## In This Issue

# The Fundamentals of Data for Technical Analysis

The key to profitable investing is hidden within the history of each market. It is up to the analyst to find the key from among the many false impressions and near matches. The tools at hand — your personal computer and vast market data — offer unlimited potential for formulating, testing and proving trading methods.

Many traders, not content to follow the pack into pre-set trading schemes, are searching for their own, unique paths into trading the markets. Every market technician wants to be ahead of the pack in calling the next market turn. Here are a few tips about using data wisely to help you on your journey.

### 1) Always use accurate data.

To me, it almost goes without saying that accuracy is paramount in a financial database. However, I am frequently surprised by investors who don't share this view. I ask, "Of what use are the results of a study if they are based on erroneous information?" and, "Why spend thousands of dollars on software to formulate a profitable trading system if you can't trust the results?" I have yet to get a logical reply. If your database is not accurate, you don't have a database.

To assure that your data is as flawless as possible, we recommend that QuickTrieve® users retrieve our free on-line error correction file at least once per week and that Unfair Advantage® users process error corrections daily. Both of these utilities will replace erroneous data from the recent or distant past that have been corrected in our master database.

Although our screening methods generally detect errors in our data feed before they reach customers, some slip through the cracks. Errors are corrected when discovered by our staff or when reported by customers. Although most corrections are made within hours of the original data posting, in lightly followed markets, an error may be corrected years later. If you feel you have received data in error, please notify our customer service staff by phone (561-392-8663), fax (561-392-7761) or e-mail (techsupport@csidata.com). The first person to report a current error receives a $2 credit and the first to report a historical error receives a $1 credit.

All this talk about error correction sometimes leaves our customers wondering if they can trust CSI's data to be accurate. It is just this frank talk and concern about errors that assure our data is the most accurate in the industry. We screen out dozens (if not hundreds) of errors from our data feed each day before putting the data on-line for you. We put a lot of time and effort into eliminating errors so that you can concentrate on market analysis.
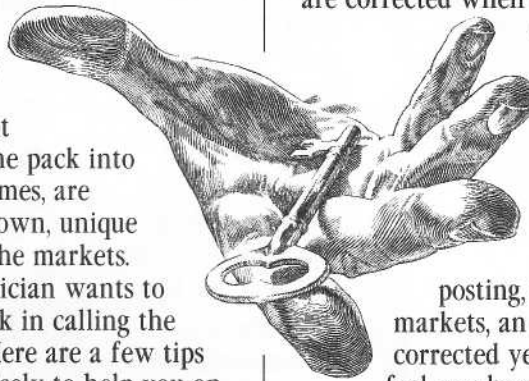
*Historical data shows you how a market has performed in all kinds of circumstances, one or more of which may be repeating right now.*

## 2) Use current data

Basing decisions on last month's charts is like picking a play from last month's theater listings. The address is right, but you have no idea what you're getting into! Every day the markets reveal more about themselves and current data is the most revealing. The basic transaction needs of setting market orders and stops require current prices, but that is not all current data can do for you. The most recent days show you current trends, tops, reversals, etc. I like to think of current data as a compass. It shows you what direction you are going now!

## 3) Study extensive history

Although recent data is indeed the most revealing for the current situation, this is not to say that the study of long histories is unimportant. Nothing could be farther from the truth. Wasn't it Patrick Henry who said, "I know of no way to judge the future than by the past?" Historical data shows you how a market has performed in all kinds of circumstances, one or more of which may be repeating right now. It can show you seasonal or longer-term cycles. It can be used for intermarket studies to compare how the market reacts to or how it affects other markets. Remember that no market exists in a vacuum and intermarket relationships are often critical to market movement.

There is no substitute for a long-term historical database for back-testing a trading system. In any scientific study, the sample size affects the validity (margin of error) of the result. A medical trial using just a few test subjects is not considered as reliable as a study involving a broad segment of the population. Similarly, a trading system that seems profitable over a short period of time (with a small sample size of trades) is not considered as reliable as a trading system that demonstrates proficiency over the long term (with a greater sample size of trades). The statistical margin of error is reduced with every new trading situation.

Historical data is particularly important for users of neural networks, which are programmed to learn as they go along. Once a neural net theory is formulated, it must "learn" about a market from its history. The results must then be applied to a "test period" that is different from the "learning period." Any overlap between learning and testing invalidates the results, so a great deal of history is required.

