



Dynamic Trading Indicators

New Techniques for Evolving Markets

Presented by David Stendahl

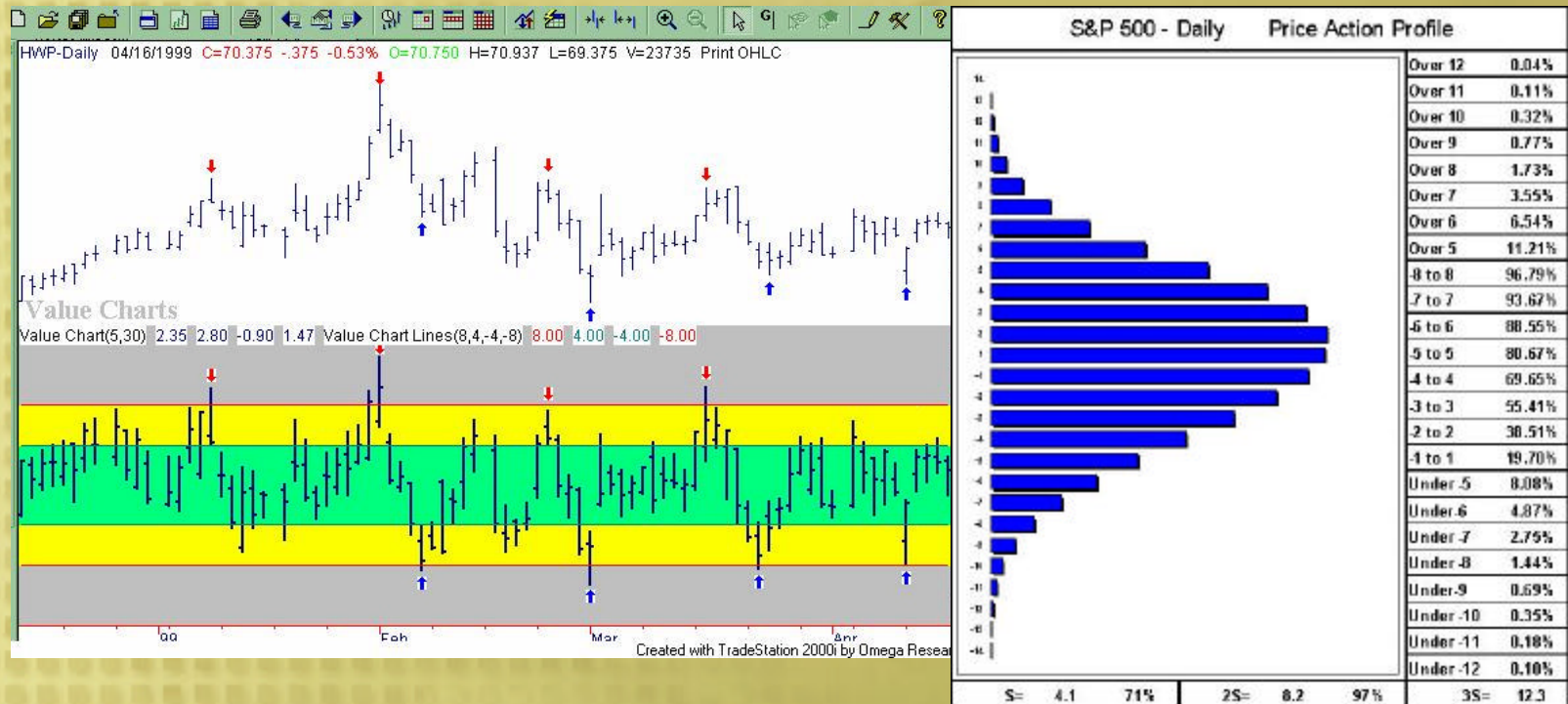


Disclaimer

ALL HYPOTHETICAL PERFORMANCE RESULTS HAVE MANY INHERENT LIMITATIONS, SOME OF WHICH ARE DESCRIBED BELOW. NO REPRESENTATION IS BEING MADE THAT ANY ACCOUNT WILL OR IS LIKELY TO ACHIEVE PROFITS OR LOSSES SIMILAR TO THOSE SHOWN. IN FACT, THERE ARE FREQUENTLY SHARP DIFFERENCES BETWEEN HYPOTHETICAL PERFORMANCE RESULTS AND THE ACTUAL RESULTS SUBSEQUENTLY ACHIEVED BY ANY PARTICULAR TRADING PROGRAM. ONE OF THE LIMITATIONS OF HYPOTHETICAL PERFORMANCES RESULTS IS THAT THEY ARE GENERALLY PREPARED WITH THE BENEFIT OF HINDSIGHT. IN ADDITION, HYPOTHETICAL TRADING DOES NOT INVOLVE FINANCIAL RISK AND NO HYPOTHETICAL TRADING RECORD CAN COMPLETELY ACCOUNT FOR THE IMPACT OF FINANCIAL RISK IN ACTUAL TRADING. FOR EXAMPLE, THE ABILITY TO WITHSTAND LOSSES OR TO ADHERE TO A PARTICULAR TRADING PROGRAM IN SPITE OF TRADING LOSSES ARE MATERIAL POINTS WHICH CAN ALSO ADVERSELY AFFECT ACTUAL TRADING RESULTS. THERE ARE NUMEROUS OTHER FACTORS RELATED TO THE MARKETS IN GENERAL OR TO THE IMPLEMENTATION OF ANY SPECIFIC TRADING PROGRAM WHICH CANNOT BE FULLY ACCOUNTED FOR IN THE PREPARATION OF HYPOTHETICAL PERFORMANCE RESULTS AND ALL OF WHICH CAN ADVERSELY AFFECT ACTUAL TRADING RESULTS.

The Trading Plan

Fitting Value Charts and Price Action Profile into your daily trading requires perspective.



Let's begin with the big picture . . .



The Trading Plan

Long-term trading success begins with a well designed trading plan. This is easier said then done *unless* you follow a process.

The Big Picture . . .

The Performance Analysis Process is a systematic approach used for evaluating and constructing trading portfolios. This process will determine where and how to use Value Charts and Price Action Profile.



The Trading Plan

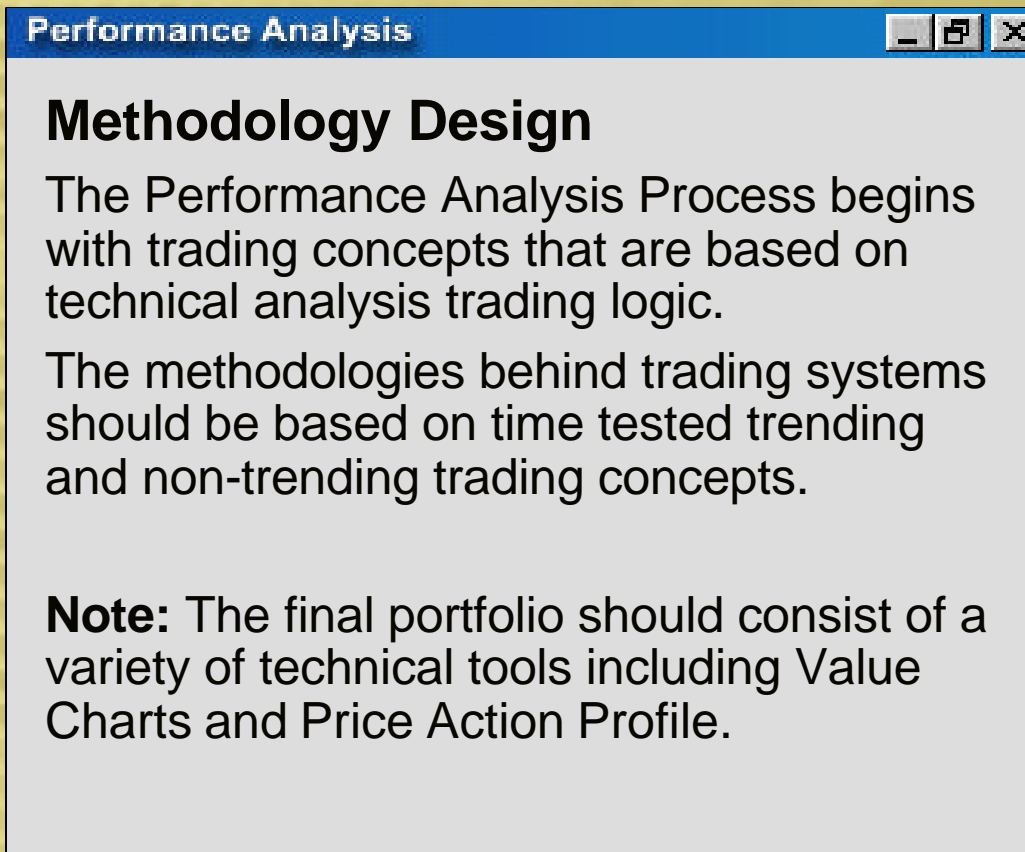
The Performance Analysis Process consists of six steps. Each step must be followed in suit to build the final portfolio.

- Methodology Design**
- System Development**
- Robustness Analysis**
- System Evaluation**
- Risk Management**
- Portfolio Construction**

Let's review these steps in greater detail . . .

Performance Analysis Process

Step One: Methodology Design >>> Conceptualize the trading methodology.



Performance Analysis

Methodology Design

The Performance Analysis Process begins with trading concepts that are based on technical analysis trading logic.

The methodologies behind trading systems should be based on time tested trending and non-trending trading concepts.

Note: The final portfolio should consist of a variety of technical tools including Value Charts and Price Action Profile.

Performance Analysis Process

Step Two: System Development >>> Programming/coding the trading methodology.

Performance Analysis

System Development

Once we have designed our trading methodology, we begin the process of developing or programming the systems.

Programming a system entails instructing the system to buy/sell and liquidate a trade following set procedures. Programming a system allows traders and investors to thoroughly evaluate the trading programs.

Note: At Landmark we actively monitors and trades 70+ separate trading systems.

Performance Analysis Process

Step Three: Robustness Analysis >>> Ensuring trading stability into the future.

Performance Analysis

Robustness Analysis

Once we have programmed our systems, the next step is to determine how stable or robust the system is over time and across variable settings. The robustness process begins by optimizing our system and selecting variable settings that offer stable results. This stage is **critical** to avoid curve fitting the system to the past.

Note: This step does not attempt to maximize return instead it centers on stability to ensure as best as possible continued performance into the future.

Performance Analysis Process

Step Four: System Evaluation >>> Is the system worth trading?

Performance Analysis

System Evaluation

This next step is to thoroughly evaluate our trading system to answer two primary questions:

- ◆ Does the system offer suitable risk/reward ratios to justify its trading?
- ◆ Will the system offer stable trading results to build a diversified portfolio?

This evaluation step will determine if a system is worth trading.

Note: Landmark principals have co-created evaluation software used by 40,000 traders.

Performance Analysis Process

Step Five: Risk Management

Improving results by adjusting position size.

Performance Analysis

Risk Management

Next we improve our trading system by applying a variety of money management strategies designed to alter the position size taken by the system. Essentially this entails increasing the number of contracts traded during profitable periods and limiting position size during unprofitable periods. This is the step that will allow a system to take full advantage of the trading methodology.

Note: David Stendahl's book *"Profit Strategies"* covers this step in greater detail.

