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 Publisher: Commodity Systems, Inc.

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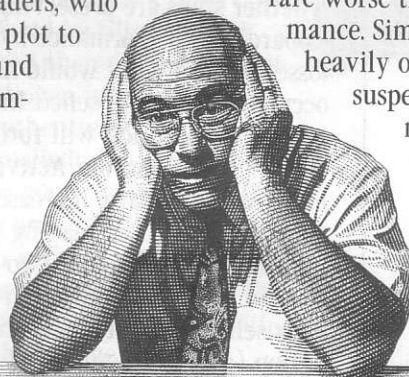
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To Stop or Not to Stop? - A Question Every Trader Must Answer

“They did it to me again!” I can’t tell you how many times I’ve heard this lament from traders who were stopped out of a position just before the market resumed its previously profitable track. “They” in this case, are (of course) floor traders, who are cast as villains in a plot to stop out the little guy and take the profits for themselves. Does this really happen? Perhaps. But more often than not, the natural forces of supply and demand or reactions to current events trigger blip-like fluctuations in the market. A more



important question is, “How can one use stops wisely to protect assets, rather than pre-arrange the extent of the next loss?” A more basic question is, “Should I use stops at all?”

Traders, big and small, typically hate stops because of the poor market order executions that inevitably result. You can get killed when you use them and murdered when you don’t. Mental stops don’t help much unless you are very disciplined, watch the markets minute by minute, and are willing to take yourself out when the critical price is touched.

Any trading system could use stop-loss logic to exit a position if the market were to turn against it. Although stop-loss controls will help some of the time, they will also force early exit from otherwise profitable positions. Before selecting a system that relies heavily on stops, please

consider their pros and cons.

Parameter Control

When stops are part of a system’s design, they add parameter control, making most actual performance trials fare worse than simulated performance. Simulated results which rely heavily on stops are highly suspect. The performance measurements must be discounted to compensate for the added parameter control that surely degrades actual performance.

It is more appropriate to add parameter control through the

use of additional independent, intermarket time series support. It is not unusual in these days of abundant computer power and readily available data base scope and longevity to use many markets to help predict only one. When market direction can be forecasted more reliably, the use of stops to hold onto profits can be reduced. Intermarket analysis has always offered larger profits and better performance, given that proven methods have been employed.

The Double Whammy

Stops may have a place in your trading plan, but I believe they should be used sparingly. They are particularly insidious when used in a system which reverses direction when stops are hit. Typical of this application is the purchase or sale of double the

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"Although it may be convenient to blame anonymous floor traders for your financial disasters, it is more beneficial to look to the design of your own trading system for a solution to the problem."

quantity of units held when the reversal level is hit. The trader suffers an erosion of capital in his current position, then starts the opposite market position at the eroded price. When price is your only governing input, little can be done to avoid suffering the effects of double dollar erosion without adding still more parameter control and taking additional performance discounts against your real results.

The Option Alternative

Every analyst must consider whether stops are preserving capital or jeopardizing performance by increasing losses beyond what would have occurred in their absence. In general, any decision which will force extra trading is undesirable. Activating stop losses will generally increase the transaction costs of playing the game. Consider the additional two alternatives of buying an option (a put, if your sell stop is hit) or writing an option (a call, if your sell stop is hit). The advantage of the option over a stop in this case can be determined by calculating the reward-versus-risk ratio of each of the three alternatives. Admittedly, this is a tall order, but one can estimate possible returns from past data. The market volatility, option premiums and option time values can all translate into a measure of risk. It will take some effort, but one of the three proposed alternatives is better than the other two for every situation. An empirical solution exists for each problem that arises.

If you are approaching a stop loss point, you have probably already lost substantial equity. Think of this loss as a "realized" capital erosion for your mental frame of mind. Moving to this point frees your thoughts to concentrate on the alternatives and other positions. Hope springs eternal and clears your mind to cope with adversity.

