Technical Analysis and the Economy

By Garry Rissman

Thomas R. Keene, CFA, is an Editor-at-Large for Bloomberg News. He provides investment and economic perspective to Bloomberg’s radio, TV and print divisions. He is a member of the Association for Investment Management and Research and the National Association for Business Economics He spoke at the New York Region monthly meeting on June 12, 2006. Members can see the video link of this lecture at http://209.114.199.248/VideoArchive/index.cfm.

Mr. Keene began his presentation by explaining that he believes, as does John Murphy, that technical analysis is best used in conjunction with fundamental analysis and economic analysis. In his opinion, those relying solely on fundamental analysis are doomed to failure at some point. Applying technical analysis and economic analysis. In his analysis, those relying solely on fundamental analysis are doomed to failure at some point. Applying technical analysis to fundamentals or economic data provides valuable insights. As an example, he explained that his analysis of the US/China trade deficit begins with a look at the raw data compared to its twelve-month moving average.

On behalf of Bloomberg, Mr. Keene recently had the opportunity to interview Myron Scholes, winner of the 1997 Nobel Prize in Economics for his role in developing the Black-Scholes equation for pricing options. Mr. Keene pointed out one of the limits of the Black-Scholes model is that it assumes the world can be represented by a continuous function. Unfortunately, the real world is discrete, mathematically represented by a lack of continuity. To capture this concept in technical analysis, Mr. Keene advocates looking at Point and Figure charts, which capture the discrete price moves without assuming an underlying continuity in time.

This presentation demonstrated a complex approach to technical analysis, grounded in P&F analysis. Mr. Keene uses P&F charts because they allow him to visualize volatility without regard to time. He also finds this method to be extremely reliable at times. He credited Earl Blumenthal, who worked with Chartcraft, as the individual responsible for identifying the Double High Pole Top pattern, which Blumenthal found to be 89% reliable. (Readers unfamiliar with this pattern may find additional detail at the web sites of Chartcraft or Dorsey, Wright.)

In his analyses, Mr. Keene looks at a large number of indicators, seeking the preponderance of evidence to identify trading opportunities. One analyst he admires is Welles Wilder, whom Mr. Keene compared to the economist Stanley Jevons. In 1865, Jevons revolutionized the field of economics when he developed the theory of marginal utility to understand and explain consumer behavior. In 1978, Wilder broke new ground in technical analysis when he published New Concepts in Technical Trading Systems. To Mr. Keene, the importance of Wilder’s work was not in the individual indicators, but in how Wilder developed the concepts and introduced a new style of analytical thought to the field.

Kleinman exponential moving averages are another Mr. Keene employs in his work. His charts include 2, 9, and 30-period moving averages. Noting that using moving averages alone is a license to lose money, Mr. Keene finds value in knowing the relationship of price to the moving averages and in knowing the relative positions of the three averages. He also looks at volatility, Fibonacci levels, Wilder’s parabolic SAR, ADX, DMI and candlesticks. This eclectic and thorough approach works in his skilled hands.

Throughout his presentation, Mr. Keene mentioned some of the great books in the field of technical analysis. Those seeking a deeper understanding of technical analysis should consider reading the works of some of the authors mentioned during this presentation:

- Kase, Cynthia
- Tharp, Van
- Cohen, A. W.
- Kleinman, George
- Wilder, Welles
- Edwards and Magee

After his presentation, Mr. Keene was kind enough to expand on his talk by granting an interview to Technically Speaking Associate Editor Garry Rissman:

Garry Rissman: You mentioned at the lecture that your grandfather and mother were also into technical analysis?

Thomas Keene: For me it started way, way back with my grandfather just adamant about taking time on the X-axis. He had a huge, strong belief in point and figure charting. He had a well-worn copy of the original edition of Robert Edwards and John Magee’s “Technical Analysis of Stock Trends,” which I read just to show how old I am. It is frightening that there is a 9th edition.

There was a huge respect for all paths of technical analysis. The center of it for me as a child was point and figure charting.

