

Notes & Comments

{ Part III Enclosed!

Well, it happened again. Initially this study was to take the form of one issue devoted to the masterly technical work of Tom McClellan and Roger Kliminski. As you know, the research proved to be more extensive than a single report could accommodate. So I split the study into two installments.

Well, a similar adjustment proved necessary in the course of preparing Part II. An opportunity to work with newly available data led to unforeseen findings and new applications. So I have divided the remaining section of our study into two further installments. Both new sections are complete and are included in this mailing.

{ Annual Holiday Sale

Here's a chance to acquire our back issues and spreadsheet models at favorable prices. Our annual sale will last through January 31, 2004. The price for back issues will be reduced by \$5 per report. For spreadsheets, the savings are \$10 per diskette. Pricing details and order forms are enclosed. We will gladly send you a digest which describes all of our models and spreadsheets. You can receive it by email or regular mail. Email: sigma20@midsouth.rr.com. Or phone us at 800 720-1080 or 901 756-8607. ..

THE MONITOR SERIES: LEADING MARKET PROFESSIONALS SHARE UNCOMMON INSIGHTS

Synergy and Collaboration: The Asset Management Team of Tom McClellan and Roger Kliminski, Part II

The Unique Sector Work of Two Discerning Market Analysts

When I said last time that you would receive the concluding part of our study in a couple of weeks, I really meant two or three weeks. I didn't mean two or three months. When no follow-up report materialized by mid-October, some of our newer subscribers could only question the state of the mails. Longtime subscribers knew better. It was obvious the punctually-impaired editor got absorbed in other tasks.

One unexpected detour took the form of an impromptu speaking engagement in San Francisco, a welcome opportunity to address Dr. Hank Pruden's graduate finance class at Golden Gate University. The trip proved rewarding, but I admit I spent more time exploring San Francisco's restaurant life than sharing insights into price behavior. Still, the occasion will be fondly remembered, especially as I got to share the podium for the first time in too many years with my friend Linda Raschke.

There was another reason for the delay in getting out the report, a development more pertinent to our present inquiry. You may remember the findings cited at the close of Part I. Building on the work of Roger

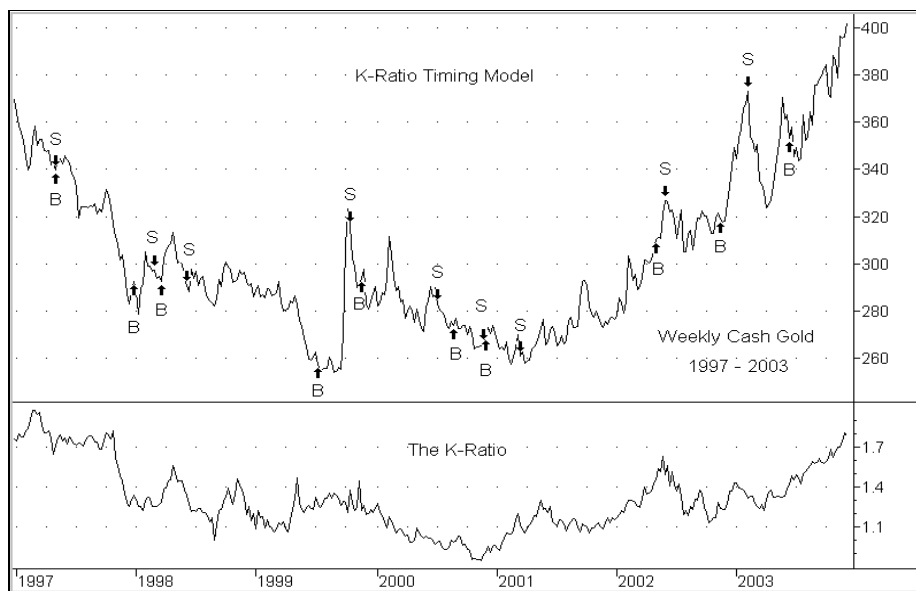
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The K-Ratio Gold Timing Model- October 1994

The K-Ratio is so named because market analyst and commodity fund manager Jay Kaepfel invented the indicator, which compares the price of gold stocks to the price of gold bullion. The K-Ratio can be used to trade gold and silver (cash and futures) as well as precious metals mutual funds.

