



Sector Rotation and Risk Management  
Houston AAI Chapter Sat. Mar. 4, 2023



## **Sector Rotation and Risk Management**

Houston AAll Chapter Sat. Nov. 19, 2022



**Scott Juds**

**President & CEO SumGrowth Strategies**  
**Chairman & CEO Merlyn.AI Corporation**

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- **Past results of any particular trading system are not a guarantee of future performance.**



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### **Part 1 – Practical Stuff**

- Introducing SectorSurfer
- Markets – No Place to Hide
- SectorSurfer Online Practical Demo
- StormGuard & Bear Market Strategies
- The Tactical Risk Mitigation Index
- The Dual Defense Strategies
- Hall of Fame, Publications, Videos
- Newsletter, Subscriptions

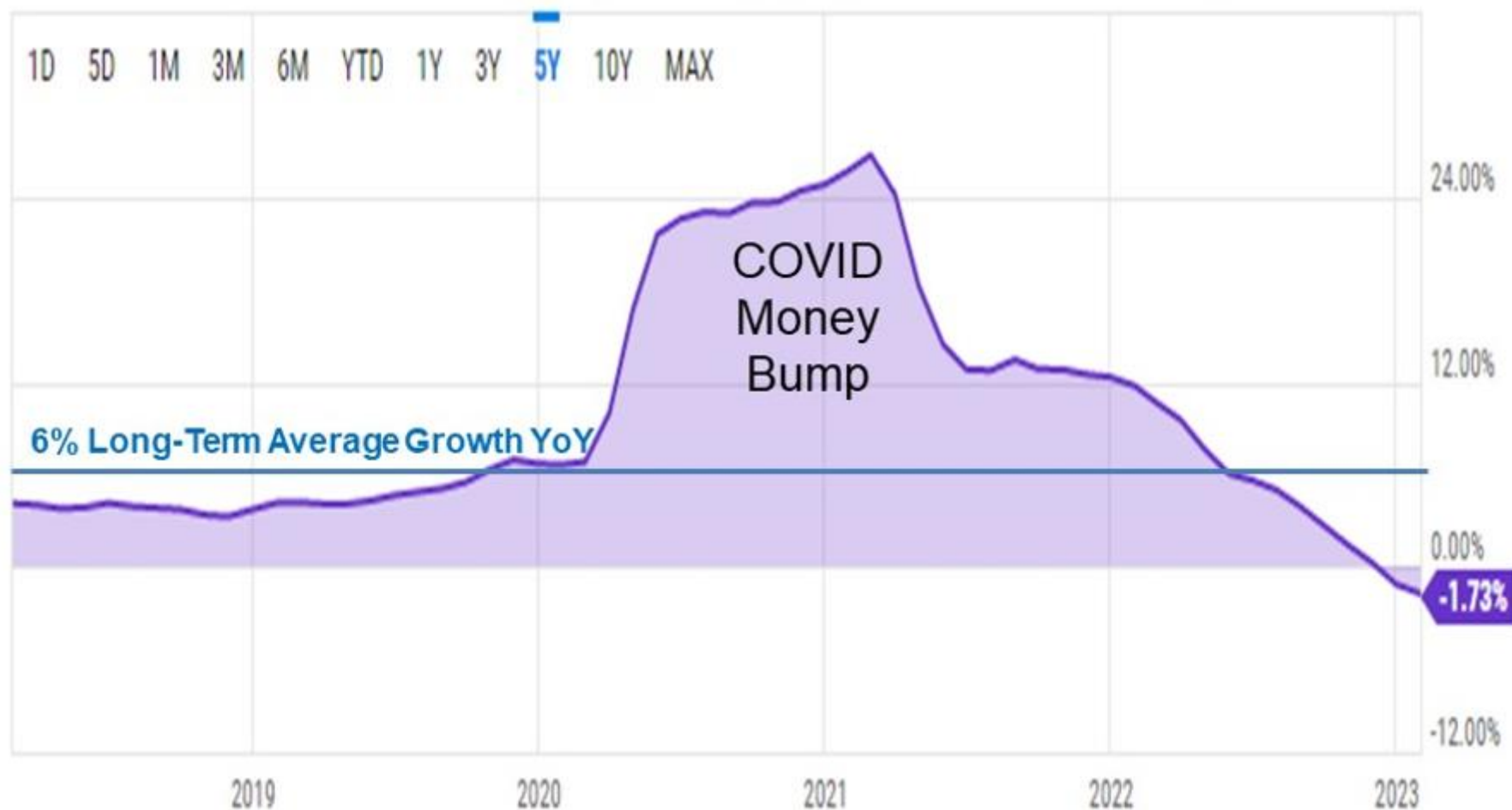
**Take a Break Here**

### **Part 2 – Technical Stuff**

- MPT: Diversify & Rebalance
- Momentum Exists in Market Data
- Improving the Signal to Noise Ratio
- Bear Markets, StormGuard, SwanGuard
- Alpha Daily Brief Resources
- Hindsight Bias – Tuning and Selection
- Merlyn.AI's Genetic Algorithms
- Formal Indexes: What Lies Ahead?

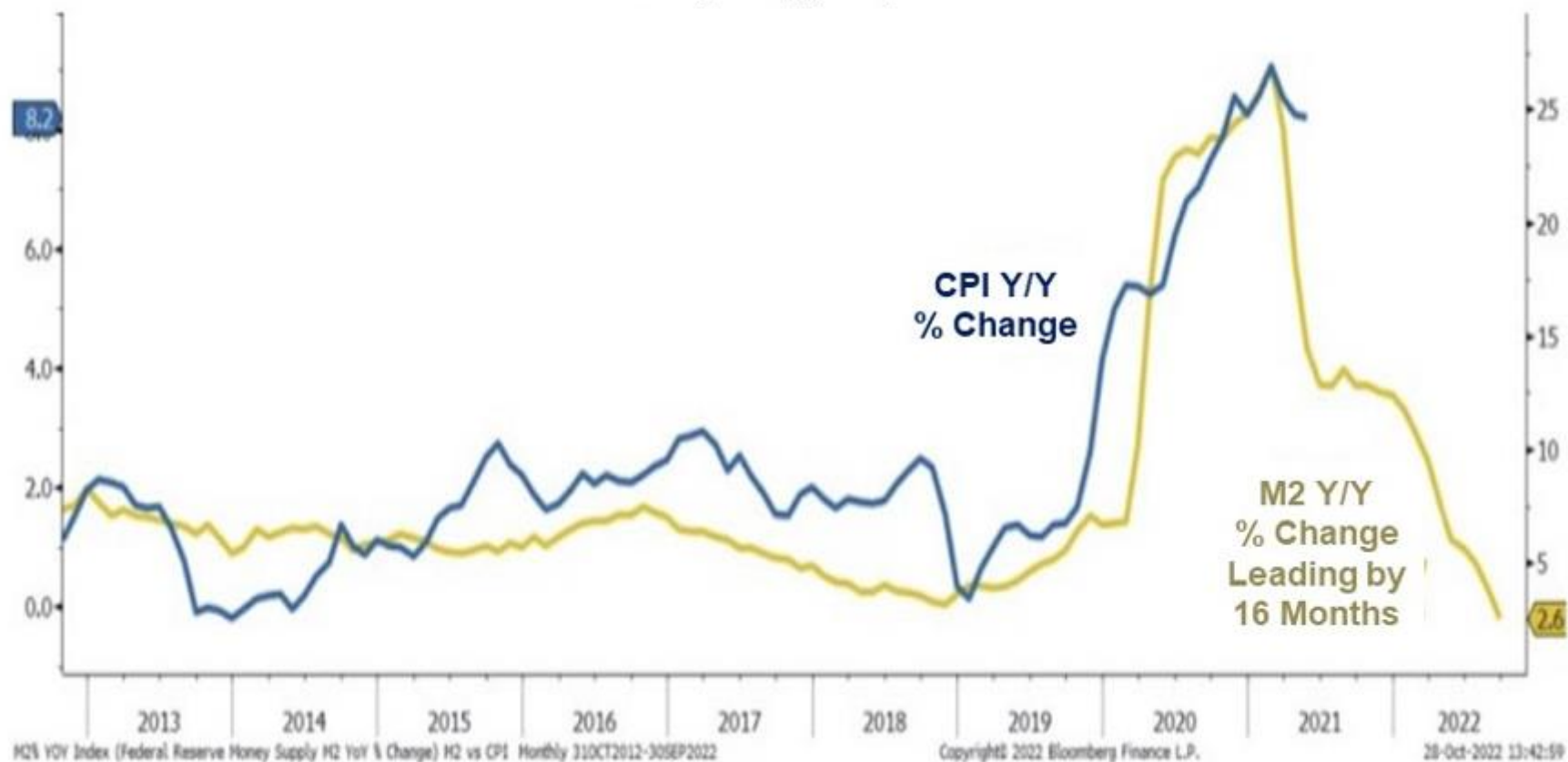


## U.S. M2 Money Supply YoY Change %



## M2 Money Supply vs. CPI

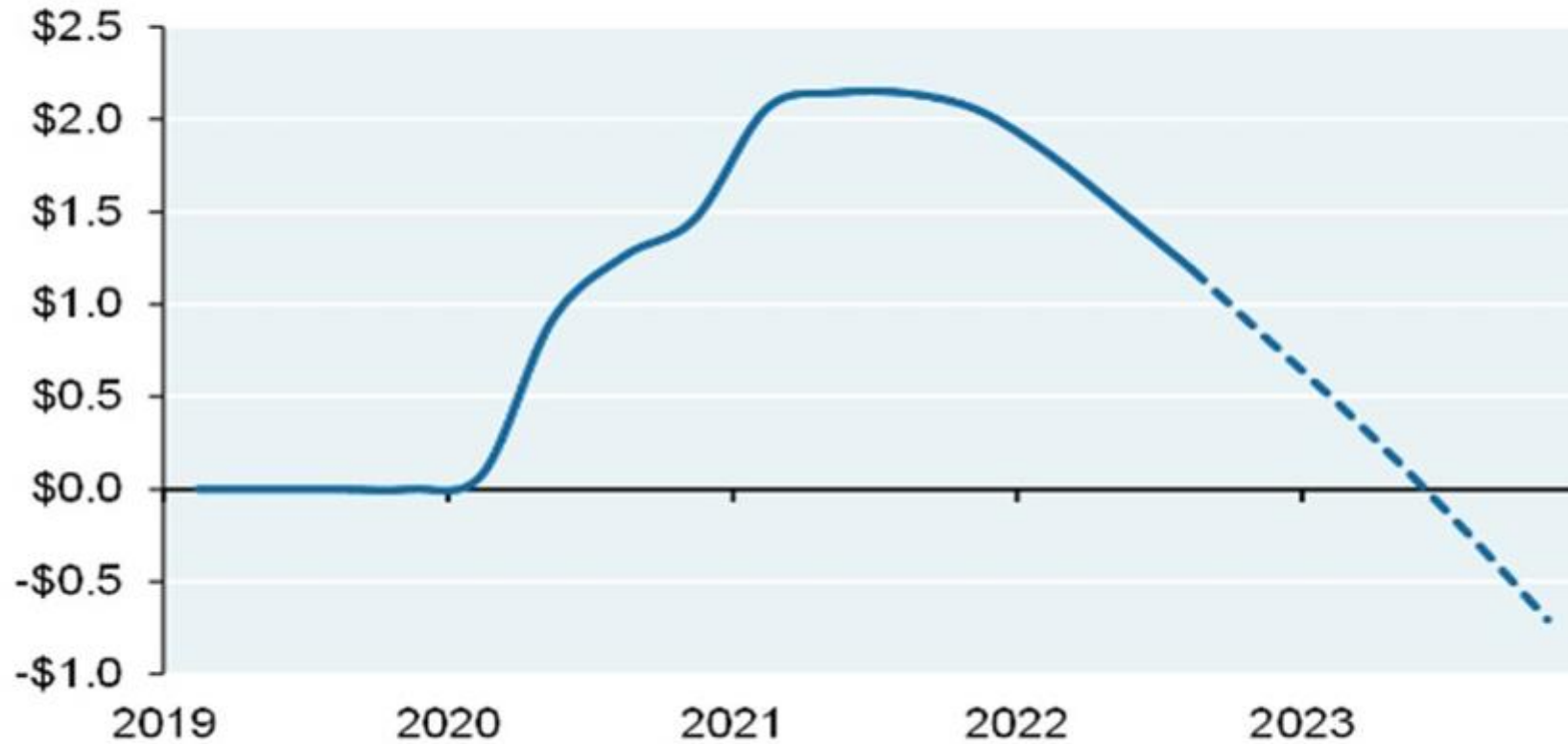
Y/Y % Change Lagged by 16 Months



Source: Bloomberg, Morgan Stanley Research

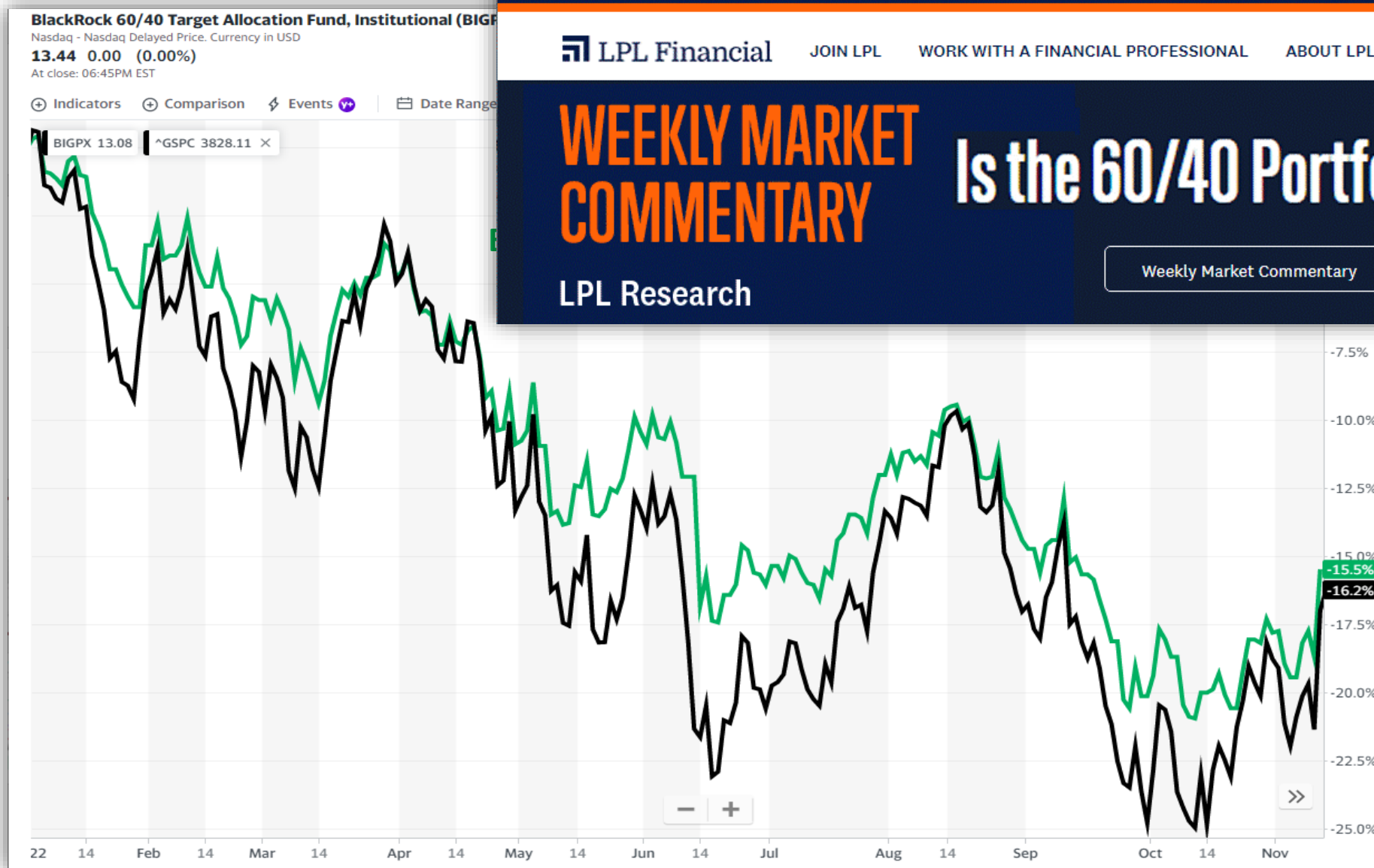
# Accumulated “Extra” Savings

US\$, trillions



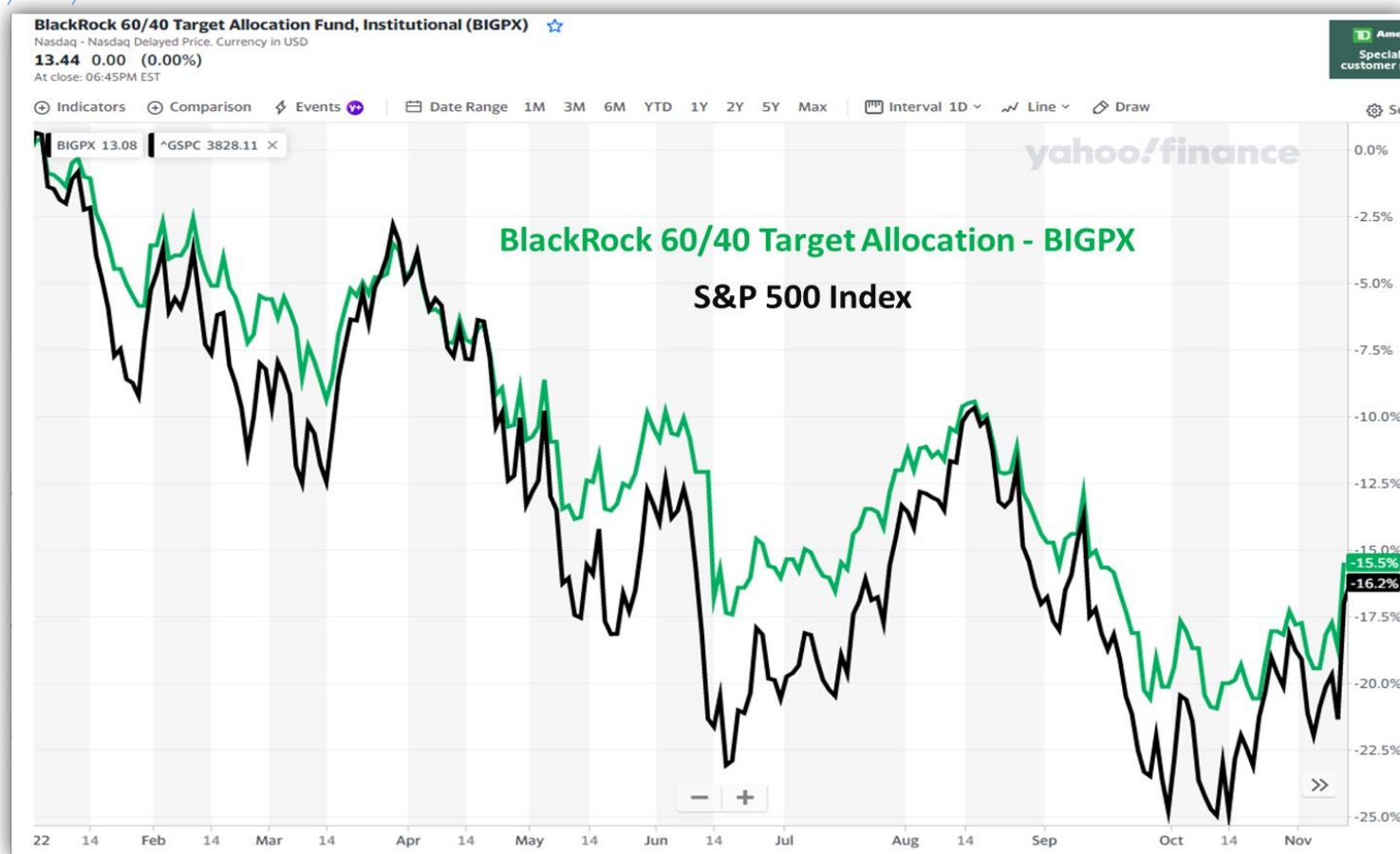
Source: BEA, J.P. Morgan Equity Strategy. Q3 2022. Dotted lines indicate projections.