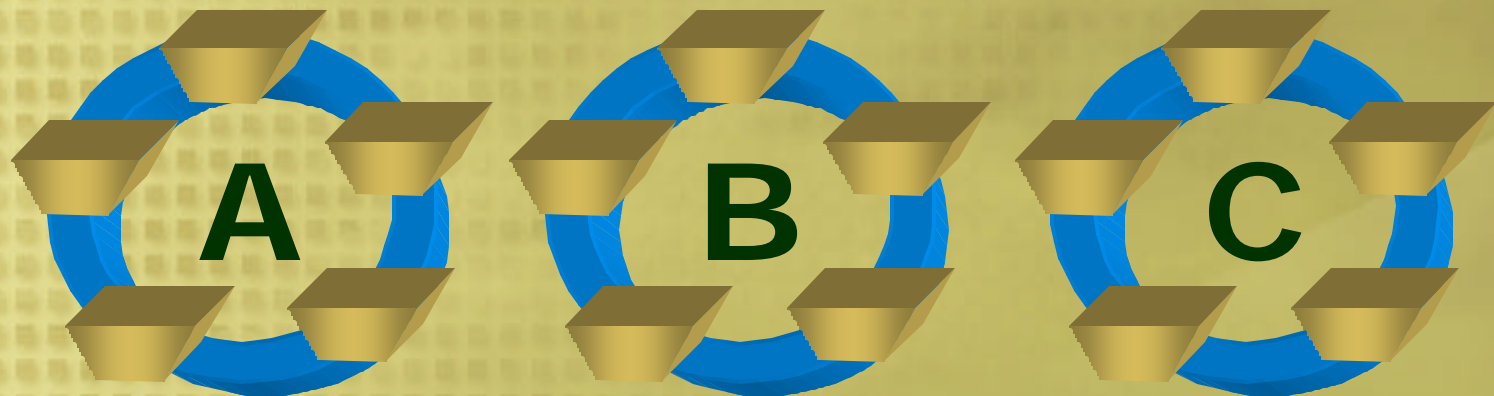
Performance Analysis Process

These five steps complete the analysis for a single trading system. Next we move onto the portfolio construction level.



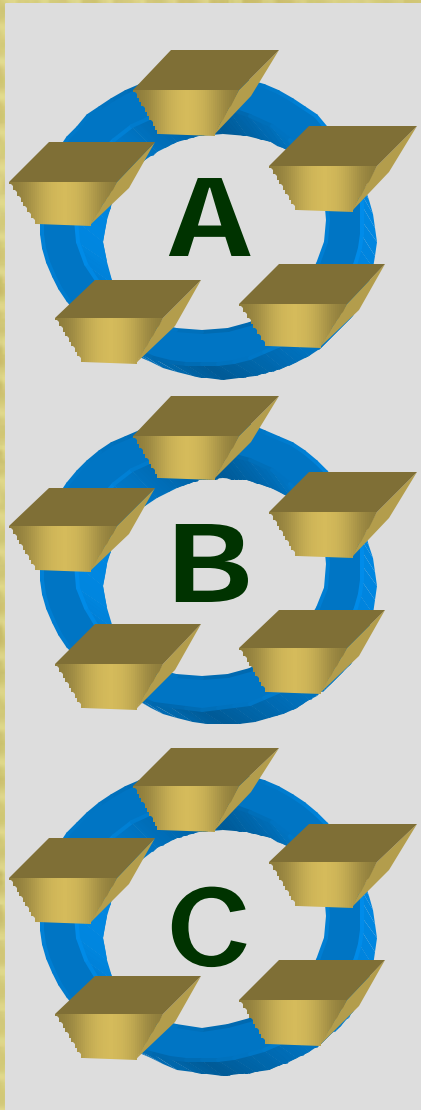
Performance Analysis Process

To build our diversified portfolio we continue the process for each of our trading systems. Once complete, we have the required building blocks to construct our diversified portfolio.



Performance Analysis Process

Step Six: Portfolio Analysis Constructing a diversified portfolio.



Performance Analysis

Portfolio Analysis

Once our proprietary trading methodologies have been applied to the markets, evaluated and adjusted with risk management strategies, we combined them together to construct our portfolio.

Note: Landmark actively trades 70+ systems applied to over 30 global markets. We offer diversification across methodologies and markets.

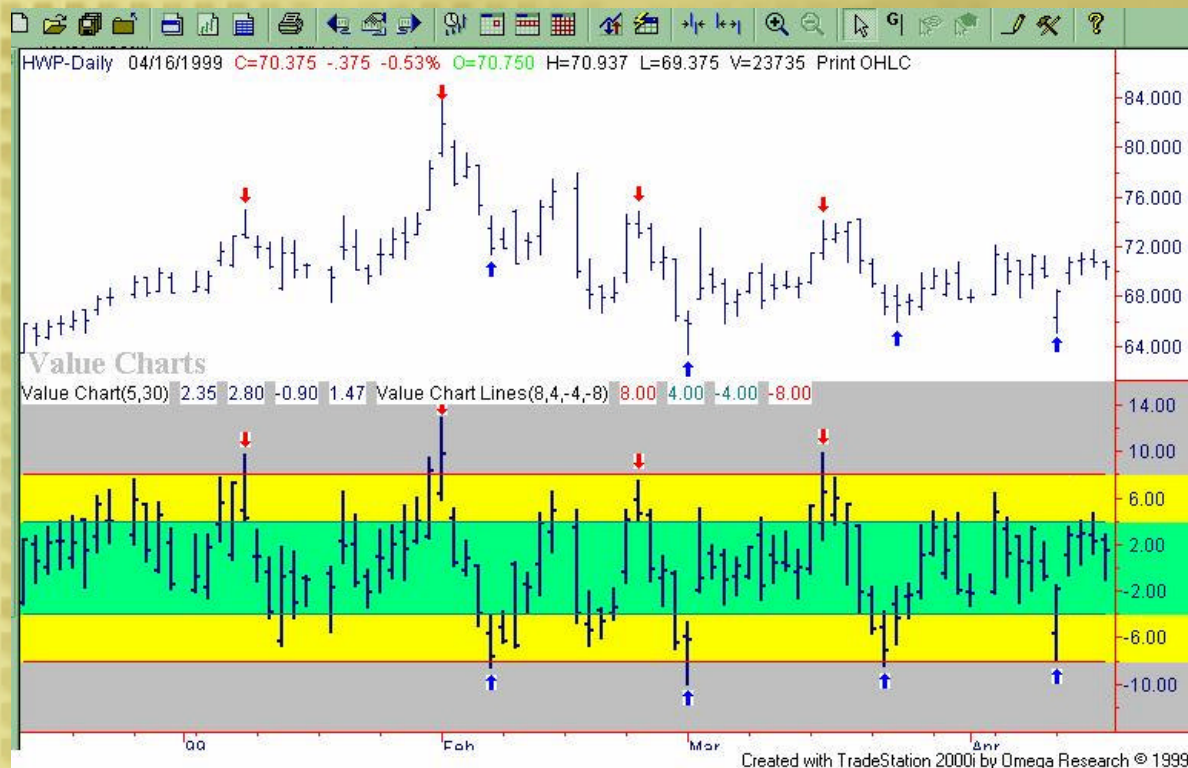
Performance Analysis Process

The Performance Analysis Process is used to systematically evaluate and construct trading portfolios to ensure:

- Each trading system offers appropriate risk/reward ratios for trading.**
- The risk management strategies contribute to improved trading performance.**
- The portfolio is well constructed offering full diversification and a smooth equity curve.**

Value Chart Introduction

Value Charts is an innovative charting technique designed to pinpoint overbought and oversold territory.



Value Chart Basics

A relative chart oscillates around a traditional moving average.



Value Chart Basics

Relative chart calculations.

1	2	3	4	5	6	7	8	9	10
Date	Open	High	Low	Close	Floating Axis	Relative Open	Relative High	Relative Low	Relative Close
990831	46.437	46.500	44.250	45.000	47.894	-1.457	-1.394	-3.644	-2.894
990901	45.500	47.625	45.375	47.375	47.575	-2.075	0.050	-2.200	-0.200
990902	46.750	47.250	46.375	47.000	46.950	-0.200	0.300	-0.575	0.050
990903	48.000	48.750	47.812	48.125	46.800	1.200	1.950	1.012	1.325
990907	48.500	48.812	47.312	47.312	47.006	1.494	1.806	0.306	0.306
990908	46.937	47.000	45.687	46.000	47.200	-0.263	-0.200	-1.513	-1.200
990909	45.562	46.750	45.500	46.500	47.125	-1.563	-0.375	-1.625	-0.625
990910	47.000	47.125	45.812	45.875	47.056	-0.056	0.069	-1.244	-1.181
990913	45.937	46.375	45.062	45.125	46.544	-0.607	-0.169	-1.482	-1.419
990914	45.125	45.250	44.312	44.500	45.887	-0.762	-0.637	-1.575	-1.387
990915	44.750	45.250	43.937	44.500	45.537	-0.787	-0.287	-1.600	-1.037
990916	45.000	45.937	44.562	45.500	45.362	-0.362	0.575	-0.800	0.138
990917	45.437	45.750	44.937	45.625	45.137	0.300	0.613	-0.200	0.488
990920	46.000	46.125	45.000	45.062	45.106	0.894	1.019	-0.106	-0.044
990921	44.875	45.625	44.125	44.500	45.125	-0.250	0.500	-1.000	-0.625
990922	44.562	44.812	43.750	44.000	45.062	-0.500	-0.250	-1.312	-1.062
990923	44.000	44.250	42.250	42.437	44.662	-0.662	-0.412	-2.412	-2.225
990924	42.625	43.125	42.000	42.625	44.106	-1.481	-0.981	-2.106	-1.481
990927	43.125	43.875	42.750	43.625	43.656	-0.531	0.219	-0.906	-0.031
990928	43.125	44.000	41.812	43.750	43.262	-0.137	0.738	-1.450	0.488
990929	43.625	44.875	43.250	43.500	43.219	0.406	1.656	0.031	0.281
990930	43.625	44.125	42.937	43.500	43.275	0.350	0.850	-0.338	0.225

Value Chart Basics

Value Chart oscillates around a traditional moving average but adjust for volatility.



Value Chart Basics

Value Chart calculations.

1	2	3	4	5	6	7	8	9	10	11
Date	Open	High	Low	Close	Floating Axis	Volatility Unit	Value Open	Value High	Value Low	Value Close
990831	46.437	46.500	44.250	45.000	47.894	0.455	-3.202	-3.063	-8.009	-6.360
990901	45.500	47.625	45.375	47.375	47.575	0.445	-4.663	0.113	-4.944	-0.449
990902	46.750	47.250	46.375	47.000	46.950	0.445	-0.449	0.674	-1.292	0.113
990903	48.000	48.750	47.812	48.125	46.800	0.368	3.266	5.307	2.754	3.606
990907	48.500	48.812	47.312	47.312	47.006	0.313	4.597	5.557	0.941	0.941
990908	46.937	47.000	45.687	46.000	47.200	0.275	-0.914	-0.695	-5.262	-4.173
990909	45.562	46.750	45.500	46.500	47.125	0.235	-6.444	-1.545	-6.700	-2.576
990910	47.000	47.125	45.812	45.875	47.056	0.253	-0.215	0.265	-4.784	-4.542
990913	45.937	46.375	45.062	45.125	46.544	0.268	-2.267	-0.630	-5.537	-5.302
990914	45.125	45.250	44.312	44.500	45.887	0.245	-3.110	-2.600	-6.428	-5.661
990915	44.750	45.250	43.937	44.500	45.537	0.245	-3.212	-1.172	-6.530	-4.233
990916	45.000	45.937	44.562	45.500	45.362	0.250	-1.448	2.299	-3.200	0.551
990917	45.437	45.750	44.937	45.625	45.137	0.230	1.303	2.663	-0.870	2.120
990920	46.000	46.125	45.000	45.062	45.106	0.223	4.017	4.579	-0.476	-0.198
990921	44.875	45.625	44.125	44.500	45.125	0.245	-1.019	2.041	-4.080	-2.550
990922	44.562	44.812	43.750	44.000	45.062	0.235	-2.129	-1.065	-5.584	-4.520
990923	44.000	44.250	42.250	42.437	44.662	0.260	-2.548	-1.586	-9.279	-8.559
990924	42.625	43.125	42.000	42.625	44.106	0.272	-5.436	-3.601	-7.730	-5.436
990927	43.125	43.875	42.750	43.625	43.656	0.272	-1.950	0.803	-3.326	-0.115
990928	43.125	44.000	41.812	43.750	43.262	0.300	-0.458	2.459	-4.835	1.625
990929	43.625	44.875	43.250	43.500	43.219	0.323	1.260	5.136	0.097	0.872
990930	43.625	44.125	42.937	43.500	43.275	0.290	1.207	2.931	-1.165	0.776