I am often asked what is the best way to perform long-term analysis. As our regular readers know, I favor Perpetual Contract® data, which is a forward time-weighted blending of two ever-changing adjacent contracts. Perpetual Contract data allows you to

monitor any market during its most liquid phase without having to switch from contract to contract. This and other types of continuous series were discussed in the February, 1997 CSI Technical Journal. If you missed it, please look there for more details.

### 4) Use all your resources

Trading systems should take advantage of all the valuable data at hand, and not overlook that which is less easily processed. For example, most trading systems for futures markets ignore the impact of volume and open interest on future price. This is largely because their impact is not easily established. To correctly process the effects of volume and open interest, the developer must first recognize that they are not independent of each other.

Volume tends to be heavily related, if not correlated, to open interest. Both generally rise as the harvest (or equivalent) approaches and fall before and during the planting seasons. This relationship makes it difficult to separate the effects of each on market action. It is futile to treat largely redundant inputs in the same manner as independent variables. Your software must avoid the pitfall of basing decisions on a majority vote of several technical indicators, all of which measure the same market characteristic. Proponents of such flawed logic tend to accept large losses without a clear picture of why the odds seem to be stacked against them.

In some of our work with volume and open interest, we have combined the pair into one parameter. This transformation simplifies the analysis process and delivers a possible reduction in parameter count. The result is a very distinct advantage. When combining volume and open interest into a single parameter, it pays to analyze what volume measures. If open interest increases (or decreases) on a given day, volume, by definition, must rise a minimum of the same quantity to support the open interest growth (or drop). Any additional volume above that prompted by a change in open interest can be attributed to influences that are above and beyond the effects of open interest movement. Volume and open interest can supply useful information, but only if your chosen trading system meets the challenge of finding it.

Although our ultimate goal is to devote more attention to market analysis, the work of preparing a comprehensive database has occupied most of our time. With the release of Unfair Advantage for commodities, a good deal of that work nears completion. Adding stocks, indices and options to the product is another hurdle we are attempting to clear. The above fundamentals of data treatment will undoubtedly be important to the trading systems anyone might develop in the future. ✦

*Bob Pelletier*
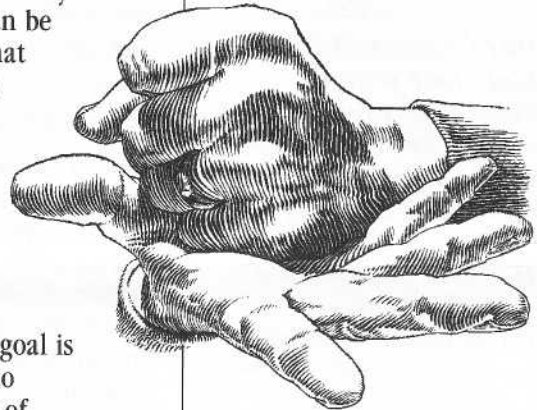
# Ask Customer Service

**Q.** *I received my QuickTrieve software with its Tutorial a few months ago and, with a little help from Customer Service, I got on-line pretty quickly. I am wondering if more documentation is available, particularly in regard to the different types of continuous data available to QuickTrieve users.*

**A.** CSI's data resources and much, much more are explained in the manual supplied on disk with your software. Please refer to the Data Resources section of the manual for details. We have recently added a document called Data Resources to our web site (http://www.csidata.com) which also covers this information.

**Q.** *How can I view the QuickTrieve manual?*

**A.** To accommodate all text editors, the manual is provided in two ways: in a single file called manual.doc and in seven smaller files called manual1.doc - manual7.doc. These smaller files hold the same information as manual.doc, but can be loaded into editors that accommodate files of less than 64K. The applicable filenames are indicated in the Table of Contents found in manual1.doc.

To use the manual with our viewer, Windows users should click [Run] from your program manager and type c:\quick\viewman and click [OK]. DOS users type viewman at the \quick directory and press <Enter>. If you wish to use your own word processing program or editor, retrieve or import the file \quick\manual.doc. If the file is too big, load manual1.doc and print the Table of Contents. Then load the appropriate file for your query.

Follow the on-screen instructions to read and search for information. If, for example, you are having trouble installing the software, check the table of contents to find the section number (and filename, if applicable) for installation instructions, then search for that number.

**Q.** *Why don't you supply a printed manual with QuickTrieve?*

**A.** In order to keep our manual current, save trees and save money, we now supply the QuickTrieve/QuickManager® manual on disk. It is in a versatile ASCII TEXT format, meaning it can be read using the viewer provided, read or printed directly through DOS or Windows and can be imported into any word processing program.

