LETTER FROM THE EDITOR

This year marks the fortieth anniversary of the founding of the MTA and presents an opportunity to review the work of some of the giants of technical analysis. Each month, we will feature the work of at least one of the individuals who have had a large impact on the study of technical analysis, starting with an in-depth look at the work of Bernadette Murphy, CMT, who was one of the first to note the importance that options trading would have in market analysis. We have reprinted an article she prepared for the MTA Journal in 1980 that serves as a primer to the options markets and shows an example of the thought process that has allowed her to stay ahead of the markets for almost fifty years.

Bernadette was also among the first to understand the importance of professional certification and was instrumental in the development of the CMT program. She also understood the limitations of the CMT and in November 1981 wrote, “The principles, philosophy and measurement tools of the technical analyst make analysis of the stock market viable. The effectiveness of the conclusions depends upon the talent of the user. Medical, legal and accounting disciplines are tested regularly. Many pass the examinations but only a handful becomes outstanding practitioners. The talents of the user make the difference. I believe the same applies in the world of technical analysis.”

Interestingly, her niece Mary Ann Bartels has also become an outstanding practitioner, continuing the family tradition of identifying new market trends and developed sentiment indicators based on more recent market changes. Mary Ann is one of the exceptional speakers scheduled to make a presentation at the Annual Symposium in April offering current insights into the markets.

Please tell us about the thought leaders you think we should feature in upcoming issues of Technically Speaking by emailing editor@mta.org.
A FAMILY OF UNIQUE INDICATORS

Technical analysis includes a review of the action in a market to understand the trend. Many technicians limit themselves to price but there is also a family of indicators that looks at who is creating the price action. This is a form of sentiment analysis and analysts can use data on who is buying and selling to gain a deeper understanding of the trend. In some cases, skilled analysts can spot turning based on this type of analysis.

Many of the market-based sentiment indicators have lost their usefulness. Fifty years ago, technicians could study odd-lot trades (buy or sell orders of less than 100 shares) to see what small, individual traders were doing. This indicator was often interpreted in a contrarian manner because large amounts of odd-lot buying often accompanied market tops and odd-lot sellers often closed positions at market bottoms.

Another contrary indicator was the public/specialist short sales ratio which compared the short selling activity of public investors with exchange specialists. In modern markets, the specialists no longer play a significant role and this indicator, like the odd-lot indicator, has lost their significance.

The best analysts spot changes like this as they occur and develop indicators that keep pace with the changing markets. Exchange-traded options are an example of a market change that contributed to the demise of odd-lots. When they began trading in 1973, some analysts understood that the information generated by these markets would be valuable. Bernadette Murphy, CMT, was one of those analysts. She began studying options at a time when information was more difficult to obtain. She developed a deep understanding of options markets and presented ways to use the data generated by options traders in an MTA Journal article in 1980.

Although options provided leverage, they did not offer enough leverage for some hedge funds and other large traders who wanted to control massive amounts of capital with small margins. These market players would bring significant changes to the markets and one of the analysts to understand this change was May Ann Bartels, the niece of Bernadette Murphy.

Mary Ann analyzes data from hedge funds in addition to the publicly available Commitment of Traders (COT) data and other market inputs. She is among the most widely followed analysts in her position as Head of Technical and Market Analysis with BofA Merrill Lynch Global Research. She is noted for developing proprietary models for equity pairs trading and for sector, industry and stock selection. With more than 20 years of quantitative analysis experience, she is also highly regarded for her extensive work on hedge funds. She is consistently recognized as one of best analysts by Institutional Investor. In this year’s rankings, they noted that based partly on her sentiment indicators Mary Ann predicted the market had topped out after the S&P 500 reached a new 52-week high in April, and before the index fell more than 11%.

In recent interviews, Mary Ann has been urging equity market investors to be defensive. She believes that megacap stocks, measured with the S&P
100 index, are the new market leaders. More of her opinions can be found at [http://go.mta.org/3150](http://go.mta.org/3150) where she notes that a new investment theme is water.

Bernadette continues to offer insights into the markets as chief market analyst at Kimelman & Baird LLC and is certainly watching for changes that will allow her to be among the first to notice changes in the trend. Her career has already spanned 47 years and retirement is not in her plans. In the next article, we look back at her pioneering analysis in the options market.

Students of market history should also review the transcript of the Lubin Lecture Bernadette delivered at Pace University which is a concise summary of the stock market, economic and political history from the 1950’s. It is available in volume 12 of the MTA Journal published in November 1981, [http://go.mta.org/3152](http://go.mta.org/3152). Among the many interesting points in the lecture is the realization of how much the stock market grown over the course of her career.
THE OPTION MARKET – EARLY TRENDS
BY BERNADETTE M. MURPHY, CMT

Editor’s note: This article was published in the MTA Journal in 1980 and looked at exchange-traded options trading less than ten years after they were introduced. A full copy of that Journal is available at http://go.mta.org/3149.

Bernadette M. Murphy, MTA President 1977-1978, has pioneered in the collection and technical analysis of options data since the very inception of listed options trading. She has been instrumental in persuading the Options Clearing Corporation and the various exchanges to provide data which the stock market technician can utilize. She has developed a number of techniques for the analysis of options data and has been instrumental in assisting others in the development of such techniques. Despite the expansive growth in options trading, technical analysis of options data remains in its infancy. In this article, Bernadette gives an overview of the options trading mechanisms, the data currently available, and outlines some analytical techniques which have proved helpful.