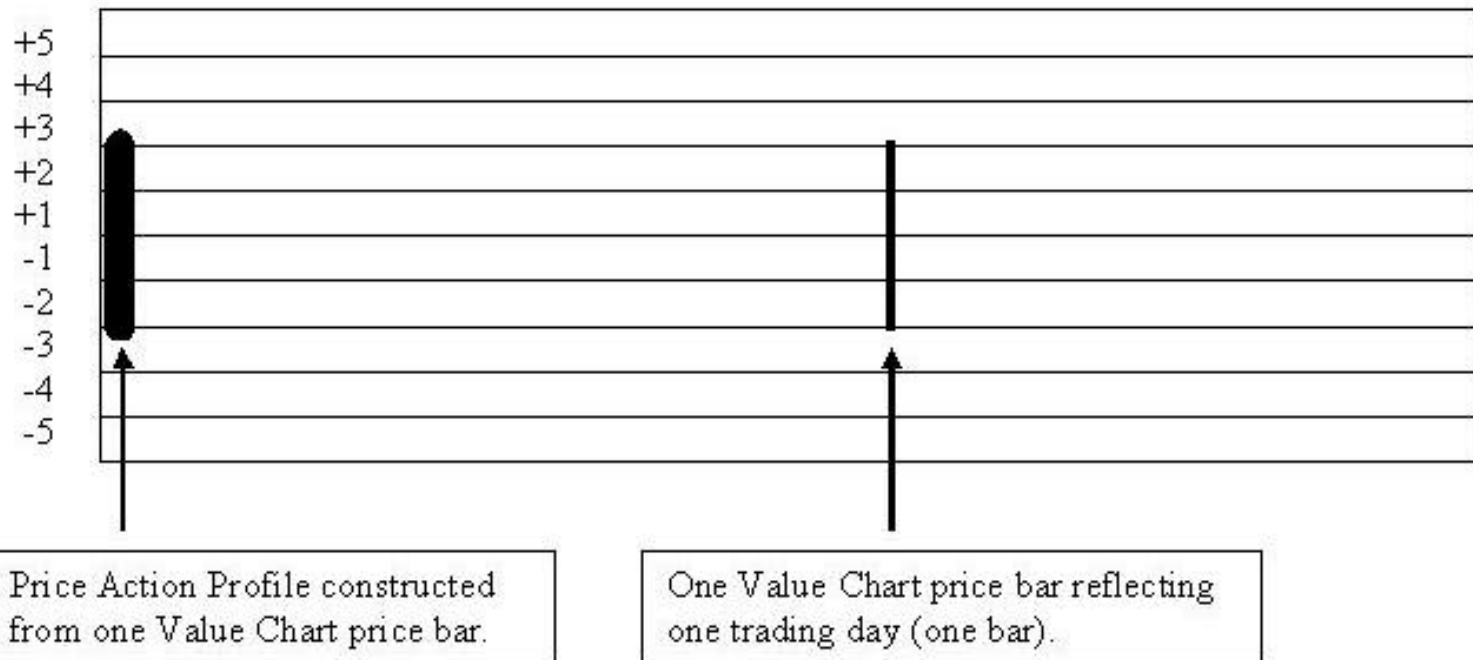
Value Chart Basics

Comparison between Value Charts and a relative chart.



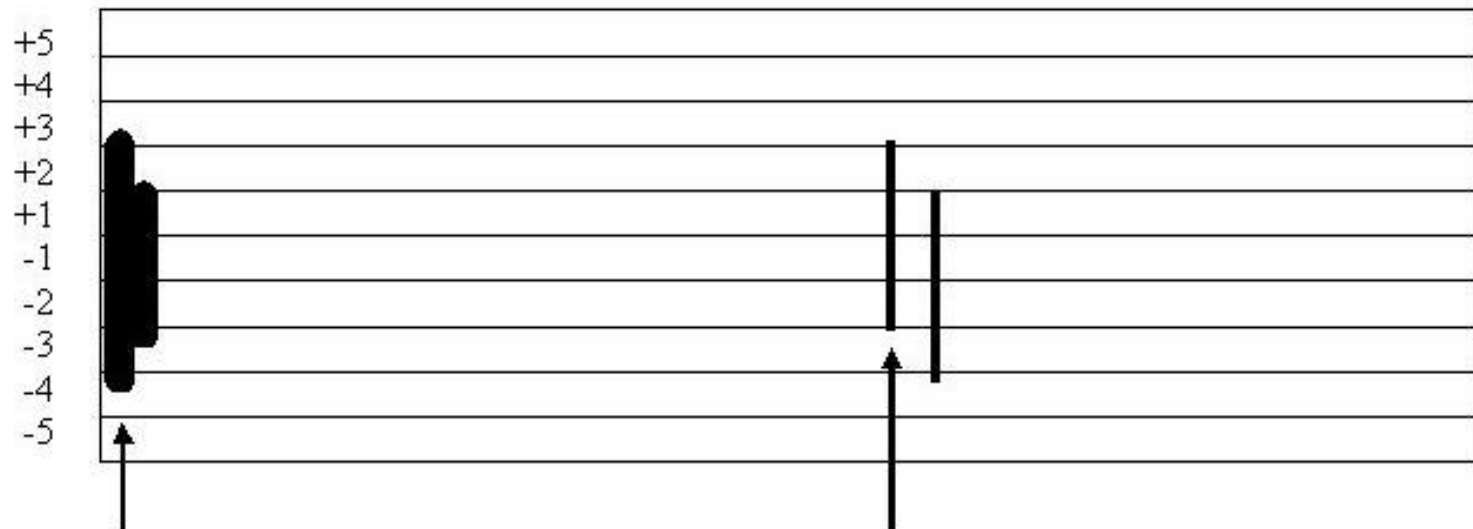
Price Action Profile Basics

**Construction of a Price Action Profile
base on one Value Chart bars.**



Price Action Profile Basics

**Construction of a Price Action Profile
base on two Value Chart bars.**

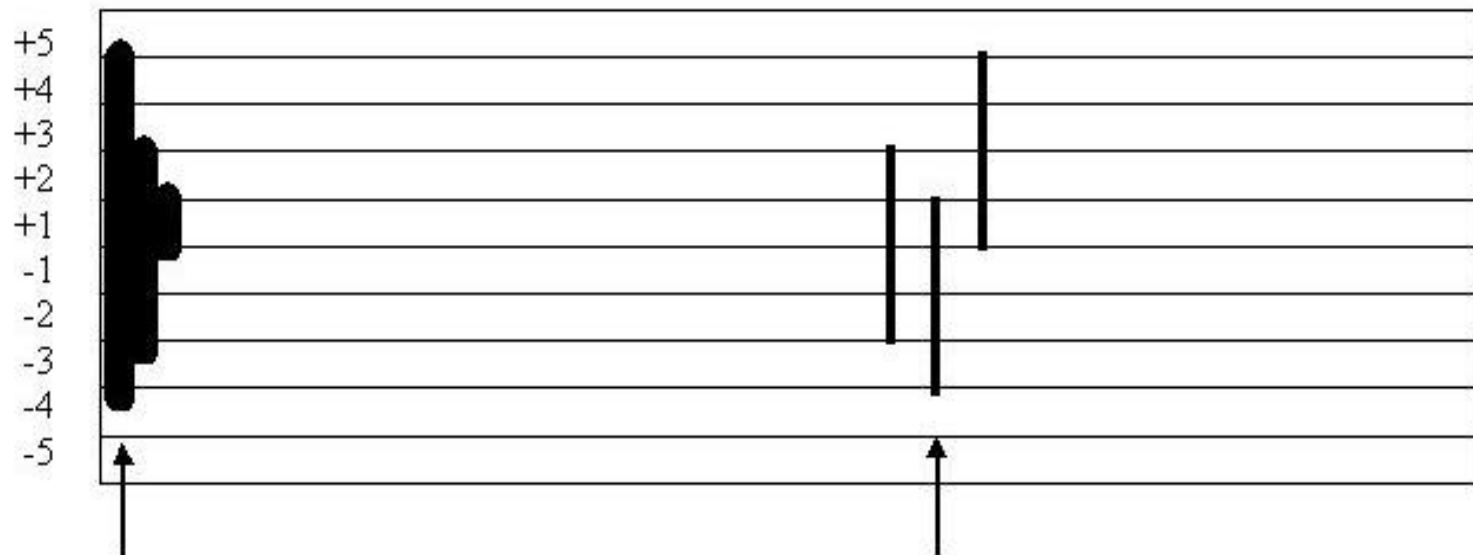


Price Action Profile constructed
from two Value Chart price bars.

Two Value Chart price bars
reflecting two trading days.

Price Action Profile Basics

**Construction of a Price Action Profile
base on three Value Chart bars.**

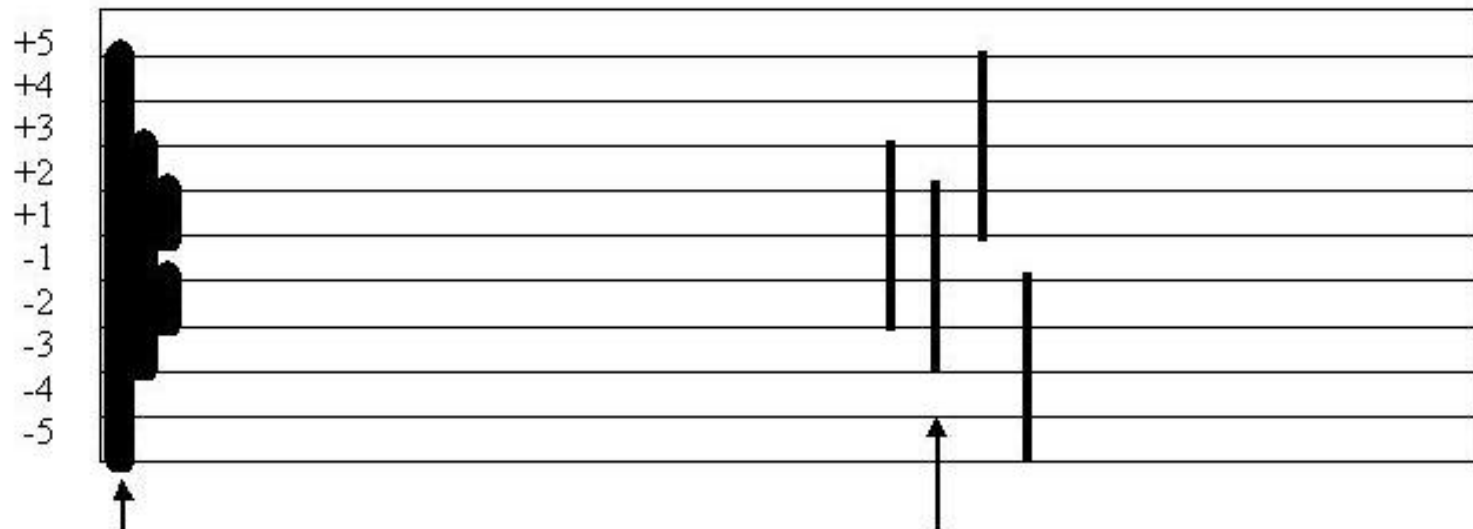


Price Action Profile constructed
from three Value Chart price bars.

Three Value Chart price bars
reflecting three days of trading.

