

Notes & Comments

◆ Part III Enclosed [Cont.]

This is the third and final installment in our series devoted to the technical work of Tom McClellan and Roger Kliminski. In this concluding section we present two timing models based on the unique research of this talented pair. Speaking for all of us, let me express our gratitude to Roger and Tom for sharing their ground-breaking findings.

◆ Custom FORMULA RESEARCH Timing Models for Investment Managers

Over the past several years we have prepared proprietary stock market timing models for money managers and other investment professionals. The great advantage of these composite models is that they combine the individual signals from a variety of components into a structured whole. The consensus of indicators includes a diverse mix of data-- market breadth, sentiment, monetary and trend-sensitive inputs. All of our custom models have outperformed the S&P 500 in real time in terms of risk and reward.

We recently developed one such model for a client in Hong Kong. In testing back to 1970, the model produced four times the dollar gain of the S&P 500 with one-third the risk. For information on our proprietary research, please email me: sigma20@midsouth.rr.com. □

THE MONITOR SERIES: LEADING MARKET PROFESSIONALS SHARE UNCOMMON INSIGHTS

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

Drawing on their Insights, We Build Two High-Performance Timing Models

Let's take stock of our Russell sector work so far. We started by analyzing four sub-indices--Russell 1000 Growth, 1000 Value, 2000 Growth and 2000 Value. We found that rotation among these sectors consistently outperformed any individual Russell index on a buy-and-hold basis. The same strategy also beat the S&P 500, offering both higher returns and lower risk. Our switching method performed well on daily data since 1993 and, suitably modified, on a monthly basis back to 1980.

Next we explored one of the most fascinating market patterns I have ever seen. Roger and Tom found that two Russell sectors--2000 Growth and 2000 Value--are especially rich in forecasting significance. Following their lead, we confined analysis to the two small-cap sectors. With remarkable consistency, the entire stock market performed very differently depending on which Russell sub-index was leading in relative strength.

Now let's pick up where we left off. Recall our composite index of 34 Fidelity sector funds. That index tracks the collective performance of all Select funds in operation as far back as 1993. We found that when

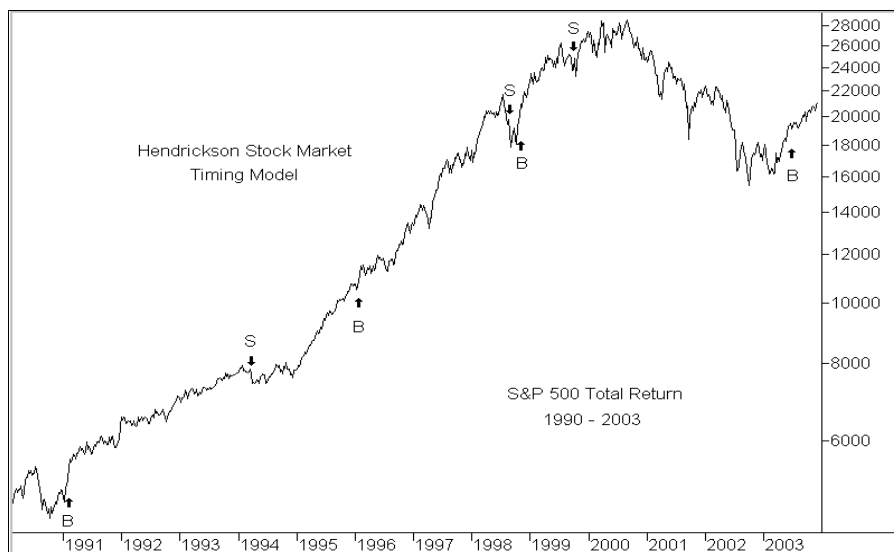
(Continued on Page Two)

The Hendrickson Stock Market Timing Model--January 1995

Harland Hendrickson presides over a thriving portfolio management firm. Ten years ago he generously allowed us to feature his simple but effective method for timing stocks. You can see the trading signals since early 1995 have been quite accurate.

