

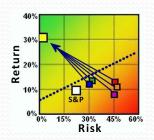
Diversification Heresy

Let's Break Through the Efficient Frontier

AAII Silicon Valley Chapter
Computerized Investing Seminar Nov. 10, 2012



Scott Juds, President & CEO
SumGrowth Strategies, LLC
11536 Riviera Pl. NE, Seattle, WA 98125
www.SumGrowth.com sjuds@SumGrowth.com



Diversification Heresy

Let's Break Through the Efficient Frontier

--- Presentation Topics ---

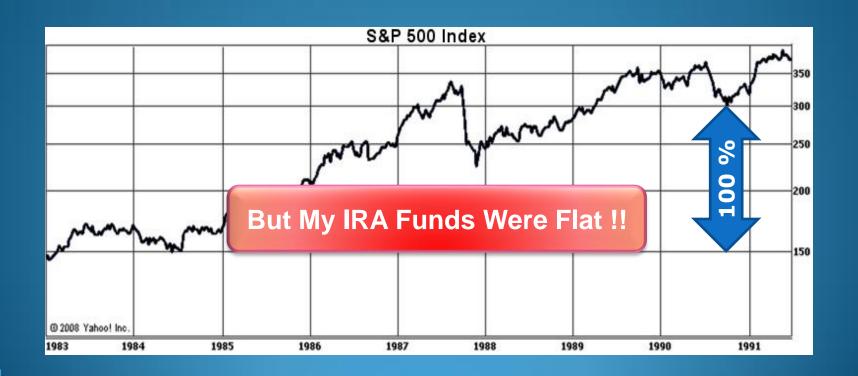
- 1. How I Got Hooked on Trends.
- 2. Trends are Real ... (Markets are Not Efficient)
- 3. Risk & Return are Not Mutually Exclusive.
- 4. There is an Optimum Trend Extraction Method.
- 5. Trend Periods and Algorithms do Matter.
- 6. How to Build Great Strategies and Portfolios.
- 7. Backtesting & Optimization are Not Just Video Games.
- 8. Stock Screening and Analysis do Still Play a Role.
- 9. You Can do this in your Spare Time, Without a Ph.D.



How It All Started ...

I Had A Problem

Go-Go 80's Stock Market





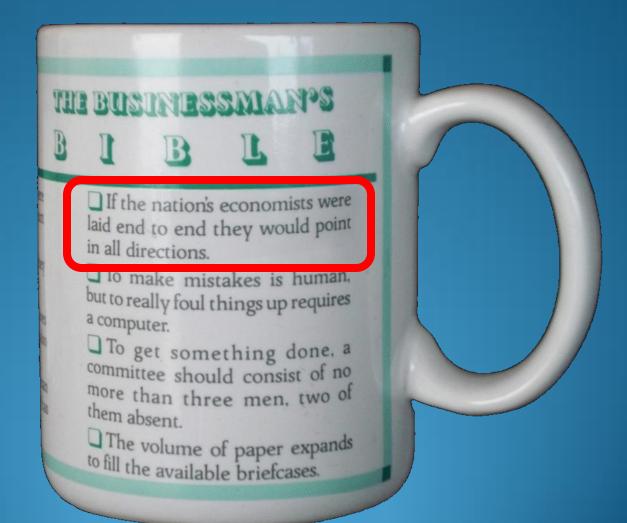
No Shortage of Opinions



FastTrack MINITOR



Coffee Cup is Right





Experts Do Point In All Directions

Inherently a 50-50 Crap Shoot For Market Prediction





The Advice Problem

Own a little bit of everything ... So you can achieve precisely Average Performance

Diversify - Rebalance

Diversify - Rebalance



What's Up With That?

Goldman Sachs Sets Record for \$100 Million Trading Days

By DOUGLAS MCINTYRE

Posted 5:00 AM 03/02/10 | Goldman Sachs

Goldman Sachs (GS) may face bad publicity, hostile Congressmen, and campaigns by shareholders to cut compensation, but it remains a money making machine. The bank has disclosed that it had 131 trading days last year in which it made at least \$100 million in net trading revenue -- a new record for the bank. The data comes from the firm's 10-K and



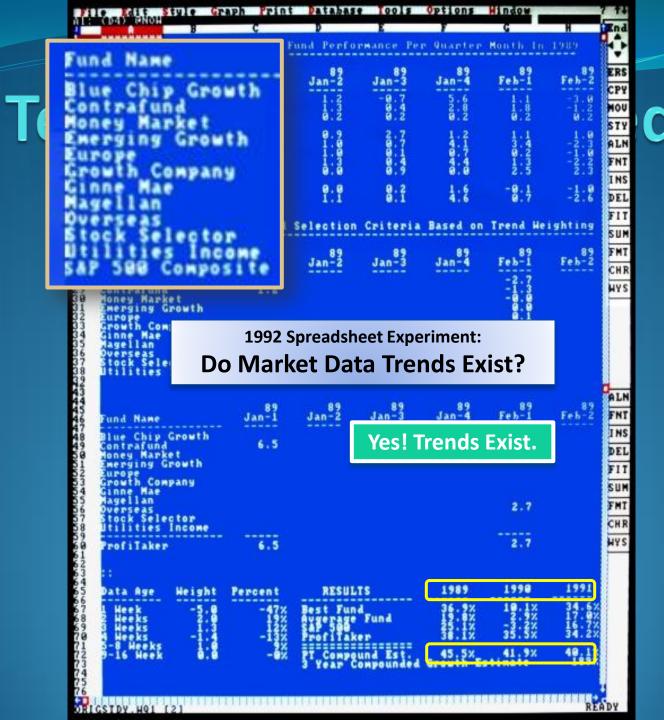
Mass Hypnotism

What About the Data?

Does Recent Market Data Hold Clues for Future Prices?

Do Price Trends Exist?







SectorSurfer Development



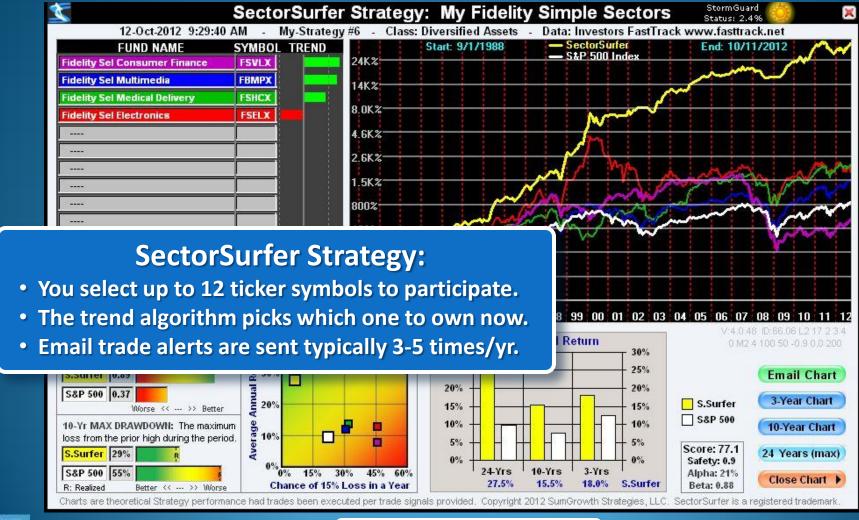


SectorSurfer Devekapment

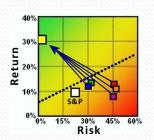




SectorSurfer Development







Diversification Heresy

Let's Break Through the Efficient Frontier

- --- Presentation Topics ---
- How I Got Hooked on Trends.
- 2. Trends are Real ... (Markets are Not Efficient)

-- Review --

Efficient Market Hypothesis

- Prices already reflect all past publicly available information.
- One cannot consistently achieve returns in excess of average.
- Stock and other asset prices follow a random walk model.

If TRUE, Diversification is Best. But if Trends are Real, E.M.H. is False.



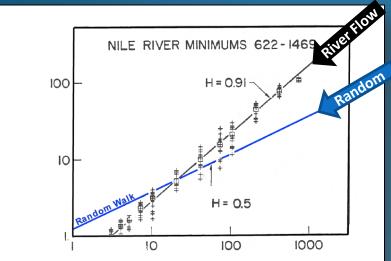
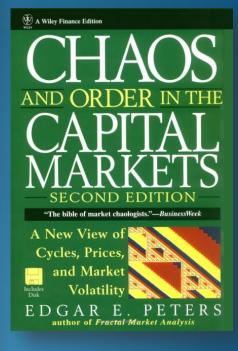


FIGURE C27-6. Pox diagram of $\log R/S$ versus $\log \delta$ for the Nile minimums as reported in Toussoun 1925. The R/S pox diagram of Nile maximums is not plotted because it is extremely similar to the diagram shown in the present figure.

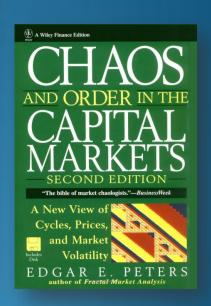
Global dependence in geophysical records (M & Wallis 1969b)

