AAII SV CI-MI Agenda

- (1:30 – 2:00) Administrative Items & Since the Last Meeting…
- (2:00 – 3:00) Sharpe Parity – Tweaking the Edges (CC)
- (3:00 – 4:00) More on the UIS (Al Z)
- Muhlenkamp Screen (Al Z) (time permitting)
- Diagnostics of Folios (Ilya F) (time permitting)
- Informal chats – must leave by 4:00!

Reference section:
- Performance Metrics

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Administrative Items

CI-MI Meeting Schedule

May Meeting: Tuesday 5/12/15 6:00-9:00 PM
Dinner Orders: 6:00 PM, Meeting start: 6:30
Holder's Country Inn, 998 South De Anza Boulevard, SJ

June Meeting: Tuesday 6/9/15 6:00-9:00 PM
Dinner Orders: 6:00 PM, Meeting start: 6:30
Holder's Country Inn, 998 South De Anza Boulevard, SJ

July Meeting: TBD

Saratoga & Campbell Libraries have limited hours and room availability. Los Altos Library – only weekends. We do what we can…

Upcoming Events

- AAII – SV: **Dividend Investing in a Rising Rate Environment, May 9th**
  - **San Jose Airport Garden Hotel,** 1740 N 1st St, San Jose, CA 95112
  - http://www.eventbrite.com/e/high-dividend-investing-in-a-rising-interest-rate-environment-tickets-16347862898
- CTAG – Next meeting: **Wednesday 5/6/15**
  - 1st & 3rd Wednesdays of each month.
  - **Holder's Country Inn,** 998 South De Anza Boulevard, SJ
- SectorSurfer User Group: **May 2015 (Details TBD)**
  - Contact: Joe Gruender (SectorSurferJoe@gmail.com)
  - Group site: https://groups.google.com/forum/?fromgroups#!forum/sectorsurfer
- SV Options Group: **Thursday May 14th 6-9 PM**
  - Further information at http://www.svog.org/
  - **Elks Lodge Sunnyvale**: 375 North Pastoria Avenue, Sunnyvale

User Presentations???

- We are always looking for volunteers for presentation
  - Can be as informal or formal as you like

- Possibilities to consider – or add your own:
  - Review Dark Liquidity site strategies
  - Tool reviews: Investors FastTrack, SectorSurfer, VectorVest (various), ETF Replay, FinViz
  - Timers: $NAHL, Vreba,
  - AAII: "Smart Beta" funds (DIY version), CI articles on web-based stock screening, FINVIZ, MeanVar optimization spreadsheet, O'Shaughnessy screens, CI: The Ulcer Index and Stock Screens, 52-week low screen, AAII CI Portfolio Optimization Program, Even more Logical Invest strategies, VizMetrics strategies, Portfolio Monkey
  - Pring-Turner Business Cycle Approach
  - Biotech investing (core & explore, funds, screens, trading algs, etc..)
  - Review of algorithmic trading platform sites, motif investing, Gerstein screening papers
  - Wealth Index strategies, DIY FYLD equivalent with ADRs
  - Scott Burns' Graham Value Scree

Yahoo! Group

- Yahoo Group is the point of contact, information
  - Name: AAII-SV-CI-MI-Group
  - Link: **https://groups.yahoo.com/neo/groups/AAII-SV-CI-MI-Group/info**
  - Alternative: **Go to Yahoo! Groups home page and search for "aaii sv"**
  - Also listed in monthly AAII mailers (tinyurl provided)
- Admin points
  - Email sign-ups: **Go to the Yahoo! Group and sign-up - you'll get full posting access to everything (after I approve your membership request)**
  - Feel free to post emails to the group (currently unmoderated), hold conversations outside meetings
  - If you want to post a file, provide a link, etc.., email Al or the group
    - Al_zmyslowski@yahoo.com
  - **Files will be posted at Dropbox (in read-only mode) – use link in Link section**
    - To save space on larger files they may be zipped with 7zip (open source tool). Links to 7zip are also in the links section at the Yahoo! Group
- **New??: I can give you a B-card with critical info**

Since the Last Meeting…

Since the Last Meeting…

- SV Chapter -- Robust Portfolio Diversification (#830, 831, 832)
  - Presentation plus a budget spreadsheet
- Muhlenkamp Screen (#833)
  - Separate presentation later today
- Big Issue for the IWM – Revisited (#834)
  - See next slides
- Driving Emotions from your Investment Decisions (#835)
  - See next slides
- SV Chapter – Logical Invest (#839-#843, #846)
  - Presentation, links to videos, free 2 month trial subscription at http://www.logical-invest.com/rent-a-strategy/all-strategies-aaii-sv-exclusive
- Tracking Folio Updates for March (#845)

Big Issue for the IWM

Peter was kind enough to pass on a S&P - Dow Jones paper on this topic. It does a very thorough job of analyzing the differences of these 2 benchmarks from a technical (four factor model, etc..) viewpoint. Summarizing the main findings:

- They (along with many others) agree there is a substantial difference between the benchmarks
- They review how the two benchmarks are constituted
- They agree that the re-balancing of the R2K in July is a major factor behind the difference and provide the stats behind it
- They come up with a hypothetical R2K that removes the reconstitution effect and show that there is still a significant difference between the benchmarks
- They trace this difference down to the SP600 profitability requirement for inclusion in the index.
- They show that up to 20% of the funds do/do not underperform the index depending on the timeframe and index used.

SP600 vs. Trailing 4 Qrtr EPS Positive, Top 25 by PEG Ratio, Yearly Rotation Screen

▾	🖫 Save	☆ 🔒 🗌 SPDJ R2000 v SP600 - 4 Quarter EPS			

| ↔ 🗌 ▬ | ABOUT | **MAIN SETTINGS** | RULES | HEDGE RULES | BACKTEST | ROLLING BACKTEST | | CLEAR RESULTS | **RUN SCREEN** |

As Of	04/19/2015 📅 📊		
Universe	S&P Smallcap 600 Index ▾	Benchmark	S&P 600 Small ▾
Ranking	Quick Rank ▾	Method	Long ▾
Max No. Stocks (0 for all)	25		

NOTE: if no ranking is used, the order of results is random

Formula	peg	Ranking Method	Lower is Better ▾

▾	🖫 Save	☆ 🔒 🗌 SPDJ R2000 v SP600 - 4 Quarter EPS			

| ↔ 🗌 ▬ | ABOUT | MAIN SETTINGS | **RULES** | HEDGE RULES | BACKTEST | ROLLING BACKTEST | | CLEAR RESULTS | **RUN SCREEN** |

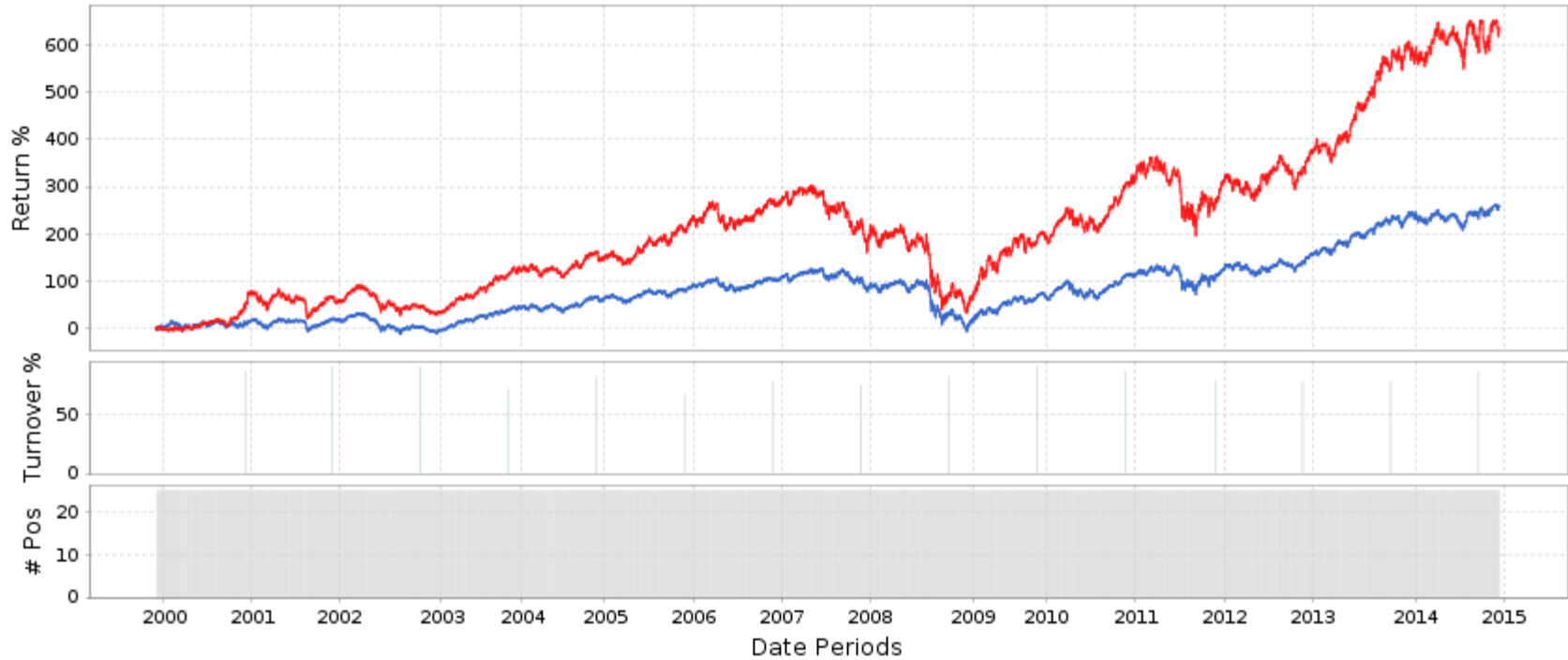| ⊘ SHOW | CLEAR | **SCREEN TYPE:** Stock **METHOD:** Long | As Of | 04/19/2015 📅 📊 | TOTALS 600 |

Long Rules   🪄 ADD WIZARD RULE   📝 ADD FREE FORM RULE   - stocks that pass these rules will be the long positions

≣ ✖ 🪄 ●	Daily $ Amount, 20 Day Average - Greater Than$ 1000K	584 ⟳
≣ ✖ 📝 ● and	EPSExclXor(0,QTR) > 0	481 ⟳
≣ ✖ 📝 ● and	EPSExclXor(1,QTR) > 0	444 ⟳
≣ ✖ 📝 ● and	EPSExclXor(2,QTR) > 0	411 ⟳
≣ ✖ 📝 ● and	EPSExclXor(3,QTR) > 0	385 ⟳

SP600 vs. Trailing 4 Qrtr EPS Positive, Top 25 by PEG Ratio, Yearly Rotation Screen

Statistics	Total Return	Annualized Return	Max Drawdown	Sharpe Ratio	Sortino Ratio	Standard Deviation	Correlation	R-Squared	Beta	Alpha
Screen	635.60%	14.03%	-67.29%	0.39	0.55	26.01%	0.75	0.56	0.84	5.84%
S&P 600 Small	258.93%	8.77%	-58.80%	0.21	0.3	23.23%	-	-	-	-

R2K vs. Trailing 4 Qrtr EPS Positive, Top 25 by PEG Ratio, Yearly Rotation Screen

☆ 🔒 🗋 **SPDJ R2000 v SP600 - 4 Quarter EPS**

ABOUT	MAIN SETTINGS	RULES	HEDGE RULES	BACKTEST	ROLLING BACKTEST

CLEAR RESULTS   **RE-RUN BACKTEST**

As Of	04/19/2015		
Universe	Prussell 2000 (NEW)	Benchmark	Russell2000 w/Div
Ranking	Quick Rank	Method	Long
Max No. Stocks (0 for all)	25		

NOTE: if no ranking is used, the order of results is random

Formula	peg	Ranking Method	Lower is Better

☆ 🔒 🗋 **SPDJ R2000 v SP600 - 4 Quarter EPS**

ABOUT	MAIN SETTINGS	RULES	HEDGE RULES	BACKTEST	ROLLING BACKTEST

CLEAR RESULTS   **RUN SCREEN**

ⓘ SHOW   CLEAR   **SCREEN TYPE:** Stock **METHOD:** Long   As Of 04/19/2015   **TOTALS 1927**

Long Rules   🪄 ADD WIZARD RULE   ☑ ADD FREE FORM RULE   - stocks that pass these rules will be the long positions

≡ ✖ 🪄 ●	Daily $ Amount, 20 Day Average - Greater Than$ 1000K	1577
≡ ✖ ☑ ● and	EPSExclXor(0,QTR) > 0	1087
≡ ✖ ☑ ● and	EPSExclXor(1,QTR) > 0	964
≡ ✖ ☑ ● and	EPSExclXor(2,QTR) > 0	886
≡ ✖ ☑ ● and	EPSExclXor(3,QTR) > 0	797

R2K vs. Trailing 4 Qrtr EPS Positive, Top 25 by PEG Ratio, Yearly Rotation Screen