Price Action Profile Basics

**Construction of a Price Action Profile
base on four Value Chart bars.**

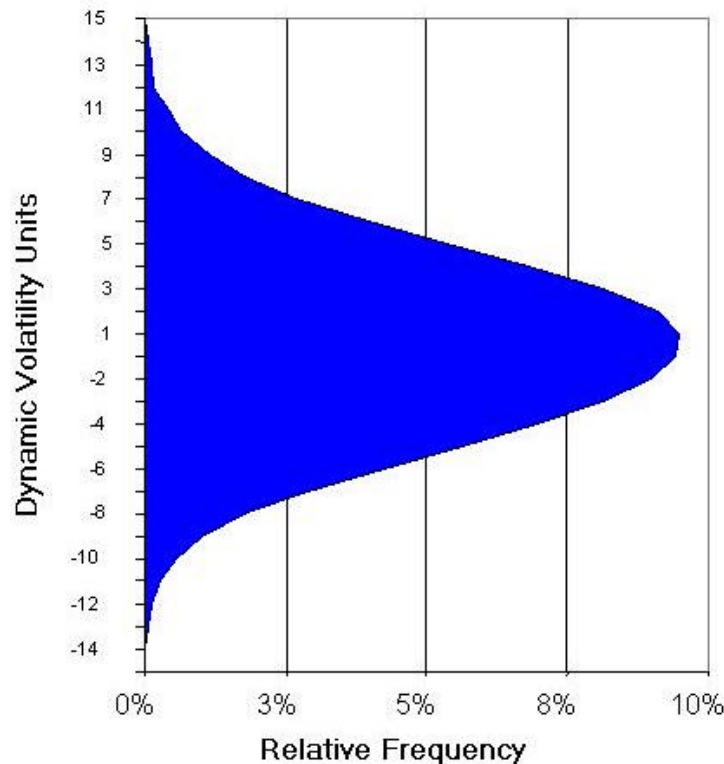


Price Action Profile constructed
from four Value Chart price bars.

Four Value Chart price bars
reflecting four days of trading.

Value Chart Profile

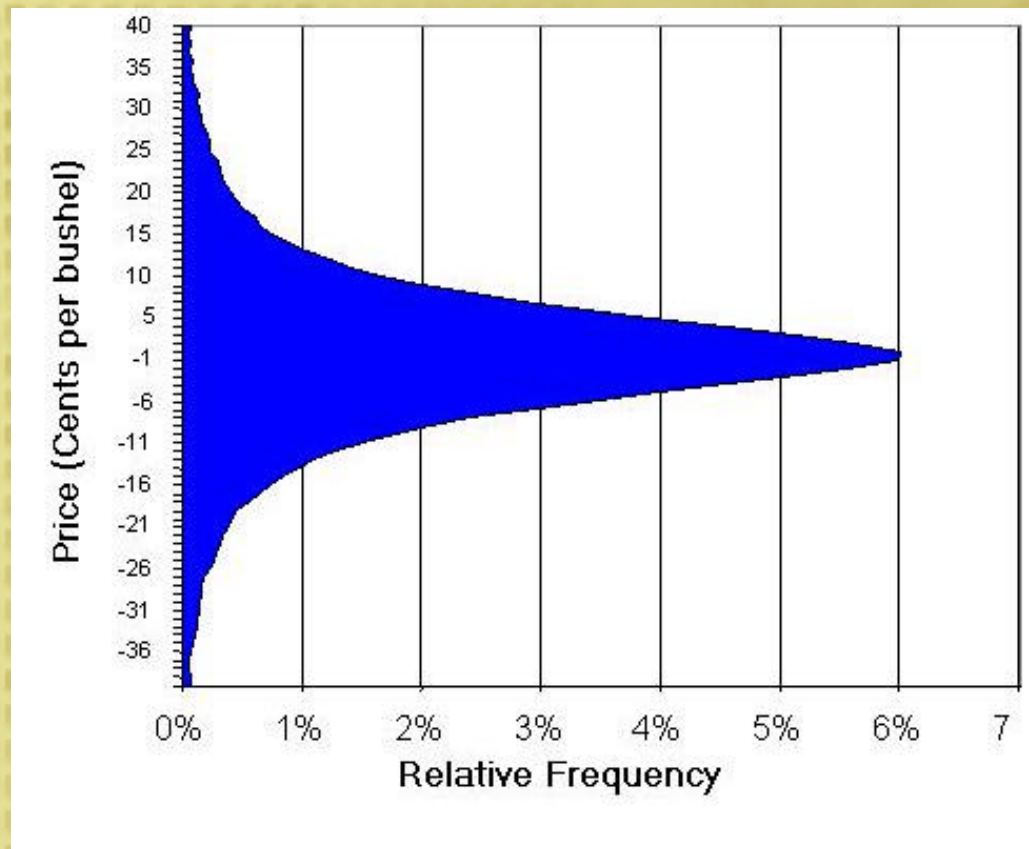
The profile of the Value Chart has a bell shaped curve which lends itself well to statistical analysis.



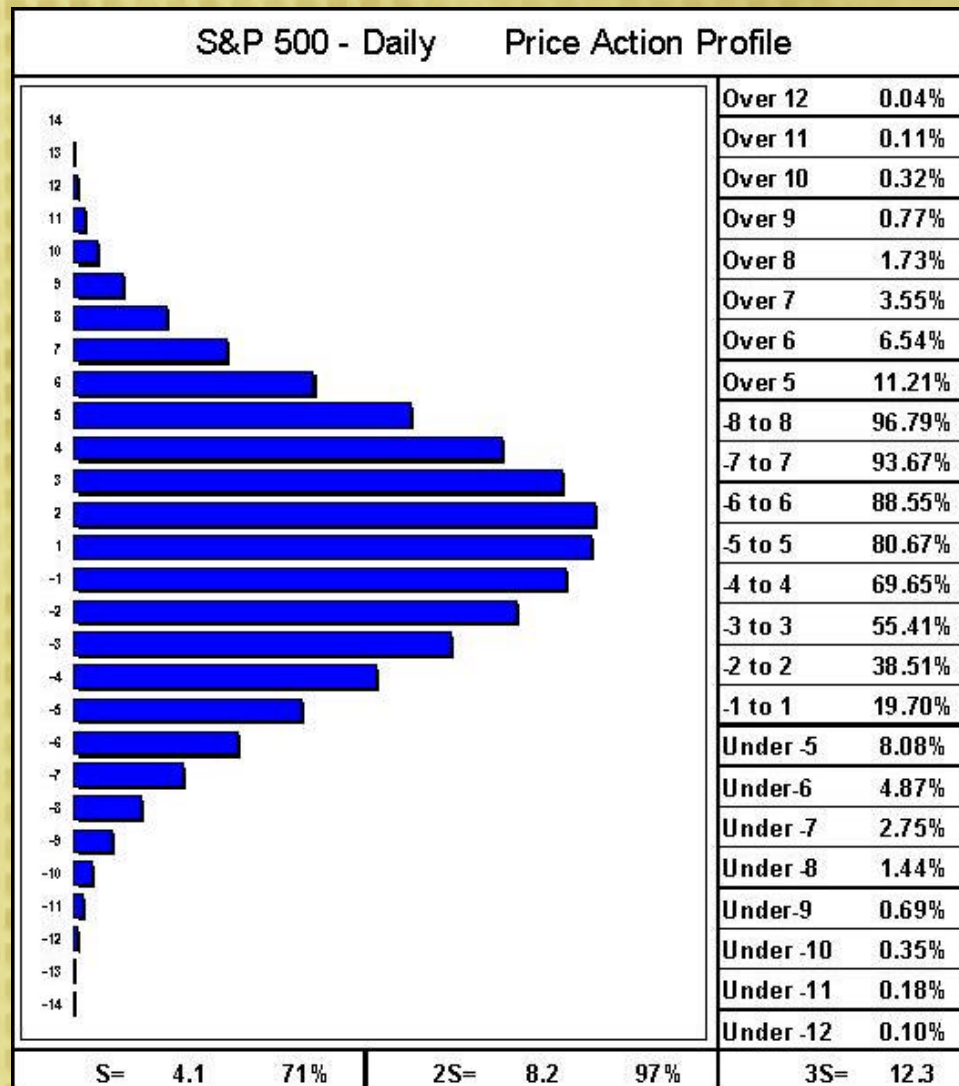
Note: This frequency distribution (i.e. bell shaped curve) is due to the Volatility Units used in the calculation of Value Charts.

Relative Chart Profile

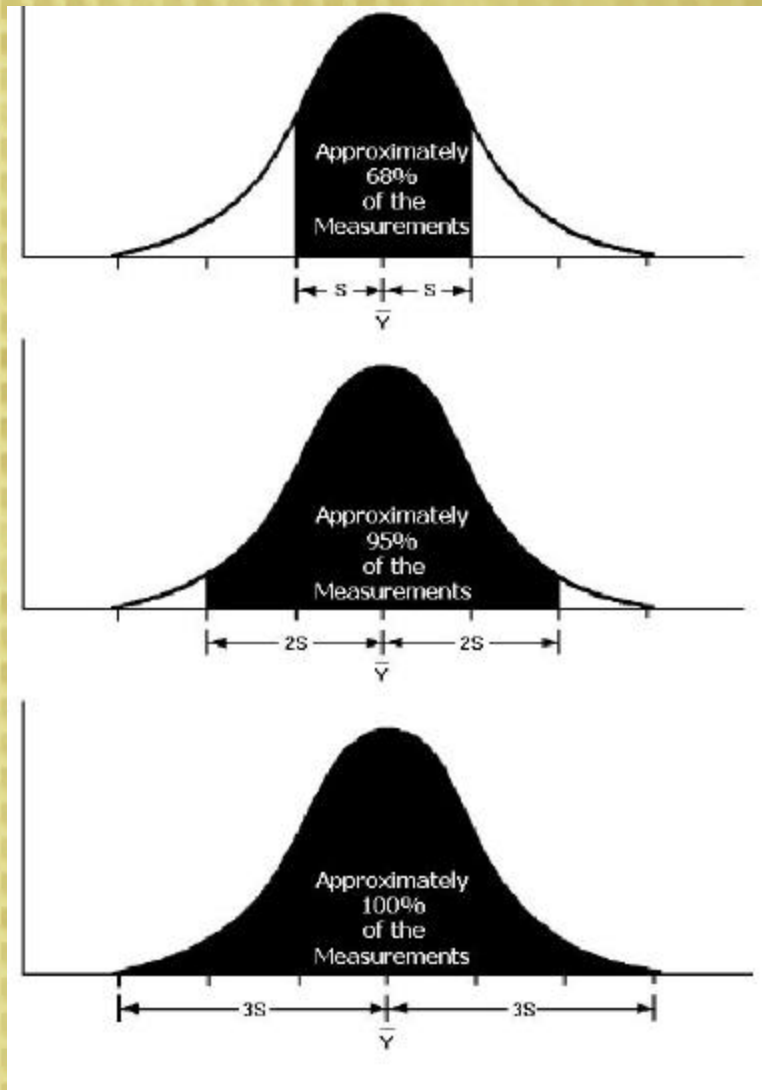
The profile of a relative price chart has no statistical value due to its thorn like shape.