# Standard 60/40 Portfolio – YTD 2020





Hey!  
60/40 Isn't Working!  
Will Someone Please Fix It?



# Dinner Plan?

Select 10 Random Things



Chop and Cook Them



# 60/40 Fix Plan

**Invest Mainstream**



**But**



# 60/40 Fix Plan



**MPT**  
Body Armor: 40% Bonds



**Momentum**  
Guard Dogs at Front Door



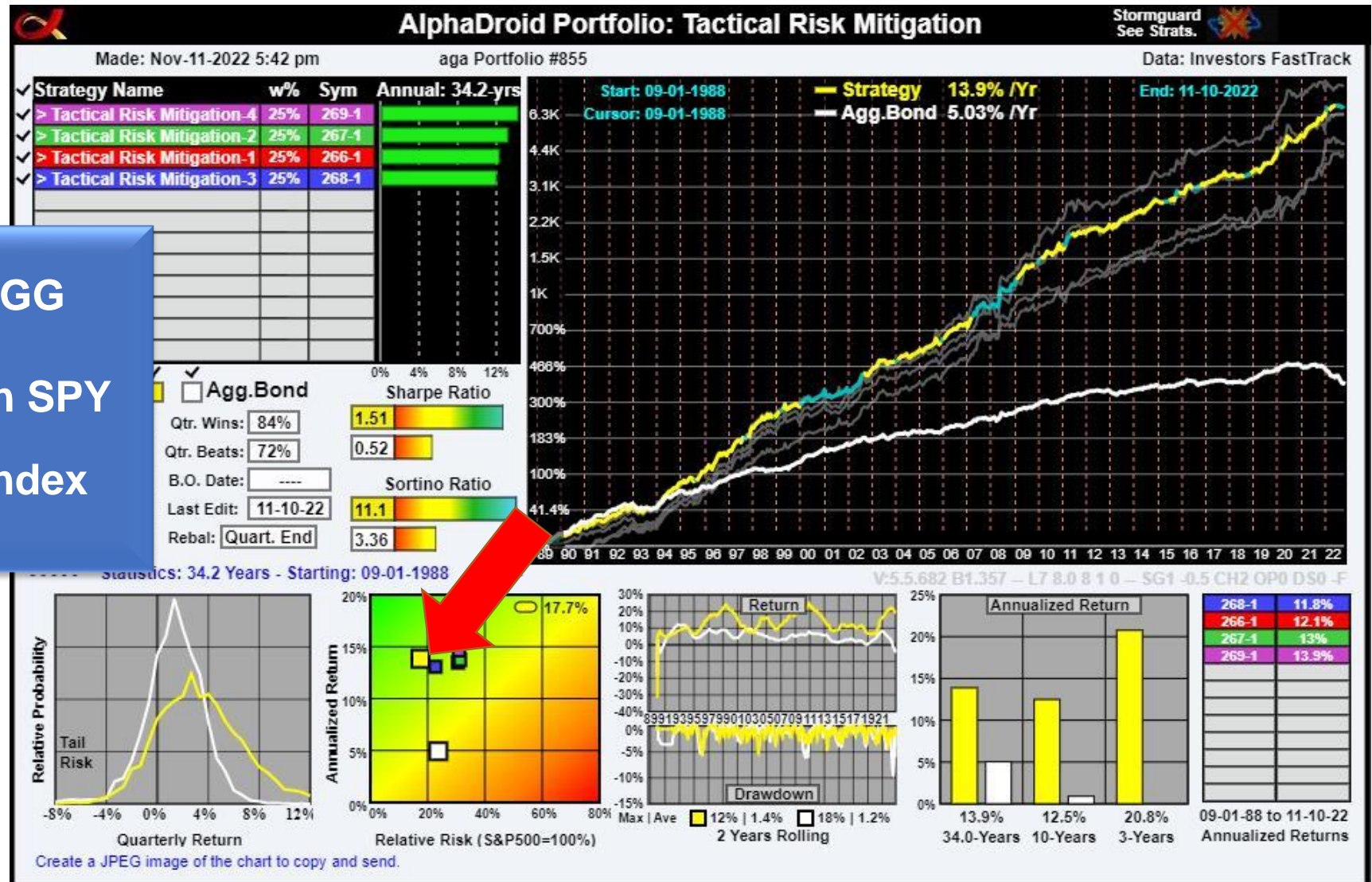
Tactical Risk Mitigation Index - Momentum Models					
Fund Category		TRM-1	TRM-2	TRM-3	TRM-4
1	60/40 Backbone	T6040	T6040	T6040	T6040
2	Commodities	DBC	DBP	DBC	GLD
3	Treasuries Short-Term	SPTS	SHY	SHV	SCHO
4	Treasuries Int-Term	SCHR	IEF	IEI	TLH
5	Treasuries Inflation-Prot	TIPX	SPIP	TIPZ	TIP
6	Ultra Short Term	ICSH	UUP	PULS	UUP
7	Bonds Short-Term	VCSH	BSV	IGSB	SPSB
8	Bonds Inter-Term	BIV	AGG	SCHZ	BND
9	Bonds Long-Term	BLV	SPLB	IGLB	VCLT
10	Corporate Bonds	VCIT	LQD	CORP	SPIB
11	High-Yield Corp. Bonds	JNK	ANGL	FALN	HYG
12	Municipal Bonds	BAB	HYMB	MUB	HYD
Bear Market Strategy		BMS-W	BMS-M	BMS-Y	BMS-M

**StormGuard**  
Guard Dogs at Back Door































# Tactical Risk Mitigation Index

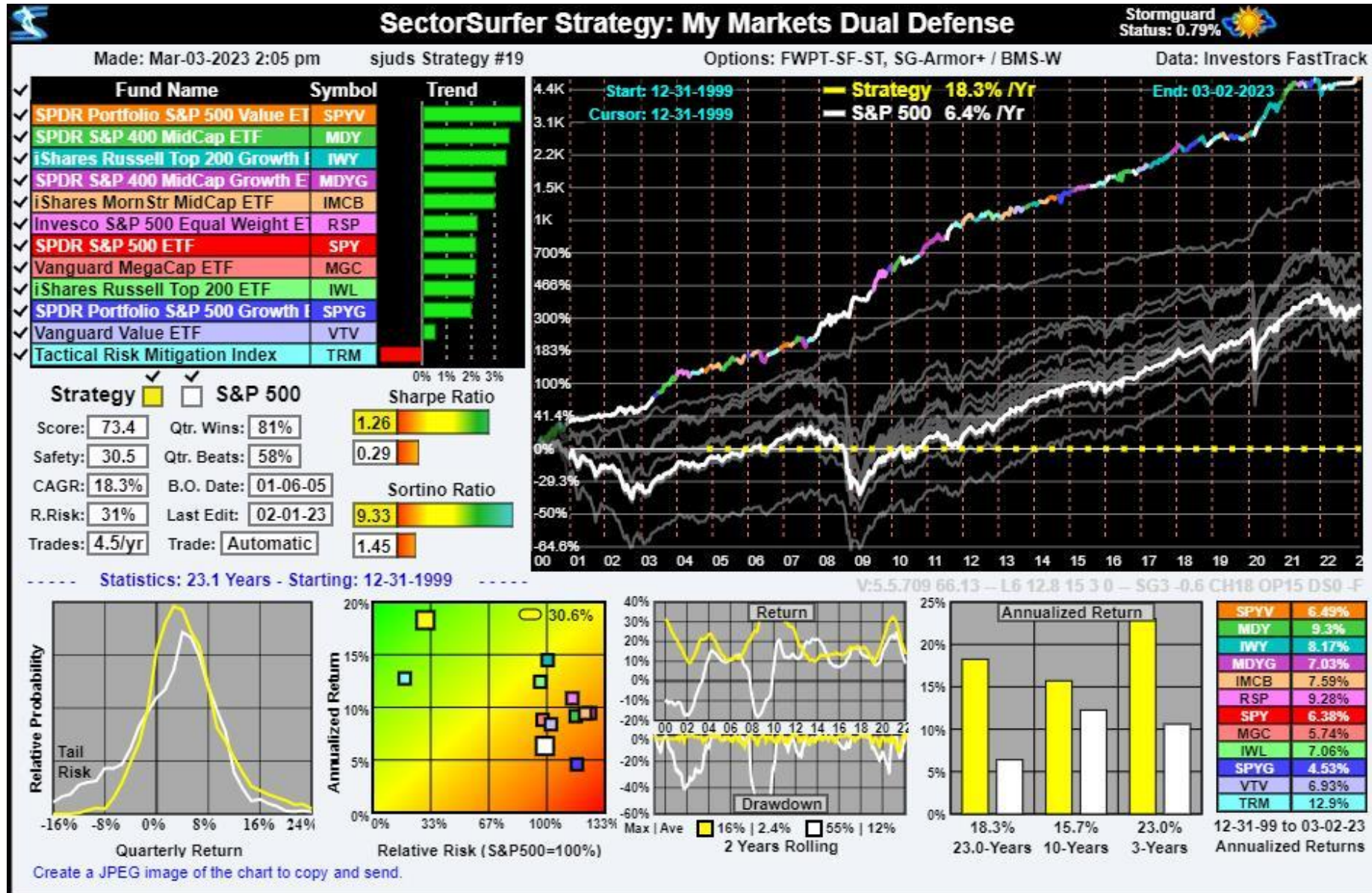
- Lower Risk than AGG
- Higher Return than SPY
- Best All Weather Index



# Dual Defence TRM as Backstop

Name: <b>Markets Dual Defense</b>	 	SPY	MDY	SPYG	MDYG	SPYV	IWY	SELL: -New-
Score: 83    Safety: 31    MDD: 15%	 	IWL	MGC	VTV	IMCB	RSP	TRM	BUY: SPYV
Name: <b>Sectors Dual Defense</b>	 	XLB	XLE	XLF	XLK	XLP	XLI	SELL: -New-
Score: 87    Safety: 15    MDD: 24%	 	XLU	XLV	XLY	MDY	SPY	TRM	BUY: XLY
Name: <b>Growth Dual Defense</b>	 	SPYG	MDYG	SLYG	RPG	IWY	STLG	SELL: -New-
Score: 102    Safety: 35    MDD: 20%	 	VTWG	VONG	MGK	VOT	VUG	TRM	BUY: VOT
Name: <b>Value Dual Defense</b>	 	SPYV	MDYV	SLYV	RPV	IWX	STLV	SELL: -New-
Score: 91    Safety: 32    MDD: 20%	 	VTWV	VONV	MGV	VOE	VTV	TRM	BUY: MDYV
Name: <b>Dividends Dual Defense</b>	 	SPYD	DWX	IGRO	SDY	WDIV	DGRO	SELL: -New-
Score: 66    Safety: 33    MDD: 14%	 	DVY	HDV	IDV	TDVG	NDVG	TRM	BUY: TRM
Name: <b>Qual-Low-Vol Dual Defens</b>	 	QUAL	FQAL	JQUA	VFQY	ONEV	FDLO	SELL: -New-
Score: 58    Safety: 22    MDD: 13%	 	QLV	QLVE	DGRW	LGLV	SPLV	TRM	BUY: VFQY
Name: <b>Innovation Dual Defense</b>	 	IBUY	BUYZ	DTEC	EDOC	QTUM	IDRV	SELL: -New-
Score: 126    Safety: 18    MDD: 23%	 	IVES	FIVG	ARKG	ARKK	ARKQ	TRM	BUY: QTUM

# Dual Defence Example



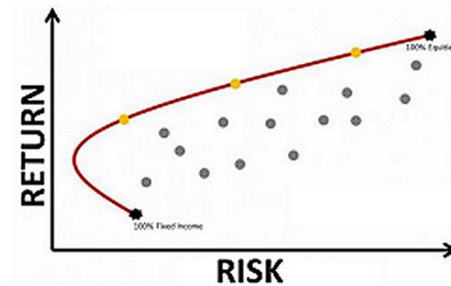
# MPT: Diversify and Rebalance

The Efficient Frontier Is The Best You Can Do

## Vintage 1952

65 Years Old Is  
Retirement Age

Modern  
Portfolio  
Theory



Printers



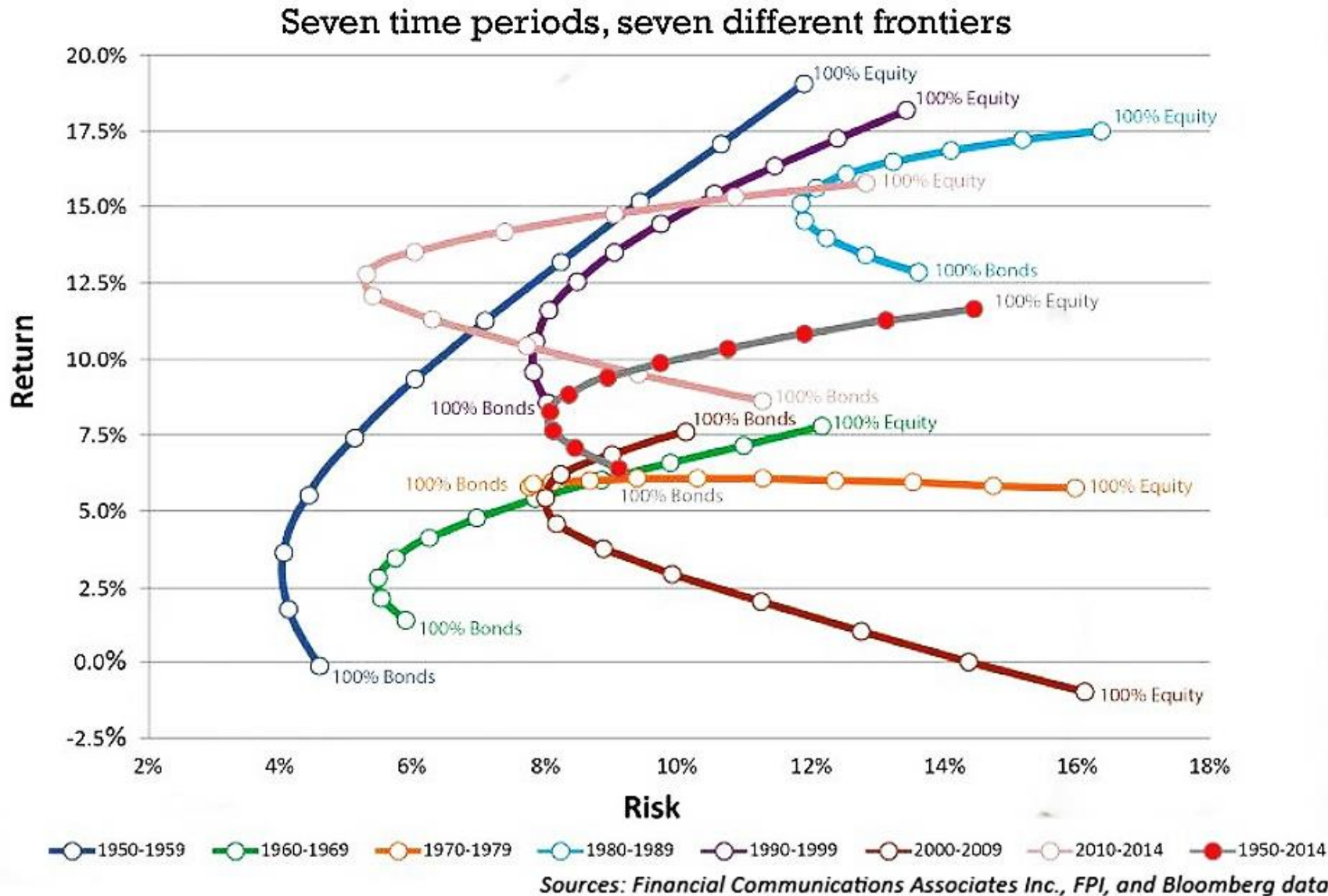
Phones



Cars



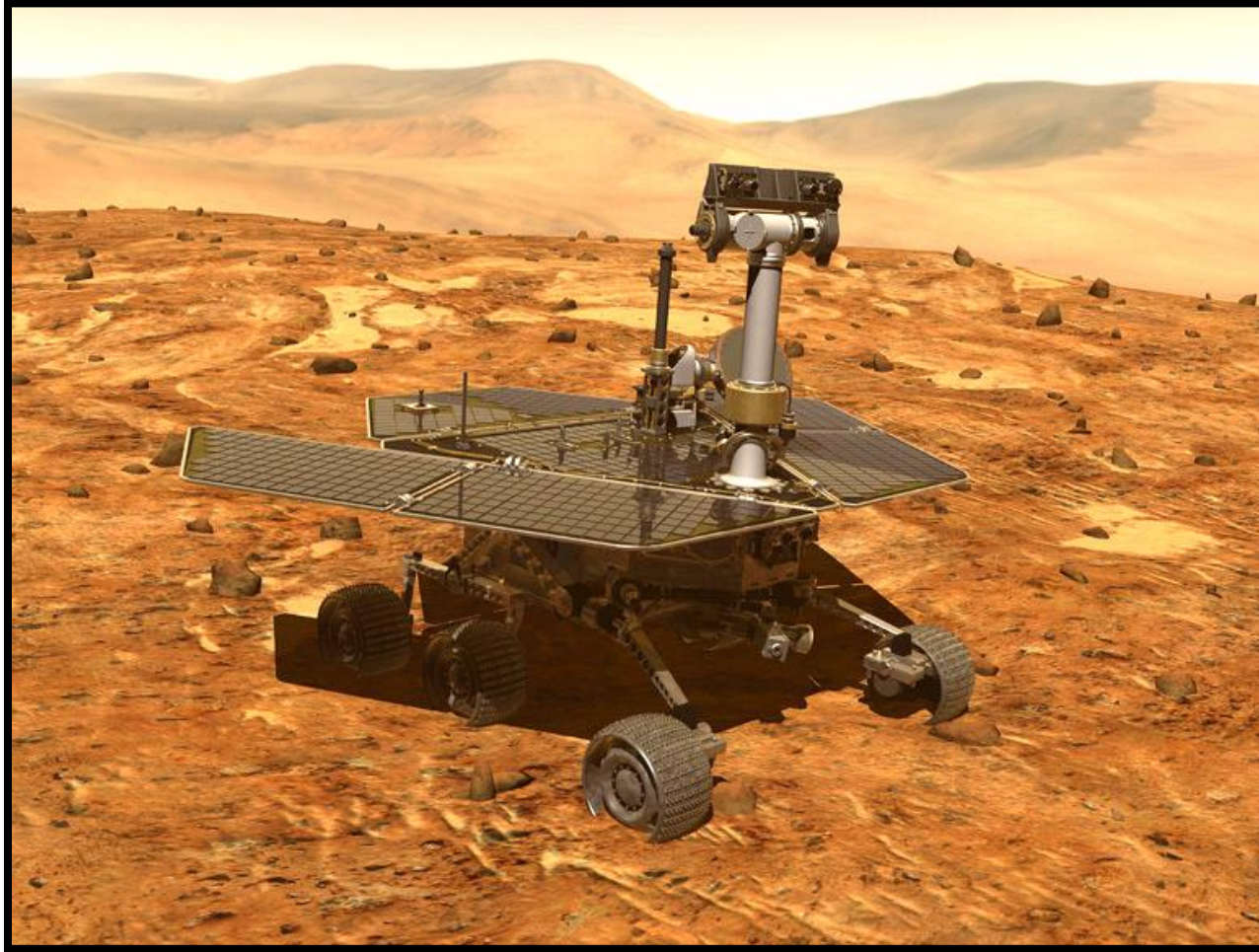
# The Efficient Frontier Is The Best You Can Do



**MPT:**  
Based On  
Hindsight Bias

**MPT:**  
Momentum  
Not Employed

# What Changed After 1952 to Get Us Here?



**Mars Rover - Opportunity**



**iPhones**

# Momentum in Market Data



Narasiman Jegadeesh  
Emory University



Sheridan Titman  
U. of Texas, Austin

**Seminal Academic Paper:**

**“Returns to Buying Winners and Selling Losers:  
Implications for Stock Market Efficiency”  
(1993)**

# 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 (Month -5 to Month 0) and then group the stocks into 10 equally weighted portfolios based on these ranks. Each portfolio is held for six months (Month 1 to Month 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	1.69
P2	1.39	1.41	1.32
P3	1.28	1.30	1.21
P4	1.19	1.21	1.13
P5	1.17	1.18	1.12
P6	1.13	1.15	1.09
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	0.30

1.65% / mo. = 21.7% / yr

16.8% Diff.