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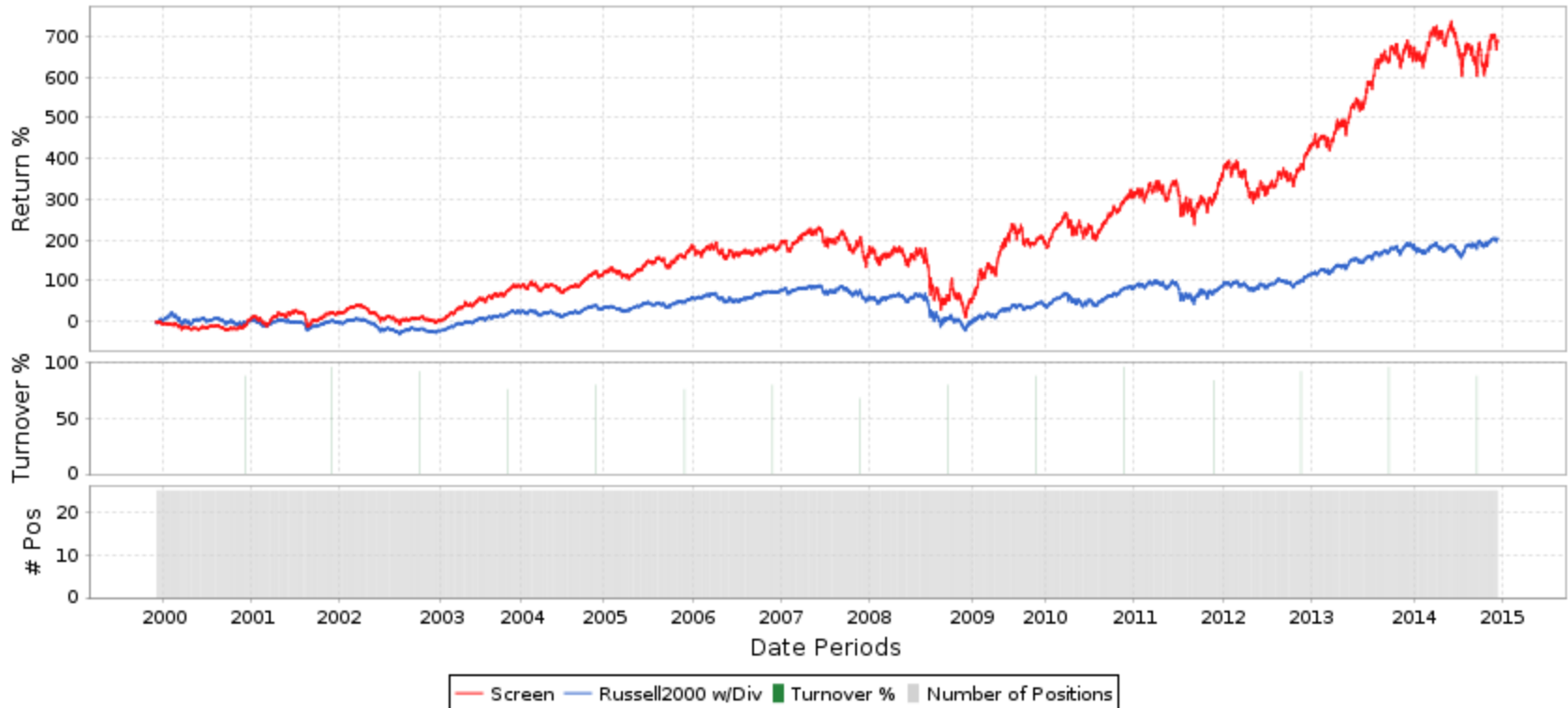
Statistics	Total Return	Annualized Return	Max Drawdown	Sharpe Ratio	Sortino Ratio	Standard Deviation	Correlation with	R-Squared	Beta	Alpha
Screen	686.14%	14.53%	-66.36%	0.4	0.54	27.03%	0.18	0.03	0.19	9.69%
Russell2000	204.44%	7.60%	-58.89%	0.15	0.21	25.31%	-	-	-	-

The 12 Steps to Driving Emotions From Your Investment Decisions

1. Hello my name is _____ and I am an emotional investor. Yep, I'm as emotional, irrational as the next person.

2. It is OK to be wealthy. Oh heck yes! I have no problem, guilt, etc.. on this one.

3. I will strive to eliminate my myopic loss aversion MLA and reduce my need for social validation. Agree that a "flight or fight" response and/or "following the herd" does not lead to investment success.

4. I believe that volatility and its close cousins the Sharpe ratio, maximum drawdown and tracking error are largely measures of emotion and should not be used in constructing and evaluating portfolios. I am neutral to positively inclined to agree with the "measures of emotion" part of the statement. Disagree with that Sharpe, MDD, etc. "shouldn't be used" in evaluating a strategy. Poor strategies can be revealed with these stats -- and you can always achieve the gain/CAGR you want through leveraging a higher Sharpe strategy that has a lower CAGR.

5. I believe that volatility and risk are not synonymous and that most references to risk are really references to emotion. Agree that the financial industry focuses on volatility for a variety of reasons that may/may not be important to an individual. Risk is a much broader area than volatility -- e.g., "event risk" of an '87 crash or a 9/11 attack has little to do with prevailing market volatility at the time.

The 12 Steps to Driving Emotions From Your Investment Decisions

6. I believe that increased stock market volatility represents an opportunity for, rather than a risk to, my portfolio. Many times this is true. You can make very nice profits during bear markets when volatility is high. Currently the energy services sector/industry is highly volatile and very depressed due to the oversupply of oil -- lots of opportunity there right now.

7. I will divide my portfolio into buckets as a way to reduce emotional sensitivity to volatility. The bucket strategy he advises makes sense. Regardless of how you name your buckets though, you still wind up with a percentage of your investments in cash/bonds and the rest in riskier assets.

8. I will focus on expected and excess returns, while largely ignoring correlation and volatility, when building long-horizon portfolios. A split decision on this one. I agree that for long term investing (e.g., your child's or grandchild's retirement portfolio) much more risk (MDDs, volatility) can be tolerated. However, as stated in #4, "largely ignoring" these factors may result in sub-optimal strategies. (This may boil down to a debate on what "largely" means.)

9. I will forget the price I paid for an investment, as well as its name, to mitigate these emotional anchors. Absolutely -- all sorts of biases (anchoring, etc..) are tied in here . The author tells a tale of how he purposely forgets the names of the stocks he buys and the prices paid for them . I do the same (if I ever knew them) -- I invest in the algorithm, not the positions purchased.

The 12 Steps to Driving Emotions From Your Investment Decisions

10. I believe past performance is a poor predictor of future performance, so I will not use it when evaluating an investment manager. Huh?? 100% disagree. If a manager/strategy has a bad enough track record over a long enough time period he/it may in fact be a bad a manager/strategy. And ultimately -- be it a manger or the strategy he/she provides -- what are you supposed to evaluate him/her on?? The quality of his/her marketing?? How glibly they can talk?? However, I do agree that all strategies go in and out of favor and that has to be taken into consideration. (Maybe I just have a deeply ingrained behavioral bias on this one??)

11. I believe unreasonably constraining a portfolio, such as keeping a manager in a style box, hurts performance and thus will be avoided. Mixed feelings on this one. If a manager has a dedicated strategy (value, growth, etc..) -- as the author agrees with -- why is the style box he fits into an issue?? However there are many multi-asset, multi-sub-asset class strategies that can vary between the style boxes - so the style boxes make no sense for these strategies. Also, not sure what emotional bias we're dealing with here -- over-reliance on "authority" figures?? -- in this case Morningstar??

12. I will consistently pursue a narrowly focused investment strategy while taking only high-conviction positions when managing a portfolio. Agree. The conviction term (for me) comes from the weight of the data, evidence behind the strategy.

Market Health Indicators

Indicator	Type	Status	Comment
10M SMA SPY	Market Timer	Long	1.05SPY/10M SMA at present 1.0 is lower limit
Storm Guard	Market Timer	Long	1.2% at present 0% is lower limit
New High - New Low	Market Timer	Long	+65 BP $NAHL/10d EMA at present 0 BP is lower limit
Trailing 60d SPY Volatility	Volatility	Long	0.78% 60d Std Dev at present 1% is upper limit
Economic Indicators			
Initial Unemployment Claims Timer	Economic	Long	0.95x 22 wk SMA of SA IU Claims 1.12x upper limit for selling; 0.97 lower limit for buying
TED Spread	Credit Crunch	Long	0.27% at present 1% is upper limit
ECRI WLIg	Recession warning	Long	Current reading is -2.0. -2.0 is limit When on recession 6-9 months away
FRED Recession probability	Recession warning	Long	1.32% at present 10% worry, 20% upper limit

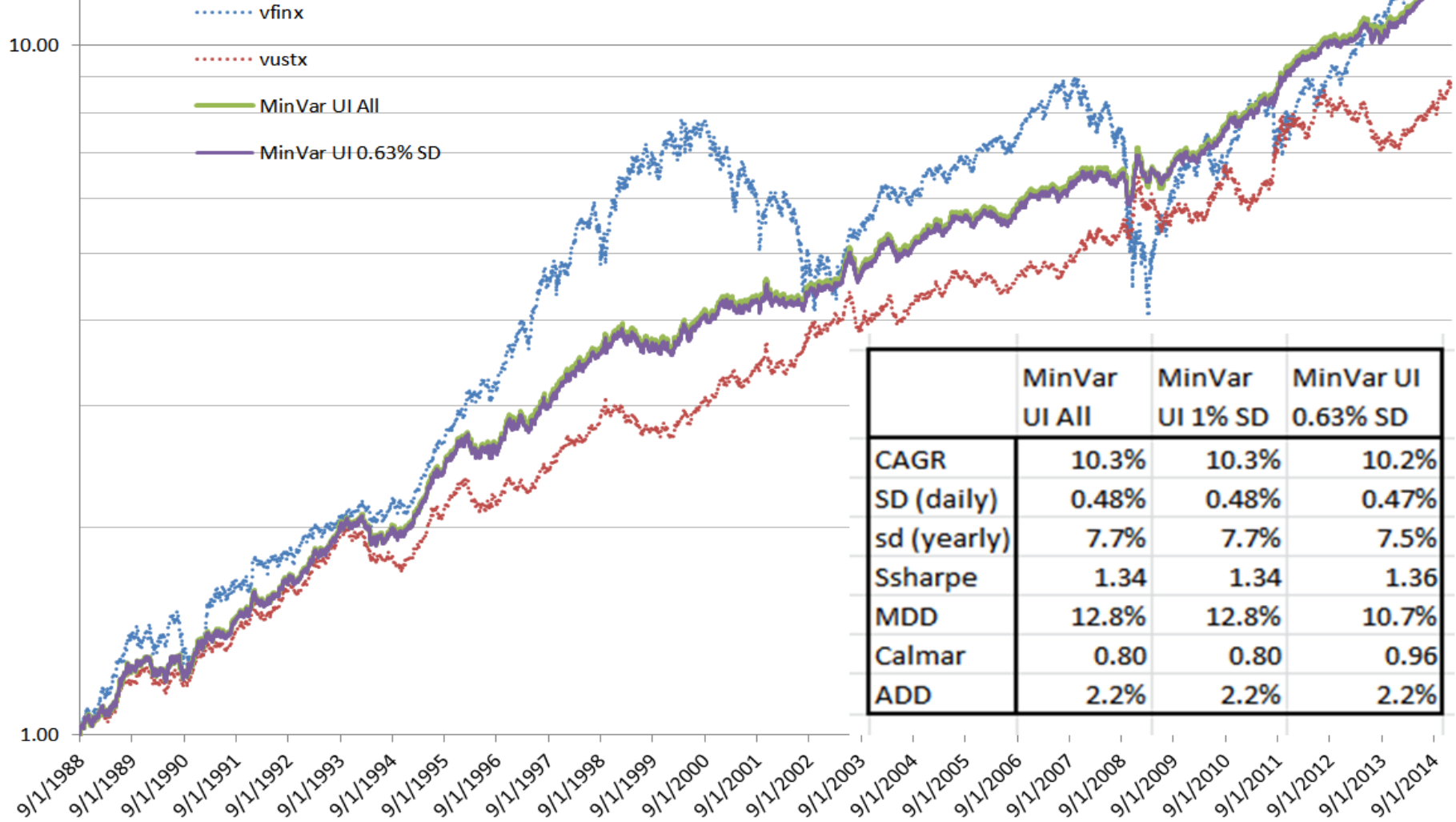# Sharpe Parity – Tweaking the Edges

(CC)

More on the UIS
(Al Z)

