MARKET DYNAMICS

LEARN RELATIVE STRENGTH POINT & FIGURE CHARTING

Copyright by W. Clay Allen CFA
The Spirit of Technical Analysis

MARKET DYNAMICS - RELATIVE STRENGTH vs S&P 500
HOME DEPOT INC 06/23/2000 48 HD

In my opinion the Market Dynamics version of technical analysis is a tool for judging long-term trends and the reversals of direction of those trends.

It is not a tool for prediction.

It has certain rules but it is more or less an art form – I certainly don’t believe it is scientific.

It helps in a majority of cases (65% to 75% estimate by WCA) and fails in others or at least the trends quickly change direction from what was hoped for!

If I can correctly gauge the direction of the long-term trend I will be able to advise and manage my portfolios successfully.

If Market Dynamics is used with discipline - it will require the sale of losers and the retention of winners as long as they are able to perform. That, after all, is the key to successful portfolio management.

WCA
Chart construction and layout

Ratio chart – price relative to S&P 500

MARKET DYNAMICS - RELATIVE STRENGTH vs S&P 500
CISCO SYSTEMS INC  06/09/2000  64.38  CSCO

The years are always shown at the top line on the chart

This is a long-term relative strength chart on CSCO. It covers almost four years of RS history. Relative strength is calculated by dividing the price of the stock by a major market index – i.e. the S&P 500. The ratio is then multiplied by a scaling factor (i.e. 1000). The P&F chart is plotted according to the rules pioneered by Chartcraft Inc. of Larchmont, New York. The daily highs and lows are used in the calculation of relative strength.

Since the chart is a plot of ratios - the movement relative to the market is what is being recorded. The ratios don’t mean anything in and of themselves. The letters along the Y-axis and the numerals along the X-axis are to be used only as reference points when discussing the charts.

The grids on the Market Dynamics relative strength charts are square. This becomes important when using 45-degree bullish support lines and 45-degree bearish resistance lines.

It is important to note that the X-axis does not measure time.
The 3-box system is designed to show major trend movement relative to the market. The rising trends are recorded with a column of Xs and the declines with a column of Os.

It seems that the stock market (maybe all markets) exhibit this pattern of alternating periods of rise and fall in price. The three box - point and figure method of charting is designed to filter out the minor movements and concentrate attention on the long-term major movements in relative price. The long-term movements are always more important than the short-term noise and this system is designed to take advantage of that characteristic behavior.
As the relative strength moves back and forth we see a pattern of alternating columns of Xs and Os. The X-axis does not measure time. It records the alternations of trend.

The alternations of trend are a direct function of volatility - so we can say that the X-axis is scaled in units of risk - since volatility is often thought of as a proxy for risk. The Y-axis is scaled in units of relative return. We are actually recording the movement of risk versus return.

We should be gaining more in the Y direction than we are recording in the X direction if we are performing better than the market.

The RS of the stock should remain above an upward sloping line if we are outperforming the market. Many times a 45-degree line that slopes upward to the right is used to gauge the performance of a stock. Above the 45-degree line is acceptable and below the 45-degree line is unacceptable. This ensures a margin of excess return - over and above the performance of the market. The slope is +1 for a bullish support line, which requires one box up for each box to the right. One unit of gain for each unit of risk.
Region of Excess Return

The triangle above shows the region of excess return relative to the market. The 45-degree bullish support line defines a region where a portfolio manager should try to position his/her holdings. As long as the relative strength fluctuates back and forth above the bullish support line the relative performance is acceptable. Big winners in the stock market will experience runs in relative strength that will carry the relative strength above the bullish support lines for many months. The steeper the rate of gain the higher the excess return for the stock.
Region of serious under-performance

When the relative strength starts to fall below the 45-degree bearish resistance line the under-performance has become serious. Portfolio managers should be reluctant to hold/purchase any stock that is moving back and forth below the bearish resistance line. In my opinion, signals are not as important as the position of the stock relative to the bullish support lines and the bearish resistance lines. Stocks that undergo serious long-term fundamental deterioration will remain below the bearish resistance line for many months.
Time period covered – all charts are programmed to cover four years of history. Volatility effects how much time the chart covers.