In our model, we calculate two sets of adaptive bands around the K-Ratio. A countertrend channel helps pick tops and bottoms, entering on strong evidence of a reversal. A trend-following channel kicks in on signs of market impulse.

Trading gold since 1976, the K-Ratio model returned 17.7% a year. Drawdown was under 15%. Gold itself returned 3.84% annually since 1976 with 70% drawdown.



Last time I told you Tom McClellan edits one the finest financial newsletters available, but I failed to furnish contact information.

Tom and his father Sherman publish the *McClellan Market Report*, a twice-monthly advisory publication. Tom also edits the companion *Daily Edition* for short-term updates.

Visit the McClellan web site at www.mcoscillator.com. Phone numbers are (800) 872-3737 or (253) 581-4889. The fax number is (253) 584-8194.

The postal address is McClellan Financial Publications, Inc., P.O. Box 39779 Lakewood, WA 98439.

If you are interested in the investment services of Global Investment Solutions, the partners' money management arm, call Roger Kliminski at (800) 440-7283 or (949) 660-7960. The fax number is (949) 660-7945.

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Kliminski and Tom McClellan, we showed that systematic switching among four Russell stock sectors offered striking gains. Specifically, by rotating among the four Russell sub-groups--1000 Growth, 1000 Value, 2000 Growth and 2000 Value--we achieved annual returns of 22% since 1995.

As you may recall, there were three problems with the switching strategy. First was the question of risk. Maximum equity drawdown was high at 33%. We promised to introduce new risk-control tactics in Part II of the study. You'll read about our proposed solution in what is now Part III of the study.

A second problem pertained to issues of trade execution. There are Exchange Traded Funds available for each of the four Russell sectors, part of the Barclays iShares family listed on the Amex. But some of these ETFs are thinly traded, with crippling bid-ask spreads. To address liquidity issues, we proposed to shift the focus of trading to the S&P 500. Again, you'll see our suggested treatment in Part III.

A third problem appeared to be the most challenging of all. Our testing of the Russell switching strategy was unusually restricted in scope, reaching back only to 1995. After checking many data sources, I simply could not find Russell price history in greater depth.

As a result, our findings were supported by an uncomfortably narrow range of data, probably the most finite data sample of any of our published studies. Fortunately, that price history was reassuringly broad, encompassing historic bull and bear markets and a rich

mix of price shocks, trading ranges and other diverse price behavior.

Then something unexpected happened. Shortly after publishing Part I, I got an email from Patrick Cunningham, a longtime friend of FORMULA RESEARCH. Patrick is a portfolio analyst at Gardner-Lewis Asset Management in Westchester, PA, a respected institutional investment advisor.

Patrick advised me that he had access to additional Russell price data. The history consists of two extra years of daily Russell index data going back to 1993 and over 20 years of monthly Russell data going back to 1979. The data came from Bloomberg.

I jumped at the chance to test my already developed findings on unseen data. This would be the ultimate exercise in out-of-sample testing. The only problem is that I had already prepared most of Part II including myriad test results, charts and the lion's share of the text. All of that would now have to be redone. The readjustment is a second reason for the delay in getting the report out.

Because of the new perspective introduced by the expanded data, especially the monthly Russell price history, I present the results of this study not in the sequence I developed them, but in what I hope is a fitting logical progression.

Meanwhile, you're probably wondering about how our prior findings held up when tested on the new data. Results were broadly consistent with previous findings. While I did adjust a minor point (cited in a footnote in Part III), the new data actually boost confidence in our key

timing strategies. Now, let's discuss those trading methods. **z**

The Four-Sector Switching Strategy

It was Roger Kliminski who initially developed the Russell switching strategy cited above. Later Tom McClellan enhanced and refined the logic. The switching rules we describe here differ slightly from the original. Rest assured, our alternative treatment offers outstanding returns.