- Backtest to 1988

- Varan's Variation
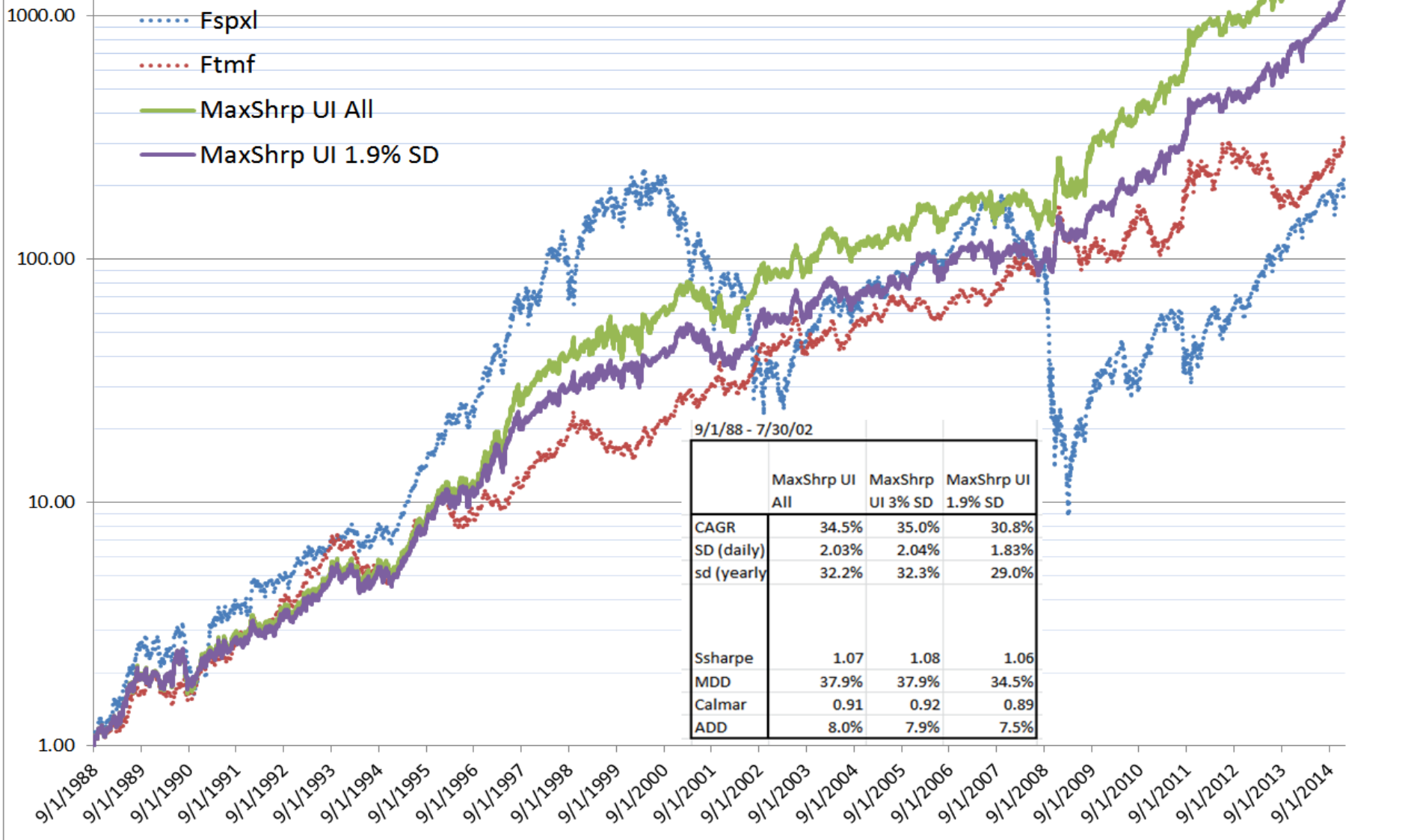
- Other Indices (NAESX, QQQ, XLB)

UIS Backtest to 1988

- One of my action items from the January meeting was to look at a longer back test of the UIS alg employing mutual funds.
  - I used Vustx and Vfinx to go back to 1988. I used a simple 3x multiplier on daily gains for both these funds for the leveraged approach.
- The first slide shows the 1x MinVar approach -- the results are consistent with what was seen in the shorter 2002-2015 period.
- The second slide shows the 3x Max Sharpe approach -- again results are consistent with what was seen in the shorter 2002-2015 period.
- Be forewarned that Vustx is a better instrument to trade than TLT/TMF -- e.g., it experienced less dramatic gains/losses during the 2008-2009 crisis. However, trading it would be difficult due to Vanguard mutual fund trading restrictions. See slide 3.
- Slide 4 shows a new twist using the 210d (10 month) SMA
  - We use the 210 day SMA on the 3x Vfinx to time and switch between a 3x Vustx and a 3x Vfinx.
  - This results in very nice gains but nasty MDDs.
  - If you reduce leverage to approx. 1.2x -- in this case by using a 60% weight of Vfisx each month -- you get a result with a 19% CAGR, a 1.19 Ssharpe and a 21% MDD.
  - Very nice -- but you are exposed to how well your timer performs and you have no coverage for "event risk" when you are long the Vfinx.

UI: Min Var, Monthly, 5% Increments, 0.63% Daily SD Option

	MinVar UI All	MinVar UI 1% SD	MinVar UI 0.63% SD
CAGR	10.3%	10.3%	10.2%
SD (daily)	0.48%	0.48%	0.47%
sd (yearly)	7.7%	7.7%	7.5%
Ssharpe	1.34	1.34	1.36
MDD	12.8%	12.8%	10.7%
Calmar	0.80	0.80	0.96
ADD	2.2%	2.2%	2.2%

UI: Max Sharpe, Monthly, 5% Increments, 1.9% Daily SD Option

Legend:
- ······ Fspxl
- ······ Ftmf
- —— MaxShrp UI All
- —— MaxShrp UI 1.9% SD

9/1/88 - 7/30/02

	MaxShrp UI All	MaxShrp UI 3% SD	MaxShrp UI 1.9% SD
CAGR	34.5%	35.0%	30.8%
SD (daily)	2.03%	2.04%	1.83%
sd (yearly	32.2%	32.3%	29.0%
Ssharpe	1.07	1.08	1.06
MDD	37.9%	37.9%	34.5%
Calmar	0.91	0.92	0.89
ADD	8.0%	7.9%	7.5%

Vustx v Tlt: Close But Not the Same

On average TLT is within 5% of Vustx. But in '08-'09 the difference rose to 14% -- causing much larger MDDs in SPY-TLT mix algs

Legend:
- tlt
- vustx
- Tlt/Vustx ratio
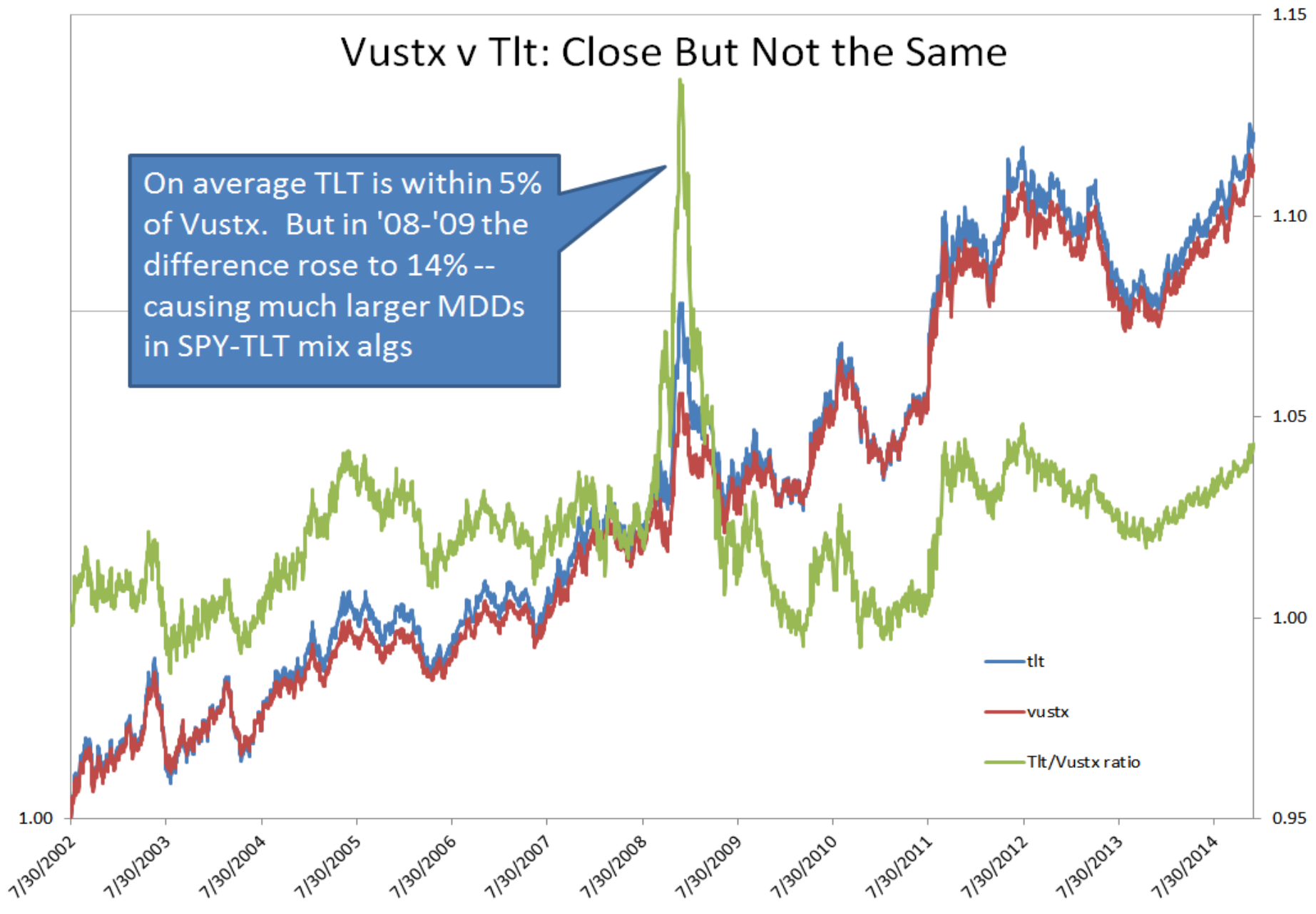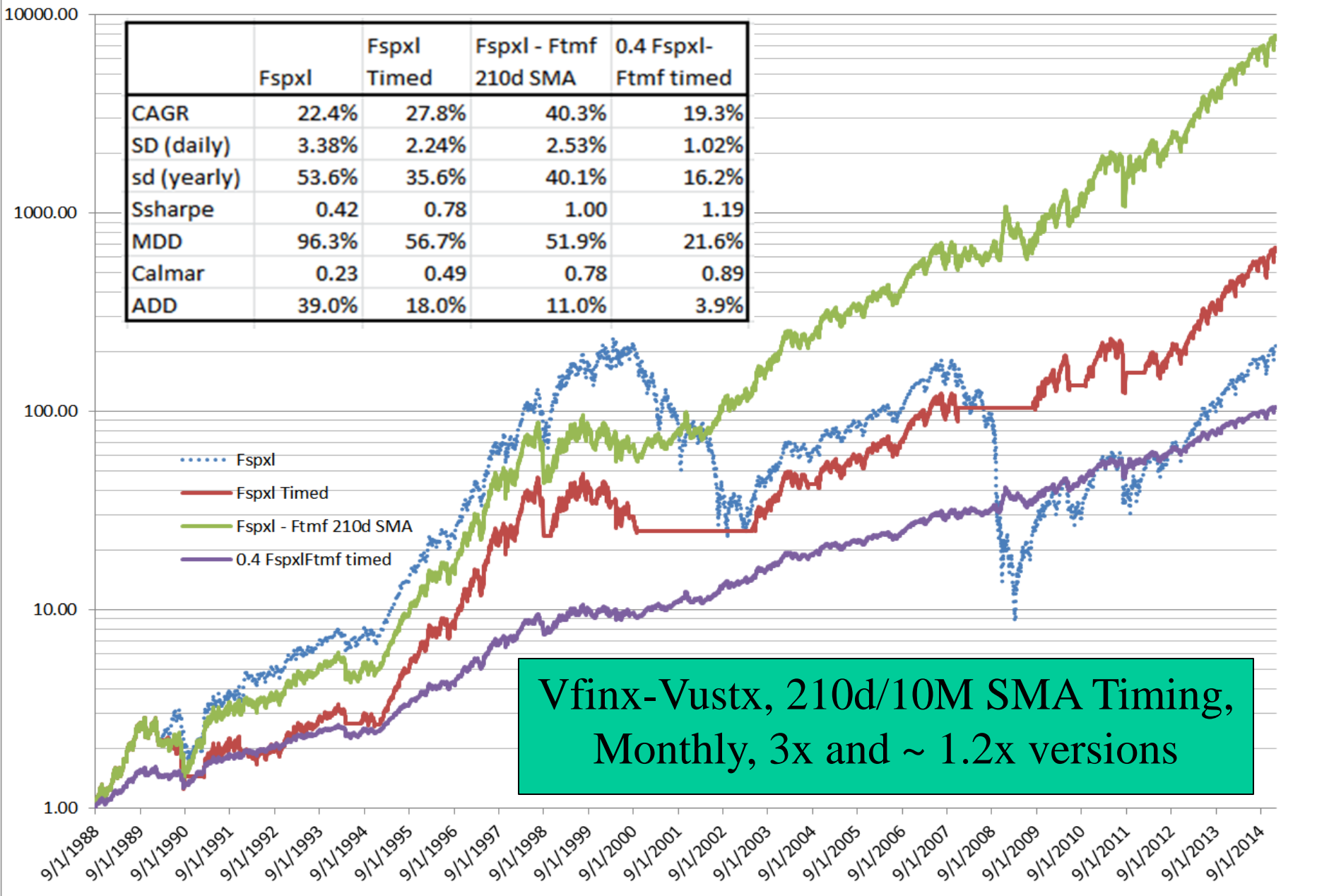
	Fspxl	Fspxl Timed	Fspxl - Ftmf 210d SMA	0.4 Fspxl- Ftmf timed
CAGR	22.4%	27.8%	40.3%	19.3%
SD (daily)	3.38%	2.24%	2.53%	1.02%
sd (yearly)	53.6%	35.6%	40.1%	16.2%
Ssharpe	0.42	0.78	1.00	1.19
MDD	96.3%	56.7%	51.9%	21.6%
Calmar	0.23	0.49	0.78	0.89
ADD	39.0%	18.0%	11.0%	3.9%

