



The following is an excerpt from a discussion on the NAAIM Adviser Exchange...

Posted on Monday, April 23, 2007 - 05:06 pm:

To carry on with a theme of the CRAM session in February, on trading

At the end of each year, I try to review as many of my trades of the past year as possible (I know, I'm late this year). The idea is to learn and figure out "what went right - what went wrong", and make any necessary adjustments.

What I'm feeling is that trading sectors, in the short term, is getting harder. (What I'm referring to is holding a "tradeable" for 2 to 8 weeks; a.k.a. sector rotation.)

A few years ago, it seemed like you could be successful with a simple relative strength approach (buy what's going up). I've phased in security momentum to that approach, with improved success since it reacts faster. But I'm seeing even that is starting to falter. The next approach that I'm investigating is a "reversion to the mean" philosophy; more toward classical swing trading.

Just wondering if other active sector trading managers have any comments or observations to share. Success stories welcomed !

(Please feel free to be as specific or general as you wish. Maybe something to discuss in Orlando over a "cool one".)

Posted on Monday, April 23, 2007 - 05:38 pm:

I am reminded of one of my favorite books, "The New Market Wizards". Each trader was asked about their worst trading experience, and they all basically said that they gave up on their system after a bad period, and as soon as they did, had they stayed with it their models took off.

I've read several pieces that just concluded that last year was a tough year for sector rotation. Makes sense with what I thought was higher than normal market schizophrenia. Personally I found that stretching out my signals to longer minimum hold periods helped, kept me from getting whipsawed in and out as often. 📈📉📊📋

Posted on Monday, April 23, 2007 - 05:58 pm:

Momentum/Relative Strength based systems flourish during -and actually require- trending markets.

The squeeze in volatility over the past few years has made these systems tough to trade.

In my presentation last year at the Sector Rotation Cram in Vegas, and at the Phoenix national meeting I shared a concept we developed called Trend Quality for intermediate term Sector Rotation.

There are various approaches that work..and generally result in <25% per year using single beta funds like Rydex or ETFs, and higher returns (with more volatility) with Profunds.

For example, in the 11 months since presenting last year in Phoenix, our application of the model is +22%.

I'm sure there is a copy of the presentation around somewhere, or I can send you the slides if you like.

Posted on Monday, April 23, 2007 - 06:32 pm:

For momentum based systems, longer-term look back periods were generally more favorable in 2006. For example:

Using straight return calculations as a ranking formula (ROC) and varying the ranking period from 10 days to 300 days on a system based on holding 4 Fidelity Select Funds for a minimum of 30 days shows that the best ranking periods were in the 200-240 day range (rank and buy based on 9 month to 12 month performance).

The worst ranking periods were those in the 35 - 50 day range.

Sector rotation is occurring, but it might not be happening at the frequency (cycle period) that you are trying to catch. 📊📈📉📊📈📉

Posted on Monday, April 23, 2007 - 07:33 pm:

Thanks for the terrific comments guys. Hopefully this will stimulate others into the conversation thread.

A 200 day look back, kind of concerns me. Mostly about Max DrawDown; I hate to "hang in there & be patient". But I see your point & agree that last year, it was probably a good time frame. Perhaps a long look back (trend) with a reversion to the mean (trigger); hummmmm.

Who knows what lies ahead . . . the Shadow Knows (whoops, dating myself 😊) 📊📈📉📊📈📉

Posted on Tuesday, April 24, 2007 - 01:35 am:

Reversion systems seem to work best in trendless or trading range markets. I have transitioned from spreadsheet analysis that served me very well in 1999-2002, but less well after that, to more of a visual trading style thanks to Lee Harris teaching me Fast Track and Bill Barack's CDs on Amibroker. I like using the charts a lot better. Rather than rank over specific periods like I used to, I look for turnarounds, breakouts, divergences, confirmations, etc., and only when I have a consensus of indicators do I begin to guess.

As that famous market philosopher Will Hepburn says, "if a picture is worth a thousand words, then a chart is worth a thousand numbers" (at least I think that's an original line) 📊📈📉📊📈📉

Posted on Tuesday, April 24, 2007 - 09:21 am:

T. - don't confuse long look back periods with long holding periods. Drawdowns are typically a function of holding period, not the look back ranking period. Theoretically, the drawdown would not be affected whether your look back period was one week or one decade. It is possible to have a system with a one decade look back and just a one week holding period. It should have a much lower drawdown than a system with a two week look back and a 4-month holding period. I'm not saying either one would be a good system, but it can perhaps help you assess the impact of each of the variables. 📊📈📉📊📈📉

Posted on Tuesday, April 24, 2007 - 03:12 pm:

This discussion is skating on very thin ice. I'm not getting the sense that all participants realize the extent of the complexity or that this topic is the root of all evil in our profession. They say the devil is in the details and in this case the devils vice is time and historical data.

Most all technical analysis and asset allocation solutions are based on historical data. Because of this we are looking in a rear-view mirror to drive forward. This is in the lieu of Wall Street's disclaimer that 'past performance is no guarantee of future results'. Accepting the premise that we rely almost exclusively on historical data with mutual funds and ETF's (unless you over-weight an econometric model or top down approach), then the question is really how do we weight the data?

In technical analysis many assume the software program defaults are the correct algorithm for trading.....NOT! Why is a MACD 12/26/9 the best fit for all securities? Let say you had an algorithm for the algorithm that would find the best long/short moving average (12/26) and the best smoothing average (9); Lets call it the Best Of Right Now (BORN) model. The BORN program would show you that all securities have their own vibe (if you will) or frequency in which they like to be traded and smoothed. If you had the BORN algorithm you would feel quite smug that you could out-perform all those others stuck in the old 12/26/9 DEFAULT paradigm.