Low volatility – Long time period

MARKET DYNAMICS - RELATIVE STRENGTH vs S&P 500
ABBOTT LABORATORIES 06/16/2000 42.44 ABT

The chart on ABT covers less than half the graph and yet it covers almost three full years of relative strength movement. The fluctuations of the stock relative to the market were fairly modest indicating low risk even though the stock declined for over a year relative to the market.
High volatility - Intermediate time period

MARKET DYNAMICS - RELATIVE STRENGTH vs S&P 500
ANADIGICS INC 06/08/2000 44.5 ANAD

An example of high but not extreme volatility. The time period is almost a year.

List = Biggest Winners of Past Year (17 of 167)
Extreme volatility - Shortest time period

This stock exhibits “wild” volatility relative to the market. The period of time covered by the chart is only six or eight months and the plot of relative strength goes off the scale at both the top and the bottom.
Performance relative to market

Better than market – Upward sloping graph

This is an example of a stock that completely outperformed the market from late ’99 to mid-2000. The 45-degree bullish support line is always started from a prominent low on the chart and is drawn upward to the right at a 45-degree angle.
Even with the market – flat chart

This is an example of a stock that has been flat relative to the market for almost the entire period from mid- ’97 to mid-2000.
Worse than the market – downward sloping chart

This stock peaked relative to the market in early ’99 and has trended consistently downward into mid-2000. The stock never seriously challenged the 45-degree downward sloping bearish resistance line.
Analysis of trends

Uptrends

This two-year uptrend has been characterized by a more or less consistent pattern of higher highs and higher lows. Stocks are usually not this consistent and will show more periods of correction.

This bull move started with a column of Xs straight up.
Downtrends

From the peak at (A,8) the stock just started going down and fell for over 25 columns without a single high rising above a prior high. Lower lows and lower highs are the hallmark of a serious downtrend.
Signal patterns

BUY SIGNALS

Simple  Triple  Spread  Rising
Buy    Top     Triple  Top
Signal Buy     Top     Buy
Signal    Buy    Signal

SELL SIGNALS

Simple  Triple  Spread  Declining
Sell   Bottom  Triple  Top
Signal Sell     Bottom  Sell
Signal    Sell    Signal

O
OX  OX X  OXOXOXO  OXOX
OXO  OXOXO  OXOXOXO  OXOXO
OXO  OXOXO  OXOXO  O  O
O O  O O  O  O  O  O
O  O
O  O
O
O
**Triple top buy signal – example #1 – There are many examples of triple top buy signals on the chart.**

This triple top buy signal has been registered after a small decline but there is overhead resistance nearby. The bearish resistance line has been exceeded which is a good sign. If the top row of Xs at row A can be exceeded then the resistance has been taken out and a good move might follow.
**Triple top buy signal – example #2**

This example shows a triple top buy signal that has been registered shortly after the bearish resistance line was crossed. There is resistance overhead in this example but the signal looks good nonetheless.
Triple top buy signal – example #3

After the low at (K, 4) a triple top buy signal was given along with the breakout above a short bearish resistance line. After this reversal the stock became very bullish and proceeded to register additional triple top buy signals as it rose. In using Japanese Kagi charts which are similar to point & figure, there is a rule that suggests that before a trend ends - there will be nine columns up that will make new highs above the recent highs. This stock has recorded 7 so far. I have observed this phenomenon quite a few times and after the stock has recorded 8 or more new highs it is probably best to anticipate a reversal of the uptrend.