Legend:
- ······· Fspxl
- —— Fspxl Timed
- —— Fspxl - Ftmf 210d SMA
- —— 0.4 FspxlFtmf timed

Vfinx-Vustx, 210d/10M SMA Timing, Monthly, 3x and ~ 1.2x versions

Varan's UIS Variation: Naïve Graham

- From Varan's Seeking Alpha post (pointed out by MJB)
  - http://seekingalpha.com/instablog/709762-varan/2990923-naive-graham-passive-investing-according-to-the-master
  - "In a 1963 lecture on the subject of *Securities in an Insecure World,* Benjamin Graham, … asserted that diversification between stocks and bonds was the true source of excess returns compared to the market. Specifically, he advised that the relative allocation to stocks and bonds should be between 25% and 75% …depending on the current state of the markets…"
  - Yes, this was 52 years ago… cutting edge stuff

- **From Varan: The Method for Two Fund Baskets**
  - Applies to a basket of two funds, one a stock fund, and the other a bond fund
  - On the first trading day of every *quarter*, rank the two funds on the basis of their total return during the prior *quarter*
  - Allocate 75% of the portfolio to the top ranked ETF and 25% to the other

Varan's UIS Variation: Naïve Graham

Funds	CAGR (%)	Sharpe Ratio (Sortino)	Max. Drawdown (%)	Min. Annual Return (%)
2003-2013 Two Fund Baskets				
VTI TLT (Market)	12.7	1.1 (2.0)	14.3	3.0
IJJ TLT (Mid Cap Value)	12.8	1.0 (1.9)	14.3	4.6
IJS TLT (Small Cap Value)	13.1	1.0 (1.9)	15.4	2.9
DFSVX	13.7	0.6 (1.1)	61.2	-36.8
PRWCX	10.4	0.8 (1.2)	36.6	-27.2

- I put together a quick backtest of Varan's 75%-25% 3 Month Gain alg
  - Results are shown in the next slides
  - I used Vustx for TLT and Vfinx for Spy to get a back test period back to '88
  - Also I switched monthly not quarterly. Per Varan, this makes little difference -- but I prefer monthly to respond to the market more quickly.

UIS: Min Var v Max Sharpe v Varan 75%-25%, Monthly
MV & MS in 5% Increments

Legend:
- MinVar UI All
- MaxShrp UI All
- Vfinx 3M Win - 75% Vfinx

	Varan 0.75 Vfinx-Vustx	MaxShrp UI All	MinVar UI All
CAGR	11.5%	11.8%	10.3%
SD (daily)	0.61%	0.68%	0.48%
sd (yearly	9.7%	10.8%	7.7%
Ssharpe	1.19	1.09	1.34
MDD	14.8%	14.2%	12.8%
Calmar	0.78	0.83	0.80
ADD	2.7%	2.5%	2.2%

UIS: Varan 50-100% Vfins/Mixes%-25%, Monthly

	Vfinx 3M Win - 0% Vfinx	Vfinx 3M Win - 10% Vfinx	Vfinx 3M Win - 20% Vfinx	Vfinx 3M Win - 30% Vfinx	Vfinx 3M Win -4 0% Vfinx	Vfinx 3M Win - 50% Vfinx	Vfinx 3M Win - 60% Vfinx	Vfinx 3M Win - 70% Vfinx	Vfinx 3M Win - 75% Vfinx	Vfinx 3M Win - 80% Vfinx	Vfinx 3M Win - 90% Vfinx	Vfinx 3M Win - 100% Vfinx
CAGR	6.4%	7.2%	7.9%	8.6%	9.3%	10.0%	10.6%	11.2%	11.5%	11.8%	12.4%	12.9%
SD (daily)	1.02%	0.90%	0.79%	0.70%	0.63%	0.58%	0.57%	0.59%	0.61%	0.64%	0.71%	0.80%
sd (yearly)	16.1%	14.3%	12.6%	11.1%	10.0%	9.3%	9.1%	9.4%	9.7%	10.1%	11.3%	12.7%
Ssharpe	0.39	0.50	0.63	0.77	0.93	1.08	1.17	1.20	1.19	1.16	1.09	1.01
MDD	50.5%	46.3%	41.7%	36.9%	31.8%	26.5%	21.2%	16.3%	14.8%	15.2%	17.8%	21.0%
Calmar	0.13	0.15	0.19	0.23	0.29	0.38	0.50	0.69	0.78	0.78	0.69	0.61
ADD	12.0%	9.4%	6.8%	5.2%	3.9%	3.1%	2.7%	2.6%	2.7%	2.8%	3.2%	3.8%
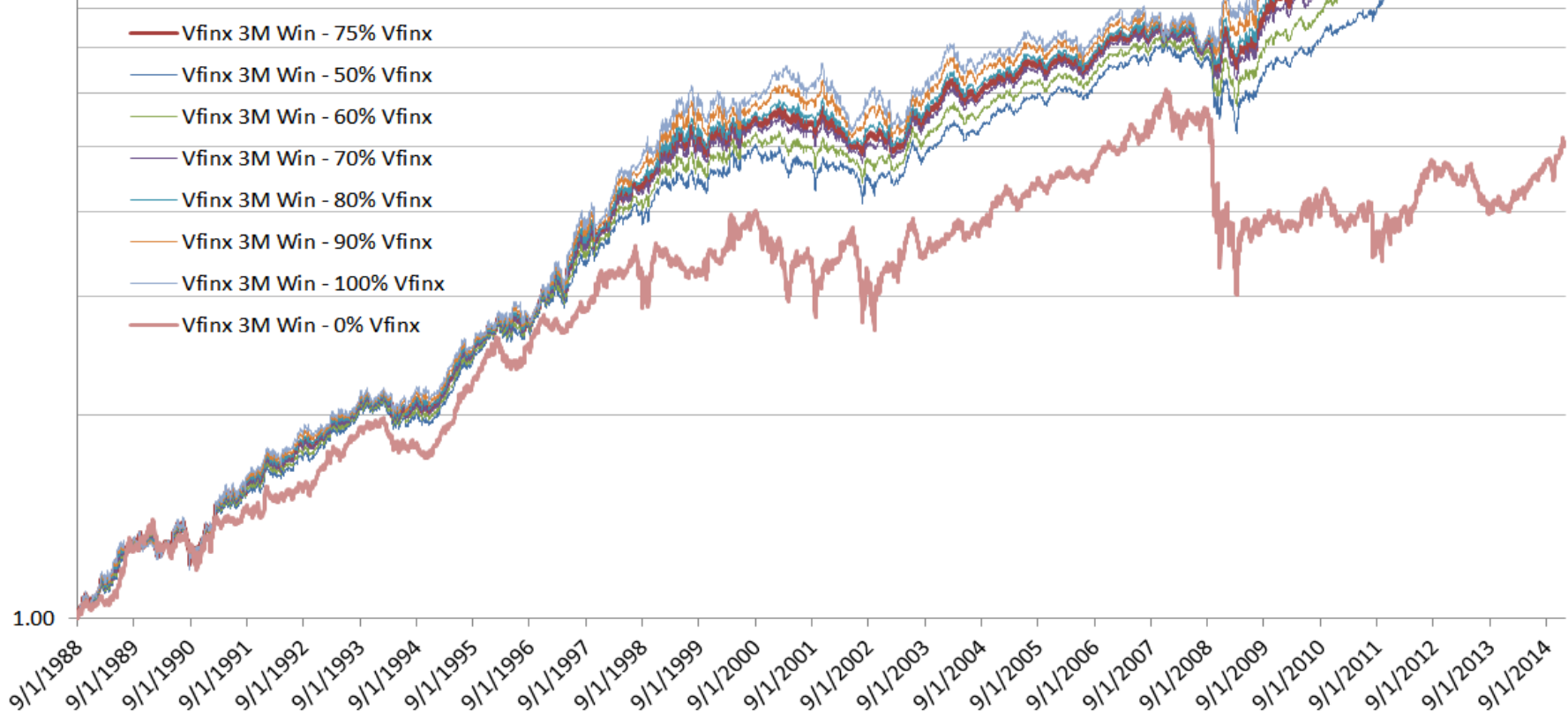
Legend:
- Vfinx 3M Win - 75% Vfinx
- Vfinx 3M Win - 50% Vfinx
- Vfinx 3M Win - 60% Vfinx
- Vfinx 3M Win - 70% Vfinx
- Vfinx 3M Win - 80% Vfinx
- Vfinx 3M Win - 90% Vfinx
- Vfinx 3M Win - 100% Vfinx
- Vfinx 3M Win - 0% Vfinx

Varan's UIS Variation: Naïve Graham

- **Varan: The Method for Six Fund Baskets**
  - Applies to a basket of six funds, half being stock funds, and the rest bond funds.
  - On the first trading day of every *quarter*, rank the six funds on the basis of their total return during the prior *quarter*.
  - Allocate the following percentages of the portfolio to the various funds according to their ranks:

| Rank	Weight (%)
1	35
2	25
3	15
4	12
5	8
6	5

- **The following equity ETFs were used in the various baskets:**
  - Guggenheim Value: RPV RFV RZV
  - Guggenheim Growth: RPG RFG RZG
  - Vanguard Value: VTV VOE VBR
  - Vanguard Growth: VUG VOT VBK

Varan's UIS Variation: Naïve Graham

- The main advantage of this strategy is that the allocation is determined without any complex computations, in sharp contrast to the other methods such as risk parity or the maximum diversified portfolio algorithm, and yet the returns are quite satisfactory.

- As an example, the equity growth curve and the allocation diagram for the Guggenheim Growth basket are shown in the following figures.
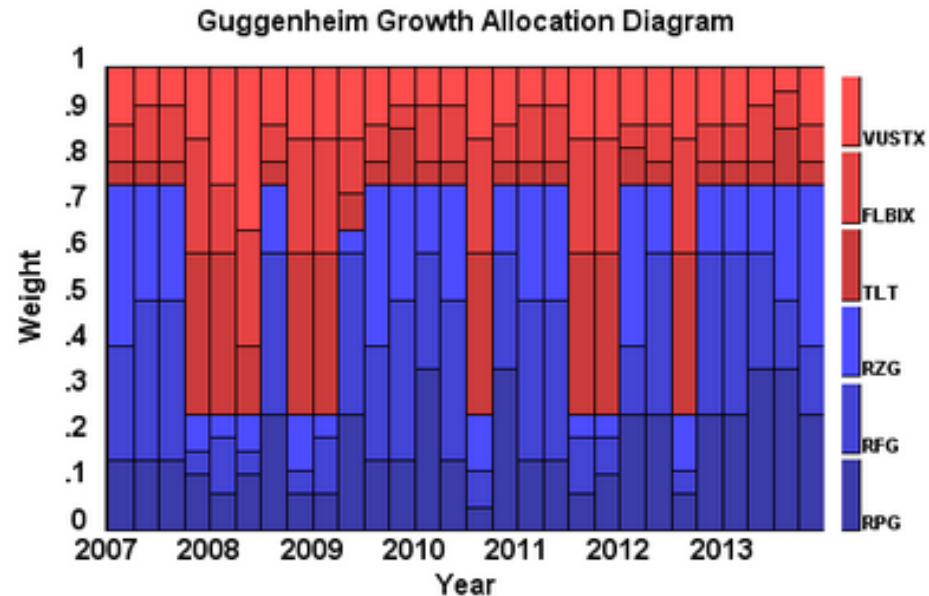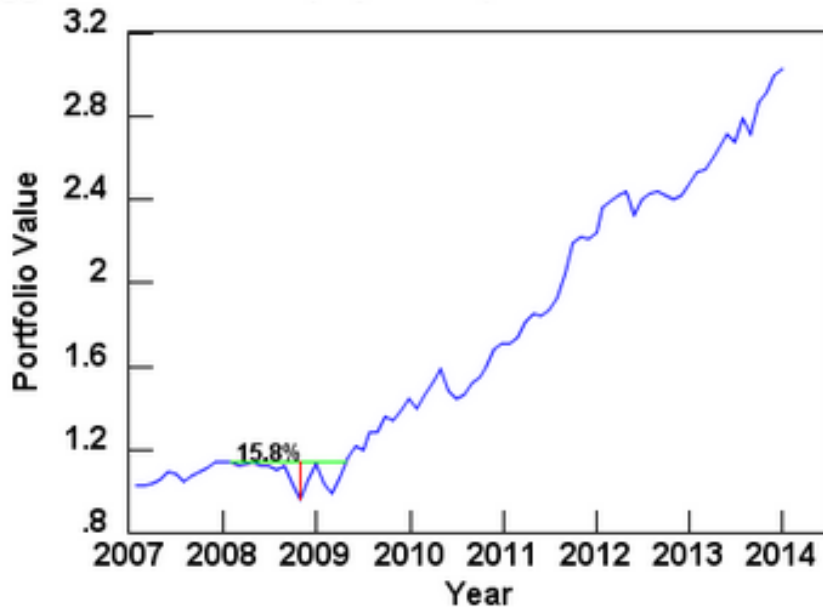
Other Indices: NAESX

