In This Issue

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Structuring Information to Enhance Comprehensive Analysis

Data base management is an area of microcomputing that has become an increasingly troublesome chore for investors. Its seems that the magnitude of useful data and the increasing possibilities for analysis are driving current methods of data management toward obsolescence.

Twenty-five years ago when CSI began serving the needs of futures traders, only 15 commodities were actively traded. Speculators were not concerned with data management in the early years because there were few alternative mediums for investment. Commodities at that time were officially traded only in the U.S., Canada and the United Kingdom. The scope and impact of global business forces were considered unimportant.

Our customers were mostly commercial banks, investment firms and data banking firms who easily handled data on bulky mainframe computers. When the TRS-80 and Apple II computers came along, so did more individual investors who wanted to explore technical analysis. The admittedly primitive software of the time required that each data file be manually created before a contract could be updated and only 20 files could be stored on a diskette. At the time, these limitations were manageable, given the small universe of investment forums.

The scope of futures trading is no longer so limited. Today the CSI Data Retrieval Service quotes prices from 45 futures exchanges, covering every major financial center. CSI tracks nearly 400 commodities worldwide, with the rate of new market additions increasing yearly. Our software has progressed with the times so that data directories and files for the PC are automatically created as needed, and directories can be sorted by groupings of your choice. Still, a large data base can be difficult to maintain and manage.

Is the CD-ROM the Answer?

With the quantity of available market data growing exponentially, it has been suggested that CSI store historical data on CD-ROMs. This idea has been considered - and postponed, in favor of a better solution to the data management problem.

Although the CD-ROM offers many advantages in some applications, drawbacks still remain. The September 19, 1994 Fortune Magazine identified several myths about the technology, including the perception of plentiful consumer interest, size of market, the base of use and many more. We would like to add a couple of limitations: First, CD-ROMs are painfully poky to read. Second, as their name suggests (ROM stands for Read Only Memory), their design fosters a great inflexibility when attempting to append historical financial information with current information. In short, you can't update them. You are also forced

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to offload the CD-ROM onto your hard disk before you can integrate the history with current information and before any studies can be performed. This requires a spare gigabyte or so of disk capacity for efficient use - a luxury not yet enjoyed by most computer users.

Our better alternative involves drastic data compression. Data compression and management have long been on the drawing board at CSI (you may recall we introduced our basic ideas on this subject in CTJ3/94), and we made some major breakthroughs. We have now accomplished the unheard-of fete of squeezing our futures data base down to a mere 3% of its original size - without losing a single byte of substance. This compression is done through our new CSI-Pack™ algorithm. This is a proprietary product that can be applied to financial market information.

The significance of CSI-Pack's 30+ to 1 compression is evident when comparing it to the results of a "Yoshi" (a freeware program known as LHarc developed by Haruyasu Yoshizaki) or MicroSoft's Double Space compression. These products deliver a compression that may approach a two-for-one space saving. Typically, one can expect a 1.5:1 result. CSI's system is more than 15 times better. The magnitude of the compression offered by CSI-Pack depends upon the data being randomized. An easily achievable range of compression resulting from application of this product lies between 6:1 and 50:1. The more a file is compressed, the more the resulting file will appear to represent totally random numbers. The CSI-Pack algorithm reduces the data so much that the output could be used to directly feed a uniform random number generator. There is little left to be squeezed from a CSI-Pack compressed file.

A New Way Of Updating Market Information

Although the savings in hard disk space is substantial, the real advantage of compression lies in the resulting ease of data management. With compressed data, a few simple accesses to the data base can supply the analyst with every detail of all world markets for a single day. It will be possible, under our new data structure design, to digest a large chunk of yesterday's financial page with every gulp of information read. The old fashioned method of dealing with a single stock or contract at a time will not be the norm in the 21st century. We have no doubt that capturing all futures contracts of a multitude of markets by visiting the data base in a serial daily fashion will replace current methods.

With CSI's system one can instantaneously update new information into the compressed data base with the same space-saving efficiency of the distant past. Without compromising data integrity, CSI-Pack can update and add current information with blazing speed to a file comprised of every futures market in CSI's master data base. Unlike other space-saving compressions of financial time series, CSI's system does not require reading the entire data base to append one or more days of new information.

Data Management Advantages of Compression

Every personal computer user shares a common dislike: backing up data resources. If you are like most of us, you hate to take the time to fully back up your precious data files, so you rarely do it. The high level of compression offered by CSI-Pack makes this operation quick and simple. Because of the nature of the data base management, all commodity files (back to the beginning of compiled history) reside in a single directory.