Developed by:
Edwin Hurst in 1907
Nile River Dam Project
Water Flow Character



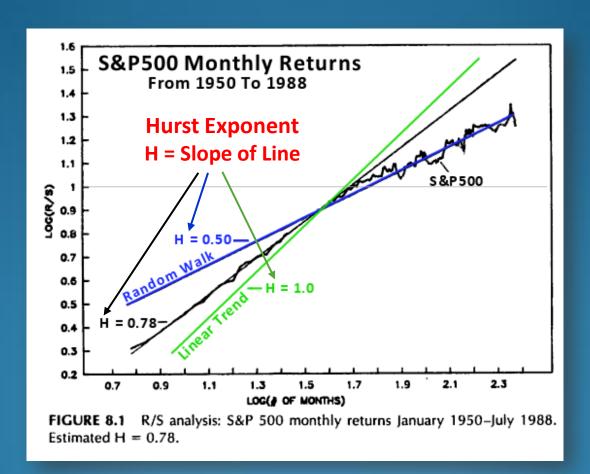




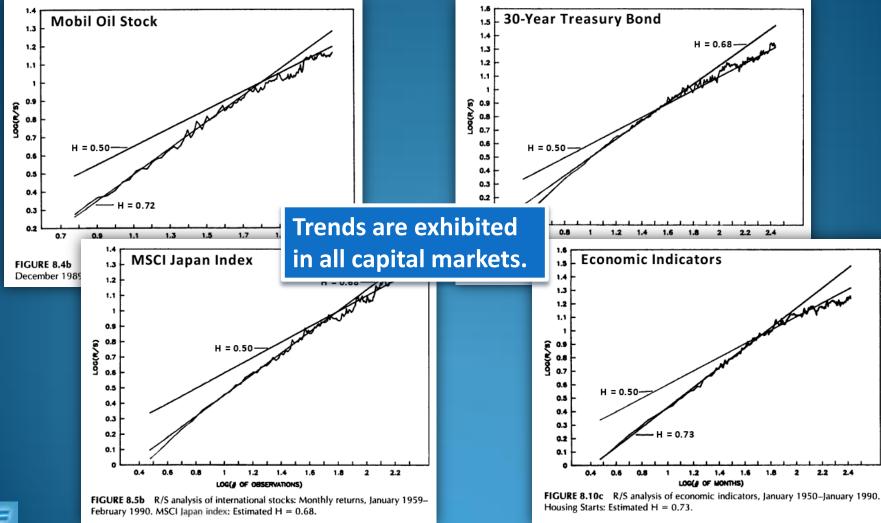


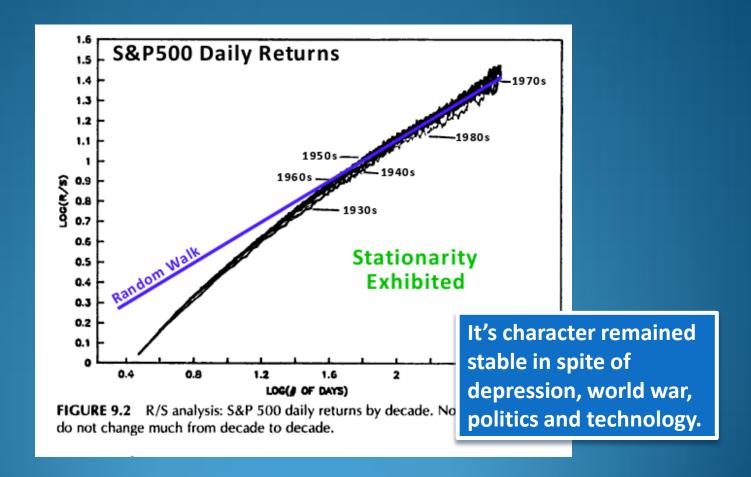
$$R/S(n) = Avgerage_{t=1}^{T-n} \left(\frac{Range(t, t+n)}{Std.Dev.(t, t+n)} \right)$$













The Economist

January 8th 2011

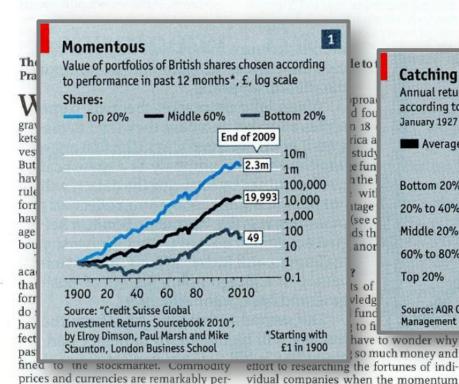
Document Link: Momentum in Financial Markets

annuagah annuaga ta ba annuta analaitan d

Briefing Momentum in financial markets

The Economist January 8th 2011 69

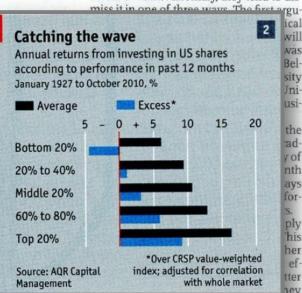
Why Newton was wrong



cictont ricing or falling for languaged

month. In turn, others will buy after ten months, then nine, eight and so on until the effect disappears.

When efficient-market theorists come across a market anomaly, they tend to dis-



tend to be less diversified and therefore more risky. And shares that look cheap on conventional measures (asset value, dividend yield, price-earnings ratio) also tend

Columbine Capital

Price Momentum, a 20 Year Research Effort

Document Link: Price Momentum - a Twenty Year Research Effort



COLUMBINE NEWSLETTER

The Columbine Alpha approach

A PORTFO

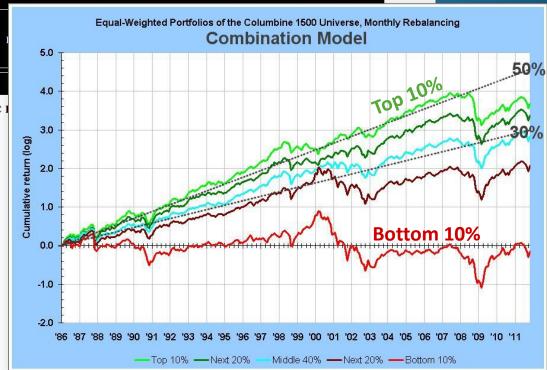
SPECI

From
John Brush

Price Momentum
a Twenty Year
Research Effort

Summary and Overview

Even the most casual market watchers have observed anecdotal evidence of trend following in stock prices. Borrowing from the world of





Profitability of Momentum Strategies: An Evaluation of Alternative Explanations

By Narasiman Jegadeesh and Sheridan Titman (2001)

Following Jegadeesh and Titman (1993), at the end of each month we rank the stocks in our sample based on their past six-month returns M onth -5 to M onth 0 and then group the stocks into 10 equally weighted portfolios based on these ranks. Each portfolio is held for six months M onth 1 to M onth 6 following the ranking month.

Table I Momentum Portfolio Returns

This table reports the monthly returns for momentum portfolios formed based on past six-month returns and held for six months.

	All Stocks			
	1965-1998	1965-1989	1990-1998	
P1 (Past winners)	1.65	1.63	1.65% / mo.	= 21.7% / yr
P2	1.39	1.41	A10W	
P3	1.28	1.30	1.21	
P4	1.19	1.21	1.13	
P5	1.17	1.18	1.12	40.00/ Diff
P6	1.13	1.15	1.09	16.8% Diff.
P7	1.11	1.12	1.09	
P8	1.05	1.05	1.03	
P9	0.90	0.94	0.77	
P10 (Past losers)	0.42	0.46	0.40% / mo	. = 4.9% / yr



Time Domain Data: Prices & Trends





Trends are Real

TRENDS, by definition, are a "Portal to the Future."

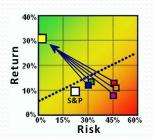
Where something in the past ...

... tells us something about the future.

Trends ARE the crystal ball we hope to find.

We're NOT limited by Average Performance.





Diversification Heresy

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- --- Presentation Topics ---
- 1. How I Got Hooked on Trends.
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- 3. Risk & Return are Not Mutually Exclusive.
- 1 There is an Ontimum Trend Extraction Method

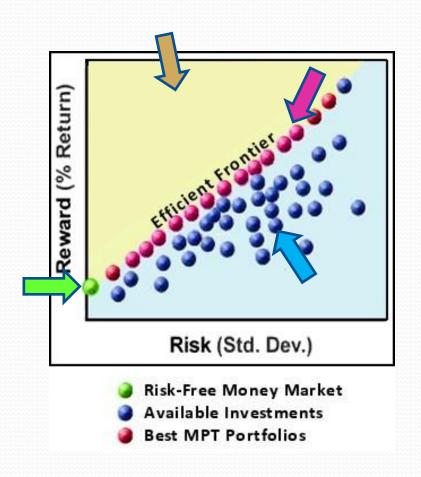
--- Review ---

Modern Portfolio Theory

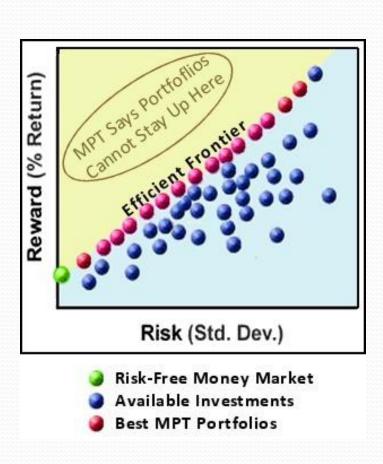
One Must Trade Risk for Return.



mes.





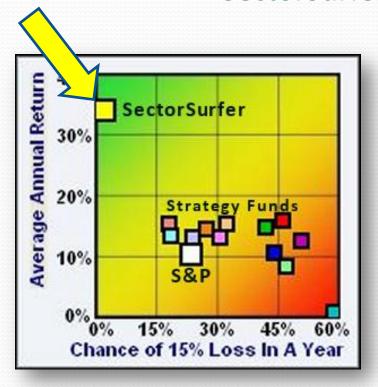


MPT Tenets

- Market Prices are Gaussian Distributed
- Rational Investors Trade Risk for Return
- Risk is Measured as Standard Deviation of Return
- Risk is Reduced by Owning Uncorrelated Assets
- The Efficient Frontier is the Set of Best Portfolios



SectorSurfer Thinks Otherwise



MPT Tenets

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SectorSurfer Thinks Otherwise

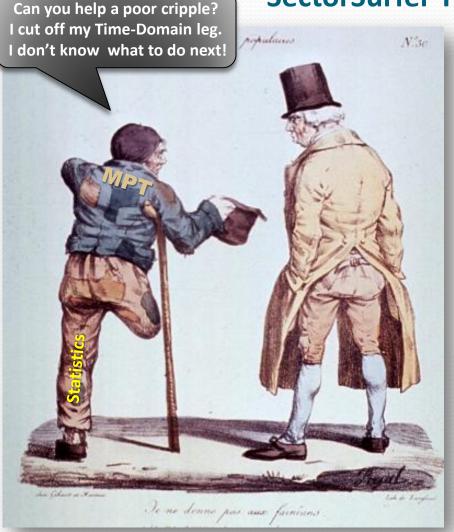


MPT Tenets w/ Comments

- Market Prices are Gaussian Distributed
- Fails to Consider the Tails are Way Too Fat
- Rational Investors Trade Risk for Return
- Fails To Consider New Tools Change the Game
- Risk is Measured as Standard Deviation of Return
- Fails to Consider Big Returns Aren't a Bad Thing
- Risk is Reduced by Owning Uncorrelated Assets
- Fails to Consider Temporal Avoidance Strategies
- The Efficient Frontier is the Set of Best Portfolios
- Fails to Consider that the Efficient Frontier is an Artifact of Unfortunate Self-Imposed Constraints