UI: Min Var, Monthly, 5% Increments,
0.63% Daily SD Option
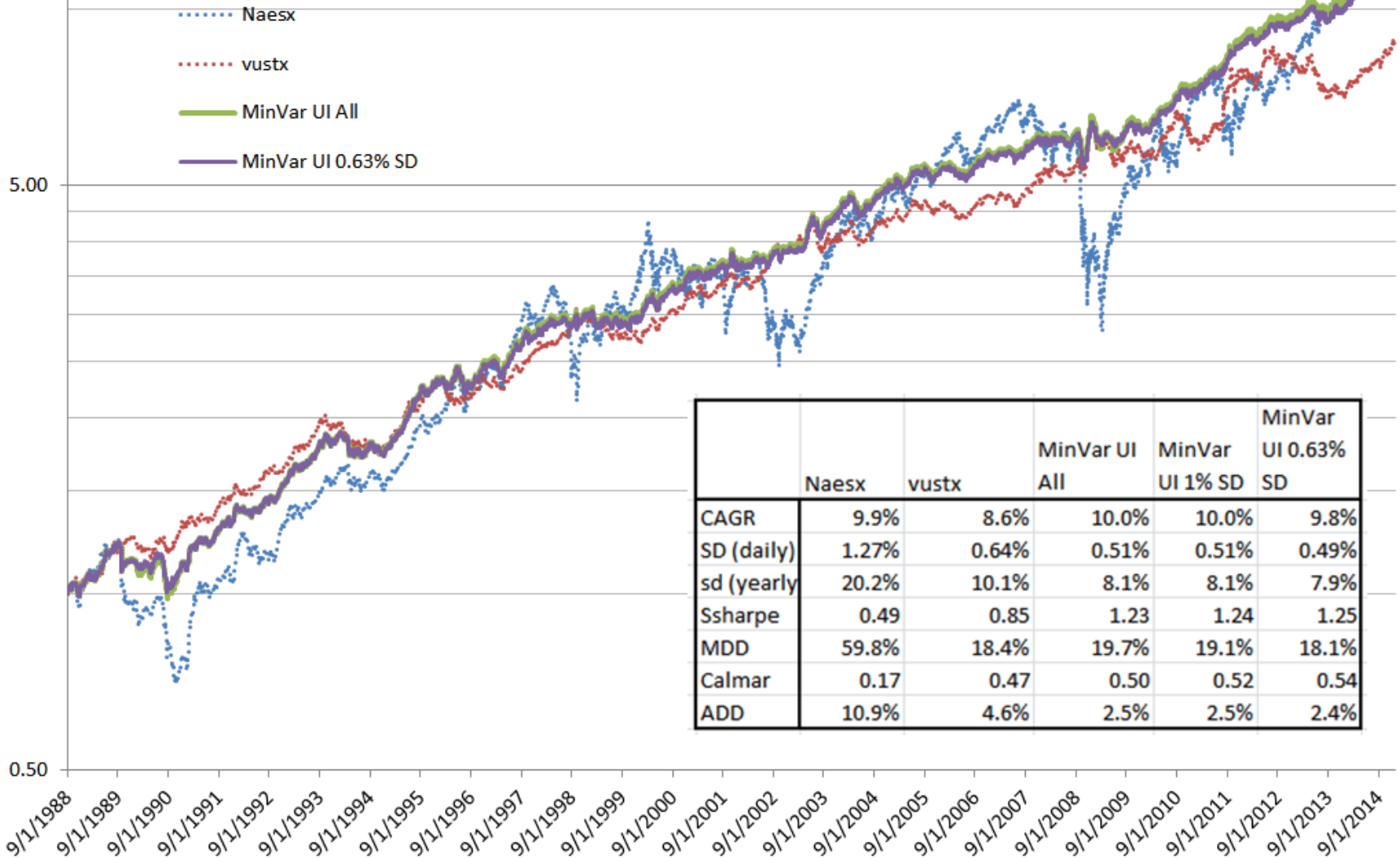
	Naesx	vustx	MinVar UI All	MinVar UI 1% SD	MinVar UI 0.63% SD
CAGR	9.9%	8.6%	10.0%	10.0%	9.8%
SD (daily)	1.27%	0.64%	0.51%	0.51%	0.49%
sd (yearly	20.2%	10.1%	8.1%	8.1%	7.9%
Ssharpe	0.49	0.85	1.23	1.24	1.25
MDD	59.8%	18.4%	19.7%	19.1%	18.1%
Calmar	0.17	0.47	0.50	0.52	0.54
ADD	10.9%	4.6%	2.5%	2.5%	2.4%

UI: Max Sharpe, Monthly, 5% Increments, 0.63% Daily SD Option

	Naesx	vustx	MaxShrp UI All	MaxShrp UI 1% SD	MaxShrp UI 0.63% SD
CAGR	9.9%	8.6%	9.4%	9.0%	7.8%
SD (daily)	1.27%	0.64%	0.74%	0.71%	0.63%
sd (yearly	20.2%	10.1%	11.7%	11.3%	10.0%
Ssharpe	0.49	0.85	0.81	0.79	0.78
MDD	59.8%	18.4%	20.9%	20.9%	20.9%
Calmar	0.17	0.47	0.45	0.43	0.38
ADD	10.9%	4.6%	4.7%	4.7%	4.5%

Legend:
- ...... Naesx
- ...... vustx
- —— MaxShrp UI All
- —— MaxShrp UI 0.63% SD

UI: Max Sharpe - Min Var, Monthly, 5% Increments, 0.63% Daily SD Option

	Naesx	vustx	MS-MV UI All	MS-MV UI 1% SD EC	MS-MV UI 0.63% SD
CAGR	9.9%	8.6%	9.1%	8.7%	7.4%
SD (daily)	1.27%	0.64%	0.71%	0.69%	0.61%
sd (yearly	20.2%	10.1%	11.2%	10.9%	9.7%
Ssharpe	0.49	0.85	0.81	0.80	0.77
MDD	59.8%	18.4%	22.3%	22.3%	22.0%
Calmar	0.17	0.47	0.41	0.39	0.34
ADD	10.9%	4.6%	4.9%	4.8%	4.5%

Legend:
.... Naesx
.... vustx
——— MS-MV UI All
——— MS-MV UI 0.63% SD

Naesx-Vustx: Min Var v Max Sharpe v Varan 75%-25%, Monthly

MV & MS in 5% Increments

	Naesx	vustx	Varan naesx-Vustx
CAGR	9.9%	8.6%	12.3%
SD (daily)	1.27%	0.64%	0.65%
sd (yearly	20.2%	10.1%	10.2%
Ssharpe	0.49	0.85	1.20
MDD	59.8%	18.4%	16.2%
Calmar	0.17	0.47	0.76
ADD	10.9%	4.6%	3.3%

MinVar UI All
MaxShrp UI All
Varan 0.75 naesx-Vustx
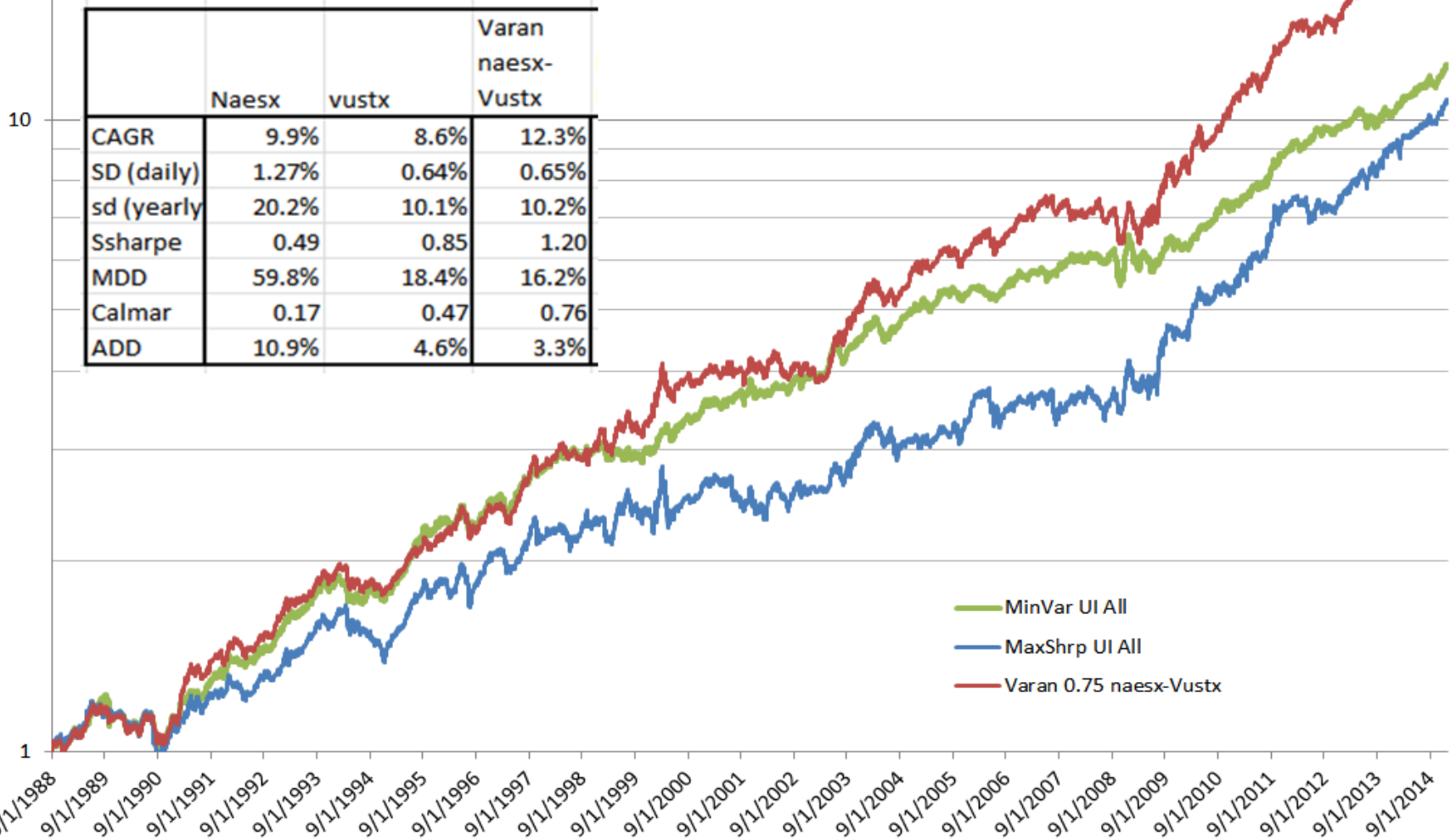
Other Indices: QQQ

UIS QQQ-TLT: Min Var, Monthly, 5% Increments, 0.63% Daily SD Option

Legend:
- ········ ryocx
- ········ vustx
- —— MinVar UI All
- —— MinVar UI 0.63% SD
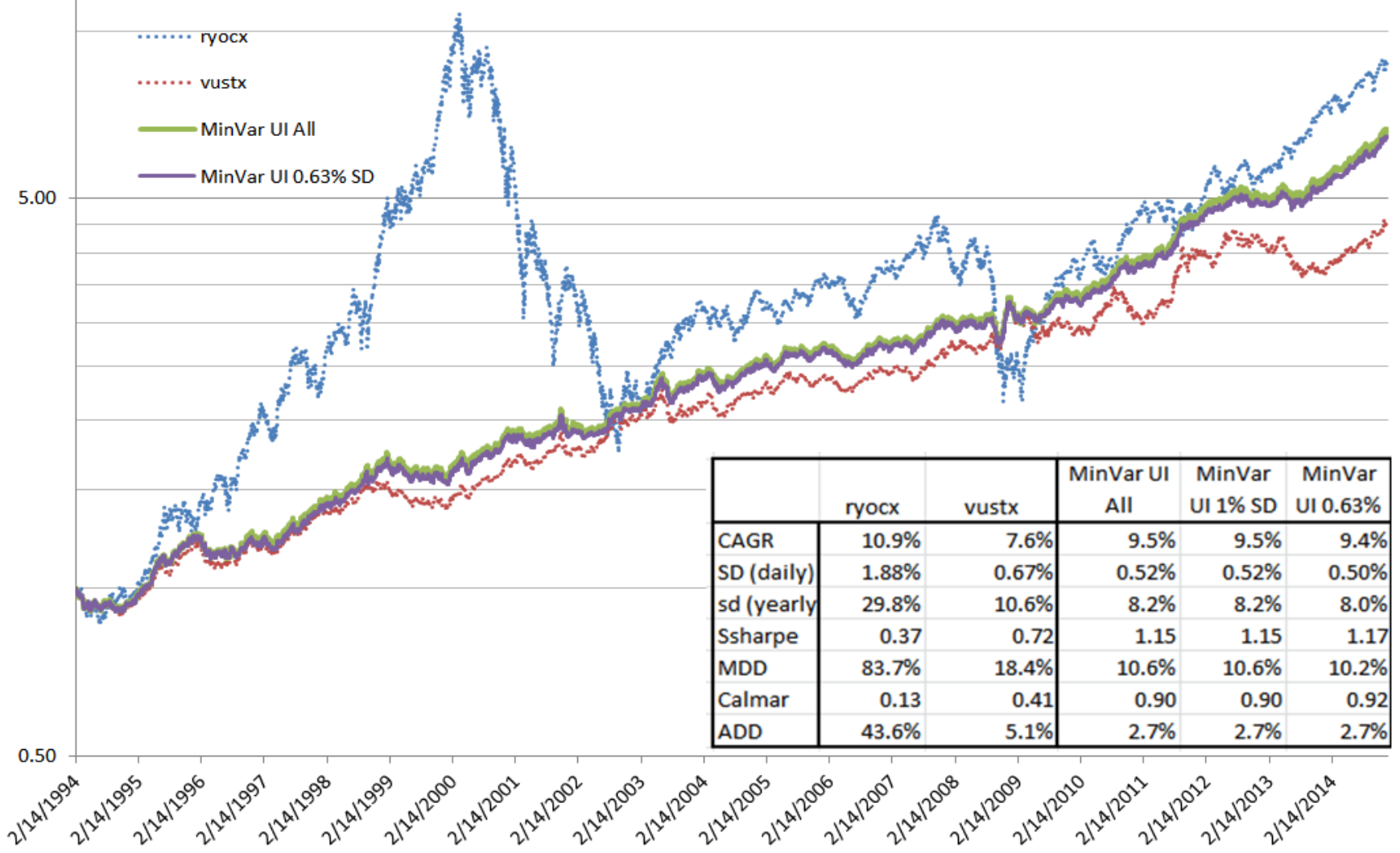
	ryocx	vustx	MinVar UI All	MinVar UI 1% SD	MinVar UI 0.63%
CAGR	10.9%	7.6%	9.5%	9.5%	9.4%
SD (daily)	1.88%	0.67%	0.52%	0.52%	0.50%
sd (yearly	29.8%	10.6%	8.2%	8.2%	8.0%
Ssharpe	0.37	0.72	1.15	1.15	1.17
MDD	83.7%	18.4%	10.6%	10.6%	10.2%
Calmar	0.13	0.41	0.90	0.90	0.92
ADD	43.6%	5.1%	2.7%	2.7%	2.7%