List = Highest relative strength over past 3 months (17 of 100)
**Triple bottom sell signal – example #1**

MARKET DYNAMICS - RELATIVE STRENGTH vs S&P 500
LOWE'S COMPANIES INC  06/16/2000  43  LOW

The 45-degree bullish support line has failed and a triple bottom sell signal has been registered. This stock seems to be in a prolonged downside slide – nothing dramatic but significant nonetheless. It should be noted that previous support has been violated which is an additional negative input. Repeated bullish support line failures have been recorded which adds to the downside evidence.
**Triple bottom sell signal – example #2**

The triple bottom sell signal is shown in the example. It should usually be used with a penetration of the bullish support line. A sell signal after a major bull market move should be given more weight than a signal that is registered after a long decline. This example shows both a triple bottom sell signal and a bullish support line violation. A downward sloping bearish resistance line could now be drawn from the top at (A, 13).

A new bearish resistance line can be drawn.

45-degree bullish support line

Triple bottom sell signal
45 degree lines- Bullish

Bullish support lines

Bullish resistance lines

The upward sloping 45 degree bullish support line is drawn from any prominent low point on the chart. A long-term investor would start the line at the lowest point on the chart. A new bullish support line should be started if the initial line is violated.

These lines are a very important part of using relative strength in a point and figure format. They provide a standard of performance that almost ensures the achievement of the portfolio’s performance goals. A stock must continuously gain on the market to remain above these lines.
45-degree lines - bearish

Bearish resistance lines

Bearish support lines

The downward sloping 45-degree bearish resistance line is started at a prominent high point on the chart. It may need to be redrawn if the initial line is violated.

Stocks that remain below their 45-degree bearish lines are seriously hurting the portfolio’s performance. They hurt the portfolio twice – (first) they lose performance and (second) they keep the portfolio manager from buying another stock that has a better chance of performing!
**High performance bullish support lines**

Use on high risk, speculative stocks

Slope is 50% steeper than 45 degree bullish support line

**HPBSL - Example 1**

The high performance bullish support line rises at a rate 50% faster than the 45-degree bullish support line. The steeper slope is used to require a higher measure of excess return to compensate for stocks with higher volatility (i.e. risk).
CISCO has been one of the best performers in the recent bull market. This chart shows the effects of a stock split in reducing the historic volatility of a relative strength chart. As the stock fluctuated before the stock split the volatility was much greater on these charts than the current chart depicts. It is a function of scaling.
Note: The average length of a column of Xs or Os is an indicator of the volatility of this stock. The volatility tended to pick up dramatically right at the top and the extreme variability continued as the stock made a broad top and completed a major reversal. The ensuing decline was dramatic.
This long-term advance was very orderly and never seriously threatened the HPBSL.

High performance bullish support line
HPBSL – example 5

MARKET DYNAMICS - RELATIVE STRENGTH vs S&P 500
PEREGRINE SYSTEMS INC 06/09/2000 26.13 PRGN

Usually stocks with average volatility will consolidate for at least ten columns as they complete a top and reverse trend.
HPBSL – example 6

MARKET DYNAMICS - RELATIVE STRENGTH vs S&P 500
METRICOM INC 06/09/2000 35.13 MCOM

High performance bullish support line
False bearish signal

List = Biggest Winners of Past Year (100 of 167)
HPBSL – example 7

MARKET DYNAMICS - RELATIVE STRENGTH vs S&P 500
MILLENIUM PHARMACEUTICAL 06/09/2000 121.5 MLNM

Very rapid reversal of trend after a major bull move

High performance bullish support line

High performance bullish support line

List = Biggest Winners of Past Year (104 of 167)
HPBSL – example 8

Almost no consolidation occurred at the top for this stock.

High performance bullish support line.

List = Biggest Winners of Past Year (89 of 167)
The downside penetration of a HPBSL is almost always a serious warning that the trend is reversing direction.