Let's review our version of the strategy and update performance with the new data. We start with daily closing prices of the four Russell sectors.[†] Now compute the percentage change in each Russell sub-group over four distinct time frames.

In this case we calculate the percent gain or loss over the preceding 5, 15, 25, and 35 days. Next, average the results for all time frames into a single reading. The Russell sector with the highest composite score is deemed to be the relative strength leader. You invest in that sector and remain there until another Russell index claims the number one spot.

Let's illustrate the mechanics with some calculations from a recent trading session. Last December 9, Russell 1000 Value closed at 487.45. This is -0.16% below its close of five days earlier (2-Dec); +2.53% above its close of 15 days earlier (17-Nov); +1.36% above its close of 25 days earlier (3-Nov); and +3.30% above its close of 35 days earlier (20-Oct). Add up each of these figures and divide by four to get a simple average, in this case 1.76%. That score proved to be the

highest reading for this session, prompting a switch into Russell 1000 Value.

We originally tested this switching method over a roughly eight-year period, from June 1995 to August 2003. The strategy produced an annual return of 22.5%. Now we make two changes in the data. We extend testing back another two years to June 1993. And we bring results forward to mid-December 2003. Over this expanded 10.5-year period our annual return was 20.1%, a tick below earlier levels but still strong.[‡]

Contrast this 20%-plus return with the performance of key benchmarks. Since mid-1993 the Russell 1000 Growth index gained 9.1% a year, 1000 Value gained 11.3% a year, 2000 Growth gained 6.0% a year, and 2000 Value gained 12.7% a year. For its part, the S&P 500 returned 10.7% since 1993.

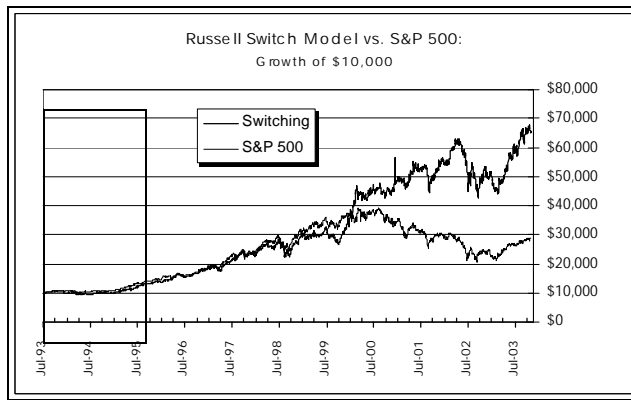
Not only was the switching strategy more profitable, it was less risky. Maximum drawdown was 33%, high in absolute terms. But this compares with 66% drawdown for Russell 1000 Growth and 68% drawdown for Russell 2000 Growth. The other three benchmarks also exhibited higher risk, though the gap was not as dramatic.

The chart on the next page shows the comparative equity curves for the switching strategy and the S&P 500. It is an updated version of a similar chart seen at the end of the last report. The shaded area reflects the new Russell data incorporated into the analysis since Part I was published.

You can see that the two equity curves are very similar until about the year 2000, when the bear market struck. At

[†] The Frank Russell website posts the necessary data back to 1995. Go to www.russell.com and follow the links. You'll have a choice between using total return values (dividends reinvested) or unadjusted values. I used total return data throughout this study.

[‡] The slight pullback can be attributed to lower volatility in the 1993-1995 years along with the sheer nature of compounding. Due to the exponential dynamics, as you test further back in time, it becomes progressively harder to sustain high rates of return.



that point our switching model starts to pull away convincingly. Eventually the strategy would produce more than double the dollar gains of the S&P 500.

