CSI NEWS JOURNAL

More On Trading Systems

For some months now we have been discussing various aspects of trading systems. In August we described how Perpetual Contracts® help filter out market imperfections and aid in improving the results of your analysis. September's issue was devoted to parameters in your system, the sample size which I will cover in greater detail later and the amount of history used in your analysis. We also discussed the importance of robustness in your trading system's design.

In October we covered the subject of data accuracy and some questions every trader and broker should know about the trading system he or she is using. For the November issue we described the Trading System Performance Evaluator™ (TSPE) which we introduced as a way to assess your trading system's performance including quantifying the capital needed to successfully trade a given system. We also described the nature and scope of the data CSI supplies. Every trader should understand the assumptions surrounding the data used as inputs for his or her trading system. For example, we contend that our reporting of the mid range opening price is more representative of what actually happens to opening order executions than that of any other approach.

And finally, while developing the TSPE software, the importance of sample size became abundantly clear. Many of the positive results from simulated trades are not repeatable with any reasonable level of probability. This is because some of the higher profit events fall outside the normal distribution. To explain this further, I have drawn from a section of the TSPE manual that bears on the sample size issue.

"The Importance of an Adequate Sample Size"

Sample size is implicitly supplied as the quantity of P&L inputs in a data set. TSPE depends heavily on the distributional form of profits and losses. If we made a histogram showing the distribution of profits and losses, the shape of the histogram would bear heavily on the achievement of the user's desired dollar goal over a spectrum of capital stakes. It is well accepted from statistical sampling theory that a minimum of 30 samples drawn from a normally-distributed population will be representative of the population characteristic undergoing measurement. It is also well known that sampling error increases rapidly as sample size is reduced.

If the histogram of the distribution of profits and losses resembled the proverbial bell-shaped curve, then this would suggest that a sample size of 30 is appropriate to produce a reasonable result. In commodity trading, we literally bank on having occasional very large profits and an abundance of small losses. This has a natural tendency to skew the distribution of profits to the left, bringing about the need for larger sample sizes.

If a trading system is said to require only 30 samples to achieve a successful outcome, then the given system will possess a likelihood of producing a large profit that is equivalent in frequency to the prospect of returning a large loss. This is generally not a desirable result. In the typical mechanical trading system, where losses are cut short and profits are allowed to run, the required experience could easily grow well beyond 30 with the inher-

ently skewed performance as shown in Figure 1.

TYPICAL P/L DISTRIBUTION
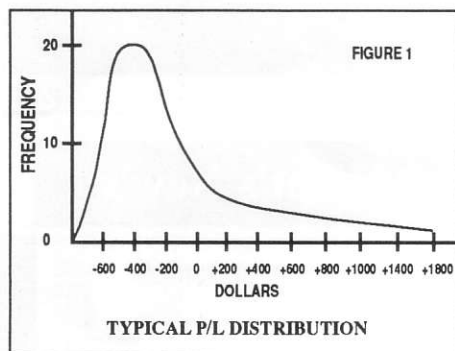
Extremes in profit are more often the norm in trading systems because arbitrary control parameters are mechanically set such that losses are cut short while profits are allowed to run. This situation produces the need to achieve a sample size that will include the rare large-profit events. In sampling theory, many more trials are required to establish the relative frequency of a rare event than required to verify a likely event. It is mandatory in a skewed distribution where the mean, median and mode are all pushed left, to introduce enough trials so that the rare profits have a good chance of appearing. This situation heavily impacts upon the capital necessary to sustain trading when many losing trades must be financed before the rare profits develop.

For these reasons, the sample size requirement is inflated to permit the random selection of these very important rare events. Patience becomes not only a virtue, but a necessity to bank profits using the typical market trading system."

In future issues we hope to continue with other important aspects of trading system design that should help our users. □

Where Does the Money Go When You Log A Losing Trade?

Who Wins-Who Loses

Where does the money go when a trader takes a loss in the commodity market? A very interesting study undertaken in 1969 is no doubt still somewhat representative of today. The markets are broader now and there is a great deal more trading going on, but the mechanics are the same and the game is little different.