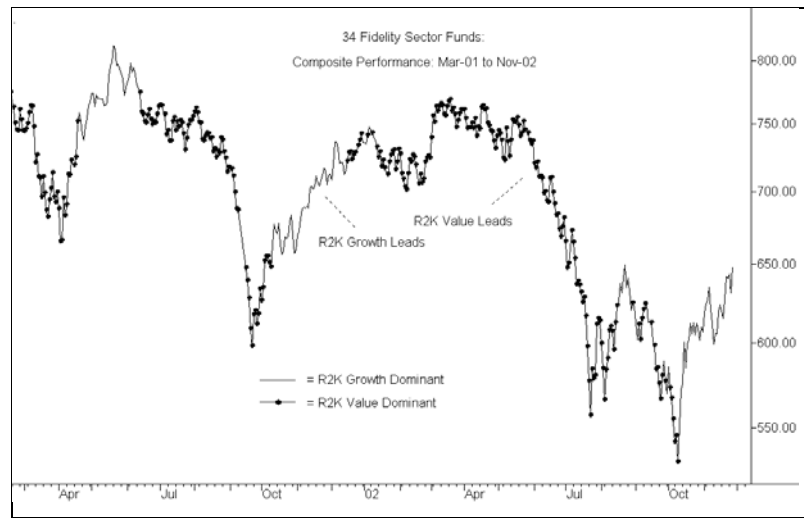
Since 1970 the Hendrickson model has returned 13.0% a year compared to 11.1% for the S&P 500. Drawdown was 13.3% versus 46% for the S&P. Ten out of ten buy signals were profitable, including all three trades since publication.

Our sale of back issues and spreadsheets lasts through January, 2004. This is an opportunity to acquire the Hendrickson report and spreadsheet as well as other interesting material at an attractive price. □



Russell 2000 Growth was dominant in relative strength, the Fidelity composite showed high returns and low risk. When Russell 2000 Value was dominant, the composite showed low returns and high risk.

The chart below is an attempt to graphically capture the performance gap just cited. The chart shows the Fidelity composite during a revealing period, the steep bear market decline from March 2001 to November 2002.



Notice the black dots clustered at points along the equity curve. The dots often appear when prices are falling. That's not a coincidence. These dots signify periods when the Russell 2000 *Value* index is leading in relative strength.

Now note the portions of the equity curve with no dots. These smooth segments show when Russell 2000 *Growth* is leading in relative strength. The graphic realization is not perfect, but you can easily see the implications. Black dots dominate throughout much of this bear market action. But on the few occasions when prices rally, it is when 2000 Russell Growth leads in relative strength. □

Switch Fund Strategy I: The Mekros Method

Before discussing the two timing models we will feature in this final section of the study, let me sound a note of caution. We often report annualized gains and losses as one benchmark of financial performance. Annualized returns offer useful snapshots of price behavior but they don't tell the full story.

Let me give you a concrete example. We noted in Part II that the S&P 500 posts strong annualized gains of 17.4% when Russell 2000 Growth leads in relative strength. When 2000 Value is dominant the annualized return drops to 4.5%, a notable fall-off in performance.

It would seem an easy matter to build a winning switch fund model based on these sharply opposing tendencies. You would simply buy an S&P index fund when Russell 2000 Growth is favored and exit to the money market when leadership shifts to 2000 Value.

But translating this theoretical edge into actual gains is more of a challenge. Had you traded such a strategy since 1993, you would have earned a modest 10.7% a year. This is almost identical to the S&P 500 return over that period. To be sure, drawdown was much lower, 20% compared to 47% for S&P buy-and-hold. But our task is to produce higher returns

and lower risk. In this case the profit side of the ledger fell short.

Here's why. That alluring 17.4% annualized return is available only about half the time, namely when Russell 2000 Growth is dominant in relative strength. Otherwise you would be on the sidelines earning money market interest. Let me go deeper.

Our practice in these studies is to peg money market interest at 90% of the yield on 90-day commercial paper. By this measure, hypothetical money market rates since 1993 ranged from 6.0% to 0.8%, averaging about 4%. This means that for half of the test period you would have been earning only single-digit returns.

It is this fuller, more realistic reckoning that accounts for the lower than expected gains. We will devote the rest of this report to developing two timing strategies I feel have merit both theoretically and in practical application, taking into account the real-world impact of switching.

With that as background, our first timing model is designed to trade the Rydex Mekros fund (RYMKX). Mekros is the oldest and most popular index fund keyed to the Russell 2000. Note I said the Russell 2000, not its Growth or Value sub-groups. One reason I selected Mekros, apart from its ample liquidity, is its leverage. Mekros is designed to magnify daily movement in the Russell 2000 by a factor of 1.5.

As the Mekros fund was introduced in November 2000, our initial testing begins there. First, the theoretical results. When Russell 2000 Growth is the relative strength leader, Mekros shows an

annualized gain of 90.5% (yes). When Russell 2000 Value is dominant, Mekros shows an annualized loss of -38.0%. This is the kind of performance gap that can serve as the nucleus of an effective switch fund strategy.