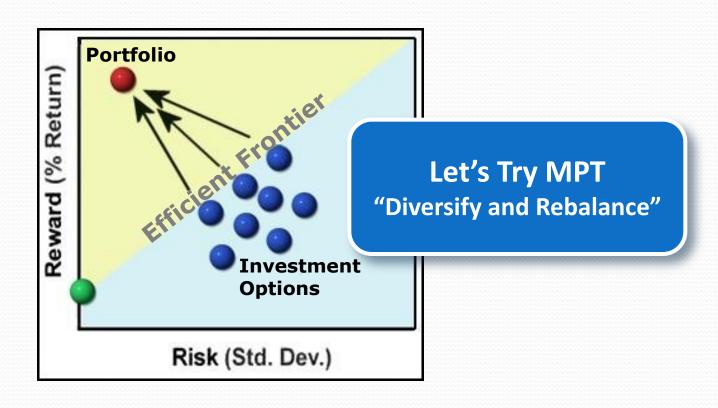


MPT Tenets w/ Comments

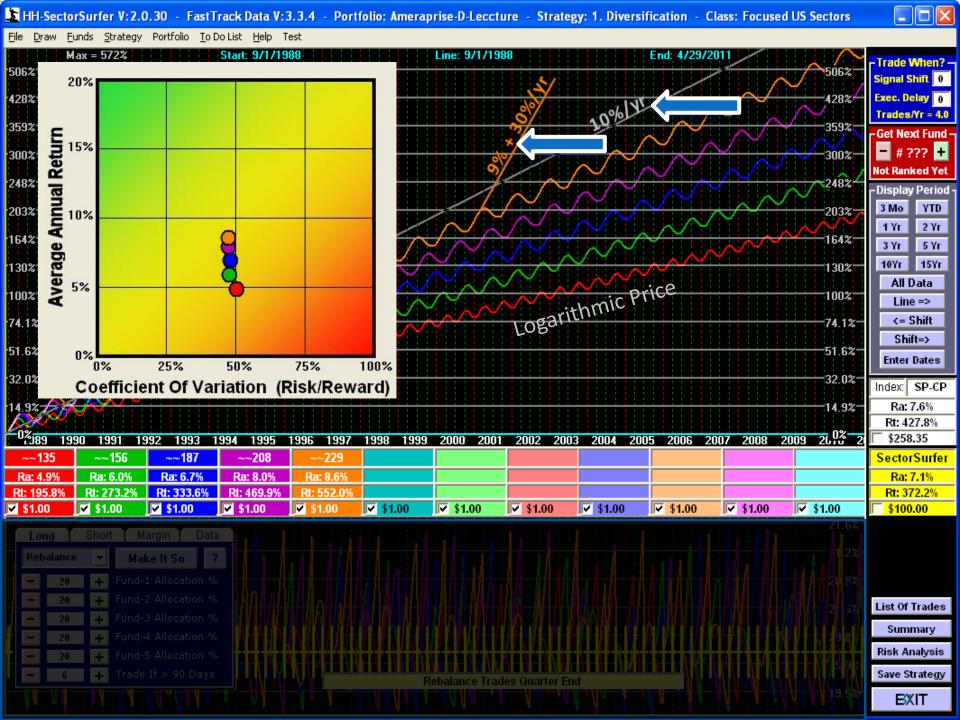
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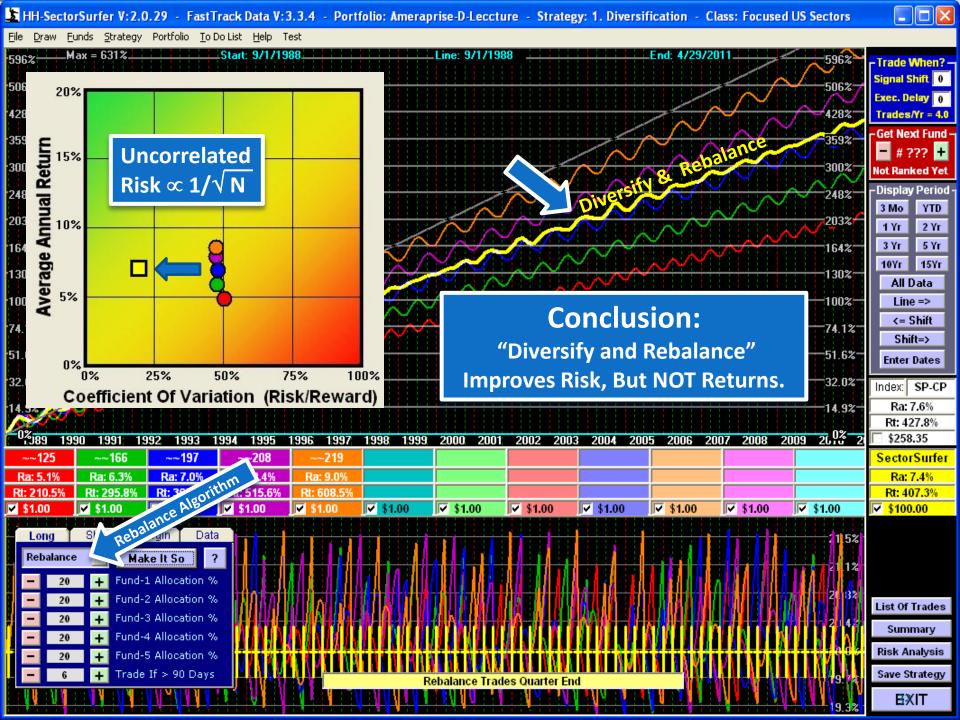
MPT Can't Pick Anything to Own or Avoid Next Month!

How to Break Through the Efficient Frontier

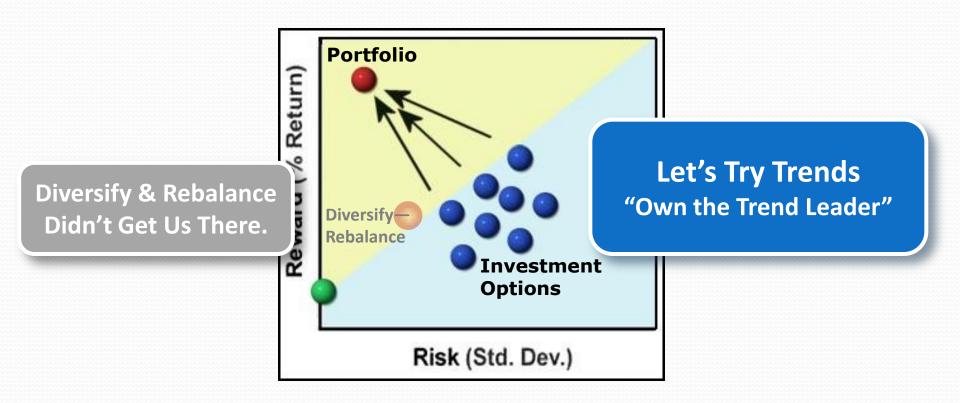




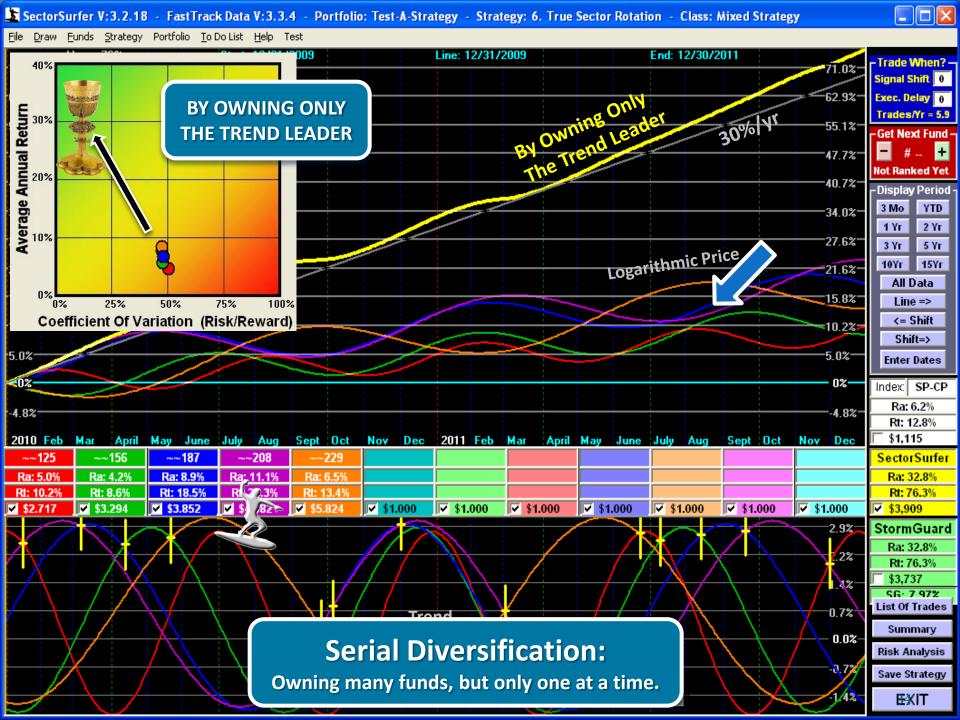




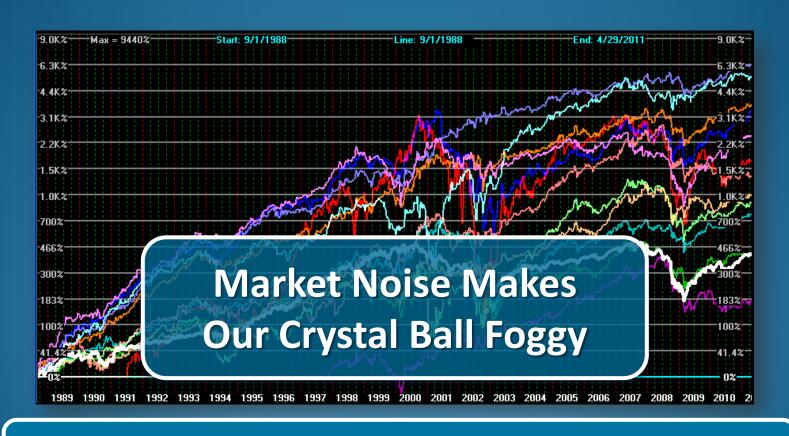
How to Break Through the Efficient Frontier





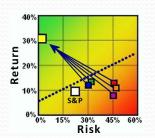


Real Markets Have Noise



The Game: Extract Trend Signals From Noisy Data.





8.

9.

Diversification Heresy

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- 3. Risk & Return are Not Mutually Exclusive.
- 4. There is an Optimum Trend Extraction Method.
- 5. Trend Period My Tools for the Job Matter.
- MSEE Stanford University 1976
 - Photoelectric Sensors & Controls Book
 - Inventor Over 40 US and Foreign Patents
 - **Electronic Signal Processing Theory Focus**

My Career Has Been All About
Digging Signals Out of Noise!



Games.

h.D.