Although it may be convenient to

blame anonymous floor traders for your financial disasters, it is more beneficial to look to the design of your own trading system for a solution to the problem. Using stops wisely and sparingly in conjunction with a proven trading system will almost certainly be more gratifying in the future. To stop or not to stop? That is your choice to make. Like most things in life, stops are best used in moderation. ♦

Bob Pelletier

Throwing Away Unfortunate Outliers When Examining System Performance

Last month we talked about a trading system developer who wanted prospective purchasers to ignore the huge and unfortunate loss incurred in October, 1987. It was argued that this was, after all, a rare and non-repeatable event that should be removed from consideration. It was our reaction that to ignore the unfortunate mistakes of the past is an invitation to experience their repetition in the future. I felt that it was appropriate to elaborate on those feelings in this issue.

As relative pioneers in the U.S. Space program at General Electric in the 1950s, my fellow engineers and I cherished every failure that occurred. We learned from our failures far more than we learned from our successes. Each failure observed made us all the more aware of our engineering deficiencies and understanding.

Without that attitude, we would never have placed a man on the moon and brought him back to earth. We had a zero-defects objective that

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Certifying a Real-Time Track Record Without Real-Time Risk

As our regular readers are no-doubt aware, we have long been concerned with the issue of simulated-versus-actual trading results. A trading system that makes a bundle in hindsight analysis may well be a loser in real-time trading. The developer who optimizes to the hilt can easily manipulate a system to appear profitable, but in doing so, he produces a system for which future results are unpredictable at best.

We have often recommended our own Trading System Performance Evaluator™ and Trader's Money Manager™ programs as tools for certifying the results of an untried trading system. TSPE and TMM give you a good idea of the capital required to trade a system and the expected return on investment. Through Monte Carlo simulations, they synthesize simulated results by degrading optimized profits and losses to compensate for parameter control. In doing so, these programs can help both the developer and the consumer/trader evaluate any single-market trading system under consideration.

Experience has taught us that the real-time results of a system may also require a Monte Carlo examination before the results can be certified. We have recently learned of a service for investors and software developers that takes you more than half way to a goal by both tracking and certifying the results of your trading system in real time. This opportunity, introduced below, plus a confirming simulation against the real-time results may remove 95% of the doubt one might expect for most investment applications.

Innovative system developers who are short on capital but long on market insight can now obtain a certified real-time track record to prove their talents without investing a cent in the markets. A new type of pseudo-brokerage service provides

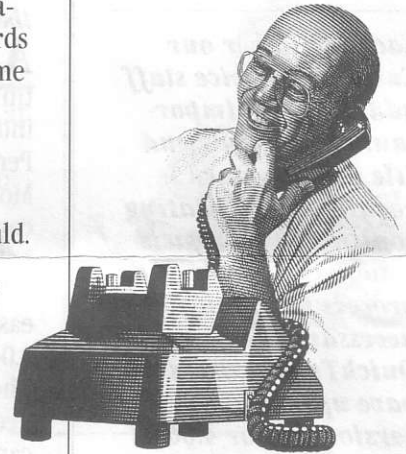
audited trading results for paper trades made without investment capital. AUDITRACK, which considers itself to be a synthesizing brokerage firm, will track trading recommendations in real time with audited records that report results in exactly the same way a full service brokerage firm handles real trades.

AUDITRACK is staffed by professional brokers who take orders by phone or fax just as any broker would. They follow up with confirming phone calls and hardcopy reports of fills and executions. They monitor the market liquidity and report accurate would-be fills based on order size and then-current market volume and open interest. For complete authenticity, AUDITRACK supplies a realistic fill price, which is adjusted for market slippage at the time of the order. The reported commission per trade is controlled by the customer, so that it reflects the real-world charges associated with individual brokerage firms.

The big difference between AUDITRACK and, say, Merrill Lynch, is the absence of risk. The fills are comparable to a real trading account, but the possible erosion in capital is not there. An account can be of any size, and trades can be executed in any quantity. The customer pays a fee of from \$1.00 to about \$2.00 per trade per contract, depending upon the size of the account, which can vary from a couple of thousand to more than a million dollars. The service is well worth the cost because it allows the analyst to learn to adjust to unforeseen market conditions, and to do so without risk.

AUDITRACK's value to the user is the real-time treatment received. There is little difference between the record shown on an AUDITRACK brokerage statement and the result found on any other "real" brokerage

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Ask Customer Service

Each December our Customer Service staff addresses the important task of year-end file maintenance required for updating continuous contracts into the new year. This process is no longer necessary for the many QuickTrieve® users who have upgraded to version 4.05 or 4.06. It is, however, still required for users of earlier versions. This series of questions and answers about file extension should assure that the transition goes smoothly.

