fact, Berber says, bringing near-total access to the global markets to the individual trader's desktop is not so much a matter of solving technical problems but of cutting through various forms of red tape among different exchanges and governments.

"The technology hurdles are not as significant as the regulatory and compliance ones," he says. "Now you're not just dealing with the NYSE and Nasdaq, but with exchanges and regulatory bodies around the globe." As a result, Berber thinks round-the-clock access to stock, option, currency and futures markets from a single trading platform is likely still several years away.



Symbol	Level	Time	Rule	Ex
MCDT	Strong	11:04:30 AM	proprietary	Q
DTHK	Strong	11:04:16 AM	proprietary	Q
MCDT	Strong	11:04:00 AM	proprietary	Q
DTHK	Strong	11:03:50 AM	proprietary	Q
GERN	Strong	11:03:47 AM	proprietary	Q
MCDT	Strong	11:03:32 AM	proprietary	Q
TUNE	Strong	11:03:31 AM	proprietary	Q
RATL	Strong	11:03:28 AM	proprietary	Q
MCDT	Strong	11:02:59 AM	proprietary	Q
STLW	Strong	11:02:27 AM	proprietary	Q
ASFC	Strong	11:02:22 AM	proprietary	Q
MCDT	Strong	11:02:02 AM	proprietary	Q
PHTN	Strong	11:01:59 AM	proprietary	Q
CORV	Strong	11:01:44 AM	proprietary	Q
MCDT	Strong	11:01:28 AM	proprietary	Q
MCDT	Strong	11:01:02 AM	proprietary	Q
AVCI	Strong	11:00:52 AM	proprietary	Q
AVCI	Strong	11:00:16 AM	proprietary	Q
TERN	Strong	10:58:29 AM	proprietary	Q

MarketMatix

Trends and products

The latest software and hardware on display at the Expo backed up Berber's contentions. Obvious trends include the continued proliferation of direct-access brokers, more widespread use of high-bandwidth online and network connections, integration of analytical tools and trade execution, and new ways to distribute and display market data. We picked out a few representative products.

One item that typifies the spread of simplified, intuitive graphical representation of market action is the Heatmap by Neovision (www.neovision.com). The program uses different grids of color-coded boxes that signify how much a market is up or down, or the level of volatility, or some other measurable indicator (see p. 30). The theory is that it's easier and quicker to absorb information this way then to have to read the typical text quote.

For example, you can set up a portfolio, and click to see percentage moves in the different stocks. The darker blue a box is, the more that stock is up; the darker red a box is, the more the stock is down. Click on the stock and you get a detailed version of the stock's stats. Neovision already has versions of the software for Bloomberg, Bridge/Telerate, eSignal and Reuters, and it can run as a stand-alone program as well.

Another color-coded price-change display from CyberCorp's CyberX2 trading platform is shown below.

Stock search/screening functions are becoming increasingly familiar additions to direct-access broker analytical toolboxes and financial Web sites, but many of them are rudimentary and most of them (especially the Web versions) function on a delayed basis. You plug in a few criteria — volume, price level, perhaps a fundamental input such as P/E ratio or information on a technical indi-

Tech round-up

Product	Company	Web address	Phone
Heatmap	Neovision	www.neovision.com	N/A
MarketMatix	MarketMatix	www.marketmatix.com	(949) 608-0140
FloorPass	Velocity Trade	www.floorpass.com	(877) 953-5274
PocketGenie	WolfeTech	www.wolfetech.com	(909) 596-2700
HandTrade	HandTrade.com	www.handtrade.com	(631) 592-1370
Visor Deluxe	Handspring	www.handspring.com	(650) 230-5000

PocketGenie

cator or two — and you get a list of stocks that, based on yesterday's closing price, fit your profile.

MarketMatix (www.marketmatix.com) is a stand-alone screening tool that searches the entire stock market and, using a set of proprietary algorithms, finds stocks that are gaining momentum and streams the real-time results directly to you through a pop-up window. You see the direction the stock is moving, the intensity of the move, the time of alert and the criteria being used to generate it (see p. 31). Of greater interest to many traders is the company's plan to allow users to set up customizable searches in addition to the product's built-in screens.

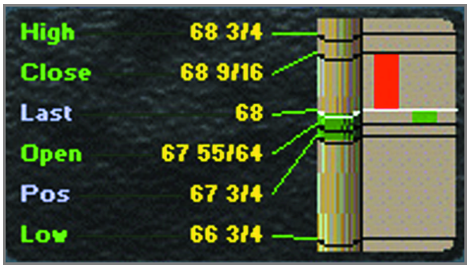
MarketMatix is currently offering a free 10-day trial. Subscription to the service costs $48.88 per month (two months free when you pay upfront for a year).

One company standing at the crossroads of high-tech communications and the traditional trading floor is FloorPass (www.floorpass.com), which caters to active stock index futures traders. FloorPass offers a complete trading setup featuring dual flat-panel monitors, wireless keyboard and mouse, and digital camera (see p. 31). The setup eschews the Internet in favor of a private network — you connect directly to them, bypassing potential ISP connection glitches. In addition to its more traditional quote and charting capabilities (courtesy of eSignal), the product features a live "squawk box" connection to the S&P futures pit and direct-to-the-pit order entry (to the S&P, Nasdaq and Dow futures).

The digital camera is used to enable two-way live audio connection with company support. A window opens up so you can talk in real-time with FloorPass help when you have a problem. The setup, technically, is free. You get to use it when you open an account with an affiliated broker.

Improved wireless technology will make mobile trading more reliable than it's been in the past. If you need to take your trading on the road, you might want to look at PocketGenie from WolfeTech (www.wolfetech.com). PocketGenie is a software application that provides wireless Internet access to your text-based pager (see above, left).

So, in addition to staying in contact with your near and dear ones and providing up-to-the-minute news alerts,



CyberX2

your pager can connect to your online broker for direct access to your account, where you can get real-time quotes, track your portfolio holdings and even place orders. All communication using the PocketGenie is encrypted to ensure secure transactions. Unlimited service is $14.95 per month.

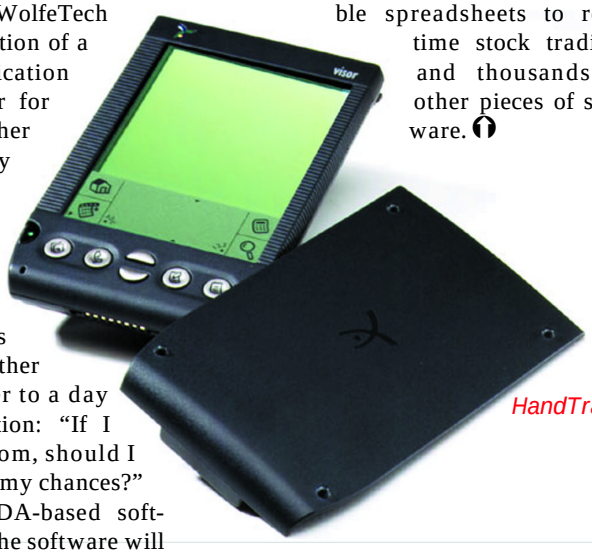
Earlier this summer, WolfeTech also announced the addition of a WAP- (Wireless Application Protocol) based browser for two-way pagers and other PDAs, which essentially will give your handheld device the same browser capabilities as your computer.

HandTrade.com (www.handtrade.com) is taking things one step further by providing the answer to a day trader's common question: "If I need to go to the bathroom, should I exit all my trades or take my chances?"

With HandTrade's PDA-based software, it doesn't matter. The software will allow you to trade in real time from virtually any location, turning your PDA into a trading platform complete with streaming Level II, portfolio tracking with alarm capabilities, charting capabilities and order placement with any direct-access brokerage company. To stay connected, you will need to hook up your PDA to your cellular phone or to a wireless modem. Currently, with the product in beta testing, the service is priced at $50 per month. The future targeted market is an estimated 400,000 professional and 8 million part-time day traders around the world.

In the near future, HandTrade.com predicts that you should be able to perform the same functions on your video-enabled, third-generation wireless phone with full multimedia capability. Despite the limits set by today's cellular phone and PDAstandards, the program seems very user-friendly with all the necessary features in all the right places.

Speaking of Palm-compatible PDAs, check out the new Visor Deluxe, from Handspring (www.handspring.com). It's priced at $249, the same as the Palm IIIxe, but with a few more features added (including expandable memory and a built-in microphone), and slicker design and add-on hardware. Visor runs on the same OS as the regular Palm Pilot and can, therefore, make use of the same programs provided by a wide variety of third-party program vendors. Check out www.palmgear.com, where you can shop for more than 220 finance-related products, ranging from Excel-compatible spreadsheets to real-time stock trading, and thousands of other pieces of software.



HandTrade

Product REVIEW:

Fundamentals of Direct Access Trading

Product: Fundamentals of Direct Access Trading, version 1.0

Company: Online Trading Academy (www.tradingacademy.com)

Phone: (888) 841-8418 or (949) 930-2088, 6:30 a.m. to 7:00 p.m. (PST)

Online contact/customer service: info@tradingacademy.com

Price: $295

Required system: **Windows:** Pentium 133, 32 MB RAM 16-bit color display Windows 95/98/NT/2000 or higher. Screen display should be set to 800x600 or higher. **Macintosh:** Power PC, G3 CPU RUNNING MAC OS 7.0 or higher, 32 MB RAM. The program runs off the CD, so hard drive space is not necessary unless program is purchased via the Internet as a download.

BY KIARA ASHANTI

One of the interesting things about being involved in the start of a new industry is that you get to witness its various growth stages. The last couple of years have seen a dramatic increase in the use of direct-access trading systems, as well as efforts to educate traders on how to use these trading platforms.

Previously, this was done via books, seminars or online courses. Now, however, the Online Trading Academy (OTA) has moved into the realm of personal multimedia instruction with its "Fundamentals of Direct Access Trading" CD-ROM course. The training course is a scaled-down version of OTA's one-week Boot Camp Level II trading course.

Any computer with a CD-ROM or DVD drive can run the course. The program is completely independent and requires no downloading (unless you purchase it as a download from the Internet). It's divided into 12 training modules that cover everything from market history, order routing, Level II screens, time and sales, and order types, to risk management, short selling, charting and trading strategies. Each section lasts about 40 minutes and has a quiz at the end so you can gauge your understanding of the material. OTA uses TradeScape's direct-access trading interface throughout the course.

OTA makes good use of interactive multimedia technology. The graphics are crisp, and the audio commentary is clear. Each section that a student has to understand is given its own module. This separation makes it easier to learn the screens individually and not be distracted by other information they will learn later. While the speed on the trading screens is greatly reduced, it nonetheless gives a good indication of how real trades look and feel on a direct-access screen.

The short quizzes in each section require you to answer before proceeding

Online Trading Academy's direct-access trading multimedia course spans 12 modules and topics ranging from order entry to risk management.

to the next screen page. This not only ensures that you are absorbing the information, but also keeps you from feeling as if you're being "talked at" by your computer. If you don't understand something or missed a question, you can click on a "back" button to repeat the previous information.

Sprinkled throughout the CD-ROM are demos showing 30-second clips of OTA trainers putting through orders in real-time. However, the movement and commentary might be too fast to follow for novices or traders not accustomed to direct-access screens.

Additional features include a help menu that lists major market makers, a glossary of financial terms and "trader" slang, a very helpful list of economic indicators, a trading ruler that converts fractions to decimals and a template for tracking your trades. (While the glossary is extensive, it contains words that are not discussed in the modules, leaving you no context as to how it pertains to direct-access trading.)

One notable section of the help menu that could be improved is a list of common trading errors. The list is in written form; this section would have had more impact as a separate module with audio examples. Finally, while the information in a video portion that provides quick advice on various subjects from OTA trainers and traders is valuable, the video is a little choppy and skips a beat like a scratched record.

Ultimately the only thing that matters is whether this CD-ROM delivers its promise as a good training tool. And the answer to that is a strong "Yes." OTA has placed enough tools and information on this product to make it a very useful guide for novice traders. The explanations on how to use the tools of a direct-access trader are clear and understandable. The graphic examples of what to look for when trading are great (with the exception of the demos). In keeping with OTA's overall focus on risk management, the moderator continually shows how a trade can turn bad, and the financial consequences that can result if it does. Another strong point is the program's thorough explanation of margin — what it is, how to use it and how it can hurt you.

"Fundamentals of Direct Access Trading" won't turn you into a star trader, but that's not its purpose. It gives beginners enough information to know what to look for as they begin paper trading on a direct-access system.

So if you're looking to get into day trading, or you are thinking about switching from a regular online broker, this product is a good beginning supplement to the reading and seminars you'll need to make it in the direct-access trading world.

PRODUCT SUMMARY

Product: Fundamentals of Direct Access Trading, version 1.0

What it is: Multimedia training course that is a simplified version of the Online Trading Academy's (OTA) Boot Camp Level II trading course. It is divided into 12 modules, each approximately 40 minutes long, totaling eight hours of instruction.

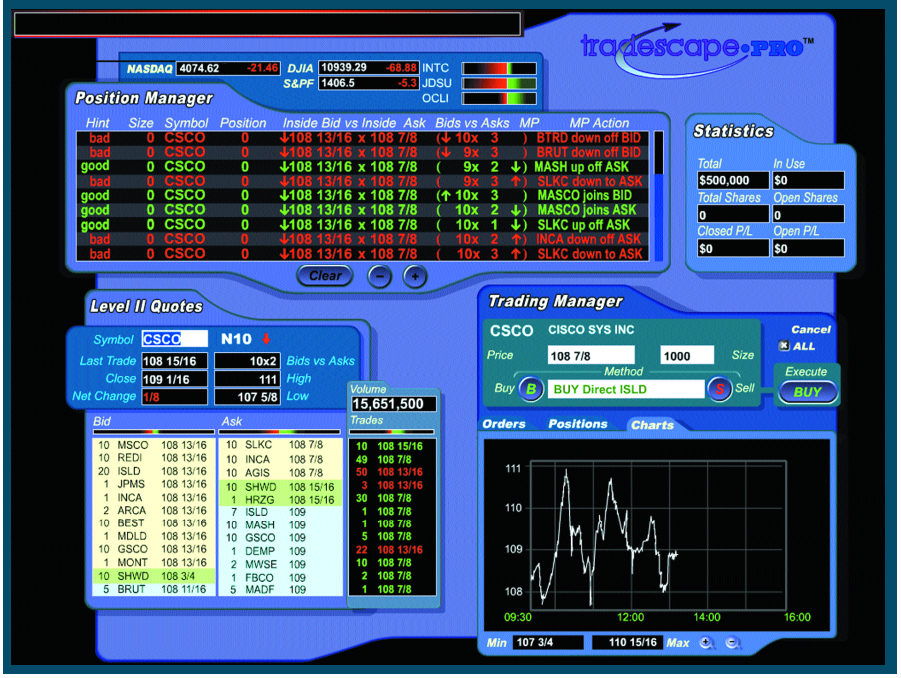
Who the program is for: Beginners

Upside: Simple graphics and straightforward audio instruction offer beginners excellent commentary on how to read Level II screens, time and sales, and order entry. Humorous animation keeps the material entertaining, as well as offering good analogies of key concepts and trading dangers. Lessons are grouped together logically, with concise, clear instruction. Extensive economic and trading background information.

Downside: Very few "real-time" examples of training concepts (i.e., watching prints and Level II screen movement). Demos provided might be too quick for a beginner to follow. Video clips are a little choppy. Traders with slower computers beware.

OTA has placed **enough tools and information** on this product to make it **a very useful guide for novice traders.**

The course uses TradeScape's direct-access interface to illustrate various trading concepts.



What you see is (not) what you get

Make no mistake, Level II is the market makers' turf. If you want to play on this field, you need to arm yourself with the proper knowledge. Here's a look at how you can stay on the side of the "smart money" and avoid becoming a victim of the market makers' games.

BY DEWEY E. BURCHETT

Over the past few years, thousands of potential traders have set up shop at day-trading firms — only to have their capital wiped out in a matter of weeks or months.

It would almost seem that you could simply study what these traders did and do the reverse. Think of it this way: How many times have you said, "If I had just done the opposite of what I actually did, I would have made money?"

If you are an avid Level II user, this may be a valid question. Trading is difficult no matter how you look at it, but if you are learning to do the wrong things, it can make it next to impossible to make money.

What you will soon discover is that some of the "basics" currently being taught about Level II are wrong. We'll take a look at some of the realities of using Level II quotes and outline a few trading strategies that are rarely discussed in any books or trading classes. In fact, just one of the ideas that will be revealed will increase the odds of a winning trade dramatically. But let's start out reviewing some of the basics.

Level II basics

The basic premise of Level II is very simple. Figure 1 shows an example of a Level II screen. The left side of the screen contains information about who is attempting to buy stock. The right side of the screen shows who is attempting to sell. On both sides of the screen you can see at which price each participant is buying

or selling, and what size (how many shares).

In addition to market makers such as Merrill Lynch (MLCO), First Boston (FBCO) and Goldman Sachs (GSCO), Electronic Communication Networks (ECNs) such as Island (ISLAND/ISLD), Archipelago (ARCA/ARCHIP) and Redibook (REDI) are represented on the Level II screen. These ECNs are primarily used by day traders and active traders. Keep in mind that a market maker is always on both sides of the market, although obviously at different price levels.

With the basic premise of Level II in mind, it would be easy to jump to the conclusion that if you knew what the order flow was going to be over the next few minutes based on what was on the screen, making money would be like shooting fish in a barrel. For example, you might assume that if seven market makers were stacked up at high bid, say 50, with only one market maker on the offer at 50 1/16, the stock is going up because of the order flow. Conversely, if you saw market makers stacking up on the offer or sell side, it would only make sense to position yourself for a short, or sell a stock that you were long.

For the new trainees at the local day trading firm, this makes total sense, and they can hardly wait to get their accounts up and running. If the Level II screen could really be taken at face value, then theoretically it would take a great deal of effort *not* to make money given the available information.

Unfortunately, things are not always as they seem.

It's the market makers' turf

Traders need to understand one concept when using Level II: Market makers let you see what they want you to see. In addition, always remember that everyone sees the same thing that you are seeing.

Market makers have two main objectives: Execute order flow at the best price for their big clients, and make money scalping the stock for the firm. You may have heard that the "smart money" bets in the last few minutes before a horse race. If someone knows his horse is going to win, he is not going to bet big early and tip off all the other handicappers. If he did, other players would bet the same horse, which would lower the odds and the payoff.

Just as the astute handicapper does not show his hand, neither does the market maker. In fact, it is in the best interest of the market maker to make a strong stock look weak on Level II, and vice versa.

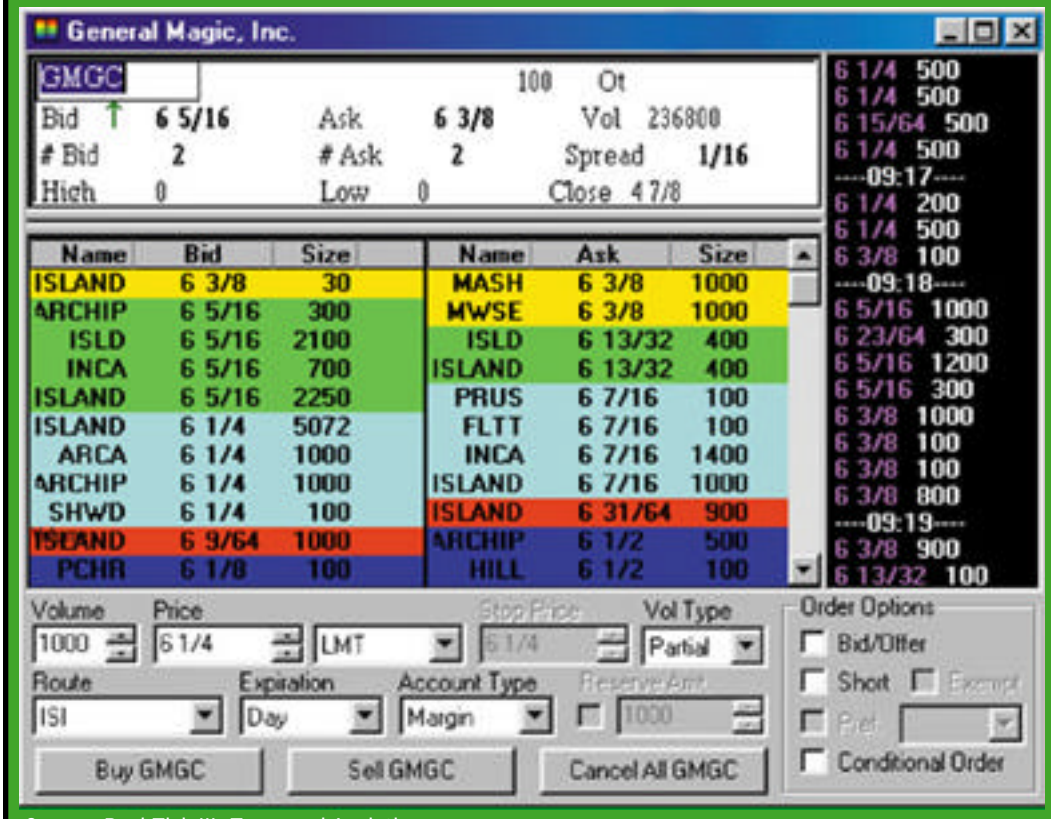
What often ends up happening is that a stock with buying interest looks weak, and a stock with selling interest looks strong. In other words, on Level II you will see market makers stacked up together at the top of the offer, with very few bids — right before the stock makes the next move to the upside. Again, the reason it looks this way is because the market makers want to make the market look weak when they have stock to buy so they can get a good price. They would prefer to make the stock look weak so traders will either sell to them on the bid or lower the current offering price, in which case they will buy it from the new seller. Often they will pull an offer when some of the stock is taken out at that price level.

As soon as you understand that the true intentions of the market makers usually are not reflected on Level II, you can use this information, in conjunction with other trading strategies, to determine the proper entry and exit points for the stocks you are trading. For example, assume you want to go long a particular stock during the day. You decide that you would like to buy on the next pullback based on a technical indicator you were using.

If you had listened to much of the popular

FIGURE 1 **LEVEL II STANDOFF**

In the pre-market, two market makers, MASH and MWSE, are on the inside offer, but the bid side of the market is stacked up with ECN/day trader orders.



Source: Real Tick III, Townsend Analytics

advice regarding Level II, the last thing you would do is buy a stock when market makers were stacked up on the best offering price. Under such circumstances you would probably think there is too much selling pressure. But this is the incorrect approach. Instead, you should adhere to your trading signal and make the trade. A good way to play the long side, keeping in mind the tendency of market makers to not reveal their true agenda, is to try to take advantage of this market maker "bluff" by putting in a bid (instead of just lifting the offer). Many times more inexperienced traders will hit your bid when they see the market makers stack up on the offer (this works best using an ECN like Island). This will give you a better entry price, as you are using the market makers' trading tactics to your own advantage.

Keep in mind, however, there are certainly times, such as during heavy trending, when a preponderance of market makers on either side of the market reflects true buying or selling interest. Learning how to read market maker action is something that is acquired over time. The message here is to remember that you can't always take what you are seeing on the Level II screen at face value. The more liquid a stock, the more likely you will see a better indication of the true buying or selling interest.

Many times more inexperienced traders will hit your bid when they see the market makers stack up on the offer...

The opposite approach would be used for trading on the short side, although entry is more difficult because of the uptick rule. Viewing Level II from a more realistic standpoint — realizing that what is on your screen is exactly what market makers "want" you to see — will help you minimize losses and enable you to not get thrown off when using other trading strategies. It is important to keep in mind, however, that this information should not be relied on exclusively; it should be used in conjunction with other effective strategies. Also, illiquid stocks are less reliable as there are fewer market participants, and one "big gun" can ultimately control the stock (see "Cutting in front of the ax," *Active Trader*, September).

FIGURE 2 RESISTANCE DEFINED

Previous trading defined resistance in GMGC, and a likely place to look for a short trade opportunity

Source: Qcharts by Quote.com

Be the smart money

There is one particular strategy that tends to yield high-probability trade setups, although these opportunities can be difficult to find at times. The approach is based on the premise that not only do the bigger market makers ultimately control which direction a stock will go, but that day traders, when they act collectively, get on the wrong side of the market at the same time. In this context, day traders represent the "dumb money," to use trading terminology. There is an easy explanation for this phenomenon, as the following example will illustrate.

Dumb money usually comes together around news events such as new product developments, strategic alliances with other companies and the general fancy press releases that don't really amount to a hill of beans. In the excitement surrounding the news, and compelled by the greed of making a quick buck, traders will chase the latest hot stock of the day using the ECNs. When this happens, most of the market makers will raise their offers and make the traders pay up for the stock.

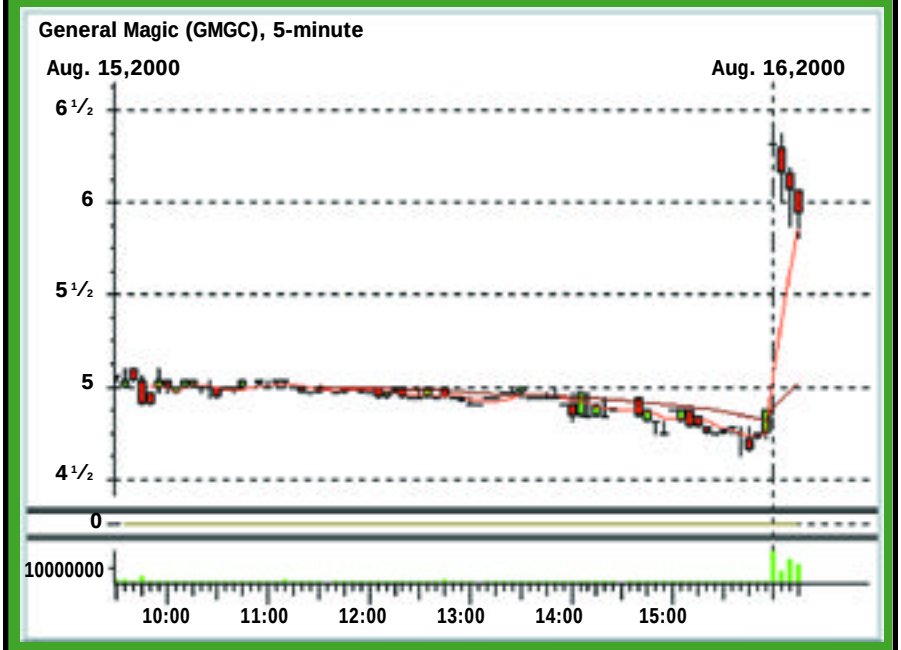
Once the chase is on, and day traders begin to outbid each other, the stock may move up swiftly, although it generally will do so on light volume. What ends up appearing on the Level II screen is mostly ECNs on the bid side, accompanied by very few market makers as buyers. Most of the time you will see some trades go through on the offer as well, but few of any significant size, and the down move that follows can be even more violent than the preceding rise as day traders bail out on the stock.