Optimum Trend Extraction

Its All About
Reducing Noise to Reveal the Signal



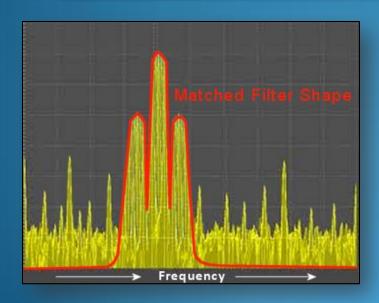
- Matched Filter Processing
 - Filter Shape Basis
- Differential Signal Processing
 - Common Mode Noise Elimination

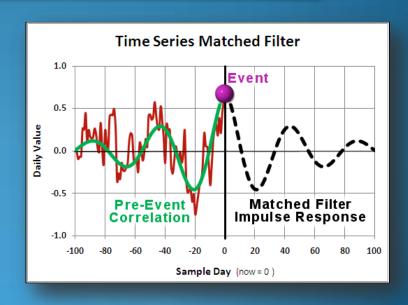


Definition: (from Wickipedia)

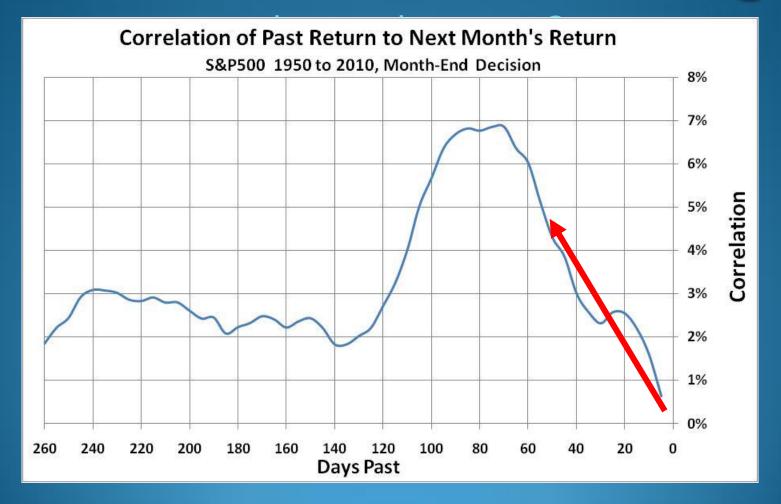
A matched filter is the optimal linear filter for maximizing the signal to noise ratio (SNR) in the presence of additive stochastic noise.

The Best Filter Shape Matches The Signal Shape



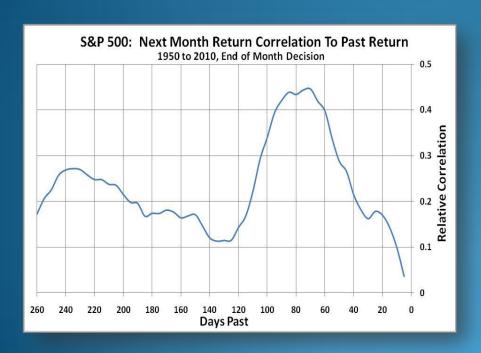


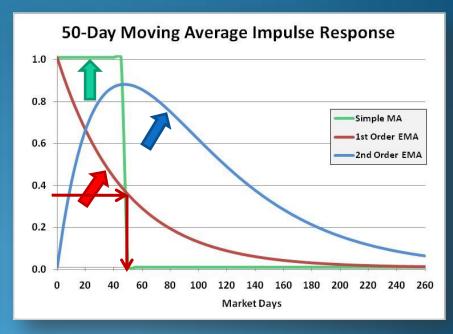






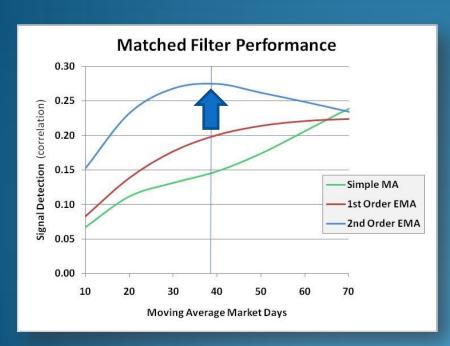
Choice of Matched Filter?



