



UNITED ENERGY

the technical advisory service for the energy industry

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Introduction to
Technical Analysis

The Foundations of Technical Analysis

Introduction

Luck plays no role in the markets. There can be no happy ending for anyone who is trading or hedging the markets based on hope or luck and without a deep understanding of how the markets work. In this presentation we organize the critically essential market insights of technical analysis into twenty main points. We regard these twenty points as utterly indispensable to long term success in the markets. These points outline the ruling dynamics and operating principles that drive the price action in any free or even partially regulated market.

These dynamics of market price action are neither theoretical nor dogmatic. They are based on over twenty-five years of constant study of the markets with a primary focus on energy futures. The energy complex has always been the most volatile market as well the most critically essential to the world economy. Dynamics of price action that can be partially or completely hidden in less volatile markets are much more difficult to overlook in the energy markets. When I began my career in energy futures I often thought that I should have chosen a less volatile and more trending object of study, like bonds, or stocks, or any other commodity group. However upon reflection it is clear that the extra demands that the energy complex places on participants can provide the spur to a much deeper understanding of the markets than might otherwise be possible from the study of other markets.

To summarize, we see these twenty main points as the constitution of market price action. We regard them as the essential backbone of any trading or hedging program. Our aim in presenting these main points is that through them your understanding of market price action may arrive much more quickly and easily than did mine.

Main Points

1. The market is not concerned with what is happening today. The market is always looking ahead to tomorrow and next week and next month. The market is concerned with the future. All markets are futures markets.
2. All known factors of supply and demand are already discounted in the current price and in the forward curve.
3. Therefore what everyone knows is already in the market. This basic truth means that most of what is called fundamental analysis is the study of the market factors that are already discounted in the price.

The reality of discounting can be seen in "the magazine cover syndrome" and our favorite magazine based contrarian indicator is 'The Economist.' By the time a financial trend makes the cover story of a major weekly magazine that trend is over and about to reverse direction. In other words, what everyone knows is already in the market.

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Main Points, continued

4. Up trends persist until the most bullish foreseeable outcome has been fully discounted in the market price. Down trends persist until the most bearish foreseeable outcome has been fully discounted in the market price.

When everyone agrees that prices can only go up, and that there is no resistance, and that the situation could not possibly be any more bullish than it already is, that means the situation will not get any more bullish. It can only turn bearish. Why? By that time everyone is long and waiting for that next rally to take profits. When everyone is already long and no one dares to be short that means the market has exhausted its buying power. There are no more buyers, only potential sellers. When all agree that the market could not possibly offer any more reasons to be bullish than already exist that means the most bullish foreseeable outcome has been discounted in the price and from that point onward the market will only offer reasons to turn bearish.

Similarly when the overwhelming consensus is that prices can only go down, that there is no support, and the situation cannot possibly get any more bearish than it already is, that means the situation will not get any more bearish. It can only turn bullish. Why? By then everyone is short and waiting for that next set of new lows to take profits. When everyone is already short and no one dares be long that means the market has exhausted its selling power. There are no more sellers, only potential buyers. When all agree that the market could not possibly offer any more reasons to be bearish than already exist then the most bearish foreseeable outcome has been discounted in the price. From that point onward the market will only offer reasons to turn bullish.

5. The weekly, daily, hourly, and shorter term price action in the market are not 'background noise' unrelated to the direction of the longer term trend.
6. What the novice sees as the random noise of short term price swings the experienced technician recognizes as the complex price patterns that are the infra-structure of the long term trend. No price action is insignificant.
7. Graphical representations like bar charts and candlesticks are a very simplified two dimensional model of a complex fractal process whereby trends in the collective mood of the market are translated into price trends.
8. There is today's reality of the marketplace and then there is the perception of what tomorrow will bring. What the market perceives to be the future is composed of two ingredients:
- The logical expectation that the existing trend will continue from the past into the future.
 - The projection of hopes, fears, and insecurities. This projection of emotion expresses the collective mood.
9. Emotion will trump logic every time the two intersect. This is the reality of human nature. The market's perception of what the future will bring is therefore the expression of the collective or social mood. The price swings in the market are expressions of emotion, not logic. An optimistic outlook for prices maintains an up trend while a pessimistic outlook for prices maintains a down trend.

Main Points, continued

10. The most bearish foreseeable outcome that is reflected at the final low tick of a long term down trend is not the cool headed expression of a logical expectation. It is the expression of maximum despair and pessimism. It is an emotional extreme that has been gathering power and consensus over the course of the down trend.
11. The most bullish foreseeable outcome that is reflected at the final top tick of a long term up trend is similarly not the cool headed expression of a logical expectation. It is the expression of maximum enthusiasm, an emotional extreme that has been gathering power and consensus over the course of the up trend.
12. This emotional content of the market selects what it deems to be newsworthy and ignores what it regards as irrelevant to the trend in force. In other words the news follows the price trend.
13. The reality of this assertion can be seen in the content of the news at every major, long term peak. The news at the top of every major up trend is always and only bullish.