THE STRUCTURE

The Chicago Board of Options began operations on April 26, 1973. It offered options on the underlying stocks of sixteen companies. It had taken four years of planning and development, but the result was a revolutionary change in option trading. Contracts with uniform strike prices and expiration dates were offered to the public for the first time. By structuring and limiting the selection of prices and expirations, offerings were concentrated, producing greater liquidity than ever before available in option trading.

To provide clearing facilities for the trading of contracts, The Options Clearing Corp. was organized as a Delaware corporation in 1972 under the name of Chicago Board Options Exchange Clearing Corp., a wholly owned subsidiary of the CBOE. On January 3, 1975, the American Stock Exchange purchased one half of the outstanding stock of the clearing corporation just prior to the inauguration of its own options exchange on January 13. The Philadelphia -Baltimore - Washington Exchange followed in June, 1975, the Pacific Stock Exchange in April, 1976, and finally, the Midwest Option Exchange in December, 1976. The Midwest Option Exchange merged with CBOE earlier this year. The Options Clearing Corp. is now owned equally by the four exchanges.

The Options Clearing Corporation clears all transactions in the 283 calls and 172 puts currently traded in addition to trades in 15 dually-listed calls and 6 puts. It serves as the issuer and obliger of all listed and traded option contracts on participating exchanges. It supervises margin deposits of clearing members, i.e., cash, U . S . Treasury Bills, Letters of Credit, and shares of underlying stock. It also collects pertinent statistical data, much of which is made available to the officers and directors of each exchange. At the request of The Market Technicians Association, weekly and monthly data sheets became available to market analysts beginning the summer of 1979. Overall exchange open-interest figures are reported daily in the newspaper with the open interest in individual issues reported weekly in The Sunday New York Times and Barron’s. The uncovered short position as a
percentage of open interest during 1979 was estimated to average 24% by CBOE. Figures on short positions are not made public.

The Securities and Exchange Commission permitted the addition of puts to exchange option trading in June, 1977. Put options on the underlying common stock of 25 corporations were offered, in contrast to calls which, at that time, were offered on the underlying stock of 220 companies. Each exchange was allocated five puts. In October, 1977, the SEC began an evaluation study of the options market. During this period, a moratorium was imposed whereby each exchange agreed not to list options on any new underlying securities which were not listed and traded on that exchange on July 15, 1977, excepting the replacement of involuntarily delisted classes by new classes. The moratorium came to an end in May of this year.

There has been an increase in listings since that time. As an example, the Chicago Board of Options now offers puts on the underlying common of 50 companies versus the original 5 and calls of 120 companies versus the premoratorium 95. The Amex lists 78 calls and 54 puts.

REPORTED FIGURES - Public Customer

The reporting figures collected by The Options Clearing Corp. are broken down into three classifications. They are the public customer, firm proprietary, and the market maker. The term public customer includes the general public which is a combination of retail and institutional clients, but it also includes professional traders who clear their transactions through firms who are members of The Options Clearing Corporation. All orders entered by member firms doing customer orders not marked “firm proprietary” fall into this classification. Also, a member firm does not mark on the order ticket forwarded to the clearing corporation whether the customer is retail or institutional. Without these distinctions, The Options Clearing Corp. cannot accurately refine the reporting figures within this important class.

The public customer represents a major component of overall options trading. For continuity, only figures on the Chicago Board of Options and the AMEX will be included in this article.

PUBLIC CUSTOMER

<table>
<thead>
<tr>
<th>Average Monthly Call Volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>As a % of Total Volume</td>
</tr>
<tr>
<td>-------------------------</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>1975</td>
</tr>
<tr>
<td>1976</td>
</tr>
<tr>
<td>1977</td>
</tr>
<tr>
<td>1978</td>
</tr>
<tr>
<td>1979</td>
</tr>
<tr>
<td>1980 (8 mos.)</td>
</tr>
</tbody>
</table>

During the hectic bull market of 1975-1976, there was record participation by the public customer. Peak months were established on the Amex:
A somewhat lower record period was set in the first quarter of 1976:

<table>
<thead>
<tr>
<th></th>
<th>Public Customer As a % of Total Volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>1975</td>
<td></td>
</tr>
<tr>
<td>May</td>
<td>67%</td>
</tr>
<tr>
<td>June</td>
<td>63%</td>
</tr>
<tr>
<td>July</td>
<td>64%</td>
</tr>
<tr>
<td></td>
<td>1975 monthly average 57.9%</td>
</tr>
</tbody>
</table>

Public customer percentages tend to be more striking on the Amex due to a difference in trading structure from the CBOE. On the CBOE, a competing market system is in effect, whereas the traditional specialist system prevails on the Amex. The Amex believes its volume figures tend to be weighted on the side of the public customer.

A gradual shift in the balance of the public-customer figures away from the retail and trader influence of the 1975-1976 period seems to be taking place as institutions are accepting options as a portfolio tool.

Peter Thayer conducted a survey of bank trust and estate departments in conjunction with his master’s thesis at Harvard University. Mr. Thayer has periodically updated the original survey, *Options Achieve Respectability With Trust Departments, 115 Trusts and Estates 592*. In 1973, 50% of those that responded to the survey viewed writing options as not prudent and 14% thought it too risky.

By April, 1976, the writing of options was considered neither imprudent nor risky by any of the respondents in a survey of 200 of the largest banks in the country. 81% of the banks answering the survey said they expected to be writing options within the next three years.