0.40% / mo. = 4.9% / yr

# Momentum in Market Data



Eugene Fama  
Nobel Prize, 2013



Kenneth French  
Dartmouth College

**“the premier market anomaly” that’s “above suspicion.”**

Academic Paper:  
**“Dissecting Anomalies”**  
(2008)

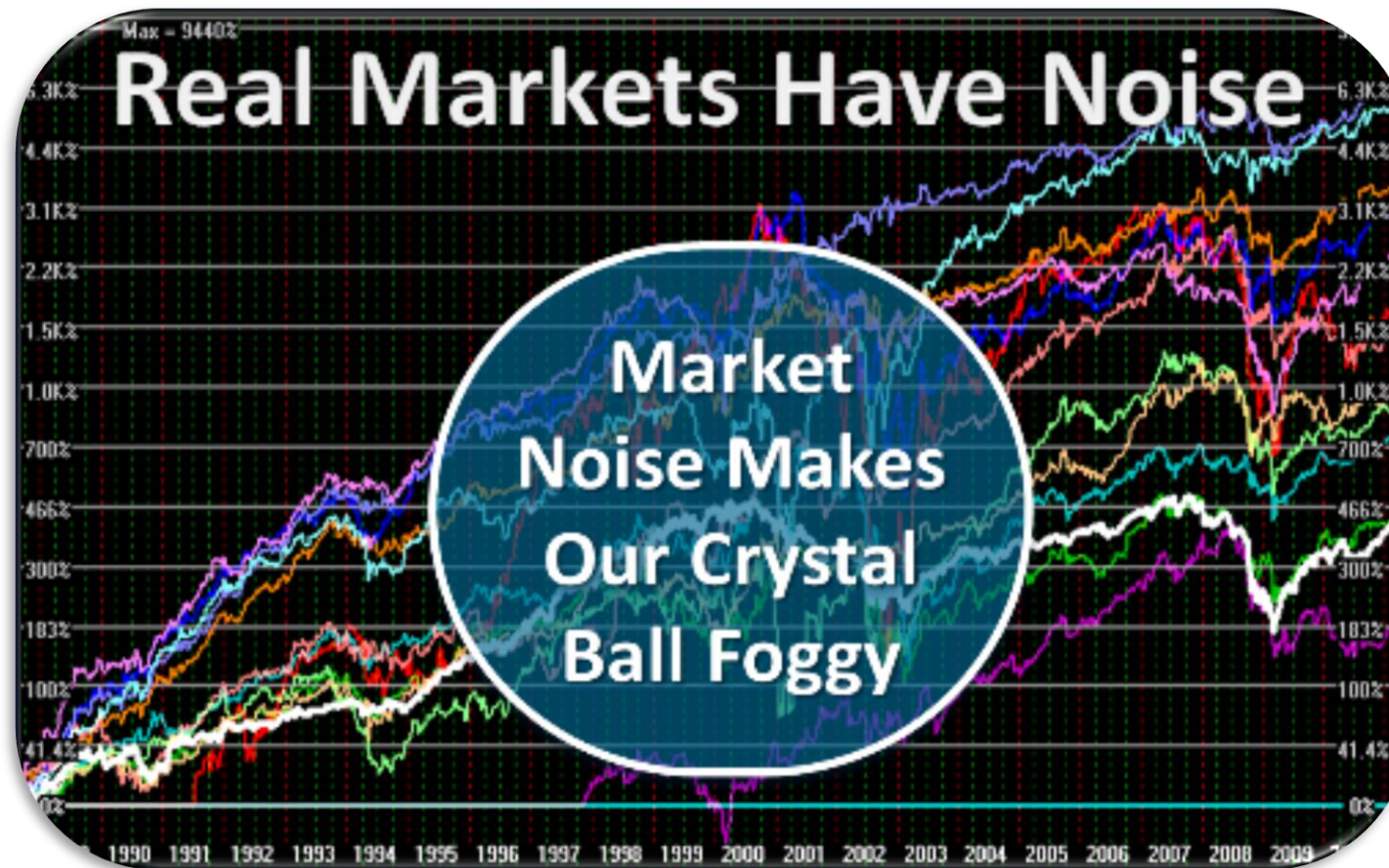
# Trends / Momentum are Real

**By definition, momentum is a “Portal to the Future.”**

**Where something in the recent past ...  
... tells us something about the near future.**

**Momentum IS the  
crystal ball we all  
hope to find.**



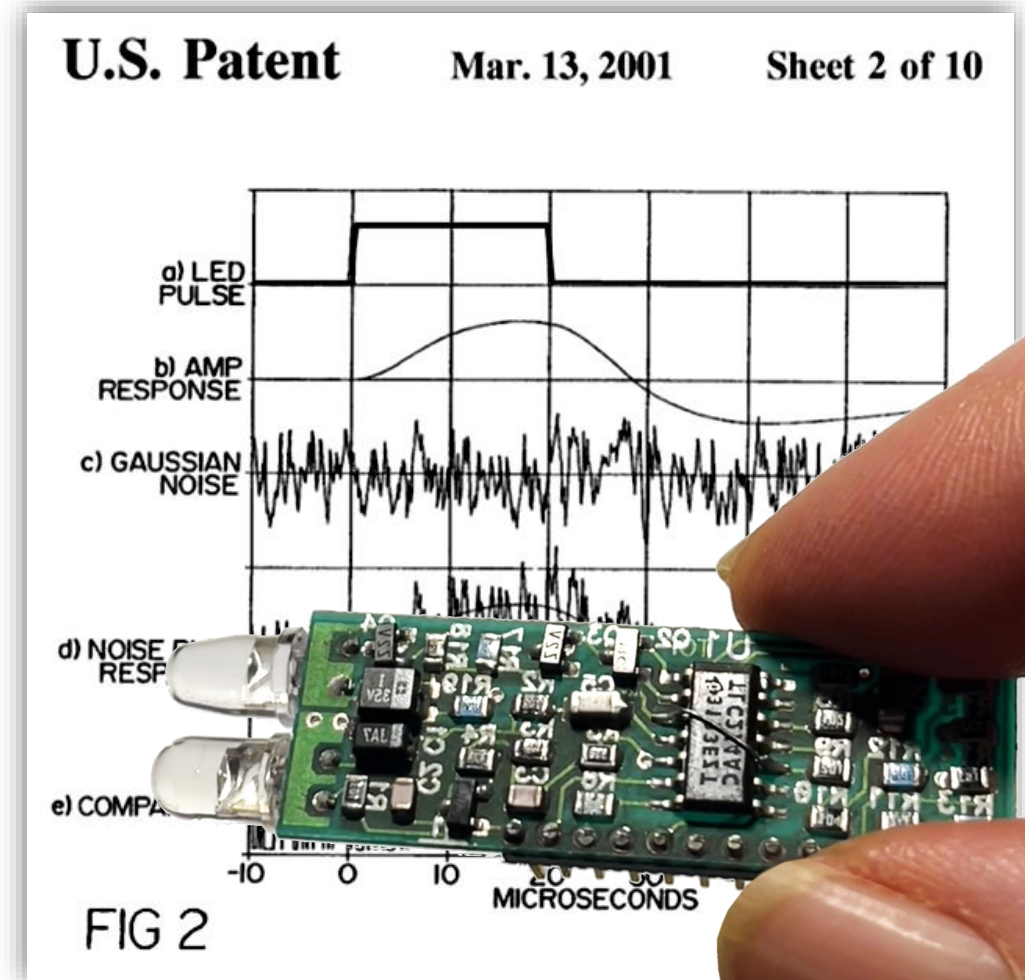
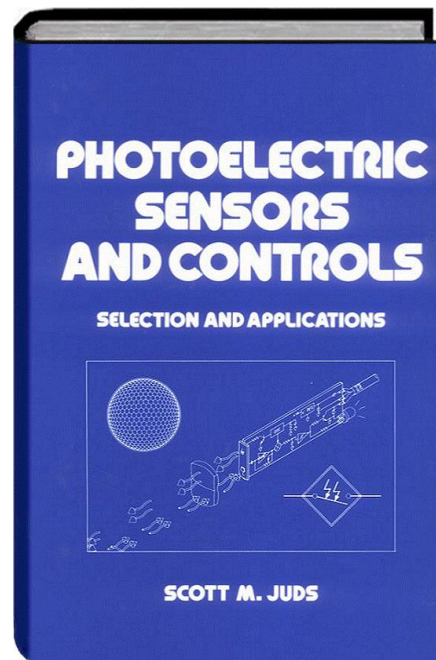


**Reducing the Noise  
Is the Whole Game**

# Reducing the Noise Is the Whole Game

## Signal Processing Theory is Required

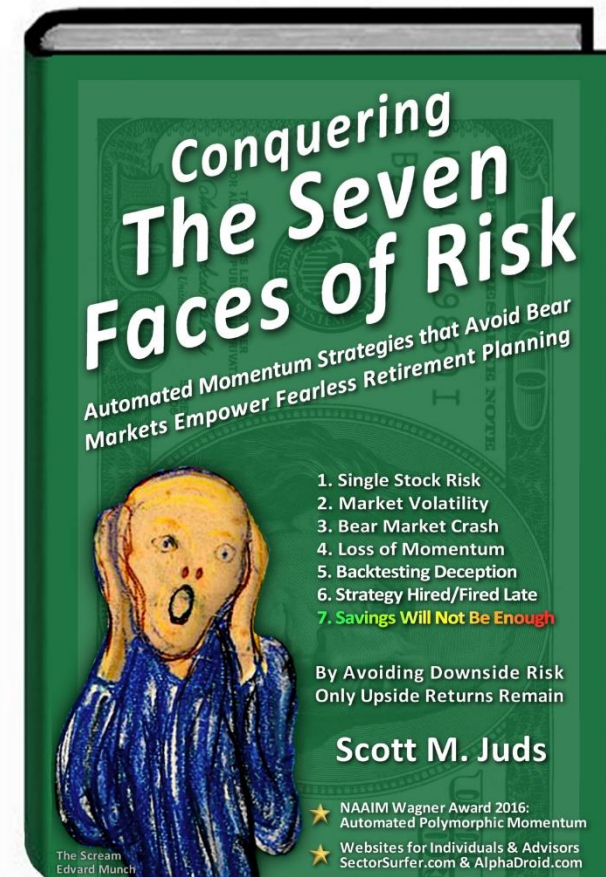
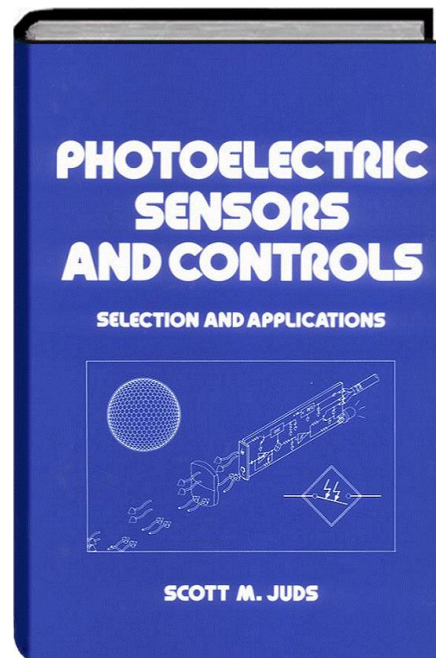
- MSEE from Stanford University
- Over 40 U.S. and foreign patents
- VP Eng. Eaton's optical sensor division



# Reducing the Noise Is the Whole Game

## Signal Processing Theory is Required

- MSEE from Stanford University
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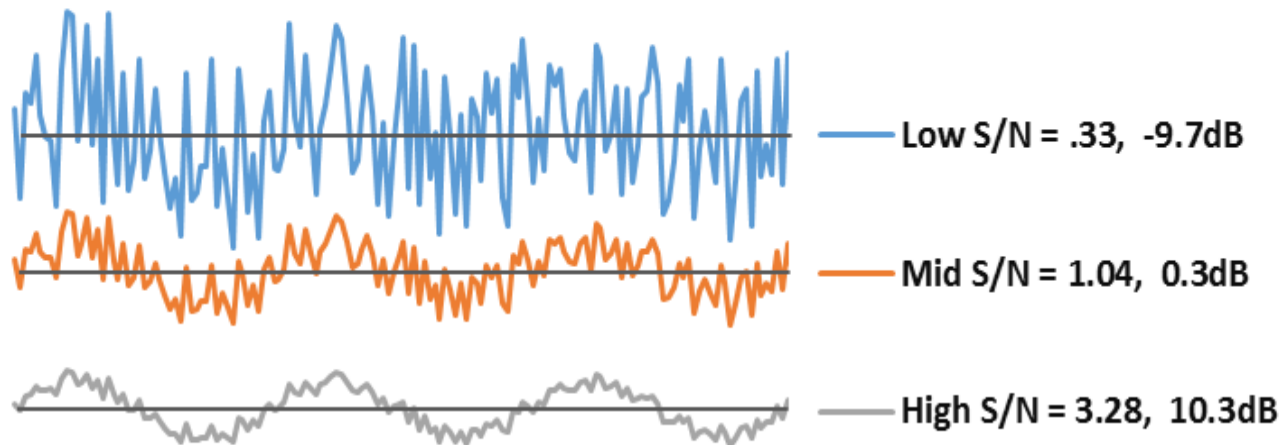


Claude Shannon  
National Medal of  
Science, 1966

# Signal-to-Noise Ratio

**Controls the Probability of  
Making the Right Decision**

Signal-to-Noise Ratio Visual Example





Claude Shannon  
National Medal of  
Science, 1966

Proved

# Signal-to-Noise Ratio

**Controls the Probability of  
Making the Right Decision**



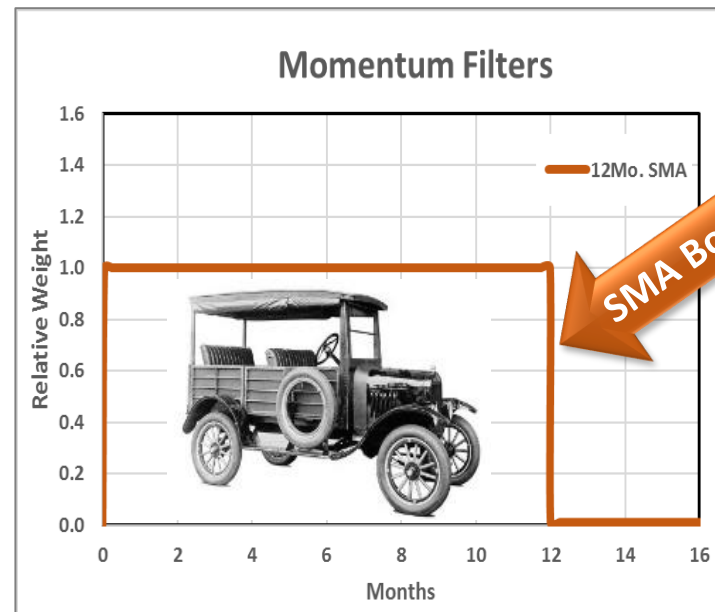


J. H. Van Vleck  
Noble Prize, 1977

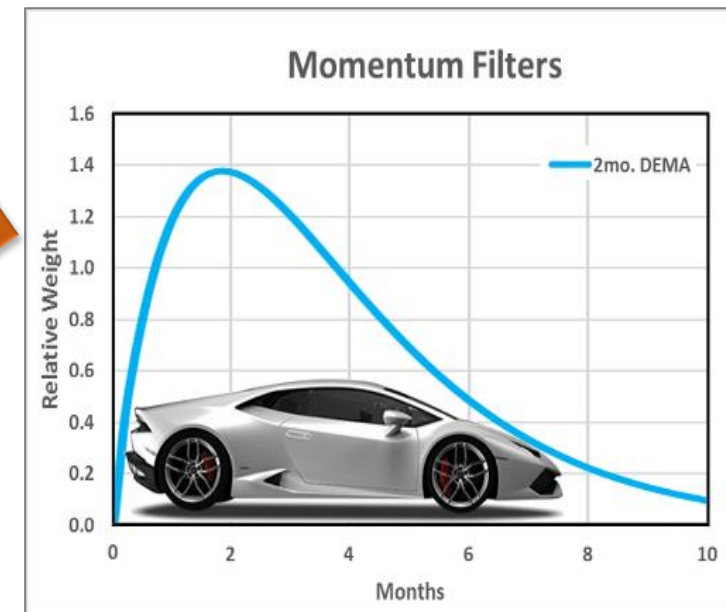
# Matched Filter Theory

## Design for Optimum Signal-to-Noise Ratio

**Think Outside of the Box**



Someplace to Start



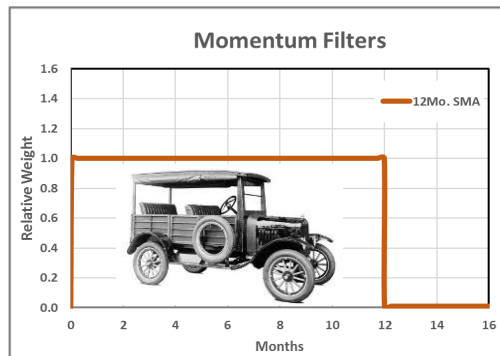
Designed for Performance



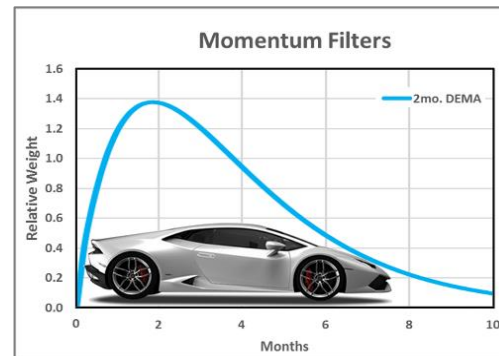


J. H. Van Vleck  
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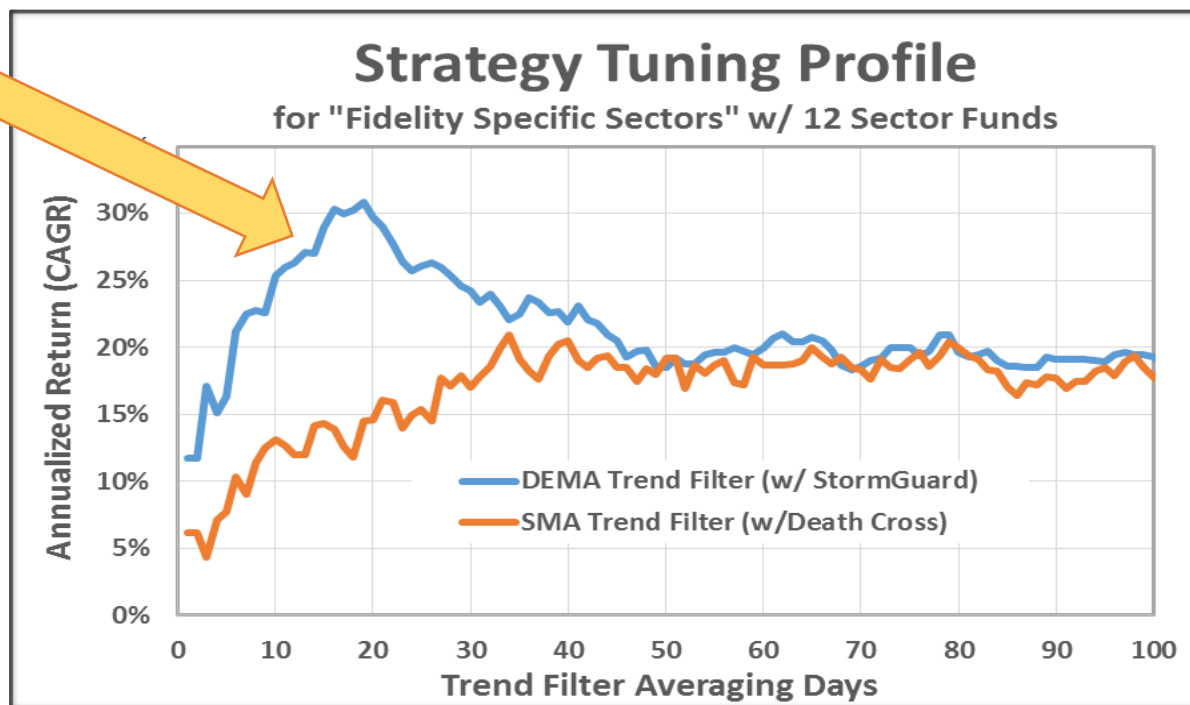
## Think Outside of the Box