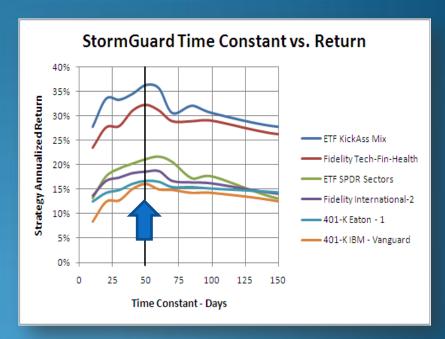




StormGuard Matched Filter Performance



Correlation Data Convolved w/Filters



Actual Performance as StormGuard



StormGuard Real Time Performance

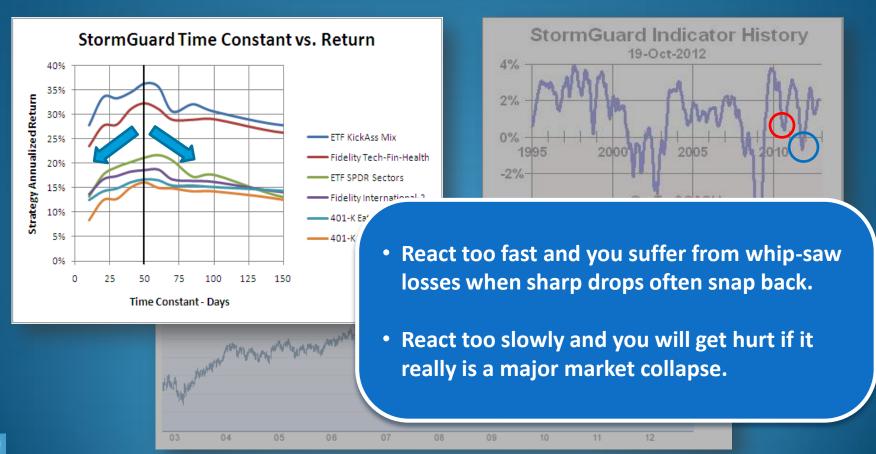








StormGuard Real Time Performance



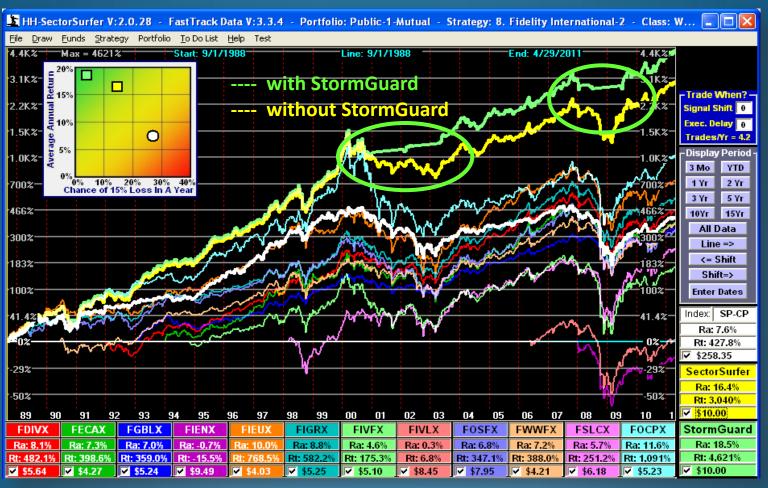


StormGuard Matched Filter Performance





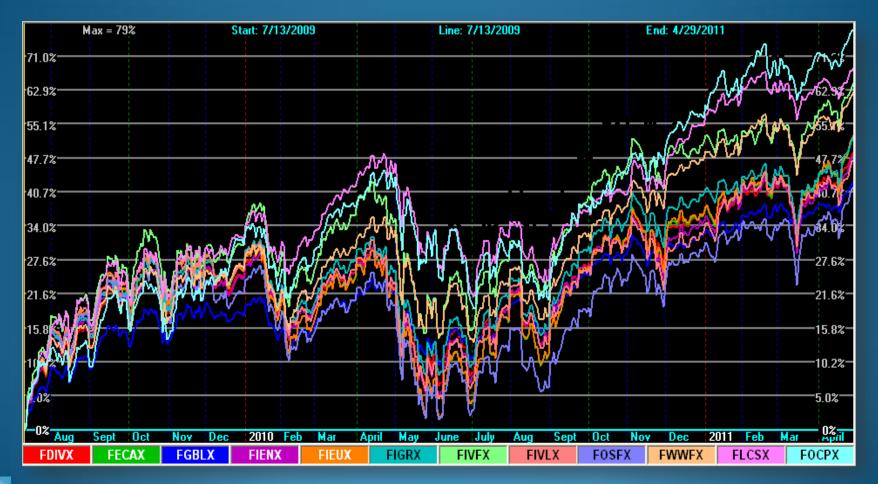
StormGuard Matched Filter Performance





Common Mode Noise

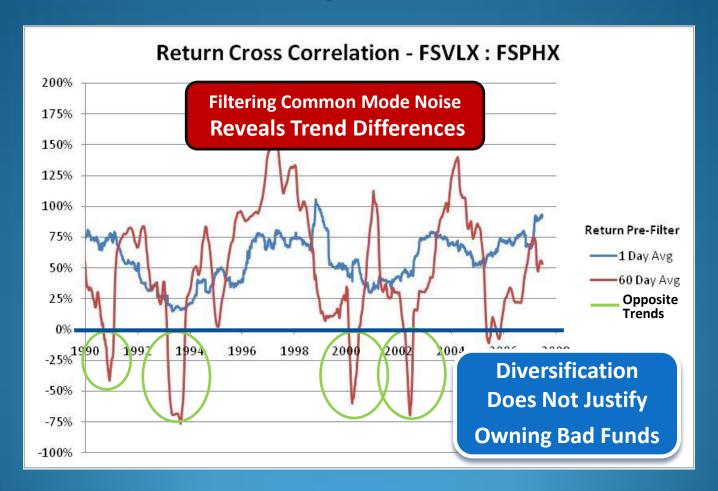
Some Evidence





Common Mode Noise

Relatively Short Term



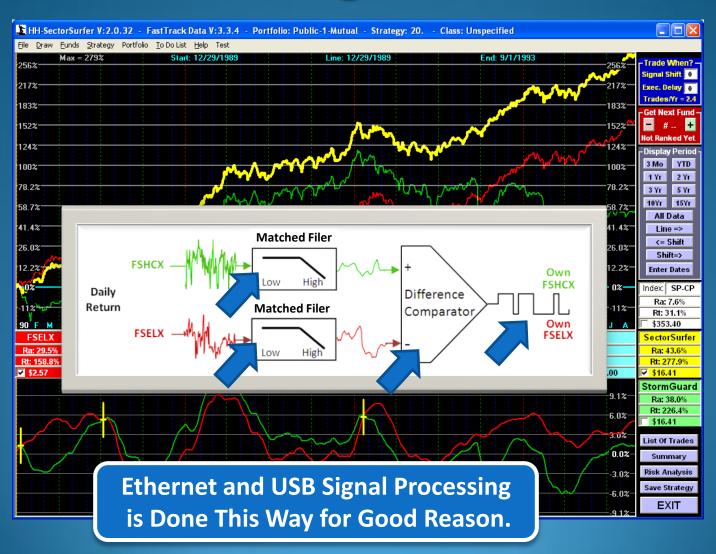


Solo Signal Processing



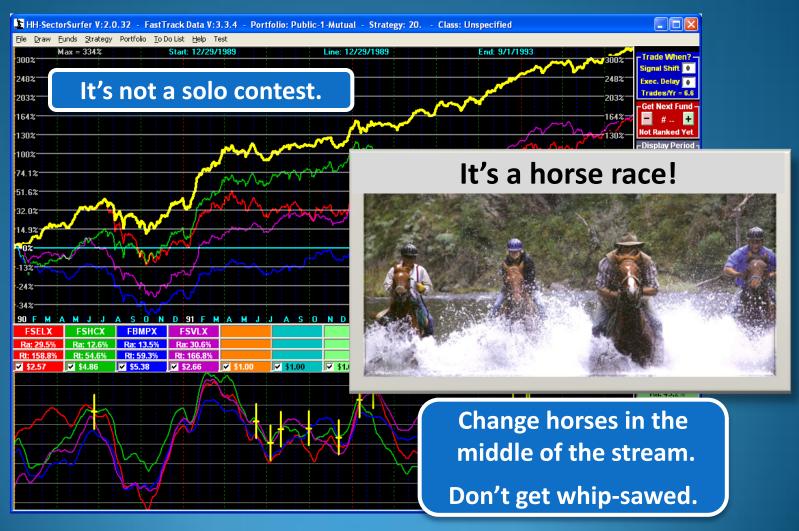


Differential Signal Processing

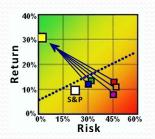




Differential Signal Processing







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- 4. There is an Optimum Trend Extraction Method.
- 5. Trend Periods and Algorithms do Matter.
- 6. How to Build Creat Strategies and Bortfelins.
- Which Trend is My Friend?
- Period Week? Month? Quarter? Year?
- Algorithm MACD? SMA? EMA? DEMA?

eo Games.

Role.

t a Ph.D.



Profitability of Momentum Strategies: An Evaluation of Alternative Explanations

By Narasiman Jegadeesh and Sheridan Titman (2001)

Their Choices:

1. Trend Algorithm: S.M.A.

2. Averaging Period: 6 Months

3. Periodically Repeat: 6 Months

	All Stocks		
	1965-1998	1965-1989	1990-1998
P1 (Past winners)	1.65	1.63	1.69
P2	1.39	1.41	1.32
P3	1.28	1.30	1.21
P4	1.19	1.21	1.13
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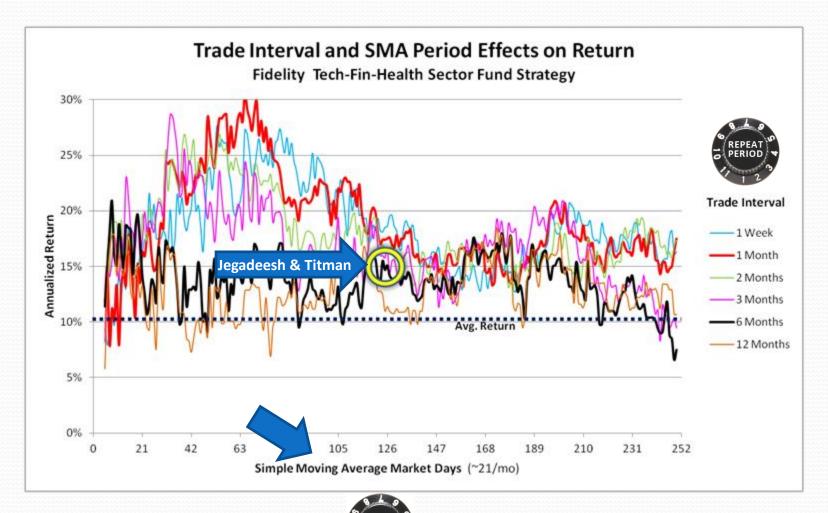


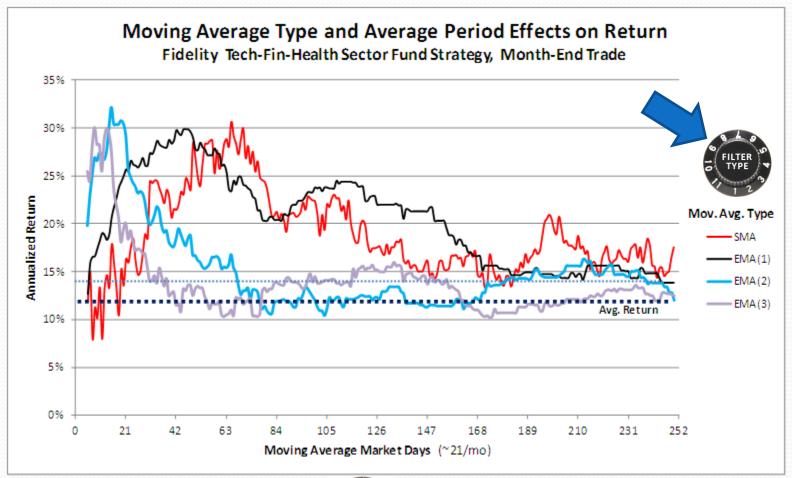


As an engineer,
I want to turn
all of the knobs.

I want knobs that go to 11.