Suppose you purchased the Mekros fund when Russell 2000 Growth is dominant and switched to cash when 2000 Value takes the lead. You would have made an impressive 30.2% a year since late 2000. Drawdown was a mild 16%. By contrast, the Mekros fund itself lost -0.4% a year with 54% drawdown. Over the same period the S&P 500 lost -7.4% annually with 44% drawdown.

You might wonder what would happen if we reversed the logic. Here you go long when Russell 2000 Value is dominant and switch to cash when 2000 Growth takes the lead. In this case you would have suffered losses of -20.4% a year. Drawdown was a punishing 70%.

Another intriguing scenario would include the option to go short. For this analysis we'll continue with the Mekros fund even though it is traded from the long side only. In the real world there are bearish index funds that move opposite the Russell 2000, including some funds with leverage. We stick with the Mekros fund because it has more available price history.

As before, here you buy the Mekros fund when Russell 2000 Growth leads in relative strength. But when leadership switches to Russell 2000 Value, you sell Mekros short rather than switch to the money market. I admit this is a theoretical exercise but consider the results. Suddenly the return climbs to a remarkable 47.1% a year since late 2000.

This footnote is not especially relevant to anything you may have just read. I could have inserted it anywhere in the text. Or I could have omitted it altogether—except that I promised earlier to own up to the one adjustment I had to make after taking into account the new Russell sector data (1993 to 1995). It's a small point, but in the cause of full disclosure, here goes.

This study has stressed that the broad market gets a lift when Russell 2000 Growth outperforms 2000 Value. I had previously thought the market performs best when Russell 2000 Growth beats *all four* Russell sub-groups, including Russell 1000 Growth and 1000 Value.

Without going into detail, this point is not as conclusive as I once thought. At times the market can post explosive gains when any of the Russell sectors is dominant.

What has not changed is the central finding. For timing purposes, the most powerful perspective comes from comparing Russell 2000 Growth to 2000 Value. The new sector data confirm and reinforce this key point.

Two other variants on our Mekros model offer additional insights. First, let's again reverse the sector logic. You go long when Russell 2000 Value is dominant and go short when 2000 Growth is favored. In this case you would have lost -43.0% a year.

Now let's return to the original sector preference but focus exclusively on short-selling. As before, we sell Mekros short when Russell 2000 Value is the relative strength leader. But when 2000 Growth is dominant, instead of going long, we park our money in cash. This way we isolate performance on the short side.

In this case you would have made an impressive 17.5% a year since November 2000. That contrasts with the -0.4% loss of the Mekros fund and the -7.5% loss of the S&P 500 over the same period.

Admittedly, stocks were generally weak through this period. Perhaps any short-selling strategy would have performed well through that phase of liquidation. Then again, there were several furious bear market rallies during the period (as the chart on page two makes clear). We'll follow up on this issue in detail shortly.

Here's my point with respect to short selling. If you have ever tried to develop a stock market timing model with the option to go short, and if you tested that model going back many decades, you know how hard it is to capitalize on periodic corrections in the market.

As a student of the market, you know the sell-offs are coming. But due to the long-term bullish trend in stock prices, it

is hard to systematically exploit the pullbacks by selling short.

With their sector work, Roger and Tom bring new understanding to the forces that govern strength and weakness in the stock market. As a result, short selling may become feasible over a wider range of applications.

Now, getting back, it is true this short-selling exercise rests on a very narrow span of data, just three years. And much of that period was consumed by a vicious bear market. If you applied the same strategy to a wider, more representative range of data, short-side performance might not be so convincing.

To alleviate this concern and to satisfy natural curiosity, I simulated performance of the same switching method back to 1993. To do this I constructed a price index that replicates action of the Russell 2000 index but with 150% exposure. In other words, I built a proxy Mekros fund.

Then I re-tested the switching strategy over this more inclusive data sample. We'll test performance under the same conditions cited above: 1) long only; 2) long and short; and 3) short only.

First, consider the theoretical annualized returns from 1993. When Russell 2000 Growth is the relative strength leader, our Mekros proxy fund offers annualized gains of 44.8%. When 2000 Value is dominant, the result is an annualized loss of -18.4%.

This is a promising start. But those are abstract returns which mathematically distill price action into one of two contrasting modes. To assess a real-world

switching strategy you have to factor in the totality of the data, allowing for the logistics of switching in and out of the market.

On this more demanding basis, and trading from the long side only, our switching strategy gained 22.8% a year since 1993. Drawdown was 25%. Though risk is high, this is a fine showing.

