Dynamic Sector and Intermarket Asset Allocation:

The implications of buying winners and selling losers

Kevin G. Hockert, CMT
Director of Portfolio Strategies
Prospero Institute for Investors, Inc.
1114 Broadway, Suite 1
Alexandria, MN 56308
www.AskProspero.com

December 31, 2007

Research Paper Highlight

Relative strength is a common tool that can be utilized to compare the performance of a stock or sector relative to a market index or peer group. A stock or sector's relative strength can improve if it rises more than the market or peer group while in an uptrend. Consider the example of 2 two cars departing from a destination at the same time. As Car #1 accelerates the lead between Car #1 and Car #2 will expand.

Quite simply, in this study, the performance of the 10 Dow Jones primary sectors were ranked against each other on a monthly basis based on the previous 12 month return. Similarly, the intermarket universe ranked each market based on the previous 6 month return. The model assumes that the top 3 sectors and top 2 intermarket were purchased at the beginning of each month. At the end of each month the model re-ranks each sector and market. Those that fall from top rank are replaced with new top ranks and the process continues each month.

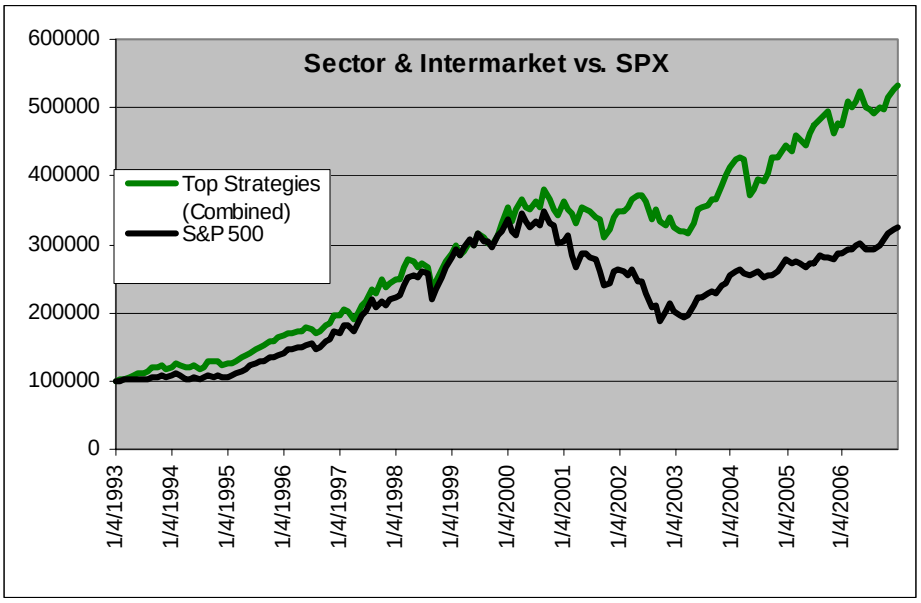
Dow Jones Sectors

Oil and Gas	Basic Material	Industrial	Consumer Svcs	Consumer Goods	Health - care	Financial	Tech - nology	Utilities	Telecom
DJUSEN	DJUSBM	DJUSIN	DJUSCY	DJUSNC	DJUSHC	DJUSFN	DJUSTC	DJUSUT	DJUSTL

Intermarket Universe (important diversification component as this strategy is designed to provide exposure to equities in equity bull markets and noncorrelated asset classes during equity bear markets.)

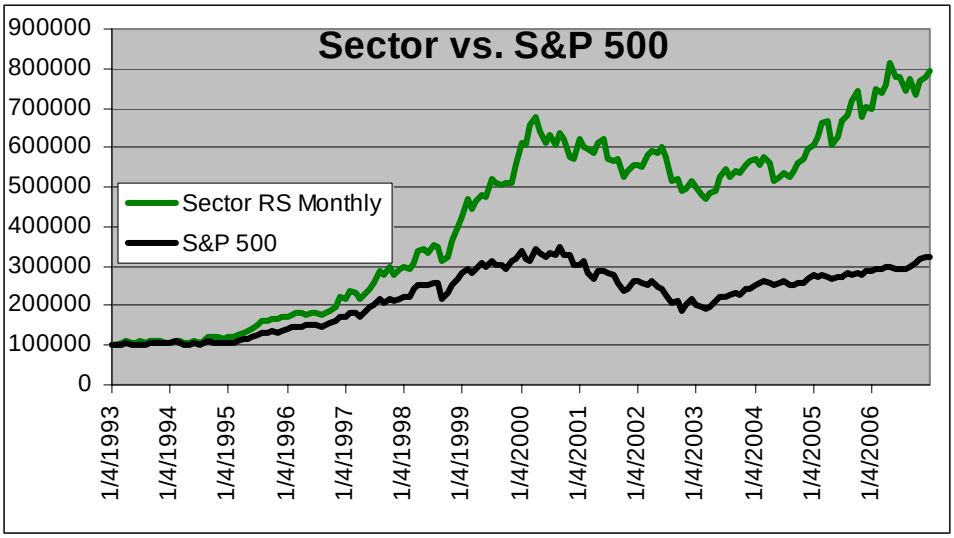
S&P 500	Nasdaq	Russell 2000	DJ AIG	30 Yr U.S.Treas.	DJ Gold Mining	DJ Real Estate

Exhibit 1 – combination of both strategies identified in the research paper
(Model results are decidedly not optimal model but intended to demonstrate the merits of utilizing a systematic approach to investing that offers significant advantages over the buy and hold S&P 500 indexing philosophy.)



Strategy Return vs. S&P 500 (as of December 31, 2006)				
	3 Yr	5 Yr	10 Yr.	14 Yr.
Strategy	8.78%	8.91%	10.60%	12.70%
S&P 500	8.43%	4.31%	6.71%	8.79%

Sector Only (More optimal – relative strength criteria is not included in the study.)



Sector Monthly vs. S&P 500 (as of December 31, 2006)				
	3 Yr	5 Yr	10 Yr.	14 Yr.
Strategy	11.72%	7.44%	13.76%	15.95%
S&P 500	8.43%	4.31%	6.71%	8.79%

Results of a backtested study. Returns reflect a 1.5% management fee.

Kevin G. Hockert CMT
Director of Portfolio Strategies
Prospero Institute for Investors Inc.
1114 Broadway, Suite 1
Alexandria, MN 56308

1.

Dynamic Sector and Intermarket Asset Allocation

Abstract

Stock market leadership changes in a seemingly unendless fashion as today's leaders will at some point become tomorrow's laggards. With the number of markets and types of investment strategies available, how do investors determine where and when to invest? Investors may rely on expert opinions, interesting stories regarding fundamental developments, or the moral comfort of a seemingly prudent purchase of lagging stocks or groups as opposed to stock market leaders.

I. Introduction to study: Technical and Intermarket Analysis

Technical analysis is the study of market action, primarily through the use of charts, for the purpose of forecasting future price trends. Technical analysis operates on three primary premises which are 1. Stock market action discounts everything 2. Prices move in trends 3. History repeats itself. A natural progression of traditional technical analysis is inter-market analysis – which is the study of key relationships that exist between the currency, commodity, bond and stock market.