GR: I am hearing that more and more that it is how you exit that counts more than anything.

TK: It is not only how I exit, but if I am cash, the choice of where to deploy gets all the focus. Equally important, if not more important, is where not to deploy.

GR: You mentioned that technical analysis could be applied to other subject matters, such as China’s monthly trade surplus, which can be applied to a chart?

TK: It is too narrow to look at technical analysis as just to see how am I going to make money. It is grossly underused in economics. I think Goldman Sachs does a terrific job of presenting graphical presentation of ideas. Certainly in the last two or three years I have seen a major pick up of using technical analysis to describe non-trade ideas.

GR: You wrote that Cynthia Kase wrote one of the best books about technical analysis called Trading With The Odds: Using the Power of Statistics to Profit in the Futures Market?

TK: One of the most important moments in technical analysis history is in the final pages of her original monograph where she grapples with the

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idea of how to measure volatility and at the same time how to measure price change.

**GR:** You strongly suggested the use and knowledge of a slide rule to better understand logarithms?

**TK:** I can’t imagine doing technical analysis without having an intuitive, physical feel for logarithms. The only way to do that is to learn how to use a slide rule. There is no other way to do it.

**GR:** I like what you said about figuring out your position sizing in advance.

**TK:** Position sizing is removed from technical analysis but is intimately linked. The setup belief that you have going into a trade is remarkably linked in strange ways in how much capital to deploy and when to deploy it. These are two issues (how much and when) that need to be discrete; they need to be separate.

I believe it is Chapter 6 of *Trade Your Way to Financial Freedom* by Van K. Tharp, who has covered this subject matter brilliantly.

**GR:** I like what you were saying that you first figure out your trades by drawing them on paper.

**TK:** You are better linked to your capital at risk if you are plotting physically. It has to have a pencil; there is something about it that forces reality.

**GR:** I can relate to that; then one feels like one is part of the process. I want to thank you so much for your time.

**NOTE:** Mr. Keene also writes the Chart of the Day article available only on the Bloomberg Professional Service. He also features this chart on Bloomberg Television. He hosts Bloomberg on the Economy of Bloomberg Radio and is the editor of “Flying on One Engine, the Bloomberg Book of Master Market Economists, Fourteen Views of the World Economy.”

*Photos taken by Garry Rissman*
From the President’s Desk

Your new officers and board members for the 2006-2007 year are now all in place and have already dug in and begun to work. I want to welcome the two new directors, Sherman McClellan and Bruce Kamich, who joined the Board on July 1. Sherman is a long-time technician and first-time Board member. Bruce is a past President of the MTA.

Since our last newsletter the certification committee has completed the grading of the CMT 3 tests, and the results are quite gratifying for all of us involved in the accreditation process, as well as the candidates. Two-thirds of the candidates passed the demanding four-hour essay examination and are now in line for their Chartered Market Technician designation. The solid pass rate is a testimony to the quality of the candidates and to their knowledge and preparation. On behalf of the Board of Directors, I congratulate them. If they are already members or when they complete the membership process, they will be awarded their CMT’s.

Our annual long range planning meeting is scheduled for September 9 in New York. You will be reminded of the precise location and time on the MTA web site and in the newsletter. The long range planning meeting is one of the few times the MTA Board can get together face-to-face to discuss at length the important issues facing the MTA and the profession of technical analysis. Our Board members are scattered across the U.S. (and Canada). The meeting is, of course, open to the whole membership, and the Board encourages participation from all members. If you want to offer your opinions, you can attend or you can make your wishes known to the Board. You can email me or any other Board member with questions or comments if you are not able to attend in person.

The search for a new Executive Director goes on. The Search Committee has additional applicants to consider. However, the MTA Board would like to make it clear that it is still open to suggestions for new candidates. If you have experience in running a small business (the MTA has a five-person staff), especially if you have experience with not-for-profit organizations, or if you know someone with that background, let us know. Knowledge and interest in technical analysis are important criteria, but the ability to manage, and to work with and encourage volunteers are critical. We are looking for someone with good verbal and written communication skills and the ability to analyze financial data and make business strategy decisions. There is some travel involved, including visiting chapters and prospective chapters, and in seminar planning and execution.