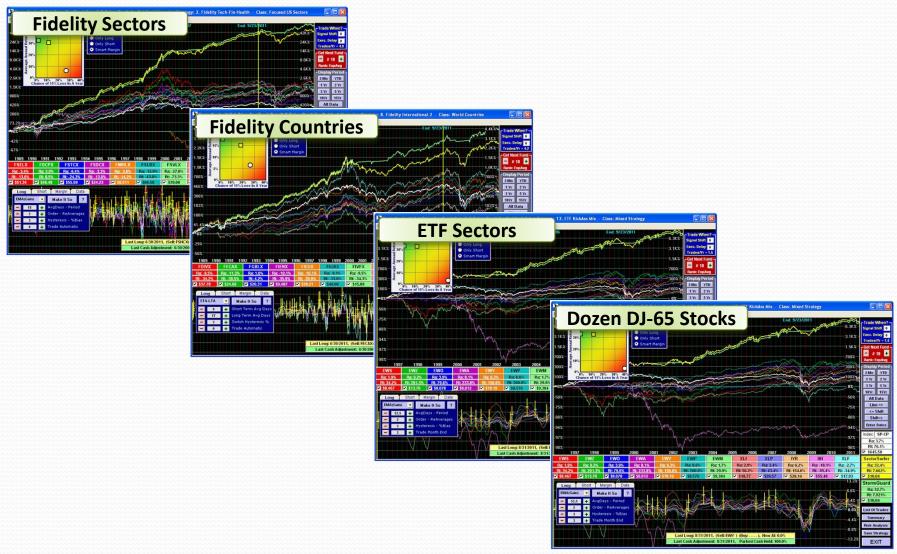






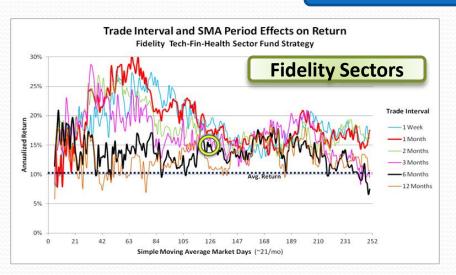


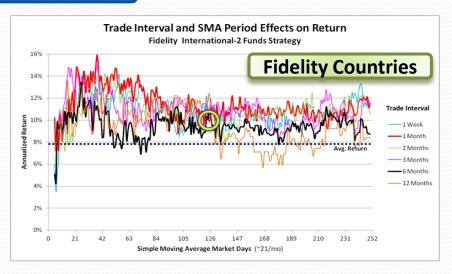


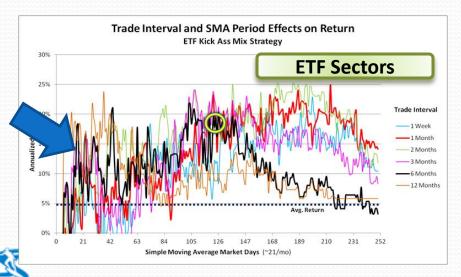


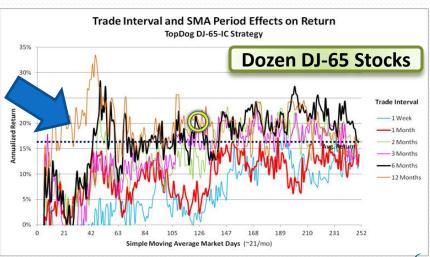


SMA: Simple Moving Average

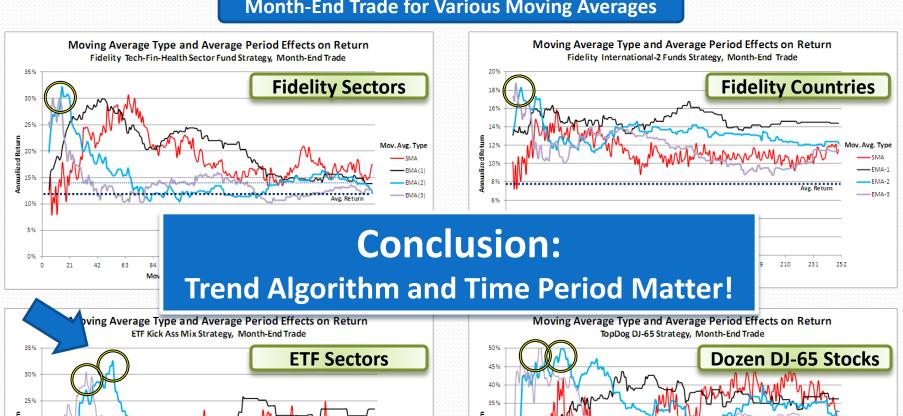


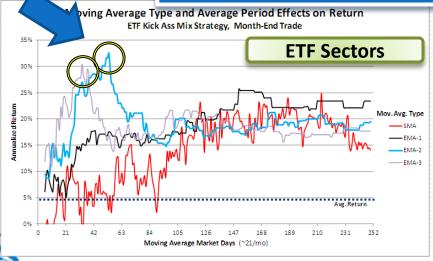


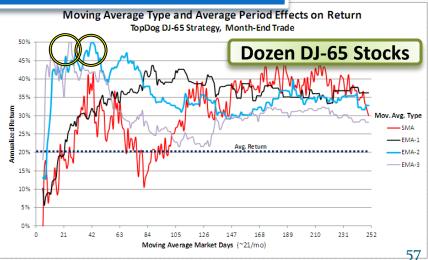


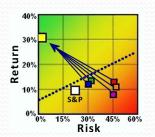


Month-End Trade for Various Moving Averages









Diversification Heresy

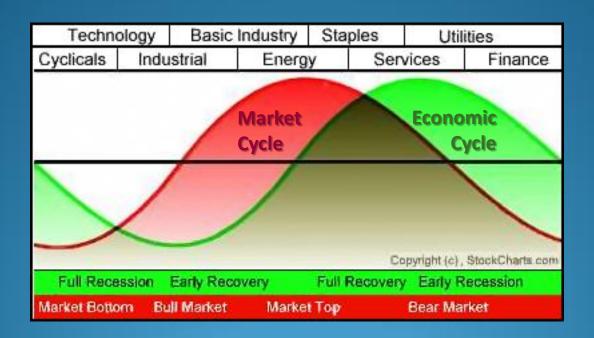
Let's Break Through the Efficient Frontier

- --- Presentation Topics ---
- 1. How I Got Hooked on Trends.
- 7 Trands are Real (Markets are Net Efficient)
- 3. Serial Diversification
- 4. Sector Rotation Asset Class Rotation
- 5. Trend Periods and Algorithms do Matter.
- 6. How to Build Great Strategies and Portfolios.
- 7. Racktesting & Ontimization are Not Just Video Games.
- Post-Surfing Diversification
- 9. Individual Stocks and Commodities

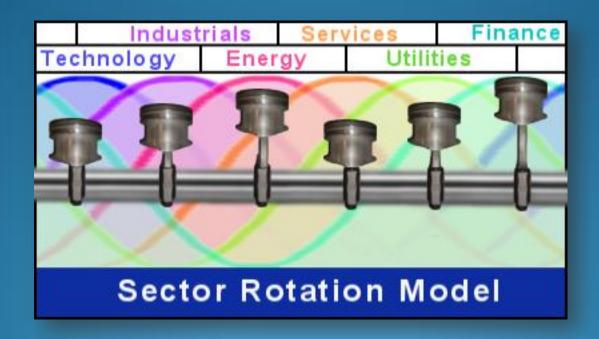


de.

Ph.D.



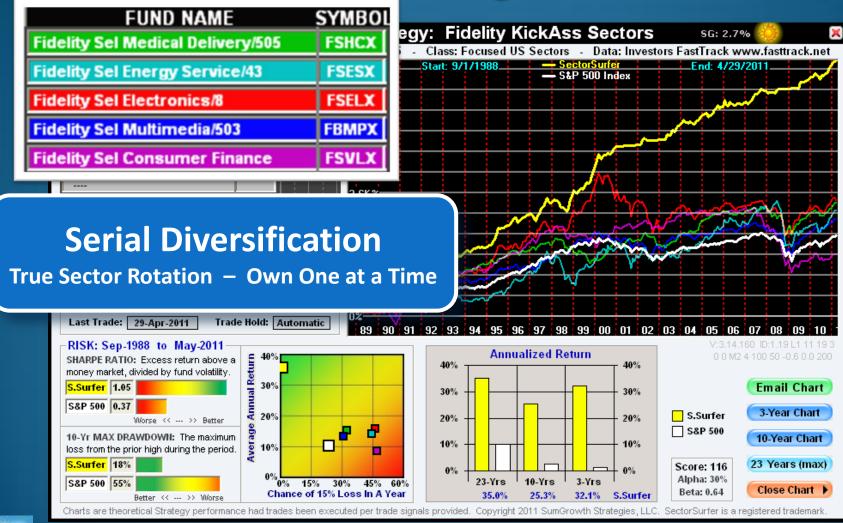




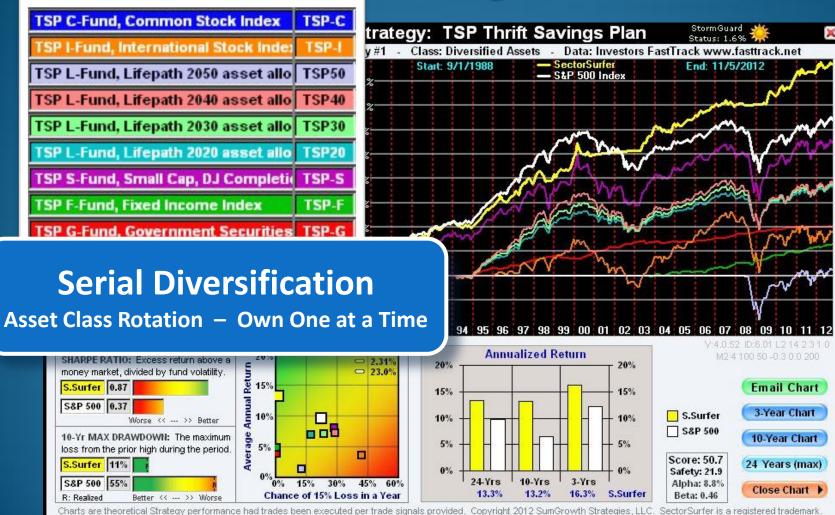
Smooth Powerful Ride:

- All Pistons Are Firing
- No Missing Power Strokes







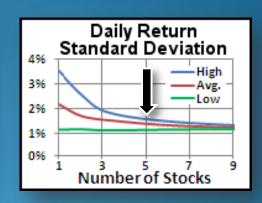




Prudent Investor Rule:

Put No More than 20% of Portfolio in any One Investment





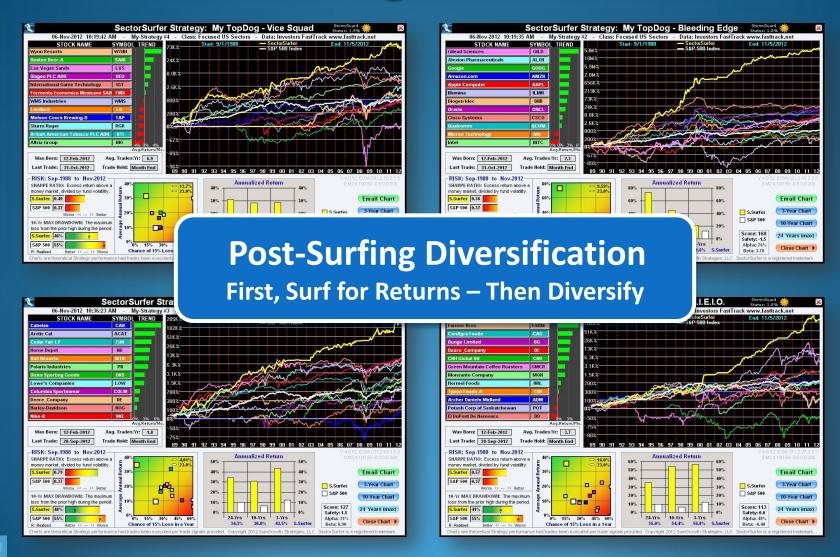
Risk Reduction Method:

- ETFs & Mutual Funds
- SectorSurfer w/Funds
- SectorSurfer w/Stocks

- Dilution via Broad Diversification.
- 1) Dilution via Sector Diversification,
- 2) Avoidance via Serial Diversification.
- 1) Avoidance via Serial Diversification,
- 2) Dilution via Post-Surfing Diversification.

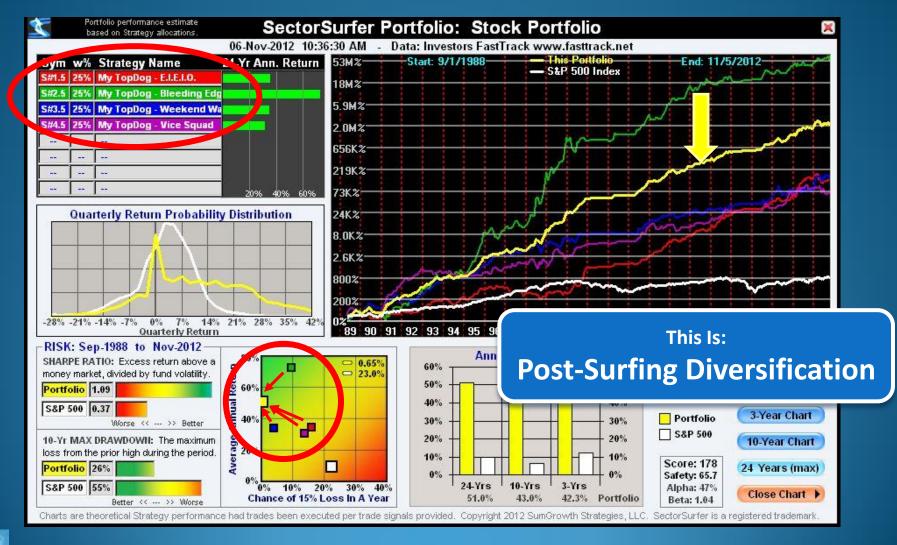


Post-Surfing Diversification

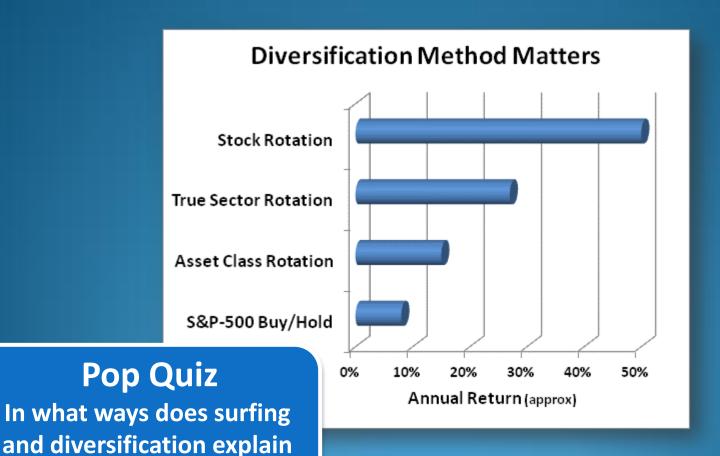




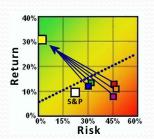
Post-Surfing Diversification







the chart's clear pattern?