One day you are boasting to your hedge fund buddy about the merits of BORN. Then he drops the bombshell on you to say that BORN, albeit better than DEFAULT, is really quite sophomoric because the characteristics of each security changes with the market. In other words, what works well for one point in time rarely works all the time in all market conditions. This is most obvious when examining: trending vs. sideways markets and volatile vs. non-volatile markets. Then he informs you that you need a newer algorithm to change the timing of the algorithm; on that is dynamic and tracks the market to find the best time frame to trade (time parameter estimation). This 'Re-sampling' of data layered on top on the BORN program he coins RE-BORN. Using RE-BORN the financial engineer can sample time periods to elongate or shorten the time period to trade and find the appropriate algorithm to best fit the security.

So who do we handle data? Well that is the question. In asset allocation I can tell you that Mean Variance is dead from a practical sense. Markowitz himself only used it because he couldn't get the data he needed to forecast in the 1950's. There is a wealth of white-papers and research studies proving that mean-variance is a poor estimate of future performance. In fact, Sharpe announced last fall that MVO, Beta, & CAPM need a makeover. One alternative is to weight the newer information heavier than the old making the new information more valuable. Sound great eh? This is called an Exponentially-Weighted Moving Average (EWMA). However, the kink in the armor with EWMA is the older data becomes worth less; or should I say worthless, as time goes by. EWMA works similar to the Present Value of a dollar (PV\$) formula. Today, a dollar is worth a dollar, but a dollar 10 years ago is worth substantially less because it is discounted over time. This is what also happens with the value of your data over time using EWMA.


A good example of the flaw in using EWMA can be seen in the optimization process of an asset allocation model. The good news is that EWMA would definitely be on top of the current volatility but the bad news is that it would not predict/foresee another 87' crash, Asian currency debacle, or Russian meltdown because the historical data has been minimized. The effect is accentuated with using a forecasting tool, ala Monte-Carlo Simulation.

The most current solution is to track the clustering of volatility; a concept called GARCH that won two men the Nobel Prize in Economics in 2002. Without getting into GARCH, other than to say it is a method of tracking the clustering of data, I simple need to state the importance of Monte-Carlo Simulation (MCS). That said, I do not advise MCS using mean-variance or normal distributions; it's garbage in garbage out. The reason why is you can't see the fat-tail events using normal distributions and forecasting with MVO will simply give you the same results you started with because its averaging the historical mean.

Another topic on thin ice is the use of back-tests. Back-tests can be a recipe for disaster in most simulation models because the wrong form of back-testing methodology is applied. The back-tests offered with most financial packages works in such a way as to try to fit an algorithm to the data. In other words, you tweak your inputs (MACD, RSI, OBV, DeMark, P&F, etc.) to increase your historical returns. A more scientific approach is called the Blind-Pool Methodology whereby you state your trading algorithm (no tweaking) and then program the trade to occur when your defined signals are

met or, in the case of asset allocation, it is time to rebalance. The book 'Fooled by Randomness' is a must read if you can handle Nassim Taleb's ego.

The only other point I can't stress enough as a red herring is the volatility inherent in sectors. So as not to pick on any fund families I will use the S&P sector funds. Do you have any idea how much volatility is in each sector? Using a three year standard deviation the S&P 500 is ~7% (this is near an all time historical low whereas it was near an all time historical high of 18% in 2002). Obviously a single sector is going to be more volatile than a broad based index. But by how much? Would you believe the DJ Technology sector is near the lowest at 7.77% and that the DJ Energy and DJ Natural Resources is near the highest at ~33%? If you try to run an asset allocation model using these sectors it is impossible to get your risk below the index. This is why you need alternative asset classes (fixed income, real estate, etc.). It is my opinion that many people are playing with fire with sectors because they don't respect the inherent risk of sectors, the time frequency of the trading algorithm, or the proper time frame to analyze the data.

It bodes well to always question where an algorithm/formula/strategy comes from, how it works, why it's the best indicator for investing, and how does it work/integrate with other solutions. Knowledge is Power – Sir Francis Drake 

Posted on Tuesday, April 24, 2007 - 03:40 pm:

Well stated points and I agree, anyone attempting to build trading models without accounting for the various issues you illuminated is a blind man on a tight rope.

However, there is one foundational difference to your perspective versus the previous posts on this topic: Portfolio construction is an entirely different discussion than a single trading system or model.


I believe the sector rotation approaches being discussed are actually designed to benefit and EXPLOIT volatility, not run from it.

How much sector rotation you should have in a portfolio? What are the position sizing, scaling, risk management and exits? What other trading strategies/asset allocation holdings should be included in the portfolio mix?

These are the determinants of overall portfolio volatility and return. One is VERY hard pressed to find a single trading model that gives you everything you need: consistently better than average returns with low volatility.

(OK, let me get my soap box out for a minute.)

The recent explosion of hedge funds of funds and multi-manager platforms is a leading indicator of why this is so effective. An article in Investment News last weeks highlights the issue of multi-strategy portfolios: <http://www.investmentnews.com/apps/pbcs.dll/article?AID=/20070416/FREE/70416003/-1/INIssueAlert04&ht=multistrategy%20multistrategy>

It's been discussed at length in various posts on our board: Strategies go in and out of favor. With a few exceptions, (as there always are) advisors or traders dependent upon a single methodology- be it timing, rotation, asset allocation optimization or whatever- will continue to find it difficult to consistently outperform the markets 



Posted on Tuesday, April 24, 2007 - 03:47 pm:

Ooops...I hit post too quickly.

So the conclusion here is yes, all the dangers of back fitted models, over-optimization, survivorship bias and forward/backward skewness are issues to be addressed when building trading models.

But issues surrounding portfolio volatility and skewness aren't necessarily strategy level concerns, but

rather strategy allocation issues at the portfolio level.