Contrary to what logic would suggest a long term up trend never ends because a piece of unexpected bearish news dashes the hope of the bulls. A long term up trend will always and only end when a 'news story' more bullish than any that has yet arisen fails to sustain a price advance to new highs. The bulls get their 'dream come true' bullish news story but the up trend fails to continue. This is the nature and origin of the disappointment that dashes the hope of the bulls and starts the process of long liquidation. Arguably the most striking demonstration of this market dynamic in the history of the energy markets was the fact that the long term up trend ended on news of the extremely bullish energy infra-structure destruction of hurricanes Katrina and Rita.

14. This phenomena can also be seen in the content of the news at every major, long term bottom. The news at the bottom of every major down trend is always and only bearish.

Contrary to logical expectations a long term down trend never ends because a piece of unexpected bullish news dashes the hope of the bears. A long term down trend will always and only end when a 'news story' more bearish than any that has yet arisen fails to sustain a price decline to new lows. The bears get their 'dream come true' bearish news story but the price trend fails to continue lower. It is this that dashes the hopes of the bears and starts the process of short covering. Arguably the most striking demonstration of this dynamic in the history of the energy markets was the complete and total OPEC disarray in the face of Saudi over production at the \$9.75 WTI low back in 1986.

15. A corollary of all this is that for a technician how the market price reacts to fundamental events like the release of inventory numbers is a more important trend indicator than the actual inventory numbers themselves. How can we say this? A bull market will ignore bearish inventories and prices will continue to rally while a bear market will ignore bullish inventories and prices will continue to trend lower.

Main Points, continued

16. The collective mood of the market swings from the extreme of bullish enthusiasm at major market price peaks to the extreme of bearish despair at major market price lows. Then the collective mood starts its swing from despair back to enthusiasm.
17. Therefore the prime mover of price trends is not news events but the emotional content of the market and the trend of the social mood that selects what is newsworthy in the first place.
18. Fundamental analysis is not equipped to measure this emotional content of the market. This emotional content that is the motor of the long term price trends can be measured and quantified with the tools of technical analysis. Every tool of technical analysis was designed with its goal in mind. (see next page). The study of the price action that is the sole focus of technical analysis is the only route to an accurate assessment of the emotional content of the market.
19. The markets are never devoid of emotional content. The markets are dominated either by bullish emotions during up trends, bearish emotions during down trends, or the emotions of confusion and uncertainty during periods of congestion. Anyone who has ever traded their own money knows this for a certain fact. And anyone who waits for the markets to become less emotional before they trade is waiting for human nature to change. That will be a very long wait indeed.
20. The alternative to technical analysis puts one at a two fold risk:
- The risk of getting long under the influence of the extreme bullish euphoria that floods a market into all major market price peaks.
 - The risk of getting short under the influence of the extreme bearish despair that dominates a market into all major market price lows.

Note

As we release this summary of the basic principles of technical analysis much is being written and discussed in academic circles about the new book by Benjamin Friedman [The Moral Consequences of Economic Growth](#). The central tenet of this book is that economic growth is the essential requirement for “greater opportunity, tolerance of diversity, social mobility, commitment to fairness and dedication to democracy.” His thesis is that it is during the periods of economic growth and expansion that nations move toward increasing rights, liberalization, and better social benefits, while during periods of economic contraction the movement is toward decreasing rights, oppression, and authoritarianism.

It is one thing to observe a correlation. It is an entirely different thing to understand the causal relationship behind the correlation. While Friedman’s basic thesis is not incorrect he misses the mark regarding the causal relationships that produce his observed correlations. It is the trend of an improving social mood from pessimism to optimism that produces both the economic expansion and the improvement in societal factors that track overall quality of life. When the collective social mood darkens and trends from optimistic expectations toward increasing negativity the result is both economic contraction and greater social repression.

The Tools of Technical Analysis as Methods for Quantifying the Emotional Content of the Market

Introduction

First of all we need to emphasize that it is not nearly enough to conclude that the mood of the market with respect to the price trend is negative or positive. That is only the first step. What it is critical to know is where the market sits on the continuum from the extremes of pessimism and despair that grips markets at major long term lows to the extremes of enthusiastic euphoria that inundates the market at a major peak.