Q. *1995 is fast approaching and I'm concerned about my continuous data files. They all have ending dates of December 31, 1994. How can I update these files next year?*

A. This question applies to all continuous data files including stocks, indexes, cash, nearest futures and Perpetual Contract® data. QuickTrieve's Move/Split a Data File (Move a contract file on version 3.1) will help you extend your files.

The file extension process is much easier with QuickTrieve 4.01 through 4.04 than with previous versions. These later releases can autocreate all necessary files in a single run. They can also automatically create new data directories when the limit of 120 files is reached. Users of QuickTrieve versions 4.05 and 4.06 needn't worry about file extension at all, as the software will extend your files automatically when needed.

To begin file extension, select <H> from the QuickManager® Menu. A list of your files will be displayed. Press the letter designator of each continuous file ending in 1994. When finished, press <F3>.

You will be asked if you want to create files for all items or just those not existing on your target path. Say All. You will be shown each selected file and asked if you want to change the beginning or ending date of each. Answer Yes. Change the ending year for each item to 95. You may substitute 96 or 97 as desired to avoid doing this next year, but be aware that this practice consumes more disk space than will be immediately used.

When finished, check your new files to see that the data was transferred properly. If the new files are O.K., you'll probably want to delete the original files using Delete data file from disk.

You can extend your files any time before the end of December, as long as

your new files are ready by January 3, 1995.

*The <F3> feature is included in version 4 series QuickTrieve only. Users of prior releases must move each file individually as directed through screen prompts.

Q. *What will happen if I don't extend my continuous files by the first business day in January?*

A. This will not be a major problem for users of QuickTrieve 4.01 through 4.04 who request autocreation of new files with each update. QuickTrieve will simply create a new file for each continuous series, using the ending date you specify. The new files will hold only 1995 data, however, so they won't be very useful for charting. To avoid this, be sure to combine your 1995 data with past data using the procedure described above.

Users of QuickTrieve 4.0 or earlier versions will have a greater problem. Since new files aren't created automatically during daily distribution, 1995 data could be lost. **Be sure to print a data listing on January 3 to make sure everything is posting correctly.** A NOFL (no file) status indicates that a contract was not posted. If your data listing shows NOFL for any of your contracts, go through the file extension process described above to create a larger file. You won't need to make another modem call; simply distribute your update again.

Q. *I use QuickTrieve to retrieve daily updates, but I only distribute the data to CompuTrac/Metastock-format files. Must I extend these files with QuickTrieve?*

A. No. CompuTrac/Metastock-format files are self-perpetuating. The annual extension process only applies to continuous QuickTrieve-format files updated with QT version 4.04 or earlier. ♦

Certifying a Real-Time Record...

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statement. Both would prove the same general result authenticating the customer's market timing.

If you are considering a system you would like to market or purchase, there is no substitute for real-time experience. It makes sense to pass it through AUDITRACK's system for an accurate paper-trade test. Better yet, if you are considering a software purchase, have the software vendor pass it through AUDITRACK and supply his account record to you. There is nothing like real-time experience to market your approach and certify its performance.

For more information please contact:
Mr. Gene Donney, President AUDITRACK, Inc.
309 S.E. Mizner Blvd. Suite #62 Boca Raton, FL
33432 (407) 393-3876 Fax (407) 393-5310 ♦

Throwing Away ...

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absorbed every member of the team at G.E. Our approach gave us a leading role in the products we developed. So the next time someone tells you to ignore a failure and focus only on the successes, you should respectfully tell him that he knows not what he is talking about. ♦



CSI Software Product Summary

Please check all that apply and complete the information box at right.