Inter-market analysis is based on the following 2 premises

* all financial markets are related economically.

* financial markets are leading indicators of economic trends.

Investors or advisors who are knowledgeable of the key relationships between these markets can utilize trend and relative strength analysis to forecast the direction of, or determine the relative attractiveness of one market or sector over another. Also - knowledge of the business cycle can help an advisor with the asset allocation process as the economic expansion and contraction cycle can help explain links between the currency, commodity, bond and stock market. Additionally, the economic business cycle carries major asset allocation implications as certain sectors tend to outperform/underperform based on the various stages of the economic cycle. Furthermore, sector rotation tends to follow a repetitive pattern where money flows from one sector to another based on the economic cycle of expansion – contraction. As a result, relative strength analysis of markets and sectors can be loosely considered as a short form of economic analysis, only to the extent, however, that it can be helpful in offering possible explanations of a current economic cycle based on the relative strength position of various markets.

This study will focus on the utilization of relative strength from the standpoint of measuring the performance of markets and sectors over various time frames relative to a specific universe. This exercise is conducted as a way to simultaneously rank a multitude of markets or sectors against each other.

2.

A. Previous Research on Relative Strength Strategies:

The value of quantitative relative strength approaches are well documented as considerable research exists that documents the advantages of buying winners (top ranks) and avoiding losers (lowest ranks) in the context of ranking sectors, foreign markets and indices based on relative strength. Jagadeesh and Titman have documented the validity of the intermediate time frames of 3 to 12 months. Additional evidence of the advantages of intermediate term relative strength (10 weeks to 10 months) is provided by Tim Hayes, CMT, of Ned Davis Research (Momentum Leads Price, Journal of Technical Analysis Winter Spring 2004). Mensur Ponci (Momentum Strategies Applied to Sector Indices, IFTA Journal 2004 Edition) has documented the results of weekly (1 week, 5 week, 13 week, 21 week and 34 week) and monthly (1 month, 2 month, 3 Month, 6 Month and 12 month) price momentum strategies applied to D.J. Jones Euro Sectors and S&P 500 Groups.

II. Study

The objective of this study is to confirm the theory that high relative strength top ranked markets and sectors (i.e. Ranks 1-3) have a tendency of outperforming their respective universe average and middle and lower ranks. To that end, orthodox strategies (top ranks) will primarily be compared to each other and contrasted to unorthodox strategies (mid and low ranks). The objective of this study is to provide a quantitative evaluation of a simple relative strength ranking system that can be applied to a dynamic and systematic asset allocation strategy. Systematic approaches are preferred by many relative strength practitioners as it helps to reduce the subjective nature of many investment selection and portfolio allocation decisions. Additionally, the goal of this research is to satisfy the requirements associated with obtaining the Chartered Market Technician (CMT) designation. This technical analysis certification is considered the gold standard in technical analysis and is sponsored by the Market Technicians Association. To that end, a special thank you goes to my mentor for purposes of this paper to Michael Moody, Senior Portfolio Manager at Dorsey Wright Money Management and former reviewer of the Journal of Technical Analysis, for providing insight and encouragement to continue delving into the dynamics of rotational strategies.

A. Investment Universe

Two separate universes have been selected for this study. The first universe is comprised of the 10 Dow Jones Primary Sectors. The second universe includes a combination of primary U.S. equity indices and alternative asset classes.

3.

Dow Jones Sectors

Oil and Gas	Basic Material	Industrial	Consumer Svcs	Consumer Goods	Health - care	Financial	Tech - nology	Utilities	Telecom
DJUSEN	DJUSBM	DJUSIN	DJUSCY	DJUSNC	DJUSHC	DJUSFN	DJUSTC	DJUSUT	DJUSTL

Intermarket

S&P 500	Nasdaq	Russell 2000	DJ AIG	30 Yr U.S.Treas.	DJ Gold Mining	DJ Real Estate

Monthly price data will be utilized that encompasses the fourteen year period of January 1993 to December 2006. This ranking calculation is commonly known as relative price strength or price momentum. For purposes of this study, the terms Relative Strength or RS will be utilized interchangeably. The test window period are as follows: In Sample 1993 - 1997, Out of Sample 1998 - 2002, Real Time 2003 – 2006. This window combination was selected as it is relatively evenly distributed over the 14 year period but more specifically the Out of Sample time frame of 1998 – 2002 can be considered an ideal test of a strategy because of the change in secular market conditions from an equity bull to equity bear market and a transition from a commodity bear to commodity bull.

B. Ranking System

A simple ranking calculation will be used that ranks each index/sector based on past returns.
Relative strength time frames of 3, 6, 9 and 12 months will be utilized for the sector and intermarket universe. The top rank for each market, sector and strategy will equal the highest relative strength value (i.e. total return) for the respective relative strength time frame. Additional metrics as secondary considerations include average monthly gain, standard deviation of monthly returns, coefficient of variation (amount of risk or volatility assumed for the returns realized) and % of months the strategy outperforms the universe average.

Again, it is expected that the results of this research will reinforce the theory that the strongest sectors and indices (i.e. top RS ranks) have a tendency of outperforming lower ranks and their respective universe average. More specifically, it is expected that a majority of above average returns will occur in the top 1, 2 or 3 decile ranks out of a total of 10 Dow Jones Primary Sectors for example, while a majority of the below average returns will occur in the middle and bottom deciles ranks. Similarly, with respect to the Intermarket universe, it is expected that a majority of above average returns will occur in the top 2 septile ranks (#1 & #2 out of a total of 7) while a majority of below average returns will occur in the middle and bottom septiles.

C. Strategy Process

Orthodox Top Ranks	Unorthodox Mid Ranks	Unorthodox Bottom Ranks
3 Mo 1-3	3 Mo 4-6	3 Mo 7-10
6 Mo 1-3	6 Mo 4-6	6 Mo 7-10
9 Mo 1-3	9 Mo 4-6	9 Mo 7-10
12 Mo 1-3	12 Mo 4-6	12 Mo 7-10

All strategy rules are identical with exception to RS time frame and rank. An example is provided here which is applicable to all 12 strategies identified.

> **12 Month #1, 2, & 3 Rank** strategy rules = On the first trading day of each month (approx.), buy the #1, 2, & 3 Rank 12 month RS sectors and hold each sector through that month. Recalculate the performance of each sector in the universe to determine the current month ranks. Hold each sector as long as each current ranking is equal to 1,2 or 3. If any sector falls below the #3 rank, it is sold and replaced with the new #1, 2, or 3 rank.

III. Study

A. Sector Universe - Orthodox Strategies

Results of the orthodox strategies (3 Month, 6 Month, 9 Month, and 12 Month Ranks 1-3) show that the 12 Month 1-3 strategy delivered the best results in Sample and Out of Sample. Table 1 & 2. In addition, the 12 and 3 Month outperformed the Sector Average In Sample and all 4 strategies outperformed the Sector Average Out of Sample. Figure 1 & 2.

Results over the entire period (1993-2006) show that the best results were realized in owning the 12 Month 1-3 ranks while the worst results out of sample and over the entire period were experienced by owning the 3 month #1–3 ranks. Table 3, Figure 3.