BTW- much of this was covered in our Houston CRAM session in Feb on Sector Rotation and Quant Models. The entire meeting was recorded and videos are available. Contact Susan for details. 


Posted on Tuesday, April 24, 2007 - 04:13 pm:

Yes, I did move from security selection to portfolio construction, or stated differently, from market timing to asset allocation. What I was really trying to convey is the importance of selecting the proper time frame and algorithm, both with market timing and asset allocation. And yes you are correct to point out that they completely different beast but do share the same underlying historical data, thus creating major problems with both topics.

I didn't mean to disparage sector rotation or hint that one couldn't be effective long term using said methodology. What I do believe is that an asset allocator needs to run from volatility while finding diversified assets, whereas the market timer prefers volatility and is indifferent to diversified assets (I agree with you here and I should have been more articulate). However, both are trying to find the best algorithm that fits the data today, while compensating for the current market conditions. This lack of data/time accuracy is the fear I have in all models.

So for the sake of a good old intellectual conversation why stop at market timing? Why not add more features: value metrics, money flow analysis, econometrics, fundamentals, etc.? To me market timing is only one piece of a larger quant model and I do believe is a very valuable piece of the overall equation. Having built Drexel Burnham's consulting platform, managed fund of hedge funds and quant models, as well designed the portfolio optimization solution built by Smart Portfolios, I am very comfortable with multi-strategy portfolios and endorse them. My only concern is that many Sector managers are not questioning the: who, what, where, whys of their trading algorithm or asking how it fits into the larger picture of multiple algorithms or asset allocation models.

Basically I'm sure we are saying the same thing but I should have organized my statement with better precision and clarity. Thanks for bring that to my attention. 


Posted on Tuesday, April 24, 2007 - 04:19 pm:

Maybe if we put both halves of our brains together...we would have the perfect mind?

hmm...(finger tips pressed together)...thinking...

We could RULE THE UNIVERSE.

MMUU HHAA HHAAA HHAA HHAA.

Wait. Sorry. Did I type that out loud?

never mind.

which way to the beach?



Posted on Wednesday, April 25, 2007 - 08:38 am:

Soooooo, it sounds as though you are heading down the past of Walk Forward testing..."optimizing" an indicator's parameters to more recent data. Am I (at least partially) correct?

If so, it's curious that we don't hear much discussion on WF.

Posted on Wednesday, April 25, 2007 - 09:34 am:

I presented Walk Forward, "In sample/Out of sample" and Sensitivity Testing at length at the last cram session.

You must have been out getting coffee. 😊

On another note, is everyone wearing their DOW 13,000 hats today? :D



Posted on Wednesday, April 25, 2007 - 11:09 am:

To quote the best in the asset allocation business:

Regarding stress-testing of portfolios (Monte Carlo Simulations): "I urge that it become a standard tool of portfolio construction."

and,

"Extreme Value Theory, borrowed from the insurance industry, is on the right track; it assumes prices vary wildly, with fat-tails that scale."

Benoit Mandelbrot

Inventor of Fractal Geometry, Sterling Professor at Yale University

Wolf Prize in Physics, Japan Prize in Science & Technology

The Misbehavior of Markets, Mandelbrot & Hudson, 2004

The problem is that most folks try running simulations using mean-variance optimization, normal distributions, or usually both. Normal Distributions inadequately capture tail loss and become flawed after one standard deviation. The only way to capture the tails of distributions is with a 'Stable Distribution'; sort of like comparing an off the rack Men's Warehouse suit to a tailored Zegna or Armani Black Label. To quote another expert:

Much of the real world is controlled as much by the "tails" of distributions as by means or averages: by the exceptional, not the mean; by the catastrophe, not the steady drip; by the very rich, not the "middle class." We need to free ourselves from "average" thinking.

Philip Anderson

Nobel-prize-winning physicist

The second issue is in using Mean-Variance Optimization (MVO). MVO assumes that the average of all past performance will be your future return. So run a thousand simulations and you'll get the same answer, the average of past returns (worthless). However, if your data distribution is dynamic (GARCH) with fat-tails that scale (infinite variance in Stable Distributions) then you can do some serious Monte-Carlo simulations.

In Extreme Value Theory the financial engineer can run a series of simulations (at 100,000 simulations per run). This part of the process is quite complex, in fact, we only let our physicists run this part of the model. This is not to say you need to be a physicist or financial engineer to run simulations. We only do because we've added layers to our process.

If E. discussed 'In Sample/ Out of Sample' and Sensitivity Testing, and you understand it and are starting to deploy it, then you are well down the right track. I urge all professionals to learn this stuff. To me, it should be a required tool for anyone managing the monies of others (at least when it comes

to asset allocation). I wouldn't use it if I were a value manager - as an example.

On a final note, we only forecast out one month. We don't use it to simulate pretty landscape charts to illustrate the growth of \$1000 over time. 🇺🇸🇩🇪🇬🇧🇨🇦

Posted on Wednesday, April 25, 2007 - 11:10 am:

At the Houston Cram (or perhaps it was the Amibroker part of that trip) there was a discussion of how to recognize when a strategy was broken, what to do about it, and whether you should try to fix it or discard it and start from scratch to develop a replacement strategy that would work in the present (BORN Again?)

The fact that we all need to plan future actions using only past data is a structural fact of life for all of us.

That is why this business is as much art as science.

We should be grateful that this is the case or we would all be replaced with a computer - probably one in India. 🇺🇸🇩🇪🇬🇧🇨🇦

Posted on Wednesday, April 25, 2007 - 11:49 am:

Maybe we will have to start another thread where B. and I can continue the love fest between us...but all excellent points!

We've hit on some pretty heady stuff, so let's put some real world conclusions to all this modeling, physics and math gymnastics:

#1. While there are a myriad of hidden dangers to building quantitative models, one has to start somewhere. I encourage everyone to put their investment beliefs to the test, and gain some "expectancy (that word is for you Ann)" to their trading. Expectancy means you have a clear understanding of what you expect from your portfolios in terms of returns, volatility and drawdown. It brings some serious peace of mind even during periods of decline, when you know you are inside your expectations.