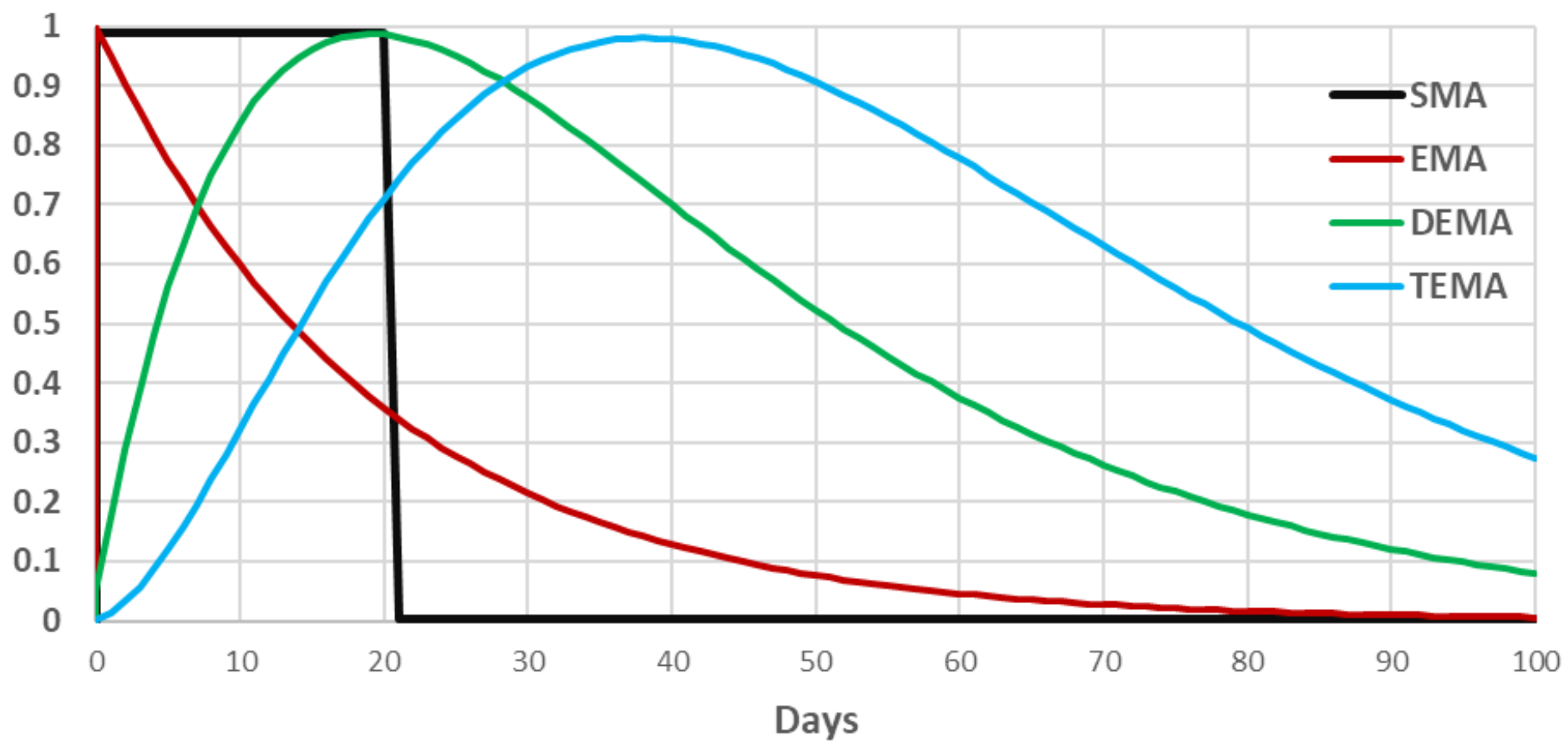
Someplace to Start



Designed for Performance



## 20-Day Noise Filter Functions



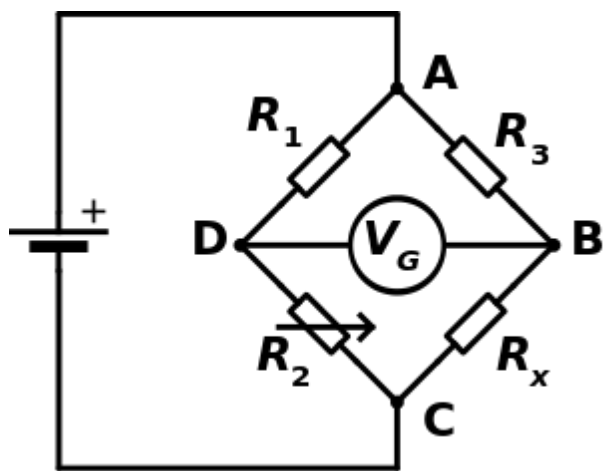


# Differential Signal Processing

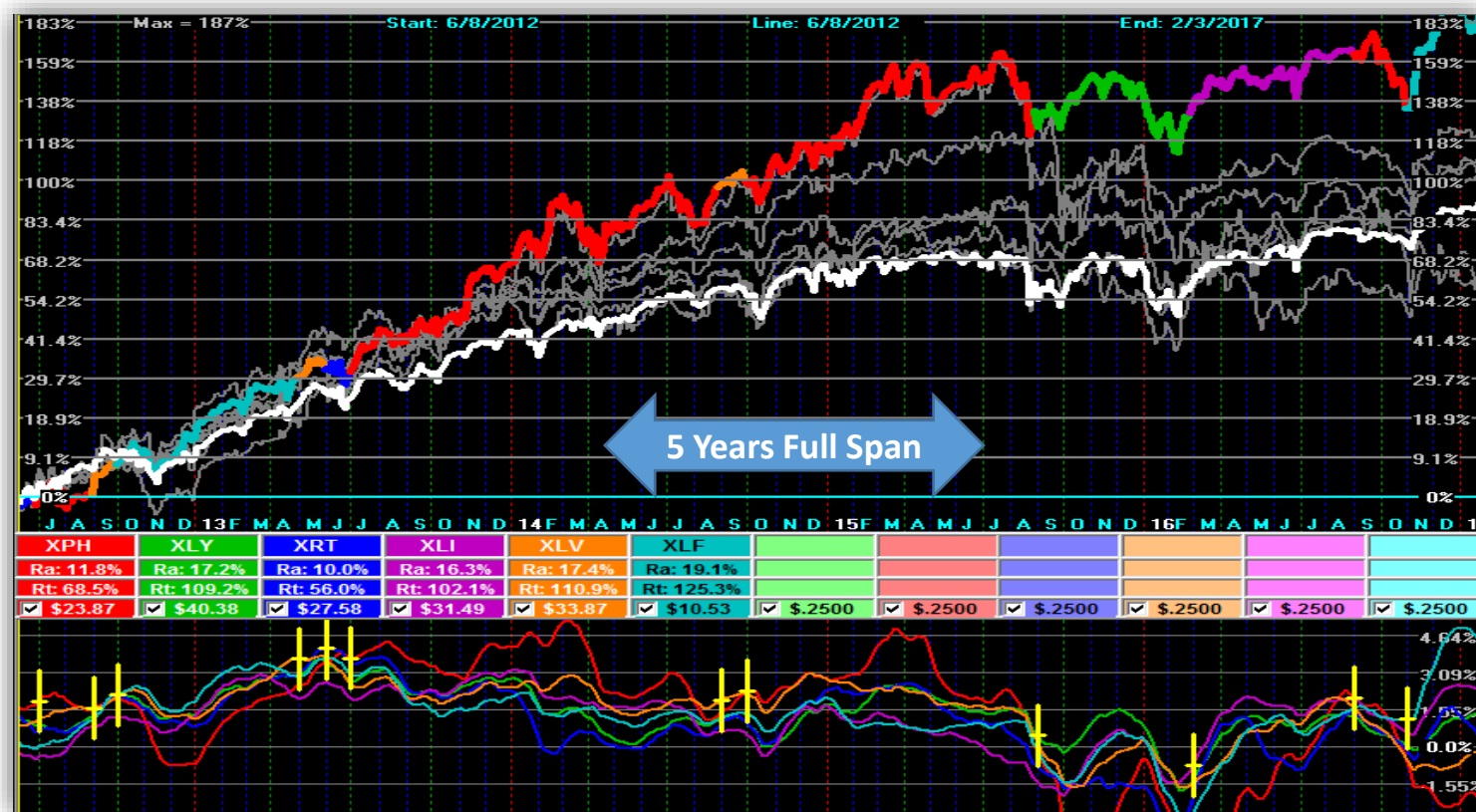
## Removes Common Mode Noise

(Relative Strength)

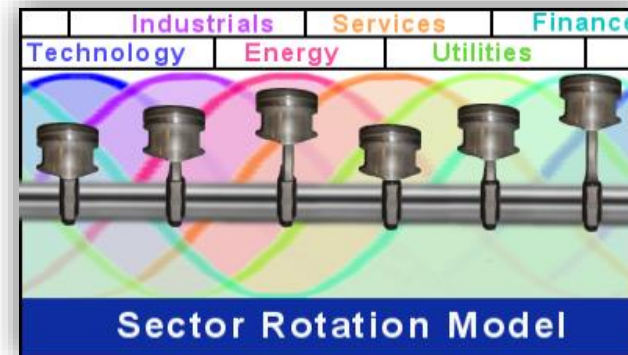
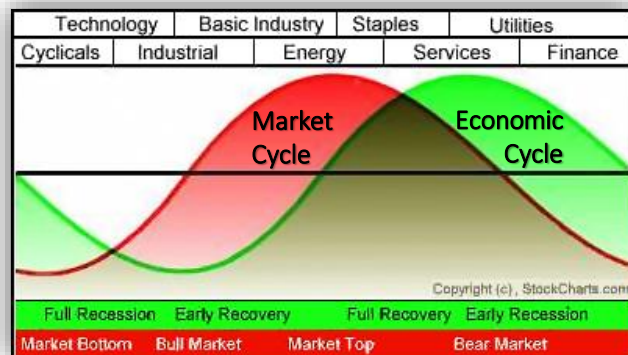
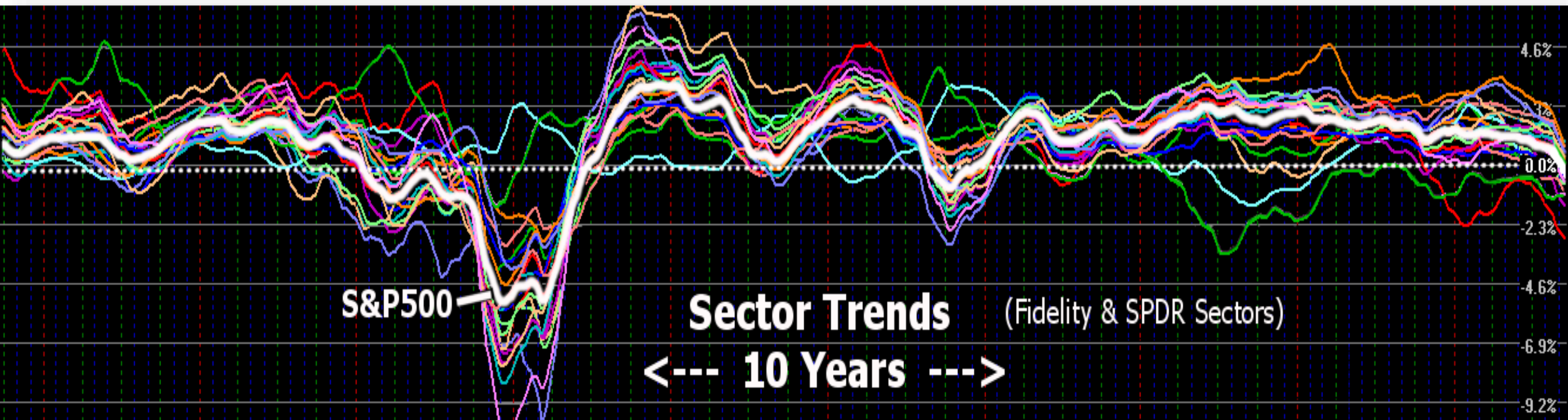
Samuel H. Christie  
Royal Society 1836