Sector In Sample					
RS Period Rank	Total Return	Average Monthly Return	Standard Deviation	Coefficient of Variation	% Out-performance
12 Month 1-3	244.72%	1.83%	3.95%	2.15	71.60%
3 Month 1-3	144.06%	1.55%	3.22%	2.08	51.67%
Sector Avg.	139.77%	1.51%	2.99%	1.98	
9 Month 1-3	139.30%	1.53%	3.65%	2.39	60.00%
6 Month 1-3	109.06%	1.29%	3.24%	2.52	51.19%

Table 1 Orthodox In Sample – The 12 Month 1-3 strategy exhibited the best returns relative to the other orthodox strategies.

5.

Sector Out of Sample					
RS Period Rank	Total Return	Average Monthly Return	Standard Deviation	Coefficient of Variation	% Out-performance
12 Month 1-3	30.40%	0.57%	5.07%	8.88	60.00%
6 Month 1-3	27.17%	0.53%	5.14%	9.66	51.67%
9 Month 1-3	24.29%	0.50%	5.35%	10.64	56.60%
3 Month 1-3	11.91%	0.31%	5.05%	16.16	53.30%
Sector Avg.	-3.34%	0.09%	5.42%	60.50	

Table 2 Orthodox Out of Sample The clear winner is the 12 Month 1-3 rank as evidenced by the total return, average monthly return and % of months outperformance versus the Sector Universe Average.

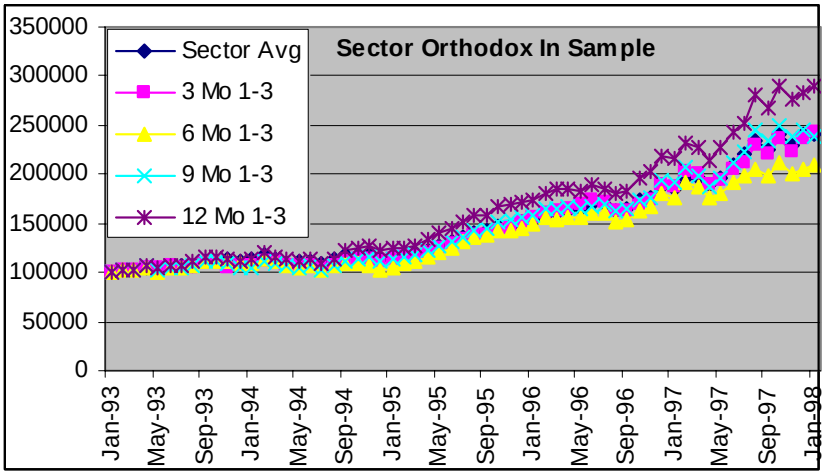


Figure 1 Orthodox 12 month outperforms the 3, 6, and 9 month In Sample.

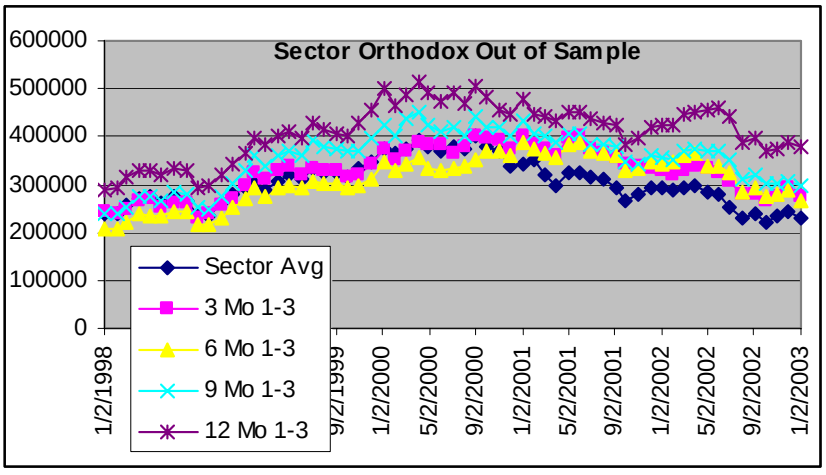


Figure 2 Orthodox 12 month outperforms the 3, 6, and 9 Month In Sample

6.

Sector Entire Period					
RS Period Rank	Total Return	Average Monthly Return	Standard Deviation	Coefficient of Variation	% Out-performance
12 Month 1-3	645.41%	1.29%	4.19%	3.25	54.76%
9 Month 1-3	489.33%	1.15%	4.33%	3.75	54.76%
6 Month 1-3	479.36%	1.13%	4.05%	3.58	51.19%
3 Month 1-3	419.31%	1.06%	4.00%	3.76	51.79%
Sector Avg.	356.35%	0.99%	4.00%	4.05	

Table 3 The 12 Month 1-3 outperforms the other orthodox strategies and the Sector Universe Average by a comfortable margin over the entire 14 year period.

A. 1. Top Individual Orthodox Ranks 1993 – 2006

The top 4 individual ranks based on total return over the entire time period include in descending order, 12 Month #1, 12 Month #2, 9 Month #2, and 3 Month #3. The bottom 4 individual ranks based on total return over the entire time period include the 3 Month #2, 12 Month #3, 3 Month #1, and 9 Month #3. Figure 4. Analyzing the 12 Month 1-3 rank strategy a little further reveals that the #2 rank performed the best in sample while the #1 rank delivered the best performance in the out of Sample period and over the entire 14 year period. Table 4, Figures 5, 6 &7.

Sector Entire Period					
RS Period Rank	Total Return	Average Monthly Return	Standard Deviation	Coefficient of Variation	% Out-performance
12 Month 2	809.64%	1.51%	6.13%	4.07	52.98%
12 Month 1	736.75%	1.38%	4.69%	3.40	54.17%
12 Month 3	389.85%	1.06%	4.78%	4.49	50.60%
Sector Avg.	356.35%	0.99%	4.00%	4.05	

Table 4 Orthodox 12 Month Strategy - The best returns are delivered by the 12 Month #1 and #2 while the #3 rank performs in line with the Sector Average.

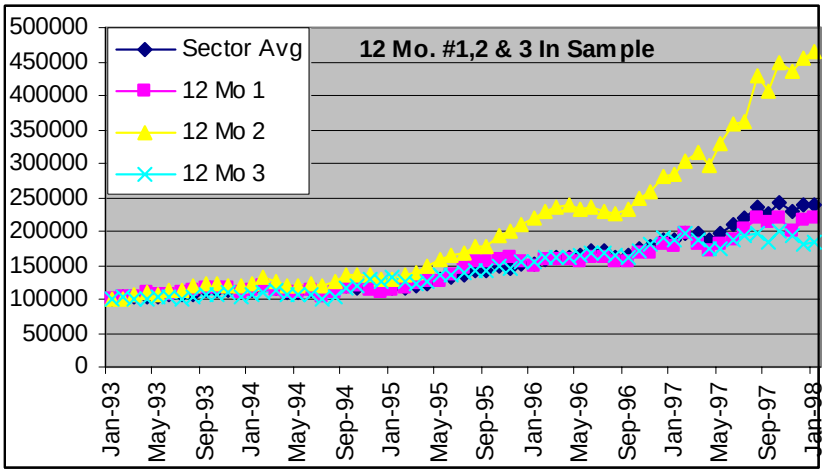


Figure 5 In Sample results show that the #2 rank outperformed the #1 and 3 rank by a wide margin.