In the spring of 1977, all U.S. Trust departments over $100 million in size, or approximately 350, were questioned. The survey indicated 76.2% of the respondents felt the Comptroller of the Currency should allow option utilization beyond what was already approved.

- 29% felt trust departments of national banks should be allowed to purchase calls.
- 37% felt they should be allowed to purchase puts.
- 45% felt they should be able to write puts.

In December, 1979, the Comptroller of the Currency granted national banks the authority to establish option programs if appropriate. Mr. Thayer will soon be undertaking another update of his original survey.
The *Institutional Investor* conducted a review of the attitude of pension funds towards options. In August, 1976, .9% of those questioned had established option programs. By February, 1979, 9% were involved in option programs with an additional 8% considering establishing programs within the year. The number of insurance companies engaged in option writing and/or trading is unknown.

In December, 1974, Robert Nathan Associates, in *Review of Initial Trading Experience of The Chicago Board Options Exchange*, estimated institutional participation to be about 5% of the total customer business. By 1976, the figure was estimated to be 10%. The CBOE currently uses a rough estimate of 12-15% which may prove to be conservative.

The growth of the institutional participation should increase the sophistication of the trading techniques within this category. The performance of this group in the market will be traced later in this article.

**Firm Proprietary**

Firm proprietary transactions are those for a member firm’s own account. Options may have impacted stock-exchange member trading more than any other reporting class. The growth of institutional investor activity as a percentage of stock exchange trading volume during the 1960’s and early 1970’s sorely strained the capacity of member firms and specialists to meet the liquidity needs of these large investors. Options provide a much-needed and highly effective tool. It gives member firms an alternative to the accommodative buy high-risk, costly process of positioning blocks of stocks.

With access to options, buy side orders can be shorted and hedged by calls. Long positions can generate income through covered writing, thus reducing carrying costs. Puts can provide the block trader with time to find an interested buyer or await improved market conditions before liquidating a position. There are multiple possibilities available to firm trading departments because of options. The contribution made by options is reflected in the growth of block trading, i.e., trades of 10,000 shares or more, over the past ten years particularly since 1977.

<table>
<thead>
<tr>
<th>Year</th>
<th>%</th>
<th>Year</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1976</td>
<td>15.4</td>
<td>1976</td>
<td>18.7 (option moratorium)</td>
</tr>
<tr>
<td>1977</td>
<td>17.8</td>
<td>1977</td>
<td>22.4</td>
</tr>
<tr>
<td>1978</td>
<td>18.3</td>
<td>1978</td>
<td>22.9</td>
</tr>
<tr>
<td>1979</td>
<td>17.8</td>
<td>1979</td>
<td>26.0</td>
</tr>
<tr>
<td>1980</td>
<td>15.6</td>
<td>1980</td>
<td>29.5 (8 months)</td>
</tr>
<tr>
<td>1981</td>
<td>16.6</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Firm trading as a percentage of overall trading does not compare with the volume of the two other major reporting categories, public customer and market maker.
The importance of the option activity by firm trading, aside from block trading, may well be in its influence on the figures member firms report to the New York Stock Exchange on their own trading. There has been a gradual increase in member-firm short sales on the NYSE as a percentage of all sales. An obvious increase in short selling participation over the last four years (1976-1979) compared to the earlier four-year period (1972-1975) can be seen from the following table. Public short figures are the third reporting category, but are not included in the table:

<table>
<thead>
<tr>
<th>Year</th>
<th>Short Sales % All Sales</th>
<th>Category</th>
<th>Other Exchange Members</th>
</tr>
</thead>
<tbody>
<tr>
<td>1972</td>
<td>6.6</td>
<td>56</td>
<td>27</td>
</tr>
<tr>
<td>1973</td>
<td>6.7</td>
<td>53</td>
<td>24</td>
</tr>
<tr>
<td>1974</td>
<td>6.0</td>
<td>45</td>
<td>25</td>
</tr>
<tr>
<td>1975</td>
<td>7.7</td>
<td>52</td>
<td>28</td>
</tr>
<tr>
<td>1976</td>
<td>6.6</td>
<td>49</td>
<td>33</td>
</tr>
<tr>
<td>1977</td>
<td>7.0</td>
<td>42</td>
<td>39</td>
</tr>
<tr>
<td>1978</td>
<td>7.4</td>
<td>44</td>
<td>38</td>
</tr>
<tr>
<td>1979</td>
<td>7.1</td>
<td>45</td>
<td>38</td>
</tr>
</tbody>
</table>

Options may have also become an internal tool by which member firms are able to improve firm liquidity during periods of high interest rates. Improved liquidity lessens a firm’s dependence upon banks for expensive broker loans. Many strategies can be employed. Simply stated, a stock is sold short. A call is purchased to hedge the position. The net after option proceeds become available for internal use, such as helping to finance a customer’s margin account. As the short sale is hedged by a call, the firm’s capital reporting figure for NYSE purposes is not impacted; a customer’s margin account is financed internally; a loan at the bank is eliminated or greatly reduced in size.

**Market Maker**

The volume complement to the public customer is the market maker on the CBOE, and the specialist on the Amex who trades exclusively for his/her own account, making bids and offers to provide liquidity for the market. It provides a contra-trend performance in the options market to the public customer.