High performance bullish support line
A triple bottom sell signal was given as this stock made its top. This was the first triple bottom sell signal given during the bull move and it was a good tip-off that something was going wrong.
Support and resistance

A study of the distribution of the returns from common stocks suggests that most stocks are in a trading range most of the time (i.e. 20% in the negative tail, 20% in the positive tail and 60% in the narrow middle of the distribution).

The trending stocks are in the two tails and the balance is moving back and forth with the market.

In the absence of an upside breakout the shares of most major, mature companies should be sold as they approach the high end of the historic trading range. This is also a good reason why the relative strength point and figure charts need to be long-term in perspective.

Trading ranges are very common on the relative strength point and figure charts.
This example shows a rally back up into an historic resistance level that was also below the 45-degree bearish resistance line. The combination of the two resistance levels turned the stock down and the relative strength broke sharply.
Trading ranges – example 1

It is usually best to wait for the stock to show signs of basing at the lower end of the trading range. In my opinion it is always much easier for a stock to breakout downward through trading range support than it is to breakout to the upside through resistance at the high end of the trading range. The more times the support and resistance zones are “honored” by the stock the more important they become.
Trading ranges – example 2

This is clear example of a stock that has been completely controlled by its historic trading range for the past two years.
Trading ranges – example 3

A trading range is an extended period of consolidation. If it occurs after a major bull market in a stock it may actually represent a major top and reversal of trend. It is too early to tell on this stock but that scenario could actually prove out in this instance.
This is an example of a trading range that is extremely “tight”. Stocks like this are often used as a safe-haven during market turbulence!
Channels

Long-term up channels

The stock broke out with a triple top buy as it moved above the bearish resistance line. The base was about ten columns wide. The breakout column ran more than ten Xs straight up.

The upper channel line is a bullish support line drawn from a prominent high point on the chart.
Long-term down channels

The channel is constructed using two parallel downward sloping bearish resistance lines.

This is an example of a long-term down channel. It has been in effect for over four years. Bargain hunting in stocks like this is usually very dangerous.
**Major long-term trends**

**Major long-term up-trends – example 1**

Stocks that start to move up dramatically on the relative strength charts like this will appear on the Market Dynamics one-month high RS screen, the triple top buy signals screen and often on the ten box up screen. The increasing relative strength is an indication they are moving out into the positive tail of the distribution. They should have broken out above almost all-historic resistance and the up trend should be accelerating. Trend following tools work best on stocks like this. These stocks have the potential to become big winners. They are easily identified early in their moves with the screens supplied by Market Dynamics.
Major long-term uptrends – example 2

This move ended with a major top and a downside break of the HPBSL. The signs of trouble were hard to miss on this stock.
Major long-term uptrends – example 3

Trendlines that get steeper and steeper are suggesting a blow-off. These situations are usually best sold into the strength since the top will almost certainly give little warning.

The rule of nine new high columns can be used to estimate the end of the rise.
Major long-term uptrends – example 4

Relative strength ranking systems will usually rank a stock like this in the very highest ranks at the very top of the move and even after the stock has turned down. The extreme nature of the upmove will still generate very high relative strength ranks well after the top is in. In my opinion, it is far better to use relative strength trend following techniques because of this inherent weakness of long-term relative strength ranking systems.
Major long-term uptrends – example 5

The top on this stock took quite a few columns to complete. The HPBSL acted as support for a few columns and then the stock broke the HPBSL completing the reversal.
Major long-term uptrends – example 6

It is always easier to deal with a blow-off in hindsight!
The steepening of the upward trendlines suggested the blow-off as it occurred. It is best to get out early on situations like this. Use the rule of nine new high columns to estimate the peak.

Very steep natural uptrend line

This is another example of the dangers inherent in long-term relative strength ranking systems. The reversal is so fast that the portfolio manager gets bagged before the ranks decline enough to indicate trouble. In my opinion, long-term ranking systems require the use of a stop-loss discipline that most portfolio managers refuse to use.
Major long-term uptrends – example 7

These are examples of stocks that experience wild swings in both directions. Since stocks like this are almost always extremely speculative we must be willing to leave the party on “short notice”. The violation of an extremely steep up trend line is a “good enough” reason to step aside on a stock like this.
Major long-term uptrends – example 8

A triple bottom sell signal after a big move is a very good reason to sell.