7.

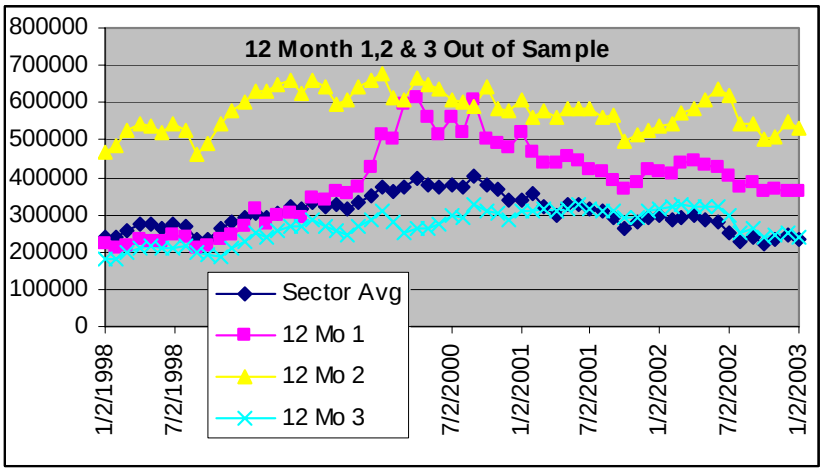


Figure 6 Breakdown of the Orthodox 1-3 ranks Out of Sample

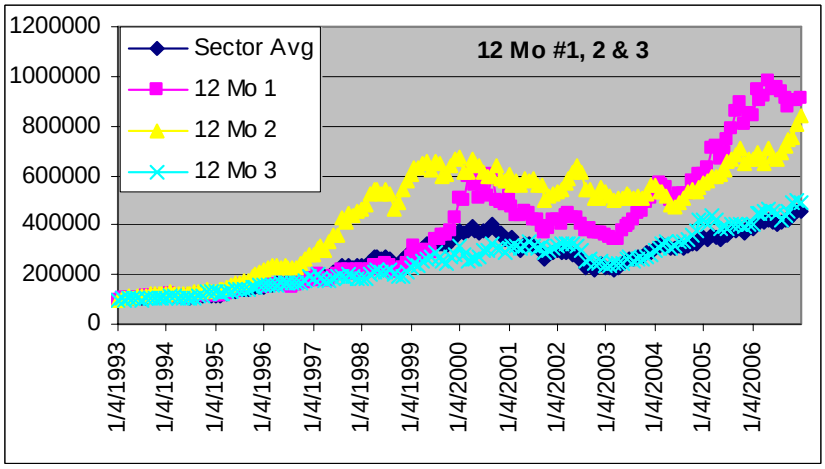


Figure 7 Orthodox 12 Month 1-3 over the entire period shows that the 12 Month #1 and #2 also carry higher generate a majority of the outperformance relative to the #3 which essentially performs in line with the Sector Universe Average.

A. 2. Orthodox vs. Unorthodox Strategies - Out of Sample – Significant degradation of middle and lower rank returns

The theory that orthodox top ranked sectors (1-3 ranks) outperform unorthodox (mid 4-6 ranks) and (lowest ranks 7-10) is evident in sample (Table 5) and is also confirmed in the out of sample period (1998 – 2002) as evidenced by Table 6. The most significant observation out of sample is the degradation in returns experienced with respect to the middle to lower ranks as 4 of the lowest ranked strategies experienced a negative double digit total return. This extreme variation in total returns between the top ranks and lower ranks is quite evident in the out of sample period. Figure 8, Table 6.

The results are symmetrical in that the 12 Month 1-3 provides the highest total return of 30.40% whereas the 12 Month 7-10 delivered a negative total return of 30.76%.

8.

Sector In Sample					
RS Period Rank	Total Return	Average Monthly Return	Standard Deviation	Coefficient of Variation	% Out-performance
12 Month 1-3	244.72%	1.83%	3.95%	2.15	71.60%
12 Month 4-6	164.08%	1.46%	4.06%	2.78	50.00%
6 Month 4-6	155.95%	1.63%	3.36%	2.06	51.67%
9 Month 4-6	146.05%	1.55%	2.88%	1.86	56.67%
3 Month 1-3	144.06%	1.55%	3.22%	2.08	51.67%
6 Month 7-10	142.68%	1.53%	3.02%	1.97	51.67%
Sector Avg.	139.77%	1.51%	2.99%	1.98	
9 Month 1-3	139.30%	1.53%	3.65%	2.39	60.00%
3 Month 7-10	132.83%	1.47%	3.12%	2.13	46.67%
12 Month 7-10	130.59%	1.25%	3.65%	2.92	51.67%
3 Month 4-6	126.04%	1.42%	3.16%	2.23	50.00%
9 Month 7-10	119.32%	1.36%	3.00%	2.20	40.00%
6 Month 1-3	109.06%	1.29%	3.24%	2.52	51.19%

Table 5 Orthodox versus Unorthodox In Sample – Orthodox 12 Month delivers the top total return.

Sector Out of Sample					
RS Period Rank	Total Return	Average Monthly Return	Standard Deviation	Coefficient of Variation	% Out-performance
12 Month 1-3	30.40%	0.57%	5.07%	8.88	60.00%
6 Month 1-3	27.17%	0.53%	5.14%	9.66	51.67%
9 Month 1-3	24.29%	0.50%	5.35%	10.64	56.60%
3 Month 1-3	11.91%	0.31%	5.05%	16.16	53.30%
9 Month 4-6	8.05%	0.25%	5.04%	19.77	55.00%
12 Month 4-6	3.99%	0.20%	5.17%	26.13	45.00%
3 Month 4-6	3.24%	0.18%	5.06%	27.85	55.00%
6 Month 4-6	-3.00%	0.07%	4.87%	72.28	48.33%
Sector Avg.	-3.34%	0.09%	5.42%	60.50	
3 Month 7-10	-12.05%	-0.03%	6.05%	-183.05	48.33%
6 Month 7-10	-20.04%	-0.20%	5.91%	-29.56	43.33%
9 month 7-10	-27.20%	-0.34%	6.22%	-18.50	46.70%
12 Month 7-10	-30.67%	-0.44%	5.79%	-13.05	48.33%

Table 6 All Strategies – Out of Sample - Significant degradation in returns occur with respect to the unorthodox mid and lower ranks. Additionally, these unorthodox strategies experience an increase in monthly volatility and a decrease in the % of monthly outperformance versus the Sector Average.

9.