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<table>
<thead>
<tr>
<th>Year</th>
<th>Average Monthly Call Volume</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>As A % of Total Volume</td>
</tr>
<tr>
<td></td>
<td>ASE</td>
</tr>
<tr>
<td>1976</td>
<td>36.0%</td>
</tr>
<tr>
<td>1977</td>
<td>45.3%</td>
</tr>
<tr>
<td>1978</td>
<td>44.0%</td>
</tr>
<tr>
<td>1979</td>
<td>43.4%</td>
</tr>
<tr>
<td>1980 8 mos.</td>
<td>42.4%</td>
</tr>
</tbody>
</table>
```

On the Amex there are 182 specialists registered in options of which approximately 90-100 are actively making markets in options. On the CBOE, the total membership prior to the merger with the Midwest Exchange, was 1,250, of which at least 500 were regular market makers. This is a fluid number due to the flexibility in market making provided by The Exchange. At times, as many as 700 may be acting as market makers. After the merger with the Midwest Options Exchange, the CBOE added an additional 390 special members whose trading participation is limited to the 16 issues
originally traded on The Midwest. Of the special members, 155 are registered as market makers and floor brokers. In practice, approximately two thirds of the total number are market makers.

TRADING TRENDS

Market analysts have been working with limited resources when faced with analyzing the options market and its interrelationship with the senior stock market. The Options Clearing Corp. began to issue statistics during the summer of 1979. Back data has been promised on all of the published series but remains unavailable at this time. By gradually collecting and comparing figures, certain early trends are beginning to appear. These observations are presented with some serious reservations. There is a limited amount of data available and the time frame covered is short. Conclusions reached must be classified as tentative at best.

Volume

The first is that option activity in the public customer category tends to contract as a percentage of overall volume as the senior equity market declines and conversely, increases as the senior market advances.

Put /Call Ratio

A second statistic, put activity relative to call activity, increases to exceptionally high levels in all reporting categories at low points in the equity market. This spring when the moratorium was lifted, an additional 142 puts became available for trading versus the 25 traded during the prior three years. This marked increase diminished the importance of past ratio figures as a reference. Time will be required for a balance to return to this measurement as the ratio has reached a higher working plateau. Additional market swings will be needed to establish a new reference point.
A simple ratio is constructed by combining the total volume of puts divided by the total volume of calls. Weekly figures become available from The OCC in June, 1979. Since June, 1980, daily figures are reported in the newspaper.

A monthly survey of put /call activity from June, 1979June, 1980 indicated a confirmation of stock market turning points was possible through use of the ratio. In the past, the actual ratio figure had been expanding at turning points due to the limited number of available puts at a time when there was a growing demand due to increasing sophistication in option usage. Extreme levels were still easily identified.

<table>
<thead>
<tr>
<th>Date</th>
<th>Put/Call Ratio</th>
<th>Prior Month's Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>March, 1978</td>
<td>16.7</td>
<td>11.7</td>
</tr>
<tr>
<td>November, 1978</td>
<td>16.2</td>
<td>12.0</td>
</tr>
<tr>
<td>July, 1979</td>
<td>17.1</td>
<td>15.0</td>
</tr>
<tr>
<td>October, 1979</td>
<td>19.0</td>
<td>15.0</td>
</tr>
<tr>
<td>March, 1980</td>
<td>18.1</td>
<td>11.7</td>
</tr>
</tbody>
</table>

**Flow of Funds/Public Customer**

A plethora of strategies have evolved in the options market. There are bull, bear, and neutral market strategies. To compensate for this situation, a simple netting of positions was adopted to simplify the tracing of market activity by various reporting categories. The objective is to determine whether the balance of the activity has a bullish or a bearish bias. The figures used in the following illustration are monthly volume figures of the public customer’s activity on the Amex which were collected before The OCC began to issue its statistics. Average premiums were not accumulated during this period. It is the net percentage of the public customer as a percentage of total volume. In studying the monthly activity figures of the public customer, an interesting pattern started to become apparent at stock market turning points. The public customer, on balance, tends to sell puts at low points and buy calls.
It wasn’t until weekly figures became available with average premiums that the trend could be confirmed. By netting the buy/sells of the public customer, times the appropriate average call or put premium, and then accumulating the figure as one does in market breadth calculations, an interesting pattern emerges. At high points in the market, the amount of money flowing into calls drops sharply. It expands dramatically at low points in the market. A contra-trend occurs in puts. One must be cautioned. These figures measure only a brief period in option market history.

A sharp drop in the flow of funds into calls over a few weeks’ time might well be construed as warning to carefully reexamine one’s indicators of the senior stock market. A reversal of trend may be in the offing.

**Premiums**

Premiums are certainly an expression of investor expectations for the underlying stocks but the exchanges believe they are also influenced by actual and anticipated interest rate trends. A stock-exchange firm may be increasingly aggressive in the utilization of the options market to offset block trades and to generate cash for internal use during periods of rising money rates, creating upward pressure on premiums. Customers may increasingly take advantage of the leverage offered by options. Buying options rather than the underlying stocks requires a cash commitment but
helps to keep debit balances at a minimum during a period of high interest rates. The risk is partially counterbalanced by the leverage provided by lower carrying cost. When studying premiums, absolute numbers may be misleading but trends are interesting.