We are offering competitive compensation with comparable not-for-profit organizations in the New York metropolitan area. As you know, the MTA office is presently in Woodbridge, New Jersey (less than an hour from New York), but we remain committed to moving the office back to New York as soon as possible. Cover letters and bios can be sent to me at the MTA office by email or regular mail.

The vacation season is in full force. But the MTA is a year-round operation and the Board members and committee chairs will be working hard. There will be monthly educational meetings, regular Board meetings, and normal committee functions throughout the summer. The seminar committee is working on the agenda for the winter getaway and is planning the spring seminar in New York. If you have suggestions for speakers and topics, please let us know. In the meantime, it is business as usual for the staff in Woodbridge. If your summer plans take you to the New York-New Jersey area, then stop in our office, say hello, and browse in the library.

Sincerely,
Phil Roth, CMT
President

Martin Meaney, CMT, “Technical Analysis in Trading”
Summarized by Mike Carr, CMT

CMT test preparation involves learning a lot of theory, and trading requires successful application of that theory to dynamic markets. In the final hour of the 2006 MTA Education Seminar, Martin brought the reality of trading into sharp focus, and demonstrated exactly how to apply theory to trading. In particular, he demonstrated how Elliott Wave theory can be used to enter trades with very well defined risk limits.

A basic principle of Elliott Wave theory is that wave 2 can never retrace more than 100% of wave 1. This allows Martin to initiate countertrend trades with a positive expectancy, as shown in Figure 1, “2 Wave Test.” The buy zone is between the 38% to 62% retracement levels of wave 1, generally a 50% retracement offers a good entry. The initial stop is at the bottom of wave 1. For profitable trades, Martin takes half his position off at the price level corresponding to the top of wave 1 and tightly trails a stop on the remaining position.

Figure 1

Martin Meaney, CMT, “Technical Analysis in Trading”
Summarized by Mike Carr, CMT

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Figure 1

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VOLUNTEERS NEEDED

The MTA Seminars Committee is now developing the programming for the January 2007 Winter Retreat (January 19-20). If you would like to volunteer or if you would like to recommend a theme for this year’s event, please contact tim@mta.org.

ADVERTISING

If you are interested in advertising in the MTA’s monthly newsletter or journal, you can find a listing of our advertising rates on our website.

Please e-mail Tim Licitra at: Tim@mta.org if you wish to submit an advertisement or have any questions.

SUBMITTING AN ARTICLE

If you are interested in submitting an article in the MTA’s monthly newsletter, please e-mail the editor Michael Carr, CMT at: editor@mta.org

If you have any questions about Technically Speaking please contact Tim Licitra at: tim@mta.org
Improving Technical Research
By Samuel L. Levine, CFA

Apologies, Accusations, and Accolades
Readers of technical analysis are fortunate to peek over the shoulders of some intellectual giants. With apologies to those mega-technicians, I suggest that all of us attend carefully to the presentation of both our individual opinions and the tools of our discipline. A rigorous approach to language and science will increase acceptance of our work and future employment opportunities for technicians.

This article will discuss the casual habits of style and thinking many technicians have adopted at the peril of imprecision at best and inaccuracy at worst. This is not to attack previous authors and pioneers but rather to stimulate thought about the general quality of our writing and research methods. The inspiration for this article came from reading Thomas Bulkowski’s Encyclopedia of Chart Patterns (Wiley, 2005), which sets a commendable standard for TA research.

Correlation Does Not Prove Causality
Establishing that one event causes another is a difficult proposition in our business. The experimental method requires systematically altering one independent variable and observing a change in the dependent variable. If an experimenter can change one variable and observe a systematic change in another variable beyond a hurdle of statistical significance, there is evidence of causality. Because there are so many different but simultaneous influences on prices in the financial markets, it’s very difficult to assign causality to any small part of the picture.