Price Action Profile: SPX



Price Action Profile: Stats



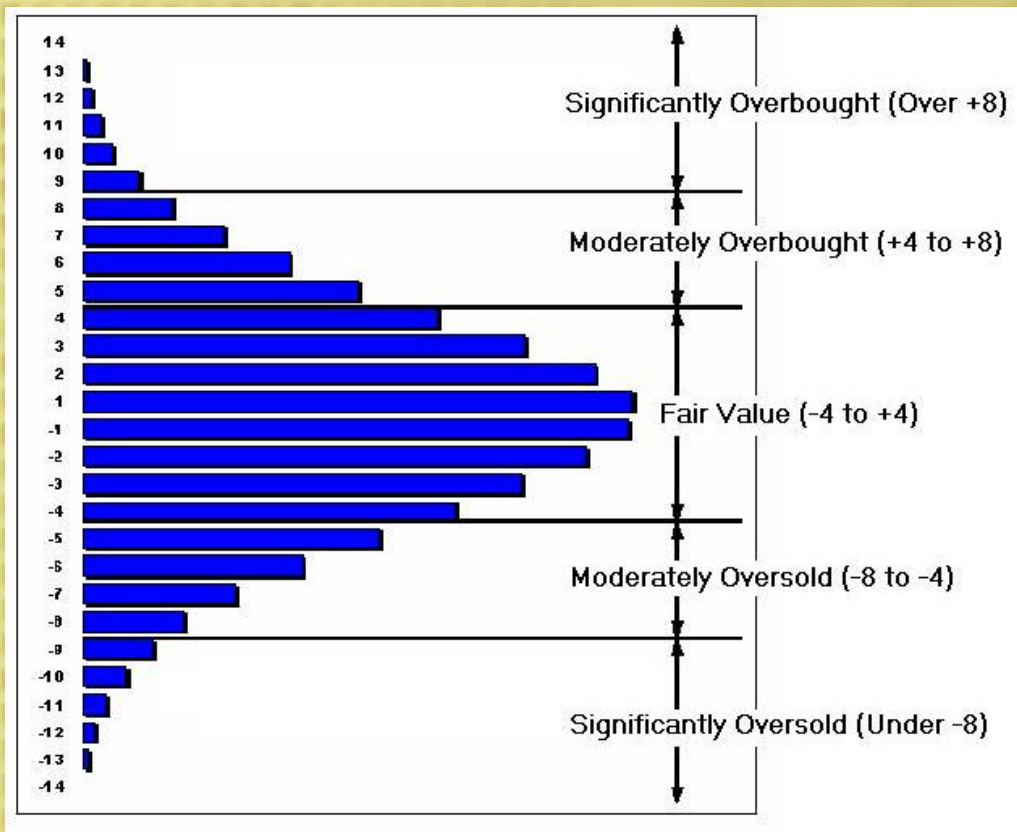
**1 Standard
Deviation ~68%**

**2 Standard
Deviations ~95%**

**3 Standard
Deviations ~100%**

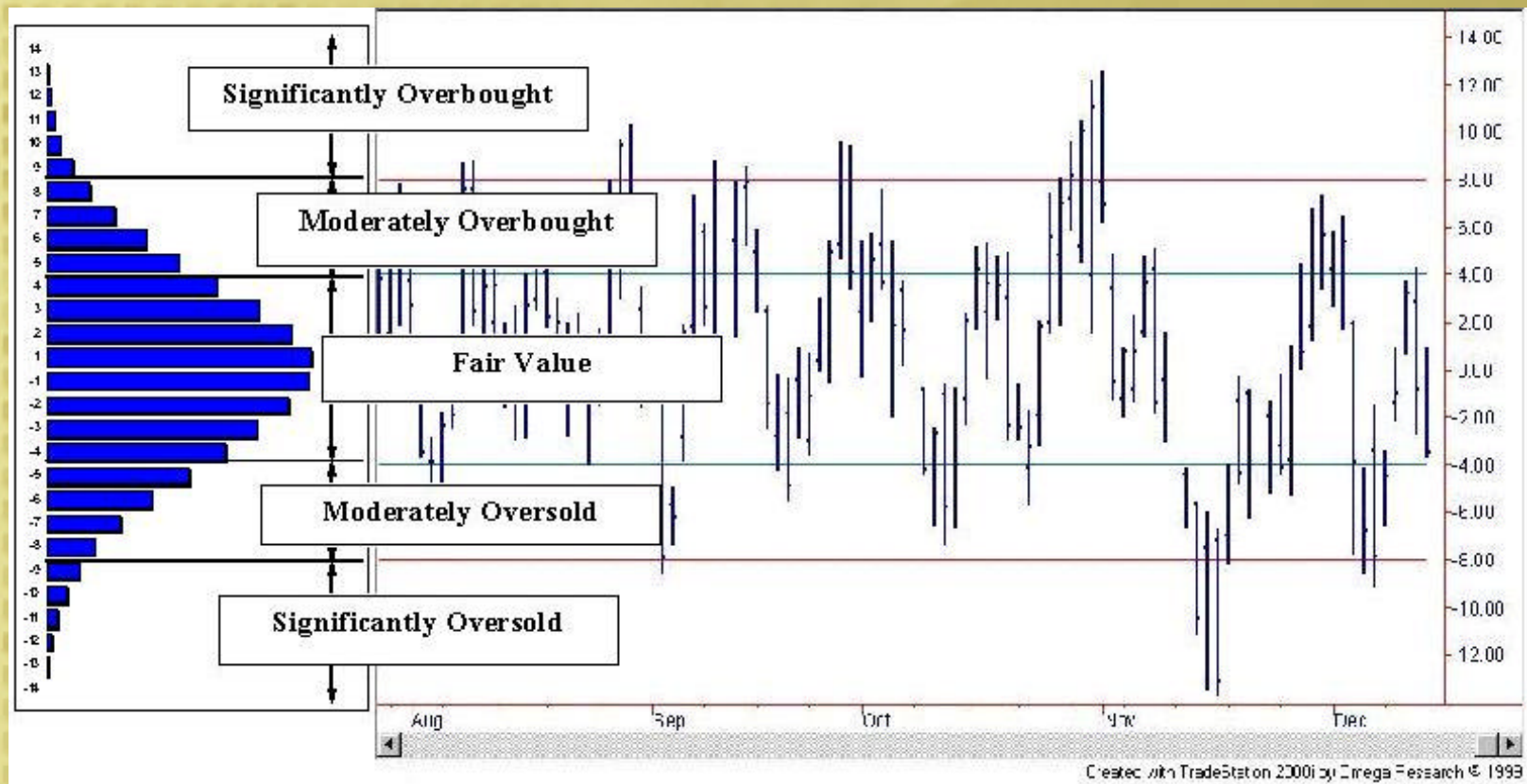
Price Action Profile

The Price Action Profile breakdown based on 1, 2 and 3 standard deviations.

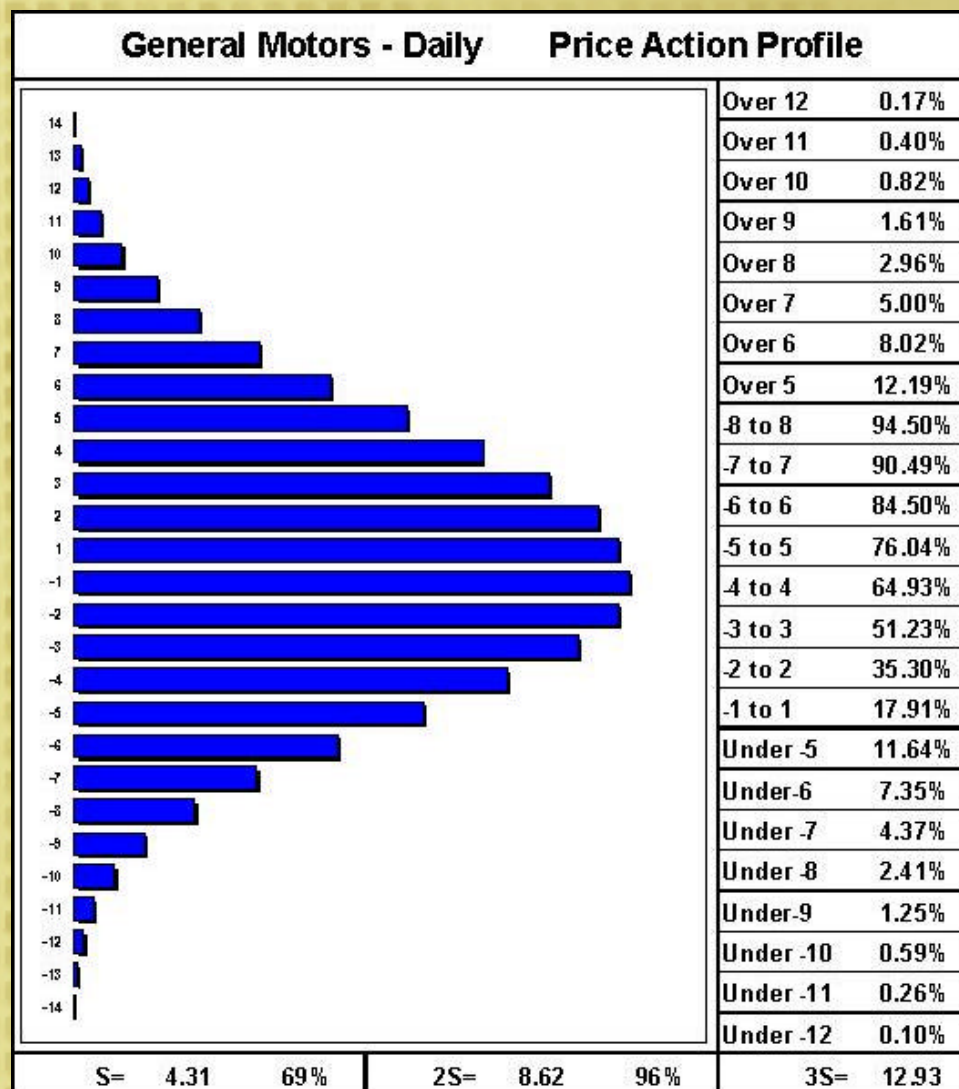


Price Action Profile

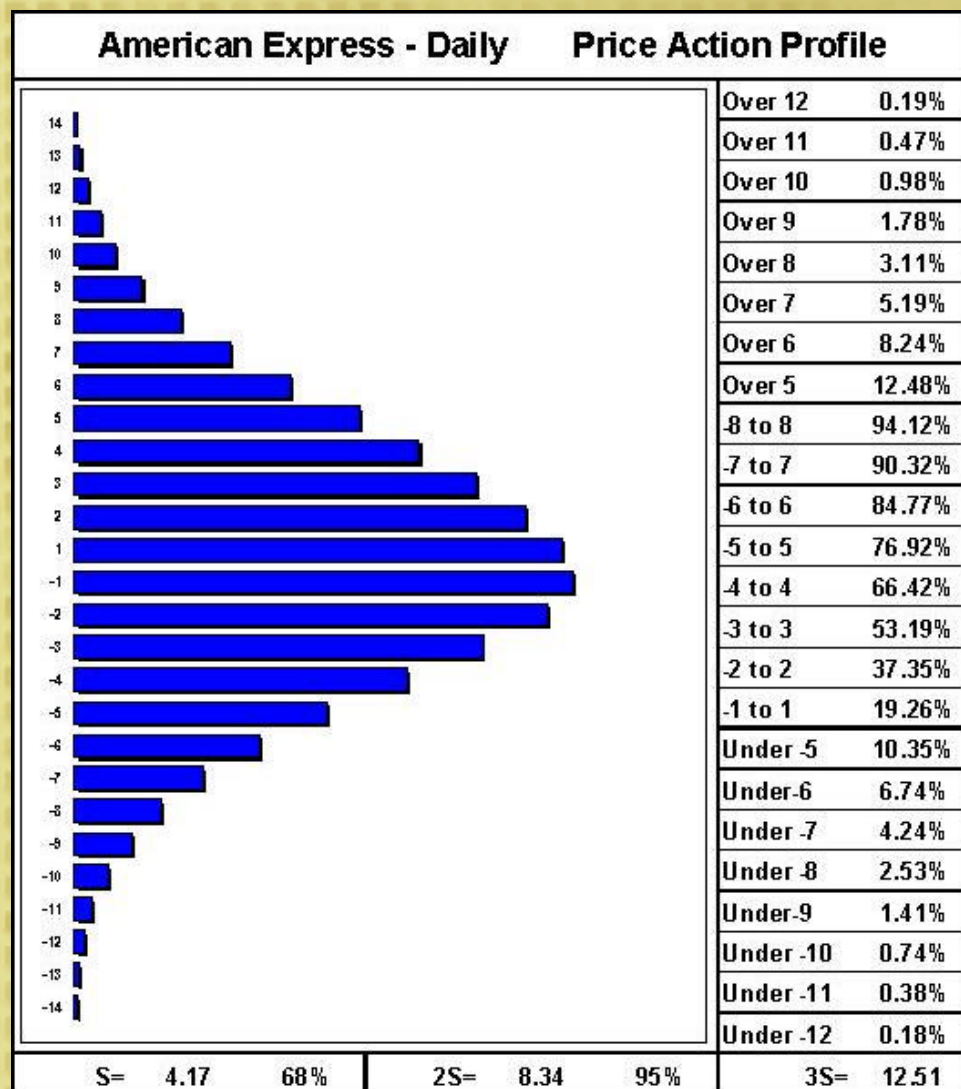
The Price Action Profile linked to the Value Chart levels.