Finding the opportunities

To find these potential trades, keep track of stocks with news prior to the market

FIGURE 3 GAP OPENING

The stock quickly established the high of the day (at 6 7/16) and began to decline.



> In the excitement of the news, and compelled by the greed of making a quick buck, traders will chase the latest hot stock of the day using the ECNs.

open. These stocks often will trade up significantly in the pre-opening market, and have short-lived runs in the first five minutes of trading as market makers sell the stock to an investing public that only buys when the market opens. Other times these stocks will fall immediately when the market opens.

The best way to determine how to play these situations is to watch the volume. If the volume continues to be heavy all the way to the opening bell the stock will likely continue to push slightly higher within the first five to 10 minutes of trading. If the volume is relatively light, the stock will most likely immediately get hit with profit-taking. Fortunately, you do not have to wait for an uptick in the pre-market to sell the stock short; waiting until after the open of trading will require you to sell on an uptick. Although other news-related events occur throughout the day, most significant news is released before the open, so you have to do your homework early in the day.

Figure 1 shows a Level II screen of General Magic, Inc. (GMGC). On this particular day, GMGC signed an agreement with IBM. And as usual, day traders were hard at work bidding the stock up in the pre-market, as evidenced by the large number of ECN (ISLD and ARCA / ARCHIP) bids on the left hand side. Also notice that there is only one market maker (SHWD) on the bid side, two levels down, which means they are not aggressively buying the stock. In addition, most market makers are on the offer side of the market (right side of the screen).

Now, who will ultimately win this standoff? This example shows the time of 9:19 EST — 11 minutes prior to the market open. The first question when spotting a situation like this is to figure out where the resistance levels are. Figure 2 shows that General Magic has resistance (prior support) in the 6 to 6½ area . It would be logical to expect the stock to meet resistance in this area once it opened; this is where you would look to sell the stock short, given that relatively heavy volume continued to the opening bell.

In this case, volume continued to come in, and within 30 seconds the stock gapped open to the upside and made the high of the day at 6 7/16. Although above-average volume continued in the first 15 minutes, the intraday chart in Figure 3 shows the stock quickly pulled back from the high. From then on it traded as low as 5¾, but managed to close at 5⅞ on the day. For traders looking to scalp a quarter-point or more, or 4 to 6 percent, this was a quick, low-risk play.

One other misconception traders have is that when they see a big buy or sell order, say 10,000-plus shares, they automatically assume it dictates buying or selling pressure. An example would be that you see a buyer (generally a market maker or Instinet) come in with an order of 10,000 shares on the bid side. Traders too often assume this means the stock will immediately rise as the buyer attempts to buy shares. This is generally an incorrect assumption, and it all goes back to the fact market makers are letting you see what they want you to see.

If you wanted to buy 10,000 shares, would you advertise your intentions to the world so they would make you pay up for it? Of course not, and in most situations neither will anyone else. If you really look at such bids and offers, they are generally a couple of levels down from the top of the bid or offer, and usually only appear on the screen for a few seconds. In other words, someone has an agenda, and it's not necessarily one with your best interests in mind. These trading scenarios should be viewed as warning signs. If you understand that things are not as they seem, you can better profit from what really is.

Opening day OPPORTUNITIES

Hot IPOs must be traded with caution, but they can bring substantial gains for nimble traders. Intraday pullbacks can get you in on big moves on the first day of trading.

BY STEVE WENDLANDT

Trading hot IPOs on the first day they go public can be both very intimidating and very profitable. If you use an extra bit of caution, they can lead to extraordinary gains in extremely short time periods. The strategy consists of pinpointing a specific pattern: entering IPOs on an intraday pullback of the initial thrust that often occurs when they begin trading.

Finding first-day pullbacks

Use 10-minute charts to identify trade setups. First, though, keep in mind that not all IPOs are worth trading; you should only focus on those issues that immediately rally from the instant they open for trading. To enter, look for a pullback consisting of at least two bars with lower highs than the preceding bar that do not break the low of the trading session. The lower highs do not have to be consecutive and there does not have to be a minimum number of bars that should pass before the two lower highs occur. Buy one tick above the high of the previous bar. An initial stop-loss is placed one tick below the low of the pullback.

Risk control

Because these new issues are so volatile, you should risk a little less than you normally would on a trade. For example, if the high on which you are basing your entry point is 44 (44 1/16 entry) and the low of the pullback is 43 (42 15/16 stop-loss exit), then you would be risking 1 1/8 points on the trade and would adjust the number of shares accordingly, based on what dollar amount you wanted to risk on the trade.

Because you will probably encounter excessive slippage on your entry and exit in these trades, you should only trade two-thirds of the shares you would normally trade. For example, if you are risking $2,000 on this trade you would only buy (rounding down to the nearest 100 shares) 1,100 shares ($2,000 / 1.125 *.66).

Brokerage

A word of caution: Because speed of execution is critical, it's advisable to trade this strategy only using a direct access broker. Hot IPO stocks can make huge

Because hot IPOs are so volatile, you should risk a little less on these positions than you normally would on a trade.

moves in short periods of time; trading such issues can be extremely risky unless your executions are almost instantaneous. The delays in executions and confirmations typical of standard Web-based online brokers are too lengthy for this kind of trading.

Position management

One of the simplest and best money management strategies you can use is the "2-for-1" approach. (Giving credit where credit is due, Larry Connors coined this style of position management in *Connors on Advanced Trading* .)

It works like this: When you have a profit equal to your initial risk, sell half your position and move your stop on the remainder of the position to break even. In the previous scenario, the initial risk was 1⅛ points, so when the stock advanced 1⅛ to 45 3/16, you would sell half the position and move your stop to break even.

Then look for either a "parabolic" move to sell the remainder, or exit on the close if you are not stopped out at breakeven on the balance. A parabolic move in this case would take the form of an extremely large-range bar accompanied by high volume.

Recent opportunities

Let's look at some examples. On July 25, Blue Martini Software (BLUE) opened for trading at 43½ and immediately began to rally (see Figure 1). Bars six and seven were back-to-back bars with lower highs that did not exceed the low of the session. Along position was triggered at 44¼ on bar 8, one tick above the high of the previous bar. The initial stop-loss was at 43 7/16, one tick below the swing low of 43½, giving the trade an initial risk of 13/16. Using the 2-for-1 approach, when the stock reached 45 1/16 (1 3/16 above the entry price) half the position was sold and the stop moved up to breakeven on the remainder.

At this point you would look for an expansion (wide-range) bar, which can be somewhat subjective. Bar 16 was an excellent expansion bar (large range with high volume) and would have provided a good exit point for the balance of the position.

Figure 2 illustrates another example. On July 13, Sunrise Telecom (SRTI) opened for trading at 31 and immediately rallied, trading as high as 40 in the first

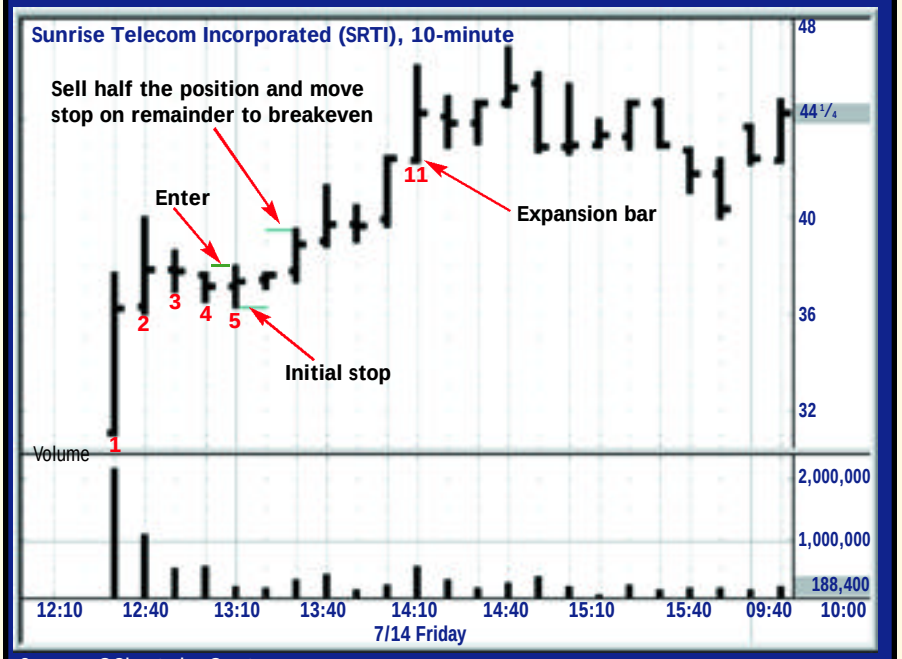
FIGURE 1 **INTRADAY IPO PULLBACK**

This IPO strategy should only be used on stocks that immediately rally when trading begins. Entry occurs after the stock makes two lower highs that do not drop below the low of the session.

Source: QCharts by Quote.com

FIGURE 2 **MANAGING THE POSITION**

Controlling risk is essential. The initial stop is placed at the swing low of the pullback. When the trade has a profit equal to the initial risk amount, half the position is sold and the stop on the remainder moved to breakeven. The balance of the position is sold on an expansion (wide-range) bar, or held until the close.



Source: QCharts by Quote.com

Hot IPO stocks can make huge moves in short periods of time; trading such issues can be extremely risky unless your executions are almost instantaneous.

20 minutes of the session. Bars 3 and 4 both made lower highs than the preceding bars, but the highs did not break below the low of the session.

A long position was entered on bar 5 at 37 13/16, one tick above bar 4's high of 37 3/4. The initial stop was placed at 36 3/16, one tick below the swing low of the pullback (the low of bar 5) at 36 1/4, for a risk of 1 5/8 on the trade. Using 2-for-1 money management, half the position would be sold at 39 7/16 (1 5/8 above the entry price) and the stop on the remainder of the position moved up to the breakeven point.

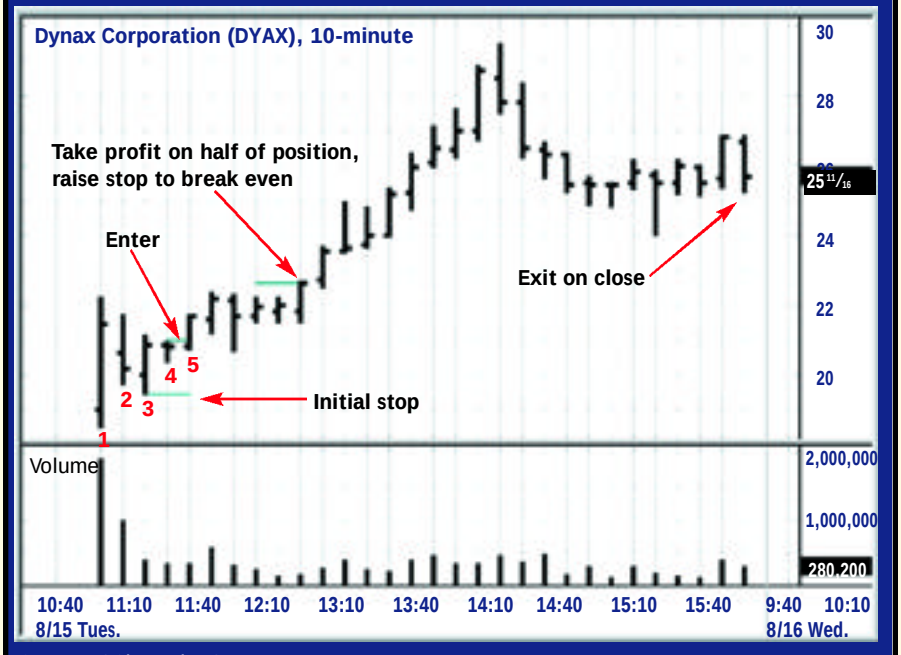
Bar 11 presented an opportunity to exit the balance of the position on an expansion bar with increased volume (bar 10 was also a possibility, although volume was not as high on this bar). Alternately, holding the trade for the rest of the session would have resulted in an exit at the closing price of 40 1/4.

On a week when there are many IPOs, you should see several setups. However, please use caution, because there is no other time when a stock is more dangerous to trade than the first day an IPO goes public. Proper money management is paramount.

A third example occurred in Dyax Corp. (DYAX) on Aug. 15. After opening at 19 and rallying to 22 1/4 in the first bar, the stock made three consecutive lower highs on bars 2, 3 and 4 that did not drop below the session low. A long trade was triggered on bar 5 at 21, one tick above the bar 4 high of 20 15/16. The stop-loss was placed at 19 3/8, one tick below the bar 3 swing low of 19 7/16, giving the trade an initial risk of 1 5/8. Using 2-for-1 money management, half the position would be sold at 22 5/8 (1 5/8 above the entry price) and the stop on the remainder of the position moved up to the breakeven point. Because a definitive expansion bar did not appear, the position was exited on the close.

FIGURE 3 HOLDING UNTIL THE CLOSE

Once half the position is exited, if no parabolic move occurs, hold the remainder until close.



Source: QCharts by Quote.com

Strategy snapshot

1. Only use the strategy on hot IPOs that **immediately rally** when trading begins.
2. **Look for a pullback** consisting of at least two lower highs on the 10-minute chart that do not break the low of the trading session.
3. **Go long** on a move one tick above the high of the previous bar.
4. **Place initial stop-loss** one tick below the low of the pullback.
5. **Exit half the position** when the profit is equal to the initial risk and **move the stop** on the remainder of the position to breakeven.
6. **Exit balance of position** on a parabolic move or on the close, whichever comes first.

More bang for your buck: PATTERNS WITHIN PATTERNS

How to create trade opportunities with increased reward and decreased risk by trading patterns within patterns.

What makes a good trade? Well, in retrospect, most traders would say a nice profit makes a good trade. But when you're putting a position on, the outcome is unpredictable. We'd all like to know a trade will be good in advance, but alas, the markets are not so accommodating.

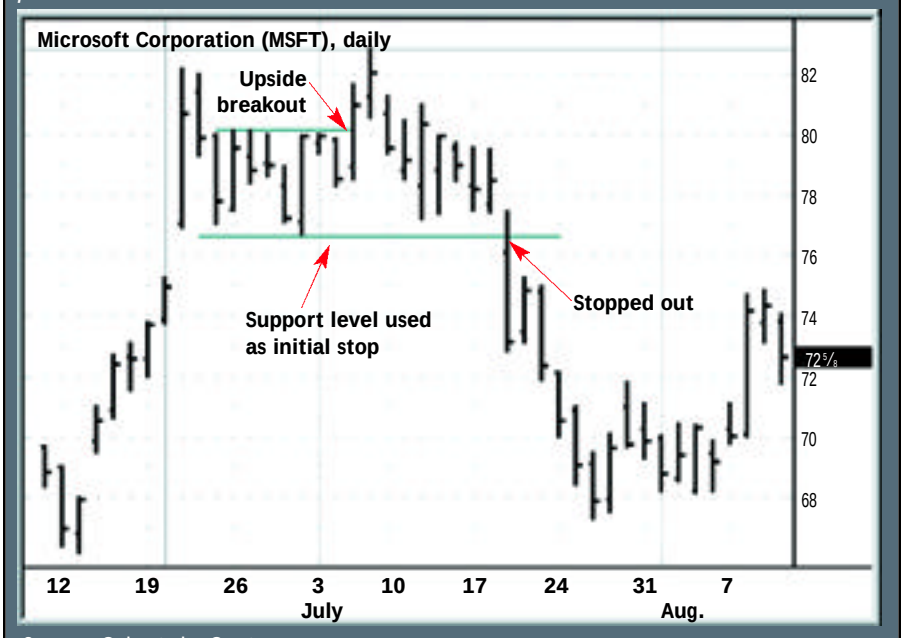
What you look for when you're getting in a trade is an entry point where the odds of a move in your favor are better than average. Then, by having a plan that determines when and where you'll exit with either a loss or a profit, you try to structure a trade where the potential reward is greater than the known risk.

The advantage of trading breakouts of congestion patterns such as trading ranges, triangles, flags and pennants is that these formations allow you to clearly define the risk on your trades. For example, if a stock moves into a trading range after a rally, you may look to buy an upside breakout of the range in anticipation of a continuation of the uptrend. The logical place to put an initial protective stop is below the low of the trading range, because a downside reversal through the support of the range would be a bearish development.

Figure 1 provides an example. In late June, Microsoft (MSFT) established a relatively narrow trading range after approximately a 16-point rally. The stock broke out of the upside of the range (around 80 ⅛) on July 6. The initial protective stop would have been placed just

FIGURE 1 FALSE BREAKOUT

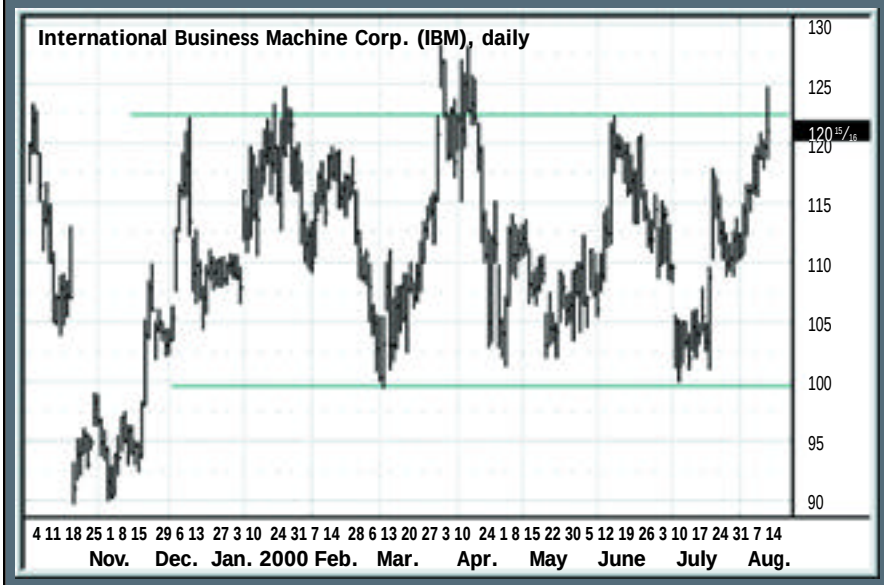
A trading range develops in the aftermath of a sharp rally. After an initial upside breakout, the stock reverses to the downside, stopping out the long position.



Source: Qcharts by Quote.com

FIGURE 2 RANGE RISK

Using the opposite side of a trading range as a stop for a breakout trade can result in large initial risk if the trading range is wide.



Source: Qcharts by Quote.com

below the support level of the trading range, around 76½. A move back below this level would suggest the upside thrust was actually a false breakout and that the trade should be exited.

That's exactly what happened. Two days after entry the stock had pulled back into the trading range. It moved sideways to lower over the next several days before, on July 19, penetrating the downside of the range and stopping out the long trade.

The risk on this trade was a moderate 3⅝ points. But what do you do when a trading range is much wider and a stop based on either the support or resistance level represents too large a risk? Figure 2 shows a much more volatile trading range than that in Figure 1. Using the same approach as in the previous example — buying on an upside breakout of the trading range and placing an initial protective stop below the low of the range — would represent considerable risk.

As a result, some traders place the initial stop in the middle of the trading range. This more conservative method is based on the idea that a strong breakout move should follow through immediately and not reverse back into the trading range. Another way to reduce risk on breakout trades is to look for shorter-term patterns within larger patterns that allow you to place your initial stop-loss closer to your entry point.

Patterns within patterns

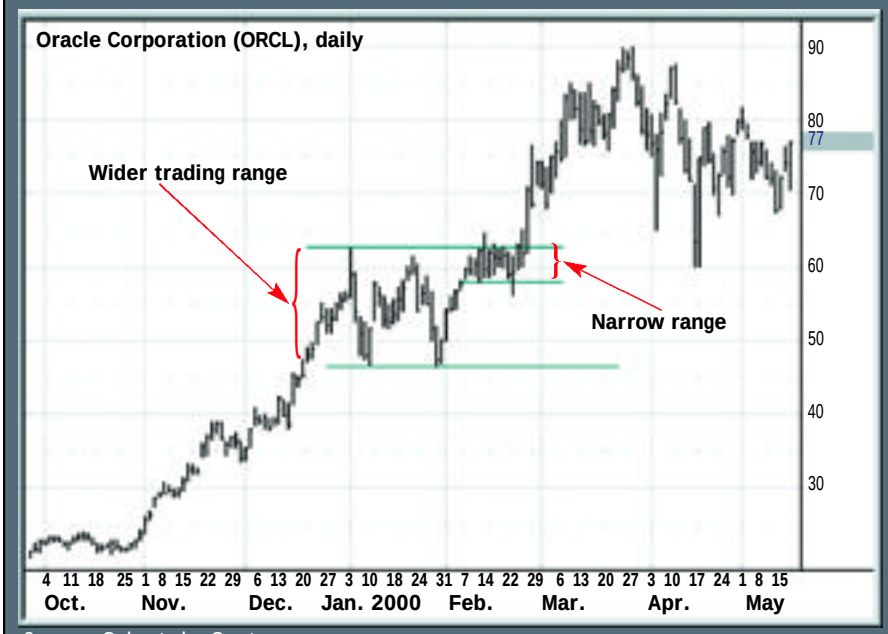
When the risk implied by a particular trading range is exceptionally large, you can look for smaller congestion patterns near the support or resistance levels of the range. Basing entry and stop points on the levels defined by the smaller pattern can reduce the risk on the trade as well as provide the opportunity for early entry into the position.

Figure 3 shows the formation of a wide trading range in Oracle (ORCL) at the beginning of this year. A trader looking to enter long on an upside breakout of this range would have to accept a risk of more than 16 points, assuming the bottom of the range was used for the initial stop-loss.

However, a much narrower trading range developed in February. Using this range as the basis of an upside breakout trade would have offered the same entry point but a much closer stop. In this case, placing a stop one tick below the low of the narrower trading range would have reduced the risk to 6¾ points. For a short-term trader, this represents a large stop, but it's still a dramatic improvement and the profit potential for the move out of the larger trading range is still intact. (Later, we'll look at the practical risk-reward impact this can have on a trade.)

FIGURE 3 CONGESTION WITHIN CONGESTION

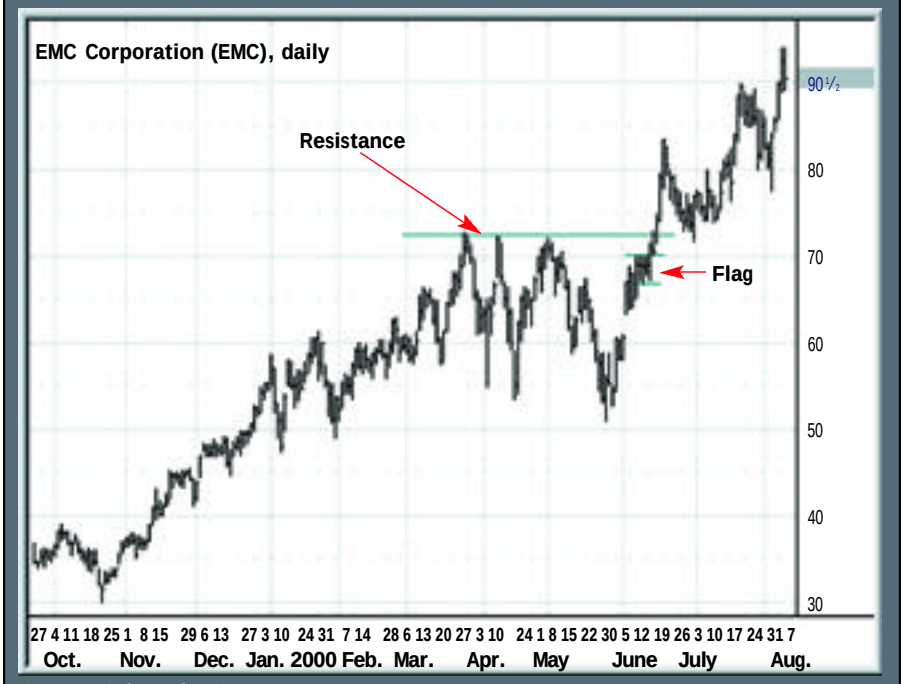
A shorter, narrower trading range forms just at the resistance level of a larger range. Using the support level of the smaller range as a protective level for an upside breakout substantially reduces the trade's initial risk.



Source: Qcharts by Quote.com

FIGURE 4 **FLAG NEAR RESISTANCE**

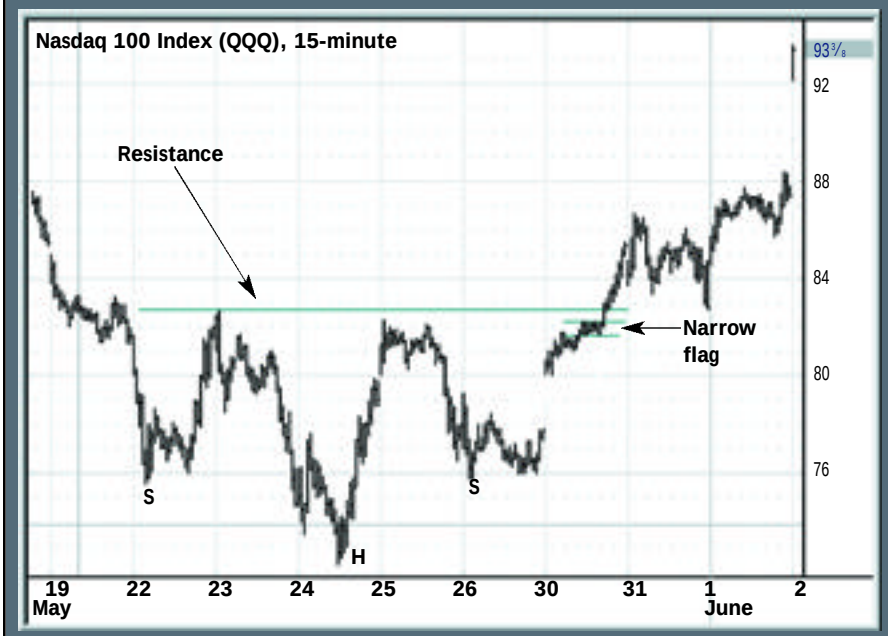
A small flag forms just below a well-defined resistance level, offering early entry into the upside thrust move.