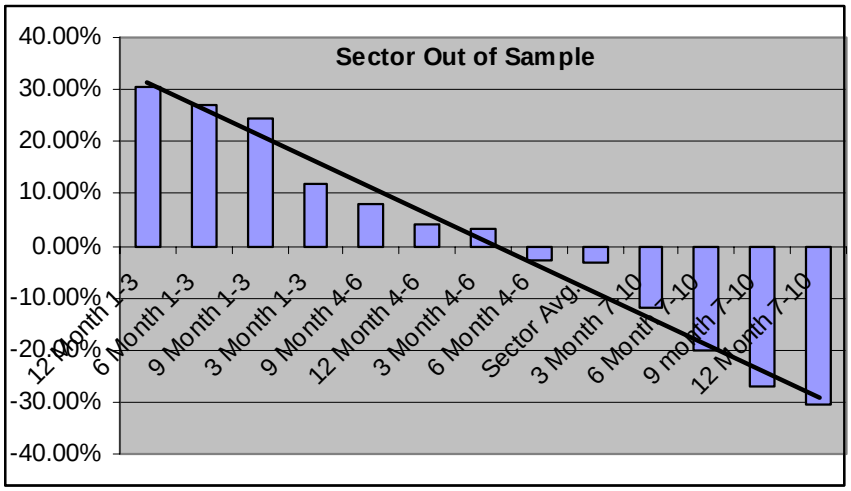


Figure 8 Total return of each strategy in the Out of Sample period. Significant degradation of returns has occurred with respect to the mid and lower ranks.

A. 3. Entire Period

Additionally, the result of these findings confirm the theory that orthodox (top ranked) relative strength strategies have a tendency to outperform mid and low ranks. This variance in total return becomes even more dramatic when measure over the entire 14 year period as the top strategy (12 Month 1-3) delivers a total return of 645.41% compared to the lowest total return of 183.21% associated with the 12 Month 7-10 strategy. Table 7, Figure 9.

Sector Entire Period					
RS Period Rank	Total Return	Average Monthly Return	Standard Deviation	Coefficient of Variation	% Out-performance
12 Month 1-3	645.41%	1.29%	4.19%	3.25	54.76%
9 Month 1-3	489.33%	1.15%	4.33%	3.75	54.76%
6 Month 1-3	479.36%	1.13%	4.05%	3.58	51.19%
3 Month 1-3	419.31%	1.06%	4.00%	3.76	51.79%
9 Month 4-6	391.46%	1.02%	3.81%	3.71	51.79%
Sector Avg.	356.35%	0.99%	4.00%	4.05	
3 Month 4-6	350.47%	0.98%	3.90%	4.00	49.40%
12Month 4-6	343.90%	0.97%	3.88%	4.02	45.20%
6 Month 4-6	318.22%	0.93%	3.86%	4.15	46.42%
3 Month 7-10	281.27%	0.89%	4.36%	4.87	50.60%
6 Month 7-10	269.35%	0.87%	4.31%	4.93	46.43%
9 Month 7-10	221.68%	0.80%	4.44%	5.58	46.43%
12 Month 7-10	183.24%	0.71%	4.27%	5.99	44.63%

Table 7 Orthodox versus Unorthodox over the entire period. All orthodox strategies outperform all unorthodox strategies.

10.

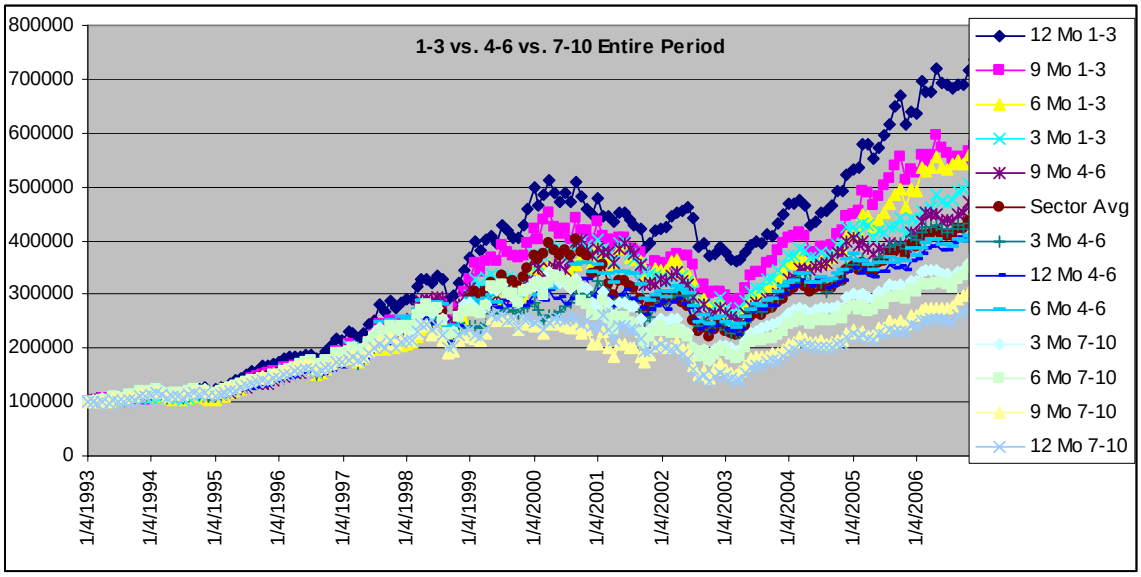


Figure 9 All sector strategies over the entire period. All 4 orthodox strategies deliver the 4 highest total returns. Additionally, the magnitude of the variation in returns between the orthodox and orthodox strategies is quite evident.

B. Intermarket Universe - One of the most obvious benefits to this mix of alternative asset classes is the low/negative correlations relative to the S&P 500.

1993 - 2006 Monthly Correlations vs. S&P 500	
Russell 2000	0.7151
Nasdaq	0.7928
DJ AIG	0.0634
30 Yr US Treasury	-0.0003
DJ Gold Mining	0.1672
DJ Real Estate	0.3819

Orthodox and Unorthodox Strategies

Orthodox Top Ranks	Unorthodox Mid Ranks	Unorthodox Bottom Ranks
3 Mo 1-2	3 Mo 3-4	3 Mo 5-7
6 Mo 1-2	6 Mo 3-4	6 Mo 5-7
9 Mo 1-2	9 Mo 3-4	9 Mo 5-7
12 Mo 1-2	12 Mo 3-4	12 Mo 5-7

Example of each strategy Rule
12 Month #1, & 2 Rank (strategy rules = On the first trading day of each month (approx.), buy the #1, & 2 Rank 12 month RS sectors and hold each sector through that month. Recalculate the performance of each sector in the universe to determine the current month ranks. Hold each sector as long as each current ranking is = to #1 or #2. If any sector falls below the #2 rank, it is sold and replaced with the new #1, or 2.

11.