#2. Let's never forget that all of this work is designed to for one purpose: Help us run our businesses. I don't know about you, but I'm in the BUSINESS OF MANAGING MONEY. While researchers, journalists and newsletter writers have the luxury of making wild claims without having to be substantiated, your track record is permanent.

This isn't just some intellectual exercise.

At the end of the day, do I REALLY care what I'm trading...where...or how often? Nope. If there is a better way to provide consistent returns with low volatility for my clients, that will ensure they stay and continue to pay my fee, and continue to attract more assets to our firm....Sign me up.

That's the reason we need to continue to be curious. That's the reason we need to be vigilant about our trading models, and constantly testing new ideas for better ways of doing things. If you have decided that this isn't for you....then team up with someone who does.

The markets are dynamic, and we've all watched very large successful money management operations go bust because their investment methodology was past its prime.

All this work on quant strategies can help provide road markers that a strategy or methodology is losing its effectiveness...its edge...long before you go out of business.

I'm going to shut up now.

-e. 🇺🇸🇩🇪🇬🇧🇨🇦

Posted on Wednesday, April 25, 2007 - 12:35 pm:

Please don't shut up. This is good stuff.

I'm a little torn right now, as to whether or not it's the right thing to really get into the nitty-gritty of building these systems. For those who attended the AmiBroker Conference in Houston (which proceeded the CRAM Session) we had probably the best single introduction into building Quantitative Trading Systems that I have ever seen! I'm not trying to tell you that I have (seen) something you have not, because it was presented to everybody there. I'd like to save the details of our conversation for the upcoming conference in Orlando... over a "cool one," as Tom says.

My concern is that TOO MANY of us will find the same answers at the same time, and we won't be able to exploit our advantage(s). There is SO much more to learn, and I really appreciate people like Eric and Bryce who are so willing to discuss and share some of their experiences and knowledge.

I'm working on a project right now (like most of you) that incorporates some of this walk-forward and adaptability that we are all dancing around. I have a feeling it will never be completed to my satisfaction and it will certainly be a life-long project.

I can't wait to sit down with all of you over "a cool one" and talk about some of this stuff face to face.



Posted on Wednesday, April 25, 2007 - 12:59 pm:

Your last comments was a thing of Beautiful. You're RIGHT ON!

Last March 2006 I noticed that something was wrong with my beloved Growth Model. The model that I had come to depend on for so many years seemed not be responding as in the past. I ran numbers over and over just to come to the same conclusion. My beloved Growth Model was sick. It was now May and I had to decide what to do? I could stick with the model that I had come to love and depend on or call Dr. Death to put it and me out of our misery, what should I do? It was a simple yet difficult decision.

Several months before while at home taking care of my wife that was recovering from back surgery, I had an investment idea. It was totally different than my beloved Growth Model. As I begin to research my idea and run countless numbers of comparisons I begin to get excited. Could this idea work? As good of returns, smaller drawdowns, and less maintenance. Only time would tell.

By July of 2006 it was over. My beloved Growth Model was put to rest and my new Growth Model took it's place. It wasn't until the end of 2006 that I realized to the fullest that my decision to put my Beloved Growth Model to rest, saved my practice.

I love happy endings. Our clients was able to enjoy almost the entire July to December rally, and that made everyone happy!!! What about that old growth model, how did it do? It would have missed almost the entire rally and I would have missed all of my clients.

As a Fiduciary it is my obligation to do what is in the best interest of my clients, even if that means putting a trading model to Rest.



Posted on Wednesday, April 25, 2007 - 02:51 pm:

A recent book, which R. told me about, has a great discussion about systems development using backtesting, which he usually calls data mining. The book is "Evidence-Based Technical Analysis: Applying Scientific Method and Statistical Inference to Trading Signals: by David Aronson.

It is somewhat heavy going in places and seems to leave no stone unturned or without a thorough geologic analysis. Among other things, he comes down heavily on most of what he says passes for technical analysis because scientific method can't be applied to it.

I am about 3/4 of the way through the book, so I may not be providing as complete a picture as I might. To summarize quite briefly, he says that backtesting/data mining is a good news, bad news story. The good news is that the model that emerges with the highest return is likely to be the best of all the models tested with regard to expected future returns. The bad news is that the modeled returns are biased to the upside, so the model can't be expected to work as well in the future. However, he discusses the factors that affect the amount of the upward bias in the returns and provides estimates of how much it is in some cases.

The book also discusses methods of out-of-sample testing including walk forward testing. Given its \$95 list price, it is not going to be a best seller, but I think it is well worth it for those of us who rely on backtesting as a key component in model development. 🙌👍👍👍👍👍

Posted on Wednesday, April 25, 2007 - 09:45 pm:

Back testing is definitely a skill we should all learn. Personally, I have delusions of adequacy in this area.

I'm wondering if a nuts and bolts back testing session at next year's conference might be in order. You all would get drafted to be the stars, I would hope.

One concern is could the topic be done justice in a 60-90 minute time slot at the national conference, or should it be suggested as a topic for a CRAM or part of one, anyway? 🙌👍👍👍👍👍

Posted on Thursday, April 26, 2007 - 09:23 am:

This is a great discussion, Thanks for responding to my original post. I see the big picture as being portfolio management, which is tailored to the client needs, and the money management strategies within that portfolio. Both are very important, and Bryce has briefly brought forth the portfolio side; there's so much more to discuss & learn tho.

Will, excellent idea. Perhaps we need a full CRAM session, with 1/2 on portfolio selection & management and the other half on the trading strategy side. We could volunteer B. & E. to start us off 😊, two experienced guys.