Technical analysis is currently a science of observation, not of causality. There are two reasons for this. First, practitioners don’t need to know or care why a pattern, trend or oscillator has predictive value. Second, technical analysis is in its scientific infancy. We do not have a satisfactory investigative method to support most statements of causality. For example, bonds may decline in price because of a systematic change in another variable beyond a hurdle of statistical significance, there is evidence of causality. Because there are so many different but simultaneous influences on prices in the financial markets, it’s very difficult to assign causality to any small part of the picture.

Avoid Anthropomorphizing the Market
It’s tempting to project human qualities onto the markets because they reflect the outcomes of very human emotions. Maybe there is a shaky invisible hand guiding market prices according to behavioral finance principles. Even so, anthropomorphizing (attributing personal qualities to a non-person) the market or a particular investment suggests a lack of more valid reasons for market action. Examples of this are prevalent throughout TA literature. I plead guilty to myself in conversations with clients. Yet, buyers and sellers are not “at war with each other”; a market never “wants” to go up or down, nor does a market “sink of its own weight.”

Do we throw out a big, smiling baby with the bathwater if we abandon this appealing practice? It’s much more fun to go to work if you battle the markets, make sellers fearful and watch the market become poised for a rally. But this monologue is best saved for the Starbucks counter. Instead of saying that “sellers are being more aggressive,” readers might be better served by “the market is in a downtrend and has tested support of a trendline three times on high volume from March 22nd to April 7th.” I would leave the anthropomorphized market to anyone who has to shout on their investing TV show.

Cherry Picking Data is a Capital Crime
If people hear something repeated often enough, it becomes accepted as fact. This is a particular danger in technical analysis because much of our training comes from experience filtered through dramatic emotional swings. Particularly large successes or failures will be magnified in our memory and assigned a level of importance that may or may not be warranted. Because technical analysts are a talkative bunch, an anecdote or chance occurrence may become a rule in a text or article quickly without a rational basis.

You observe a new pattern, after which the stock price hits a new high. Have you accomplished anything? No. If you provide evidence that the pattern has preceded higher prices more often than chance by using accepted statistical methods (again, we’re not implying that the pattern causes higher prices), the pattern has useful evidence of its predictive ability. This takes nothing away from successful traders who use very specific methods. But we may ask whether it was the efficacy of those methods on their own or those methods suit a particular time in the market; we may even wonder whether the trader was providing an ex-post facto description of his or her tactics. People often misunderstand past events or re-order them according to a new script.

If I point to a newly discovered pattern and say, “Look at that! The stock has gone up five times after that pattern showed up on the screen!” Let’s call it a PDQ bottom. That is an emotionally compelling argument to look for a PDQ bottom. But there are a few unanswered questions. Before it could be traded, investors should know how many PDQ bottoms did NOT precede a rise in the market, whether the rise was significant enough to make money after trading costs and its performance in a wide variety of broader market action (trending up, trending down, trendless) and instruments. Investors should be very interested in the data used. If data were drawn from three years of trading, a t-test between groups on the action after the pattern can be done on another 3 year time frame to see if there is a difference. If there is no difference, the data set is more reliable.

Some Suggested Guidelines for Technical Research

1. Conclusions about a causal effect between one event and another must be drawn very carefully, and only then in the light of a substantial amount of evidence.
2. Language should be precise and support the perception of technical analysis as a science rather than storytelling. Speculation should be labeled as such.
3. Price action after the condition or pattern should be described in terms of frequency of success and failure and the degree of movement.
4. Appropriate statistics should be included to aid readers’ assessment of the reliability of the study. Data sets should be broad and cover a variety of different market conditions. If they cover a specific and/or unusual time frame, say the crash of 2000, the reason should be readily apparent.