The 1969 study involved a random sample drawn from 1969 for a prominent brokerage firm, and was referenced in "The Economics of Futures Trading" by Dr. Thomas Hieronymus. It involved 462 trading accounts. Of $1,127,000 lost by 298 losing accounts, 41 percent went to the 164 winners as net profit, and 59 percent went to brokers and clearing houses to pay commissions, fees and other related administrative costs. In other words, the winners got $462,000 of the losers funds and the administrative system of exchanges, clearing firms and the like got the other $665,000 of the losers funds.

One factor that has changed since 1969 is the presence of the discount broker. I don't remember any brokers back in 1969 that heavily discounted their commissions, but there are many around today. On the other hand, additional fees imposed by the Commodity Futures Trading Commission and the National Futures Association have added to "adminisrative system" costs.

What our customers should conclude from this, we believe, is

that you can control your costs by purchasing services wisely. The á priori cost situation is such that there is a significant house advantage that faces every trader and it isn't necessarily the broker who gets the advantage. If you break down the 59% that went into the administrative system, the brokerage firm representative with whom you placed your trade received only 12 to 28% of the 59% cost, given the typical 35/65 split formula commonly used by many brokerage organizations.

You can combat these negative odds by 1) making trades that are based on proven principals, 2) choosing a broker wisely that will give you good executions, low fees, capital protection security, honest treatment, and timely accounting, 3) making longer term trades, and 4) avoiding the tick-by-tick or real time day trading scenario temptation. We addressed real-time trading over a year ago in this newsletter. (I wonder how many ex-CSI users now wish they had listened to that advise.) With so much of the loss money going into the administrative system, I find it very difficult to rationalize trading on such a short-term basis where the profit potential is limited by the daily exchange limits and the probabilities of loss are the same or greater than longer term trading.

In our own situations, knowing what happens to money in all major transactions is helpful in finding ways to hold on to it. We assume this may also be true for our readers. □

Spread Corner

If you are like most Americans, one of the first decisions each day is which cereal you plan to enjoy at breakfast time. If you are on a tight budget as many families are, your decision may have been made by the grocery shopper who viewed the price before selecting the appropriate product. Most cereals involve wheat, corn or oats and the price of these products is generally in the oat, corn, wheat sequence.

A spread trade in cereal would involve simultaneous long and short positions in any given pair of products: Oats vs. Corn, Oats vs. Wheat, Corn Vs. Wheat. Typically, the spread trader would buy one and sell the other among the three candidate pairs proposed. CSI's Intermarket Relative Movement™ study on the version 4.01 QuickStudy® system calculates an index for each product that shows the relative position of each product within a scale of 0 to 100. Given the range of prices that a contract trades, the value of the index on any day would be relative to the high-low range experienced to date. When daily prices are analyzed, this can cover a period of up to two years. The user can obtain five times as much information with the use of weekly data. We recommend using a full ten years of weekly data. The ratio of any pair of indices for two different products can then be computed to help measure the feasibility of considering an intermarket straddle.
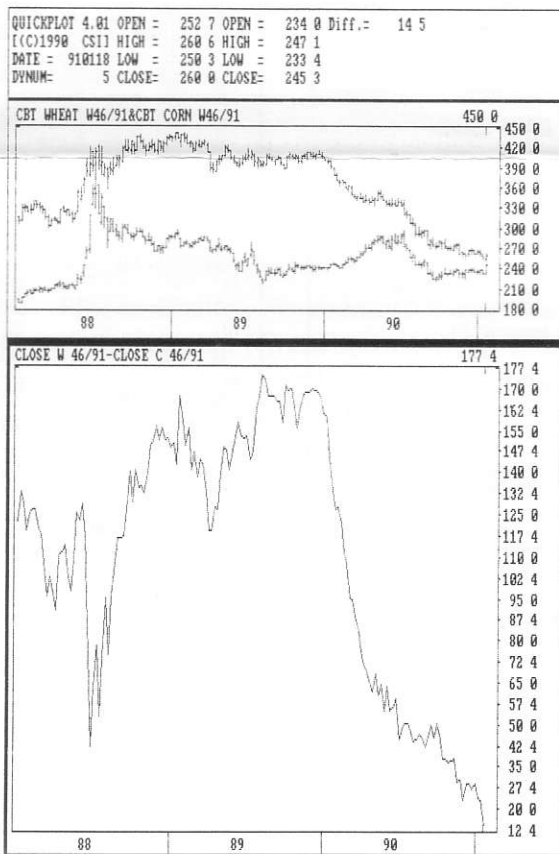
We recognize that the two years of daily data offered by the Intermarket Relative Movement study may be far too little for this exercise, but the idea remains the same. It is appropriate to normalize each product to some convenient relative scale before drawing any