Very steep natural uptrend line

A stock like this is like a bull rider at the rodeo – if you can “stay on” for 8 seconds you can really make the points. You don’t want to have to stay on this bull one second longer than it takes to win.
Major long-term uptrends – example 9

MARKET DYNAMICS - RELATIVE STRENGTH vs S&P 500
MANUGISTICS GROUP INC 06/09/2000 30.5 MANU

Bearish resistance line

High performance bullish support line
Major long-term uptrends – example 10

MARKET DYNAMICS - RELATIVE STRENGTH vs S&P 500
JDS UNIPHASE CORP 06/09/2000 110.56 JDSU

Bearish resistance line

High performance bullish support line

List = Biggest Winners of Past Year (92 of 167)
Major long-term down-trends – example 1

The bullish support line failed with a triple bottom sell signal at column 8. The stock never seriously challenged the bearish resistance line for the next two years.

This stock experienced repeated failures of short-term bullish support lines as it declined.
Major long-term down-trends – example 2

A triple bottom sell signal was registered as support failed. The stock had traced out a major congestion zone between A and C for over a year. Many investors judged this stock to be “too” cheap all the way down!
Major long-term down-trends – example 3

This is another example of a major congestion zone that proved to be a major top and then a long-term decline. In Dollar terms this was a drop from almost $60 to $5. During the topping process several bullish support lines failed to support the stock suggesting the approaching weakness.
**Natural trendlines**

Should be defined by touching the RS plot at least three times

User decides if natural trend line takes precedence over 45 degree lines.

A natural trend line is defined by the action of the stock itself. A natural trend line is not required to be drawn at any predefined slope. In my opinion it should touch the relative strength plot in at least three places to draw the trend line.

The user can decide which is more important - a natural trend line or a 45-degree line.

In my experience, an extremely steep natural trend line does not remain unbroken for very long and is usually associated with a highly risky – volatile stock.

I do not believe that it is wise to compromise performance standards because of a shallow natural trend line.
Natural trendline

Downtrend

Connecting only two points on the chart can draw a tentative natural trend line.

This tentative natural trend line began at (A, 1) and was extended through (C, 5) and later through (E, 9). It was in place for several years but it should have been classified as a tentative natural trend line during the first year and a half (i.e. late '96 to late 97).

In my opinion a tentative natural trend line is not as important and should not be given as much weight in the analysis as a fully defined natural trend line.
Major reversal patterns

Major tops – example 1

This top took two years to form and showed a pattern of lower highs with a downward trend line. When the support at D failed the stock moved down sharply. The top essentially shows a balance between demand and supply. The breakdown shows that supply won the battle. Experience has shown that if a stock is held until the deterioration in the fundamentals has been publicly acknowledged the stock has already completed much of its decline. In my opinion the bad news leaks into the market and investors will act on this anticipation ahead of the actual announcements. The stock market always acts in anticipation of expected events and news.
Major tops – example 2

This example shows a top almost 20 columns wide. The width of the top in many ways forecasts the extent of the decline. The decline started with a triple bottom sell signal but shortly thereafter - a negative news item caused a dramatic one-day plunge in the stock. The stock has recently started to base but it remains far below the bearish resistance line.

Experience indicates that the “sell” decision is more heavily weighted toward the technical method of analysis. Invariably the tip-off is a stock with apparently great fundamentals that consistently acts poorly on the relative strength charts. You can assume there is a good reason behind the poor performance. Rarely is it just an accident or purely a coincidence.
Major tops – example 3

This is an example of a major top in a Dow Jones Industrial Average stock. The stock fell sharply away from the top. Throughout '99 the stock appeared to be basing but this turned out to be a ledge and the stock broke to new relative strength lows. The 45-degree bearish resistance line confined the stock to a downtrend during the entire decline.