Conclusion
When we are precise in our language, we show respect for our readers’ intelligence. When we do not attribute human qualities to an impersonal marketplace, we show respect for our own abilities as market and investment analysts. Statistics and other supporting information allow readers to analyze our analyses to determine how useful it may be for their own investment decisions. The determination of causality is done carefully for fear of leading others down a wrong path. As we adopt these standards and possibly others to follow, the credibility of technical analysis will be enhanced.
How A Moving-Average Strategy Can Add Value

By Jean Paul van Straalen

Can simple technical indicators assist portfolio managers in creating alpha? Our research on moving averages shows that stocks with positive signals do outperform. Jean Paul van Straalen explains.

The moving average (MA) captures the average value of a security or an indicator over a period of time. Moving averages are typically used to compare a security’s current price with the average price over a preceding period. If the security’s price rises above its MA, investors typically buy. If it remains there or moves higher, investors are becoming more bullish. By contrast, when the security’s price crosses below its MA, investors are becoming more bearish and they typically sell. It is possible to use an MA as an indication of a support or resistance level.

The relationship between two MAs can also be used as a buying or selling signal. For example, when a shorter-term MA moves above its longer-term counterpart, it triggers a positive signal regarding the underlying security.

So how can investors use moving averages to benefit their investment strategy? The tables to the right show the top and the bottom ten stocks in both the MSCI Europe and the MSCI USA based on their MA ranking as of 10 April 2006.

The stocks are ranked by the percentage of the closing price represented by the difference between the 50- and 200-day MAs. The larger the (positive) gap between the two MAs, the more momentum the stock has.
Let’s look at the example of Karstadt Quelle. Its closing price is 22.9. With a 50-day MA of 19.8 and a 200-day MA of just 13.6, the stock has already had an impressive appreciation. Momentum remains good, as the stock has appreciated by 17.9% over the last month.

Our research sets out to show the effectiveness of this technique for investing: would the selection of highly ranked stocks result in outperformance?

Europe
In our back-test analysis, we used two simple moving averages over periods of 50 and 200 days. On the basis of the rankings, we constructed five portfolios and conditioned their performance on different market environments from December 1998 to March 2006. (For further details see the methodology box.)

First, let’s look at the results of the MA strategies within the MSCI Europe universe. Chart 1 shows the absolute cumulative performance of the quintiles over the whole 1999-2006 sample period. A strategy based on positive momentum would thus have paid off.

Turning to relative performance, chart 2 shows the cumulative relative performance during the bull period from April 2003 through March 2006. In this period, quintile 1 outperformed but not as consistently as in the bear period from March 2000 through March 2003 (see chart 3). It therefore seems that momentum was critical during the bear period.

During the bear period, quintile 1 exhibits a very low standard deviation relative to quintile 5 (see table 1). This was because investors seemed to be anchoring on high momentum securities in period of relatively high market volatility. In a down-trending market, negative momentum remains persistent.

During bull periods, the relative outperformance of quintile 1 over quintile 5 is lower. That is to be expected, as less favoured stocks have a higher probability of rebounding in those conditions.

Meanwhile, the relative mean returns of quintiles 2 and 3 in the bull period are negative, which is unexpected. Overall, performance during this period is V-shaped. Investors expect stocks with strong momentum to perform well, and assign a high probability of recovery to battered ones.

US
Chart 4 shows the cumulative absolute returns of the MA strategy over the whole sample period in the US. On an absolute basis, quintile 5 strongly underperformed all the other quintiles.

The main source of this underperformance was during the bear period (see chart 6). Although quintile 1 outperforms quintile 5, it underperforms the three middle quintiles. So while the downtrodden stock continued to do badly, in this
case it wound not have been materially profitable to invest in the highest momentum stocks. In the bull period, though, quintile 1 is the easy winner—unlike in Europe.

Table 2 shows the monthly relative returns of the five portfolios within the MSCI USA universe, as well as some descriptive statistics. One of the striking resemblances with the MSCI Europe is the relatively low standard deviation of the middle quintiles compared with quintiles 1 and 5.