**Q.** *Is a printed manual available for QuickTrieve?*

**A.** Yes, if you don't want to print the manual that came on your disk, you can purchase a more extensive version from CSI. To receive a professionally printed, ring-bound manual, please see the Product Summary on page 8 or contact CSI's marketing representatives. The price is $14.95 plus shipping costs.

**Q.** *I am no longer notified of last trading days, market reports and the like in my daily data listings. Has something happened to the Alerts Calendar?*

**A.** The most recent Commodity Alerts Calendar was provided upon your subscription to the CSI Data Retrieval Service. It was part of your first QuickTrieve disk. If you wish to update it with the 1997 edition, you may purchase a new Alerts Calendar disk from CSI for $25.

We do extensive research in compiling the Alerts Calendar which includes information on both domestic and overseas markets. The bulk of the information covers the dates of government reports, holidays and contract expirations.

To order a 1997 Alerts Calendar, see

the product summary on page 8.

**Q.** *What is the earliest time I can pick up my data?*

**A.** The current data posting schedule is below. Please note that our standard rates apply to once-a-day updates. If multiple calls are made to download data throughout the day, additional charges will apply.

### Data Posting Schedule

9:00 A.M.  Pacific Rim commodities

5:00 P.M.  **All other commodities and futures except stock index futures**

5:30 P.M.  **All indexes and CSI Perpetual Indices**

6:30 P.M.  **All commodity cash prices and all options**

7:30 P.M.  **All stocks and mutual funds**

8:00 P.M.  **Final posting of late arrivals and corrections**

**Q.** *I have seen a lot of publicity about Unfair Advantage and I'm wondering if I should switch from QuickTrieve. What are the main differences between the two?*

**A.** Right now the biggest difference involves stocks. If stocks make up most or all of your portfolio, don't bother switching yet. Unfair Advantage (UA) doesn't support stock updates at this time, but we're working on it.

UA wins hands down if commodities are your game. The differences between QuickTrieve (QT) and UA in the commodity arena are substantial: UA comes with a complete history on all commodities from your choice of North America or all world markets, whereas, for slightly lower fees, QT provides the custom orders you request on a piecemeal basis. UA automatically updates everything, whereas QT downloads a smaller subset of data reflecting your choices. UA can create custom computed contracts on any commodity from the raw data held on your drive, whereas QT is limited to downloading the pre-set continuous contracts stored on the CSI host computer.

As far as functionality, UA is a Windows® program with all the trappings. It has been rapidly improving over the recent months of continued development and now offers a means for updating a massive commodity data base via the Internet. Error corrections are handled automatically.

We have experimented with three formats of documentation for UA and have settled on a brief, printed manual that seems to please most of the people most of the time. UA is fully compatible with practically every analysis package on the market as well as spread sheets to support self-directed analysis. ✦

# New Rates for One-Year Prepaid Subscriptions

The following rates will be effective for new CSI subscribers and for current annual renewals. After your 12-month term expires, it may be renewed at then-current prices.

## One Year Prepaid Service Fees
(Effective 3/1/97)
*12-month prepayment required*

| Software System | Included Markets | Direct Dial/ Internet Rate | U.S./Canada Network Rate | Included History | Initiation/ License Fee |
|---|---|---|---|---|---|
| QuickTrieve | Any* | $26/month ($312/year) | $33/month ($396/year) | 2,500 months | waived |
| Unfair Advantage | North America+ | $26/month ($312/year) | N/A | Full history | $150 |
| Unfair Advantage | All World Markets+ | $39/month ($468/year) | N/A | Full history | $199 |

*The above QuickTrieve rates apply to a 100 futures contract/1,000 stock portfolio accessed once daily. (1 contract = 1 delivery month. E.g. April and June gold = 2 contracts. Each contract trades off evenly with any group of ten stocks, futures or index options, indices and mutual funds.) When options are included in this portfolio, the selection of desired strikes, puts and calls must be maintained by the user through our downloading software. Any mix of domestic and overseas markets is permitted. Please see the current CSI Rate Schedule for full details on this offer. +Unfair Advantage currently supports commodities and futures only. Stocks, indices and options may be offered at a later date and for an additional charge.

*Holiday Schedule*

CSI will be closed for voice communication on Friday, March 28, but the host computer will be accessible for updates throughout the holiday weekend. The office will re-open as usual on Monday, March 31.