B. 1. Orthodox

Results of the In Sample orthodox strategies indicate that the 12 Month 1-2 rank strategy outperformed the Intermarket Average and the other orthodox strategies by a narrow margin while the 3 Month 1-2 rank delivered the lowest returns. Out of Sample, the 12 Month 1-2 rank strategy again delivered the highest return, while the 3 Month 1-2 rank delivered the lowest returns. Figures 8-9, Tables 7-8. Over the entire period, the 12 month 1-2 and the 6 Month 1-2 strategy provided the best results with little discernable difference between the two strategies. Figure 10, Tables 9

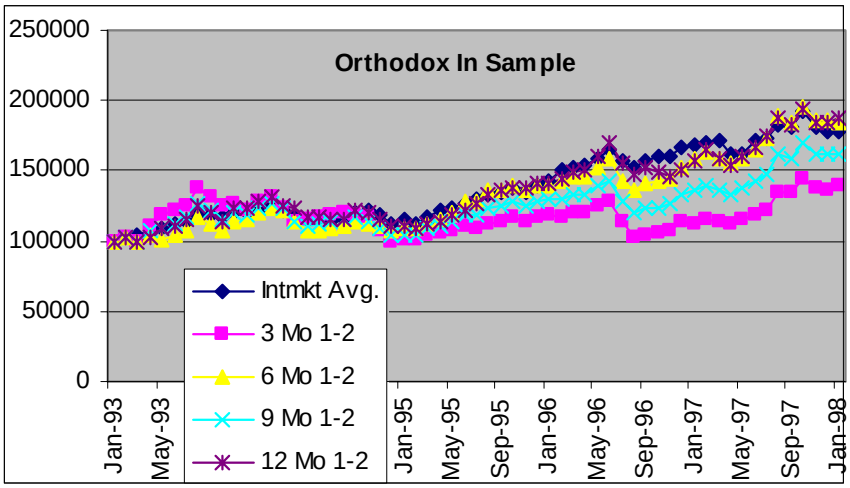


Figure 8 Orthodox In Sample, The 12 Month and 6 Month perform essentially in line with the Sector Universe Average.

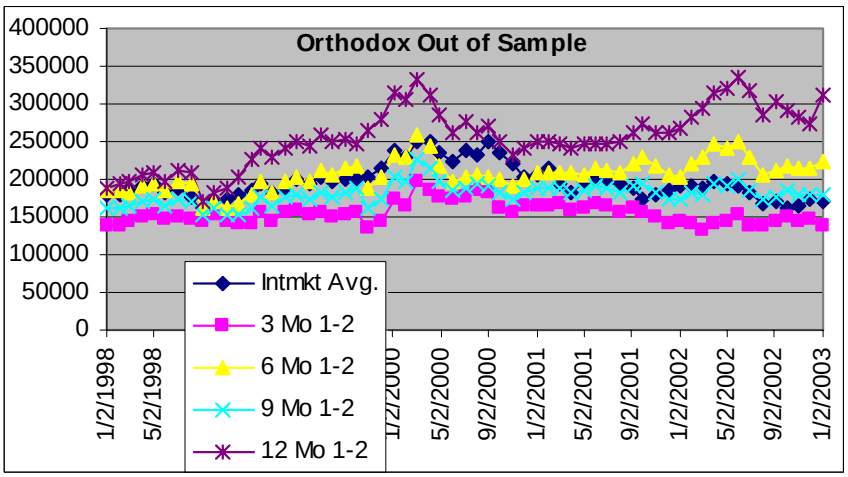


Figure 9 The 12 Month outperforms the average by a wide margin and is followed by the 6 Month which also outperforms by a narrower margin.

12.

Intermarket In Sample					
RS Period Rank	Total Return	Average Monthly Return	Standard Deviation	Coefficient of Variation	% Out-performance
12 Mo 1-2	87.47%	1.13%	3.87%	3.44	53.33%
6 Mo 1-2	84.84%	1.10%	3.86%	3.50	58.33%
Intermarket Avg.	78.50%	1.01%	2.94%	2.90	
9 Mo 1-2	60.21%	0.85%	3.66%	4.28	51.67%
3 Mo 1-2	38.67%	0.64%	4.30%	6.74	48.33%

Table 7 The 12 Month and 6 Month outperform on a total return basis and also on a monthly basis. The lowest return strategy also experienced the highest amount of volatility (standard deviation of monthly returns)

Intermarket Out of Sample					
RS Period Rank	Total Return	Average Monthly Return	Standard Deviation	Coefficient of Variation	% Out-performance
12 Month 1-2	91.88%	1.14%	5.89%	5.17	50.60%
9 Month 1-2	44.13%	0.81%	6.34%	7.84	58.33%
6 Month 1-2	20.51%	0.50%	6.09%	12.26	60.00%
3 Month 1-2	-0.48%	0.16%	5.99%	36.52	53.33%
Intermarket Avg.	-3.64%	0.07%	5.24%	70.51	

Table 8 The Out of Sample results once again show that the 12 Month 1-2 generated the best total return results while minor return degradation has occurred with respect to the 6 month and major return degradation occurs at the 3 Month RS period.

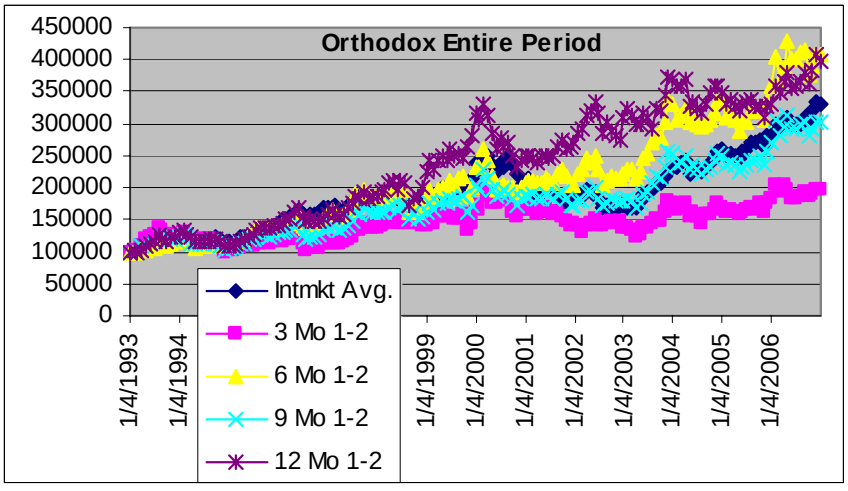


Figure 10. The 12 and 6 month RS strategies provide the highest total return over the entire 14 year period.

13.

Intermarket Entire Period					
RS Period Rank	Total Return	Average Monthly Return	Standard Deviation	Coefficient of Variation	% Out-performance
6 Month 1-2	306.06%	0.97%	5.18%	5.33	55.95%
12 Month 1-2	297.04%	0.94%	4.89%	5.18	50.60%
Intermarket Avg.	229.14%	0.79%	3.96%	5.01	
9 Month 1-2	222.55%	0.84%	5.23%	6.24	52.97%
3 Month 1-2	96.89%	0.54%	5.17%	9.65	49.40%

Table 9 Over the entire period the Orthodox 6 Month 1-2 delivers the best total return results and bests the 12 Month 1-2 by a narrow margin.