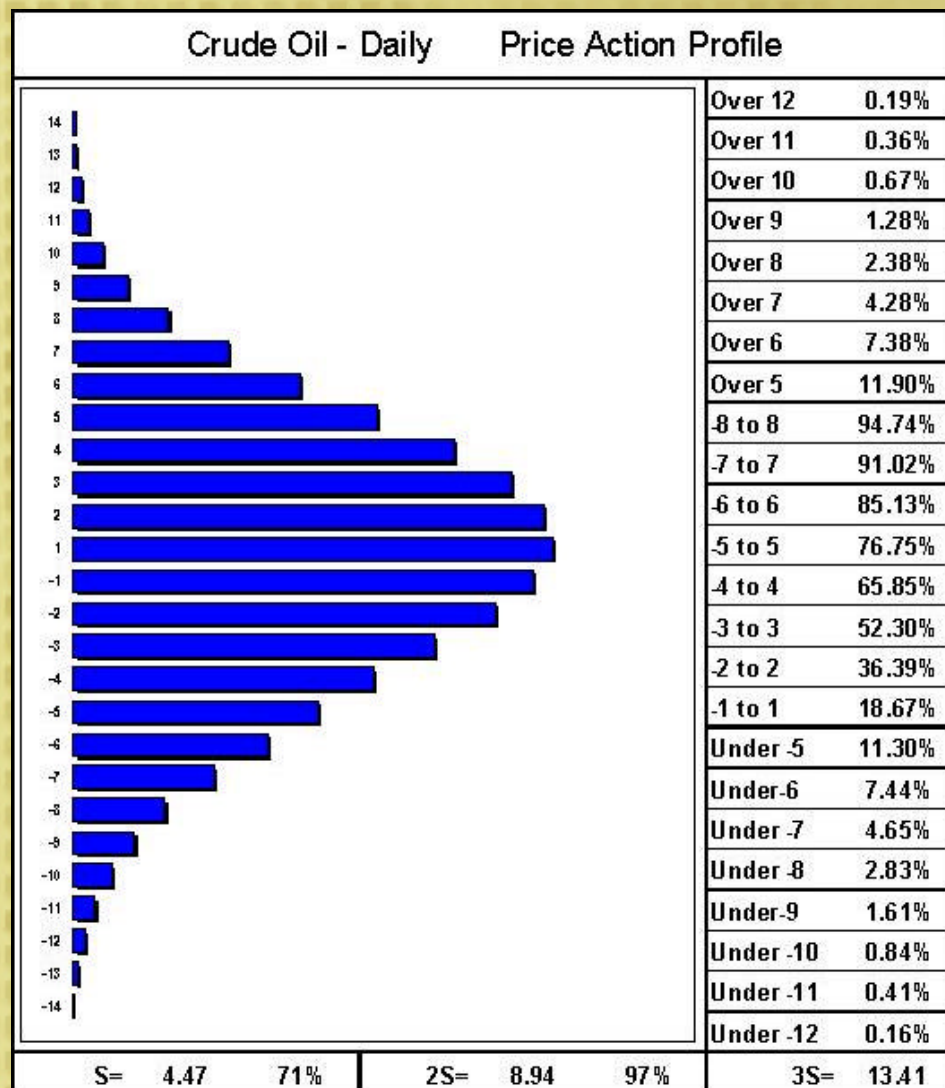
Price Action Profile: GM



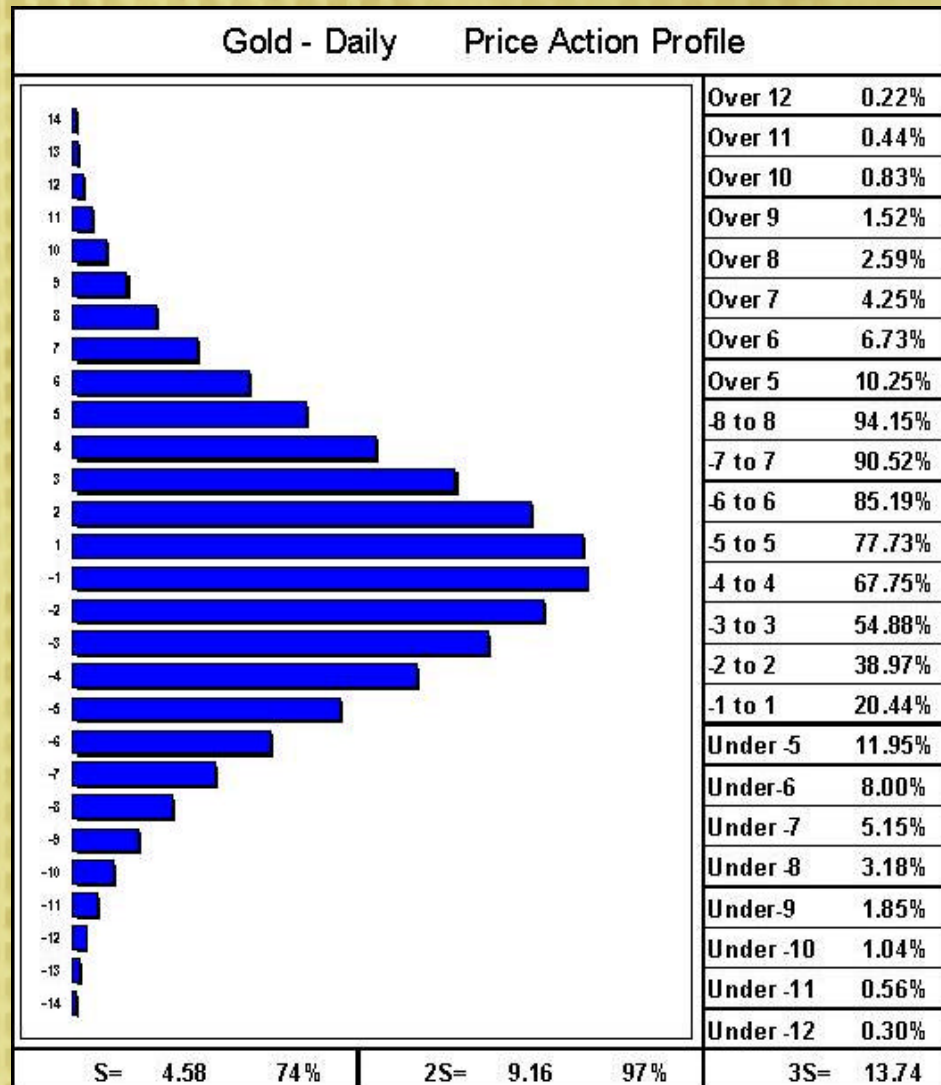
Price Action Profile: AMX



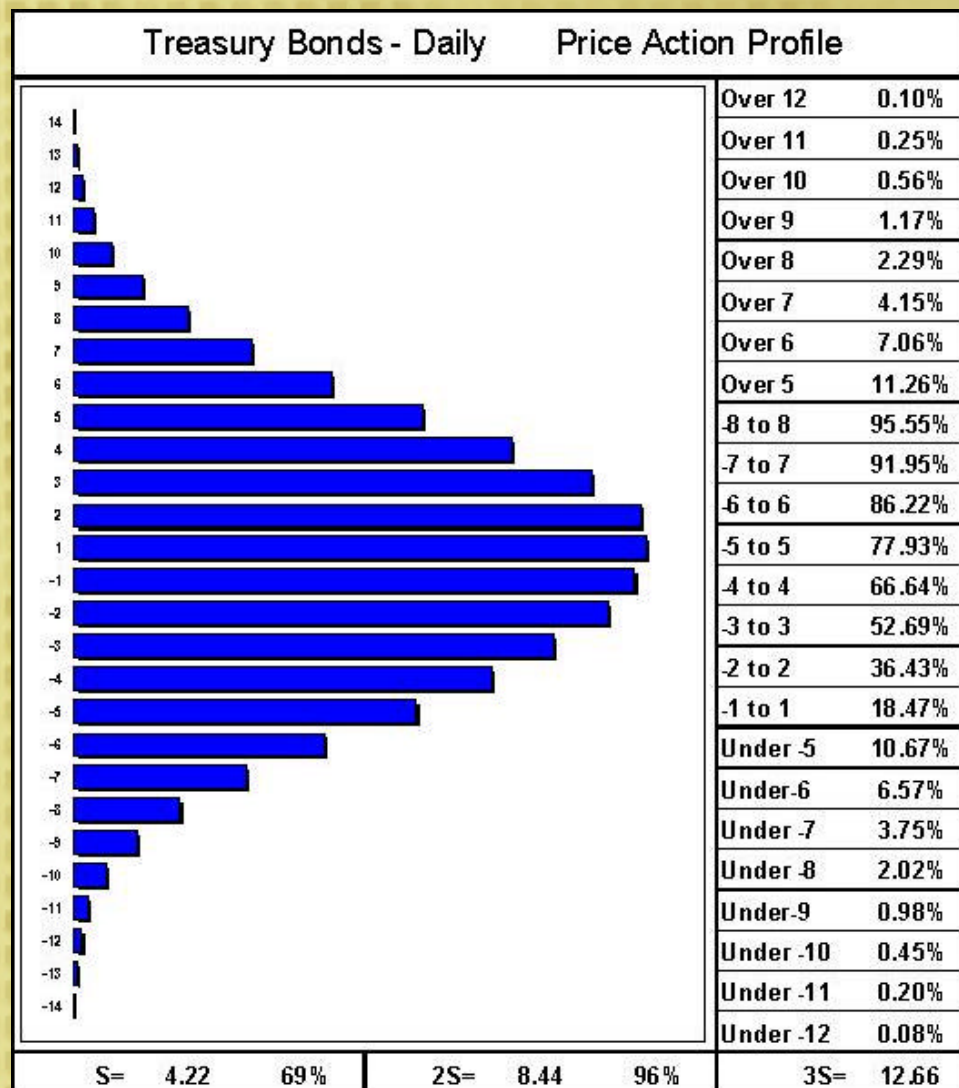
Price Action Profile: CL



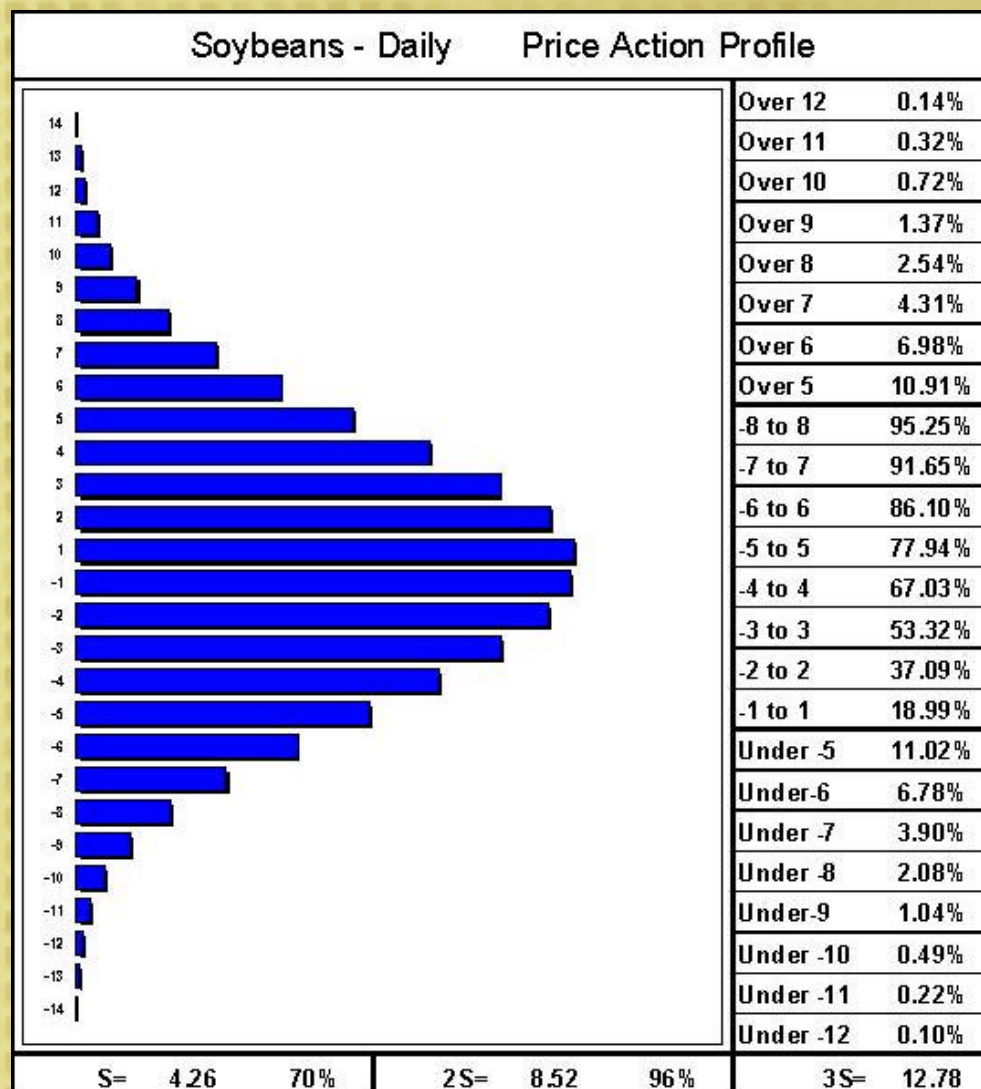
Price Action Profile: GC



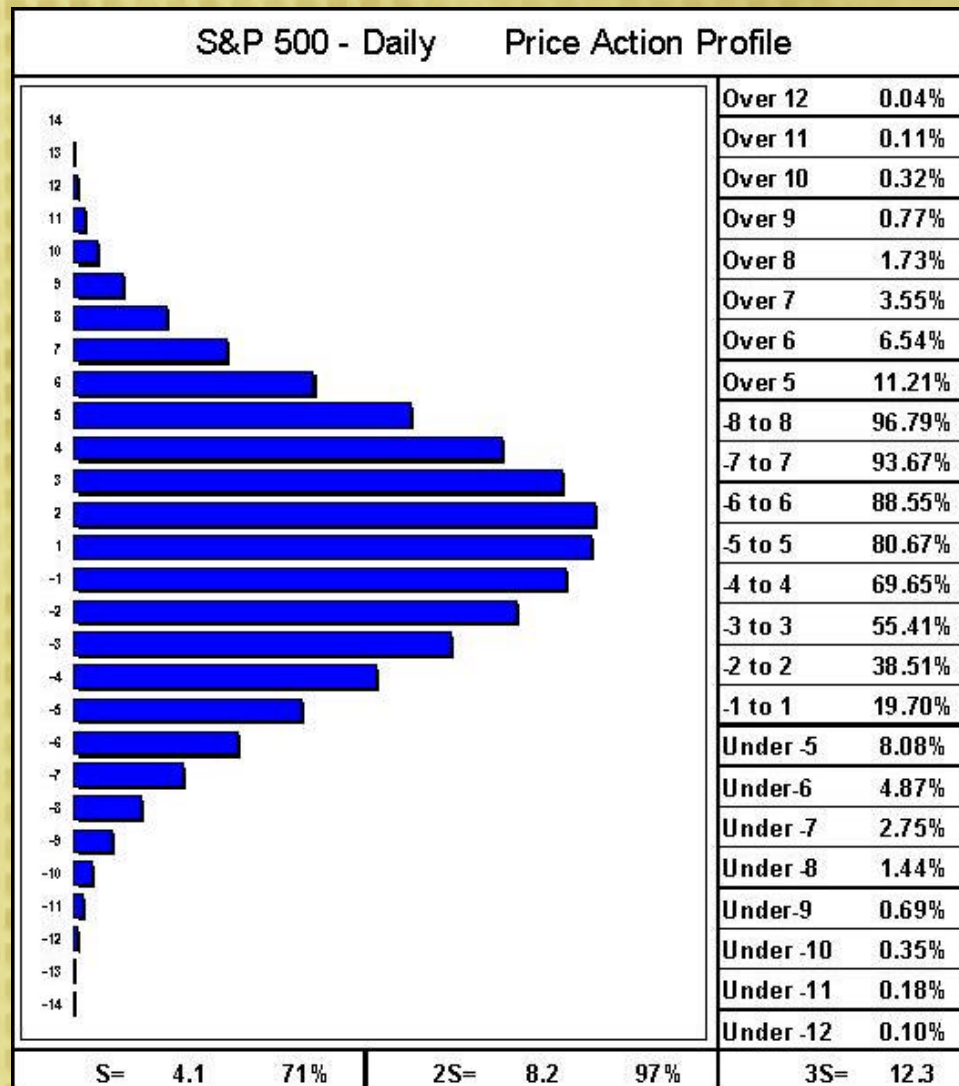
Price Action Profile: US



Price Action Profile: S



Price Action Profile: SPX





Systematic Trading

Trading from a systemic approach entails following *specific* **buy** and **sell** signals generated by a computerized trading program.

The following charts illustrate the systematic trading style in action . . .