If you had turned the logic on its head, reversing the roles of 2000 Growth and Value, you would have lost -7.2% a year. Drawdown was 77%. Our proxy Mekros fund itself gained 8.5% annually since 1993 with 67% drawdown.

Let's look at what happens when the same model includes a provision to go short. In this case long entries remain the same, but exits are treated as signals to go short. Since 1993 the compound annual return climbs to 26.8%. Drawdown was 39%.

Compare results when you reverse the logic, interchanging the two Russell sectors. Trading long and short since 1993, you would have lost -28.9% a year. Drawdown surges to a monumental 98%, a new record high for this observer after many years of model building. To recover from a 98% equity dip requires an Olympian gain of 4,900%.

Now let's consider short-sale performance in isolation, the scenario that prompted this simulation in the first place. Here sell signals are treated as short entries while buy signals prompt a switch into cash. Most conventional stock models would show devastating losses operating only from the short side. But our switching method showed a

healthy gain of 8.4% a year since 1993. Drawdown was 33%.

Recall that the S&P 500 gained 10.7% annually over the same period with 47% drawdown. Though our results come exclusively from the short side, they approach the S&P's gains while entailing less risk. This is fine countertrend performance against a pronounced bullish tendency in the data. □

Switch Fund Strategy II: S&P 500

As promised, we will close the study by developing a switch fund strategy that addresses problems of risk and liquidity encountered earlier. First some background. As I have stressed, treating performance in terms of annualized returns offers a compressed, somewhat artificial portrait of price behavior.

Let me give you a final illustration of these constraints, an example very relevant to our developing model. In Part I we noted Tom McClellan's findings with respect to the Nasdaq Composite. When the Nasdaq outperforms the S&P 500, it is bullish for stocks as a whole.

As reported, when the OTC market leads in relative strength, the S&P posts annualized gains of 14.6%. When Russell 2000 Value is dominant, the annualized return drops to 7.1%. We cited similar findings regarding OEX relative strength.

But those annualized gains portray a static, hypothetical edge. The picture changes when we take into account the real-world impact of switching. On this basis the OTC strategy returned a modest

11.8% a year. This is no better than the S&P 500's return over the same period. What seemed like a sure way to beat the market wound up falling short.

Despite the apparent letdown, I was convinced there was real merit in the OTC and OEX findings. I wrestled with the relative strength tendencies for weeks in an effort to realize their full potential.

That was when I tried combining three of this study's featured price patterns into a larger whole. No single indicator could do the job in isolation. But when I treated the patterns in interaction, results proved compelling. The exact trading rules appear below. They build on three of Tom and Roger's key findings.

First, take the ratio of the Nasdaq Composite to the S&P 500 on a daily basis. When this ratio is above its 50-day simple moving average, the indicator is bullish. When the ratio is below its 50-day smoothing, the indicator is bearish.

Repeat with the OEX index. Take the ratio of the OEX to the S&P 500. When that ratio is above its 50-day simple moving average, count the second indicator bullish. When the ratio is below its 50-day smoothing, rate it bearish.

Finally, compare Russell 2000 Growth to Russell 2000 Value. Use the same relative strength ranking formula cited throughout the study. When Russell 2000 Growth is dominant, count this third indicator

bullish. When 2000 Value leads, rate the indicator bearish.

When all three components are bullish, purchase an index fund keyed to the S&P 500. This benchmark is traded in ample depth, thereby boosting liquidity. Good choices include the Amex Spider (SPY) and the Vanguard Index 500 (VFINX). Meanwhile, when all three components are bearish, exit to the money market.

Since mid-1993 this model returned 15.3% compounded annually. That beats every FORMULA RESEARCH stock market timing model over the same time frame. Of 17 long entries, 14 were profitable, an 82% batting average.

As for risk, drawdown was held to a moderate 11.7%. That also beats all of our published timing models over the test period. Meanwhile, the S&P 500 returned 10.7% and suffered 47% drawdown since mid-1993.

This powerful switching strategy draws on the unique research of Tom McClellan and Roger Kliminski. We are grateful to these gifted analysts and money managers, who combine scholarly inquiry and rich practical experience. □

NOTE: Hypothetical testing such as that reported here is not as accurate and dependable a measure of profitability as actual trading results. Even if simulated historical testing were completely reliable, which is not the case, past levels of performance cannot be assumed to prevail in the future. It is not our intention to state, suggest or imply that any technique or treatment found in FORMULA RESEARCH can guarantee profitable investment results. Trading should be undertaken only by those well aware of the many risks.