My original thought was based on short term, tactical money management, and it sounds like there could be a lively discussion on that alone. I'm with Eric, coming from the "quant side". There are so many tools out there to TRY and stress test an idea (genetic parameter evaluation, walk forward, monte carlo, etc.), we owe it to ourselves to at least be aware of these tools and understand there application and limitations.

Sign me up for an extended CRAM session. I'm sure that R. & I could solve a lot of problems even after class; over a "cool one". See you folks in Orlando. 🙌👍👍👍👍👍

Posted on Thursday, April 26, 2007 - 09:25 am:

I have been working on refining my portfolio construction for several years now. I asset allocate with stop losses to minimize drawdown. My risk management has been great but my returns too tepid. Two years ago I switched my models to a more complex portfolio construction that seems to be the best of both worlds.

In the context of this discussion of sectors, I will limit my discussion to that as well.

First step is to chart all of the sectors in your model and remove all of the sectors that are overvalued. We all have our own definition, but, I define that as a RSI of 70+. This is for a buy not a sell.

Next step is to back test using multiple time horizons. I pick a high point in the market recently, such

as November 24th for short-term. In addition, I look back 1 year and two. I run 5 models using different risk/return parameters but the same time horizon. I then take a look at what sectors are in play. Out of the field I select the sectors that are present in at least 3 of the 5 models. This sets me up for my final 'filtered model'.

The filtered model only has the assets that are in play. I'm using correlation analysis to optimize my portfolio so I want to exclude the unwanted assets. In this new run I look back two years and 6 months for the sectors. In my five runs adjusting risk/return parameters again with this time horizon I pick the portfolio that offers the highest risk adjusted return. My last model on the Rydex sectors was April 6, 2007.

Annualized from 01/02/2007- 04/06/2007 (04/26/2007)

Return 28.98 (33.92)

STD DEV.12.41 (11.89)

SemiVar, %8.88 (8.29)

Max Draw5.77 (5.77)

Sharpe Ratio1.9688 (2.4662)

Sortino 2.7515 (3.536)

Calmer 4.2308 (5.0738)


Notice the high Std. Deviation. What I do for sectors is when MACD turns negative the sector model goes into cash. For the curious on how Rydex allocations looked on 04/06:

RYVIX 26.5541%
RYHRX 19.1878%
CASH 12.0721%
RYWBX 9.2672%
RYPMX 7.0503%
RYHIX 6.2753%
RYMIX 6.2393%
RYIIX 5.1504%
RYRIX 5.0824%
RYCIX 3.1207%
RYLIX 0
RYEIX 0
RYKIX 0
RYOIX 0
RYMBX 0

This portfolio eliminated 75.6369% of the std. dev. Of the average std. dev. Of the assets in the portfolio and improved the Sharpe ratio by 59.1252.

I hope this helps the discussion board. 

Posted on Thursday, April 26, 2007 - 12:24 pm:

What software do you use do "run your models" 

Posted on Thursday, April 26, 2007 - 12:29 pm:

It's proprietary. I get my downloads from a Cisco VPN. The calculations are routine, however. 


Posted on Thursday, April 26, 2007 - 12:49 pm:

Most of my original message DID relate to security selection, not portfolio construction, but if the shoe fits....

K., you bring up some interesting points. With RSI you really want to be clear of your intention. Momentum players like a big ascending RSI, whereas a GARP investor like to pull from a low levels, say 30 or lower, and buy on the breakout.


If you all can bear with me a moment, I'll share one of my favorite secrets for visualizing RSI (although I don't use it anymore); the same works for stochastic and MACD. Imagine you have a chart of up days (up) and down days (dn) over the course of time (t). If you chart these up & dn days you will get a frequency distribution that looks similar to the old bell curve, normal distribution. Obviously most days fall in the middle of the distribution because most days the markets are slightly up or down. Out in the tails are those fun market days of extreme highs and lows. Okay so far?

Here is where it gets fun: turn the chart on its side and butt it up against an RSI, MACD or Stochastic chart. What you will see is most the activity comes in the middle of your technical charts, just as it does in the frequency distribution. Since this middle section is basically just noise you ignore it; which is why you don't trade off signals in the middle of these indicators. Because securities do exhibit some form of mean-variance, albeit more short-term vs. long term (I refute long-term) a technician will sell once the signal breaks below the threshold (i.e. 70% for RSI). Ideally, the technician should wait for the second signal (crossover, drop, etc.) to see if it hits a higher high or a lower high; the second would be your sell point. This method works very well for momentum buyers too.

The second notable comparison is relates to the technical default setting (again I say: ask why!). Why do we use 70/30 on RSI? Some securities traded best at 60/40. This is because every security is different. Now compare this to the frequency distribution. Since securities all have different standard deviations (variance more accurately stated) not all securities have the frequency distribution. So a low risk (variance) security will more than likely have a lower trading band, ala 60/40. The lower volatility securities tend to trade more consistently back to the mean too.

The real key here is knowing the proper time parameter estimation to trade. In other words, what is the optimal data set (time frame) AND how do you weight the data (EWMA, MVO, GARCH) AND how volatile is the market. What Wilshire & Assc. does is use a shorter time frame (and therefore weighting the newer information more heavily) during volatile markets. When the market becomes less volatile they add more historical data, and when the market is trending in a boring stupor they use a very long time frame (up to 40 years or more). They call this the Multi-horizon strategy. You can steal their name, you have my permission. So Kelly is on the right track!