Bearish resistance line
Bullish support line
Natural trendline
Major bases – example 1

The completion of the major base is signaled when the downward sloping bearish resistance line is exceeded. The width of the base must match the extent of the prior decline in order to go above the 45-degree bearish resistance line. This is a very practical rule that precludes premature entry into a stock prior to the completion of a sufficient base.
Major bases – example 2

This stock has formed a major base and has broken out above the 45-degree bearish resistance line. It is still early in the move so we can’t know whether it will follow-through or not but the pattern looks promising.
Major bases – example 3

A major base has taken over a year to complete. The move won’t be “for sure” until the relative strength can move above the recent resistance.
**Breakouts**

This is an upside breakout above a consolidation that was almost 15 columns wide. The breakout clears all recent resistance and should include breaking above a downward bearish resistance line. A new bullish support line can be drawn after the breakout.

**MARKET DYNAMICS - RELATIVE STRENGTH vs S&P 500**

**AON CORP**

06/09/2000 35.63 AOC

Bearish resistance line

Bearish support line

New bullish support line

List = Highest relative strength over past 3 months (10 of 100)
Major moves often start with a “bang”. The tenboxup screen is provided to call attention to those stocks that have moved straight up relative to the market. In my opinion, the more attractive patterns are those that show a big move up from a broad base. Several examples follow.
Tenboxup screen #2

MARKET DYNAMICS - RELATIVE STRENGTH vs S&P 500
HARTFORD LIFE INC 06/09/2000 50.5 HLI

List = Stocks with a column of ten Xs up (61 of 150)

Bearish resistance line

10 Xs up
This move started with a column of Xs straight up.

Bearish resistance line

Bearish support line

10 Xs up

List = Stocks with a column of ten Xs up (55 of 150)
Tenboxup screen #4

MARKET DYNAMICS - RELATIVE STRENGTH vs S&P 500
AMFM INC 06/09/2000 71.56 AFM

List = Stocks with a column of ten Xs up (8 of 150)
Tenboxup screen #5

MARKET DYNAMICS - RELATIVE STRENGTH vs S&P 500
ABGENIX INC  06.09/2000  121.5  ABGX

Bearish resistance line

10 Xs up

Bullish support line

List = Stocks with a column of ten Xs up (1 of 150)
MARKET DYNAMICS - RELATIVE STRENGTH vs S&P 500
CHINA TELECOM HK LTD ADS 06/09/2000 171.19 CHL

List = Stocks with a column of ten Xs up (30 of 150)

Tenboxup screen #6

Bearish resistance line

High performance bullish support line

10 Xs up
Tenboxup screen #7

MARKET DYNAMICS - RELATIVE STRENGTH vs S&P 500
DEVON ENERGY CORP 06/09/2000 58.63 DVN

Bearish resistance line

Bullish support line

List = Stocks with a column of ten Xs up (39 of 150)
Some thoughts about how the market works

*Need to revalue assets due to changing conditions – “Creative destruction”*

The process of change results in the need to revalue assets frequently. Schumpeter said that progress is the result of a process he called “creative destruction.”

The free market produces winners and losers. The data from the market helps portfolio managers to identify and avoid losers before it is too late. This process can be expected to continue into the future as long as markets exist.
The difficulty in interpreting current events - Current events are not history to us – We don’t know what the consequences will be.

MARKET DYNAMICS - RELATIVE STRENGTH vs S&P 500
CIRCUIT CTY STRS INC 06/16/2000 35.81 CC

It is very easy- now that we know what happened – to say, “sure I would have sold that stock on that triple bottom sell signal”
The problem is that when we see the signal we really can’t know whether it will follow through or not. We don’t know what the significance of the signal will be. In this instance the follow-through was immediate, dramatic and down.
The stock market often demonstrates “non-linear” behavior in which small causes may produce unexpectedly large results. This is often true of sell signals.