I am the first to admit that this performance edge is based on a rather skimpy stream of data. It would be better if we had access to Russell price history going back decades. Actually, in a way we do. Thanks to Patrick Cunningham, we have monthly Russell index data going back to 1979. Suppose we adapt a similar switching strategy for testing on monthly data. If results were clearly positive it would reinforce confidence in the earlier findings.

Patrick himself came up with a simple monthly variant on our switching model. Here's how his formula works. For each of the four Russell sectors, track the percentage change over three periods of time. In this case calculate the 3-month, 6-month and 12-month rates of change. Then, much as before, you average the readings into a composite. Switch to the Russell sector with the top combined score on a month-end basis.

Patrick's monthly model gained an impressive 16.8% annually from 1980 to 2003. A \$10,000 investment would now be worth \$408,000. Compare that to the buy-and-hold returns of the four Russell

components. Russell 1000 Growth returned 11.7% a year since 1980, 1000 Value returned 13.9%, 2000 Growth returned 8.5% and 2000 Value returned 14.7%.

The S&P 500 itself returned 13.2% annually over the same time frame. At this rate of return, an initial \$10,000 stake would now be worth \$191,000, less than half the dollar gains from our switching model.

Patrick's variant beat all benchmarks, despite key differences in the historical reach and very structure of the data. This is reassuring confirmation of our switching approach. z

The Two-Sector Switching Strategy

Now we return to the work of Roger and Tom, again using daily data from 1993 to 2003. This perceptive team went on to discover an even more compelling tendency in the Russell sector data. They found that two of the Russell sectors have special forecasting significance--Russell 2000 Growth and 2000 Value. By restricting the analytical universe to these two exceptional sectors, powerful new findings emerge.

I have no idea how Roger and Tom came up with this offbeat but riveting insight, so let me just pass on what they uncovered. In this case you track only Russell 2000 Growth and 2000 Value. Ignore the other two Russell sectors. As before, the aim is to pick the relative strength leader. Use the same ranking formula cited earlier. Calculate 5-, 15-, 25-

and 35-day rates-of-change for Russell 2000 Growth and 2000 Value. Average the results. The sector with the highest composite score has the edge.

What Roger and Tom found out is that when Russell 2000 Growth is the relative strength leader, the entire stock market gets a lift. By contrast, when Russell 2000 Value is dominant, profit suffers and risk increases. Nor are we talking about subtle differences in performance.

For example, when Russell 2000 Growth is the relative strength leader, the S&P 500 appreciates at a 17.4% annualized rate. On the other hand, when 2000 Value is dominant, the annualized gain drops to 4.5%.

A similar stark contrast is seen in the area of risk. When Russell 2000 Growth is dominant, maximum drawdown for the S&P 500 is 21%. When Russell 2000 Value takes the lead, drawdown more than doubles to 50%. The S&P 500 itself returned 10.7% a year since 1993 with 47% drawdown.

The table below offers another perspective. The table breaks down performance of the four Russell sectors according to current leadership, Russell 2000 Growth versus 2000 Value. Consider the left-most column, "R1K

Growth." The numbers show how Russell 1000 Growth fared depending on whether Russell 2000 Growth or 2000 Value was the relative strength leader. "ARR %" stands for annualized rate of return while "DD" stands for maximum equity drawdown.

To illustrate, when Russell 2000 Growth was the relative strength leader, 1000 Growth returned an annualized 20.6%. Drawdown was 25%. By contrast, when Russell 2000 Value had the edge, 1000 Growth suffered an annualized loss of -1.3%. Drawdown soared to 65%. You can see similar contrasting results across all four sectors.

If you study the table, you'll note a developing pattern we'll see again later on. When Russell 2000 Growth is dominant, virtually every area of the stock market shows higher returns and lower risk. When 2000 Value is dominant, those same sectors exhibit lower returns and higher risk.

Perhaps the most telling statistic appears in the last row of the table. This entry shows performance of the Russell 2000 Value index. Paradoxically, Russell 2000 Value is far more profitable and risk-averse when *2000 Growth* is dominant.