Wheatstone Bridge

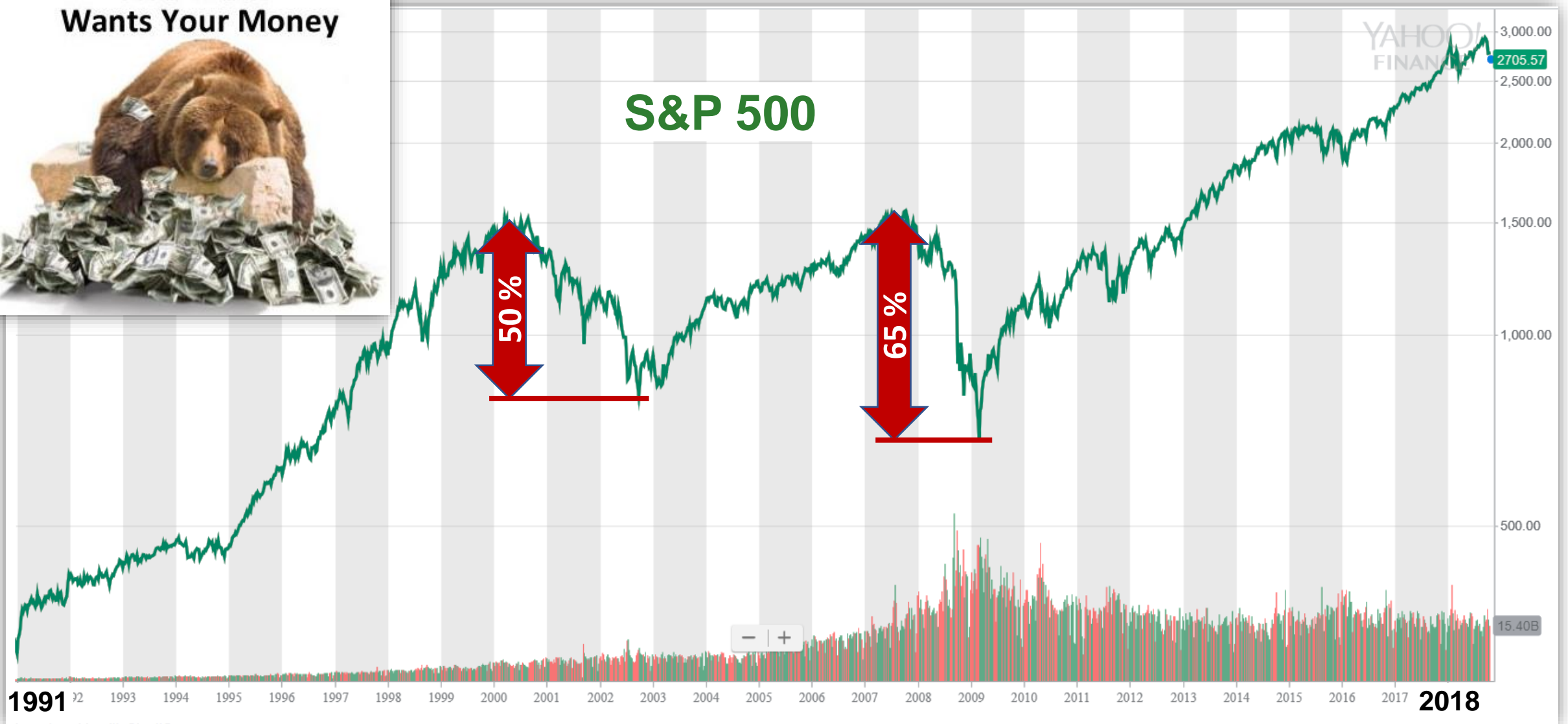


# Sectors Provide Power Strokes



# The Bear Market Problem

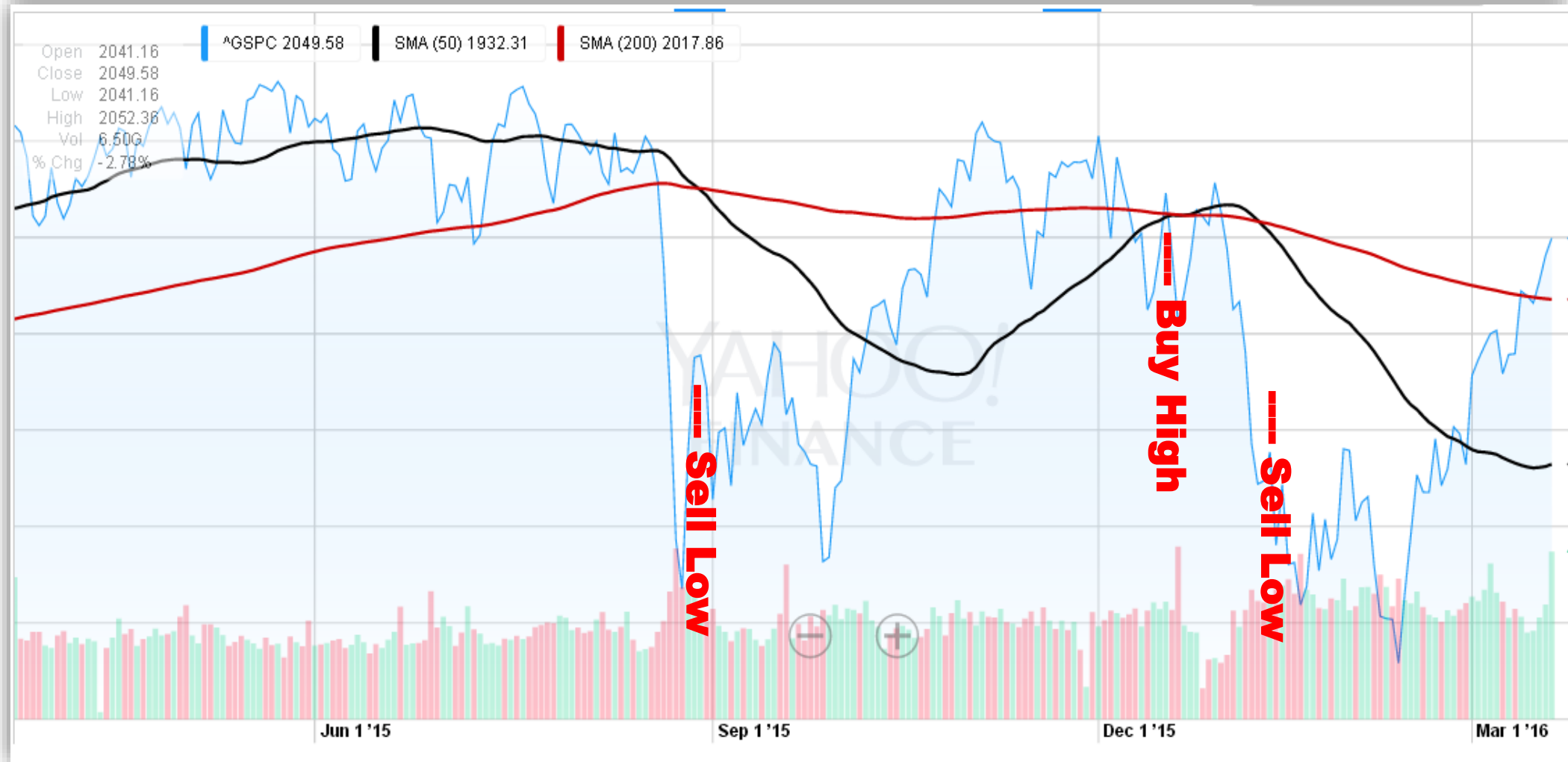
The Bear  
Wants Your Money



For Use by Investment Professionals

# The Death Cross Problem

## 50d Moving Average Crosses the 200d Moving Average



# StormGuard-Armor

## Detect the Onset of Bear Markets

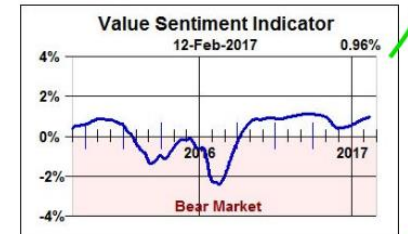
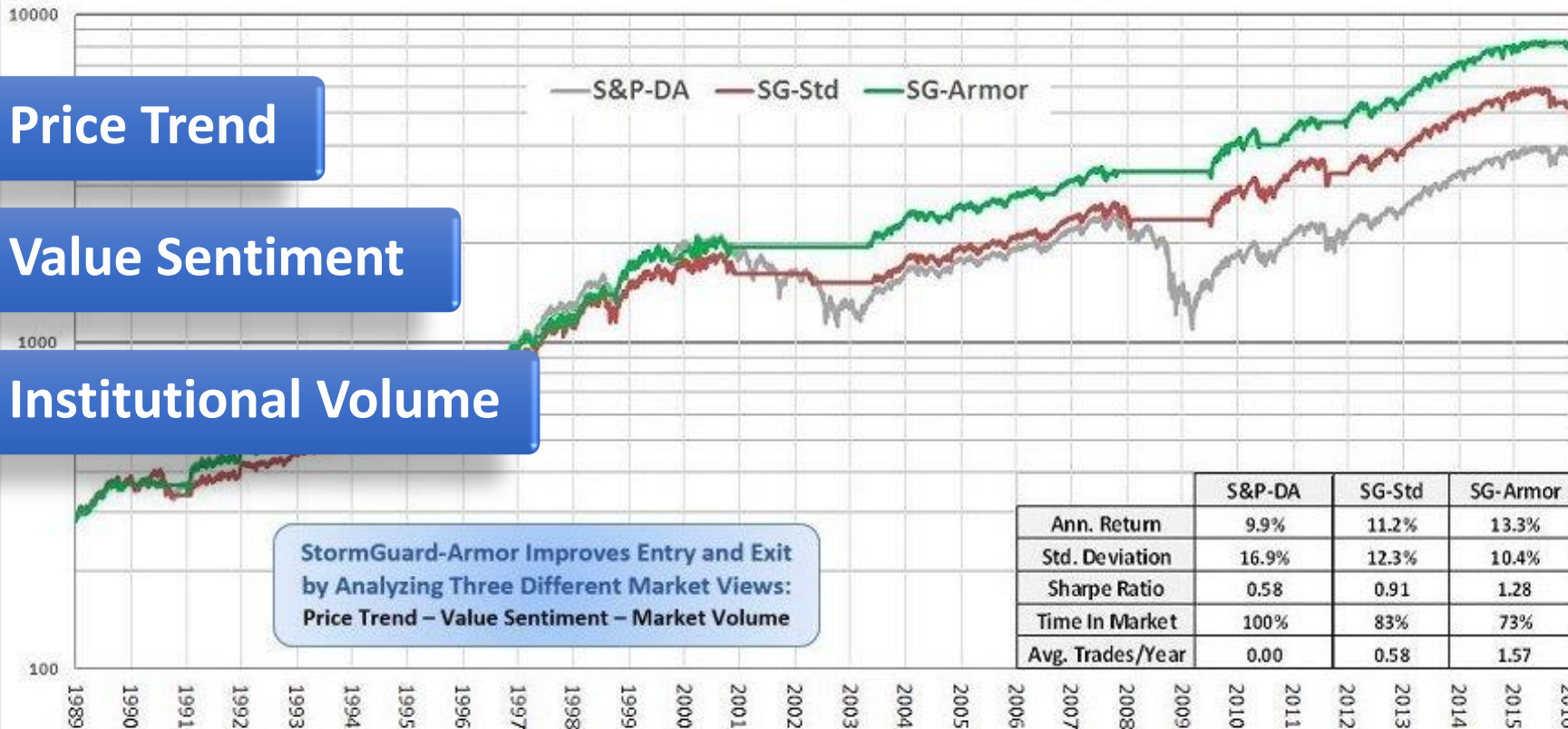
1. Price Trend

2. Value Sentiment

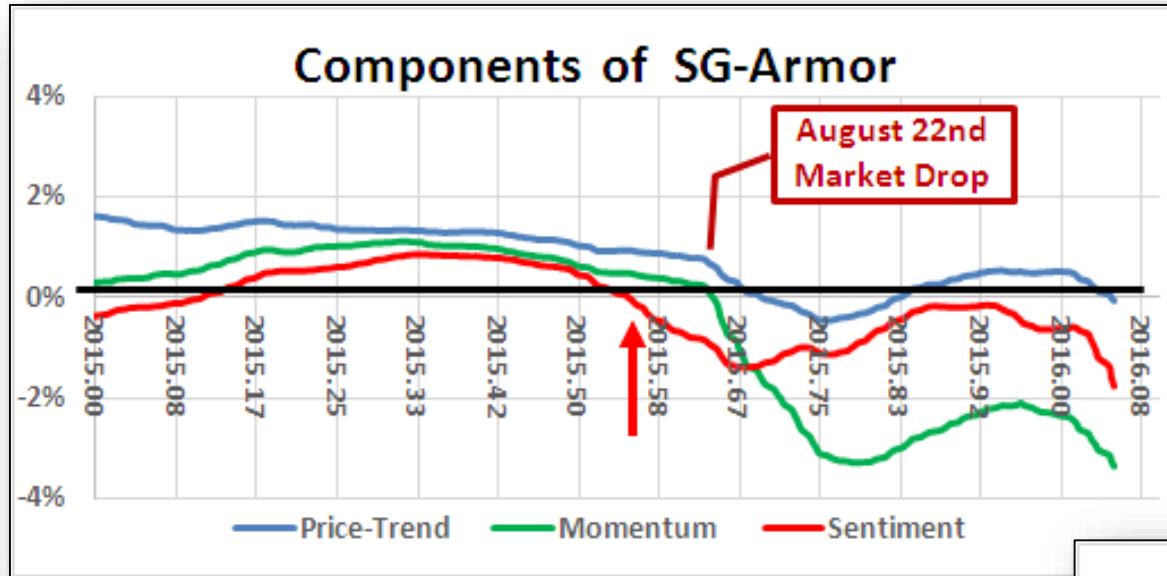
3. Institutional Volume

**StormGuard - Armor**  
Incorporating Price, Highs/Lows and Volume Data  
Utilizing Matched Filter Theory, PID Algorithms & Fuzzy Logic

Introduced  
March 2016

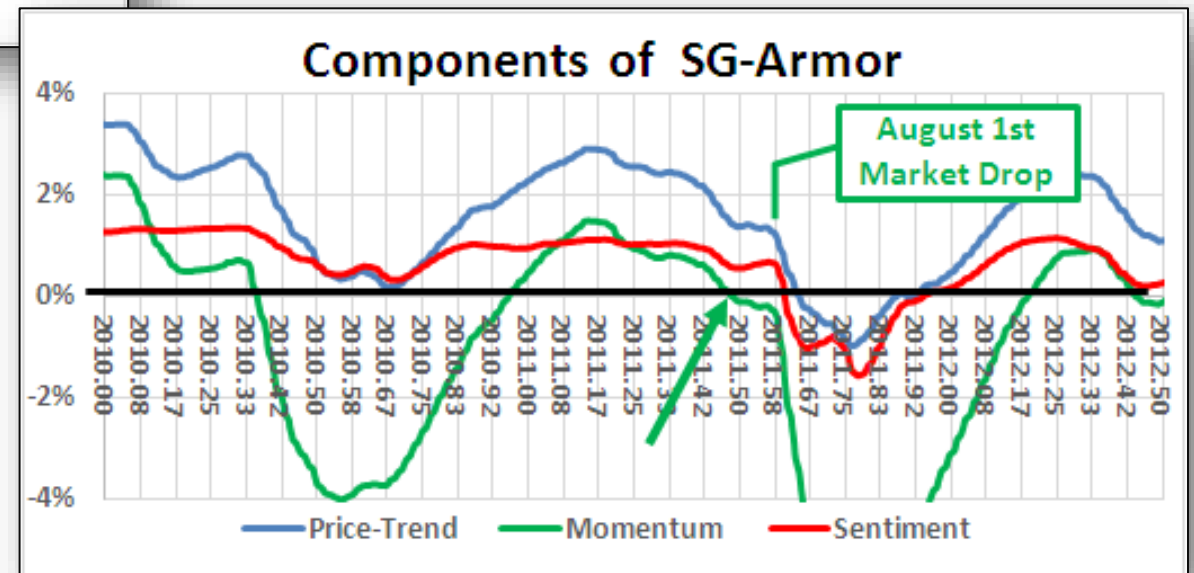


# Why is StormGuard-Armor Better?



It Analyses Three Different Kinds of Market Behavior.

It Incorporates Event Detection, not Simply Timing Adjustments.



[Introduction](#)
[Market Heat Map](#)
[Risk Avoidance](#)
[Bear Strategies](#)
[Portfolio Design Tool](#)
[Essential Videos](#)
[Getting On Board](#)
[Print to PDF](#)

## Risk Avoidance

Risk is Not a One-Dimensional Problem



Explore

[A Quick Video Tour](#)
[StormGuard-Armor](#)
[Black Swan Vaccination](#)
[Bear Market Strategies](#)
[StormGuardData.csv](#)


Click a chart below to expand it.

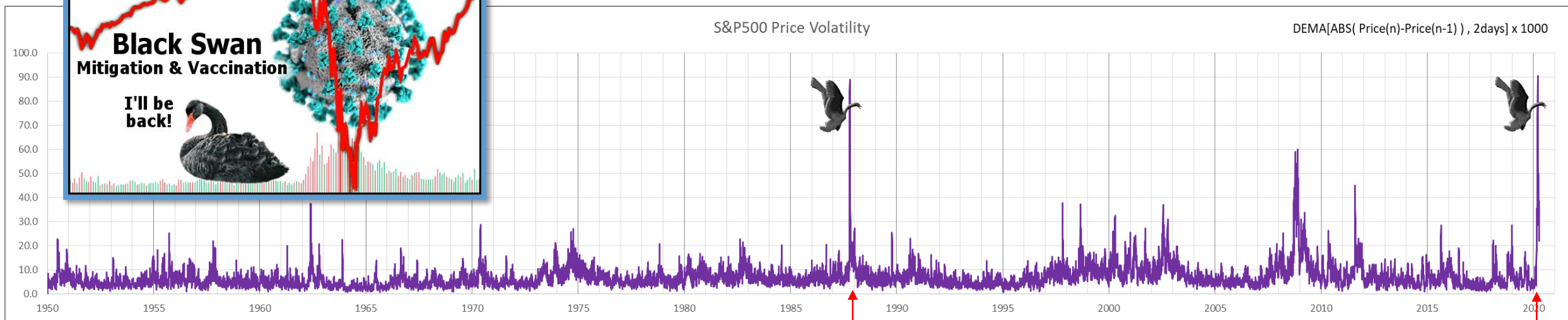
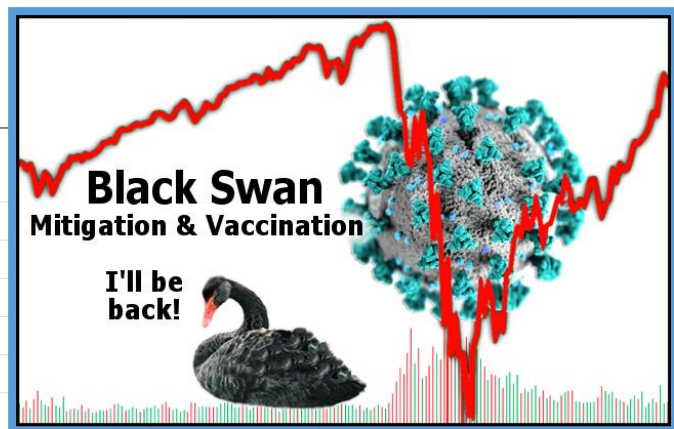


**Narrative:** StormGuard indicates market safety is strong and improving. NOTE: StormGuard-Armor, like a smoke alarm, is not perfectly clairvoyant but helps improve your long-term batting average.

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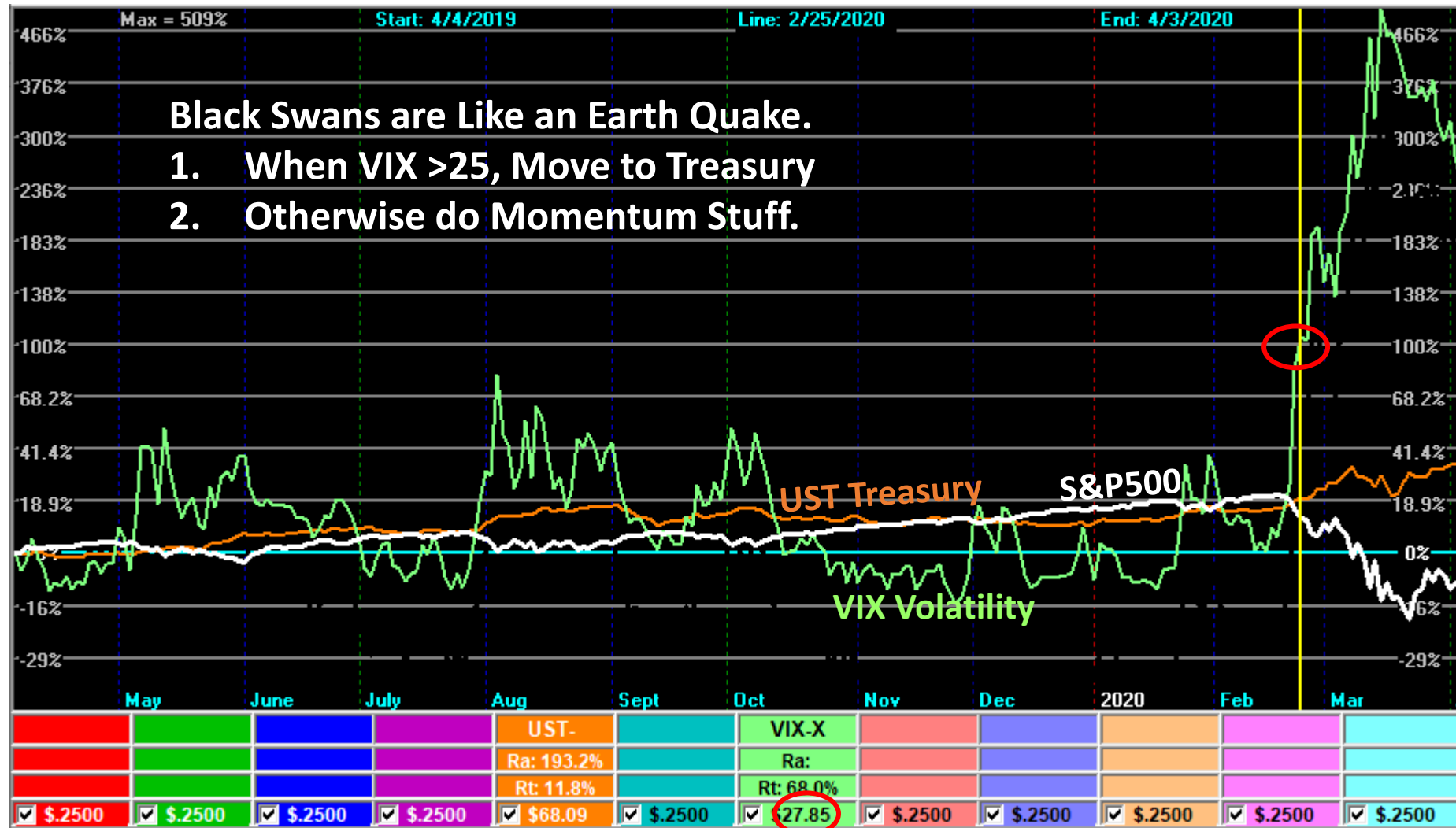
# Black Swan Events