Analytical Advantages of Compression

The flexibility of holding your total data base in a single directory is also a major advantage when investigating intermarket studies. For example, it facilitates the analysis of pairs of commodities or larger sets of independent commodities and a targeted commodity used as a dependant variable. In addition, information can be easily assembled such that multiple correlation studies or intermarket and neural network analysis can be accomplished. Here are a few interrelationships that one might easily explore with a well-managed data base.

1) Gold and the U.S. Dollar Index
2) S&P 500 and the U.S. Dollar Index
3) Lumber and the S&P 500 Index
4) Gold and Platinum
5) Gold and Silver
6) U.S. T-Bonds and T-Bills
7) Wheat and Corn
8) Crude Oil and Gold
9) Crude Oil and S&P 500

This list represents a sampling of markets which may offer profitable opportunities when they are simultaneously bought and sold under variable conditions. An opportunity might arise when one series is inverse to the other or, in the case of correlated series, when one randomly outsteps the other. In some cases it is advantageous to apply a transformation to each series before concluding that a positive or negative correlation is present. The established presence of a moderate-to-strong statistical correlation would identify the more fruitful opportunities.

Creating Your Own Indices

Other advantages to CSI's upcoming data system will make it simple to compute geometric seasonal indices of markets grouped for different purposes on a cumulative overall basis. Seasonal forces measured in an index form for commodities and the stock market have proven predictive value. Making them cumulative over time makes them unbiased and therefore more valuable.

Given the data base structure, it will be simple to compute causal indices of various classes of markets for use in the prediction of markets classified as dependant. The only commodity index analysts have typically used for an indicator is the CRB index, which is heavily grain-weighted and may not be representative of all market forces. Having the ability to form your own private causal index will give the user a more surgical approach to problem solving. Please see CTJ8/93 for more information on preparing your own private index.

The Importance of History in Analysis

The biggest advantage of using compressed data is the formidable data base that can be literally at your fingertips. The future holds an unlimited supply of the events and surprises, as did the past. Few market movements viewed in the future will differ substantially from those in history. For this reason, unhappy trading events and experiences should not be forgotten when formulating trading strategies.

It appears that a limitation in early micro computer design may have fostered the die-hard and inaccurate belief that short-term analysis is sufficient for analytical research. CompuTrac, the first commercially available technical analysis program for commodity investors, was originally developed for the Apple II computer. The pixel density of the Apple II monitor at that time could

The 1995 Commodity Alerts Calendar will be ready for distribution in early '95. See the Product Summary for details.

Ask Customer Service

To start the new year, our customer service staff will step aside and let our bookkeeping department address issues concerning CSI's billing procedures. Here are a few common questions and answers about your monthly statements.

Q. *My invoice shows a balance due of -$39 even though I have prepaid for everything I have purchased from CSI. What is this extra charge?*

A. Whenever your "amount due" is a negative number (indicated by a - sign), the invoice is actually a credit memo. You probably prepaid for software or a service that hasn't been processed through our accounting system yet. If so, your next invoice should show a charge to offset the credit.

Q. *I just received an invoice for twice my normal monthly rate. It shows a prior balance, but I know I paid my last bill. Why doesn't my last payment appear on the invoice?*

A. The due date of your CSI invoice is the 15th of the month. All payments received by the 25th are noted on your invoice, while those received after the 25th won't appear until your next statement. To assure proper credit, please be sure your payment arrives on time. Also write your User I.D. on the check and include the payment stub. Please do not staple your check to the stub. If your invoice does not reflect a payment that may have crossed in the mail, please deduct your prior payment from the amount due and pay just the balance.

Q. *How can I pay my invoices by credit card automatically?*

A. Simply request a credit card authorization form and return it to the bookkeeping department. Starting the following month, you'll receive a receipt with your invoice. If you prefer to preview your charges each month, you may call or fax authorization at your discretion. We'll need your name, User ID, credit card number with expiration date and the dollar amount of the charge. CSI accepts MasterCard, VISA, Discover and American Express.

Q. *What should I do if there is an error on my bill?*

A. Call, write or fax the bookkeeping department. Our office hours are 9 a.m. to 5 p.m. eastern time Monday through Friday (holidays excluded). Please have your invoice number on hand and be prepared to tell us why you feel the bill is in error. We'll do our best to solve any problem promptly and to your satisfaction.