My BIG concern in the math used in practice: Correlation, VaR (including Semi-VaR), Sortino, Sharpe, et al. Yes, they are the best of what is taught in CFA, CFP, IMCA, GARP, PRMIA, etc. but they are defunct. Find ANY stock that has a normal distribution; it doesn't exist. However, stable distributions show the fat-tails and better estimates risk. As for correlation, it is worthless too. Here is why. Tell me the correlation of any security (pick a card, any card). Now tell me what the correlation was on 9-17-2002, or during the Asian currency crisis, or Russian bond default, or 87' market crash, or the first week in February, or or or. Correlation goes completely positive! The old prose is: The only thing that goes up in a down market is correlation. This is where Copula Dependency comes in. The last major factor is Sharpe. With Stable Dist, Dependency models, GARCH, and forecasting you can take forecasted returns, less the risk free rate, and divide by current risk and get a real time Sharpe ratio; what I affectionately call the Smart Ratio. That said, Sharpe is fine for comparing historical performance, which is what it is good for. K., what is Calmers? Oh my god I don't know it. What is it?

Gang, I need to bow out of these discussions to get some work done. All the best - 

Posted on Thursday, April 26, 2007 - 01:06 pm:

Hi All,

It is my general feeling, after years of testing and working with many people who are much better at analyzing strategies than me, sector investing has very high drawdowns and will not protect you from bear markets.

I also believe that if you combine a very low risk strategy with a high risk strategy, like sector investing, and allocate a small portion to the high risk strategy your drawdown will be less than investing 100% in the high risk strategy.

Yes, you can make anything look well over a short duration.

I do not believe that by combining two high risk strategies that appear uncorrelated you decrease your chance of portfolio drawdown. Imaging for a second allocating 50% of your portfolio into two strategies which have drawdown's of greater then 25%. This will increase your probability of having down years and not stop you from incurring large losses.

Also if you go into a strategy that you have tested to the beginning of time, and it has multiple drawdown's of greater than 25%, who is to say that a new maximum drawdown will not be hit. Backtesting is great but it is just a guideline. I would always take your worst drawdown in simulations and double it. I would also take the compounded annual return and cut it in half. If you are comfortable with this great if not throw the strategy in the trash and find something else.

What I do believe in is building a portfolio of strategies which are not correlated to each other, each of which have low drawdown's (not more then 15%)

Whether investors know this or not they want consistent returns and with low drawdown.

Anyway this is just my opinion.

Posted on Thursday, April 26, 2007 - 01:19 pm:

B. is also confirming my views on Relative Strength as a Sector Rotation method. (R., close your eyes)

B.'s comment : "As for correlation, it is worthless too. Here is why. Tell me the correlation of any security (pick a card, any card). Now tell me what the correlation was on 9-17-2002, or during the Asian currency crisis, or Russian bond default, or 87' market crash, or the first week in February, or or. Correlation goes completely positive!..."

This is the exact reason I shared my personal opinion in my presentation at last year's Sector Rotation CRAM and the National Meeting- Relative Strength is a dangerous proposition as a pure security selection tool....regardless of your look back.

I think my exact words were "It works...until it doesn't"

In order for relative strength to NOT blow up on you, correlations must remain constant. In the living, breathing markets correlations are anything but constant.
Be very careful with systems built solely on Relative Strength.

P.S.....It's 85 today in Laguna.....if you need me I'll be at the beach! 🏖️🌊🌴👙👚

Posted on Thursday, April 26, 2007 - 02:27 pm:

R. Here (with eyes wide open),

E., It might surprise you, but I agree with 99% of what B. says, and, well 91% of what you say. You guys are awesome! - really, and I appreciate your thoughts which are right on. Also, you have always have great new ideas that I haven't even considered.

However, (our) relative strength strategies using sector investing do work. Our (pure) sector strategies are doing very well, and hold up (outperform) in down market as well. In one discipline we are using a relative strength measure that we developed 17 years ago... and in the other, more than 10 years ago. I don't need to defend our track record, it's there on our websites for anyone to see.

So I'm in agreement with just about everything, except that you may need to do a little more research on relative strength to make it work for you... I think the work you do is exceptional, just because your haven't been able to make RS work for you, doesn't mean it doesn't work.

Is there a better approach? Oh, I'm pretty sure there are many, so keep on perusing them. I know I am. There are hundreds strategies that work (and thousands that don't). RS works for some of us.

We don't have a beach here in PA, so I'm just going home to my lounge chair.


Can't wait to see you all in Orlando!

Posted on Thursday, April 26, 2007 - 02:57 pm:

Calmar Ratio

Calmar Ratio is like the Sharpe ratio but it substitutes the Maximum draw down for Standard Deviation. When Maximum draw down is selected as the risk definition, the Calmar ratio is the utility function or vector length.

The equation for Calmar Ratio is: $(\text{Return} - \text{Risk Free Rate}) / \text{Maximum Draw down}$

I personally believe correlation analysis is indispensable in portfolio construction. The problem is that it's primary application is looking at the linear relationship between two assets, which is not all that valuable. The proper application is the linear relationship each asset has relative to the composite portfolio. If you draw short and long term time horizons for your look-back, I believe the forward expectation of 10-14 days would be reasonable. 

Posted on Thursday, April 26, 2007 - 03:34 pm:

Thanks to everyone for their wonderful comments. We tried to have a CRAM covering these topics in Houston but it just didn't work out. We will have a CRAM covering these topics within the next 12 months so stay tuned.

Here is a little more clarification on the Calamar Ratio. I have used it for years but didn't realize it had an official name until I bought Pertrac. Before the official name, I called it a reward/risk ratio. If a strategy has a ratio of 3 ($30/10 = 3$), it means that you are getting 3 dollars of reward for every dollar of risk. I agree with Kelly in that this calculation is a must use in evaluating strategies.

To be more conservative, you might want to use the Sterling Ratio instead. In either case, below is a more concise definition of both:

Calmar Ratio - This is a return/risk ratio. Return (numerator) is defined as the Compound Annualized Rate of Return over the last 3 years. Risk (denominator) is defined as the Maximum Drawdown over the last 3 years. If three years of data are not available, the available data is used. ABS is the Absolute Value.