January 1950 to April 2020



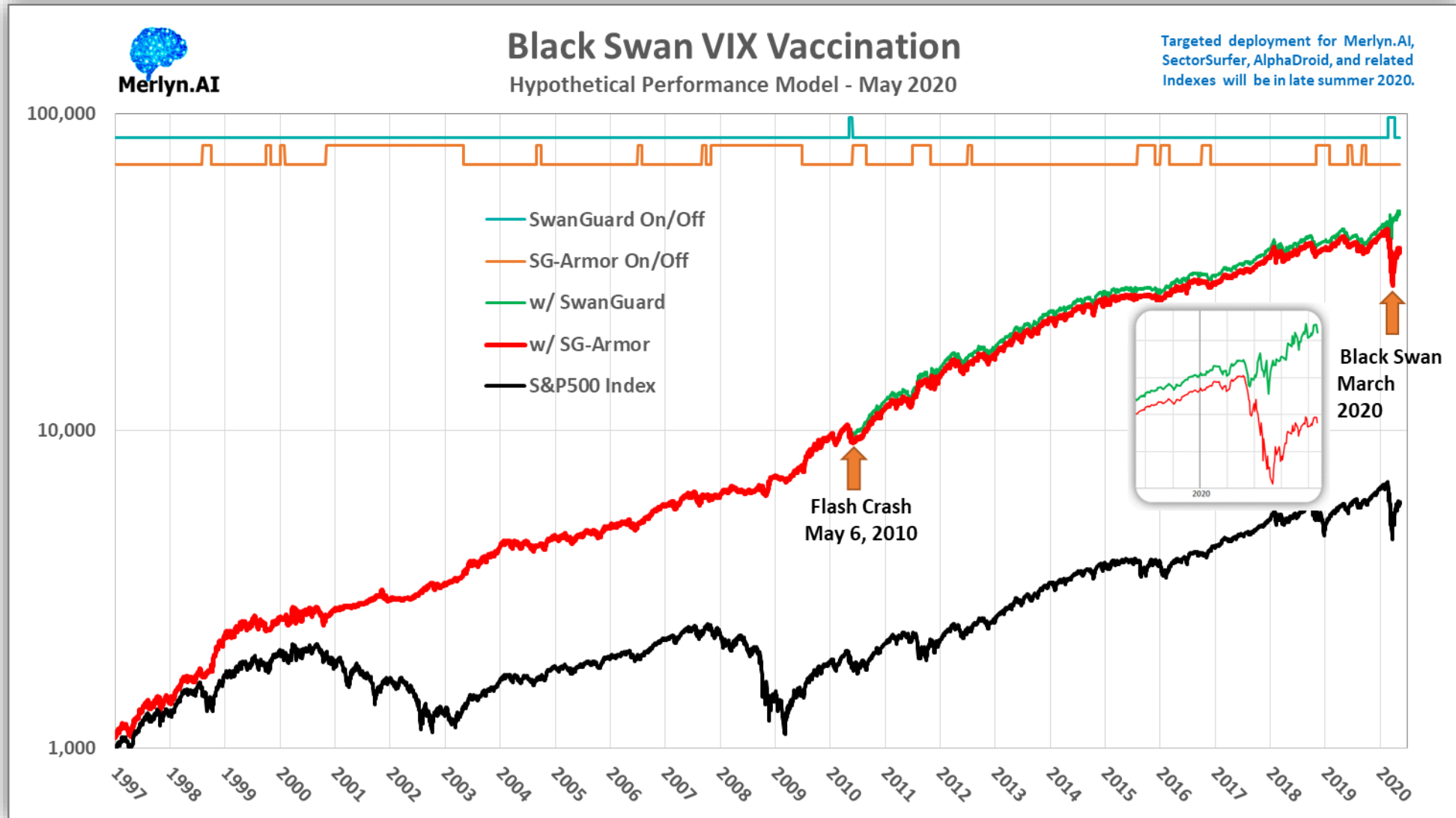
# Vaccination Response

## Real-Time BS Detection

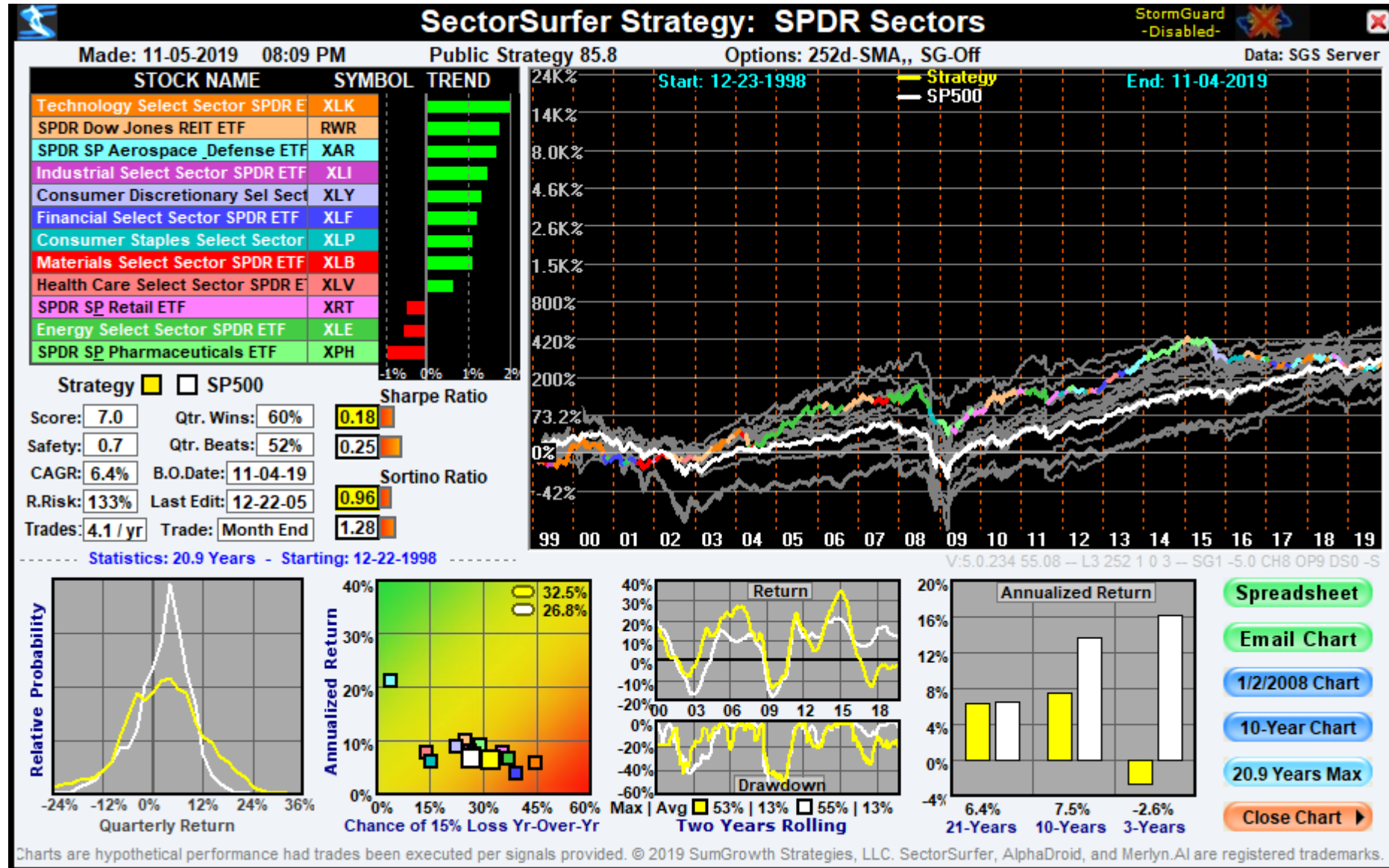


# Vaccination Response

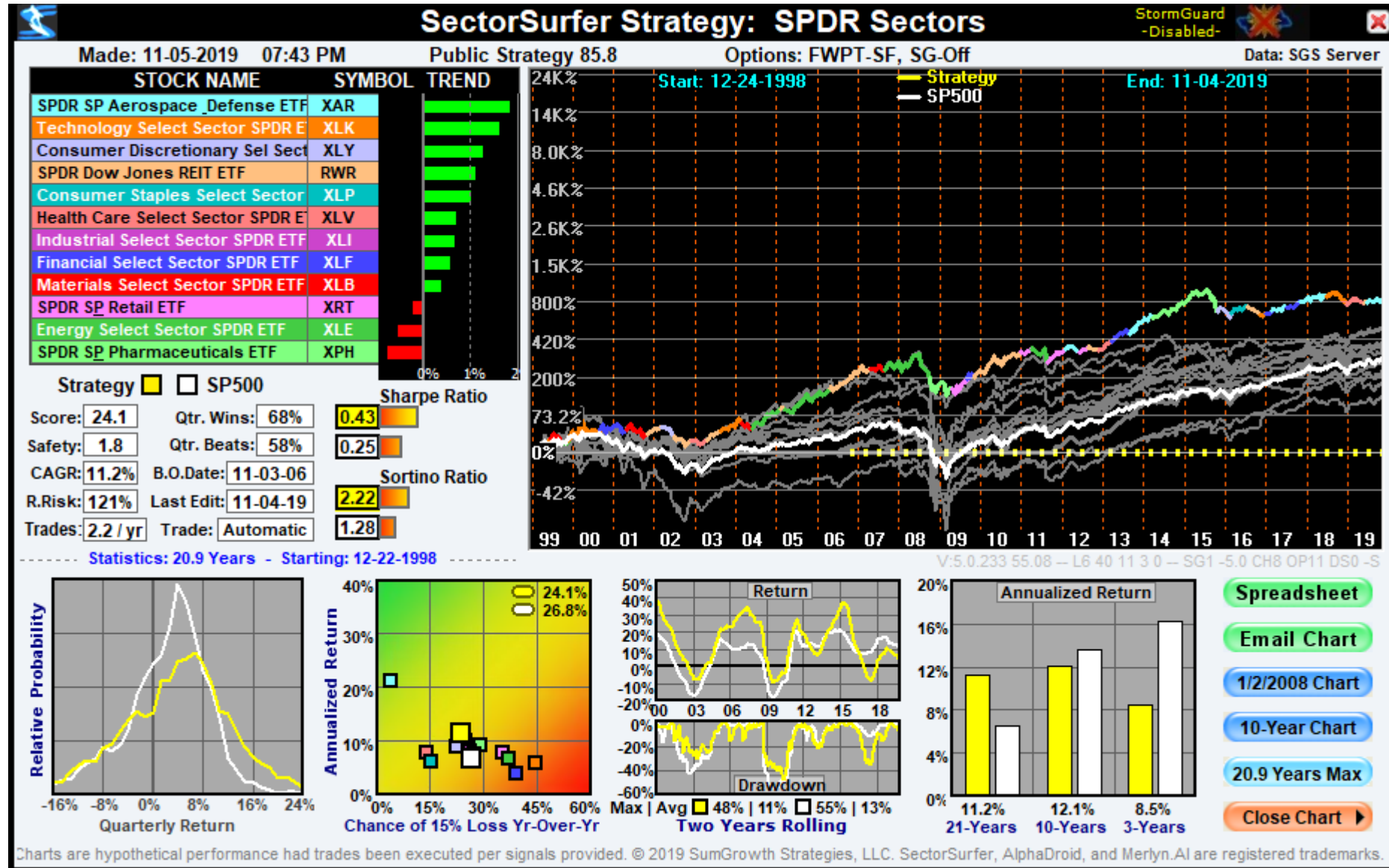
## Real-Time BS Detection



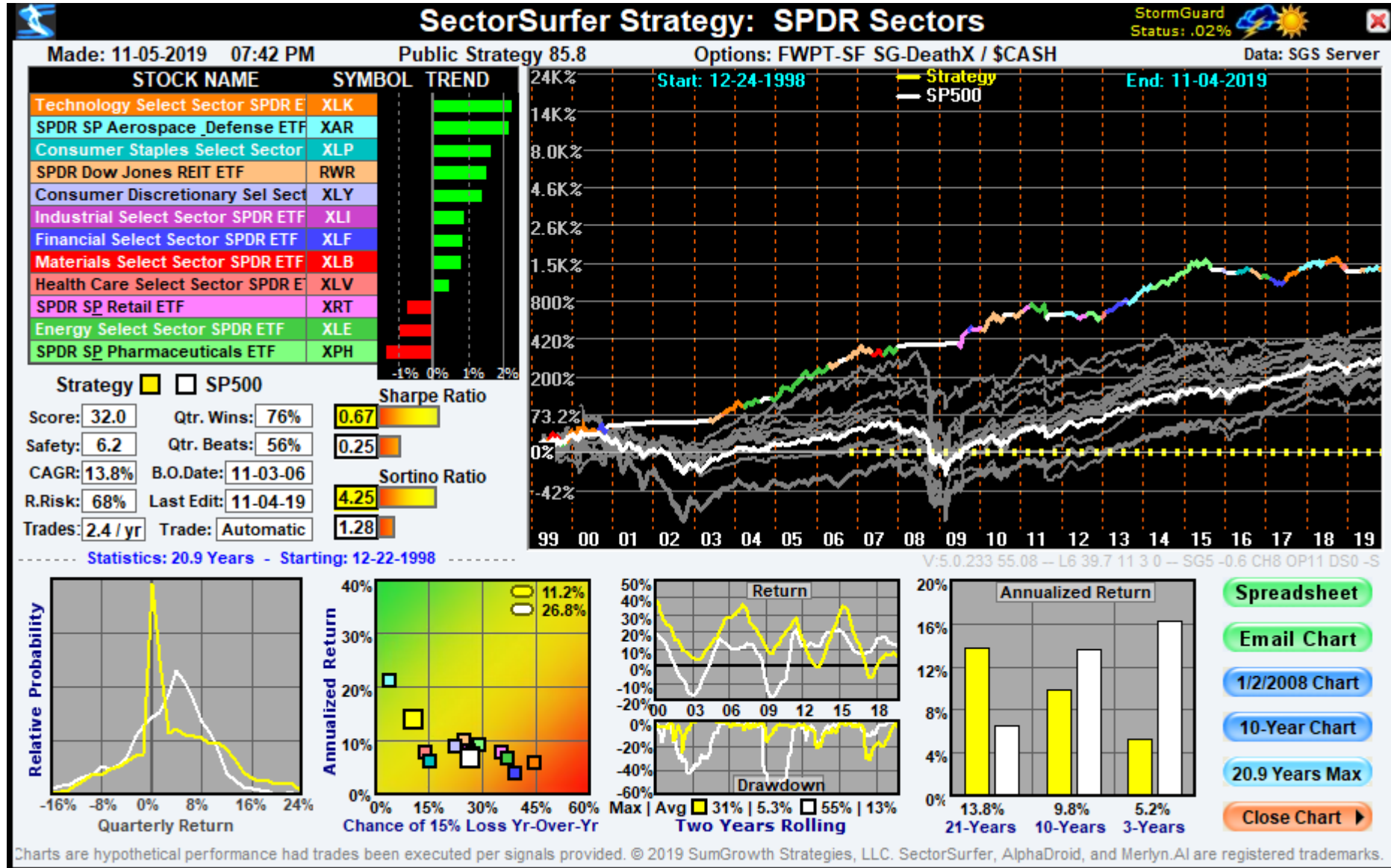
# 12-Month SMA Sector Strategy



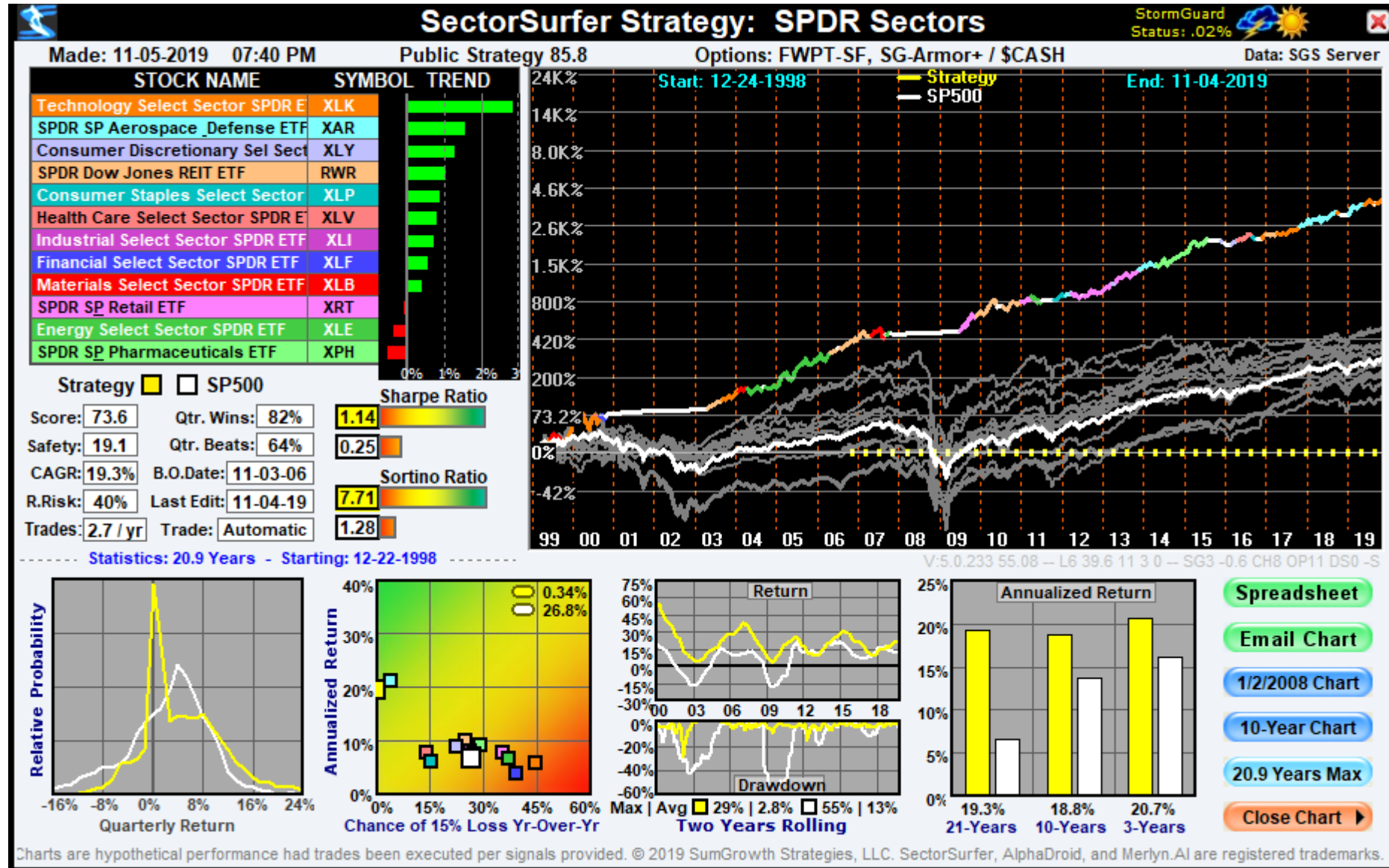
# FWPT DEMA Strategy in painted path.