5.

Diversification Heresy

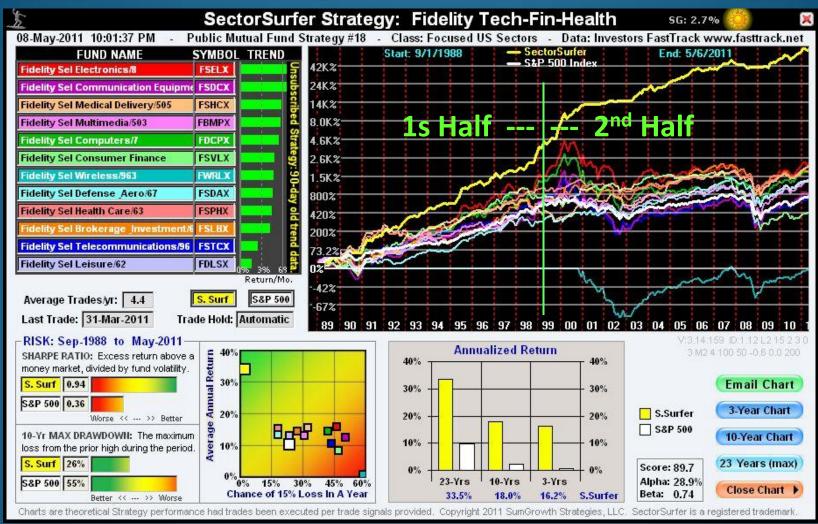
Let's Break Through the Efficient Frontier

- --- Presentation Topics ---
- 1. How I Got Hooked on Trends.
- As Demonstrated by:
 - Split Sample Stationarity
 - Progressive-Tune Stationarity
- 6. How to Build Great Strategies and Portfolios.
- 7. Backtesting & Optimization are Not Just Video Games.
 - 8. Stock Screening and Analysis do Still Play a Role.
- 9. You Can do this in your Spare Time, Without a Ph.D.



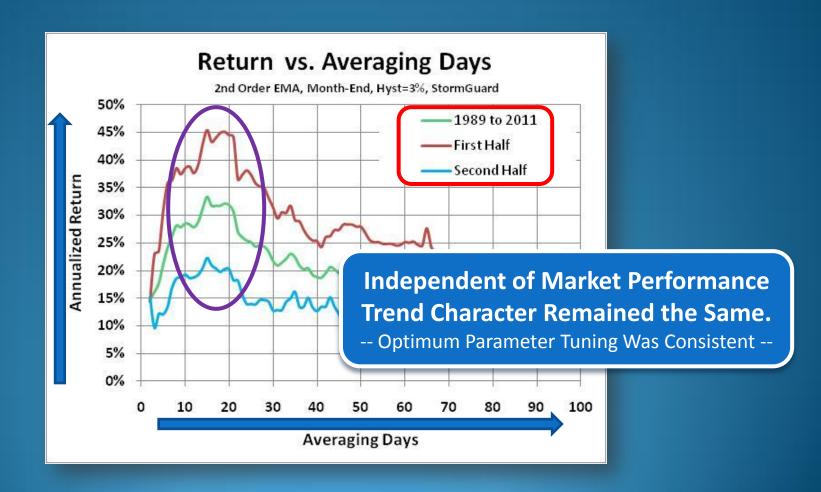
thod.

Split Sample Stationarity





Split Sample Stationarity



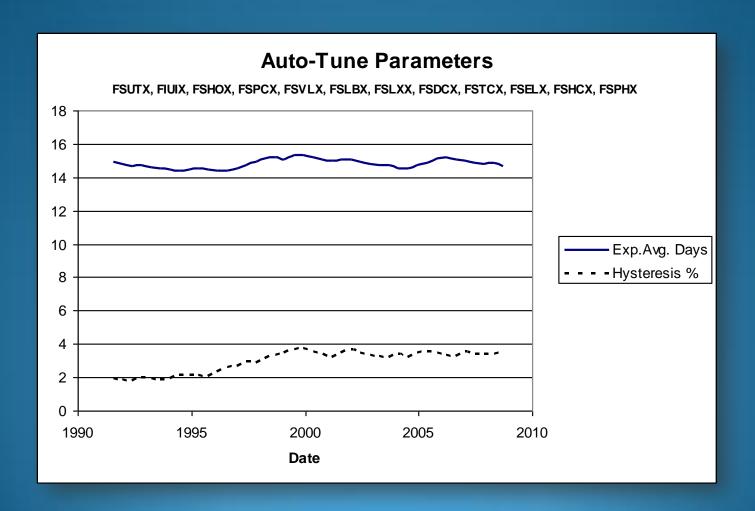


Progressive Tune Stationarity



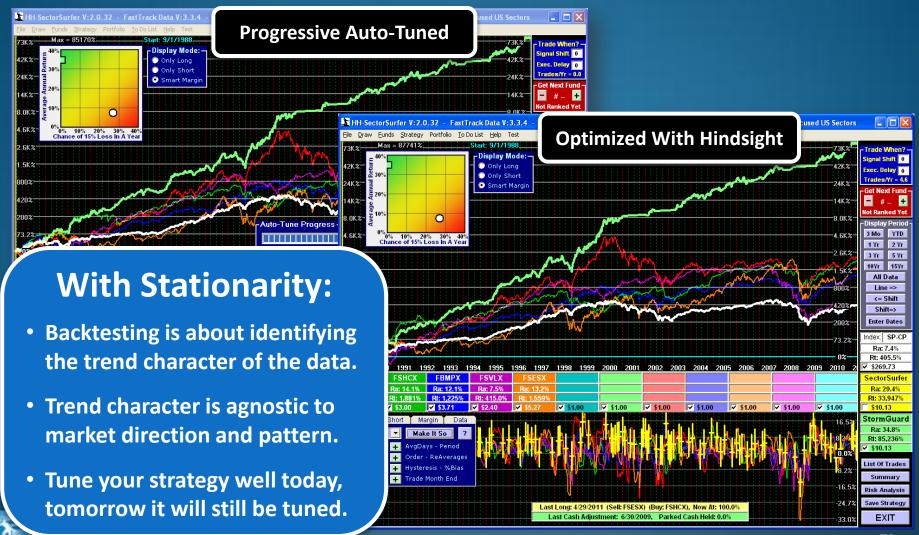


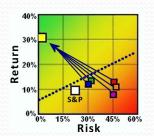
Progressive Tune Stationarity





Progressive Tune Stationarity





Diversification Heresy

Let's Break Through the Efficient Frontier



8. Stock Screening and Analysis do Still Play a Role.

We Need a Set of Horses for the Strategy



Stock Screening – SectorSurfer Style

Select a Set of Qualified Stocks to Participate in a S.S. Strategy

Quality Stocks Screener

(See Parameter Definitions Below Table)

✓ > 1% Dividend Yield

Fotal Qual	ified Stocks Listed: 529		20/20/20	12 9:04:5	5 PM	Down	load CSV 9	preadshe	et File
Symbol \$	Company Name \$	S.S. Rank ▼	TrendQual ♦	YrExcess ♦	Volatility =	1YrRange ♦	Vol.\$M/d ≑	DivYield ≑	P/E Ratio
ммр 🌌	Magellan Midstream Par	81.4	1001	69%	0.92	201/	22.1	4.3%	22.0
мо 🗷	Altria Group	78.0	96%	66%	0.81	61%	334.1	5.4%	15.7
AAPL 🗷	Apple	77.2	110%	101%	1.44	72%	16071.9	1.7%	14.4
кмв 🌌	Kimberly-Clark	70.8	107%	49%	0.74	93%	177.8	3.4%	19.2
oke 🗷	ONEOK	68.3	106%	79%	1.23	84%	37.8	2.8%	29.2
D 🌌	Dominion Resources (Vi	66.0	103%	54%	0.84	74%	118.0	3.9%	21.5
IACI 🗷	IAC/InterActiveCorp.	65.1	109%	82%	1.38	83%	40.2	1.8%	25.2
FDO 🌌									18.2
RAI 🌌	O !: f! !								16.4
SHW 🗷	Qualificati	ons:							30.2
PNW 🗷								15.8	
PII 🌌	1. Trena Co	rrelat	es we	II to Fu	iture	Ketur	ns		21.7
HSY 🌌	HSY 2 The Steek Has Shown Becant Signs of Life							23.9	
so 🌌	2. The Stock Has Shown Recent Signs of Life							18.9	
BCE 🌌	3. Low Volatility to Swap Horses Mid-Stream							13.6	
ED 🌌	3. Low voidtility to Swap Horses Wild-Stream							17.5	
epd 🌌	E.								19.8
NI 🗷	NiSource	56.5	100%	60%	1.06	85%	36.2	3.8%	23.2
VZ 🌌	Verizon Communications	55.8	88%	56%	0.89	73%	603.8	4.6%	42.0
CNP 🜌	CenterPoint Energy	55.5	101%	61%	1.10	91%	40.0	3.8%	6.8
EXR 🗷	Extra Space Storage	55.4	88%	103%	1.64	88%	25.6	2.4%	47.1
NVO 🌌	Novo Nordisk ADS	54.2	98%	79%	1.44	98%	94.2	1.5%	27.4
TWC Ime Warner Cable		54.1	103%	73%	1.40	98%	190.2	2.3%	18.0

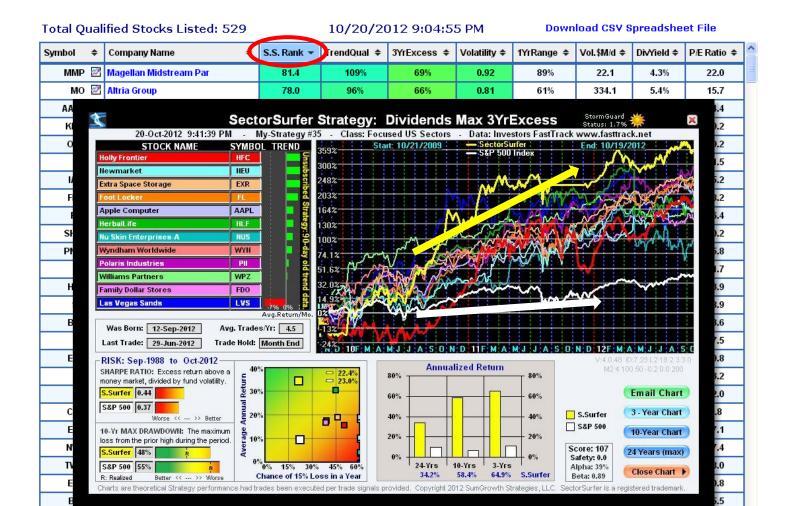


Stock Screening – SectorSurfer Style

Quality Stocks Screener

(See Parameter Definitions Below Table)