In my opinion, every major sell signal that includes the penetration of a bullish support line should be treated as a danger signal with potentially serious consequences. I am referring to sell signals on current positions in the portfolio. In order to ensure the avoidance of major declines - all sell signals must be honored. It is only when the market is in a state of deep distress that sell signals can be ignored.

Charlie Ellis said years ago “ 80% of next years problems are in the portfolio now”.

The relative strength in point and figure format is just the tool to help root out those problems before they hurt the portfolio’s performance. But to get the benefit - you must act on the signals!
The distribution of returns from stocks - Non-normal – peaked with fat tails. Proportion of the population in the extremes of the distribution is 5 to 10 times what it would be if normal - 80/20 rule holds in the stock market why?

The distribution of returns from common stocks differs from the normal distribution in subtle but important ways. This is a stylized comparison of the two curves with the solid line depicting the academic normal distribution and the curve plotted with + signs representing the real, observed distribution of returns.

The real world is characterized by a distribution that displays a high degree of kurtosis (i.e. fat tails). A narrower peak around the mean also characterizes it. What this means in “real English” is that there are far more major winners and losers than you would experience if the real world distribution were exactly normal. Research has indicated that there are 5 to 10 times as many stocks in the extremes of the distribution than there should be. This indicates that major long-term trends tend to run longer and farther than we should normally expect.

These are also the most important trends that we should spend our time trying to find and invest in.

The narrow peak seems to indicate that most stocks tend to mirror the major market averages. These are also most likely to exhibit trading range characteristics.

The conclusions seem to be clear: Use a trading range approach to tracking most stocks and use a trend following methodology when dealing with stocks that have demonstrated an ability to depart from the averages and to move out into the “fat” positive tail. This also suggests relative strength as an effective way to identify major trend stocks.

The difference between these two distributions has extremely important consequences for portfolio management in terms of methodology and a realistic application of portfolio management tools.
Theory of Runs

If the Xs and Os on a relative strength point and figure chart were placed by the flipping of a coin – Xs for heads and Os for tails. Using the theory of runs we would be highly suspicious that the coin used to construct the chart was extremely irregular. My tests on many charts indicated far too few runs - which means the coin was crooked. The flips were random but the outcome suggested an underlying process at work and the existence of persistent trends. It is the long-term trends, after all, that we are interested in.
Complex Adaptive System

No functional relationships that last

“It is statistics not physics” – from Louis Navellier

Markets must have uncertainty – No need for a market if there is no uncertainty - because then everyone would agree on price and value.

Like evolution in nature - we can understand, describe but can’t predict - Need to adapt to change as much as predict - Feedback goes both ways – fundamentals to price and price to fundamentals.

For those interested in the implications of Complex Adaptive Systems in the stock market you should visit the Santa Fe Institute’s web site at http://www.santafe.edu/

Also see Complexity by Waldrop

Also see Dr Brian Arthur’s articles on stock markets.
Some thoughts about portfolio management

*Portfolio management must be adaptive*

In order to adapt to changing conditions we need a simple, visual road map that steers us toward the positive changes and away from the negative developments. It is the markets function to supply this information in order to provide signals to the holders of capital. How else could the capital markets fulfill their function?

While the stock market may have many negative connotations it is not a casino and it has a very important role to fulfill.

I believe that communism collapsed in Russia because the central planners did not know how to allocate the nation’s capital – only a free market can do that.
Portfolio Simulation

Simulated portfolio-ending value greater than $5 mil.

S&P 500 value
The graph above shows the results of a recent portfolio simulation that covered about 3.5 years – ending in the fall of ’99. The rules were simple; 25 stocks, fully invested at all times, 1% round-trip commission costs, 20% stop-loss against cost, if the slope of the 50 day moving average of relative strength across a span of 21 days turned negative the stock was sold the next day as of the closing price, and the strongest relative strength stock on the basis of the 21 day slope of a 50 day moving average of relative strength was purchased to replace the stock that was sold. Daily closing price data was used and relative strength was based on the S&P 500 index.