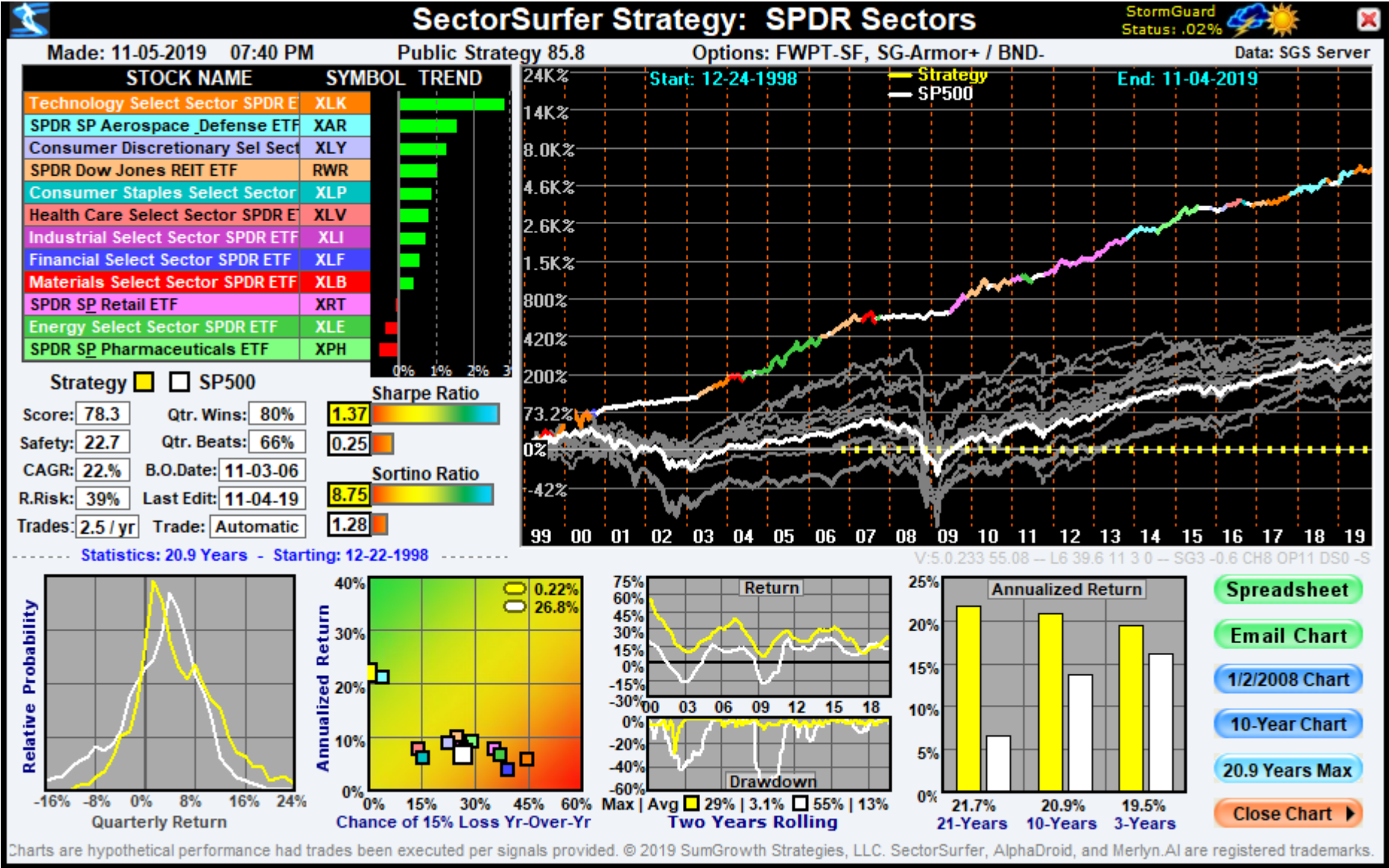
# FWPT DEMA Strategy w/ Death Cross to Cash



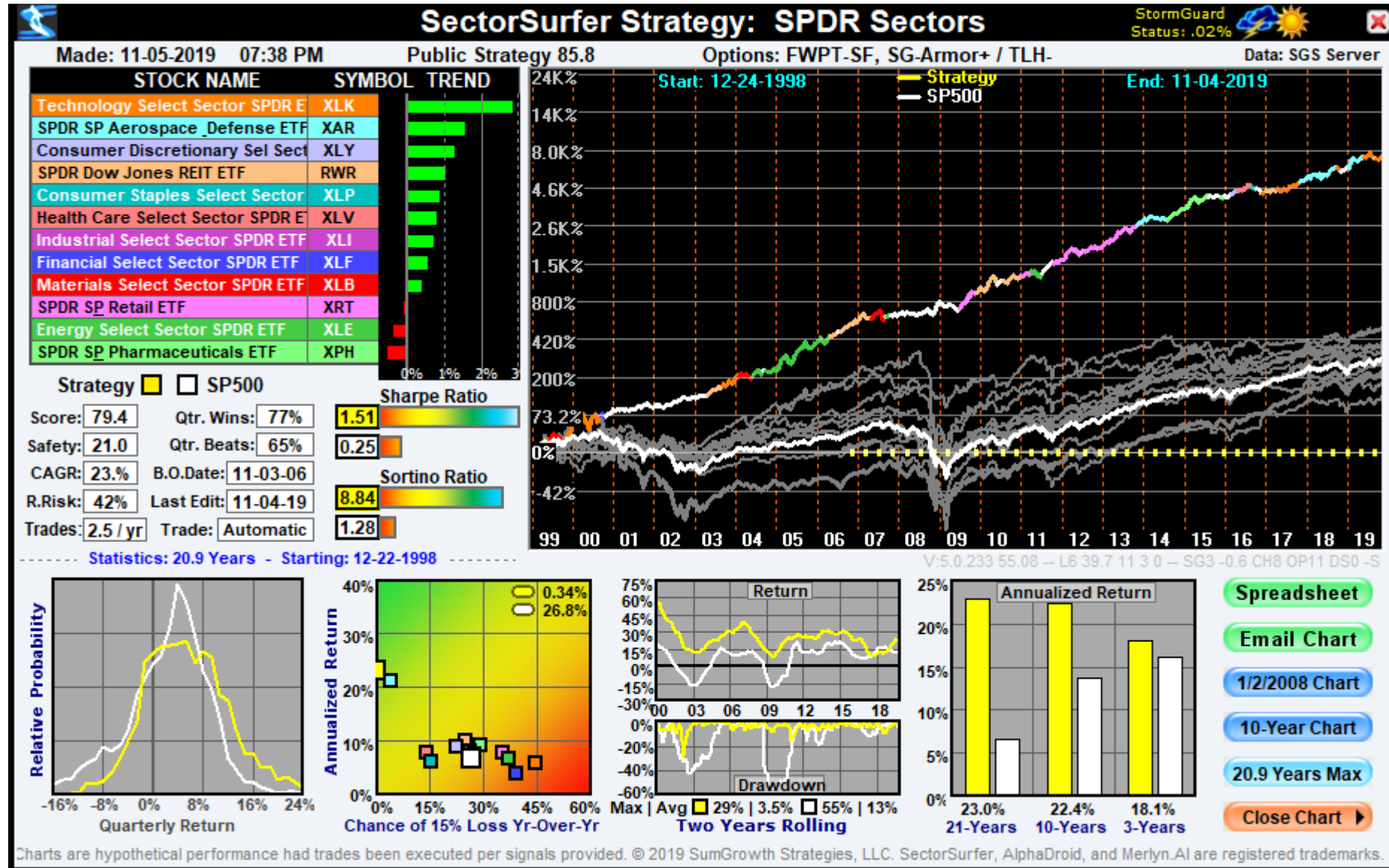
# FWPT DEMA Strategy w/ AG-Armor to Cash