UIS QQQ-TLT: Max Sharpe, Monthly, 5% Increments, 1% Daily SD Option
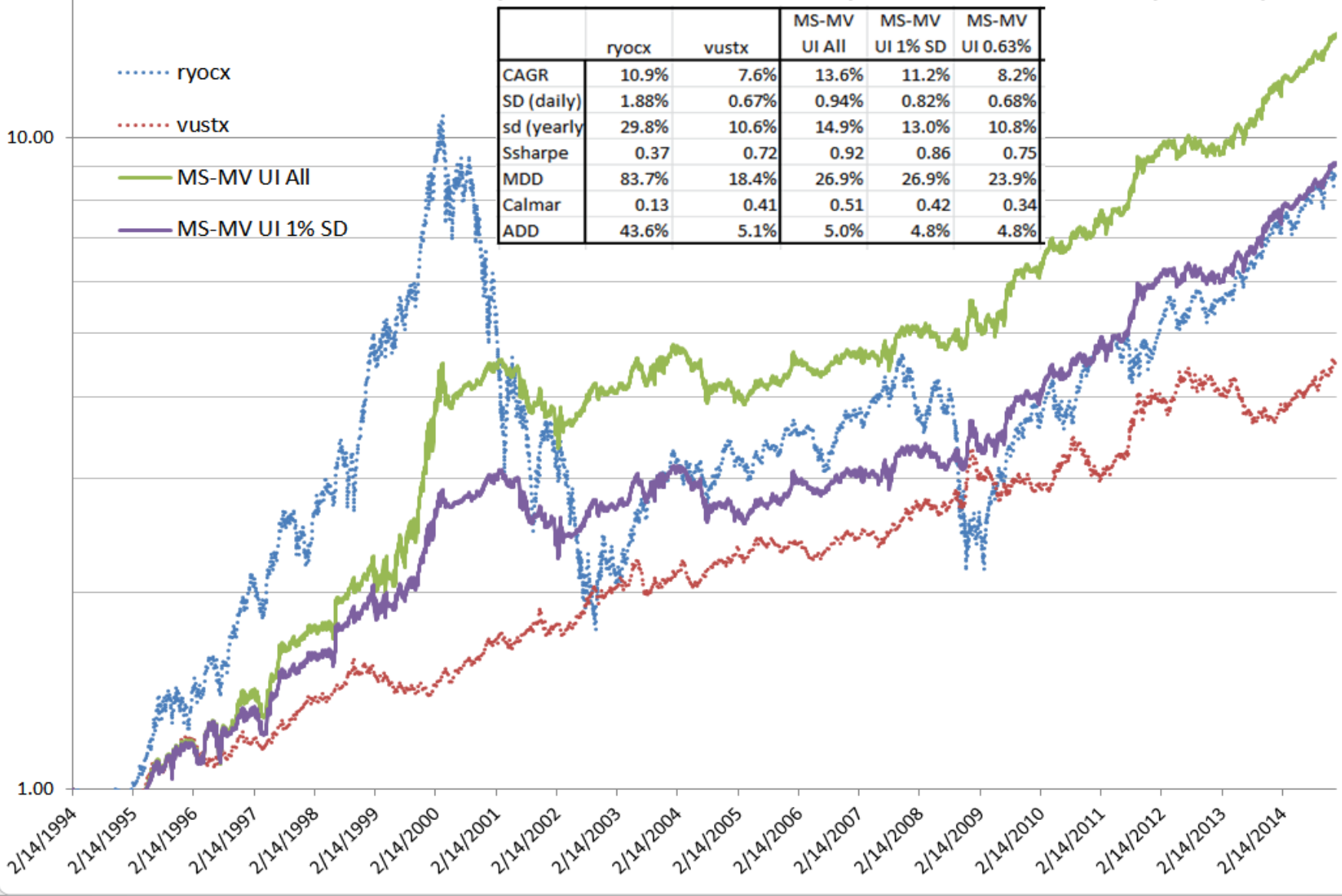
	ryocx	vustx	MaxShrp UI All	MaxShrp UI 1% SD	MaxShrp UI 0.63%
CAGR	10.9%	7.6%	13.6%	10.9%	8.6%
SD (daily)	1.88%	0.67%	0.97%	0.85%	0.72%
sd (yearly	29.8%	10.6%	15.4%	13.4%	11.4%
Ssharpe	0.37	0.72	0.88	0.81	0.76
MDD	83.7%	18.4%	26.9%	26.9%	23.9%
Calmar	0.13	0.41	0.50	0.41	0.36
ADD	43.6%	5.1%	5.7%	5.6%	5.4%

Legend:
- ryocx
- vustx
- MaxShrp UI All
- MaxShrp UI 1% SD

UIS QQQ-TLT: Max Sharpe - Min Var, Monthly, 5% Incr, 1% Daily SD Option

	ryocx	vustx	MS-MV UI All	MS-MV UI 1% SD	MS-MV UI 0.63%
CAGR	10.9%	7.6%	13.6%	11.2%	8.2%
SD (daily)	1.88%	0.67%	0.94%	0.82%	0.68%
sd (yearly	29.8%	10.6%	14.9%	13.0%	10.8%
Ssharpe	0.37	0.72	0.92	0.86	0.75
MDD	83.7%	18.4%	26.9%	26.9%	23.9%
Calmar	0.13	0.41	0.51	0.42	0.34
ADD	43.6%	5.1%	5.0%	4.8%	4.8%

Legend:
- ryocx
- vustx
- MS-MV UI All
- MS-MV UI 1% SD
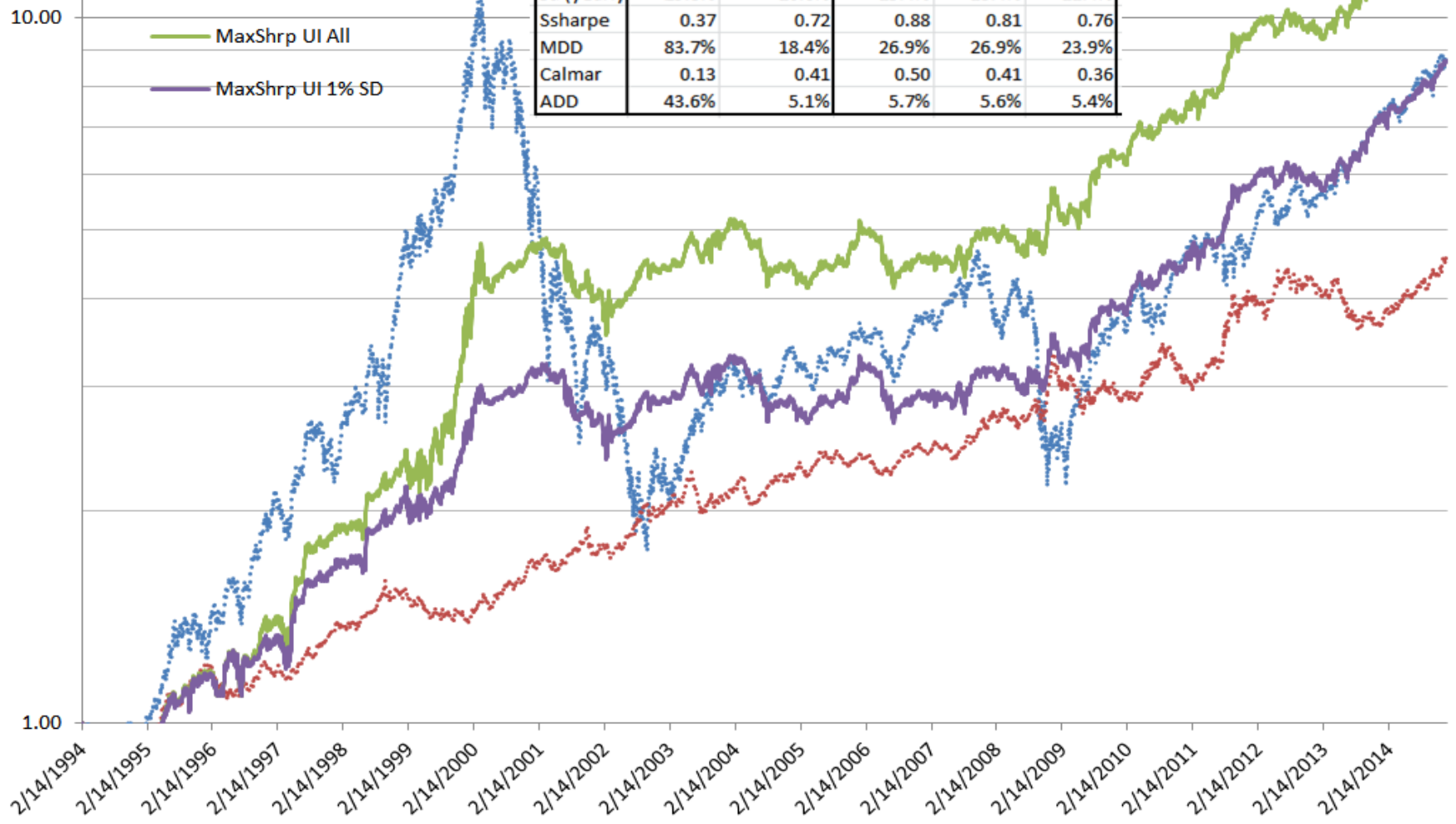
UIS QQQ-TLT: Min Var v Max Sharpe v Varan 75%-25%, Monthly
MV & MS in 5% Increments