Methodology

We ranked the MSCI USA and MSCI Europe indices by using two simple moving averages (MAs). The shorter-term MA should have a higher value than the longer-term MA. The difference between the two moving averages is measured relative to the stock’s closing price. Based on these rankings, we constructed five portfolios (in quintiles). The top quintile (Q1) consists of stocks with the largest positive difference between the two MAs relative to their closing price, while the stocks with the largest negative difference are placed in Q5. Each stock has an equal weighting in the portfolios. The data range is from February 1999 to March 2006, and portfolios are rebalanced on a monthly basis.

Conclusion

In general, MA strategies work in Europe and the US. In both markets, the highest-momentum portfolio outperforms the lowest. Most of the outperformance is due to the significant underperformance of the lowest quintile in bear periods.

How does this relate to day-to-day portfolio management? First, it pays to buy stocks with positive momentum. More critically, it pays to avoid stocks with low momentum in periods of high market volatility.

So long as market volatility remains stable, we expect high-momentum stocks to continue their solid performance. But if there is a regime shift, stocks that have lagged could reassert themselves.

“The information referenced represents the opinion of the writer, and is not intended to be a forecast of future events and does not constitute investment advice and is not intended as a recommendation to buy or sell any security. Investors should consult their investment professional regarding their individual investment program. Since the date of this report, economic factors, market conditions and the writer’s views of the prospects of any particular investment may have changed. Investors should consider the investment objectives, risks and associated costs carefully before investing. Past performance is no guarantee of future results.”

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Chart 4: absolute returns MSCI USA February 99-March 06

Source: FactSet, MSCI, ABN AMRO Asset Management

Chart 5: relative returns MSCI USA April 03-March 06

Source: FactSet, MSCI, ABN AMRO Asset Management

Chart 6: relative returns MSCI USA March 00-March 03

Source: FactSet, MSCI, ABN AMRO Asset Management
Illustrated above is the 5 wave impulse for Sensex, the Indian benchmark. The impulse started on 21 Sep 01 and lasted for roughly 1,693 days. The current move can potentially be labeled as an end of CYCLE V wave, which took nearly half of the time compared to the CYCLE III (Nov 84 - 12 Sep 94). Incidentally the time taken by the CYCLE V also registered a Fibonacci proportion at 0.66 of time taken by CYCLE IV (12 Sep 94 - 21 Sep 01).

The chart above also highlights a clear Elliott diagonal impulsive structure with Wave 1 and Wave 2 forming a base channel; Wave 4 resting on the respective channel taking a support in May 04; and finally accelerating in the channel formed by Wave 4 and Wave 2 lows. We also have a thrust outside the respective channel giving the pattern the right look. If the preferred count is correct, the Sensex should falter to the previous Wave 3 high or till the Wave 4 low giving the Indian benchmark a potential target of somewhere from 6,000 till 4,200. We have also tabulated the time ratios of this final Cycle V wave. The time ratios mostly adhere to the Fibonacci ratios. For example Wave 5 took about 2.7 times more time than Wave 3. While Wave 3 took exactly 1.6 times the time taken by Wave 1. Wave 5 also took 1.67 times the total time taken by Wave 1 and 3 together. A similar proportion reflects in the price ratios between waves. There are some minor discrepancies, which could be because of a truncation during Wave 4.

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How A Moving-Average Strategy Can Add Value
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Table 1: Summary Statistics Europe

<table>
<thead>
<tr>
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<th>Q3</th>
<th>Q4</th>
<th>Q5</th>
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<tbody>
<tr>
<td>Bull</td>
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<td>-9.49%</td>
<td>-20.02%</td>
<td>2.38%</td>
<td>8.41%</td>
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<tr>
<td>Bear</td>
<td>24.23%</td>
<td>15.67%</td>
<td>9.09%</td>
<td>-9.18%</td>
<td>-34.60%</td>
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<tr>
<td>Mean</td>
<td>0.39%</td>
<td>0.06%</td>
<td>-0.11%</td>
<td>-0.07%</td>
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<tr>
<td>St dev</td>
<td>3.03%</td>
<td>1.72%</td>
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<td>-0.86</td>
<td>-0.47</td>
<td>-0.48</td>
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</table>