Time Cycles

What we are really looking at when we view a price time cycle is the regular alternation of bullish and bearish emotional trends in that market. For example, our proposed eight year cycle in petroleum prices may very well correlate with an investment cycle. But what really is an investment cycle? Do people invest when they are negative and pessimistic? Obviously not. Do people refuse to invest when they are optimistic and bullish about the future? Clearly not. Any investment cycle is itself the expression of an underlying cycle in social mood.

This social mood is so all pervasive that it is all too easy to not even notice that it is there. Does a fish know that water exists? Probably not. If they can think they probably think they that their neutral buoyancy is the result of being weightless. However once pointed out the all pervasive influence of social mood can never again be lost to sight. The trends in social mood can be seen in fashion trends, in the kind of movies that succeed or fail at the box office, in what kind and style of humor is either preferred or shunned, in the tolerance or lack of expressed in the press for the antics of sports and entertainment celebrities, in the themes that win and lose elections, and also in the trends in the financial markets.

Finally the all pervasive influence of trends in the collective or social mood can clearly be seen in the emotion laden terminology used to define the nature of financial market trends: expansion, contraction, depression, recession, boom, bust - these are all without exception metaphors for emotional conditions.

Momentum Indicators

Bullish divergence, regardless of the exact momentum tool being used, is the final phase in the price action of an up trend when the bullish optimism driving the up trend reaches its extreme, its exhaustion point. While the market does not then automatically and instantly turn bearish the emotional extreme has been fully expressed and as a result prices can only retreat. Similarly bearish diverge is the point at which the bearish pessimism that drives down trends reaches its emotional extreme, from which point prices can only recover higher.

Sentiment Indicators

Sentiment indicators strive to directly measure the degree of bullish or bearish content in the market through various means. The most direct method is to poll market advisors and compare the current reading to the recent trend and the historical extremes. More indirect methods include indicators like the put - call ratio and the percentage cash position of equity fund managers.

Technical Analysis as Methods for Quantifying the Emotional Content of the Market, continued

Seasonal Price Cycles

The difference in gasoline demand from the winter to the summer months is approximately 9.0 to 9.5 mbbl/day or 5.6%, a minor variation. The twenty year average 56% increase in the spot futures price between the typical December seasonal low and the usual May peak, even adjusted for the differing production costs of winter and summer grade gasoline, far outpaces what is justified in terms of demand requirements. So even in our seasonal price cycle work, studies never intended to measure the emotional content of the market, we can clearly see the degree to which the emotional swing from bearish to bullish drives the price way beyond the actual change in demand levels. As science officer Spock of 'Star Trek' might say, "but Captain, it is not logical." The financial markets on Vulcan are undoubtedly a much more boring place than the financial markets here on Earth.

Fibonacci Ratio Analysis

For a quick summary of ratio analysis and emotional content see page 7 of the 'Fibonacci Aspects of Consensus' report in the tutorial section of our web site. The bottom line is that when subjects are asked to choose between two options about which they have no detailed knowledge their responses tend to divide not into 50 - 50 but into the Fibonacci proportion 62% to 38%. What is the origin of an opinion or a choice that is unrelated to any basis in factual knowledge? It is an emotional bias, a 'gut call.' Even after spending the last almost 25 years immersed in the Fibonacci aspects of market price action I still find it uncanny how often a poll result will divide along the lines of the 62 and 38 percent for or against.

The marketplace is an on-going poll where one casts a ballot with either a buy or a sell order. The great insight of R.N. Elliott, the founder of Elliott wave analysis, is that the price action of a market can be completely described by Fibonacci ratio relationships. The great practical benefit of this insight is that the tools of technical analysis can do quite a bit more than quantify the emotional content of the market. Some technical tools when properly employed can predict the emotion based price outcome of a market move to four decimal places. And this brings us to our last technical tool, pattern analysis.

Chart Pattern Analysis

On page two of our web site tutorial entitled 'Fractal Pattern Analysis' we ask rhetorically whether emotionally driven human actions, taken collectively as the mass behavior of a market, can be described and predicted with mathematical precision. For us it is a rhetorical question because we fill up the next 23 pages demonstrating that the answer to this question is an unequivocal 'yes it can.' There is a precise emotional condition of the market behind each of the basic Elliott wave components - the one, two, three, four, and five legs of a five wave move and the A, B, and C waves of an ABC pattern. Even something as elementary to chart pattern analysis as the head and shoulders top is a recognition that the emotional swings in the market price create patterns that give predictive information. The market ingredients of hope, disappointment, fear and panic can be observed to follow a precise and predictable pattern. The conclusion of chart pattern analysis is that the emotional swings in the collective social mood are not chaotic, random events. They follow sometimes complex but nevertheless precise patterns that can be described and predicted with mathematical accuracy.