Calmar Ratio = $\text{Compound Annualized ROR} \div \text{ABS (Maximum Drawdown)}$

Sterling Ratio - This is a return/risk ratio. Return (numerator) is defined as the Compound Annualized Rate of Return over the last 3 years. Risk (denominator) is defined as the Average Yearly Maximum Drawdown over the last 3 years less an arbitrary 10%. To calculate this average yearly drawdown, the latest 3 years (36 months) is divided into 3 separate 12-month periods and the maximum drawdown is calculated for each. Then these 3 drawdowns are averaged to produce the Average Yearly Maximum Drawdown for the 3 year period. If three years of data are not available, the available data is used.

Where D1 = Maximum Drawdown for first 12 months

Where D2 = Maximum Drawdown for next 12 months

Where D3 = Maximum Drawdown for latest 12 months

Average Drawdown = $(D1 + D2 + D3) \div 3$

Sterling Ratio = $\text{Compound Annualized ROR} \div \text{ABS} ((\text{Average Drawdown} - 10\%))$

I hope to see everyone in Orlando soon.



Posted on Thursday, April 26, 2007 - 05:13 pm:

I really don't want to continue to beat the dead horse, but, I think some of you might find this very interesting. It follows the string of conversations of correlation analysis and portfolio construction. What if I told you that you can construct a Global ETF acct that exhibits less risk (pick your measure) than the market (S&P 500) and outperforms the market by over 100% (no I am not talking about 100% return).

Portfolio from 04/13/2005 – 04/13/2007.
Portfolio analysis
Sharpe ratio 10.8 vs. 1.9 for assets
St. Dev. 4.0157 vs. 22.823
Max Drawdown, % 2.6311 vs. 9.9
Losing Observations 220
Winning 350
Net Diversification Benefit on St. Dev. 98.4399

Without correlation analysis and distribution analysis of returns regarding the efficient portfolio construction, how can we do our job? If we decide to buy India (IFN), how will China(FXI) affect our risk return matrix? If we have a stop loss on South Africa, how does that affect Global Consumer Staples (KXI)? I know I'm back-testing. The more data that is used in the test the more valid the assumptions are going forward, right? I want to see three dimensionally. I can tell you with 99.5% confidence that the maximum loss we will sustain over a 10 day period of time is \$13,659.40 on a million invested. I can't make projections going forward further than that. Is that not basic statistics? This is plain vanilla stuff.

I broker from a major wire house gave a client a presentation with 13 assets as a recommendation. They took the sum of the standard deviations and then divided by the weighted average for the portfolio. My understanding of basic Finance is that the logic is sound but the answer is seriously flawed. It assumes that all of those assets are exactly correlated, does it not? What if you had two assets that were negatively correlated and you put 50% of your money into each asset, what would be your st. dev? Not the sum of the two divided by two. Maybe someone can set me straight, please.

Just food for thought

Posted on Thursday, April 26, 2007 - 05:31 pm:

Sorry, I didn't mean to go off the deep end.

Posted on Thursday, April 26, 2007 - 05:31 pm:

I'm confused. You state that you have 99.5% confidence that your maximum decline will be 1.36%, yet your backtest results show a 2.63% drawdown.

I don't know if this Global ETF Portfolio is long-only, like your Rydex example above, but it is hard to imagine any Global ETF long-only portfolio that kept drawdowns to less than 1.36% 2/27/07 to 3/05/07.

I'm having trouble seeing the "plain vanilla stuff" that does this.

Posted on Thursday, April 26, 2007 - 05:41 pm:

I never said it was long only. We are short financials (skf) and real estate (srs). I thought you would never ask. Drawdown and confidence have very little to do with each other. 🇺🇸🇩🇪🇬🇪🇯🇵

Posted on Thursday, April 26, 2007 - 05:43 pm:

Not trying to shoot holes in anything here but would chime in with this. Our 99.5% confidence factor does not in an of itself get us much other than emboldened about our own analysis. In other words, as our most Chief Senior stated, we are our clients biggest point of risk.

That 99.5% factor that all of us may vacillate toward at times (and maybe beyond) can again become our biggest risk factor itself. As someone once asked me when I lived out in the sticks and had my prize Chesapeake Bay Retriever running loose, "You always let your dog run loose?" "Yes I replied, not very many cars around this far out (I was about99.5% sure that my dog would not get hit by a car)." Then he stated, "Hmm, how many cars does it take to kill a dog?"

So again, not trying to poke holes in anything stated so far but I am trying to poke holes in some of our most risky motives and assumptions that impact our clients, myself included. 🇺🇸🇩🇪🇬🇪🇯🇵

Posted on Thursday, April 26, 2007 - 05:55 pm:

I couldn't agree more. It's just a model using forward assumptions based on historical data. I am not suggesting that there are no cars to kill my dog, but I am fairly certain that my dog will not get hit. I just want to be reasonably certain based on my analysis that I'm going to make money and I'm not going to be terribly surprised to the downside. I welcome you poking holes in my argument, that's what this discussion board is all about. 🇺🇸🇩🇪🇬🇪🇯🇵

Posted on Thursday, April 26, 2007 - 06:17 pm:

If "drawdown and confidence have very little to do with each other" then why do you state a confidence on your drawdown (loss)?

Last time I checked, a 99.5% confidence level includes +/- 3 standard deviations of a normal distribution. This presents at least two problems:

- 1) Your standard deviation is 4.01%, so a 3-sigma range would be -12 to +12, which pretty much guarantees a drawdown in excess of what you have experienced.
- 2) As stated in earlier posts, investment returns don't follow a normal distribution (and you don't want to know the 3-sigma range using Chebychev's rule)

And whether you are talking about dogs or black swans, it's the events that are in your 0.5% lack-of-confidence-level that can do the real harm.