Domestic customers can call toll free at (800) 274-4727. The direct dial number is (407) 392-8663. To send a fax to the bookkeeping department, please use (407) 392-7761.

Q. *How many calls for daily updates may I make in a month without incurring extra charges?*

A. Our price schedule allows for 26 updates during a billing cycle, even though there are normally just 21 trading days. Accessing more than 26 updates will result in proportionately higher costs. When more than 26 updates are requested for a custom portfolio, the next month's bill shows a PA (Prior Adjustment) of 4% per additional access. For a fixed portfolio, you would not have been pre-billed for your service. Therefore, your next bill would show the normal monthly rate for the fixed portfolio plus an extra-call surcharge of 4% per access exceeding 26 updates.

Q. *How can I tell how many months of free History on Demand are still available to me?*

A. Your monthly invoice from CSI shows the quantity remaining at the time of printing (around the 28th of the previous month). Any data retrieved after the printing date will not be deducted from the total. The best way to keep track of your History on-Demand usage is to print the pricing

accommodate 125 price bars, which is about six months of daily pricing. Correspondingly, CompuTrac's Apple II software could accommodate six months of daily price history to drive its market studies. Was the limited historical requirement of the original CompuTrac software controlled by the pixel density of the Apple's monitor? Of course it was. Should this limitation live on? Of course not!

The producers of CompuTrac wisely extended its support to encompass longer history files with the release of their IBM PC version, but many other tool kit developers and market study software developers continue to adopt

a limited view of historical data base requirements. Fortunately, with today's super-dense display devices and a realization that longevity of market information is preferable, historical data base requirements have expanded to a more respectable level in many analytical efforts. Even still, the extent of back data used is often less than five years. Such a limited view would leave the user vulnerable to a surprise repetition of the October 1987 U.S. stock market crash or the like. Any adverse event not covered within the observed past is likely to be revisited as a surprise attack. Don't let the Apple

Holiday Schedule

CSI will be closed for voice communication Saturday, December 31st through Monday, January 2nd for the New Year's holiday. We wish all a happy new year!

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

❑ **1995 Commodity Alerts Calendar** for use with QuickTrieve (available early '95) $20

❑ **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.

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All prices subject to change without notice.

Adding Political Punch to Market Analysis

Tax & spend, tighten the belt, pay as you play - No matter how you label them, the economic policies of the American government have major ramifications on the commodity, stock and bond markets. A new section of data planned for inclusion in CSI's data base will help our users understand the subtle nuances of political power and how it relates to investments. This new data set will identify the federal party in power for the executive and congressional branches of government throughout the history of the modern markets.

CSI data base users will have information which they can query to assess the impact of political power on net changes in markets. This will bring about the ability to measure the probabilities of a market advance in the near term based on the current leadership or on changes in leadership. Armed with these statistics, one can determine the future odds of strong or moderate market movements. In addition, the analyst can factor in the conditional (bayesian) probabilities of such market price changes given a recent measured rally or decline prior to a referenced event.

We also plan to add the commitments of traders statistics provided by the Commodity Futures Trading Commission. This is a bi-weekly report which tabulates the positions taken by commercials, large speculators and small traders. Knowledge of these statistics can be helpful in forming your own trading strategies.

In the final analysis, it will be the three-dimensional scope of time and depth of information on markets and politics that will determine ones proficiency in the market place. To that end, the collection process on these items is well under way. We expect to release the information before Spring and will keep you posted in upcoming journals. ✦

Structuring Information...

II's outdated technology limit your trading success.

From its very first days, CSI has always encouraged the use of substantial historical data resources when approaching problems in the financial area. It was this commitment to long-term analysis that motivated development of our extensive data base reserves. CSI source material looks back to the late 19th century and we are steadily closing the gap electronically by adding to our information base. Current material available to customers reaches back to 1949 for the CBT grain markets.

The trading public of the pre-nineties may have discovered some interesting advantages when limited data resource information was available, but it is likely that past successes derived from limited information were atypical. As markets and trading arenas have broadened, times have been rapidly changing. Staying even in today's market environment requires more than tool kits and fancy graphics. It requires the depth and substance of coverage of a fully functional and fully featured data base that will span the entire twentieth century. A data base that can provide maximum depth and longevity, along with a dynamic management system will be needed for sustained trading success.

We continue to work on the data compression effort and supporting software for the delivery of data in a manageable form. When fully ready for release, all of the above topics will be addressed in detail so that users can undertake their own private and unique analysis. ✦

Bob Pelletier