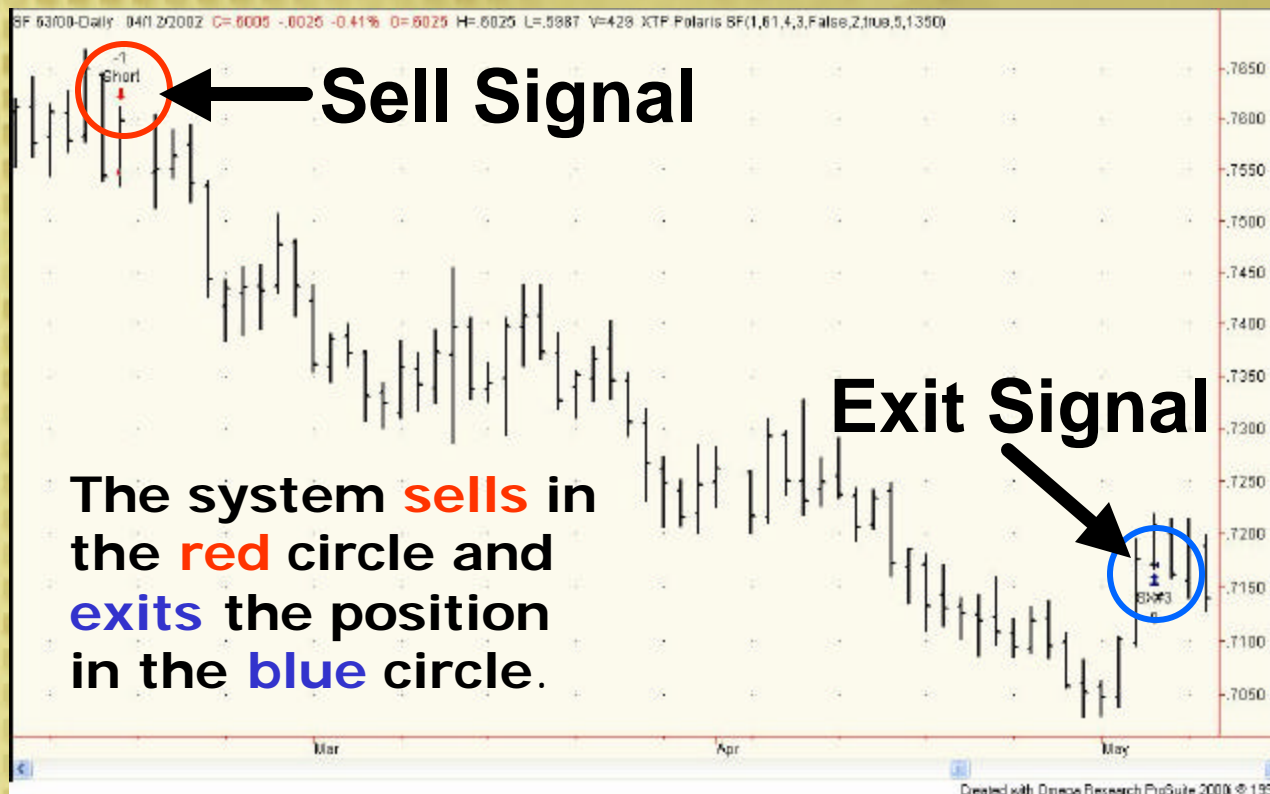
Systematic Trading Overview

Trading systems can generate buy signals indicating when to trade bullish markets.



Systematic Trading Overview

Trading systems can also generate sell signals indicating when to trade bearish markets.



Value Chart Introduction

Value Charts and Price Action Profiles can be used in a variety of ways to improve trading performance.

- **Risk management scale trading**
- **Momentum based trading**
- **Trading filter**
- **Pattern based trading**

Value Charts: German Bund

High probability scaling technique using Value Charts to add to long positions.