Source: Qcharts by Quote.com

FIGURE 5 **NARROW FLAG**

A narrow flag consolidation forms near the resistance level of an intraday head-and-shoulders bottom pattern. The low of the flag provides a lower-risk stop level than the most recent swing low.



Source: Qcharts by Quote.com

The advantage of trading breakouts of congestion patterns such as trading ranges, triangles, flags and pennants is that these formations allow you to clearly define the risk on your trades.

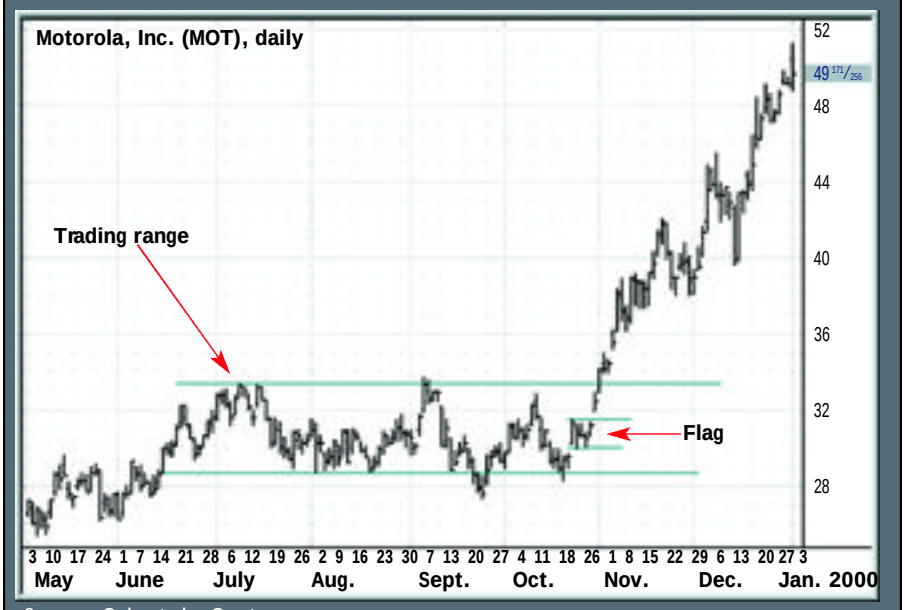
Figure 4 provides another example. In this case, EMC Corp. (EMC) repeatedly pulled back from resistance around 72½. Because a well-defined horizontal trading range did not develop (the stock swung back and forth in an increasingly wider range), the most recent swing low around 51 would be the reference point for the initial stop-loss — a risk of more than 20 points.

However, as the stock bounced off that low and made another run at the resistance level, it formed a flag consolidation from June 7 to June 12 with a high around 69⅞ (the highs of the bars in the flags were within 1/16 of each other) and a low around 66 13/16. The upside breakout of this flag provided an early entry to the subsequent surge that pushed the stock past the 72½ resistance level to new highs.

Figure 5 shows a 15-minute chart of the Nasdaq 100 tracking stock (QQQ). The stock formed a large bottoming pattern (a head-and-shoulders bottom pattern; the preceding sell-off is not shown) with resistance around 82⅝. As the stock approached the resistance level for the second time, on May 30, it consolidated in a narrow flag pattern with resistance around 82 7/32 and support around 81⅝. Playing an upside breakout of this pattern and using its support level for the

FIGURE 6 EARLY ENTRY

A flag forms in the middle of a larger trading range. Even though price gapped above the flag, playing the upside of this smaller pattern offered early entry and a tighter stop on a long-side trade.



Source: Qcharts by Quote.com

initial stop (rather than the most recent swing low around 76) reduced the risk on a long trade to less than a point.

A final example is shown in Figure 6. Here, in the middle of a larger trading range with resistance around 32⅜, Motorola (MOT) formed a flag consolidation in late-October 1999 that offered the opportunity to trade an upside move with lower risk. The stock gapped out of the flag (a bullish sign) above 31½ and continued to run past the resistance of the larger trading range. Placing a stop just below the flag support at 29 15/16 would have reduced the initial risk on the trade to less than two points. As was the case with Figure 4, the smaller pattern allowed you to both use a tighter stop and get in earlier on an upside breakout.

Structuring a trade

Figure 3 provides a good example of how this approach can work in the context of a complete trade plan. The rally from the late-October 1999 low to the early-January 2000 high was 41 7/32. The stock then moved sideways, forming the larger trading range. Atrader looking to buy on an upside breakout of the range could use the *measured move* approach, whereby the size of the previous price move is added to the current price, to project a price target. Adding the size of the price move preceding the trading range to the low of the larger trading range (around 46⅝) results in an upside target of 87 27/32.

Using the measured move approach on the smaller price swing from Jan. 28 low of 46⅝ to the Feb. 14 high of 64¾ (18⅛ points) sets up a shorter-term price target of 77 7/16. This level would mark a good spot to take at least partial profits on the position and raise the stop on the balance of the position. The stock actually formed another flag after hitting a high of 76½ on Feb. 28. This consolidation marked an opportunity to exit part of the position with a profit; the stop on the remainder of the position could then be moved up to the breakeven point, locking in a profit on the trade. (For more information on taking profits and moving stops, see "Opening day opportunities," p. 42.) The bottom line: The development of the smaller trading range allowed the establishment of a trade with a price target based on the larger, longer-term price pattern with a risk based on the smaller, shorter-term price pattern.

Another general advantage of this approach is that it increases your flexibility. Even if you are stopped out on a move through the support of the smaller congestion pattern, you can still re-enter a long position if the market reverses again and breaks out above resistance a second time. For example, a trader who went long on the intraday upside thrust above resistance (say, at 62⅝) on Feb. 14 and used the low of the smaller trading range (around 58⅝) as the stop level, would have been stopped out on the intraday downside thrust on Feb. 22. However, as mentioned earlier, this loss is much smaller than the one that would have occurred had the stop been placed below the low of the larger trading range, which was nearly 12 points lower.

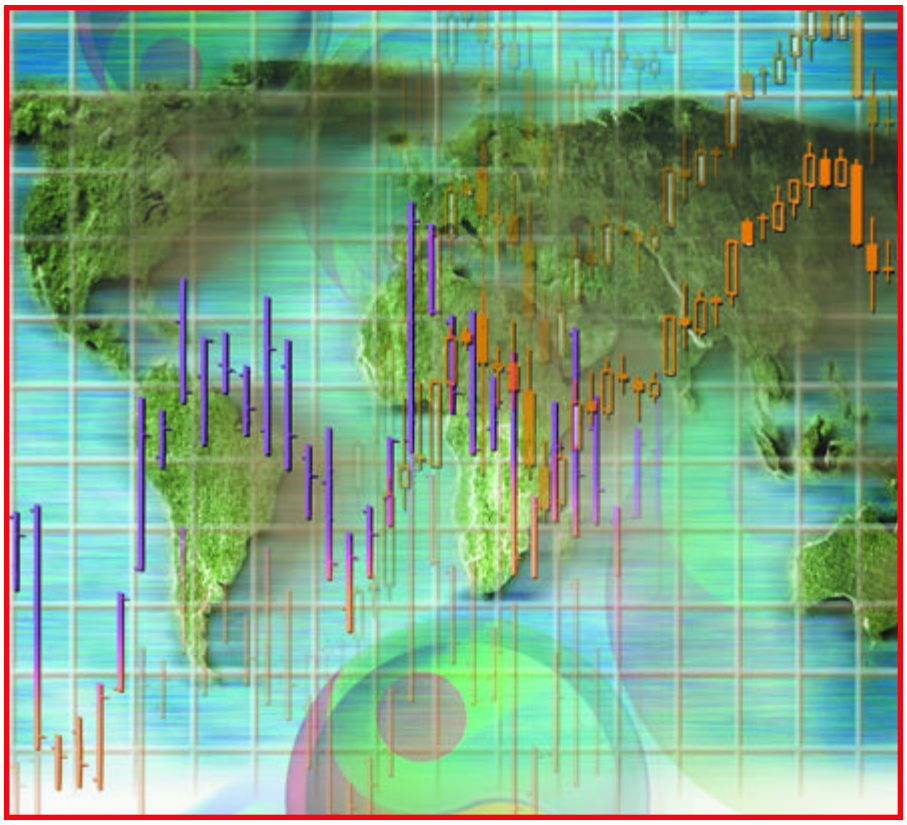
These patterns may develop relatively infrequently, but they fulfill the primary goals of smart trading: They allow you to establish trades with shorter-term risk and longer-term profit potential. In future articles we'll expand on these ideas by looking at additional measuring objectives and ways to put breakouts into context in relation to underlying trends of different magnitudes.

When the risk implied by a particular trading range is exceptionally large, you can look for smaller congestion patterns near the support or resistance levels of the range.

Trading tests and retracements with JAPANESE CANDLESTICKS

Candlestick patterns help highlight the short-term battle between the bulls and the bears. Western trend analysis helps identify test and retracement levels. Combining the two approaches can improve your ability to catch market turning points.

BY TERESA LO



Japanese candlestick charts have become immensely popular over the past 15 years and are now a familiar sight to most traders. However, consistent application and interpretation of candlestick patterns — especially when used in conjunction with Western technical analysis methods — have eluded many traders. In this article, we'll explain how to use Japanese candlestick patterns with retracements and tests.

First, let's define the concept of trend. An uptrend is a series of higher lows and higher highs; a downtrend is a series of lower highs and lower lows. The higher lows of an uptrend are connected to form uptrend lines. The lower highs of a downtrend are connected to form downtrend lines.

A retracement can be defined as a pullback in an uptrend or a bounce in a downtrend. These retracements then give rise to so-called tests: If the present uptrend line is broken on a retracement (pullback) but buyers enter the market to move it upward once again, this sets up a test of a top. If the present short-term downtrend line is broken on a retracement (bounce) but sellers show up to move it downward once again, this sets up a test of a bottom.

Common Japanese candlestick patterns can be divided into two major categories: reversal patterns, which signal the beginning of a retracement in a trend; and continuation patterns, which are found at the end of a retracement and signal the resumption of the trend. In our trading, we look for reversal patterns on both a test of a top or bottom, and on a retracement (pullback or bounce).

Tests

Let's look at a recent example of tests in the popular Nasdaq 100 index-trading stock (QQQ).

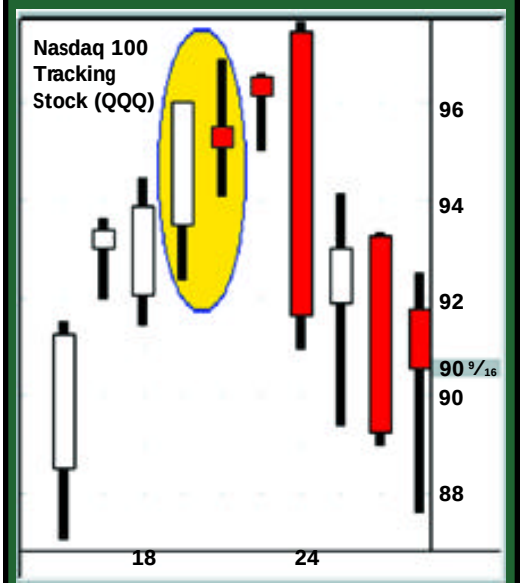
FIGURE 1 TESTS OF TOPS

Candlestick reversal patterns can be used to trade tests of support and resistance levels.

Source: TradeStation by Omega Research

FIGURE 2 HARAMI PATTERN

The body of the second candle is contained within the body of the first candle.



Source: QCharts by Quote.com

From October 1999 until the first week of January 2000, the QQQ was in a clear uptrend (see Figure 1). On Jan. 5 the uptrend line was breached. The QQQ traded down for one more day before it began the bounce to test the high established on Jan. 3. On Jan. 20 the QQQ made a marginal high on a test of top when, combined with the candlestick made on Jan. 19, it formed a "Harami" reversal pattern (see Figure 2).

A Harami reversal pattern is a two-candle pattern in which the body of the first candle covers a larger-than-usual price range and the second candle covers a smaller-than-usual price range. The open and close of the second candle must be contained within the range of the open and close of the first candle. The two candles should be opposite colors.

The next day, Jan. 21, was a very narrow range day, with trading inside the range of the Harami pattern. On Jan. 24, a big down day confirmed that the test of the top had failed on this try.

A few days later, the QQQ made a higher low and began a new uptrend that lasted until March 14, when a second short-term uptrend line was breached. A few days later, it bounced to set up the test of the March 14 high. On March 23, the QQQ recorded a marginal new high. On March 24, it attempted to continue upward but ended the day on a "long-legged doji" pattern, a signal of indecision in the battle between buyers and sellers. The long-legged doji is a candle where the upper and lower shadows are very long, indicating the market was sharply higher and lower during the session, but the open and close prices are near the middle of the range covered by the trading session (see Figure 3).

The next day, March 27, was a narrow-range day where the QQQ traded inside the range established on March 24, indicating more indecision. On March 28, the pattern was broken to the downside, indicating failure on a test of top. This time, however, the QQQ started a pattern of lower lows and lower highs — the beginning of the Nasdaq downtrend.

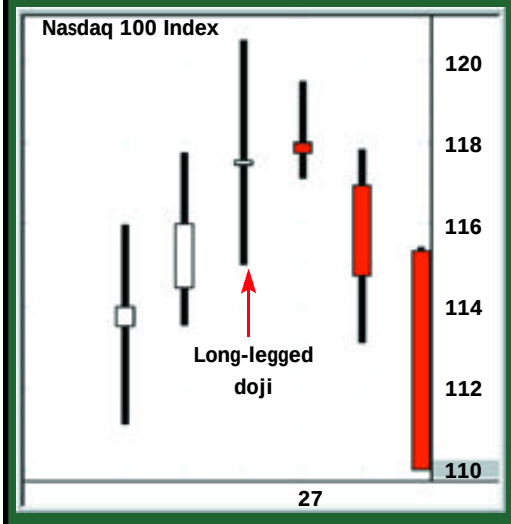
Retracements

For examples of retracements, we will examine a daily chart of Immunex Corporation (IMNX) (see Figure 4).

In November and December 1999 IMNX entered an uptrend by making a series of higher highs and higher lows after testing the early October 1999 low. After the Dec. 30 high, IMNX retraced for three days, before making a reversal on a "piercing pattern" on Jan. 5, 2000 (see Figure 5).

FIGURE 3 LONG-LEGGED DOJI

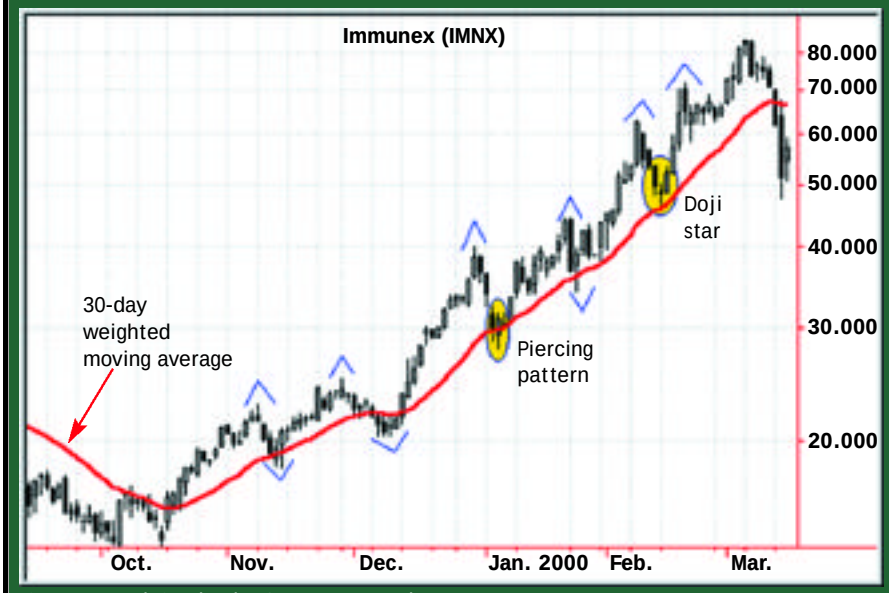
The market moves sharply higher and lower, but opens and closes near the middle of the day's range.



Source: QCharts by Quote.com

FIGURE 4 TRADING RETRACEMENTS

Candlestick reversal patterns develop near retracements to the 30-day weighted moving average.



Source: TradeStation by Omega Research

A piercing pattern is a two-candle reversal pattern that occurs in a downtrend. Both candles should have roughly equivalent larger-than-usual ranges, and should have small or no shadows. The first candle opens at or near the high end of the session's trading range and closes at or near the low end of the session's trading range. The second candle opens lower but reverses to close near the high end of the session's trading range, producing a white candle.

Between Jan. 21 and Jan. 24, the December high was tested and then surpassed; the uptrend continued until Feb. 8 when another three-day retracement took place. On the fourth day, Feb. 14, a "doji" (a candle with a narrow trading range, with open and close near the same price) was formed, indicating indecision between buyers and sellers. The next day, Feb. 15, was an up day (indicated by the white candle), and a three-day reversal pattern called a "morning doji star" was formed (see Figure 6).

The morning doji star is another reversal pattern found in downmoves. The first candle has a larger-than-usual price range and opens near the high and the closes near the low. The second candle is a doji. The third candle opens near the low and closes near the high.

FIGURE 5 PIERCING PATTERN

After a down day, the stock opens lower but closes higher, signaling an upside reversal.

Source: TradeStation by Omega Research

Identifying the trend

A moving average can help identify the trend, as well as likely reversal points. We find that a 30-period weighted moving average is useful in identifying short-term trends; retracements in an established trend often reverse in the vicinity of the 30-period weighted moving average, alerting the trader to look for candlestick reversal patterns. (For more information on moving averages, see Indicator Insight, *Active Trader*, June, p. 78.)

For example, Figure 4 shows that once IMNX began trading above the 30-day weighted moving average in mid-October 1999, the retracements (pullbacks) found support near the moving average. Couple that with the series of higher highs and higher lows that were forming, and one would conclude that IMNX was in an established uptrend and look for spots to enter on each

A word on order types

In our trading, we always enter the market using a stop-limit order. However, because some brokers do not allow stop-limit orders, you may need to monitor the stock and, when a certain price is reached, enter a limit order. Our exit, the protective stop-loss, is always a stop order.

Stop order: A stop order is an order that becomes a market order if and when the market reaches a designated price. A "buy stop" is placed above the market and becomes a market order when the security trades at or is bid at or above the specified stop price. A "sell stop" is placed at a price below the market. It becomes a market order when the security trades or is offered at the stop price or below.

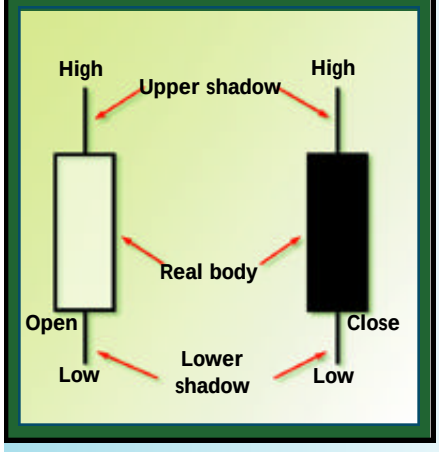
Stop limit order: A stop limit order is a stop order that becomes a limit order when and if the market reaches a designated price.

Candlestick chart basics

Like bar charts, Japanese candlestick charts use vertical lines to display price action for a particular time period — a day, a week, an hour, a minute. But candlestick charts use shading to highlight the up or down price momentum in a given period.

The figure below shows two candlestick bars. The high and low prices of a candlestick are the ends of the vertical line (just like a 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 shaded, usually black. The portion of the candlestick's trading range above the real body is called the upper shadow. The portion of the trading range below the real body is called the lower shadow.

CANDLESTICKS



retracement until the uptrend, along with support at the 30-day weighted moving average, was broken.

Putting it all together

Traders often debate the precise names of different patterns, but Japanese traders traditionally place more importance on the real body of the candlestick (the distance between the open and the close) than the absolute high and low, which are of secondary importance (unless the highs and lows leave very long "shadows" in relation to the real body).

With this in mind, we can safely say the idealized textbook versions of candlestick patterns are just that. Traders need to remember in the real world, the most important part of reading candlesticks is to compare the real bodies of the candlesticks to each other.

While it is important to understand what a certain pattern means, you also need to know how and when to use it. How can Japanese candlesticks help limit risk? When do we execute a setup? To illustrate some rules of thumb for using candlesticks we'll look at two buy signals on IMNX.

First, let's take another look at the piercing pattern in Figure 5, formed by the candlesticks plotted on the daily chart of IMNX on Jan. 4 and Jan. 5. For the piercing pattern, the important thing is that the first day of the pattern is a down day (a black candlestick). The next day opens lower but closes near the high of the day, producing a white candlestick, the real body of which overlaps most of the black real body from the previous day.

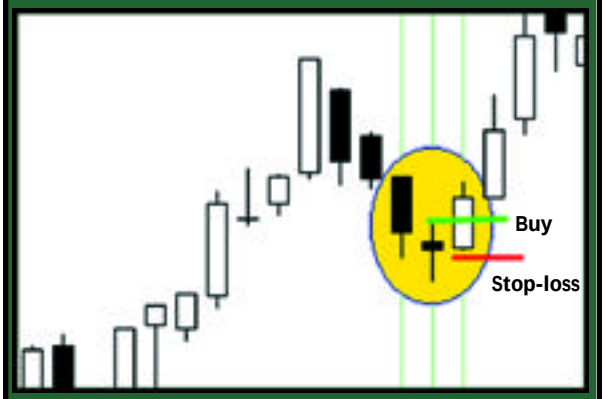
Because IMNX was clearly in an established uptrend, traders might expect a retracement to be followed by a quick move back to the upside. Because the piercing pattern is a reversal signal, we would enter a buy stop limit order on the break of the high of the second day of the pattern, in this case the white candlestick on Jan. 5, which should also be the lowest day of the retracement.

If the buy order is not filled within two days, it is cancelled on the assumption that the power of the buyers taking control at the low is in question and that another pattern is forming. If the piercing pattern is invalidated by another downside day, the buy order would not be filled, we would cancel it, and no harm is done.

If the piercing pattern is confirmed by a move to the upside and the buy order is filled, a protective stop-loss would be entered just below the low of the day on which the trade is executed. In this case, the initial stop-loss order was just below the low of Jan. 7. On a true retracement, once the uptrend resumes, there should be ample thrust to the upside, as buyers come back quickly.

FIGURE 6 MORNING DOJI STAR

The white candle confirms the upside reversal following the doji candle



Source: TradeStation by Omega Research

While each trader should enter and move the stop-loss according to his or her own style, it is highly recommended that the initial protective stop-loss order be placed in the manner described above (rather than at the lowest point of the retracement) for two reasons. First, if the uptrend fails to resume, it may signal a deeper retracement or a change in trend. Second, as so many traders set sell stops to trigger on a break of the most recent low, the slippage on protective stop-loss orders in these areas can be significant.

In the next example, we zoom in on the doji star pattern in Figure 6, formed by the two candlesticks of Feb. 11 and Feb. 14. A white candlestick formed on Feb. 15, confirming a bottom, and with it, a new three-candlestick pattern: the

Candlestick patterns are very **useful tools** because **they offer a real-time look** into the **battle between buyers and sellers.**

"morning doji star."

The doji star is a two-candle pattern found both in uptrends and downtrends. In an uptrend, the first candle covers a larger-than-usual price range with the open near the low of the session and the close near the high of the session. The second candle is a doji. In a downtrend, the first candle covers a larger-than-usual price range with the open near the high of the session, the close is near the low of the session and the second candle is again a doji.

These patterns warn the trend may be about to change and need to be confirmed by a third candle. For example, a morning doji star reversal pattern in a downtrend consists of a doji star plus a third candle with a close near the high of a trading session, as shown in Fig. 6. (The "evening doji star" is a reversal pattern found in uptrends and is composed of a doji star plus a third candle with a close near the low of a trading session.)

There are two ways to trade this pattern. Textbooks traditionally caution traders to wait for confirmation of a reversal pattern before entering a trade. However, it is often advantageous to be aggressive and place a buy stop limit order at a price where a stock would have to trade on its way to confirming the pattern.

In this example, we will use the two-day doji star pattern to set our buy stop order instead of waiting for the third candle of the three-day morning doji star to confirm that a bottom is in place. We simply enter a buy stop above the high of the doji (Feb. 14) itself. If this is the low for this retracement, a reasonable upside thrust should occur immediately. On Feb. 15, IMNX traded above the high of the doji formed the day before and the buy stop order was filled.

There are two ways to approach order entry. If the buy price is triggered, a trader can wait to buy at the end of the day, just before the close, after the absolute low of that day is known. The second and more aggressive option, the one we use in our own trading, is to buy immediately upon trading at the stop price, and using the intraday low up to that time as the stop-loss point.

At the end of the day, IMNX closed well above the high of the doji (in fact, it closed near the high of the trading day) showing reasonable thrust to the upside. The protective stop-loss would be set just below the low of the white candlestick of Feb. 15.

Candlestick patterns are very useful tools because they offer a real-time look into the battle between buyers and sellers. When added to a trader's arsenal of technical analysis techniques, they offer insight and help set up trades.