Legend:
- MinVar UI All
- MaxShrp UI All
- Varan 0.75 ryocx-Vustx
- ryocx
- vustx
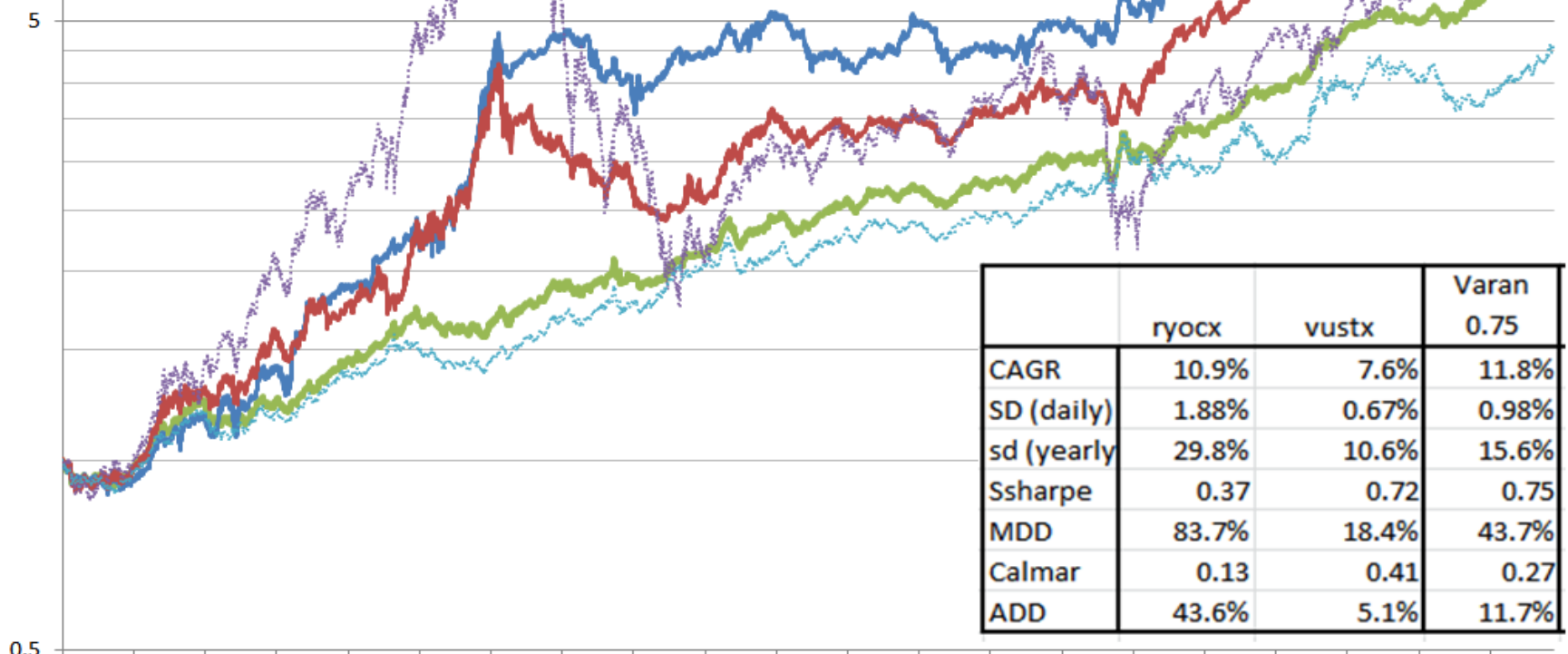
	ryocx	vustx	Varan 0.75
CAGR	10.9%	7.6%	11.8%
SD (daily)	1.88%	0.67%	0.98%
sd (yearly	29.8%	10.6%	15.6%
Ssharpe	0.37	0.72	0.75
MDD	83.7%	18.4%	43.7%
Calmar	0.13	0.41	0.27
ADD	43.6%	5.1%	11.7%

Other Indices: XLB

UIS XLB-Vustx: Min Var, Monthly, 5% Increments, 0.63% Daily SD Option

	xlb	vustx	MinVar UI All	MinVar UI 1% SD	MinVar UI 0.63% SD
CAGR	7.9%	7.1%	8.9%	8.9%	8.8%
SD (daily)	1.61%	0.70%	0.53%	0.53%	0.50%
sd (yearly)	25.6%	11.0%	8.4%	8.4%	8.0%
Ssharpe	0.31	0.65	1.07	1.07	1.10
MDD	59.8%	18.4%	13.5%	13.5%	13.5%
Calmar	0.13	0.39	0.66	0.66	0.65
ADD	13.7%	5.4%	2.2%	2.2%	2.1%

UIS Xlb-Tlt: Max Sharpe, Monthly, 5% Increments, 1% Daily SD Option

Legend:
- .... xlb
- .... vustx
- —— MaxShrp UI All
- —— MaxShrp UI 1% SD

	xlb	vustx	MaxShrp UI All	MaxShrp UI 1% SD	MaxShrp UI 0.63%
CAGR	7.9%	7.1%	11.7%	11.1%	9.4%
SD (daily)	1.61%	0.70%	0.87%	0.82%	0.71%
sd (yearly)	25.6%	11.0%	13.8%	13.0%	11.3%
Ssharpe	0.31	0.65	0.84	0.85	0.83
MDD	59.8%	18.4%	25.4%	20.8%	17.1%
Calmar	0.13	0.39	0.46	0.53	0.55
ADD	13.7%	5.4%	5.6%	4.8%	3.9%

UIS XLB-TLT: Max Sharpe-Min Var, Monthly, 5% Incr, 1% Daily SD Option

Legend:
- ······· xlb
- ······· vustx
- —— MS-MV UI All
- —— MS-MV UI 1% SD

	xlb	vustx	MS-MV UI All	MS-MV UI 1% SD	MS-MV UI 0.63% SD
CAGR	7.9%	7.1%	12.9%	12.2%	10.4%
SD (daily)	1.61%	0.70%	0.83%	0.79%	0.68%
sd (yearly)	25.6%	11.0%	13.1%	12.5%	10.8%
Ssharpe	0.31	0.65	0.98	0.98	0.97
MDD	59.8%	18.4%	15.8%	15.8%	15.8%
Calmar	0.13	0.39	0.82	0.78	0.66
ADD	13.7%	5.4%	3.2%	3.0%	2.6%

UIS XLB-TLT: Min Var v Max Sharpe v Varan 75%-25%, Monthly
MV & MS in 5% Increments

Legend:
- MinVar UI All
- MaxShrp UI All
- Varan 0.75 xlb-Vustx
- xlb
- vustx
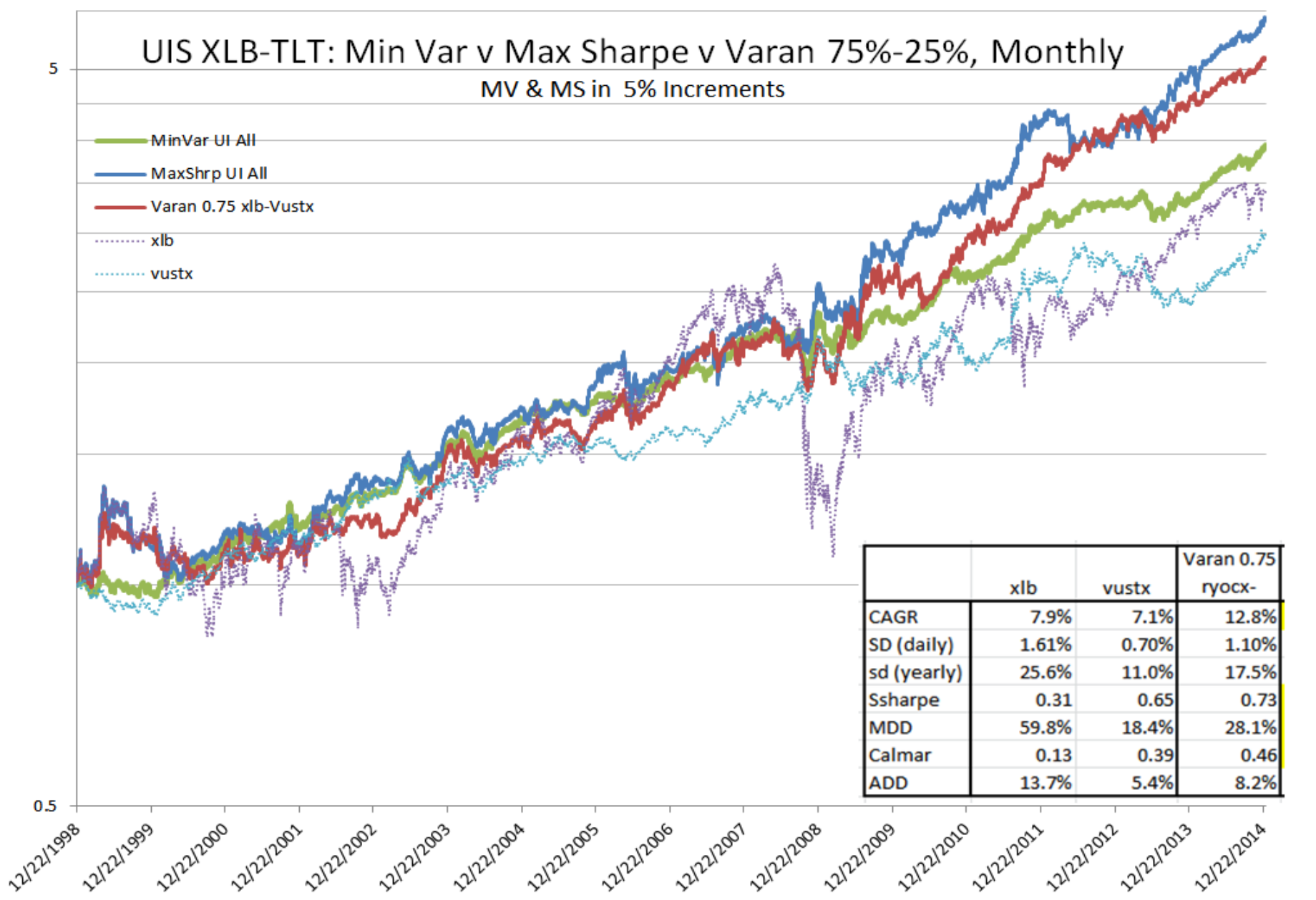
	xlb	vustx	Varan 0.75 ryocx-
CAGR	7.9%	7.1%	12.8%
SD (daily)	1.61%	0.70%	1.10%
sd (yearly)	25.6%	11.0%	17.5%
Ssharpe	0.31	0.65	0.73
MDD	59.8%	18.4%	28.1%
Calmar	0.13	0.39	0.46
ADD	13.7%	5.4%	8.2%

Muhlenkamp Screen
(Al Z)

Muhlenkamp Screen

- Tony Muhlenkamp mentioned a simple screening rule that his firm used to find stocks. Simply put, they look for
  - ROE > 14%,
  - "Some" sales and EPS growth,
  - "Some" positive momentum (and other technicals), and
  - A Price-to-Book ratio (adjusted for inflation rate) -- below 2.

  Having run a number of ROE-based screens in the past this all seemed reasonable.

- After the seminar I looked at the Muhlenkamp screen that AAII tracks. It has done *horrible*.
  - This made no sense to me -- the simple rules above should prove to be a credible screen. Turns out AAII uses more complex rules
  - So I decided to come up with my own screen based on what Tony mentioned.

AAII SV CIMI Group

| Performance | Passing Companies | Screening Criteria | Chart |

	Muhlenkamp	S&P 500
YTD Return:	-4.8%	2.2%
Five Year Return:	-25.6%	13.8%
Ten Year Return:	-13.1%	5.7%
Inception:	-0.6%	4.6%

Data as of 2/27/2015

The Muhlenkamp Screen represents AAII's interpretation of the investment approach and is not determined by the original strategist. The list of **passing companies** represents a hypothetical portfolio, which is used to track the screen's performance on a chart.

- Return on equity for the last 12 months (trailing four quarters) is greater than 11.6%

- The average return on equity over the last five fiscal years is greater than 11.6%

- The current price-earnings ratio is less than 8.6

- The compounded, annualized growth rate in fully diluted earnings per share from continuing operations over the last five years is positive (greater than zero)

- The compounded, annualized growth rate in fully diluted earnings per share from continuing operations over the last five years is greater than or equal to the median compounded, annualized growth rate in fully diluted earnings per share from continuing operations over the last five years for the industry

- The compounded, annualized growth rate in sales over the last five years is greater than or equal to the compounded, annualized growth rate in fully diluted earnings per share from continuing operations over the last five years

- Net margin for the last 12 months (trailing four quarters) is greater than the median net margin for the last 12 months (trailing four quarters) for the industry

- Operating margin for the last 12 months (trailing four quarters) is greater than the median operating margin for the last 12 months (trailing four quarters) for the industry

- The ratio of total liabilities to total assets for the last fiscal quarter is less than the median ratio of total liabilities to total assets for the last fiscal quarter for the industry

- Free cash flow per share for the last 12 months (trailing four quarters) is greater than or equal to zero

- The company is based in the United States (not an ADR or ADS stock)

- The company is traded on either the New York, American, or Nasdaq exchanges (not traded over the counter)

🔒 📝 Muhlenkamp - Simpler

About | **Main Settings** | **Rules** | **Hedge Rules** | **Backtest** | **Rolling Backtest**   Clear Results   Run Screen

As Of	3/14/2015	
Universe	All Fundamentals - USA ▼	Benchmark S&P 500 Eq Weight ▼
Method	Long ▼	Max No. Stocks (0 for all) 25
Ranking	Quick Rank ▼	*NOTE: if no ranking is used, the order of results is random*

Formula   close(0)/close(210)   Ranking Method   Higher is Better ▼

🔒 📝 Muhlenkamp - Simpler

↔▢▭ **About** | **Main Settings** | **Rules** | **Hedge Rules** | **Backtest** | **Rolling Backtest**   Clear Results   Run Screen

❓ Show   🖋 Add Wizard Rule   📝 Add Free Form Rule   Clear   As Of 2/28/2015   Totals 6686

≡✕🖋 ●	Daily $ Amount, 20 Day Average - Greater Than$ 1000K	3336
≡✕📝 ● and	ROE%TTM > 14	985
≡✕📝 ● and	Pr2BookQ < 14/(((#CPI/fhist("#cpi",52) - 1) * 100) + 6)	174
≡✕📝 ● and	EPS%ChgTTM > 0	143
≡✕📝 ● and	Sales%ChgTTM > 0	119
≡✕📝 ● and	showvar(@10MnthMo, close(0)/close(210))	119
≡✕📝 ● and	@10MnthMo > 1	59