Mail or fax to CSI, 200 West Palmetto Park Road, Boca Raton, Florida 33432; Fax: (407) 392-7761

- QuickTrieve®/QuickManager®** for PC - To retrieve, manage & edit data (includes 1994 Alerts Calendar); New daily user \$59. QuickTrieve/QuickManager version 4.06 upgrade (for current QuickTrieve users only): \$39; demo disk \$5
- QuickPlot®/QuickStudy®** for PC - Charting & analysis software (requires QT/QM) \$89
- Trade Data Manager™** - Macintosh downloader & accounting program \$59; upgrade \$49 or *FREE* with \$100 history order
- Trading System Performance Evaluator™ (TSPE)** for PC - Computes your system's capital requirements \$149
- Trader's Money Manager™** for PC - \$399 (includes TSPE); Demo disk: \$15
- TraDesk™** for PC - Traders' complete accounting system - CSI daily user \$149; Unrestricted use \$299; 30-day trial version \$22
- Seasonal Index Value Pack** for PC - Ten years of history for 33 popular commodities \$315
- Daily Updates** for PC - Starting at \$10.80 per month
- CSI Technical Journal** - Aug. '90 to present \$35/Yr. - \$5/Reprint
- CSI Mailing List** - \$200/1,000 names (CSI users omitted)
- CSI Product Catalog** - *FREE*

Please add \$29 per software package for overseas shipping.
All prices subject to change without notice.

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 3.5"/720K 3.5"/1.44 MB (HIGH DENSITY)

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 DISCOVER AMERICAN EXPRESS

AMOUNT ENCLOSED \$ _____

CARD # _____

EXP. DATE _____

SIGNATURE _____

12/94

Measuring Trading System Market Performance

$$SR = \frac{R}{\sqrt{\frac{\sum (X_i - \bar{X})^2}{(N-1)}}} * 3$$

Where: SR is the Sharpe Ratio, $X(i)$ is the profit or loss for the i th trade in a set of N trades, \bar{X} bar is the average of all trades which is equivalent to R , the aggregate return, divided by N .

In our recent three-part series "An Official Guide to Trading System Design," we visited the subject of measuring synthesized market performance. We urged readers to avoid aggregate levels of profit as a means of ranking proposed approaches for trading. It was our thesis that ratios be substituted for aggregates to obtain a meaningful measure of performance.

We suggested a modified Sharpe Ratio be used to accomplish this end. The Sharpe Ratio is simply the ratio of aggregate return (R) to the standard deviation of the elements of realized profits and losses that produced the aggregate return. In equation form this would appear as it is shown in sidebar.

We took the liberty to multiply the standard deviation by three (3) to simulate a return where the denominator represents required invested capital at the 99% confidence level. This minor adjustment serves to penalize the more volatile approaches which could yield similar aggregate profits.

Criticisms we have seen of the Sharpe Ratio as a performance measurement tool are somewhat arcane. For example, to say it won't work well if profits or losses occur in correlated sets seems to stretch one's imagination. If an analyst cannot defend the assumption of trade independence, then the Sharpe Ratio cannot be used to assess performance.

Another criticism is, "It won't work because using a different time period for sampling performance will lead to different results." Profits and losses should be considered as random variables with a given mean and variance. All trades should be considered to be independent and uncorrelated, i.e., as a random variable. Measurements should be made as though we are preparing for the future, not as a rehash of the past which can never again be duplicated. Except for the return parameter, the

Sharpe Ratio says nothing about time units. It focuses upon trading events of realized profits and losses. To sample an equity curve on a fixed periodic basis (monthly or quarterly, etc.) is not permitted because serial samples would be correlated and this would represent an invalid application.

In our view, to focus on the time period is a miss-application of the intent of the Sharpe Ratio. A sample is a trade result, not a single-day change in cumulative equity performance. To use an equity curve as our progression would suggest that each daily sample is a completed trade. The equity curve occurs in hindsight and sampling from it is an over simplification of the process because it could lead to a false assessment for markedly diverse trading approaches. The concept of what is a sample is an important one. Increasing the sample size by viewing an equity curve on a daily basis gives heavy credence to something over which control would not necessarily be exercised. Admittedly, there is an equity curve for every trading system, but the trade-by-trade performance will, in the long run, statistically and implicitly generate a probable equity curve for the set of trades introduced.

Critics of performance measurement approaches may lean toward a dual approach where both aggregate performance and a Sharpe Ratio application are used to make an assessment of trading system value. This is understandable. Even the best analysts may cling to old habits in lieu of using more scientific methods of analysis. No one has been successful in disproving the mathematical methods of differential calculus to solve problems in maximization. For this reason, the ratio should be your sole source method of establishing the true merit of your trading system approach. ♦