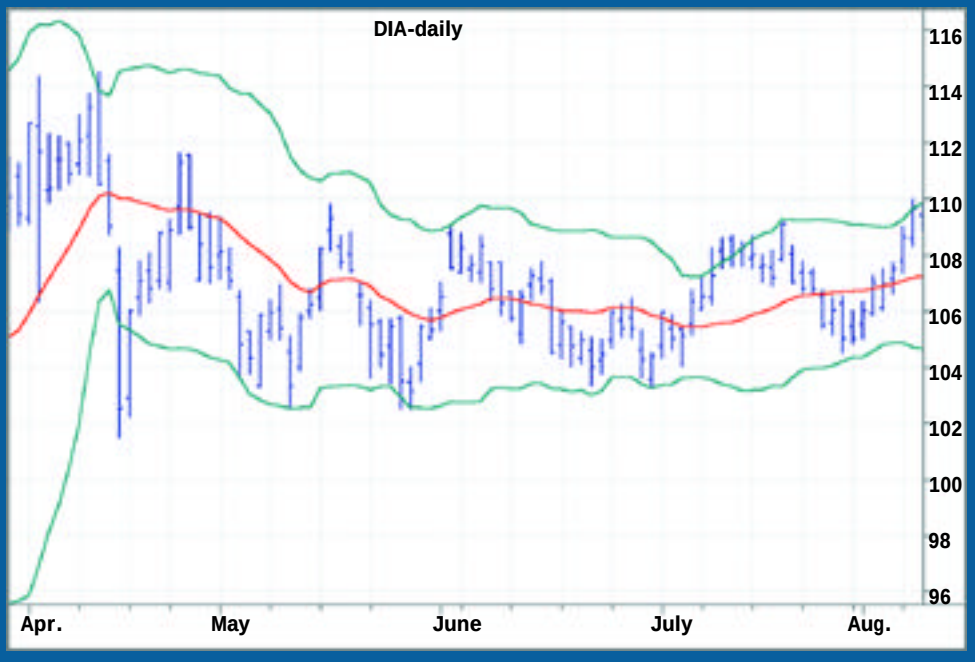
MOVING BEYOND the CLOSING PRICE

Most indicators have two limitations: They're usually based on specific price levels rather than price changes, and they only use the closing price of a bar. This technique allows you to build a price-change-based indicator that incorporates all the price points in a bar.

BY THOMAS STRIDSMAN

FIGURE 1 BOLLINGER BANDS

Bollinger bands usually do a good job of containing price action. But because they're based on one price observation per bar (the closing price), they don't provide informa - tion about the "hidden" volatility within each bar.



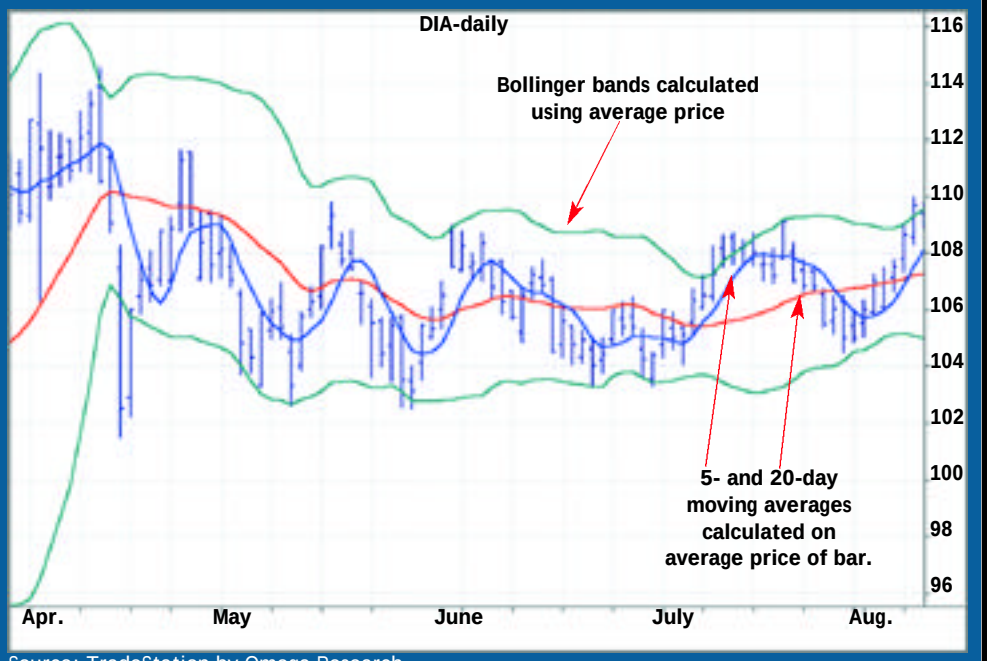
Source: TradeStation by Omega Research

A major disadvantage of many technical indicators is that they only use one piece of price information — the closing price. For instance, a moving average or an indicator such as Bollinger bands (which plots price bands a certain distance above and below a moving average) is usually calculated using the closing price — excluding the open, high and low prices. Figure 1 shows a 20-day moving average (red line) and 20-day Bollinger bands (green lines) on the Dow Jones tracking stock (DIA), distanced two standard deviations away from the moving average.

One way to work around this is to use the average price of a price bar — calculated as the sum of all four price points (open, high, low, close), divid-

FIGURE 2 **USING THE AVERAGE PRICE**

Basing calculations on the average price (as was done here) might provide a better feel for what happened at each particular bar, but it still won't let you make direct use of all price points, rendering this approach no more useful than using closing prices only.



Source: TradeStation by Omega Research

ed by four. Figure 2 shows what this looks like for 5- and 20-day moving averages, respectively. Because the average price consists of the different price point observations within each bar, the 5-day average actually uses 20 different price levels, while the 20-day average uses 80 different price levels.

However, it's still not possible to make distinct use of the different price points within bars when calculating Bollinger bands. As Figure 2 (compared to Figure 1) shows, there is little difference (if any) between Bollinger bands based on the 20-day moving average calculated using the average price and the standard 20-day moving average calculated using the closing price. Also, although there are 20 implicit price points making up the 5-day average of the daily average price (blue line in Figure 2), there is only one price observation per bar (the average price) going into the Bollinger band calculation. To make the standard deviation calculations for the Bollinger bands statistically reliable using traditional statistical guidelines, however, we should use at least 20 (or 30 or more, depending on the source) explicit price observations in our calculations.

A second disadvantage of most indicators is that they usually are calculated using the actual price levels instead of the price changes from bar to bar (or some other period). This makes little sense because price levels are likely to change over time as a market trends up and down, while the percentage changes from one period to the next are more likely to stay the same. Basing indicator calculations on price changes rather than actual prices makes it easier to compare indicator readings, both between different markets and different time periods.

Using price changes rather than price levels

One way to calculate a moving average on price changes rather than actual prices is to measure the average price change over a certain time period and then add that change to the closing price (or the average price) of the most recent bar. For example, you could calculate the average day-to-day price change for the last five days, and add that to the most recent close.

Figure 3A shows what this looks like. It's a 20-day moving average of close-to-close percentage changes added to the closing price of the second-to-last bar. This line shows where the market would have closed on the following bar (the most recent bar in the chart, which is not a part of the calculation) had it followed the average rate of change of the last 20 days.

Moving this calculation forward one day provides an indication of where the market should close tomorrow. This adjusted indicator, which is a 20-day moving average of the percentage price changes, is shown in Figure 3B. Notice how it differs from the regular 20-day moving average (blue line), which really doesn't tell you anything about where the market is going in the short term.

For TradeStation users out there, the EasyLanguage code is:

```
Inputs: LookBack(20);
Variable: PercChange(0),
                                NewLevel(0),
                                AvgPercChange(0);
PercChange = (Close -
                                Close[1])/Close[1];
AvgPercChange =
                                Average(PercChange,20);
NewLevel = Close *
                                (1 + AvgPercChange);
                                Plot1[1](NewLevel,"");
```

To calculate and plot the standard deviation bands around this new moving average (creating a Bollinger band based on the changes in the closing price), add the following code:

FIGURE 3A **USING PRICE CHANGES**

Basing calculations on price changes rather than price itself creates an indicator that hugs the most recent price action more closely, making it more meaningful for short-term traders. Figure 3B compares a 20-day moving average of price changes (red line) to a moving average of the actual price (blue line). The blue line only tells you what the average price of the last 20 days is; the red line tells you where the market is likely to close the next bar given the average change in prices over the same period.

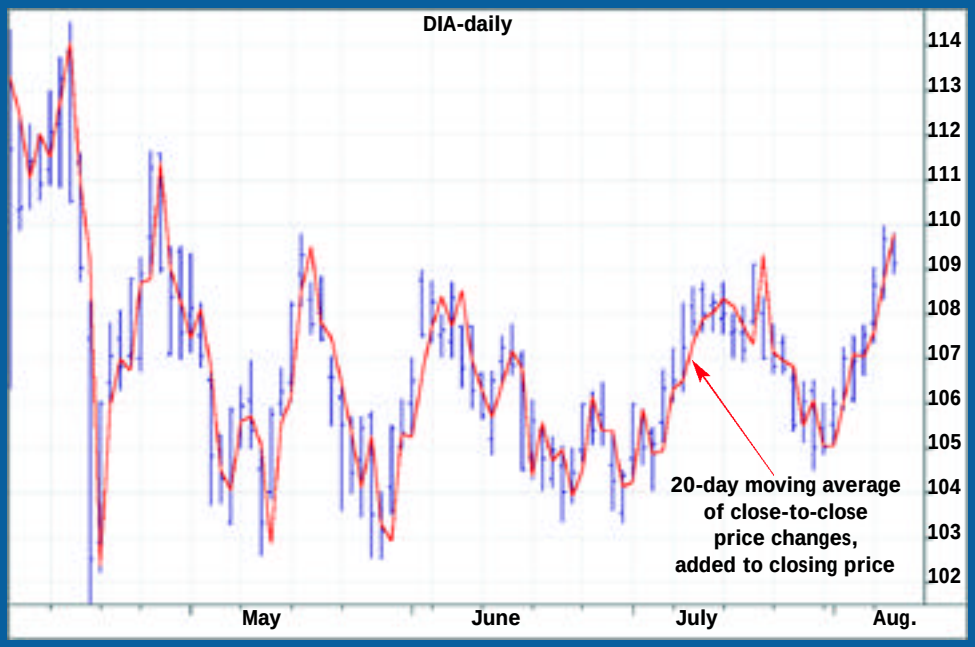
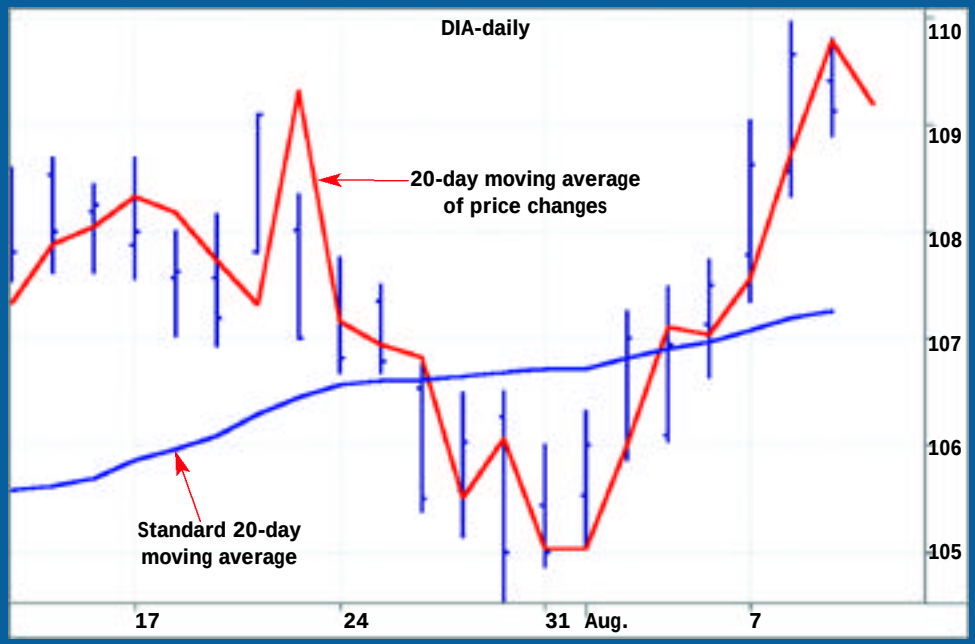


FIGURE 3B



Source for both: TradeStation by Omega Research

```
Inputs: StDevs(1);
Variable:StdDevChange(0),
  UpLevel(0),DownLevel(0);
StdDevChange =
  StdDev(PercChange, 20);
UpLevel = Close *
      (1 + AvgPercChange +
 StDevs * StdDevChange);
DownLevel = Close *
      (1 + AvgPercChange -
      StDevs * StdDevChange);
      Plot2[-1](UpLevel,"");
      Plot3[-
1](DownLevel,"");
```

Figure 4 shows the result. The upper and lower bands now are the Bollinger bands of the change in the closing price rather than the closing price itself. If you compare these three lines with the ones in Figure 1 it's obvious which ones more closely follow price and, therefore, are most useful to a short-term trader.

Making a statistical indicator

However, this indicator still doesn't address the main problem of not incorporating the high, low and opening prices. To do this, the calculations get a bit more complicated. What we need to do is create an **array** (a set of sequential values) holding the necessary price data. For each new bar, the four oldest price points (open, high, low and close) will be thrown out of the array and substituted with the corresponding price points for the most recent bar. For example, to calculate a moving average consisting of 20 price points, you will need an array containing the price data (open, high, low, close) of five price bars.

To just use the actual price levels, however, won't make this indicator any different than the 5-day moving average calculated on the average price of the bar (the blue line in Figure 2). To make the indicator more

useful for short-term trading, look instead at the price changes from the previous bar's close, just as we did for the indicators in Figures 3B and 4. In other words, calculate the difference between yesterday's close and today's open, high, low, and close, respectively. For instance, to calculate the percentage change between yesterday's closing price and today's high, the EasyLanguage formula is:

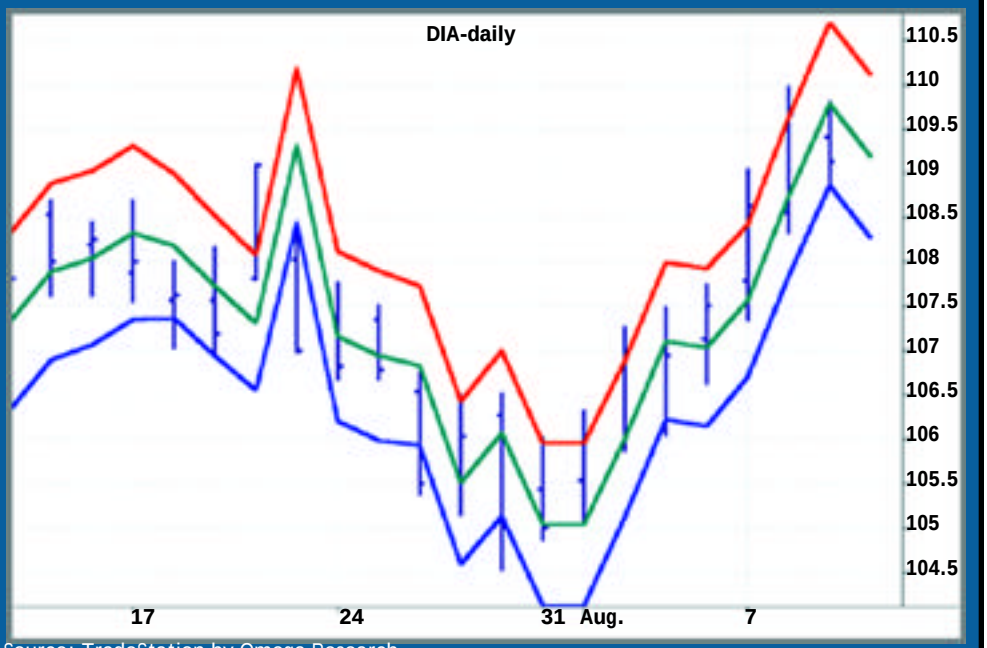
```
HighPercChange = (High -
Close[1])/Close[1];
```

In a more generic form the EasyLanguage code for the entire indicator, including the 20-price-point moving average and its upper and lower standard deviation boundaries, would look something like this:

```
Input: VSStd(1);
Vars: SumVS(0), AvgVS(0),
DiffVS(0), StdVS(0), SetArr(0),
    SumArr(0), DiffArr(0), VSLow(0), VSMid(0), VSHigh(0);
    {First we define the array}
Array: VS[20](0);

{Then we're using a loop function to fill it with the different
price changes}
For SetArr = 0 To 4 Begin
   VS[SetArr * 4 + 0] = (O[SetArr] - C[SetArr + 1]) / C[SetArr + 1];
   VS[SetArr * 4 + 1] = (H[SetArr] - C[SetArr + 1]) / C[SetArr + 1];
   VS[SetArr * 4 + 2] = (L[SetArr] - C[SetArr + 1]) / C[SetArr + 1];
   VS[SetArr * 4 + 3] = (C[SetArr] - C[SetArr + 1]) / C[SetArr + 1];

End;
For SumArr = 0 To 19 Begin
   If SumArr = 0 Then
      SumVS = 0;
   SumVS = SumVS + VS[SumArr];
   If SumArr = 19 Then

{Here we calculate the average price change over the period}

      AvgVS = SumVS / 20;
   For DiffArr = 0 To 19 Begin
      If DiffArr = 0 Then
         DiffVS = 0;
      {Then we calculate the standard deviation}
      DiffVS = DiffVS + Square(VS[DiffArr] - AvgVS);
      If DiffArr = 19 Then
         StdVS = SquareRoot(DiffVS / 20);
   End;
End;
{Finally, we add the moving average (and the standard devia -
tions) to the latest close for an indication of tomorrow's trad -
ing range}

   VSLow = C * (1 + (AvgVS - StdVS * VSStd));
   VSMid = C * (1 + AvgVS);
   VSHigh = C * (1 + (AvgVS + StdVS * VSStd));
   Plot1[-1](VSLow, "VS Low");
   Plot2[-1](VSMid, "VS Mid");
   Plot3[-1](VSHigh, "VS High");
```

FIGURE 4 **MEANDER INDICATOR**

Calculating the Bollinger bands of price changes creates the upper and lower standard deviation boundaries for where the market is likely to close the next bar. If the bands are plotted one standard deviation boundary away from the average, they can be expected to contain 67 percent of the price action. If they're two standard deviations away from the average, they should contain 95 percent of the price action.



Source: TradeStation by Omega Research

Figure 5 shows what this indicator looks like. Because every indicator needs a name, we hereby dub this the Meander Indicator, and the standard deviation boundaries the Upper and Lower Meander Boundaries.

To get a feel for how this indicator works compare it to measuring the weight of four different persons you meet throughout the day. The first and the last ones you meet could be your opening and closing weights, respectively. The other two you pick at random sometime during the day. After five days, when you have met 20 people, you can calculate their average weight and the standard deviation boundaries around their average weight.

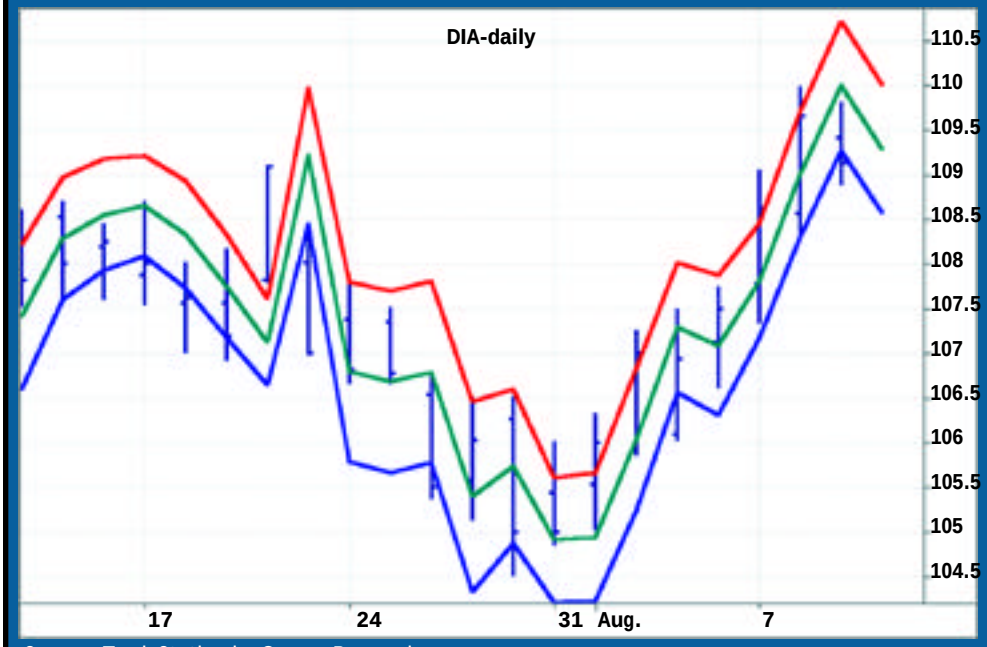
Say on the next day (the sixth day) you go out and weigh the first person you meet, and it so happens that he or she is skin and bones, and well below the lower standard deviation boundary. As a result, your statistical calculations tell you the other three persons you'll meet that day will likely weigh more.

When the sixth day is over, you add that data to the array

and throw away the data from five days ago. This is akin to making sure that you always use the most accurate, up-to-date data, which you'd need if you were collecting weight data around in the world. For example, if you live somewhere in the Midwest, the average weight of the people you meet probably would be higher than that of the people you meet on vacation in Asia (where people generally have a smaller build). Carrying out this line of thought, it also is a well-known fact that people everywhere are getting heavier, so to keep your calculations as accurate and up-to-date as possible, you need to get rid of the older, obsolete data.

FIGURE 5 SHORT-TERM PERSPECTIVE

Basing calculations on the percentage changes between one bar and the close of the previous bar allows you to shorten the lookback period to only five bars, providing an even better indication of what might happen the next bar. Depending on where the market opens and the subsequent price action, you can use the upper and lower "Meander" bands as triggers for limit-order trades.



Source: TradeStation by Omega Research

How to use the indicator: Estimating price movement

Similarly, when trading the market using this indicator, if the opening price is below the lower standard deviation boundary, you know that the low price of the day also will be lower than the standard deviation boundary. Consequently, there is a good chance that: 1) at least the opening price will not equal the high price of the day; and 2) the closing price also has a good chance to be higher than the open.

On the other hand, if the opening price happens to fall somewhere between the upper and lower standard deviation boundaries, but the market subsequently tests any of these levels, chances are pretty good that the closing price also will fall somewhere between the boundaries.

If you set the boundaries one standard deviation away from the average, the laws of statistics say that approximately 67 percent of the daily price action will take place within the boundaries. If you set the boundaries two standard deviations away from the average, you can expect them to contain approximately 95 percent of all the price action. Remember, though, this won't always be the case and the price action within each bar won't necessarily be equally distributed around these levels.

Basing indicator calculations on price changes rather than actual prices make it easier to compare indicator readings, both between different markets and different time periods.

As you can see from Figure 6, every now and then there will be a bar that is completely outside of the boundaries, but with a little experimentation you should be able to come up with a moving-average length and standard-deviation distance that suit your particular trading style, and that help you get a feel for when the market is most likely to reverse and trade higher or lower.

To copy the programming code used in this article, see the online version at Active Trader's Web site www.activetradermag.com.

The overnight OPTION

BY MARK ETZKORN

For Mark McDonnell, the hours are right for trading. The 43-year-old former engineer spends about an hour a day trading — and he's usually only in the market for a few minutes.

Texas-based McDonnell has been trading full-time for the last year-and-a-half after spending two-and-a-half years at Fidelity Investments — a job he took after leaving engineering. Like many traders, his first exposure to the markets was through mutual funds. But in addition to dollar-cost averaging investing, he actively traded funds, analyzing their performance over different time periods to find those with the highest likelihood of upside movement. When he moved on to Fidelity, he began blending options into his trading.

The switch to full-time trading came after he made an important discovery.

"I was making more money selling call options than I was working," he says. "So I asked myself, 'Why do I need to do this?' I also took some profits in the real estate market, and that was enough backup money to go out on my own."

His early approach was to write covered call options (selling calls against long stock positions), a strategy that was profitable for a while. However, McDonnell went through a rough patch last year that brought home the risks of the strategy. He continued to sell additional options if the stock kept dropping.

"The main problem with selling calls is you still have the risk of stock ownership," he says. "The best scenarios occur when the stock goes up or stays even. I had problems having to sell some stocks that looked like they were breaking down technically. All the calls in the world won't help you if your stock falls apart.

"The good thing was that I became very comfortable with selling options. You can make 5 to 10 percent monthly, conservatively, on the premium. You just have to make sure none of your stocks get away from you. You have to watch them — track your intraday highs and lows to see if they're breaking down."

Trading set-up

Hardware:	Pentium 700 PC, 20 GB hard drive, 128 MB RAM, 17-inch monitor
Internet connection:	ADSL (1.5 million bytes/sec)
Brokerage:	Fidelity (www.fidelity.com)
Software:	WizeTrade (www.wizetrade.com), for price/trend analysis
Data:	PCQuote.com (www.pcquote.com), Nasdaq Level I data

"I'm not greedy. Even if some of the signals are still green, I'm not going to try to squeeze it."

McDonnell traded mostly lower-priced stocks (around $25 or less) with his call-writing strategy, because, as he points out, "If you have a stock trading at $101, the 100 calls have an intrinsic value of 1. If you trade a $21 stock, the 20 calls still have an intrinsic value of 1."

His current trading approach, which he began to develop while still at Fidelity, consists of looking for quick rebounds in large-cap, institutional stocks that have suffered sharp declines. He buys if there's evidence of some upside momentum (using a program called WizeTrade) as the stock is closing, and exits the stock the following morning on the open.

"What I would do is trade the 'big boys' — the TXNs (Texas Instruments) and SUNWs (Sun Microsystems)," he says. "When the Nasdaq was down 100 to 150 points, I would look for the stocks that were getting killed. I would write down the intraday lows. If they broke their intraday lows near the close on increasing volume, but were still off (higher than) their new lows, I'd buy around 300 shares on the close. These stocks would gap up the next morning, and I'd sell them right on the open. Let's say SUNW is down 10 points for the day, and gaps up two points, I'd take my $600 profit."

McDonnell, who says this approach has worked for him around 80 percent of the time, uses options when a stock opens against him the next morning. "If the market opens flat, you can always scratch the trade," he says. "If it gaps down, say, two points the next morning, you can sell calls."

For this contingency plan, McDonnell sells slightly out-of-the-

> *"You can either work hard or work smart."*

money calls, pointing out that the premiums on the options will be inflated because of the sharp drop the stock just experienced.