✓ > 1% Dividend Yield



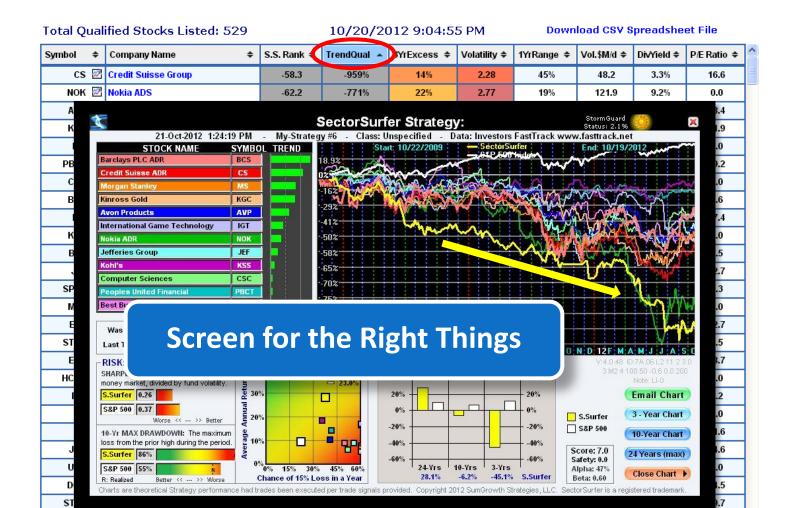


Stock Screening – SectorSurfer Style

Quality Stocks Screener

(See Parameter Definitions Below Table)

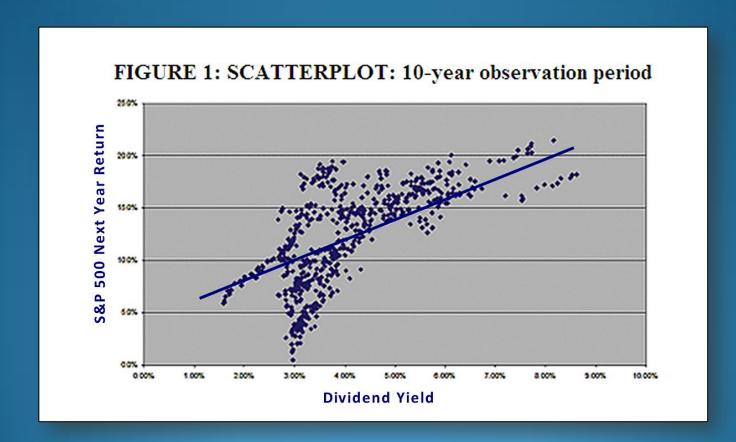
✓ > 1% Dividend Yield





Analysis Relevance

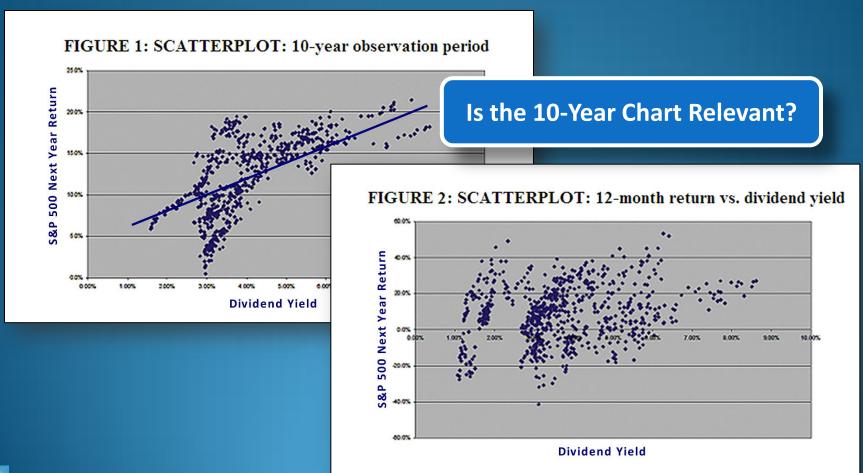
Dividends vs. Returns





Analysis Relevance

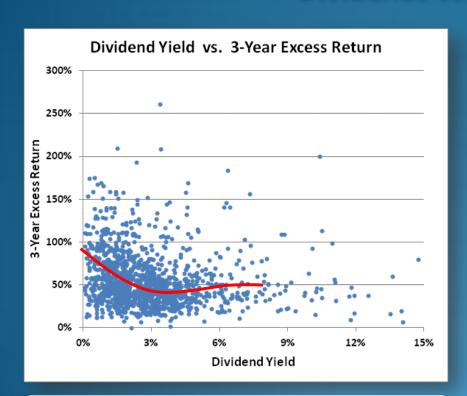
Dividends vs. Returns

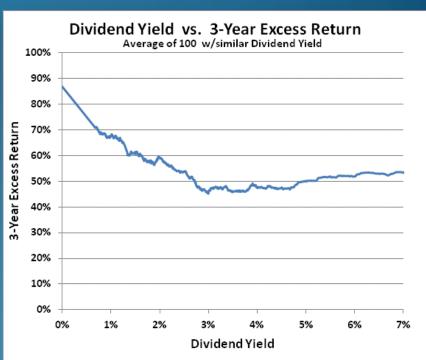




Analysis Relevance

Dividends vs. Returns





Screen for the Right Things

Food for Thought:

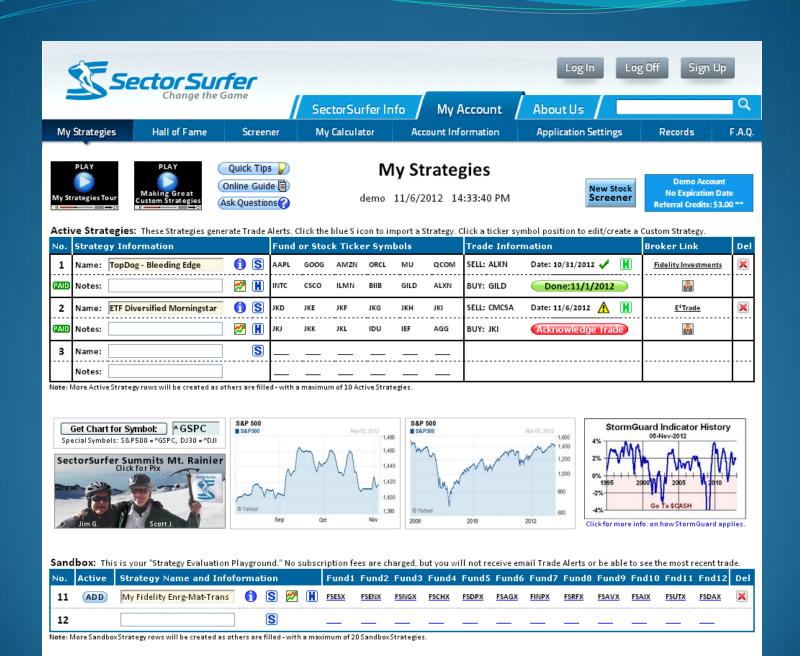
If you seek higher returns,
are dividend stocks relevant?



Can I do this in My Spare Time, Without a Ph.D.?









SectorSurfer Member Plans

Totally FREE and Premium Membership Plans

Member Plan Overview:

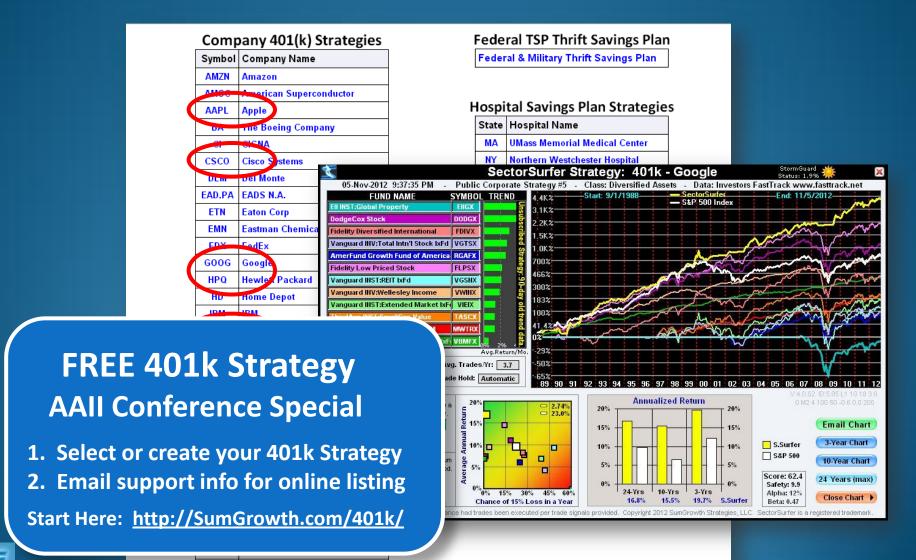
Totally FREE Plan				
Type of Strategy	# of Strategies	Subscription Fee		
Totally FREE Strategies	1 to 10	FREE		
Premium Strategies	x	x		

221	Introductory Offer Plan					
St Bear	Type of Strategy	# of Strategies	Subscription Fee			
(EGg:	Totally FREE Strategies	1 to 10	FREE			
C.	Active Premium Strategies	1 to 10	\$30 for 4 months			

Monthly Subscription Plan					
Type of Strategy	# of Strategies	Subscription Fee			
Totally FREE Strategies	1 to 10	FREE			
Active Premium Strategies	1	\$10 /mo.			
The monthly fee is \$20-fixed for the first month and thereafter based on the	2	\$15 /mo.			
average number of Active Premium Strategies used during the prior month. For example, if you used two Premium Strategies for the first half of the	3	\$20 /mo.			
month and three for the second half of the month, then your next month's subscription fee would be: $(\$15 \times .5) + (\$20 \times .5) = \$17.50$.	4	\$25 /mo.			
	5 to 10	\$30 /mo.			



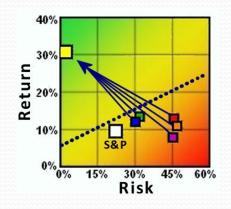
Start Here: Your 401k Strategy



Verizon







Break Through the Efficient Frontier

Our Servers Will do the Hard Work ...
... While You go Have a Life.