Rank data as of 02/28/15, Start Date: 03/02/15, End Date: 03/14/15

No	Ticker	Name	Start	End	Pct	Rank	MktCap	@10Mnth Mo	ROE%TTM	Pr2BookQ	EPS%ChgT TM	Sales%Chg TTM
1	JBLU[5D][1Y]	JetBlue Airways Corp	17.57	18.12	3.13	98	5,326.68	2.21	17.2	2.33	133.33	6.91
2	IMKTA[5D][1Y]	Ingles Markets Inc	47.18	50.49	7.02	96.89	876.04	1.9	14.04	2.22	213.25	2.85
3	MERC[5D][1Y]	Mercer International Inc	14	13.94	-0.43	96.35	917.56	1.82	28.36	2.1	482.98	7.97
4	TNK[5D][1Y]	Teekay Tankers Ltd	5.78	5.42	-6.23	95.54	514.2	1.72	15.44	1.16	822.22	39.45
5	PLUS[5D][1Y]	ePlus Inc	85.45	84.56	-1.04	94.3	615.29	1.62	17.04	2.24	40.47	9.86
6	LEAF[5D][1Y]	Springleaf Holdings Inc	38.04	49.84	31.02	94.18	4,415.33	1.61	34.23	2.11	540.35	8.25
7	GGAL[5D][1Y]	Grupo Financiero Galicia Sa, Bu	21.11	23.14	9.62	93.63	2,692.86	1.57	34.44	2.24	34.22	1.06
8	UEPS[5D][1Y]	Net 1 Ueps Technologies Inc	13.75	13.97	1.6	92.99	635.83	1.54	22.62	1.41	218.03	23.49
9	GHC[5D][1Y]	Graham Holdings Co	996.65	1,079.63	8.33	91.94	5,714.10	1.49	22.76	1.94	500.04	3.6
10	AEC[5D][1Y]	Associated Estates Realty Corp	23.96	24.05	0.38	91.54	1,380.72	1.47	24.29	2.15	2,666.67	6.94
11	FNHC[5D][1Y]	Federated National Holding Co	30.11	29.51	-1.99	91.25	394.37	1.46	24.71	2.09	108.97	64.86
12	MIC[5D][1Y]	Macquarie Infrastructure Comp	79.03	80.73	2.15	91.13	5,588.38	1.45	54.42	2.12	2,350.00	29.77
13	NRZ[5D][1Y]	New Residential Investment Co	15.11	14.7	-2.71	88.25	2,137.08	1.37	24.66	1.37	21.84	121.45
14	GPT[5D][1Y]	Gramercy Property Trust Inc	7.13	7.08	-0.7	87.44	844.11	1.36	19.6	1.8	275.86	103.53
15	PNX[5D][1Y]	Phoenix Cos Inc. (The)	57.24	57	-0.42	85.52	327.86	1.33	14.84	0.65	146.62	0.74
16	ORC[5D][1Y]	Orchid Island Capital Inc	13.82	13.65	-1.23	83.81	232.13	1.29	18.66	0.93	1,409.52	1,653.99
17	VOYA[5D][1Y]	Voya Financial Inc	44.24	44.64	0.9	82.37	10,689.56	1.27	15.65	0.68	304.41	27.67
18	SJW[5D][1Y]	SJW Corp.	32.5	33.14	1.97	80.99	672.71	1.25	15.21	1.89	128.83	15.46
19	BEE[5D][1Y]	Strategic Hotels & Resorts Inc	13.22	12.25	-7.34	80.46	3,508.76	1.24	19.77	2.32	780	24.74
20	BRP[5D][1Y]	Brookfield Residential Properti	24.21	24.24	0.12	79.02	2,793.19	1.23	18.34	1.79	92.56	8.83
21	FRFHF[5D][1Y]	Fairfax Financial Holdings Ltd	519.9	536.99	3.29	77.94	11,107.32	1.22	21.01	1.36	332.39	69.49
22	TRV[5D][1Y]	Travelers Companies Inc (The)	107.35	106.72	-0.59	76.55	34,617.17	1.2	14.88	1.43	9.86	4.15
23	NYMT[5D][1Y]	New York Mortgage Trust Inc	7.86	7.88	0.25	76.36	830.25	1.2	23.61	1.02	32.43	51.95
24	MRH[5D][1Y]	Montpelier Re Holdings Ltd	35.91	36.84	2.59	76	1,572.03	1.2	14.98	1.04	24.23	15.61
25	EIG[5D][1Y]	Employers Holdings Inc	24	25.21	5.04	75.16	742.94	1.19	16.04	1.1	57	6.89
				avg	2.2%	avg	3,965.86					
						median	1,380.72					
		spy	210.78	205.83	-2.3%	max	34,617.17					
		rsp	82.27	80.21	-2.5%	min	232.13					

Statistics	Total Return	Annualized Return	Max Drawdown	Sharpe Ratio	Sortino Ratio	Standard Deviation	Correlation with Benchmark	R-Squared	Beta	Alpha
Muhlenkamp - Simpler	1506.30%	20.04%	-60.87%	0.69	0.94	23.66%	0.67	0.45	0.79	16.86%
Muhlenkamp (SP500)	486.04%	12.34%	-56.60%	0.42	0.54	20.21%	0.71	0.5	0.72	9.30%
MUHLX	252.47%	6.30%	62.10%	0.30	TBD	20.90%	TBD	TBD	TBD	TBD
S&P 500 Eq Weight	189.57%	7.25%	-60.83%	0.16	0.21	21.14%	-	-	-	-
S&P 500	40.52%	2.26%	-57.00%	-0.08	-0.10	20.01%	-	-	-	-
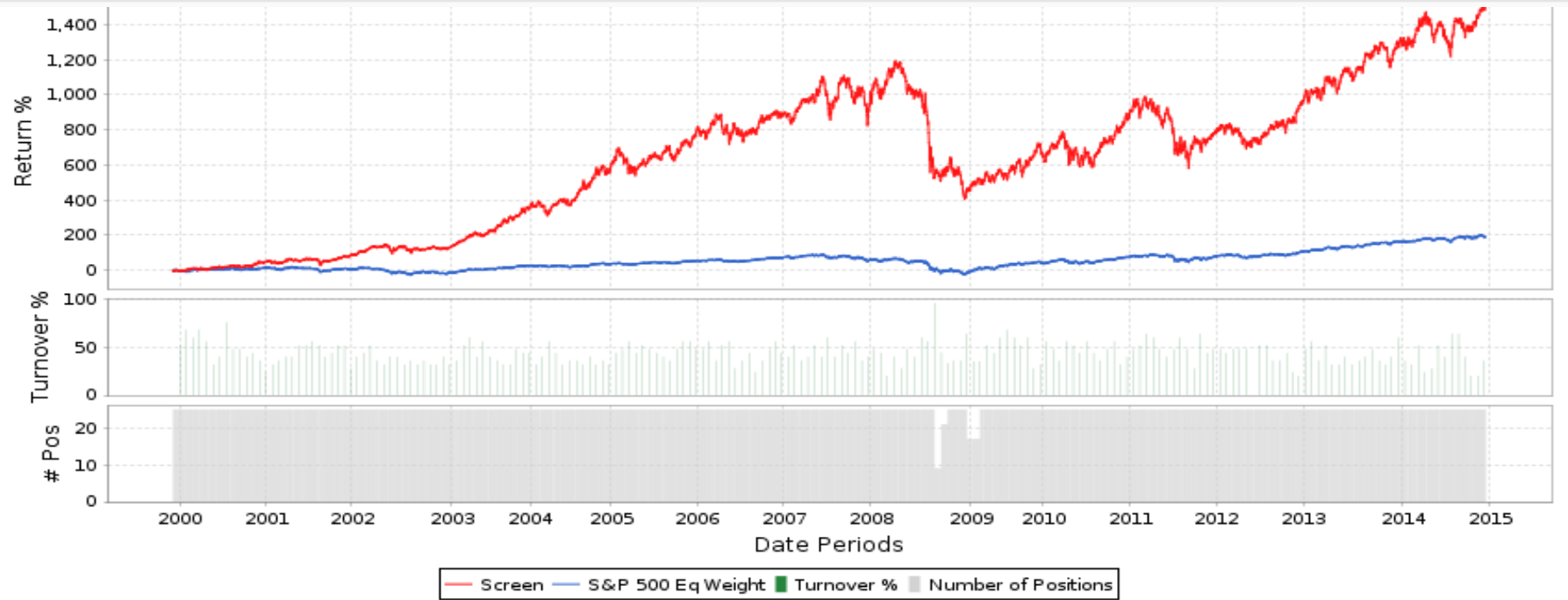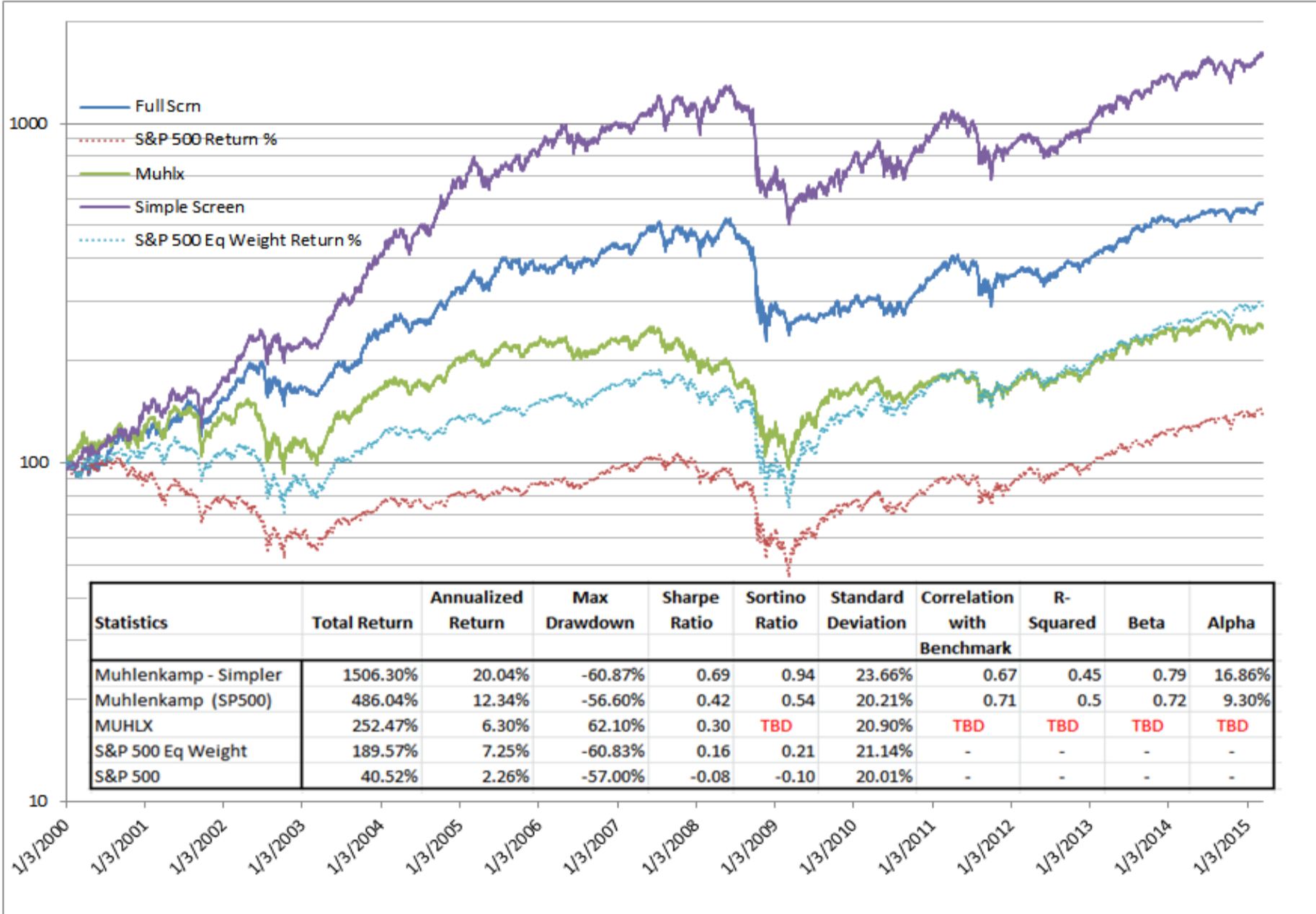
Portfolio Diagnostics

(Ilya F)

Reference Material

- Performance Metrics

Performance Metrics

EC	Equity Curve	Portfolio Value plotted against time
CRR	Compound Rate of Return	Reward Measurement -- Annualized compound, or geometric, rate of return
DD	Drawdown	Percentage difference in portfolio value on a given date from the maximum portfolio value on all prior dates
MDD	Maximum Drawdown	Risk Measurement - Maximum observed DD over all portfolio valuation dates
UI	Ulcer Index	Risk Measurement - Root Mean Square of the DD measurements for all portfolio evaluation dates. For each date, measure DD and square it. Then take the square root of the average of all the DD^2 measurements. The result is the Ulcer Index where a high number means the portfolio has large drawdowns that take a long time to recover to a new portfolio high value.
UPI	Ulcer Performance Index	Reward to Risk Measure -- CRR / UI
CR	Calmar Ratio	Reward to Risk Measure -- CRR / MDD. This measure is inferior to the UPI because a single large DD will result in a low Calmar Ratio forever

with permission, Michael Begley, informal notes

Performance Metrics: Examples