"Remember, I'm buying a stock that was down 10 points yesterday," he says. "That drives the premiums up. You're going to get a premium of five or six points on that kind of option, and you're only down two points on the stock."

In situations where the stock continues to drop, McDonnell will look to get out of his stock when the loss is equal to (or slightly less than) the premium he collected on the option, scratching the trade or taking a small profit. "Then I have to watch the stock, because I may have to cover the calls if the market goes back up," he says.

McDonnell estimates the risk on his overnight trades is, on average, six to seven percent of his total account equity; the rest is in cash, earning interest. His market exposure is often two minutes or less: He will frequently buy in the last 30 seconds of trading and sell immediately at the open.

He says the fact that he's trading large-cap stocks with heavy institutional interest also works in his favor. "What's wrong with having 300 shares of the big boys in your account?" he asks. "I would always look at the tech-stock mutual funds' biggest holdings and go with those stocks, because the odds are better that you'll be OK in the long-term. If the stock stays down two points for another month, I can make more money selling calls."

While some traders prefer to find stocks that trade strongly into the close as candidates for next-morning gap plays, McDonnell considers his approach to be "playing it safe. I'm sticking with the big boys, waiting for them to get hit hard, and looking for them to bounce back."

A representative trade of McDonnell's was the gap opening on Transocean Sedco Forex (RIG) on Aug. 21 (see Figure 1). The stock gapped lower on Aug. 20 from the previous close of 57 1/16 and established an intraday low of 52 5/8 around 12:45 p.m. EST. The stock then moved sideways to slightly higher for the remainder of the session, closing at 53 1/2 on increasing volume. McDonnell bought at the close. On Aug. 21, the stock gapped open higher at 54 3/16 and immediately moved up. McDonnell sold out for a 1 1/4-point profit. (Two other stocks on his list the same day were Efficient Networks (EFNT) and Advanced Micro Devices (AMD); both gapped open higher as well.)

McDonnell might also make a couple of day trades per week. A typical trade is something of an inversion of his overnight approach. He'll find stocks that are up significantly on the day ("10 points or more on a stock trading at less than $100"), wait for an afternoon lull, then buy if they show upside momentum in anticipation of a rally into the close.

But the overnight approach remains his bread-and-butter. "If I can start looking for stocks an hour before the close, and sell them the next opening, I'm working an hour a day," he notes.

McDonnell likes the low-impact approach to trading and warns against over-trading. He describes hyperactive, intraday scalping as "insanity. I could never do it — I don't want to do it. With that type of stress, just turn the computer off and get a real job. You can either work hard or work smart. The reason I like this overnight method is it's a high-percentage approach, and I have the contingency plan of selling calls if the stock opens against me."

Steady returns are McDonnell's goal — not swing-for-the-fences monster trades. "I'm not greedy," he says. "If I get a point, I'm out. Even if some of the signals are still green, I'm not going to try to squeeze it — I'm not going to risk my profit for the day. I'm very conservative.

"I'm trying to pull in about $400 a day," he continues. "There's got to be something there every day. I have a system with a backup plan, and my market exposure during the day is very low."

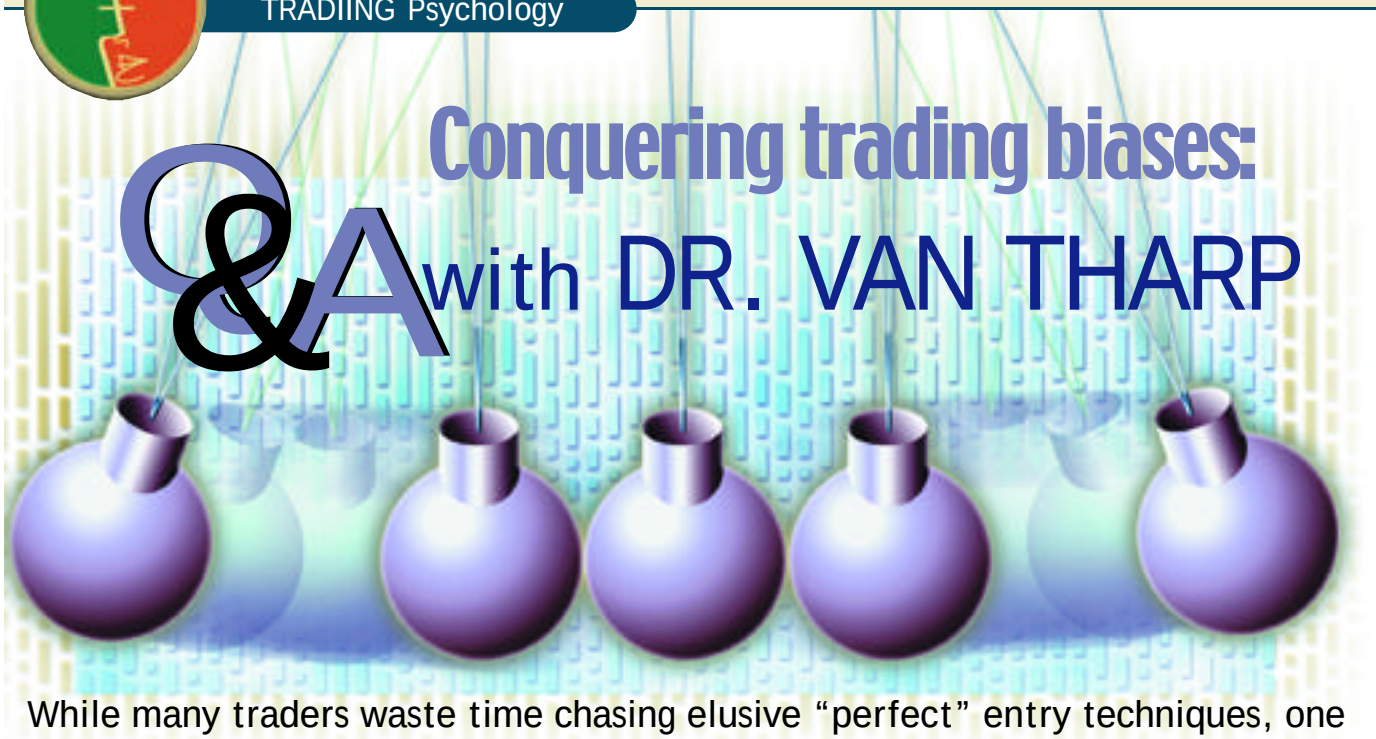
His experiences last year taught him the value of flexibility. "It's a learning process, and hopefully we're all getting smarter," he says. "It hasn't all been pennies from heaven, but I've learned my lessons. I'm putting money in my pocket each day."

FIGURE 1 THE OVERNIGHT APPROACH

RIG, two-minute chart, with daily chart insert. The stock sold off sharply the first day, consolidated, and closed on increasing volume. A long position was established on the close and exited the following morning on the gap-up opening.

Source: QCharts by Quote.com

Conquering trading biases: Q&A with DR. VAN THARP



While many traders waste time chasing elusive "perfect" entry techniques, one trading coach points out that trading success is about accepting market realities, knowing yourself and implementing a money management plan that keeps the odds on your side.

Van K. Tharp. Ph.D., is a well-known trading coach and consultant. He is president of the International Institute of Trading Mastery (www.iitm.com) in Cary, N.C., and author of "Trade Your Way to Financial Freedom" (1999, McGraw-Hill) and "Financial Freedom Through Electronic Day Trading," due to be released this fall.

He recently spoke with Active Trader *about the "psychological" biases that prevent traders from succeeding in the markets, and what traders can do to combat negative habits.*

> "When you feel like you have to be right, the result is that you won't take losses."

AT: *What are some of the most common weaknesses you see in traders?*

VT: I've designed a test to help people determine their weaknesses. There are 10 measured areas that fall into three categories: psychology and discipline; understanding systems and expectancy; and money management, which I now call "Position Sizing."

I think you could safely say that everyone who wants to succeed as a trader must master those three areas. However, all of them fall under psychology because we are all human beings, not robots. Psychology impacts everything.

One reason psychology is so important is that we all have certain biases that help us deal with processing the vast amount of information to which we are exposed everyday as traders. These biases help in decision-making, but they tend to lead us astray. If you naturally follow those biases — and most people do — then you will have a very hard time learning what you need to learn to be successful. And incidentally, most of the information available to help traders caters to our biases.

AT: *What are some examples of these biases?*

VT: There are four that actually cover the common weaknesses almost all traders have.

First, we all need to be right. We're taught in the school system that anything less than 70 percent is failure. As a result, we want to be right at least 70 percent of the time in the markets. But when you have this bias, the result is that you won't take losses. You'll think the losing trade you're holding might turn around and become a winner, so you won't take the loss. Eventually the loss becomes huge so you have to take it or you turn into a long-term investor.

The flipside of having this bias is that you want to take profits right away. Why? If you take profits right away, your trades have no chance of turning into losers and you get to be "right."

But this flies in the face of the golden rule of trading: "Cut your losses short and let your profits run." By needing to be right you end up doing the opposite, cutting profits short and letting losses run.

Second, we want to be in control, which means, in trading, we want to control the markets. The only thing most people can control about the markets is when they get into a trade. Consequently, most people focus all of their effort on predicting the market and picking the right stocks.

But I think most of this effort is wasted. Profits come from exits, not picking the right stocks. If you cut losses and let profits run, you can be a phenomenal success — and it will have little to do with what stocks you pick.

Third, people don't understand the nature of streaks. A random sequence tends to have very long streaks in it — longer than most people would think. But since we don't expect them, we tend to risk more after a few losses and risk less after a few wins. But the best way to trade and make money is to always risk more when you are ahead.

"The key to success is to find a trading approach that fits you."

Last, people seem to think they know what they're doing and none of this — the issues I'm talking about now — applies to them. They don't take responsibility for their results and they blame others for what happens to them. When you do that, you will never learn from your mistakes. Instead, you'll continually repeat them. And if you risk a constant percent of your equity, you'll be doing just that.

I think that if people could master, really master, those four concepts, they'd become good traders. The problem is that they're not as easy to master as they appear to be.

AT: *What do you consider the hallmarks, psychological or otherwise, of a good trader?*

VT: I teach people that there are seven key principles you must master to be a good trader. The first is what I was just talking about — you must take total responsibility for what happens to you. Whatever your results, you must believe that you somehow produced them. This means that when things go bad you can start to learn from your mistakes. It also means that most of your effort will be in the area of understanding yourself, not understanding the markets.

Second, you must treat your trading like a business. You must know who you are, what your mission is as a trader and have objectives that fit your mission. Once you have those things in hand, you can then design a game plan that will help you succeed.

Third, you must understand that whenever you enter a trade you must have some point at which you will get out in order to preserve your capital. I call this your initial risk level, or "R" for short. If you don't have an exit point when you enter a trade, then you are not a professional and you have very little chance of long-term success.

Fourth, you must strive to make profits that are multiples of R. For example, if your profits are generally 10R, then you can be wrong 70 percent of the time and still make tremendous profits. For example, seven 1R losses and three 10R gains would give you a total profit of 23R. That's superb. When you do this, you will have a "positive expectancy" system.

Fifth, you must understand a what a low-risk idea really is: a trading approach with a positive expectancy, but traded at an appropriate size to allow for the worst possible outcome in the short run so that you can realize the expectancy over time.

Sixth, you must master Position Sizing, which is the part of your system that answers the question, "How much?" throughout the course of the trade. It is the key to meeting your objectives and it is the most overlooked aspect of trading, with the exception of psychology.

Finally, you must continually work on yourself, because your trading results are much more a result of you and what you do than any other factor. I have a Peak Performance Course for traders that addresses many of these issues like discipline, the 10 tasks of successful trading, self-sabotage, smart decision making, etc.

AT: *Do you think trading skills can ultimately be taught or does a basic aptitude for the profession play a bigger part in determining success?*

VT: It's hard for me to imagine anyone who masters those seven principles not being a success. But few people can do it. First, most people are not ready for principle No. 1, and unless you master that one, you have little chance of success, in my opinion.

Also, it's very hard to understand some of the other principles unless you have good mathematical skills. For example, concepts like expectancy, which comes from principles No. 3 and No. 4, are very difficult to understand if you don't have good mathematical stills. And math skills are critical for mastering Position Sizing.

I give a simple 1½-hour talk in which I teach the essentials of expectancy and position sizing. However, I've had people listen to that talk, think it was brilliant and still not get the concept. Then they want to take our most advanced seminars before they master the fundamentals. That never works, but that's the way most people want to go.

I also think commitment is critically important to be a good trader. If you have commitment you can overcome major obstacles. If you don't have it, nothing can help you.

AT: *If you could only communicate one principle, rule or guideline to increase the*

odds of trading profitably, what would it be?

VT: The one that's hardest to learn — taking responsibility for whatever happens to you. When you've mastered that, then you are in total charge of your life. Until you've mastered that, you're a helpless victim. But as I've said, few people want to claim their power. They want "know-how," but they don't want self-mastery.

AT: *Do you feel a systematic trading approach is vital to success?*

VT: Yes and no. We have programs designed to teach people to be professional traders. In that program, I require them to develop a systematic game plan that will make at least 50 percent per year with very few drawdowns. That's actually quite easy to do when you've mastered the seven principles, as long as you are not trading too much money — say, $5 million or less.

Initially, it must be very mechanical. But later, when people have proven they can trade mechanically, I think they become much better by learning how to break the rules.

AT: *How important is money management in your overall philosophy?*

VT: I believe it's the key to meeting your objectives in the market. What I now call Position Sizing is the part of your system that controls how much you trade throughout the course of a trade.

In my workshops we play a simple game that involves randomly drawing marbles out of bag and replacing them. Let's say 60 percent of them are winners and 40 percent of them are losers — that's not a bad system. People start out with $100,000 and they decided how much to risk on each marble draw.

After about 50 draws from the bag, with everyone in the room getting the same marble draws, we'll generally have as many different account levels as there are people in the room, with the exception of the people who go bankrupt. There are only two factors involved in that game — Position Sizing and psychology.

I now have a five-part computer game that allows people to master Position Sizing. It starts out with a simple system like the one described and it progresses through five increasingly more complex areas to help people master Position Sizing.

AT: *What is the core money-management concept or technique you teach?*

VT: Risk a percentage of your equity. And for stock traders, I think 1 percent is high — one-half percent might be a better starting point.

AT: *How would you rank the following aspects of trading in terms of importance: entry rules, exit rules, money management/risk control, psychology and capitalization?*

VT: Well, psychology is definitely No. 1 because we are human beings and everything we do from money management to entry rules requires us to use our brains.

Someone once told me that psychology wasn't important to his firm because they were totally computerized. That firm later went out of business because his partner didn't take a particular trade because they had so many losses in that particular item. That trade would have been the trade of the year and saved their business. The partner didn't take the trade because of his psychology — and that one incident cost them the business.

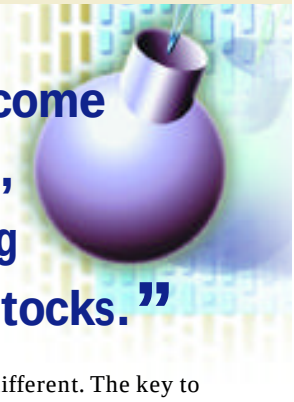
Money management/risk control would be No. 2. By this I mean Position Sizing as I've described it and defining what multiple of your risk level you use on each trade. This is fundamental. Without it, no trader can succeed.

Capitalization is No. 3 because without adequate capital you cannot practice adequate Position Sizing. Your risk will always be too big and you may eventually blow out.

Exit rules are No. 4. Exit rules are what allow you to cut your losses short and let your profits run.

Entry rules are the least important. They are where most people put their emphasis because they believe that prediction and finding the right stock are so important. Pick some stocks that have the power for a big move and you'll be fine if you have the other principles mastered.

AT: *Have you found there is a particular kind (or general category) of trading strategy or approach that successful traders tend to use?*



"Profits come from exits, not picking the right stocks."

VT: No, everyone is different. The key to success is to find something that fits you. That's really the holy grail of trading. However, if you don't know who you are, then how can you find something that fits you?

AT: *What are the most common pitfalls for beginning traders?*

VT: They ask the wrong questions, such as: What should I buy and what is the market going to do? The seven principles I outlined earlier have little to do with these questions. Unfortunately, the beginning trader has trouble moving beyond them.

AT: *How can traders reinforce good habits and break bad ones?*

VT: I designed a model for good trading that incorporates 10 tasks. Three of them are designed to reinforce good habits and break bad ones.

The first task is self-analysis. Your trading performance is a function of you, so you must spend time every day analyzing yourself.

The second key task is mental rehearsal. You must decide what could happen today to cause you to break your rules. Mentally rehearse how you will deal with those situations, so when and if they come up, your response to them will be automatic.

The third key task is a daily debriefing. At the end of the day, ask yourself, "Did I follow my rules?" If you did, then pat yourself on the back — even if you lost money. If you didn't, then you need to figure out why and use the mental rehearsal step to correct the mistakes in the future.

And here's the most important aspect of the daily debriefing — if you don't have any rules to guide you, then you are really in trouble and you shouldn't be trading.

***"Position Sizing" is a trademark of Position Sizing Technologies Inc.*

Less is MORE

Entering the market is the easy part. But once you're in, you'll need to figure out when to exit or add to your position to maximize your returns in the long run.

BY MIKE CHALEK

A famous trader in the early 1900s described technical analysis as "the study of factors arising in the market itself which can influence price movement without regard to fundamental considerations."

Technical trading systems reflect this by using a set of specific rules that generate a set of entry and exit signals for the trader to act upon, no matter what the fundamental circumstances might look like.

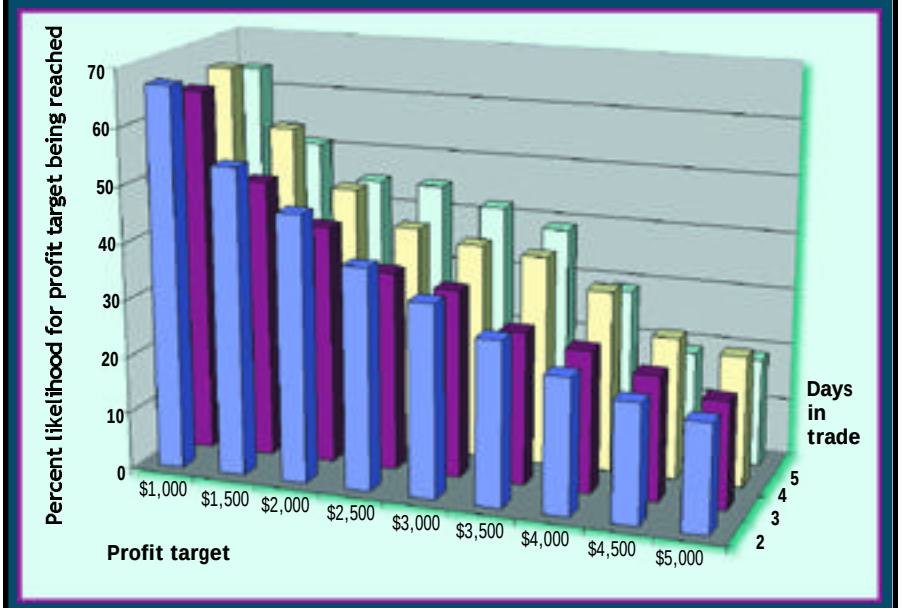
Analyzing entry and exit signals in relation to the outcome of trades helps determine the true effectiveness and efficiency of a trading system. The rules of a specific system are not important because we simply are trying to understand the characteristics of the different trades in order to perform a kind of strategy "tune-up."

This type of analysis, known as Maximum Adverse Excursion (MAE) and Maximum Favorable Excursion (MFE), was popularized by John Sweeney in his books *Campaign Trading: Tactics and Strategies to Exploit the Markets* (John Wiley & Sons, 1996) and *Maximum Adverse Excursion: Analyzing Price Fluctuations for Trading Management* (John Wiley & Sons, 1997). All you need to calculate MAE/MFE are the entry points for each trade, the subsequent price action within the trades and their individual exit points.

The MAE level for each trade is defined as the lowest low of the open profit within the trade or, stated differently, the maximum open loss within the trade (which would be zero if the trade is never in negative territory). The MFE

FIGURE 1 PROFIT TARGET LIKELIHOOD

You can get a good indication of whether momentum is working for a trade and whether you should add to the trade by measuring the likelihood of meeting different profit targets after a trade has lasted a certain number of days.



level is defined as that point within the trade where the open profit is at its peak value.

Many of us are more or less concerned with our trading systems when it comes to excursion analysis, especially if we already have a system that makes us money, but also constantly keeps us on edge because of large price swings. Analyzing the low or negative extremes of the price movements within each trade (the MAE) provides a good indication of where to place your initial stop-loss or trailing stop orders. But did you also know you could increase profits and decrease drawdown by optimizing your exit techniques and maybe even cutting the winners short as well?

This is the MFE part of the MAE / MFE analysis. It can be done without changing the system's rules or adding any more variables. For this article, we will use the Portfolio Maximizer software package that was co-developed by Omega Research Inc. (www.omega research.com) and Rina Systems Inc. (www.rinasystems.com). Rina Systems considers MFE to have support and resistance characteristics in much the same manner as regular price charts.

The theory is that when price penetrates a specific resistance level, that resistance level becomes a future support level. The same concept can be applied once an open profit has penetrated a specific dollar or percentage level, which also is just another way of measuring the momentum of the trade (as opposed to using a traditional momentum oscillator). When the open profit penetrates a resistance level, the trade typically remains above that level for the remainder of the trade. The goal of this strategy, once the resistance level becomes identified, is to add to existing positions to improve total performance.

After all, the open equity of each trade will always be a perfect image of the corresponding price moves in the market, but on a different scale. So, instead of analyzing support and resistance on a price chart (not knowing if it would be relevant because we don't know whether or not we would have been in a trade at that particular time), we instead analyze support and resistance on the open equity of each trade, where it will be of more importance.

An alternative approach is to examine what happens to a trade a certain number of days after it has been entered. The following example will look at ways to improve a short-term, trend-following, stop-and-reverse system that is always in the market, either by adding to the original trade at a specific day or by taking advantage of any possible profit targets before the system reverses on the next signal. We will call this type of analysis TBE or Time-Based Excursion analysis. The market traded is the S&P 500 index futures market from January 1999 through June 2000. Note: The following numbers don't say anything about the end result of the trade, but only indicate the likelihood for a certain profit target to be reached or not.

Figure 1 shows that on the second day after the original entry signal, there is a 67 percent chance that the trade will reach an open profit of $1,000, which gives it a mathematical expectancy of $670 (0.67 * 1,000). There is a 19 percent chance it will reach an open profit of $5,000, for a mathematical expectancy of $950 (0.19 * 5,000).

However, this analysis says nothing about what happens to all the losing trades. Table 1 shows, with a $1,000 profit target, of all trades still open on the second day, the winners amounted to $180,000, while the total amount lost for all those trades that didn't reach the profit target amounted to -$137,500. For the $5,000 profit target, the same numbers come out to $260,000 and -$264,000, respectively, thus rendering a net loss of $4,000. This shows that you cannot look at profits alone when deciding where to place your profit target.

Note, however, that for the furthest row of columns in Figure 1, which represents the likelihood for a certain profit target to be reached after the fifth day of the original entry, there is a little hump

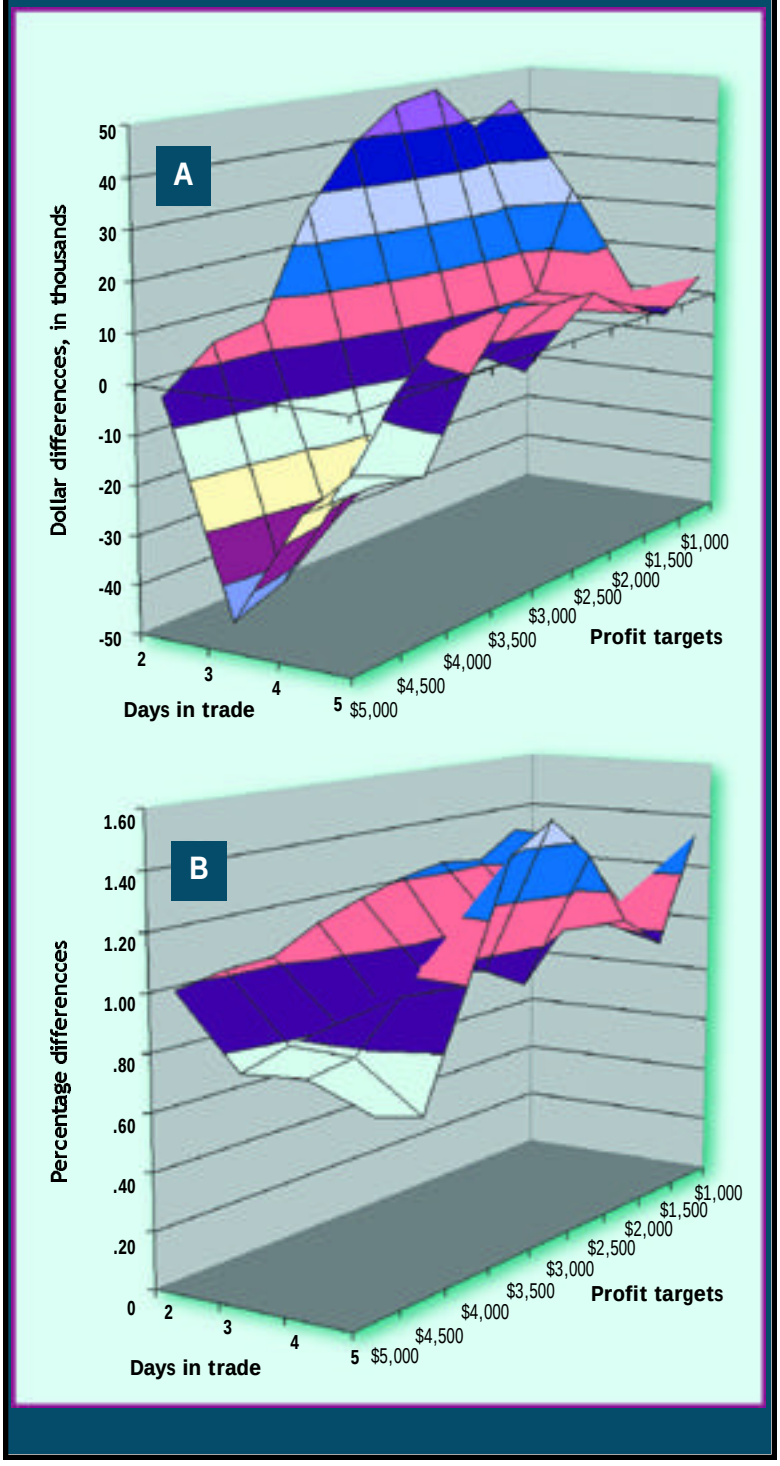
TABLE 1 GOOD TRADES, BAD TRADES

Not all trades will reach the specified profit target. The ones that don't will end up as losers. The day-to-day change between the winners and the losers for a specific profit target will help you identify shifts in momentum and when it could be a good idea to add to a trade.