Both the CBOE and the Amex have developed call and put indices which concentrate on premiums but with consideration given to the expiration characteristic of options. The CBOE index was developed by Tom Rzepski and reflects premiums from that exchange. In creating the index, adjusted for the dissipating value of the option due to a set expiration date, CBOE learned premiums can decline while stocks are rising in price during a period when traders expect interest rates to drop. This occurred in 1976. In 1977 premiums reached a low seven months before the S & P (see chart, CBOE S & P 500). A detailed explanation of the methodology of constructing the index can be obtained from their Research Department. Write and ask for the “CBOE Call Option Index Methodology and Technical Consideration.” Barron’s prints the index weekly.

The Amex has created an industry-wide index which measures premium level of both calls and puts. The Amex index is computed daily. Descriptive material was distributed at the Market Technician’s option meeting at The NYSSA in June. Tapes of the meeting are available from The New York Society of Security Analysts. (Editor’s note: This refers to the meeting in June 1980 and the tapes that are referenced here are no longer available.)

**Average Dollar Premiums**

During an advancing period in the market, the demand for calls results in a higher premium being asked by the seller to write a contract. The premium provides compensation for the risk that the option will be exercised. In addition, the writer is capitalizing upon the profit opportunity created by market forces. As the market advances, the buyer is less inclined to pay a high premium for a put but will pay a higher premium for a call. A reverse attitude prevails during market declines. The professional option trader,
individual or institution, will supply or write calls capturing higher premium income during an advancing period in the market in calls considered to be overvalued and at the same time accumulate puts which are less in demand thus offered at low premiums and considered to be undervalued. Opposite procedures take place during a declining period in the market when the professional accumulates calls and offers puts.

As market forces do exert influence on premiums, there does seem to be a relevance to watching the trend of premium levels. A ratio of the dollar premiums puts/calls over the past year is outlined below:

Members of The Market Technicians Association are successfully applying the data made available to them by The Options Clearing Corp.

Gail Dudak and Dick Orr of Pershing & Co. have taken the figures provided by The OCC and constructed ratios of customer and firm buy/sell activity. It produces a measurement of option activity for the two reporting classes, but they have taken the process one step further. By producing a ratio of the ratios they have achieved interesting results. When the customer ratio/firm ratio drops below .75, a constructive attitude toward the stock market appears warranted. Note the high points.

New Indicators

Firm Proprietary

Although firm figures are a relatively small percentage of overall trading, this category represents a very sophisticated market sector. Arthur Merrill of Merrill Analysis, publishes a measurement of firm trading in his Technical Trends. It is an interesting refinement of the figures. Its objective is to -the
bullish or bearish attitudes of the sophisticated trader. The formula is on the chart. It reads:

\[
100 \times (\text{Call Buy} + \text{Put Sells} - \text{Calls Sells} - \text{Put Buys})
\]

An exponential average of the figures is charted.

Other Data

Barron’s began to publish traditional breadth figures for the CBOE on June 21, 1980. The figures to date are:

<table>
<thead>
<tr>
<th>Week</th>
<th>Advances</th>
<th>Calls</th>
<th>Declines</th>
<th>Unchanged</th>
</tr>
</thead>
<tbody>
<tr>
<td>9/30</td>
<td>176</td>
<td>973</td>
<td>147</td>
<td>316</td>
</tr>
<tr>
<td>9/27</td>
<td>696</td>
<td>354</td>
<td>113</td>
<td>85</td>
</tr>
<tr>
<td>7/14</td>
<td>655</td>
<td>383</td>
<td>110</td>
<td>71</td>
</tr>
<tr>
<td>7/11</td>
<td>651</td>
<td>413</td>
<td>100</td>
<td>108</td>
</tr>
<tr>
<td>7/18</td>
<td>943</td>
<td>197</td>
<td>70</td>
<td>43</td>
</tr>
<tr>
<td>7/25</td>
<td>266</td>
<td>698</td>
<td>47</td>
<td>206</td>
</tr>
<tr>
<td>8/1</td>
<td>770</td>
<td>386</td>
<td>65</td>
<td>136</td>
</tr>
<tr>
<td>8/8</td>
<td>779</td>
<td>366</td>
<td>87</td>
<td>98</td>
</tr>
<tr>
<td>9/15</td>
<td>710</td>
<td>461</td>
<td>144</td>
<td>97</td>
</tr>
<tr>
<td>9/22</td>
<td>569</td>
<td>544</td>
<td>155</td>
<td>397</td>
</tr>
<tr>
<td>9/29</td>
<td>231</td>
<td>986</td>
<td>62</td>
<td>291</td>
</tr>
<tr>
<td>9/15</td>
<td>295</td>
<td>327</td>
<td>140</td>
<td>106</td>
</tr>
</tbody>
</table>

Back data should be available on this series as the figures are collected daily. They were offered to the MTA in 1978 at which time they contained daily trading statistics from October, 1976 to August, 1978.

The Technician and the Options Market

The following growth pattern for one options exchange confirms a need for extra effort on the part of analysts to understand the options market. Each contract represents an option on 100 shares of stock.

The option market offers leverage and provides liquidity to the stock market. As it expands in its number of offerings and as investors’ education and appreciation of its function deepens, its growing importance will influence the entire financial industry. It is important that we as market analysts acknowledge this new force and combine our talents to study the long range implications for our specialty. By sharing our knowledge, our effectiveness as professionals will be strengthened.
SOURCES OF INFORMATION: Karen Carson, Director of Statistics, Chicago Board of Options and Beverly Gordon of the Amex, were most helpful in supplying trading statistics for the exchanges they represent.

REFERENCES:

- A Survey of Investors on the Listed Options Market, 1975, American Stock Exchange
- New York Stock Exchange, FACT BOOK 1973-1980
- The Chicago Board Options Exchange - Market Statistics 1979
A NEW SCREENER
BY DAVE STECKLER

Editor’s note: This article is extracted from a daily review of the trading action in ETFs that was originally posted at Dave’s ETF RoundUp on December 10, 2012. It is reprinted here with permission. The complete article can be read at http://go.mta.org/3148. For additional examples of timely market summaries, reviews of trading systems and information about back tested strategies that are available at http://www.etfroundup.com/.