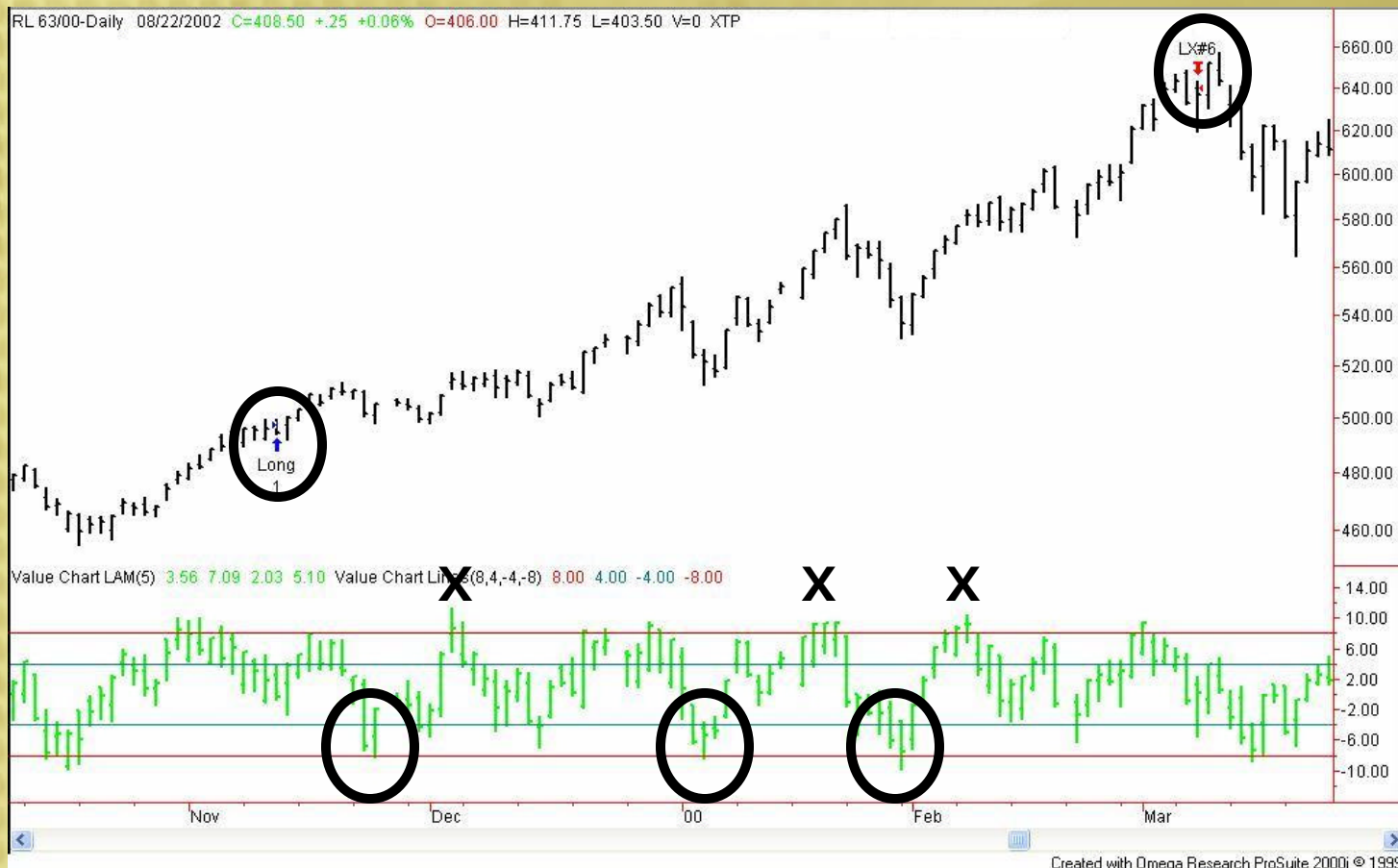
Value Charts: Corn

High probability scaling technique using Value Charts to add to short positions.



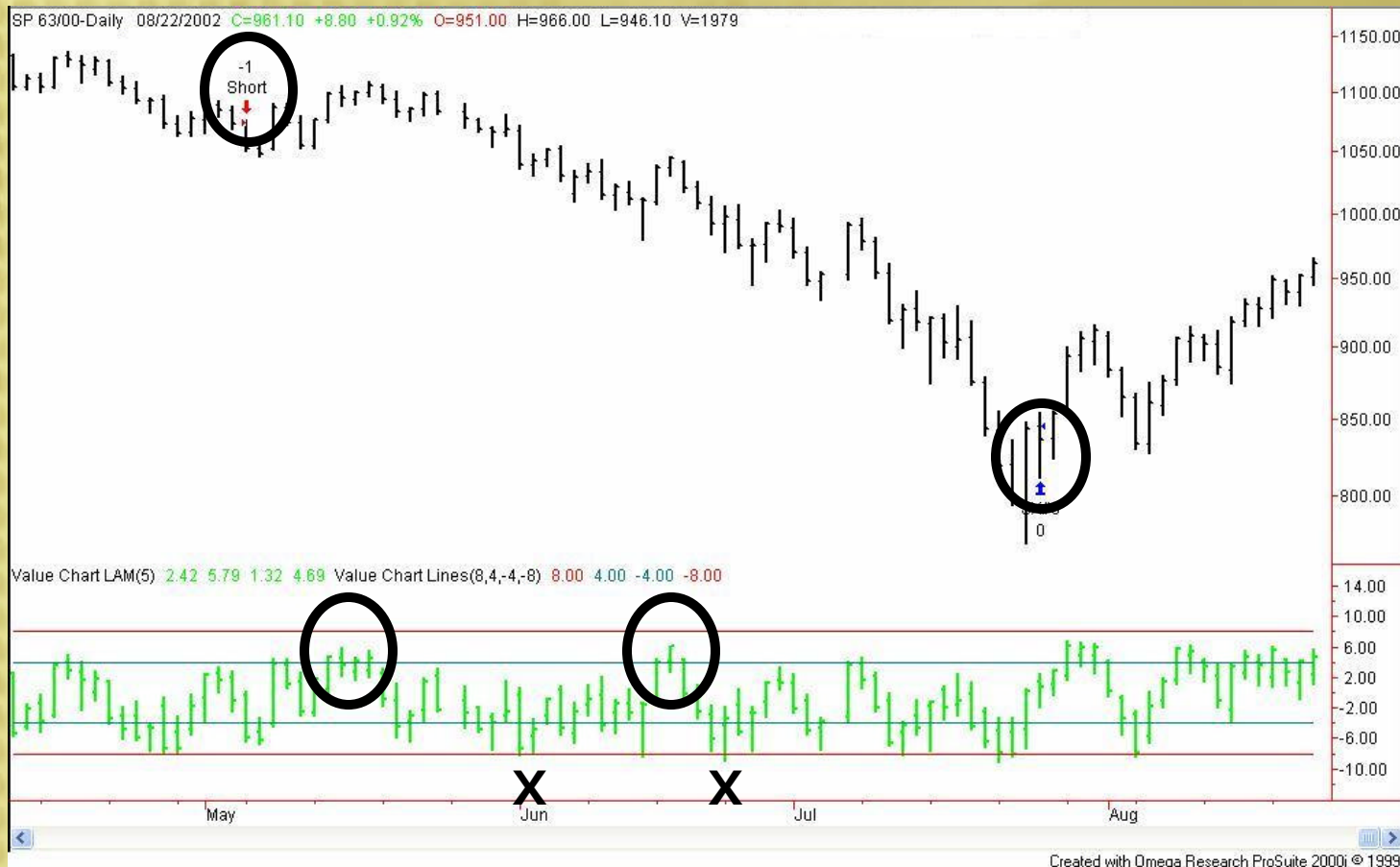
Value Charts: Russell 2000

A momentum based trade within a longer term trending trade using Value Charts.



Value Charts: S&P 500

A momentum based trade within a longer term trending trade using Value Charts.



Value Charts: Comex Gold

Delayed entry into a long position using Value Charts



Created with Omega Research ProSuite 2000i © 1999

Value Charts: Coffee

Delayed entry into a short position using Value Charts.



Value Charts: Natural Gas

The bearish divergence trade with in a longer term trend using Value Charts



Performance Analysis

Bearish Divergence

A bearish divergence occurs when a new high in the underlying contract is not confirmed by a new high in Value Charts.

In other words Point B is greater than Point A but this is not confirmed in the indicator as Point D is less than Point C. The key is to look for the indicator to lead the way.

When it fails to confirm the direction of the price action, it is considered to be short-term bearish.

Value Charts: Natural Gas

The bearish divergence trade with in a longer term trend using Value Charts



Value Charts: Natural Gas

The bullish divergence trade with in a longer term trend using Value Charts

Performance Analysis

Bullish Divergence

A bullish divergence occurs when a new low in the underlying contract is not confirmed by a new low in the Price Oscillator (POS).

In other words, Point B is less than Point A but this is not confirmed in the indicator as Point D is greater than Point C. The key is to look for the indicator to lead the way. When it fails to confirm the direction of the price action, it is considered to be short-term bullish.



Value Charts: Natural Gas

The bullish divergence trade with in a longer term trend using Value Charts



Value Scan

Landmark published the daily Value Chart levels for a number of markets on our web site.

Date	Market	Value Chart Level	Technical Description
Currencies			
08/21/02	Australian Dollar	-0.32	Fair Value
08/21/02	Canadian Dollar	3.08	Fair Value
08/21/02	Dollar Index	-0.18	Fair Value
08/21/02	Japanese Yen	-2.32	Fair Value
08/21/02	Swiss Franc	-1.02	Fair Value
Energies			
08/21/02	Crude Oil	4.47	Moderately Overbought
08/21/02	Heating Oil	5.59	Moderately Overbought
08/21/02	Unleaded Gas	2.88	Fair Value
08/21/02	Natural Gas	3.70	Fair Value
Grains			
08/21/02	Corn	-4.41	Moderately Oversold
08/21/02	Kansas City Wheat	-4.44	Moderately Oversold
08/21/02	Rough Rice	2.22	Fair Value
08/21/02	Soybeans	-7.46	Moderately Oversold
08/21/02	Wheat	-4.53	Moderately Oversold



Real World Trading

A systematic trading approach is designed to realize profits from a variety markets.

➤ **The systems trade from a long (*bullish*) and short (*bearish*) perspective offering profit potential in rising and falling markets.**

➤ **Each market could be traded by as many as *three different trading systems* from a short, intermediate and long-term time horizon.**



Real World Trading

Careful consideration must be given to key areas of research and development to ensure the integrity of the trading program.

- ↗ Individual trading system stability.**
- ↗ Risk management enhancements.**
- ↗ Portfolio construction techniques.**



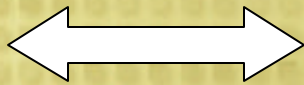
Real World Trading

Systemic trading style offers a number of distinct advantages.

- Historically evaluation capabilities that help to ensure the integrity of the portfolio.**
- Removal of the inherent problem that plagues most traders >>> human emotion (i.e. indecision).**
- The ability to effectively trade multiple markets based on a short, intermediate and long-term trading horizons.**

Real World Trading

Legitimate long term trading performance is built on back of true portfolio densification. A well balance portfolio is constructed with two forms of diversification:



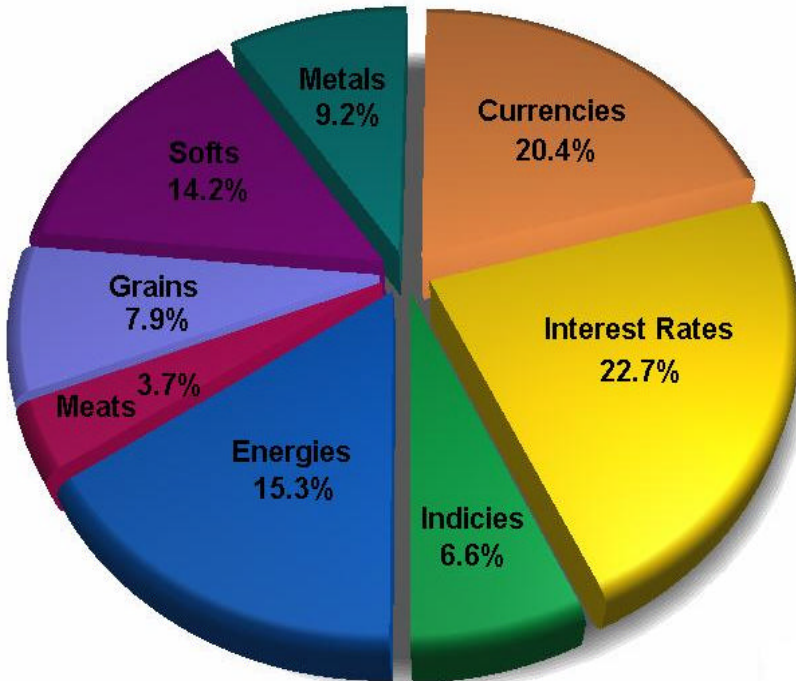
Horizontal Diversification: Building a portfolio with either a) multiple asset classes (stocks, bonds, managed futures) or b) a variety of markets (energies, grains, interest rates).



Vertical Diversification: Building a portfolio with multiple trading systems across a single market. Systems could include trend, momentum and pattern recognition.

Real World Trading

A well balance portfolio trades multiple sectors with a variety of systems for full diversification.



Landmark Asset Management actively trades over 30 global futures markets in 8 different sectors. We monitor 70+ systems across these markets.



Value Charts

Value Charts and Price Action Profile offer the typical trader a number of advantages.

- Universal levels across all stocks and futures markets.**
- Statistically sound and applicable to a variety of trading systems.**
- Easy interpretation for traders and investors alike.**



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www.LandmarkAssetManagement.com

Dynamic Trading Indicators: Winning with
Value Charts and Price Action Profile written
by Mark Helweg and David Stendahl