Targets	Day 2 (Win)	Day 2 (Loss)	Day 3 (Win)	Day 3 (Loss)	Day 4 (Win)	Day 4 (Loss)	Day 5 (Win)	Day 5 (Loss)
$1,000	$180,000	-$137,500	$101,000	-$78,000	$40,000	-$40,000	$20,000	-$15,000
$1,500	$217,000	-$179,000	$115,000	-$114,000	$51,000	-$50,000	$24,000	-$25,000
$2,000	$252,000	-$204,000	$132,000	-$133,000	$56,000	-$55,000	$28,000	-$26,000
$2,500	$267,000	-$221,000	$140,000	-$154,000	$60,000	-$70,000	$35,000	-$26,000
$3,000	$276,000	-$237,000	$156,000	-$170,000	$69,000	-$73,000	$39,000	-$26,000
$3,500	$276,000	-$249,000	$150,000	-$178,000	$77,000	-$73,000	$42,000	-$30,000
$4,000	$260,000	-$254,000	$156,000	-$191,000	$76,000	-$81,000	$36,000	-$36,000
$4,500	$261,000	-$257,000	$157,000	-$200,000	$67,000	-$86,000	$27,000	-$44,000
$5,000	$260,000	-$264,000	$150,000	-$203,000	$70,000	-$93,000	$30,000	-$45,000

FIGURE 2 PROFIT TARGET DIFFERENCES

The peaks and troughs of these two charts show which profit targets work best and when it is a good idea to add on to a trade.



between the profit target levels $2,000 and $3,500. This indicates the mathematical expectations for these levels are even higher when the trade has lasted at least five days.

To investigate this further, you can look at Figures 2a and 2b, which show the differences between the gross profits and the gross losses, in dollars and percentages, respectively. Note that for days 3 and 4 it doesn't seem to matter where you place the profit target —the overall result for the system will be a net loss anyway. But at the fifth day of the trade, something interesting happens. Suddenly the profit targets in the $2,000 to $3,500 region become net profitable again. It is almost as if the market, after an initial pullback and some hesitation after the entry, confirms that the original entry signal was valid and it now, therefore, could be worthwhile to add to the trade (if it is, in fact, profitable).

Yet another application of the MFE concept is to look at the maximum open profit of the trade in comparison to its final profit. Trend-following breakout trades tend to rack up good profits only to give back a large portion of those profits before the system signals an exit. Figure 3 shows the relationship between each trade's open profit and its final outcome. The horizontal axis represents the maximum open profit for each trade, while the vertical axis represents the closed profit or loss for each individual trade. Both winning and losing trades are plotted on the same graph. The green triangles, pointing upward, represent winning trades and the red triangles, pointing downward, represent losing trades.

From Figure 3 you can determine on a trade-by-trade basis just how efficient the system is. For example, the most ideal trade would be a winner with an immediate equity run-up of $10,000 and a subsequent close out of the trade with a profit of $10,000. You could then say that the trade was 100 percent efficient. The sign of a good system is the clustering of small losing trades with a low run-up in equity and a clear line of winning trades in a 45-degree angle. The closer the trades hug the 45-degree line, the more efficient the system is. However, most systems do not display 100 percent efficient trades and consequently end up giving back much of the open profits.

Studying a chart like this is an excellent way of evaluating the relative efficiency of individual trades. For one thing, you should be able to detect individual trades where it would have been beneficial to capture profits before the system would have closed out the trades. By doing this, you are maximizing the trade before the momentum fades away.

For greater flexibility, you also could split the analysis between long and short trades. (As it stands, you don't know if a particular trade was long or short.) Doing

this you also would be able to detect if the system is likely to perform better on a particular side of the market. For instance, an MFE chart with most of the trades clustered in the lower left corner usually implies the market is not particularly prone to trending.

In the case of this particular system, there is an abundance of winning trades clustered between the $10,000 and $30,000 maximum open profit trading range. (There also were three trades with a maximum run-up exceeding $30,000, but we'll leave them out of the discussion for now.) In fact, there are 19 winners and five losers within that open equity range. Comparing each trade's maximum open profit with its end result, it becomes obvious that trades in that dollar range give back a large percentage of their gains by the time the trade is finally closed out.

Now, consider what the result would be using a profit target of $10,000. As you can see, there are five losing trades that generated a total net loss of $40,000. With a $10,000 profit target, you would have converted all of them into winners and the $40,000 net loss would now be a gain of $50,000. That would add $90,000 to your account equity and would have reduced the drawdown.

However, at the same time, out of the other 19 trades that turned out to be winners, eight trades originally would have made more than $10,000, for a total of $109,000. If we use a $10,000 profit target on these trades, they would have only made $80,000, thus, decreasing the bottom line by $29,000 compared to the original system. For the 11 remaining trades, which only generated a total net profit of $66,000, using a profit target of $10,000 per trade would have generated a total net profit of $110,000, an increase of $44,000.

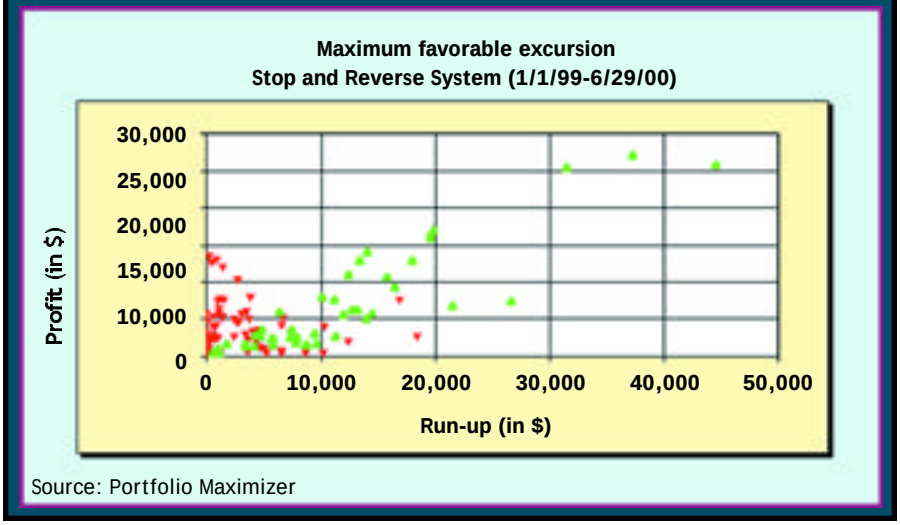
For all trades the total net profit would have increased by $37,000 to $85,000, with the average profit per trade going from $457 to $825. Figure 4 compares the equity curve for the original system (in red) and the equity curve for the system with the profit target added (in blue).

But how do we handle the remaining three trades on the far right of Figure 3? In statistics, these trades are called "outliers" because they are more than three standard deviations away from the value of the average trade and, as such, are considered "freak occurrences" and therefore not used in our analysis.

Nonetheless, there will be times when you will miss a really big move using profit targets, but overall, using a profit target should have a soothing effect on your nerves while at the same time increasing your bottom line. In fact, even though you had to treat those three big winners with only a $10,000 profit per trade, you still would have ended up net positive, because when the market is in a trending mode a profit target will allow you to break up a huge winning trade into several smaller ones, something that is not accounted for in this analysis.

FIGURE 3 PROFIT TARGET LIKELIHOOD

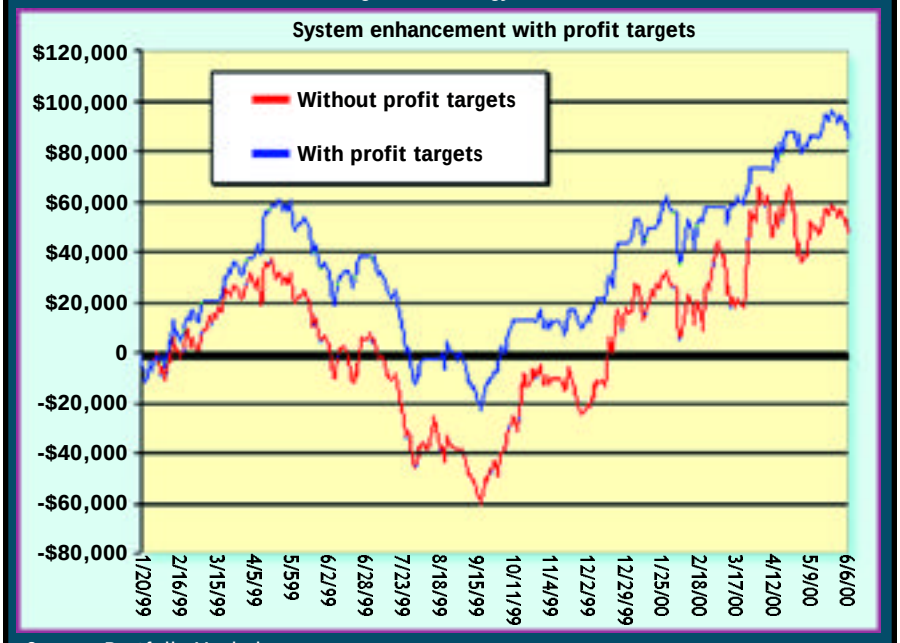
By comparing each trade's maximum open profits with its end result you can get a feel for where to take profits before the momentum of the trade turns against you.



Source: Portfolio Maximizer

FIGURE 4 EQUITY IMPROVEMENTS

Not only will a profit target increase your final equity, it also is very likely to decrease the drawdown, making the strategy easier to trade.



Source: Portfolio Maximizer

Indicator Insight: Momentum and rate-of-change

While momentum (or price momentum) is a generic term used to describe the speed or force of price movement, it also is the name of a specific calculation that measures price change over a given period. Rate of change (ROC) is simply an alternate calculation. The implications and interpretations of these two studies are identical.

Momentum and ROC are similar to oscillators such as the relative strength index (RSI) and stochastics in that they are generally used to highlight shorter-term price momentum extremes (overbought or oversold points).

Calculation

The most common calculation for momentum is simply today's price (typically the closing price on a daily chart) minus the price *n* days ago ($P_{today} - P_{n\ days\ ago}$). The most basic rate of change formula is today's price divided by the price n days ago ($P_{today} / P_{n\ days\ ago}$). Alternate calculations for rate of change are $100*(P_{today} / P_{n\ days\ ago})$ or $(P_{today} - P_{n\ days\ ago}) / P_{n\ days\ ago}$. The resulting indicators are the same, though.

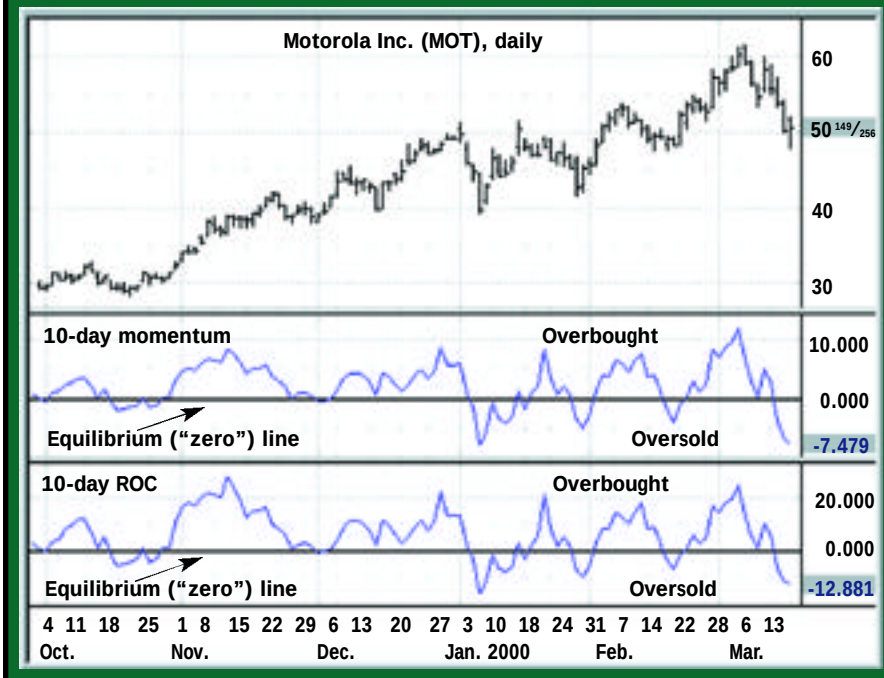
Figure 1 compares 10-day momentum and ROC studies and shows that, except for scaling, the two calculations are identical. Momentum simply expresses price change as the difference between two prices while ROC expresses price change as a percentage or ratio.

Momentum and ROC have "equilibrium" or center lines that reflect neutral price momentum (when the current price is the same as it was *n* days ago). In the case of the momentum study, this line has a value of zero; for the ROC study, the line has a value of 1 (or 100, or 0, depending on the calculation). When either of the studies is above the equilibrium line and rising, price is accelerating to the upside. When the studies are below the equilibrium line and falling, price is accelerating to the downside.

These studies can be calculated on any time frame. Figure 2 shows a six-bar momentum study applied to a 10-minute chart.

FIGURE 1 MOMENTUM AND ROC

Momentum and rate-of-change (ROC) are different calculations of the same study. Both measure price change by comparing the most recent price to the price a certain number of days in the past.



Source: QCharts by Quote.com

Application

Overbought-oversold: Momentum/ROC are typically used to highlight shorter-term swing points. High momentum/ROC readings reflect a potentially overbought market, while low readings reflect a potentially oversold market. Both Figures 1 and 2 show how many of the high and low readings on the indicators corresponded to swing points in the stock.

Accordingly, traders can look for signs of price reversals when these indicators move to extreme levels. However, as will be described in the next section, extreme momentum/ROC readings do not guarantee price reversals or forecast the degree of the subsequent move; they simply alert the trader that reversals or corrections may occur.

Divergence: Another application of these studies is to look for reversals when the indicator diverges from price.

For example, in an uptrend price may make a higher high but the indicator may make a lower high suggesting the new high is occurring on weaker momentum and the market is vulnerable for a reversal. Figure 3 shows how Dell (DELL) made a higher high while the ROC study made a lower high. This is sometimes called a bearish divergence because it suggests the possibility of a downside reversal. In this case, a sell-off did, in fact, occur.

Key points

One of the most important aspects of indicators such as momentum and ROC is that they measure the acceleration of price over time. For example, a market that gains a point a day over a given week is steadily rising, but its momentum, while positive, is actually stagnant. A momentum or ROC study tracking such a market would actually be moving horizontally. By comparison, a stock that gains a half-point one day, a point the next, and two points the third day, has positive and increasing momentum — in other words, the stock is accelerating. This example would be reflected by an upward sloping momentum/ROC line.

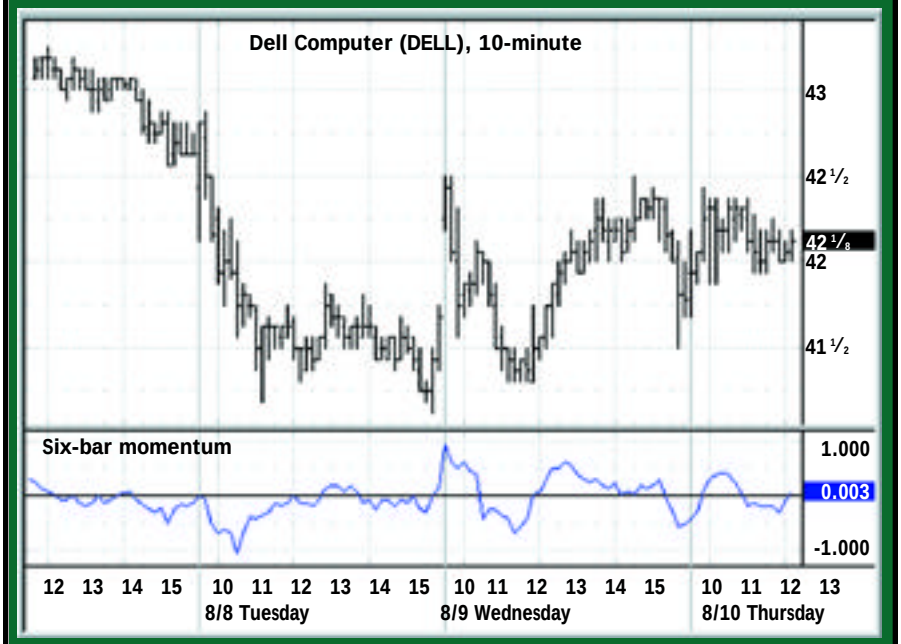
As a result, momentum/ROC (and other momentum-based oscillators) will sometimes "lead" the market, reversing before price itself. When a market continues to rise, but more slowly (as is often the case when a price trend is beginning to exhaust itself), its momentum is decreasing, which will be reflected by a down-turning momentum line. As a result, the momentum study may be falling when price is still rising. In extended trends, however, this process may be very drawn out: Price may make a series of higher highs while the momentum/ROC study makes lower lows ("multiple divergences") before finally reversing in earnest.

The degree to which these studies reflect longer- or shorter-term price action depends on the number of days used in their calculations. For example, a 5-bar ROC will reflect fairly short-term price swings. A 40-bar ROC will reflect longer-term price swings. Figure 4 compares 5- and 40-bar momentum studies. The 40-bar study tends to follow the longer-term trend while the 5-bar study accentuates more of the shorter-term price swings.

Unlike oscillators such as the relative strength index (RSI) or stochastics, which range between set boundaries of 0 and 100, momentum/ROC fluctuations are not limited. As a result, what constitutes an overbought or oversold reading can only be determined relative to the study's past highs and lows. For example, the overbought and oversold levels in Figure 5 were established at levels that captured most of the past indicator extremes. Overbought and oversold levels can be adjusted to capture more or fewer of the

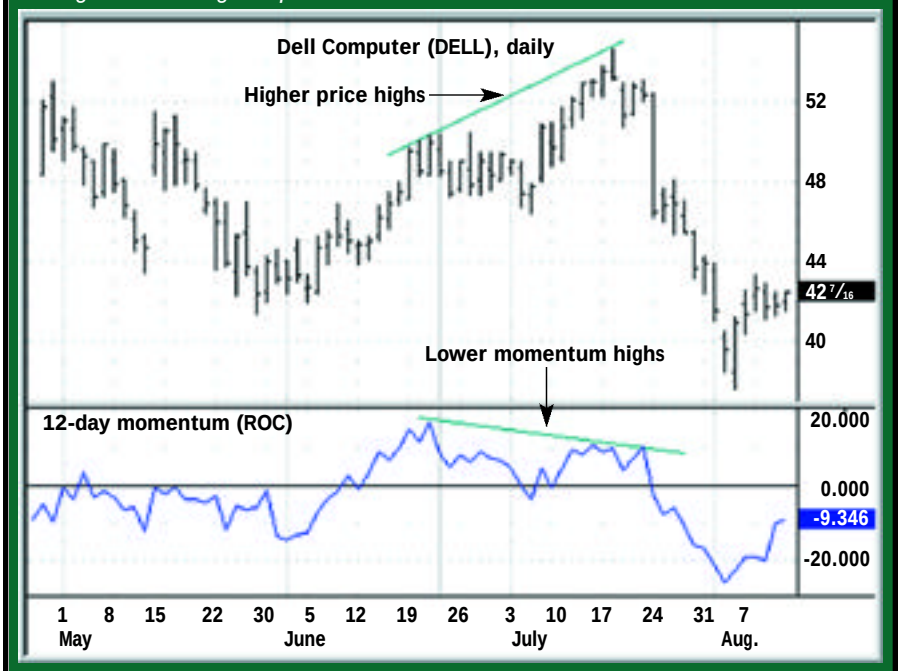
FIGURE 2 INTRADAY MOMENTUM

Momentum/ROC can be applied on any time frame. Here, a six-bar momentum study follows the stock's intraday swings.



Source: QCharts by Quote.com

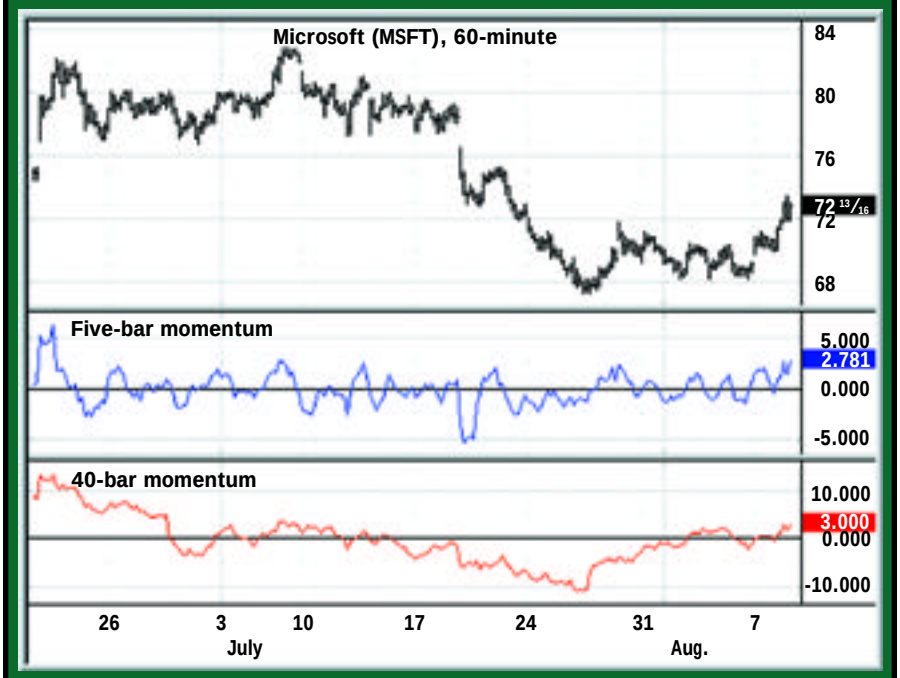
Here, the ROC study moves lower while price moves higher — a bearish divergence that signals potential weakness.



Source: QCharts by Quote.com

FIGURE 4 SHORT-TERM, LONG-TERM

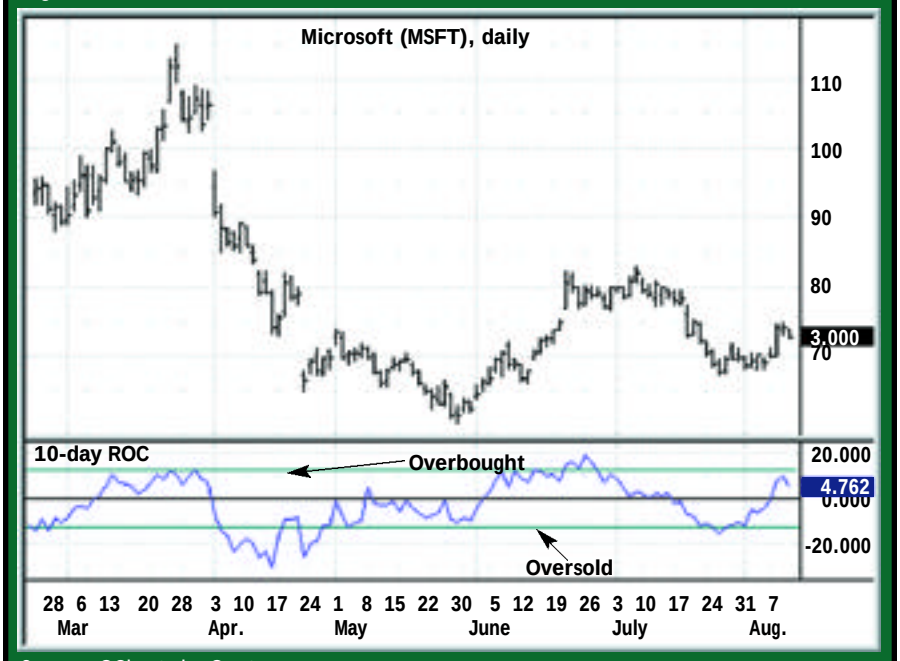
Five- and 40-day momentum studies reflect the shorter- and longer-term price swings. Notice that the 40-day study is influenced much more by the longer-term trend than the 5-day study.



Source: QCharts by Quote.com

FIGURE 5 OVERBOUGHT AND OVERSOLD

Horizontal lines based on previous indicator highs and lows mark overbought and oversold levels. Also note the extended bullish divergence that formed in April and May as the stock dropped while the 10-day rate of change moved higher.



Source: QCharts by Quote.com

indicator's extremes depending on a trader's level of activity.

Most traders establish overbought and oversold levels equal distances above and below the equilibrium line, but in many cases this is inappropriate. Overbought and oversold levels will change over time given the strength and direction of the trend. For example, Figure 4 shows how during the downtrend, the longer-term study especially is skewed to the downside — it flattens out and is pushed below the equilibrium line while the shorter-term study still manages to oscillate above and below the equilibrium line. As a result, during uptrends it is generally useful to shift overbought and oversold lines higher, and shift them lower during downtrends. Doing so will cut down on the number of "false" signals — repeated overbought signals in an uptrend or oversold readings in a downtrend — and increase the number of signals in the direction of the trend.

Afinal word on trend: Because of the influence strong trends exert on indicators of this type, momentum/ROC overbought and oversold signals are more useful when the market is moving sideways in a congestion period or trading range. (For example, note the premature bullish divergence in April in Figure 5.) Very extreme overbought and oversold reading accompany strong price thrusts that indicate trend strength rather than exhaustion. Because of the risk of false signals, many traders use momentum/ROC to alert them to potential overbought and oversold situations, then look for confirmation from price action to actually enter a trade.