Perhaps I am forgetting some of my Prob & Stats training, but I'm having trouble getting all the numbers to jive here. Please help me understand where my stats knowledge is failing (or outdated). 🇺🇸🇩🇪🇬🇪🇯🇵

Posted on Thursday, April 26, 2007 - 06:36 pm:

You just had to suck back in. Okay K., you're obviously a smart guy but here is my point counterpoint on: 1) linear equations, 2) correlation and 3) ETF's.

Linear Equations don't work well in financial markets because the markets don't move in a linear pattern. A simple example is to look at a stock chart that is arithmetic; then compare it to one that is logarithmic, completely different. No financial engineer uses linear equations because they quickly moved over to the heralded Brownian motion equations decades ago. Unfortunately these are wrought with errors because the underlying fundamentals, built on normal distributions, are wrong. To keep things simple I can prove it with the fact that fat-tail events occur much more frequently than predicted. This is where we come back to stable distributions. Life is not linear!

Dependency is the class of analysis that compares two or more units (securities in this case). The most simplistic form of dependency is linear correlation. This is the average relationship between two or more securities over a stated time period. Sure, you can create multiple time periods but which one is best? Then you could try creating a rolling correlation table; better yet? The fact is when the daily price of a security changes, then so does the risk. So doesn't it make sense that the relationship between two or more securities constantly change too? ABSOLUTELY! This is why you need a dynamic 'correlation' model which is called Copula Dependency. I use correlation in the generic sense, just not in the linear correlation sense. So to me historical correlation is like looking at a picture of yourself years ago. I'm sure you look similar, but the hair, clothes, etc. have probably changed. And what if that picture was your graduation picture? Would it look the same as the one taken of you at the frat house your freshman year? I think not.

ETF's can be managed several ways but I will stick with 3 general methods: Technical, Quantitative, and Asset Allocation. Technical (what I really mean is market timing) and quant (which I assume will have some technical aspects built into it) are probably the only ways to manage ETF's or the SPIN Funds (Rydex, ProFunds, Direction). By the way I'm trying to coin the term SPIN funds so use it liberally. So whatever is working for you I'm happy. BUT, if you are telling me you can lower your risk more than the major indices (especially at this low level) using Asset Allocation then that is a trick I would like to see. Let's look at the major market sectors:

Annual Return/Std Deviation/Sector
15.46%/14.11%/ US Basic Materials
7.06%/7.32% / US Consumer Services
15.46%/14.11%/US Consumer Goods
31.59%/33.70%/US Energy
10.75%/12.38%/US Financial
5.09%/ 6.78%/US Healthcare
12.88%/11.81%/US Industrials
29.23%/32.82%/GS Natural Resources
4.00%/ 7.77%/US Technology
16.30%/14.96%/US Telecom
3.77%/22.46%/US Transportation
23.66%/20.58%/US Utilities
9.03%/ 7.07%/S&P 500 Index

Show me how any combination of these securities can take my risk below the S&P. The sums of the parts are much riskier than the whole which is why I have to avoid the SPIN funds and be very careful with ETF's. Who's next, I'm only on the air today. 🗣️🗣️🗣️🗣️🗣️

Posted on Thursday, April 26, 2007 - 07:16 pm:

B., theoretically the sum of the parts should not be riskier than the whole. If I were to buy the industry ETFs in the same allocation as their S&P weightings, then I should get the equivalent of the S&P, both in terms of performance and risk (before fees). This task is easy to accomplish if one were to use the Sector SPDRS instead of the DJ ETFs as the Sector SPDRS are designed to represent the S&P 500 with no-overlap (and, since it is a cap-weighted methodology, you never have to rebalance assuming you get the initial allocations correct).

So now I have the a sum of the parts that is equal to the whole (because even though MPT may not be modern anymore, it still works to some degree - correlation still has an impact).

Now, what if I reduce the allocation of the two riskiest sectors by 1% and increase the allocation of the two least risky sectors by 1%? If I can do that, then I have accomplished the task of creating something that is less risky.

The only way that this fails to accomplish the task that you have defined is if you claim that I cannot adequately define the components that are higher risk and the ones that are lower risk.


Of course there is an easier solution (assuming that you are defining risk as Std Dev) and that is to

put 100% of the portfolio into Healthcare (Std Dev = 6.78 versus 7.07 for the S&P). 

Posted on Thursday, April 26, 2007 - 07:51 pm:

True, true. The sum of ALL parts is the index. I did say sum of the parts but what I meant was the 'some' of the parts or the sum of anything less than all the parts! You are Correct! Good catch. The audience is listening!

As for part 2, you may have a point, but once you factor in commissions et al it would probably be a wash. But the fact is you called me on an absolute statement I made and you are right to say it can be done theoretically, and perhaps practically (maybe). The illustration I gave is with the major sectors. If you run the same with the SPIN funds or the sub-sector ETF's you will need a small miracle to equal the S&P in volatility (again I'm talking asset allocation so market timers keep your pants on). Now, try to get S&P risk with substantially higher returns using MPT (MVO) or APT.

Back to an earlier thread about 99.5%. At one Standard Deviation (σ) the difference in risk using normal vs. stable distributions is nominal. At 2 σ the error factor ranges from 20-30%. At 3 σ it ranges between 30% & 40%. Beyond 3 σ the stats get exponentially crazy as the number of standard deviations increases. The reason for this is that the tails of a distribution die out using normal distributions (e^{-x^2}). 

Posted on Thursday, April 26, 2007 - 07:59 pm:

Before I disappear for another 6 months did anybody find the frequency distribution overlay on the technical signals interesting? It's a good way to explain technical trading to folks and a good way to understand the importance of the data. I made that up in the late 80's and it really worked well for trading.

I'm in Orlando later in the session if anyone would like to see a visual of the concept. Adios. Wishing I were at the beach - 