When Russell 2000 Growth has the edge, 2000 Value appreciates at an annualized rate of 24.3%. Drawdown is 17%. When Russell 2000 Value is dominant, the annual return drops to 1.7%. Drawdown surges to 44%. Russell 2000 Value is curiously contrarian. It performs much better when its own antithesis in sector composition is dominant in relative strength.

The performance gap is magnified when we turn to high-beta stocks. Consider the volatile Nasdaq Composite.

Annualized Returns and Drawdown: 1995 - 2003				
	Relative Strength Leader			
	R2K Growth		R2K Value	
	ARR %	DD	ARR %	DD
R1K Growth	20.6%	25%	-1.3%	65%
R1K Value	15.1%	22%	7.2%	40%
R2K Growth	40.4%	20%	-20.4%	78%
R2K Value	24.3%	17%	1.7%	44%

When Russell 2000 Growth is leading the market, OTC stocks climb at an annualized rate of 41.9%. Drawdown is 22%. By contrast, when Russell 2000 Value is dominant, the annualized return drops to -14.0%. Drawdown explodes to 80%. The disparity is all the more striking as the two sectors have shared the top rating for relative strength almost equal amounts of time since 1993.

I was so impressed by Roger and Tom's findings I undertook a challenging test. I looked at 15 Fidelity sector funds representing a diverse mix of industry groups. Much as before, I compared risk and return according to which sector was dominant, Russell 2000 Growth or 2000 Value. The results appear in the table at right. Be warned, the findings compress a lot of numeric data into a small space.

Let me cut to the key point. When Russell 2000 Growth is dominant, all 15 sector funds are profitable. When Russell 2000 Value is dominant, all 15 sectors show losses. You can see the average results for both scenarios in the bottom row.

When Russell 2000 Growth is dominant, the average annualized gain is 34.4%. Average drawdown is 26%. On the other hand, when Russell 2000 Value is dominant, the 15 sectors show annualized losses of -7.5%. Average drawdown climbs to 66%.

In truth, I prepared this table with a view to dramatic effect. I might have found one or two counterexamples which perform better when Russell 2000 Value

is favored. But those funds would have been limited in price history, idiosyncratic in style or otherwise unrepresentative. Without a doubt, the average Fidelity Select fund shows higher gains and lower risk when Russell 2000 Growth is the relative strength leader.

15 Fidelity Sector Funds: Returns and Drawdown, 1993 - 2003				
	Relative Strength Leader			
	R2K Growth		R2K Value	
	ARR %	DD	ARR%	DD
Air Transport	31.9%	22%	-5.0%	63%
Auto	18.2%	29%	-3.7%	44%
Biotech	32.4%	38%	-6.2%	72%
Brokerage	41.4%	30%	-4.3%	66%
Cyclical	21.8%	22%	-6.7%	47%
Devel. Commun.	55.3%	28%	-22.6%	86%
Electronics	46.6%	32%	-2.4%	83%
Energy Service	29.9%	32%	-6.1%	56%
Indust. Equip.	25.0%	22%	-3.1%	54%
Leisure	35.4%	23%	-6.7%	54%
Multimedia	36.8%	18%	-5.6%	57%
Technology	46.2%	26%	-10.5%	85%
Software	39.8%	22%	-3.6%	73%
Telecom	38.4%	27%	-21.0%	82%
Util. Growth	16.2%	24%	-4.3%	63%
Average	34.4%	26%	-7.5%	66%

As final proof, I built a composite price index that tracks as a group the 34 Fidelity sector funds that have been active since 1993. When Russell 2000 Growth was the market leader, this portfolio posted annual gains of 21.4%. Drawdown was moderate at 16%. But when Russell 2000 Value was dominant, the annualized gain dropped to 4.7%. Drawdown was a punishing 42%.

We will build on these findings in the final installment of our study, which will feature two high-performance switching strategies, one aggressive, the other balanced with manageable risk. ..