B. 2. Orthodox versus Unorthodox

In the In Sample period, the best results were realized by owning the unorthodox mid ranks as the 9 Month 3-4, 6 Month 3-4, 3 Month 3-4 and 12 Month 3-4 delivered the top 4 strategy returns. Three of the four 4 lowest returns were the result of owning the bottom ranks (6 Month 5-7, 9 Month 5-7, and 12 month 5-7). Figure 11, Table 10. Out of sample, the best results were obtained by owning the 12 Month 1-2, 12 Month 3-4, 6 Month 3-4, and 9 Month 1-2. Again, three of the four lowest returns were as a result of owning the bottom ranks the again (6 Month 5-7, 9 Month 5-7, and 12 month 5-7). Figure 12, 13, Table 11. The result of this data does not confirm the theory that top ranked orthodox strategies have a tendency of outperforming mid and lower ranks. Additionally, significant degradation of returns did not occur with respect to the mid ranks with the exception of the 3 Month 3-4 strategy. However, significant degradation of returns did occur with respect to the "bottom" 5-7 ranks . Analysis of the entire period reveals that once again, the mid ranks (6 Month 3-4, 9 Month 3-4, and 12 Month 3-4 and the 6 Month 1-2) deliver the top four strategy results. Figure 13, Table 12.

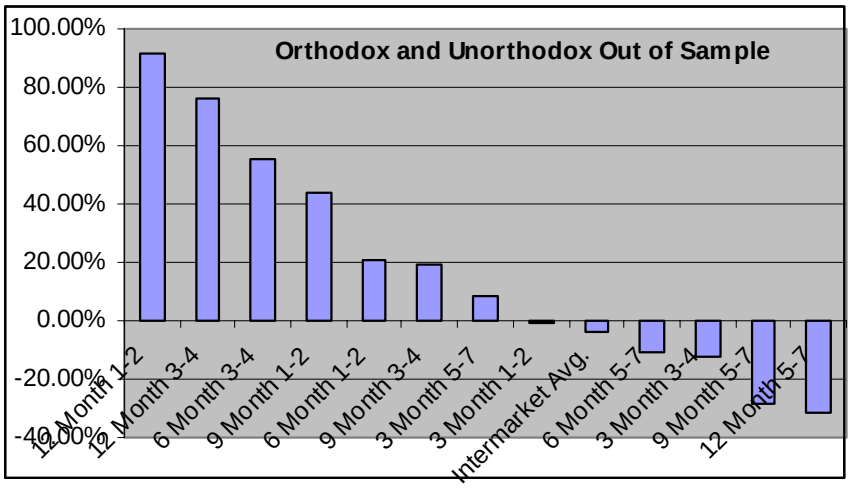


Figure 13. Intermarket Out of Sample – The lowest 5-7 ranks experience significant degradation of returns.

14.

Intermarket Entire Period					
RS Period Rank	Total Return	Average Monthly Return	Standard Deviation	Coefficient of Variation	% Out-performance
9 Month 3-4	487.56%	1.14%	3.97%	3.49	54.76%
6 Month 3-4	473.54%	1.12%	3.81%	3.41	57.14%
12 Month 3-4	391.40%	1.03%	3.82%	3.72	52.38%
6 Month 1-2	306.06%	0.97%	5.18%	5.33	55.95%
3 Month 3-4	301.19%	0.92%	4.30%	4.65	51.19%
12 Month 1-2	297.04%	0.94%	4.89%	5.18	50.60%
3 Month 5-7	259.67%	0.86%	4.34%	5.05	51.19%
Intermarket Avg.	229.14%	0.79%	3.96%	5.01	
9 Month 1-2	222.55%	0.84%	5.23%	6.24	52.97%
9 Month 5-7	98.57%	0.50%	4.19%	8.44	55.95%
3 Month 1-2	96.89%	0.54%	5.17%	9.65	49.40%
6 Month 5-7	95.02%	0.59%	6.35%	10.69	43.45%
12 Month 5-7	65.23%	0.40%	4.60%	11.37	44.60%

Table 12 Results of the 14 year period show that three of the top 4 total return results were the result of middle ranked 9, 6 and 12 Month RS strategies. Also, 3 of the lowest returns were the result of the "low" 5-7 ranked strategies.

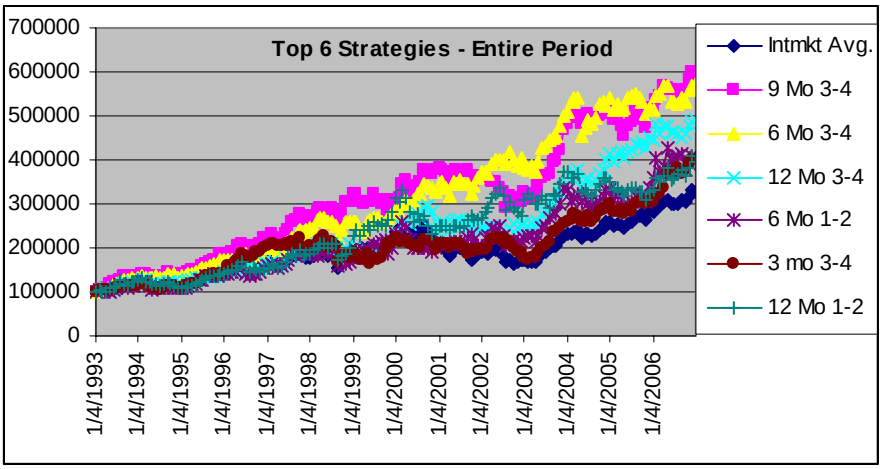


Figure 14. Top 6 Intermarket Strategies over the entire period.

IV. Analysis of the Study

A. Sector

The 12 month 1-3 rank strategy was the clear winner from a total return standpoint in the In Sample, Out of Sample and over the entire 14 year period (1992-2006). Another important advantage is the low turnover as the 12 month strategy averaged 7 reallocations per year compared to the 3 Month 1-3 strategy which averaged almost 14 reallocations per year. Additionally,

as a result of low turnover, the 12 Month Strategy exhibited the tendency to keep portfolios into strong sectors over longer time frames. A few sector allocation highlights of the 12 Month 1-2 rank strategy include:

122% gain in the Dow Jones Technology Sector from January 1993 to March of 1996.

151.7% gain in the Dow Jones Finance Sector from September of 1995 to July 1998

6.0% gain in the Dow Jones Utilities Sector from August 2000 to August 2001

-3.9% loss in the Dow Jones Basic Materials Sector from June 2001 February 2003

-10.5% loss in the Dow Jones Consumer Goods Sector from September of 2001- March of 2003

90.0% gain in the Dow Jones Energy Sector from August 2004 to August of 2006

B. Intermarket Allocations

Perhaps the most significant benefit to employing a dynamic intermarket (alternative asset class and equity index) strategy is the potential to be allocated appropriately to equity indices during equity bull markets as well as commodity type indices during bull commodity markets. What is interesting is the fact that the 6 Month 3-4 rank strategy was primarily allocated to equity indices in the In Sample period as the allocation was 100% invested in equity indices in 43% of the 60 month periods. Additionally, the strategy held at least one equity index in 93% of the months. Conversely, in the Out of sample period, which involved a transition from an equity bull to commodity bull, this strategy allocation held at least one intermarket index in 85% of the monthly periods.