The turnover was very high but commissions were charged at a reasonable rate. This portfolio simulation was drawn from a collection of 400 institutional stocks that also had high volatility as measured by their standard deviation of daily percent price changes. This database has been maintained by WCA for over ten years. All stocks in this database shared one requirement – they had to have 4 years of trading history to be included. W. Clay Allen CFA performed all programming and the data was checked for accuracy.

The simulated portfolio value started at $1 mil and rose to slightly more than $5 mil - almost 2.5 times the performance of the S&P 500 over this three year period.

There is no guarantee that the future will be like the past but this simulation seems to confirm the effectiveness of using relative strength trend following as a portfolio management tool.
Relative strength study – real time – uptrends and downtrend lists published by WCA in 1999

In early July '99 I started sending lists to customers of stocks that I categorized as in uptrend or downtrends utilizing the relative strength point and figure charts produced by Market Dynamics. The lists quickly became very large and in the study I will discuss each list included slightly more than 300 stocks.

I was primarily interested in the tendency of relative strength to persist. Did the uptrends list outperform the S&P 500? Did the downtrends list underperform the S&P 500? Did relative strength persist for days or months?

I calculated the percentage price change for each stock on each list from the day after the list was sent out – from July 19, 1999 til the close on May 1, 2000. There were no changes from the original lists – no additions or deletions.

<table>
<thead>
<tr>
<th></th>
<th>Average % change</th>
<th>number of stocks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uptrends list</td>
<td>+43.15%</td>
<td>330</td>
</tr>
<tr>
<td>Downtrends list</td>
<td>-.71%</td>
<td>305</td>
</tr>
<tr>
<td>S&amp;P 500</td>
<td>+4.31%</td>
<td></td>
</tr>
</tbody>
</table>

The 45-degree bullish support lines and the bearish resistance lines were an important factor in the analysis and the selection for each list. The lists were actually e-mailed to my customers on July 18, 1999.

The samples were very large and the differences between the means of these samples were also quite large. At least for the time period covered there seemed to be a very strong tendency for relative strength to persist. In my opinion, the persistence is very important. The ability to determine the direction of the relative strength trend seems to be a very useful tool.

I have to admit that it probably won't work in all markets, for all stocks and at all times. There probably is no tool available that could stand up to a requirement as rigorous as that.

Other research has suggested the usefulness of relative strength and I think my work confirms the effectiveness when relative strength is used in a point and figure format. It does seem to provide an edge that while not perfect, is, nonetheless, useful.

W Clay Allen CFA
**Positive turnover**

Trading tactics must be subservient to longer-term goals - Retain winners as long as performance lasts - sell losers and reinvest in potential winners - Negative turnover is doing the opposite.

Most portfolio managers think about turnover in a negative sense. If you could enhance the appreciation potential of the portfolio at a rate more substantial than the cost of transactions and taxes then that would constitute positive turnover.

When I discuss relative strength with potential clients the objection of increased turnover almost always comes up. If the turnover produced by the application of relative strength means that you hold your winners and sell your losers then it has served its purpose. I believe most portfolio managers tend to do the opposite – they sell winners and hold/add to losers – which is negative turnover to me.

Peter Lynch said “its like pulling the flowers and watering the weeds”.
Too cheap to sell!

It is unbelievable how much performance is lost because a portfolio manager makes the judgment that a stock is too cheap to sell! There is a great temptation to hope that a fallen stock will come back and “duds” are often held long after the hope should have materialized.

I think we would all be better off if we didn’t use the word too when evaluating stocks. Too high, too cheap, too far, too fast, too low etc.
To return to the top of the main tutorial – click on the following link

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