At the end of the day, what we’re all looking for is an efficient method for finding ETF’s that are set up for a buy. Oh, and is it too much to ask that the setup comes from a methodology that has back tested out with a positive bias? Theses methodologies are out there, if you know where to look. The newest methodology I’ve come across comes from Larry Connors, Cesar Alvarez, and Matt Radtke, and it’s called the “ConnorsRSI” system.

ConnorsRSI is a composite indicator consisting of three components. Two of the three components utilize the Relative Strength Index (RSI) calculations developed by Welles Wilder in the 1970’s, and the third component ranks the most recent price change on a scale of 0 to 100. Taken together, these three factors form a momentum oscillator, i.e. an indicator that fluctuates between 0 and 100 to indicate the level to which a security is overbought (high values) or oversold (low values).

The three components are:

1. Price Momentum – By default, ConnorsRSI applies a 3-period RSI calculation to the daily closing prices of a security.

2. Duration of Up/Down Trend – When the closing price of a security is lower today than it was yesterday, Connors says that it has “closed down”. If yesterday’s closing price was lower than the previous day’s close, then there is a “streak” of two down close days. Research has shown that the longer the duration of a down streak, the more the equity’s price is likely to bounce when it reverts to the mean. Likewise, longer duration up streaks result in larger moves down when the equity’s mean reverts. In effect, the streak duration is another type of overbought/oversold indicator.

By default, ConnorsRSI uses a 2-period RSI for this part of the calculation, which is denoted as RSI(Streak,2). The result is that the longer an up-streak continues, the closer the RSI(Streak,2) value will be to 100. Conversely, the longer that a down-streak continues, the closer the RSI(Streak,2) value will be to zero.

3. Relative Magnitude of Price Change – The third component of ConnorsRSI looks at the size of today’s price change in relation to previous price changes. They do this by using a Percent Rank calculation, which may also be referred to as a “percentile”.

The final ConnorsRSI calculation simply determines the average of the three component values. Thus, using the default input parameters gives the equation:
ConnorsRSI(3,2,100) = \left[ \text{RSI}(\text{Close},3) + \text{RSI}(\text{Streak},2) + \text{PercentRank}(100) \right] / 3

It turns out that ConnorsRSI is not just a great entry indicator; it’s also a very reliable method for measuring the degree to which it’s captured the mean-reverting price bounce. Therefore, the exit methods wait for ConnorsRSI(3,2,100) to reach a predetermined level. Connors found that values in the 50 to 80 range are the most effective exit indicators.

You can learn all the details of the ConnorsRSI in a free introductory guidebook that includes background formulas for conventional RSI; the entire formula for ConnorsRSI; a fully-disclosed pullback strategy that uses ConnorsRSI; and simulated historical test results. The booklet can be downloaded from here.

TradingMarkets.com offers a neat, free screener that lets you screen using up to twenty-two technical indicator parameters, one of which is the ConnorsRSI. The screener is found on their here. Or, you can go to TradingMarkets.com and from the home page, click on Screener. Here’s what you see once you do so:

Next, click on All to expand the filter parameters to their maximum:
The drop-down box under Profile, Equity Type offers you a choice of: Any; Common stocks; ETFs (Any); Non-Leveraged ETFs; and Leveraged ETFs. Click on the equity of your choice. For illustration purposes let’s use non-leveraged ETFs. I’m also going to screen for ETFs above $5 with a minimum average daily volume of 250,000 shares or more, trading above their 200-day SMA:

The methodology looks for equities that are trading with a ConnorsRSI at or below 10, 20, 30 or 40, or trading at or above 60, 70, 80 or 90. Let’s screen for non-leveraged ETFs with a ConnorsRSI of 20 or below. Change the View drop-down box from Technical to Proprietary and then click Filter results, to see just those ETFs that meet the screen criteria:

This screen found six non-leveraged ETFs that met the criteria, and you can choose what information to display such as the ticker symbol, closing price, ConnorsRSI value, and the volatility rating. You can display other columns showing moving averages, historical volatility, %B, and the like. How did the criteria in the screening fare in historical testing?
Please note that these results are not just from the six ETFs shown above; they are from all equities back tested from January 2001 through September 2012, both individual stocks as well as both leveraged and non-leveraged ETFs. Although some of the alternate variations came close, none of them was able to best the total profit of the variation using ConnorsRSI(3,2,100). Slippage and trading costs are not taken into account with the back test results and of course, your mileage may vary.

There is no reason not download the free introductory booklet and check out the free screener. I found it to be very useful and I think you will too.

David Steckler enjoyed 24+ years of experience as an investment counselor, helping clients design and manage portfolios that best met their investment goals and objectives. Before retiring he was a member and past president of the American Association of Professional Technical Analysts (AAPTA), and a member of the Market Technicians Association (MTA).
Investment Courses For Professionals

A sample of a growing list of fundamental and technical courses is shown below. The courses are associated with global destinations and dates, both for open and private client formats. They are produced by various knowledge vendors throughout the world. Details can be provided by contacting NYIF.COM, or John Palicka (palicka@pipeline.com).

Taught by John Palicka CFA CMT

FUSION ANALYSIS-
This is a professional approach that blends fundamental, technical, behavioral and quant strategies.

EQUITY PORTFOLIO MANAGER-
Serious managers will utilize this course to analyze leading Wall Street valuation models and investment strategies for equities using fundamental, behavioral/technical and quant approaches, and then study how these are modified by the best performing equity portfolio managers to produce risk-adjusted excess returns.