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QUICKPLOT 4.01 OPEN =  252 7 OPEN =  234 0 Diff.=   14 5
[(C)1990 CSI] HIGH =  260 6 HIGH =  247 1
DATE = 910118 LOW  =  250 3 LOW  =  233 4
DYNUM:       5 CLOSE=  260 0 CLOSE=  245 3
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CBT WHEAT W46/91&CBT CORN W46/91

CLOSE W 46/91-CLOSE C 46/91

conclusion concerning a pair of products that are economically substitutable.

The grocery shopper will serve an important service to the trader through his or her efforts to keep any substitutable pair of products in synch. When a ratio of the indices of any two products is computed, an extreme range of prices will be apparent by differencing the indices. When a wide disparity of the indices is observed, a sale of the product

with the larger index and a corresponding purchase of the product with the lower index may be appropriate and could represent a very profitable opportunity.

A simple spread of the two fields, Wheat vs. Corn displayed in Figure 2, shows the potential profit of some of these spreads.

The greater the index extreme, the greater the market exposure (size of your position) the user should be willing to take. The product mix should be adjusted to keep dollars in balance, and it is most prudent to trade in the direction of the index difference. If your chance of logging a profit requires the index spread to widen, for example, enter and sustain your position only on ever-widening spread conditions.

Unfair Advantage® will eventually do all this work for you automatically when it is released. Until then, this is an idea you could try on a more mechanical basis without assuming too much risk. Experiment with stops using a minimum of index point retracement, and of course, keep your contract count under strict control. Extending the sample size arguments made above, examine enough historical data to gather upwards from 40 to 50 round-trip trade samples to establish a proven hindsight record of success. Check your results against our new Trading System Performance Evaluator to help remove the fear of the unknown. If TSPE can verify your hindsight track record, you should have a better than average chance of making consistent profits. □

Ask Customer Service

Each month our Customer Service staff addresses a subject of common concern or particular interest to many CSI users. This month Dave, Karen, Rudi, Susan and Tami will discuss the transition from Compunet access, which is being discontinued, to Tymnet or Telenet. If you have any problems with this, please feel free to call us for help.

Q. I don't know if I use Compunet or not. How can I tell which phone network I am currently using?

A. Check page 1 of your User Constants (H on the QuickTrieve® Main Menu). If the Dialog filename entry is COMPUNET.LOG or CSC.LOG, then you're using Compunet.

Q. I have been using Compunet for daily updates. How do I change to Tymnet or Telenet?

A. The answer to this question depends on where you are located. We'll answer in two parts: First for domestic users, then for international callers.

Domestic Users: First, check the phone list you received with your QuickTrieve software to see which of these networks is available in your area. Then change the primary Dialog filename in Change User Constants to TYMNET.LOG or TELENET.LOG for Tymnet or

Telenet, respectively. Next check the Tymnet and Telenet phone numbers in Change User Constants and make sure they are correct. Erase the Compunet number.

Users of the version 4 series QuickTrieve should also check page 4 of Change User Constants for alternate dialog filenames. Erase any enty that says COMPUNET.LOG.

International Callers: First let us clarify that the international TYMNET service requires the use of QuickTrieve version 4.0 or higher. If you use an earlier version, this is a good time to order a version 4 package. You'll need to check with us here in the Service Department to find out if a local phone number is available through BT TYMNET's upgraded international service. Chances are good that all Compunet users can switch to TYMNET, because TYMNET uses many more hub cities than did the Computer Science Corp. through Compunet. We'll respond quickly to a subsystem message or Fax (407-392-1379), or you may phone us at 407-392-8663.