V. APPLICATIONS of the STUDY

Systematic approaches can help investors reduce or eliminate any bias and subjectivity that is often found in the investment decision making process. Additionally, systematic approaches can reduce the psychological turmoil associated with determining when to sell losing investments. These strategies are designed to be simple to explain and easy to follow…. buy winners and hold as long as they remain in top rank, sell when they fall out of top rank and replace with new top rank. At the very least, the data presented here should help investors and advisors realize that the lowest ranked sectors sectors and strategies should be avoided which in turn can help them become more confident and certain about their financial future. The availability, ease of use and popularity of index equity, sector and commodity based exchange traded funds provide a near perfect environment for substantial growth in the strategies identified as well as strategies that can be developed with this data set. The sector and Index/intermarket building block strategies can be utilized stand alone or as integral components in a multi strategy approach to investing. It would seem that the index/intermarket strategies would be extremely valuable to

a broad range of portfolio managers, advisors and investors alike as the current market environment continues to reward commodity/alternative asset type portfolio allocations.

VI. AREAS of FURTHER STUDY

* This study measures and identifies simple Relative Strength as the primary metric. Various weighting schemes could be incorporated that would utilize multiple time frame RS periods thereby increasing or decreasing the sensitivity to price movements.

* Additionally, changes in rank, as opposed to relative rank position, could be explored and compared to this study.

* A volatility filter could be utilized as a method smooth out the #1 ranks versus the #2 rank thereby normalizing their values.

* Relative strength performance is measured against a respective universe could be expanded to measure relative strength versus specific indices such as the DJ AIG Commodity Index or the S&P 500 Index.

* Relative returns only are explored in this study. Adding absolute return strategies could be considered as additional portfolio building blocks.

* 17 sectors/markets are included in this study which could be expanded dramatically to include sub sectors, foreign equity market indices as well as top RS individual stocks in top RS sectors.

VII. Conclusion:

A. Sector

The best results were achieved in buying the 12 month RS 1-3 Rank as it exhibited superior risk return characteristics over the orthodox 9, 6 and 3 month strategies as well as the unorthodox Middle and Lower ranks In Sample, Out of Sample and over the entire period. The Middle 4-6 and lower 7-10 ranks experienced significant return degradation in returns in the Out of Sample periods. Consequently, the logical conclusion is to consider the 12 month RS 1-3 Rank as the best strategy.

B. Intermarket

Similar to the Sector Universe, the top orthodox strategy results were obtained primarily by owning the 12 Month 1-2 rank in the In Sample and Out of Sample period. Looking at the orthodox versus unorthodox ranks reveals a different picture than the Sector Universe in that all mid ranked strategies delivered the best 4 total returns in the In Sample period. Additionally, 2 of the top 4 out of sample results came from the 6 and 12 Month 3-4 rank mid ranks. Again this data does not confirm the theory that orthodox strategies outperform unorthodox strategies. In Sample, Out of Sample and over the

entire period, the best results were primarily obtained by investing into the 6 Month, 9 Month, and 12 Month unorthodox (3-4) Mid ranks and the orthodox the 6 Month 1-2 rank. Significant return degradation did occur out of sample with the lowest 5-7 ranks. Therefore, a logical conclusion would seem to involve a combination of Orthodox and Unorthodox strategies. Clearly, the unorthodox 6 and 9 Month 3-4 strategies have exhibited superior results versus the top orthodox 6 Month 1-2 and the 12 Month 1-2 over the entire period. However, the orthodox 6 Month 1-2 and the 12 Month 1-2 strategies delivered results that exceeded the Universe Average. Although the small variation in results is noted between the 6 Month 1-2 and the 12 Month 1-2 over the entire time period it is suggested that the top unorthodox 6 Month 3-4 and the top orthodox 6 Month 1-2 be utilized in combination with each other as top strategies for an intermarket portfolio allocation.

Data Sources:
U.S. Treasury 30 Yr. Bond
S&P 500
Russell 2000
Nasdaq
Yahoo.com

D.J. Sectors,
djindices.com

References:

Murphy, John J., Profiting from Global Market Relationships 2004
Mendelsohn, Lou, "Forecasted Moving Averages: Creating Leading Indicators Through Intermarket Analysis" Fast Break, A FutureSource Newsletter, April 29, 2005
Jagadeesh and Titman., 1993, “Returns to Buying Winners and Selling Losers”, Implications for Stock Market Efficiency, Journal of Finance
Hayes, Tim, Ned Davis Research, Momentum Leads Price, Journal of Technical Analysis, Winter-Spring 2004
O’Shaughnessy, James, What Works on Wall Street.
Kaufman, Perry J., 1998, Trading Systems and Methods, John Wiley and Sons, Inc.
Brush, John, Columbine Capital, Price Momentum A 20 Year Research Effort, Special Edition 2001
Dorsey, Tom, DorseyWright and Associates, Point and Figure Charting, John Wiley and Sons, Inc., 1995
Pring, Martin, Technical Analysis Explained, McGraw Hill
Shiller, Robert J., 2001, Irrational Exuberance, Princeton University Press

Kevin G. Hockert
Director of Portfolio Strategies
1114 Broadway # 1
Alexandria, MN 56308
www.AskProspero.com
320-762-0175

BIOGRAPHY

Kevin Hockert

Kevin Hockert is the principal of Prospero Institute for Investors, an investment advisory firm that specializes in stock market research and the development of technical and quantitative strategies that are designed to manage risk and improve portfolio returns.

Career Highlights

In addition to managing client portfolios that total $10 million, Mr. Hockert, a 16 year veteran of the financial markets, has provided research and portfolio management services to a variety of Independent Registered Investment Advisory firms on a total asset base that exceeds $250 million.

Mr. Hockert has gained the respect of peers through his passion for delivering timely market analysis and effective dynamic asset allocation strategies that are designed to optimize portfolio returns.

In addition, he has compiled a respectable 5 year track record of managing ETF portfolios utilizing an index absolute return strategy.

Body of Knowledge

Mr. Hockert has an extensive body of work that encompasses a history of identifying significant stock market and sector inflection points utilizing a broad range of technical analysis methodologies. His intellectual curiosity continues to fuel his passion for developing, back testing and implementing a variety of quantitative strategies that involve a variety of parameters which include, but are not limited to, alpha, relative strength, momentum, time series analysis, probability of win/loss, average gain/loss, max drawdown and shape of equity curve. These simulations are conducted on a broad universe of ETF's, mutual funds and individual equities in an effort to deliver high probability, optimized returns.

Mr. Hockert is an experienced technical market analyst who has successfully completed the testing requirements for the CMT 1, CMT 2 and research paper requirements for the CMT 3 levels of the Market Technician Association Chartered Market Technician designation. He has completed a research white paper titled "Dynamic Sector and Intermarket Asset Allocation" which expands upon the current body of knowledge associated with dynamic relative strength rotational strategies.

Professional Associations: Market Technicians Association

Education
Kevin graduated from St. Cloud State University, St. Cloud, MN, in 1988 with a B.S. degree in Finance and a Minor in Speech Communications.

Charitable and Civic Affiliations
St. Mary's Church, Pastoral Council 2006
Alexandria Rotary Past President 2005

Prospero
INSTITUTE FOR INVESTORS

A Registered Investment Advisor
Kevin G. Hockert, CMT
Director of Portfolio Strategies
1114 Broadway, Suite 1, Alexandria, MN 56308
320-762-0175 **www.AskProspero.com**