Bull

Mean | 0.49%  | -0.15% | -0.32% | 0.04%  | 0.23%
St dev | 2.5%  | 0.9%   | 0.9%   | 1.1%   | 1.8%
No of obs | 50    | 50     | 50     | 50     | 50     |
T-stat | 1.38   | -1.26  | -2.63  | 0.25   | 0.89   |

Bear

Mean | 0.7%   | 0.4%   | 0.3%   | -0.3%  | -0.961%
St dev | 3.8%  | 2.6%   | 1.6%   | 1.8%   | 6.3%
No of obs | 36    | 36     | 36     | 36     | 36     |
T-stat | 1.06   | 1.01   | 0.97   | -0.87  | -0.92  |

Source: MSCI, Factset, ABN AMRO Asset Management

Table 2: Summary Statistics US

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<th>Q4</th>
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<td>-13.77</td>
<td>-7.38%</td>
<td>-16.79</td>
<td>12.79</td>
</tr>
<tr>
<td>Bear</td>
<td>2.86%</td>
<td>19.87</td>
<td>20.54%</td>
<td>8.54%</td>
<td>-43.99%</td>
</tr>
<tr>
<td>Mean</td>
<td>0.33%</td>
<td>0.06%</td>
<td>0.13%</td>
<td>-0.08%</td>
<td>-0.34%</td>
</tr>
<tr>
<td>St dev</td>
<td>3.62%</td>
<td>2.17%</td>
<td>1.88%</td>
<td>1.49%</td>
<td>5.45%</td>
</tr>
<tr>
<td>No of obs</td>
<td>86</td>
<td>86</td>
<td>86</td>
<td>86</td>
<td>86</td>
</tr>
<tr>
<td>T-stat</td>
<td>0.86</td>
<td>0.27</td>
<td>0.66</td>
<td>-0.52</td>
<td>-0.58</td>
</tr>
</tbody>
</table>

Bull

Mean | 0.97%  | -0.22  | -0.12% | -0.27% | 0.17%
St dev | 3.1%  | 1.0%   | 1.1%   | 1.3%   | 2.3%
No of obs | 50    | 50     | 50     | 50     | 50     |
T-stat | 2.23   | -1.64  | -0.74  | -1.51  | 0.55   |

Bear

Mean | 0.1%   | 0.6%   | 0.6%   | 0.2%   | -1.2%
St dev | 4.4%  | 3.3%   | 2.7%   | 1.8%   | 8.5%
No of obs | 36    | 36     | 36     | 36     | 36     |
T-stat | 0.11   | 1.00   | 1.27   | 0.79   | -0.86  |

Source: MSCI, Factset, ABN AMRO Asset Management

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Another basic principle of Elliott Wave theory is that the end of wave 4 can never overlap wave 1. This permits a relatively low-risk entry when the trader recognizes wave 4 is unfolding, with a well-defined stop at the peak of wave 1, illustrated in Figure 2, “Buying Wave 4.”

Finally, corrective a-b-c wave patterns also provide precise price targets. Wave b should not exceed 1.382 times the length of wave a. This allows for a risk-controlled entry during the formation of wave b, with a target for wave c equal to 1.618 times the length of wave a. This is shown in Figure 3, “B Irregular Buy.”

Martin Meaney, CMT, has been a member of the MTA since 1990, and is employed by Cantor Fitzgerald & Co. where he is responsible for the trading, marketing, and underwriting of GSE debt. He has degrees from Adelphi University and the University of Virginia, McIntire School of Commerce. Some of his previous work experience includes Executive Director at CIBC World Markets, Vice President at Nikko Securities Co. International, and Vice President at Deutsche Bank.

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