Once you have the phone number, you should change the primary dialog filename on page 1 of your User Constants (H on the QuickTrieve Main Menu). Type TYMUSA.LOG over the CSC.LOG entry. (If this doesn't work correctly, try TYMUSAM.LOG). Erase the Compunet phone number. Enter the local TYMNET phone number in the designated place in your User Constants. Check page 4 of Change User Constants for alternate dialog

filenames. Erase any entry that says COMPUNET.LOG or CSC.LOG.

Q. I have an older version of QuickTrieve and I'll be switching back to Telenet from Compunet. Are there any special problems I should consider?

A. Yes, in Change User Constants, you should make sure the TELENET PORT is listed as 305644. This change was made before QuickTrieve version 4 was released, so it only affects earlier versions.

You should also check the delay values in all your dialog files. This is done through Quick-Manager's® Editor Subsystem. Select Edit Communications/International Dialog File (D on the Editor subsystem menu) and then choose (B) Edit Existing Dialog File. Enter the name of the Telenet dialog file (usually C:TELENET.LOG). Press <Enter> to proceed through the records. The first delay value should be listed as 35 seconds. The Global Delay near the end should read 8 seconds. If these entries are incorrect on your disk, you'll need to edit them. See your QuickTrieve manual if you need additional instructions.

Q. What baud rates can I use on Tymnet and Telenet?

A. You can collect data at speeds up to 2400 baud on Tymnet and 1200 baud on Telenet. □

Customer Service

Discontinuation Of Compunet Access

Due to the continued reliability of Tymnet and Telenet, we have decided to drop Compunet as the third offering for network access. All domestic users of Compunet should immediately change to Tymnet or Telenet. International users of Compunet and Computer Science Corp. (CSC) should change to Tymnet. These remaining networks, plus long distance lines will continue to offer the redundant means of data retrieval that our customers have come to expect.

This month's Ask Customer Service column features pertinent questions on this transition and should give all the information you need. Please feel free to call the Customer Service staff if you have any questions. Compunet will be discontinued on March 1, so be sure to make the change before then. □

NASDAQ Market Coverage

CSI now offers daily updates and historical data on all stocks covered by the NASDAQ Market. Historical data is available through April, 1991. The CSI numbers for these stocks can be obtained from any CSI service representative. Please contact Customer Service by voice or the Subsystem if you wish to order these stocks. □

Computer Corner

Coping With "Memory Hogs"

The latest release of the QuickTrieve software requires 512K free memory to operate. Due to additional DOS requirements, this equates to 640K random access memory (RAM) in your computer. Quicktrieve's memory use is in keeping with the current trend in software development. Programs are being called upon to do more work in less time, so more memory is required to handle the workload. Lotus 123, Microsoft Windows 3.0 and DESQview are a few examples of other "memory hogs" requiring as much or more memory as QuickTrieve.

If your computer is lacking in this area, with just 256 or 512K memory, you will likely be left behind as new software is introduced. 640K conventional memory is becoming the norm, often with extended or expanded memory for greater computing power. Computers with less memory will continue to be limited in the number and variety of programs they can use.

Increasing Conventional Memory

You can add conventional memory in one of two ways. The first is to add chips to your computer's mother board. The second way is to install a memory board holding these chips. Either of these approaches can increase conventional memory to 640K.

When more than 640K general-purpose memory is installed, the computer is said to have "extended memory" or "expanded memory". DOS can allocate only the first 640K for applications.

Since DOS can't normally use extended memory efficiently, special programs called extended memory managers may be used to tap the additional memory. These programs are part of various software packages such as Lotus 1-2-3 v.3 and Microsoft Windows 3.0. Only programs that include extended memory managers can benefit from extended memory.

Expanded memory is another way to utilize high memory under DOS. Expanded memory is separate from your computer's conventional and extended memory. It requires special programs for access. These programs, which come with the expanded memory board are called expanded memory managers.

Programs which use expanded memory must request it from the expanded memory manager.

A full complement of conventional memory can widen the realm of software packages available to you. Extended and expanded memory can expand that realm to a greater degree and can enhance the speed of programs which are designed to use them. FMD offers a complete line of computers with a full range of memory options. For more information, call FMD at (407) 392-8677

We plan to offer background information on computer hardware from time to time to help our readers stay informed of their options. □