INVESTMENT FUND SELECTION-
This is a must attend course for all professionals involved in the selection and management of third-party investment managers.

TECHNICAL ANALYSIS CMT 1-
A must attend course for investment professionals wishing to gain the CMT Level I professional qualification in Technical Analysis from the Market Technicians Association (MTA).

INTRODUCTION TO STEALTH TRADING USING FUSION, ALGORITHMS, AND DERIVATIVES FOR PROFESSIONALS-

Today, portfolio managers increasingly must use stealth trading in order to disguise their intentions and thus benefit from best execution.

ADVANCED CAPITAL MARKETS ANALYSIS
Spot, forwards, futures, swaps, options, and statistical issues are discussed in dynamic capital market strategies.

STRATEGIC GOLD INVESTING
Gold has been one of the very few assets to have created wealth in the past several years. Gold offers investment opportunities for investors, traders, and financial engineers.

GLOBAL SMALL CAP INVESTING
Global small cap stocks offer investors the ability to participate in the world’s future big winners.

PORTABLE WEALTH INVESTING
Portable Wealth (PW) management offers investment opportunities for wealthy investors and their advisors. PW can generate attractive risk-adjusted excess returns to traditional and alternative investments.

Instructor John Palicka CFA CMT is a top-ranked portfolio manager of Global Emerging Growth Capital (WWW.GLGEFC.COM) with over 30 years experience of managing $ billions. He has doubled client money, on average, every 4 1/2 years since 1980*. His high course ratings from major investment firms reflect clear interpretations and practical applications of complex topics; knowledge applied to examples and cases found in the current worldwide and GCC marketplace; his experience with specific situations actually encountered in his career and consulting contracts that parallel the learning topics. John has an MBA from Columbia University and also teaches these courses for leading training institutions, including The New York Institute of Finance (WWW.NYIF.COM).

* Past performance is no guarantee of future results.
A TECHNICAL GUIDE FOR ENERGY TRADERS
BY JONATHAN BECK

Editor's note: A Technical Guide for Energy Traders is a daily newsletter that provides astute and intelligible technical commentary backed up with crystal clear charts that aim to help you make confident investment decisions. This was originally sent to subscribers in mid-December and is reprinted here with permission. For more information, please visit jbeckinvestments.com

Crude Oil (WTI): It is this large symmetrical triangle pattern that is driving my intermediate to longer-term technical outlook. I always believed that these patterns represent the increasing tenseness of a coil being tightened. The result can be explosive; however the direction of the break is not so easily determined. We need to wait for this pattern to resolve of its own volition before making that big call. Unfortunately this pattern may not resolve itself until later 2013. We will focus on the shorter-term trends/pattern to profit throughout the year.

Crude Oil (Brent): Although we think that WTI may outperform Brent into the end of the year, a large head and shoulders bottom pattern dating back to 2Q12 is a constructive accumulation pattern. However, the left shoulders have taken over a year to develop, which suggests that the right shoulders might continue to form into the second half of 2013. The head is represented by the Jun. 2012 low (88.49), which closely corresponds to the May 2010 high (89.58), and the Dec. 2012 breakout level. A convincing move above neckline resistance near 127-128.50 confirms a technical breakout.

Gasoline: It is likely that this large symmetrical triangle pattern will drive our intermediate to longer-term technical outlook into 2013. From a longer-term risk/reward perspective, Gasoline is trading relatively closer to the bottom of the pattern, making for a decent entry level. However, violation of key support in the mid-2.50s and mid-2.40s warns of a deeper and more extensive correction. On the other hand, the top of the pattern appears to now be somewhere in the mid-3.40s. In the meantime, volatile
sideways trading may continue, but nimble investors can profit in this type of environment.

**Heating Oil:** The 70+% 2008-2009 pitfall abruptly ended as the Mar. 2009 positive outside month pattern signaled a major technical bottom. The subsequent rally soon approached the 76.4% Fibonacci retracement (3.44) before entering into a high level constructive technical pattern or a head and shoulders. The halfway point (head) appears have been made in Jun. 2012, so the right shoulders still might need several months to form. Neckline resistance corresponds to the Apr. 2012 (3.33) and Mar. 2012 (3.32) highs.

**S&P 500 Index:** We recognize that the cyclical bull market which began off of the Mar. 2009 low is maturing. However, we still believe that one final rally is possible before culminating in a cyclical peak. Cyclical peaks are often accompanied my narrowing market breadth and/or signs of speculation. We are currently not seeing signs of speculation and market breadth is holding up very well. SPX now looks to be headed towards the Sep. 2012 peak (1474.51) into the end of the year. A breakout here could lead to a "blow off" rally and a major market top.
Thank you to MetaStock XENITH for the use of their charts!

Jonathan Beck brings over 10 years of buy/sell-side equity research experience to the table with over half of that working exclusively as a Technical Analyst on one of the most well respected technical analysis teams on Wall Street. At UBS’ Wealth Management Research Division he was advising Financial Advisors, High Net Worth Clients, Private Clients, as well as institutional accounts across all asset classes; including Equities (domestic/international/emerging market, individual stocks), Fixed Income, Commodities, as well as Currencies. He is now taking his skills directly to The Street to provide you with timely trading as well as position building calls through his daily publication: A Technical Guide for Energy Traders. Jonathan can be reached at jbeckinvestments@gmail.com
AN EXAMPLE OF ADVANCED TRADING SYSTEMS
BY DAVID ARONSON, CMT