Bottom line

Momentum/ROC are simple studies that provide a snapshot of price direction and velocity. They are generally used to identify overbought and oversold levels — points at which price is likely to correct or reverse. Divergence between price and these indicators can be used to highlight weakening momentum in a trending situation.

These are not systematic trading tools. Traders should not automatically sell when one of these studies registers overbought or buy when they are oversold. Instead, momentum/ROC can alert traders that a market may be at a momentum extreme.

Trading THROUGH TURMOIL

A prolonged period of falling prices or general market turmoil might not be upon us tomorrow, but the odds are that one or the other is in our future at some point.

Read on to find out what can you do to prepare.

BY MICHAEL A. MERMER

Despite what most people think, the real stock market crash that ushered in the Great Depression occurred not on Oct. 29, 1929, but between 1930 and 1932. The so-called "Crash of 1929" most people refer to, when the market fell some 50 percent (from 386.10 in September to 195.40 at the end of November), was nothing but a preview of what was to come.

As Figure 1 shows, the real sell-off and bear market did not start until Oct. 31, 1930, when the Dow traded below support from the 1929 lows and declined about 80 percent, from 195.40 to 40.60 on July 8, 1932. Could the recent market sell-off be a similar preview for a greater decline to come? There is always that chance, so familiarizing yourself with a few trading tools and techniques that could be handy in such an event is a wise move.

The setup

Figure 2 shows that, aside from the big rally from 1924 to the highs in 1929 (when the Dow broke through its previous highs at 105.60 and continued to rally nearly 300 percent to 386.10), and the big correction from 1929 to 1932, the two most prominent events were the 15-year advance between 1950 and 1965 and the current advance that got underway around 1983. In both instances, the Dow increased approximately tenfold. Another significant period was between 1965 and 1980 when the Dow stayed in a range from about 600 to 1000, and was plagued with frequent 30- to 50-percent corrections.

In late August 2000, the Dow was trading around 11,000, after a rally of nearly 1,000 percent since it broke through the 1,000 level back in 1983. Given previous situations and based on the market's massive gains, it's not unthinkable that the current market could experience a similar correction, especially after factoring in that this bull market has now lasted for close to 18 years without any corresponding declines.

Yes, the market did "crash" in 1987, when the Dow corrected about 40 percent from a high of 2,662.30 on Oct. 2 to the low at 1,616.20 on Oct. 20. But as Figure 2 shows, this correction was not particularly dramatic compared to several other declines the market has experienced. Note that the crash of 1987 only lasted for a month and that for the entire year of 1988 the market never again traded below the October 1987 lows.

By contrast, during the 1930 to 1932 period the market kept making lower lows each month for almost two years. During the 15-year consolidation period through the 1960s and '70s there also was a 50-percent correction, which ended in 1974. The bottom line is that the correction of 1987 was not much of a correction by historical standards and nowhere as serious as the 1930 to 1932 drop.

Based on this historical analysis and the Dow's tendency to fluctuate in approximately 15-year intervals, it is possible that the Dow now could be on the verge of another extended trading range, similar to the one in the '60s and '70s. It has happened before and it can happen again. But while we can't be sure it will happen or when, we can be ready. We'll need to do our analysis homework and make sure we know when and what to trade.

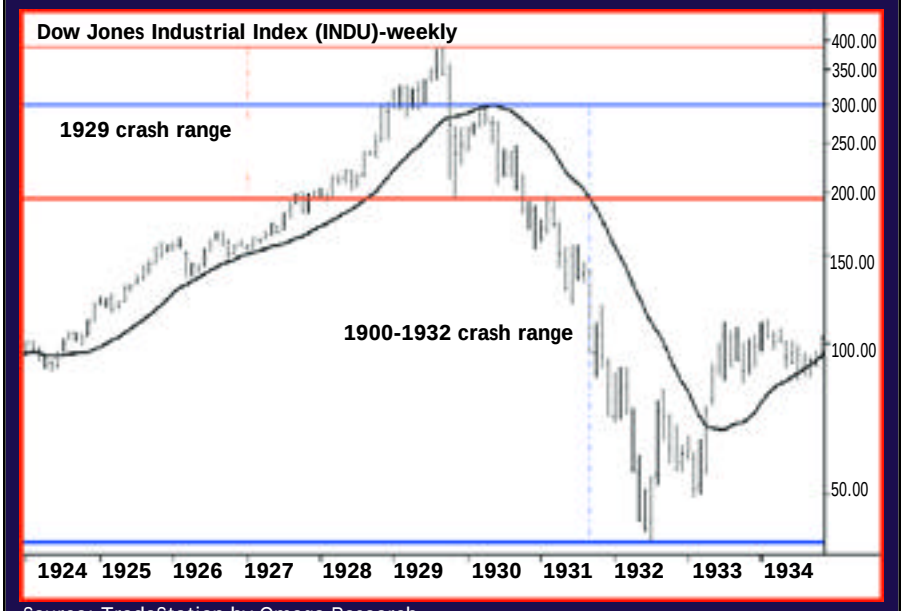
The analysis

If history is any indication of the future, the current bull market may not continue for much longer. Even if the market is higher a few years from now, its path is unlikely to be the relatively smooth one it has been over the last decade.

If the market is indeed likely to chop around for an extended period, to preserve capital, money has to go into bonds and away from the long-only positions in the typical Internet and high-flying Nasdaq stocks that have made the biggest gains over the last few years. And because volatility levels are likely to be

FIGURE 1 THE CRASH OF 1930 TO 1932

The first big drop occurred in October 1929, but the real sell-off and bear market did not start until Oct. 31, 1930. The Dow traded below support from the 1929 lows and declined about 80 percent, from 195.40 to 40.60, reaching its low on July 8, 1932.



Source: TradeStation by Omega Research

FIGURE 2 THE LAST 80 YEARS

Compared to many other market drops, the crash of 1987 was a relatively minor event.

Source: TradeStation by Omega Research

high and long and short trade opportunities will be available, you should consider trading both sides of the market.

Looking at the last few years' price action in Figure 3a , we can find key support in the Dow at the March 2000 low and, further down, at the September 1998 lows. Considering the Nasdaq already has had a 40 percent correction earlier this year (see Figure 3b, below), a second sell-off could easily be of the same or greater magnitude as everyone attempts to exit at the same time.

During the last bull run many individual investors foolishly borrowed money on their credit cards to buy stocks. In an effort to rescue their capital, many were forced to sell out at the lows when they received margin calls. The normal day-to-day volatility of the Nasdaq also could accelerate any big correction. If the support lows around 3,000 established this May do not hold, it is possible we could go even lower — and there's still plenty of non-risk capital invested in the Nasdaq to fuel a sell-off.

The strategies

One alternative is to bypass the current big downside risk by waiting until the market has its next big correction, keeping money in bonds or short-term treasury bills or notes. For now, with CDs generating about 7 percent in risk-free return, bonds aren't a bad alternative, considering the current risk level of the stock market. But if we're in for a 15-year trading range, we also need to examine a few alternative strategies.

One of the biggest problems today is that most traders only see one side of the market, which has driven the bull market in part because of a self-fulfilling prophecy — the buyers keep it moving up because it is "supposed" to go up. But what happens when buying stops as interest rates start to approach 8 to 10 percent and inflation sets in? What happens when we start to see earnings failures and it is clear that PE ratios of 50 times future earnings are seen as unreasonable? That's when you need to be just as comfortable selling the market as you now are buying it.

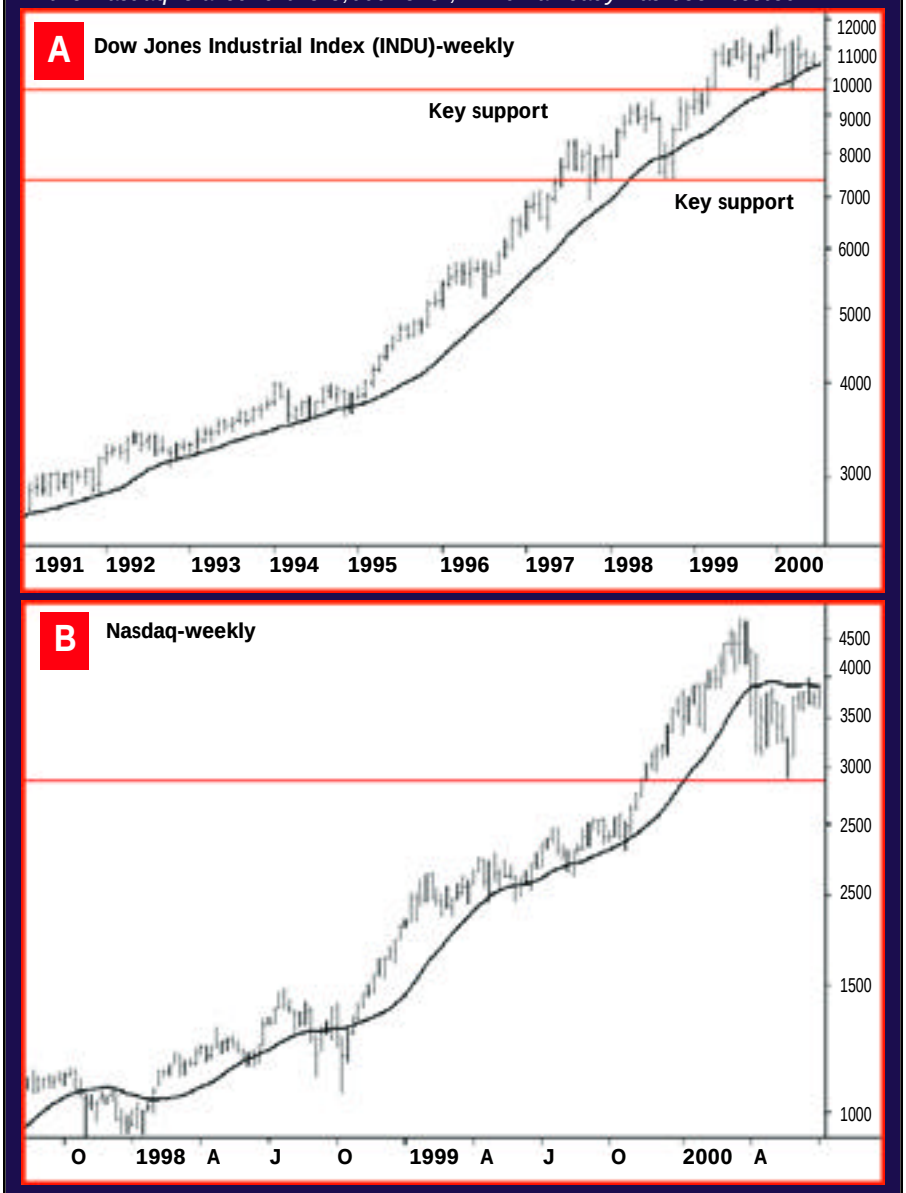
The tools

Trading in a bear market used to require special knowledge and skills to short individual stocks, and for the most part the practice was limited to institutional traders. Also, often individual stocks cannot be shorted because they have to first be available to borrow and then can only be sold short on an uptick (see "A walk on the short side," *Active Trader*, July p. 32). This means that if a stock is in free fall without any upticks, you may never be able to sell it short.

However, with the increasing volatility stemming from a declining market, you might not have to focus on any particular stock, but instead can look at any of the broader market indices, which usually provide plenty of profitable

FIGURE 3 LOOKING FOR SUPPORT

The Dow has key support around the 10,000 and 7,500 levels, while support in the Nasdaq is around the 3,000 level, which already has been tested.



Source: TradeStation by Omega Research

TABLE 1 THE DATA

Basic historical analysis allows you to examine the potential return differences between the different indices and their respective upswings and downswings.

	Total return 1990 - 1999	Average yearly return	Average monthly return	Average crash return	Dull-period return
Nasdaq	1,557%	32%	2.35%	-36%	6.7%
DJIA	317%	15.3%	1.2%	-26%	6.5%
S&P 500	316%	15.3%	1.2%	-23%	3.2%

Source: TradeStation by Omega Research

trading opportunities in times of turmoil. There are several ways to trade indices. One is to trade mutual funds, but this can be costly because of high fees. A second way is to trade futures and options, but this requires that you feel comfortable using leverage and that you know how to handle the time decay and pay the high premiums associated with options trading.

A third and very favorable way are the so-called tracking stocks or index shares that track three broad market indices — the Dow Jones Industrial Average, the S&P 500 and the Nasdaq 100 — and trade through your regular broker or online stock account. Their symbols are DIA, for the Dow, established in 1998; SPY, for the S&P 500, established in 1993; and QQQ, for the Nasdaq 100 index, trading since 1999. Figures 4a through 4c (right), show how closely these stocks track the actual indices.

With these stocks you're no longer limited to the very risky short selling of individual stocks or buying expensive put options. Another key reason to use index-tracking shares instead of individual stocks is that you can sell them on a downtick.

Placing orders

To trade these stocks efficiently in a trading range or declining market, you should use limit orders when the market is slow so you can get your price, and reduce and eliminate the size of any spread. In a fast market or when things begin to heat up, always use market orders, otherwise you're likely to miss the move. If you're right on the direction, you will make up the spread or any slippage on the momentum of the trend anyway. Remember, all big winners start out as small ones and some of the very best trades look lousy when they first begin. Not all winning trades immediately go your way, so always expect some heat or adverse price movement on a trade.

Also, whether trading in a bull or bear market, always trade with a stop. While stops are the only way to control risk, no trade is completely without risk. Because markets can gap up or down, stops do not guarantee you'll get out at your risk level.

Trading techniques

The index-tracking stocks give you the opportunity to use several interesting trading strategies, such as spreading one stock against another, in different quantities, depending on what you believe is the most likely outcome for the markets. But in order to do so, you first need to find out how these instruments stack up against each other.

The second column in Table 1, shows that, since Jan. 1, 1990, the Nasdaq index

FIGURE 4 LOOK-ALIKES

The index-tracking stocks follow their respective indices very closely, giving traders the opportunity to trade long- and short-term price moves on both sides of the market.

Source: TradeStation by Omega Research

has increased 32 percent per year (or about 2.35 percent per month), while the corresponding number for the S&P 500 and DJIA comes out to 15.3 percent (or about 1.2 percent per month), or approximately half as much as the Nasdaq. This suggests that to make the same amount of money in either the S&P 500 or DJIA as in the Nasdaq, you will have to invest twice as much.

However, looking at the fourth column, which shows the average percentage value of the four largest declines (including the crash of '87), you can see that the Nasdaq, on average, dropped 36 percent, while S&P 500 and DJIA dropped 23 percent and 26 percent, respectively. This means that, if you want to invest in the Nasdaq, but, in case of a major decline, don't want to lose more money than you would have in the other markets, you should only allocate two-thirds of your available capital.

Now, say that you have $100,000 invested and normally are fully invested in QQQs but would like to hedge against a possible October scare. One way to do it is to liquidate half of your QQQs and use that money to go short the DIAs. If the market indeed continues higher at its "normal" rate, then your return for October would be $575 ($50,000*0.0235 - $50,000*0.012) — or $8,350 annually, compared to $2,350 ($100,000 * 0.0235) — or $32,000 annually — being fully invested in Nasdaq. But had the market crashed you would have lost only $5,000 ($50,000*0.26 - $50,000*0.36), compared to $36,000 ($100,000*0.36) had you been invested in QQQs only. Thus, by allowing for a decreasing profit potential with a factor of 4 (2,350/575) you have decreased your crash sensitivity by a factor of 7.2 (36,000/5,000), assuming these proportions stay the same.

The far right column in Table 1 shows the annual returns for the three indices during the relatively dull market period from January 1992 through December 1994.

If and when the stock market enters prolonged period of high volatility and/or declining prices, you need to be able to operate on the short side just as comfortably as the long side. The index share instruments give both investors and traders easy-to-use vehicles that can hedge risk on longer-term positions and trade shorter-term fluctuations in the stock market.

Profiting from INTERMARKET ANALYSIS

This spring's Nasdaq sell-off blind-sided many traders. Here's how one trader used a top-down intermarket analysis approach to time the switch from Nasdaq to Dow issues.

BY JOHN SALEEBY

No one stock is an island unaffected by the ocean of other stocks that create the market. For example, no single piece of bullish news or chart support line will bolster a stock during a severely declining market. As a result, it's imperative to analyze the trends of different stock indices to support individual stock trades.

Market action earlier this year — when the Dow and Nasdaq switched leadership roles in the market — highlights the advantages of using an intermarket, macro-analysis approach to improve the probabilities of individual stock trades. Basically, by identifying the sector or stocks responsible for the leadership of a particular stock index, you can find the best trade opportunities at a given time.

There are two basic elements to this approach:

1) using intermarket analysis (comparing stock indices) to identify the leading stock index at a given time; and

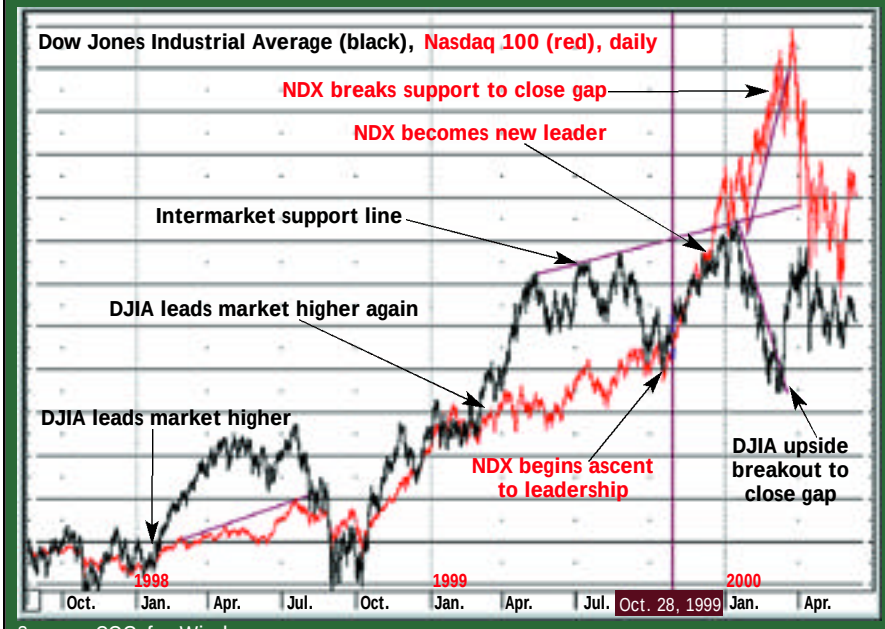
2) identifying and trading the stocks or sector(s) responsible for the strength of the index.

As long as the stock, sector and corresponding index remain in their respective bull trends, at least a small long position in each stock is maintained. Additional trades can be made when such stocks retrace to support levels, with profits taken at projected resistance points.

As each of the leadership stocks begins to correct, the leading sector(s) becomes suspect. Unless new sectors in the same index emerge to lead the market, the index also becomes suspect. When the leadership sectors and indices turn bearish, long positions are liquidat-

FIGURE 1 FOLLOW THE LEADER

Overlaying the DJIA and Nasdaq (NDX) highlights the relative movement of the two indices.



Source: CQG for Windows

ed and short trades are favored.

We'll use actual trades from earlier this year to illustrate how the interaction of the Dow Jones Industrial Average (DJIA) and Nasdaq 100 indices helped identify high-probability individual stock trades.

Identifying the leading index

Figure 1 (opposite page) is a macro picture of the market. It is created by setting the two indices, the DJIA and Nasdaq 100, at the same starting point each January. The chart is not lognormal — a percentage move in one index is not equal to a percentage move in the other index. Nor is the chart to scale — a one-point move in the DJIAis not equal to a one-point move in the Nasdaq 100. Instead, congestion areas are overlapped at the beginning and end of the period being analyzed to compare the movement of the indices. Overlapping the congestion of the relevant time frame demonstrates the indices' movement relative to their performance over the previous time period and one another.

Lognormalizing or scaling the chart does not reveal additional information because the DJIA and Nasdaq 100 are computed very differently. The Nasdaq 100 is a modified capitalization-weighted index of the stocks listed on the Nasdaq 100. It is designed to limit domination of the index by a few large stocks while generally retaining the capitalization ranking of companies. The DJIAis a price-weighted index for which a one-point move in any component equates to approximately a five-point move in the index regardless of the percentage movement of the stock or its market capitalization. Because of the different methods used to calculate the indices, lognormalizing or scaling the chart would neither reveal relative money flows nor relative price performance of the component companies.

This chart is designed only to reveal relative price performance of the two indices. By overlapping the congestion of January 1998 and 1999, the relative price appreciation for each index is set for the duration of the chart. For example, if the DJIA appreciated approximately 1,275 points in 1998 and the Nasdaq appreciated approximately 850 points in 1998, this chart fixes the ratio of appreciation as 1.5. Thus, each one-point move in the Nasdaq will be charted as an appreciation of 1.5, while the DJIA remains one point. Because the two indices begin at the same point on the chart, the appreciation of the two indices relative to their performance over the previous year as well as each other can be easily visualized. This method can be used for any time frame.

Figure 1 shows how the DJIA led the Nasdaq in each bull move between early 1998 and late 1999. After the breakout in January 1998, the Dow outperformed the Nasdaq until August of that year.

When a sector or index leads the overall market to new highs, the disparity between the two can become too great and, as a result, the lagging sector or index will periodically outperform (close the gap) until valuations return to their "relative" levels. For example, from July through October 1998, the Dow retraced to the level of the Nasdaq 100 before reasserting its leadership and taking both markets higher for the next 12 months. The Dow's leadership role is obvious and consistent in 1998 and most of 1999.

However, between October 1999 and January 2000, the Nasdaq stopped lagging the Dow. In fact, by December 1999 the Nasdaq had assumed the leadership role in the market, continuing to the upside while the Dow peaked and then declined.

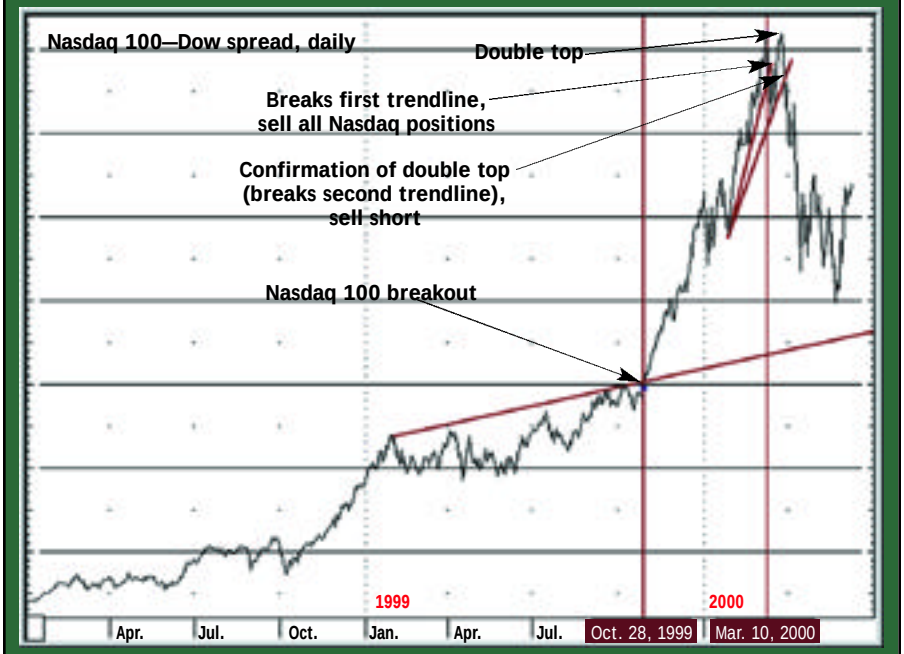
This leadership role reversal was confirmed by mutual fund flows. Until the end of 1999, flows heavily favored the S&P 500. But by early 2000, S&P index funds actually underwent redemptions as money transferred to technology and growth funds.

Finding the strongest sectors and stocks

The Nasdaq's bullish breakout in late October 1999 is also shown by the

FIGURE 2 NASDAQ—DOW SPREAD

The relationship of the Nasdaq 100 and the Dow shown as a spread. Note the double-top formation.

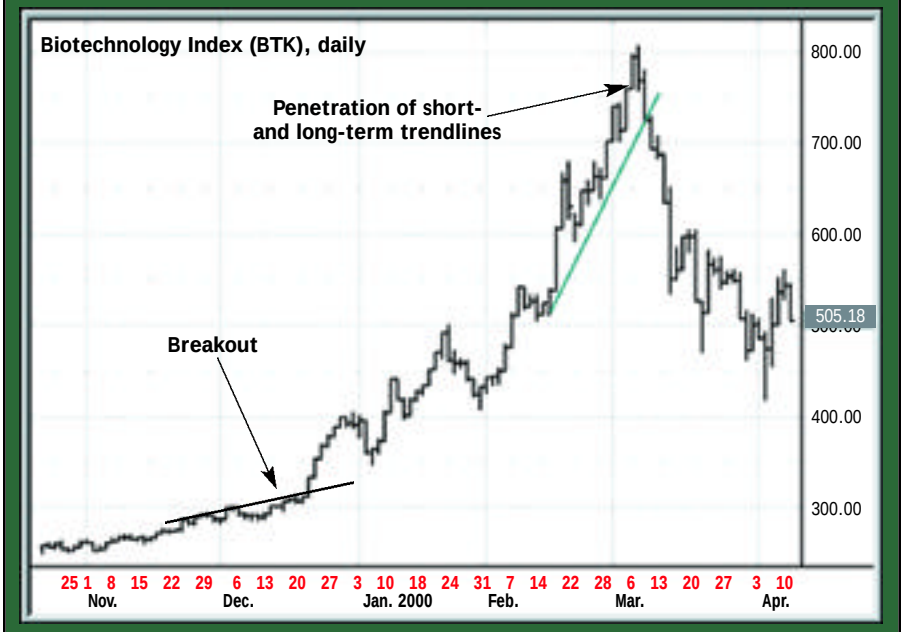


Source: CQG for Windows

To profit from index breakouts, **you must determine** which **stocks** within the **leading index account** for the **bullish trend.**

FIGURE 3 BTK BREAKOUT

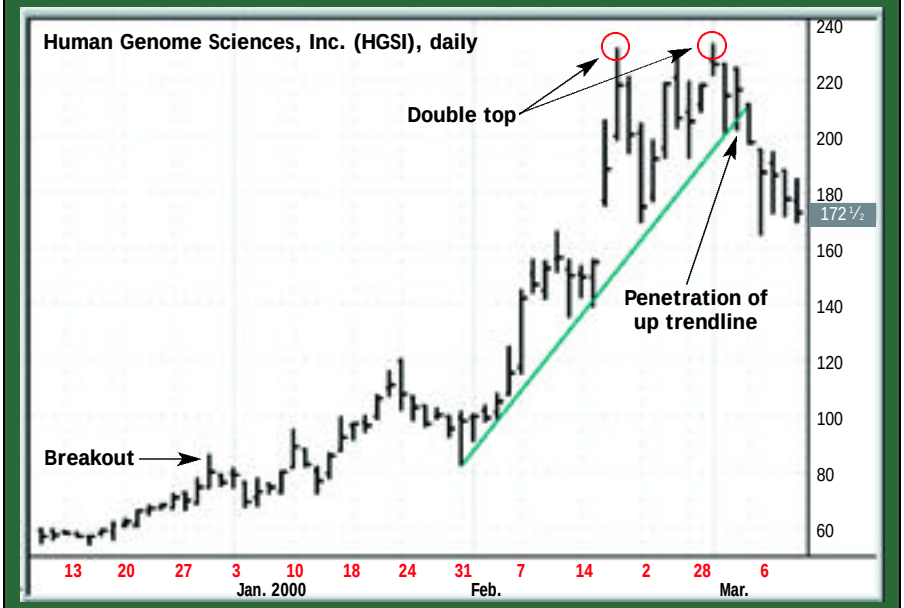
A mid-December 1999 breakout in the biotech (BTK) index coincided with the Nasdaq assuming the leadership role in the overall market.



Source: CQG for Windows

FIGURE 4 SECTOR LEADER: HUMAN GENOME SCIENCES

Genomic/biotech leader HGSI was a strong stock in a strong sector, making it a viable candidate for a long position when the Nasdaq and BTK broke out to the upside in December 1999.



Source: CQG for Windows

Nasdaq-Dow spread in Figure 2. Equally obvious is the reversal of this trend with the formation of a double top in mid-March 2000. The question is how to use this information to your advantage when trading individual stocks.

To profit from index breakouts like the one in the Nasdaq, you must determine which stocks within the leading index account for the bullish trend. There are several ways to do this, including examining the new highs and percentage gainers on bullish days. (Also, "headline stocks" — stocks that receive an inordinate amount of media and analyst coverage for a period of time — often become short-term leaders.)

When multiple stocks like these are in the same sector, you can chart either the individual stocks or the sector itself against the index. If the sector or individual stocks ascend at a greater rate than the index, they are, by definition, leading the market and are good candidates for individual trades. (This is essentially a way of graphically targeting stocks with high relative strength [RS] readings.)

For example, in October 1999 the following stocks from the B2B e-commerce sector met the criteria mentioned above: Commerce One (CMRC), Ariba (ARBA), Vitria (VITR) and Akamai (AKAM). Each of these stocks (as well as the B2B sector as a whole) was featured on CNBC almost daily, and they were often leading point and percentage gainers. The trendlines (regression lines can also be used) for the individual stocks and the B2B sector were ascending at a greater rate than that of the Nasdaq 100.

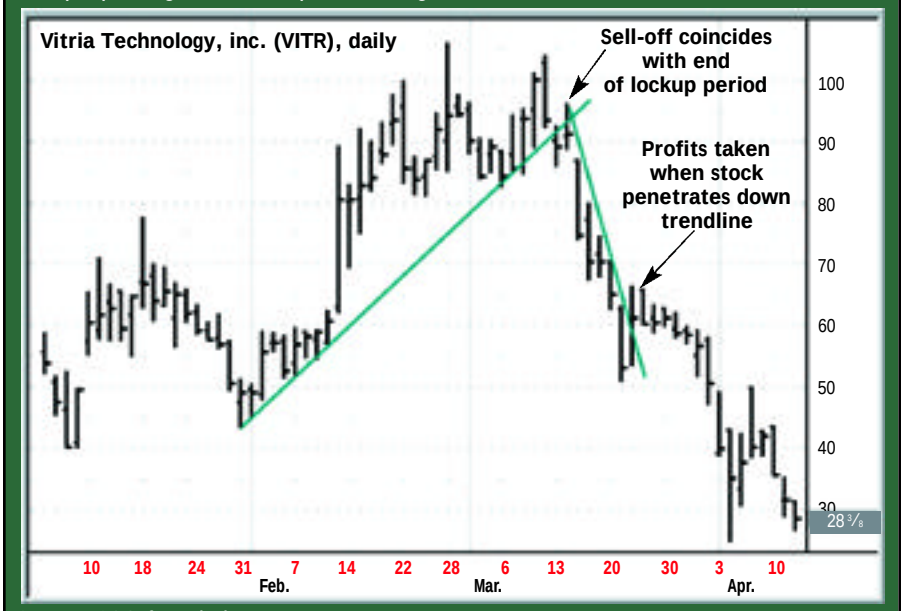
In December 1999, the genomic stocks (those biotech companies focusing on gene-based medical treatments) joined the B2B stocks in their leadership role. Figure 3 shows the late December breakout in the biotech index (BTK); Figure 4 shows the coinciding breakout for Human Genome Sciences (HGSI), one of the leading genomic stocks.

Long positions were initiated at this time in both HGSI and Celera (CRA), another leader in the sector. These positions were maintained, at least in part, until March 2000. Note that on March 2, HGSI turned bearish (as did CRA on March 3), and by March 7, the BTK had clearly turned down as well. Consequently, the positions in these stocks were liquidated.

By March 10 each of the selected leading equities (except VITR) in the B2B e-commerce sector and biotechnology sectors had turned bearish, and the absence of new sectors asserting leadership cast a pall over the Nasdaq as a whole. (Also, the Nasdaq 100 and Nasdaq

FIGURE 5 SECTOR LEADER: VITRIA TECHNOLOGY

VITR was a leader in the B2B e-commerce sector that, along with the BTK, was propelling the Nasdaq to new highs.



Source: CQG for Windows

Composite both closed sharply lower after establishing new highs, reinforcing the conclusion that at least a correction in the Nasdaq was imminent.) Consequently, all remaining long Nasdaq positions were liquidated at this time, anticipating at least a correction in the Nasdaq.

At this point, only short positions in the Nasdaq were considered. Given that the Nasdaq 100, leadership sectors and each leadership stock (except VITR, see Figure 5) had turned bearish, the odds were good that the expiration of VITR's lockup period would cause that stock to sell off as well. VITR was artificially inflated by bullish information that created retail demand at the end of the stock's lockup period on March 15 (see *Active Trader*, May,). Consequently, upon the March 13 penetration of the up trendline shown in Figure 5, a short position of VITR was established. (The position was liquidated on March 22 upon upside penetration of the descending trendline.)

While the Nasdaq showed signs of topping in March, the Dow (Figure 1) and S&P 500 (not shown) were bottoming. The Nasdaq-Dow spread (Figure 2) broke an up trendline, confirming the reversal and indicating the two indices would begin to close their gap.

But there was more to this than a simple change of leadership. Because the Dow and S&P charts indicated bullish breakouts despite a Nasdaq correction, the odds were good the Dow breakout would be explosive. Why? Because technology stocks, mostly listed in the Nasdaq, comprise approximately 25 percent of the S&P. For the S&P to bullishly break out despite a bearish Nasdaq requires double the work from the Dow.

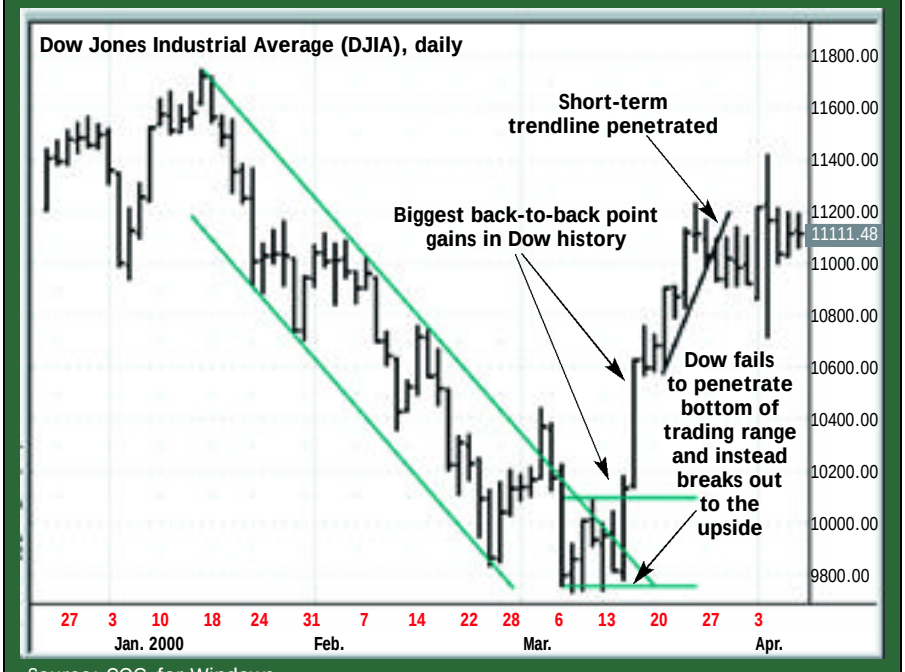
As a result, Dow stocks became the logical focus of long-side trades, in anticipation of an upside breakout. (Alternately, the Diamonds [DIA] and Spiders [SPY] could be used to take advantage of moves in their respective indices.)

However, positions in Microsoft (MSFT), Intel (INTC), IBM (IBM) and Hewlett-Packard (HWP) were not good candidates because of their correlation to the Nasdaq. Instead, General Electric (GE), Coke (KO), and American Express (AXP) were excellent choices to participate in the Dow rally: GE has a 99 percent correlation to the S&P; KO was near its 52-week low and undervalued; AXP is a financial leader that had corrected severely during the Dow downturn.

Mid-morning on March 15, after the Dow clearly failed to penetrate the bottom of its range (Figure 6), these stocks were purchased at the market. March 15

FIGURE 6 DOW BOTTOM

The March top in the Nasdaq was reflected by the bottoming pattern in the Dow. The Industrials failed to penetrate the trading range's support and shot to the upside, signaling the end of the Nasdaq's leadership and a switch to Dow stock that were not correlated to the Nasdaq.



Source: CQG for Windows

Trading individual stocks **without examining** broader market **trends** is like **focusing** on an **individual raindrop** and **ignoring the downpour.**

and 16 were the largest back-to-back point gains in Dow and S&P history.

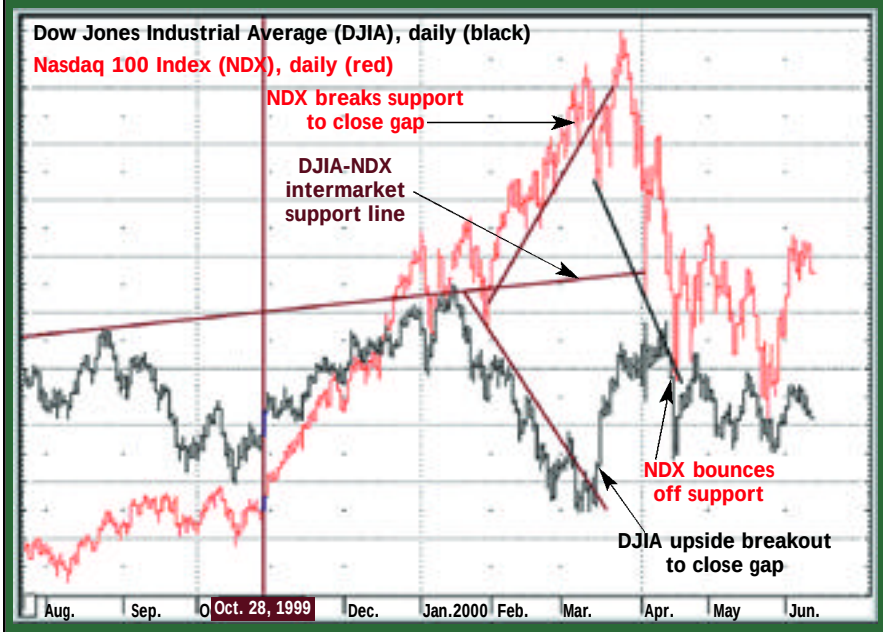
In such situations, if the reversal of such an entrenched trend doesn't manifest itself in a buying frenzy, the rally is suspect. But if the intraday reversal and buying spree do materialize, the next day's follow-through should be equally powerful. If momentum wanes toward the end of the second day, positions can be exited. Trailing stops can be used to lock in profits and allow the position to run if longer-term follow-through develops. (In this case, the long positions were exited on a penetration of the short-term up trendline on March 28.)

At some point the previously leading index should bottom and attempt to reassert its leadership. After the double top and downward penetration of the up trendline in the Nasdaq-Dow spread on March 29 (Figure 2), the Nasdaq remained in a downtrend until April 24. As a result, only short positions were considered during this period. When the Nasdaq sell-off began, the initial projected low was 3,575, based upon previous Nasdaq congestion and projected intermarket support (see Figure 1). Notice the extension of the Dow trendline from its leadership period. This line represents the extension of Dow valuations over this same period of time and therefore supports the valuation of the leading index upon a retracement to the trendline.

This projection was modified after April 4, when the Nasdaq 100 both plummeted and rallied approximately 500 points in a day, and bounced off the intermarket support line. The projected low was set with a trendline incorporating this plunge. The sell-off on April 14 hit the trendline support at 3,200 (see Figure 7). On April 17, after a 20 percent reversal of the intraday low set at the open, long positions in both the QQQs (the Nasdaq 100 tracking stock) and a predetermined basket of stocks were executed. April 17 and 18 were the largest back-to-back gains in Nasdaq history.

FIGURE 7 NASDAQ BOUNCE

The Nasdaq 100 plunged, bounced quickly, then dropped again before rallying off the trendline support (that incorporated the plunge) around 3,200.



Source: CQG for Windows

Beyond equities

A more thorough application of this kind of analysis would encompass other related indices — e.g., following the trends in the treasury markets and their positive relationship with the equity markets. Simply, what is good for the treasury market is generally good for the stock market; movement in treasuries often precedes movements in stocks.

Also, when examining the treasury market, you should consider the trend of both the market and the yield curve to determine the effect on equities. For example, while a flattening yield curve is generally bearish for equities, the true effect depends on the cause of the flattening.

Most yield curve flattenings are perceived to be bearish because short-term interest rates are rising. However, if the curve is flattening because the longer-term yields are dropping, this can be bullish for equities, especially when accompanied by a downward shift in the yield curve.

Equally important are the currency markets (recall the Thai baht crisis, in the fall of 1997), commodity indices (especially gold and oil) and foreign equity markets. Understanding the direction of each of these markets and their effect on each other will greatly enhance your ability to forecast the direction of the U.S. stock market and consequently, individual stock trades.

Remember, no stock is an island. Trading individual stocks without examining broader market trends is like focusing on an individual raindrop and ignoring the downpour.

For further reading: "Intermarket Technical Analysis," John J. Murphy. (1991, John Wiley & Sons, New York.)

RS system No. 1

Markets: Stocks, stock index futures and index shares (SPDRs, DIAs, QQQs)

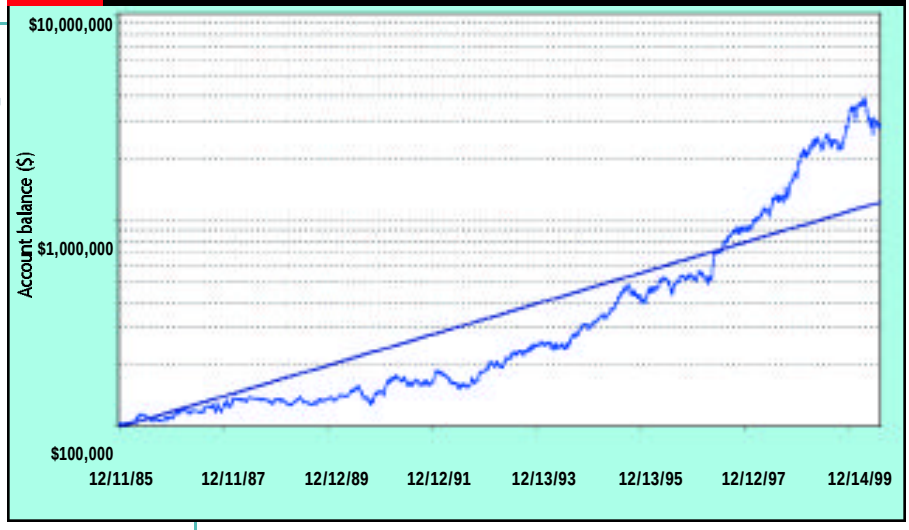
System logic: This is a short-term relative-strength (RS) system that compares the stock price with its underlying market index, but also looks for confirmation from volume.

The first step is to calculate the relative strength of the stock compared to the market as a whole, then take the percentage difference between the relative strength curve and its five-day moving average. A value above one (the higher the better) indicates the stock has moved stronger than the market as a whole.

The second step is to calculate the percentage difference between the on-balance-volume indicator and its five-day moving average. A value above one (the higher the better) indicates that the volume fueling the move is above its five-day moving average and that the market has a short-term interest in the stock.

The final step is to multiply both the percentage differences to create a volume-weighted relative-strength curve. A value above one (the higher the better) indicates that the market both has a short-term interest in the stock, but also that it is doing better than average in terms of the overall market. (Or, if the interest is low, the stock is still moving strongly enough to warrant a trade and vice versa.)

EQUITY CURVE



Rules:

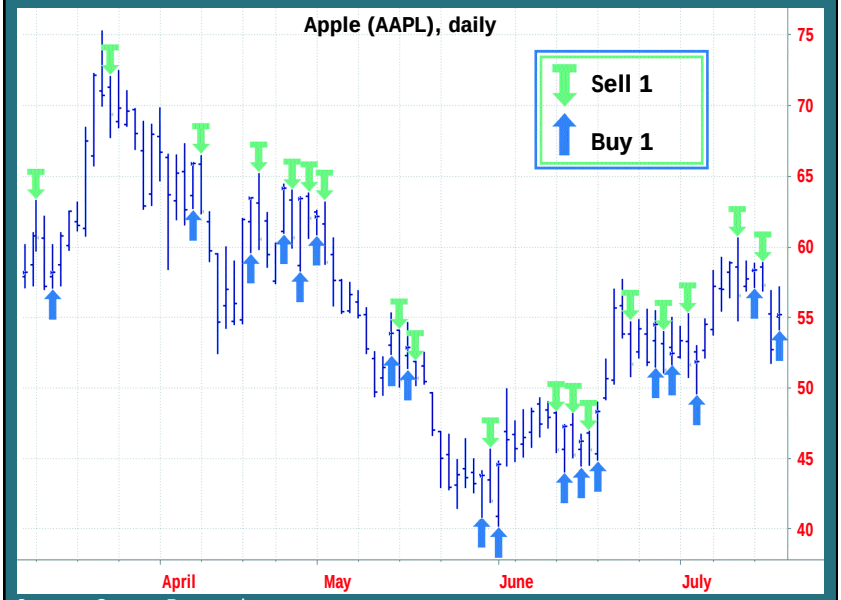
1. **Enter long** at the close when the volume-weighted relative-strength curve crosses above 1.

2. Risk 0.5 percent of available equity per trade. At the time of entry, calculate the number of shares per trade as 0.005 multiplied by available equity, divided by the dollar value of the distance between the entry price and a 4 percent stop-loss.

3. a. **Exit** at the close when the volume-weighted relative-strength curve crosses below 1.
   b. **Exit** with a loss if the market falls below the entry price minus 4 percent.

Test period: Dec. 11, 1985, to July 12, 2000

SAMPLE TRADES



Source: Omega Research

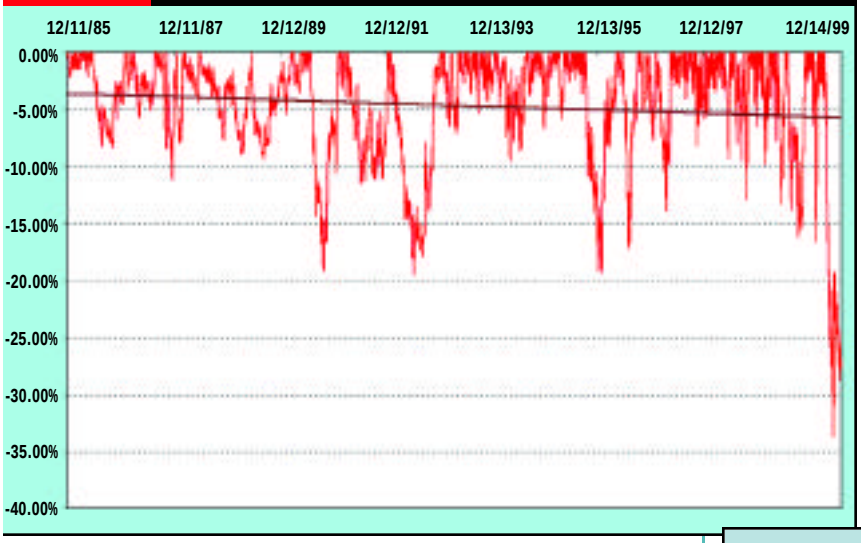
Test data: Daily stock prices for the 30 most actively traded Nasdaq 100 stocks, excluding those stocks that also can be found in other indices, such as Microsoft and Intel in the Dow Jones Industrial Average and S&P 500 index. $20 per trade has been deducted for commission.

Starting equity: $100,000 (nominal)

System drawbacks:
This is a long-only system, which makes it vulnerable to market corrections. The system probably would benefit from the addition of a trend filter (such as a long-term moving average) that would only allow trades in the direction of the prevailing trend. Developing a similar strategy for the short side would make it possible to make money no matter what direction the market is heading.

Other observations:
Although this system does better than buy-and-hold for both the Dow and S&P 500, at

DRAWDOWN CURVE



first glance it doesn't quite seem to keep up with the Nasdaq 100. However, looking closer at the numbers reveals that the risk-reward ratio (total return divided by maximum drawdown) for a buy-and-hold strategy for the Nasdaq 100 comes out to 68.6. For this system, only risking 0.5 percent of available equity per trade, the same number comes out to 80.8, which is a clear indication that it allows you to make more money while risking less.

Another favorable aspect of the system is that a buy-and-hold strategy is always in the market, risking 100 percent of available equity. While being in the market all of the time might not add to the risk, it sure adds to the agony. Lastly, some of the 30 stocks in the test portfolio were not listed until very recently (such as Amazon.com, which didn't start contributing to the portfolio equity until August 1997).

Buy-and-hold stats:

DJIA: Total return —- 636 percent;
Max DD — 41 percent;
Longest flat — 24 months

S&P 500: Total return —- 640 percent;
Max DD — 36 percent;
Longest flat — 23 months

Nasdaq: Total return — 2,814 percent;
Max DD —41 percent;
Longest flat — 19 months

STRATEGY SUMMARY

Profitability		Trade statistics	
End equity ($):	2,825,018	No. trades:	9,444
Total return (%):	2,725	Avg. trade ($):	2,272
Profit factor:	1.29	Largest loss ($):	47,488
Avg. tied cap (%):	53.59	Win. trades(%):	37.58
Win. months (%):	63.64	Avg. days:	3.69
Drawdown		TIM (%):	98.29*/30.46**
Max DD (%):	33.71	Tr./Mark./Year:	21.71
Longest flat (m):	11.54	Tr./Month:	54.28

**For the entire portfolio. **Average per market.*

Source: CSI, Unfair Advantage

LEGEND: End equity ($): *equity at the end of test period* • Total return (%): *total percentage return over test period* • Profit factor: *gross profit/gross loss* • Avg. tied cap (%): *average percent of total capital tied up in open positions* • Win. months (%): *percentage profitable months over test period* • Max DD (%): *maximum drop in equity* • Longest flat: *longest period, in months, spent between two equity highs* • No. trades: *number of trades* • Avg. trade ($): *amount won or lost by the average trade* • Largest loss ($): *largest losing trade* • Win. trades (%): *percent winning trades* • Avg. days: *average trade length* • TIM (%): *amount of time there is at least one open position for entire portfolio, on average per market, respectively* • Tr./Mark./Year: *trades per market per year* • Tr./Month: *trades per month for all markets*

ROLLING TIME WINDOW RETURN ANALYSIS

Cumulative	12 months	24 months	36 months	48 months	60 months
Most recent:	17.24%	126.21%	259.10%	507.49%	542.78%
Average:	30.34%	74.02%	128.93%	190.40%	280.00%
Best:	135.97%	364.36%	661.03%	746.72%	1,034.50%
Worst:	-6.97%	-2.25%	1.96%	15.55%	24.90%
St. dev:	30.95%	76.29%	135.56%	183.82%	275.33%
Annualized	**12 months**	**24 months**	**36 months**	**48 months**	**60 months**
Most recent:	17.24%	50.40%	53.13%	56.99%	45.08%
Average:	30.34%	31.92%	31.80%	30.54%	30.60%
Best:	135.97%	115.49%	96.70%	70.58%	62.54%
Worst:	-6.97%	-1.13%	0.65%	3.68%	4.55%
St. dev:	30.95%	32.78%	33.06%	29.80%	30.28%

LEGEND: *Cumulative returns* — Most recent: *most recent return from start to end of the respective periods* • Average: *the average of all cumulative returns from start to end of the respective periods* • Best: *the best of all cumulative returns from start to end of the respective periods* • Worst: *the worst of all cumulative returns from start to end of the respective periods* • St. dev: *the standard deviation of all cumulative returns from start to end of the respective periods*

Annualized returns — The ending equity as a result of the cumulative returns, raised by 1/n, where n is the respective period in number of years

Send *Active Trader* your systems

If you have a trading system or idea you'd like to see tested in the Trading System Lab, send it to us. We'll test it on a portfolio of stocks or futures (for now, maximum 30 markets, using daily data starting January 1, 1980), using true portfolio analysis/optimization.

Most system testing software only allows you test one market at a time. Our system testing technique lets all markets share the same account and is based on the interaction within the entire portfolio.

E-mail your system logic and a short description to tstridsman@activetradermag.com, and we'll get back to you.

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.