Editor’s note: David Aronson’s “Evidence Based Technical Analysis” is required reading for CMT candidates. It is a book that details how to apply the philosophy of the scientific method to trading system development. Much of the text is devoted to theory but David is not a theoretician as much as he is a practitioner of technical analysis. He has developed a concept to “purify VIX” which compares the actual level of the VIX index with the indicator’s expected level based on the price action. The process of purifying sentiment indicators is detailed in a paper David coauthored, which can be downloaded at http://go.mta.org/3151.

Purified VIX has proven to be a useful indicator. It is not widely available and it requires some degree of programming skill to add the indicator to most trading platforms. David is addressing that by creating a unique trading platform called Trading System Synthesis & Boosting (TSSB). This software, with documentation, will soon be available for free. Readers will be notified when the software is released. Among the features that will be offered are:

- The ability to rank a large list of indicators vs. a target, get a chi-square statistic and a level of significance (p-value) for the indicators that is adjusted for data mining bias. As David’s book points out an ordinary p-value does not work. He describes the problem, “If I test 1000 indicators versus a given target variable, even if none of them have any predictive value, 5% or 50 of the indicators will appear to be statistically significant at the 0.05 level of significance. However, when we correct for the fact that we have tested (data mined) 1000 indicators, a correct p-value will reveal the fact that none are significant.”
- Provide non-redundant predictive screening (NRPS), a feature that takes a list of indicators and finds the best one for predicting a given target variable that adds the most information to (is least redundant of) the first one selected. This process continues until adding a new indicator does not produce a statistically significant increase in information. This will be done by a specialized Monte Carlo Permutation test that is robust to (corrected for) the data mining going on. This is crucial for traders to understand because without this test adding another indicator will always appear to increase statistical significance according to a conventional significance test.
- Plot the predictive power of an indicator over time. It fluctuates. There will also be data presented to break down the predictive information into two parts, (1) the ability to predict the sign of the target variable (positive vs. negative) and (2) the ability to predict the magnitude of the target. For example, there may be an indicator that is unable to predict if a future move will be up or down but is very good at predicting if the move will be large or small (irrespective of its algebraic sign).

In recent weeks, David has been studying variations of Pure VIX. In late December, he published this research note which indicated that risk in the stock market is high going into the new year. It is presented here to show the application of evidence based technical analysis.
Raw VIX is high now relative to the recent past. Here is one version of Pure VIX. All versions are all somewhat elevated. The one I am showing here uses only raw VIX to obtain Pure VIX. It’s based on an ARMA (Auto Regressive Moving Average) model. The use of the term “moving average” is different than the one we are used to in the TA domain. In the lingo of Box and Jenkens, developers of ARMA and ARIMA – a variant of ARMA – a moving average refers to a deviation or “shock” as they call it.

I fit a 2-parameter ARMA model to raw VIX using a 100 day window to estimate the two parameters, lag 1 AR and lag 1 MA. Among the things that fall out of the calculation is a forecast for the next value of VIX and the current “shock”… a deviation from forecasted VIX. The indicator below is a 5 day smoothing of the shock.

First is histogram of the indicator to give you a sense of its historical distribution. A threshold of +1.0 looks reasonable for positive extremes. The peak near 2.0 shows up in the plot because I set graph limits. Had I not done so there would be a longer tail out to the right.

Next is a plot of the indicator for recent history with a threshold at +1.0. The indicator has just peaked above it.

Next is a plot of the SP500 with conditional color coding showing times when the indicator was above the +1.0 threshold. Unless this is the start of a waterfall, when the signal gets you into trouble, the market appears to be near a bottom.
The next several charts show the history of this signal with conditional color coding. The charts work back in time to show the Dow Jones Industrial Average since 1987.
David Aronson, CMT, is an adjunct professor of finance at Baruch College, City University of New York, where he teaches a graduate level course in quantitative market analysis and data mining. He is a Chartered Market Technician and has been involved in the application of advanced data analysis and modeling to financial markets since 1982 when he founded Raden Research Group, an early adopter of machine learning financial market forecasting. He was a proprietary trader with Spear Leeds and Kellogg and founded AdvoCom, a firm that specialized in the evaluation of commodity trading advisors and hedge funds. He is the author of Evidence Based Technical Analysis: Applying the Scientific Method and Statistical Inference to Trading Signals (Wiley 2006).

AUTHOR GUIDELINES

The Market Technicians Association serves a global community and the organization’s publications strive for articles that can be easily understood by readers around the world. To meet that objective, all submissions to Technically Speaking should be in English and minimize the use of vernacular phrases and references. This is necessary to improve the readability for international members who may not understand phrases commonly used in one region but unknown in most of the world.

In Technically Speaking, we want to publish articles that use simple language whenever possible. Specific terms associated with financial analysis in general and technical analysis specifically should be defined unless they are found in the MTA’s Body of Knowledge. The editors may have to make changes to any work that is published for clarity and consistency.

Please send any material you would to have considered for publication before the 20th of the month. We will work to include anything received by that date in the next issue.

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