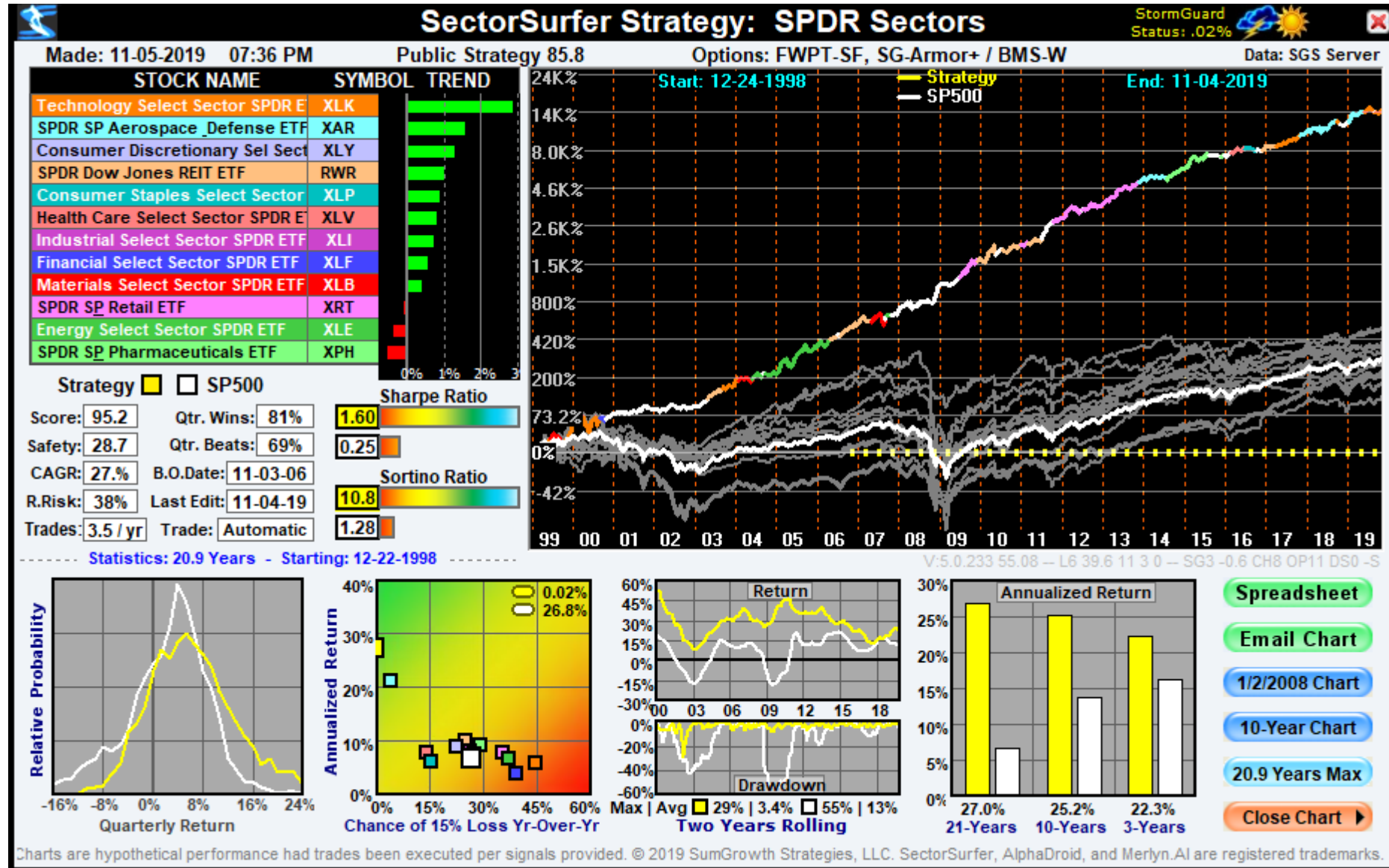
FWPT DEMA Strategy w/ AG-Armor to BND



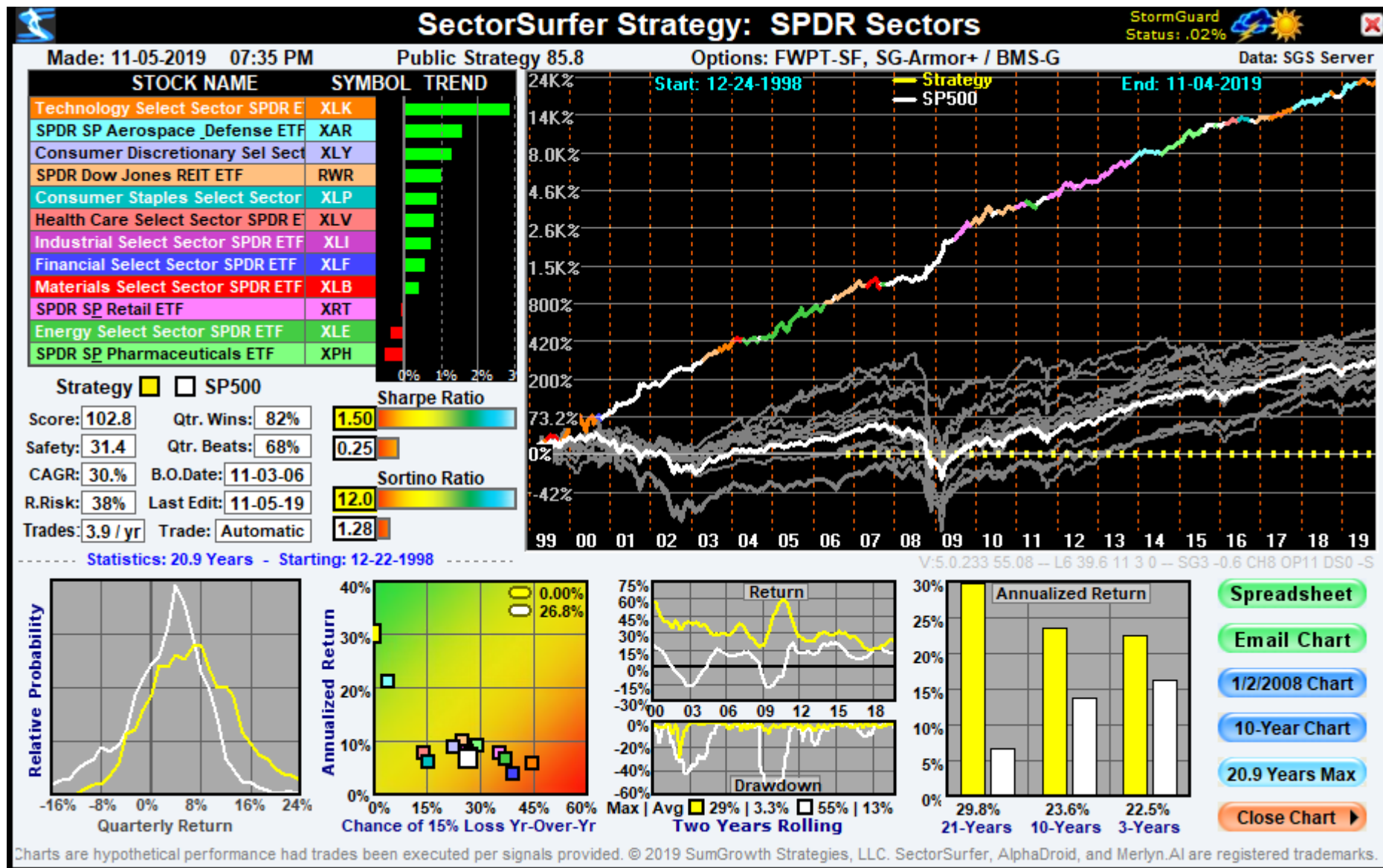
# FWPT DEMA Strategy w/ AG-Armor to TLH



# FWPT DEMA Strategy w/ AG-Armor to BMS-W



# FWPT DEMA Strategy w/ AG-Armor to BMS-G





Eugene Fama  
Nobel Prize, 2013

J. H. Van Vleck  
Nobel Prize, 1977

Claude Shannon  
National Medal  
of Science, 1966

Samuel H. Christie  
Royal Society 1836

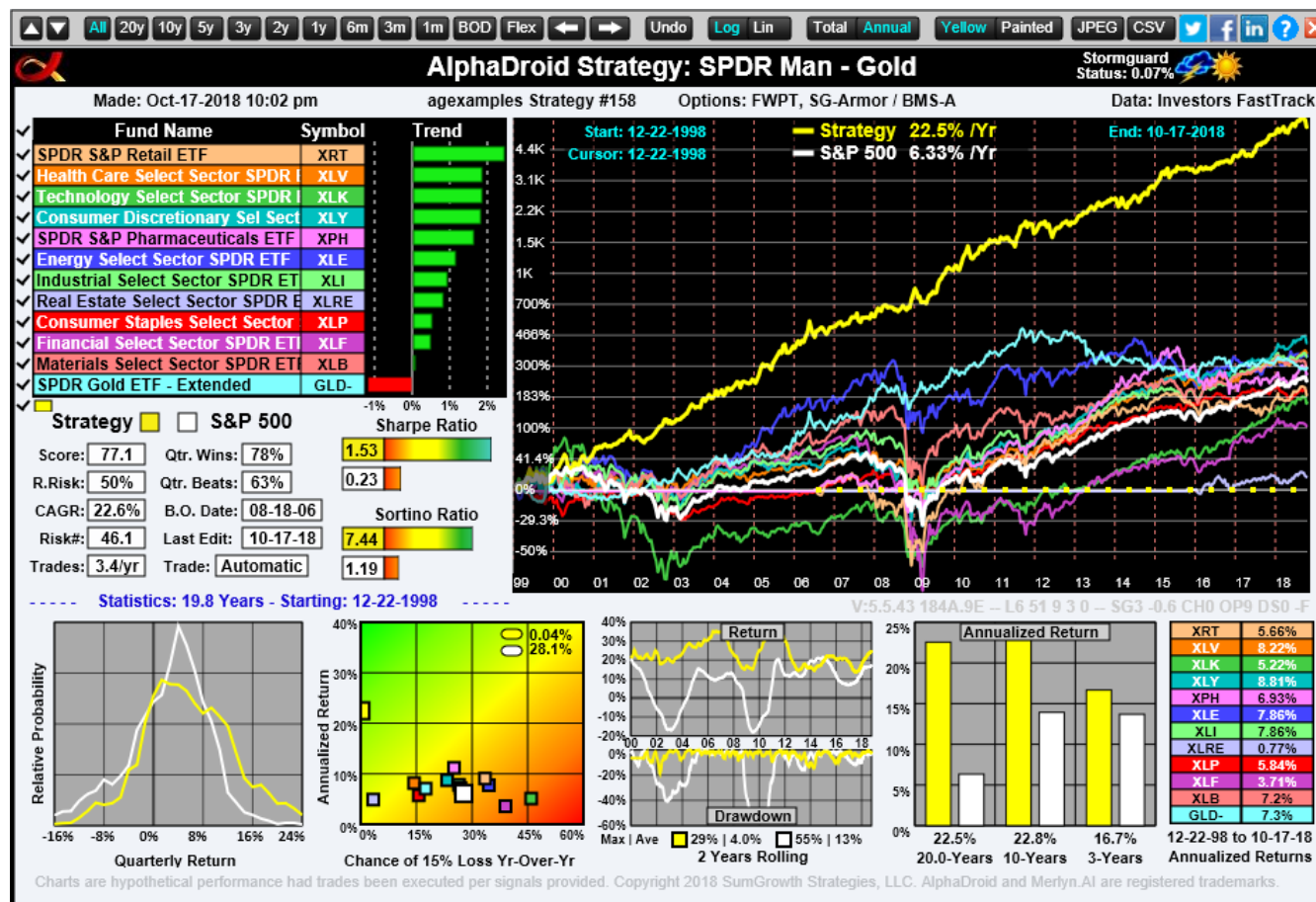
Daniel Kahneman  
Nobel Prize, 2002

Amos Tversky  
Stanford University

Narasimhan Jegadeesh  
Emory University

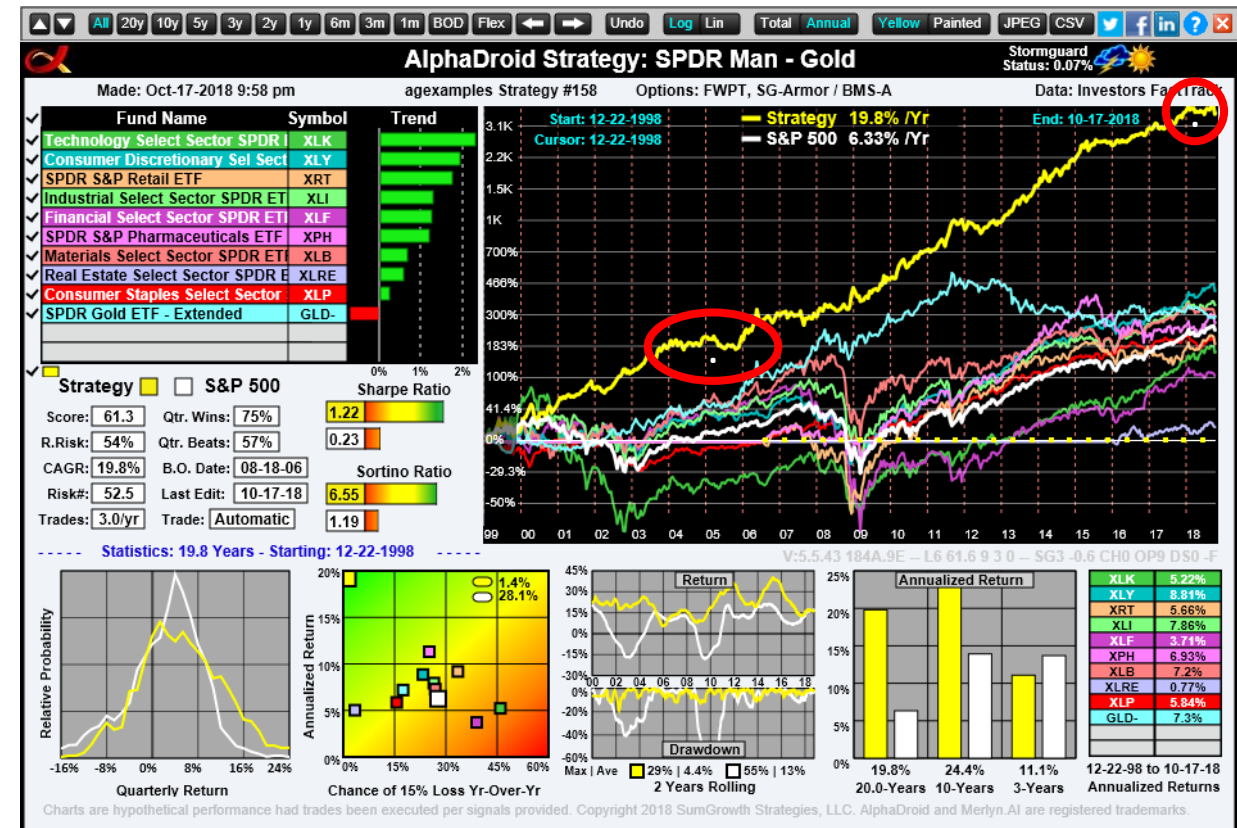
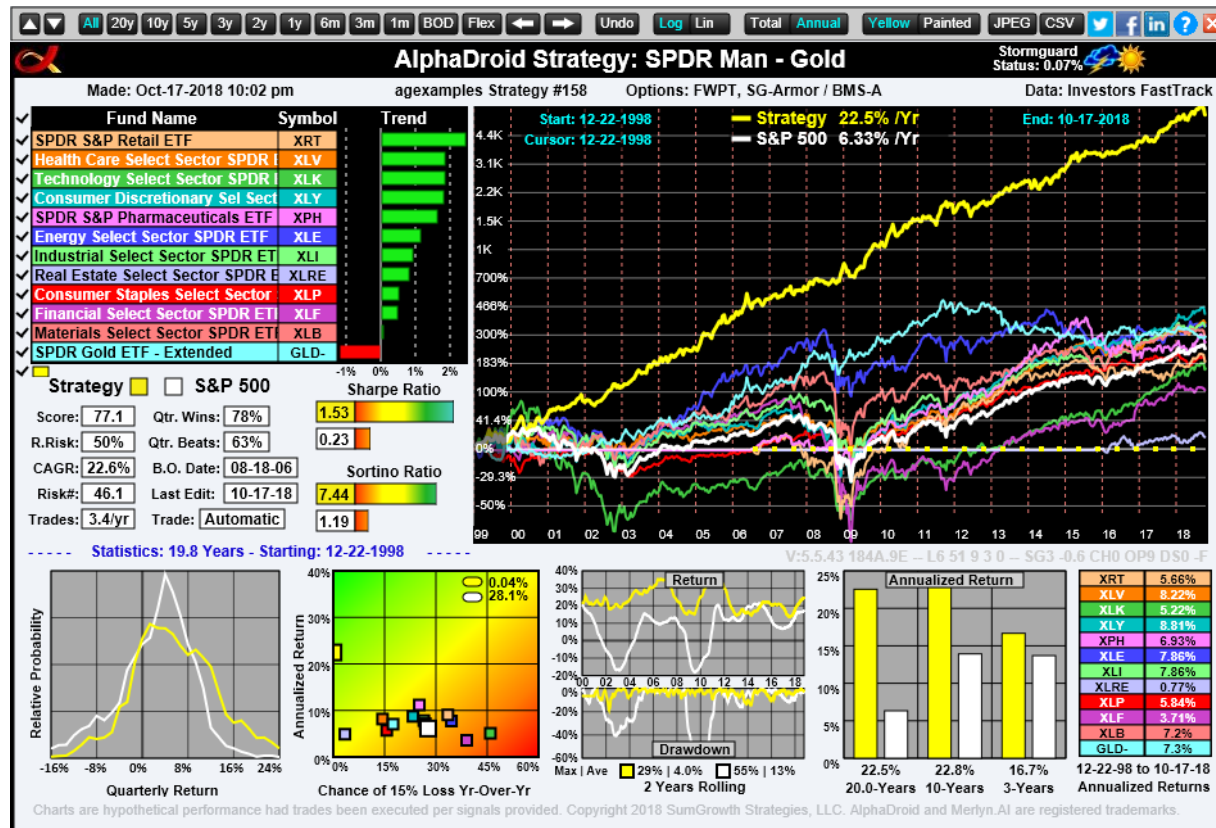
Sheridan Titman  
U. of Texas, Austin

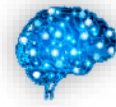
These Guys  
Got us Here  
Is There More?



# What About Selection Bias?

## Who Needs XLV-Healthcare and XLE-Energy?

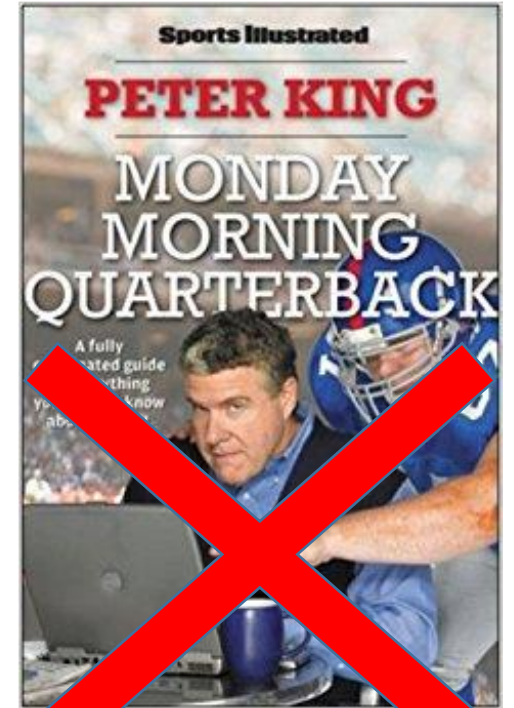
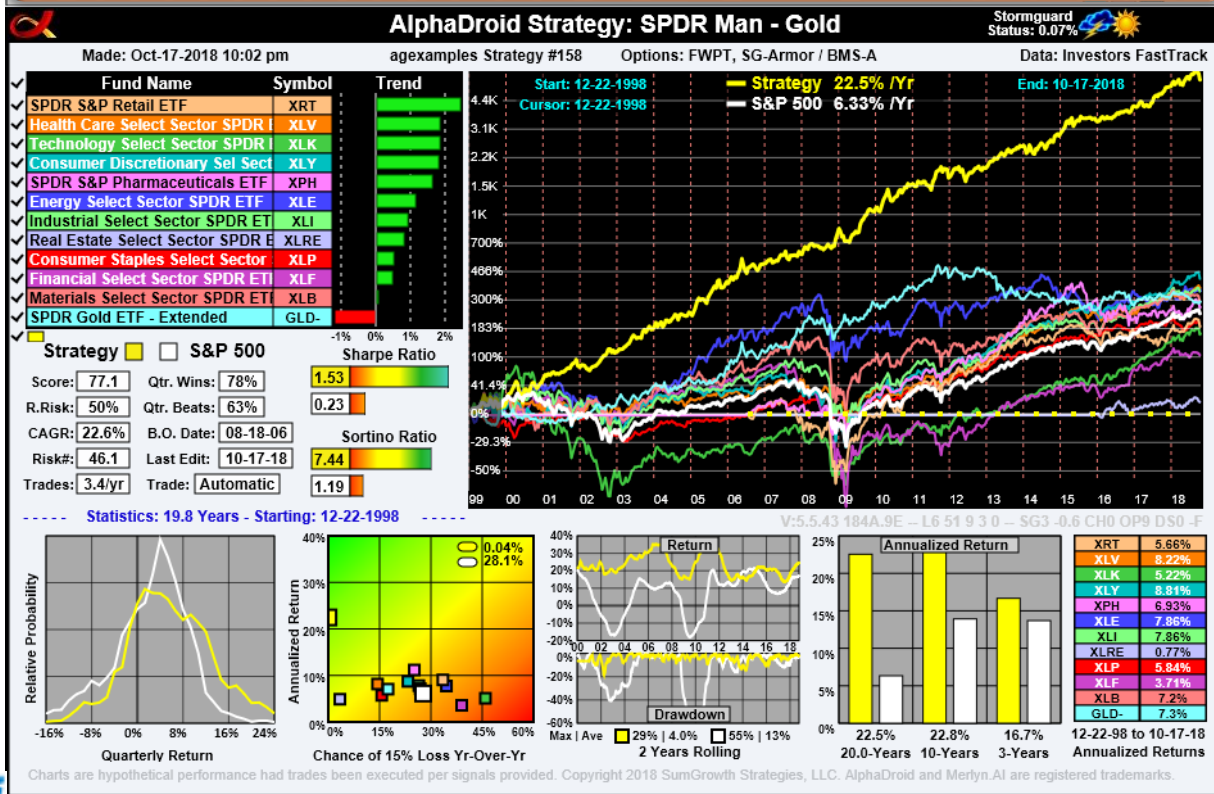




# Merlyn.AI

## Is a Genetic Algorithm Layered on Top of a Strategy

### Genetic Algorithm on Top



Why?

To Evolve its Set of Funds Each Month

Why?

To Remove Hindsight Selection Bias

# Artificial Intelligence Algorithms

## Types of machine learning algorithms[edit]

- [Almeida–Pineda recurrent backpropagation](#)
- [ALOPEX](#)
- [Backpropagation](#)
- [Bootstrap aggregating](#)
- [CN2 algorithm](#)
- [Constructing skill trees](#)
- [Dehaene–Changeux model](#)
- [Diffusion map](#)
- [Dominance-based rough set approach](#)
- [Dynamic time warping](#)
- [Error-driven learning](#)
- [Evolutionary multimodal optimization](#)
- [Expectation–maximization algorithm](#)
- [FastICA](#)
- [Forward–backward algorithm](#)
- [GeneRec](#)
- [Genetic Algorithm for Rule Set Production](#)
- [Growing self-organizing map](#)
- [HEXQ](#)
- [Hyper basis function network](#)
- [IDistance](#)
- [K-nearest neighbors algorithm](#)
- [Kernel methods for vector output](#)
- [Kernel principal component analysis](#)
- [Leabra](#)
- [Linde–Buzo–Gray algorithm](#)
- [Local outlier factor](#)
- [Logic learning machine](#)
- [LogitBoost](#)
- [Manifold alignment](#)
- [Minimum redundancy feature selection](#)
- [Mixture of experts](#)
- [Multiple kernel learning](#)
- [Non-negative matrix factorization](#)
- [Online machine learning](#)
- [Out-of-bag error](#)
- [Prefrontal cortex basal ganglia working memory](#)
- [PVLV](#)
- [Q-learning](#)
- [Quadratic unconstrained binary optimization](#)
- [Query-level feature](#)
- [Quickprop](#)
- [Radial basis function network](#)
- [Randomized weighted majority algorithm](#)

- [Reinforcement learning](#)
- [Repeated incremental pruning to produce error reduction \(RIPPER\)](#)
- [Rprop](#)
- [Rule-based machine learning](#)
- [Skill chaining](#)
- [Sparse PCA](#)
- [State–action–reward–state–action](#)
- [Stochastic gradient descent](#)
- [Structured kNN](#)
- [T-distributed stochastic neighbor embedding](#)
- [Temporal difference learning](#)
- [Wake-sleep algorithm](#)
- [Weighted majority algorithm \(machine I](#)

## Supervised learning

- [AODE](#)
- [Artificial neural network](#)
- [Association rule learning](#) algorithms
  - [Apriori algorithm](#)
  - [Eclat algorithm](#)
- [Case-based reasoning](#)
- [Gaussian process regression](#)
- [Gene expression programming](#)
- [Group method of data handling \(GMDH\)](#)
- [Inductive logic programming](#)
- [Instance-based learning](#)
- [Lazy learning](#)
- [Learning Automata](#)
- [Learning Vector Quantization](#)
- [Logistic Model Tree](#)
- [Minimum message length](#) (decision trees, decision graphs, etc.)
  - [Nearest Neighbor Algorithm](#)
  - [Analogical modeling](#)
- [Probably approximately correct learning \(PAC\) learning](#)
- [Ripple down rules](#), a knowledge acquisition methodology
- [Symbolic machine learning algorithms](#)
- [Support vector machines](#)
- [Random Forests](#)
- [Ensembles of classifiers](#)
  - [Bootstrap aggregating](#) (bagging)
  - [Boosting \(meta-algorithm\)](#)
- [Ordinal classification](#)
- [Information fuzzy networks \(IFN\)](#)

## Bayesian[edit]

- [Bayesian statistics](#)
- [Bayesian knowledge base](#)
- [Naive Bayes](#)
- [Gaussian Naive Bayes](#)
- [Multinomial Naive Bayes](#)
- [Averaged One-Dependence Estimators \(AODE\)](#)
- [Bayesian Belief Network \(BBN\)](#)
- [Bayesian Network \(BN\)](#)
- [Decision tree algorithms\[edit\]](#)
- [Decision tree algorithm](#)
- [Decision tree](#)
- [Classification and regression tree \(CART\)](#)
- [Iterative Dichotomiser 3 \(ID3\)](#)
- [C4.5 algorithm](#)
- [C5.0 algorithm](#)
- [Chi-squared Automatic Interaction Detection \(CHAID\)](#)
- [Decision stump](#)
- [Conditional decision tree](#)
- [ID3 algorithm](#)
- [Random forest](#)
- [SLIQ](#)

## Linear classifier[edit]

- [Linear classifier](#)
- [Fisher's linear discriminant](#)
- [Linear regression](#)
- [Logistic regression](#)
- [Multinomial logistic regression](#)
- [Naive Bayes classifier](#)
- [Perceptron](#)
- [Support vector machine](#)

## Unsupervised learning[edit]

- [Unsupervised learning](#)
- [Expectation-maximization algorithm](#)
- [Vector Quantization](#)
- [Generative topographic map](#)
- [Information bottleneck method](#)
- [Artificial neural networks\[edit\]](#)
- [Artificial neural network](#)
- [Feedforward neural network](#)
- [Logic learning machine](#)
- [Self-organizing map](#)
- [Association rule learning\[edit\]](#)
- [Association rule learning](#)
- [Apriori algorithm](#)
- [Eclat algorithm](#)

## Semi-supervised learning[edit]

- [Semi-supervised learning](#)
- [Active learning](#) – special case of semi-supervised learning
- [Generative models](#)
- [Low-density separation](#)
- [Graph-based methods](#)
- [Co-training](#)
- [Transduction](#)
- [Deep learning\[edit\]](#)
- [Deep learning](#)
- [Deep belief networks](#)
- [Deep Boltzmann machines](#)
- [Deep Convolutional neural networks](#)
- [Deep Recurrent neural networks](#)
- [Hierarchical temporal memory](#)
- [Generative Adversarial Networks](#)
- [Deep Boltzmann Machine \(DBM\)](#)
- [Stacked Auto-Encoders](#)
- [Other machine learning methods and problems\[edit\]](#)
- [Anomaly detection](#)
- [Association rules](#)
- [Bias-variance dilemma](#)
- [Classification](#)
  - [Multi-label classification](#)
- [Clustering](#)
- [Data Pre-processing](#)
- [Empirical risk minimization](#)
- [Feature engineering](#)
- [Feature learning](#)
- [Learning to rank](#)
- [Occam learning](#)
- [Online machine learning](#)
- [PAC learning](#)
- [Regression](#)
- [Reinforcement Learning](#)
- [Semi-supervised learning](#)
- [Statistical learning](#)
- [Structured prediction](#)
  - [Graphical models](#)
  - [Bayesian network](#)
  - [Conditional random field \(CRF\)](#)
  - [Hidden Markov model \(HMM\)](#)
- [Unsupervised learning](#)
- [VC theory](#)



# How SumGrowth Uses AI

To Perceive the environment and take action to maximize success.

## FWPT: Forward Walk Progressive Tuning



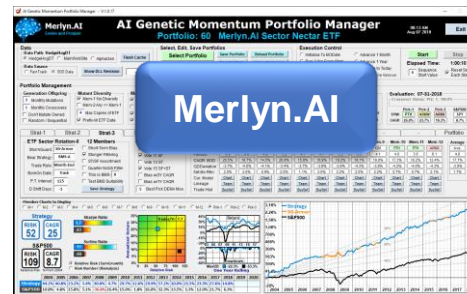
Adaptively changing the algorithm based on the past character of the data. Walks through out-of-sample data for its buy/sell decisions.

## StormGuard - Armor



Employs Fuzzy Logic to evaluate a composite of 12 measures of the market's character to determine current investment safety.

## FWPP: Forward Walk Progressive Picking

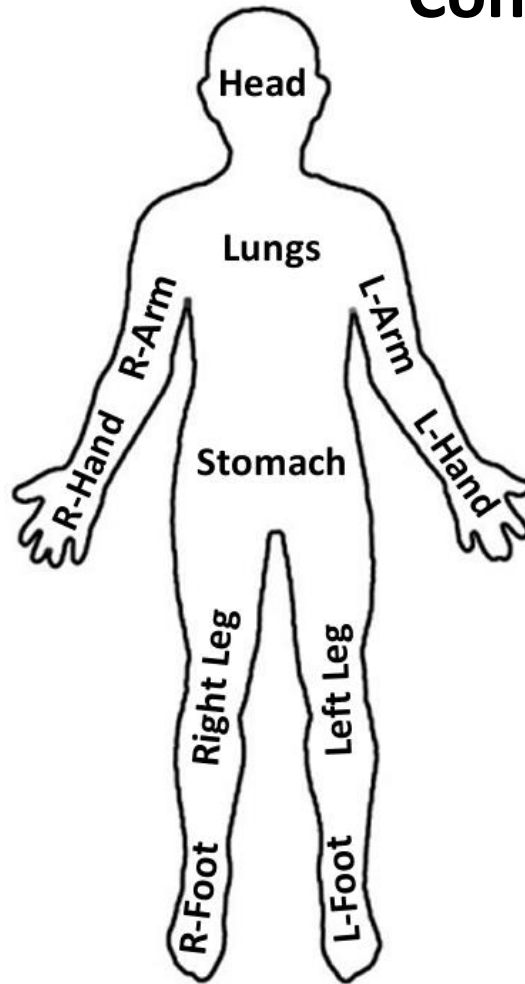


Uses a Genetic Algorithm to evolve the candidate funds in a population of momentum strategies to eradicate remnants of hindsight selection bias.



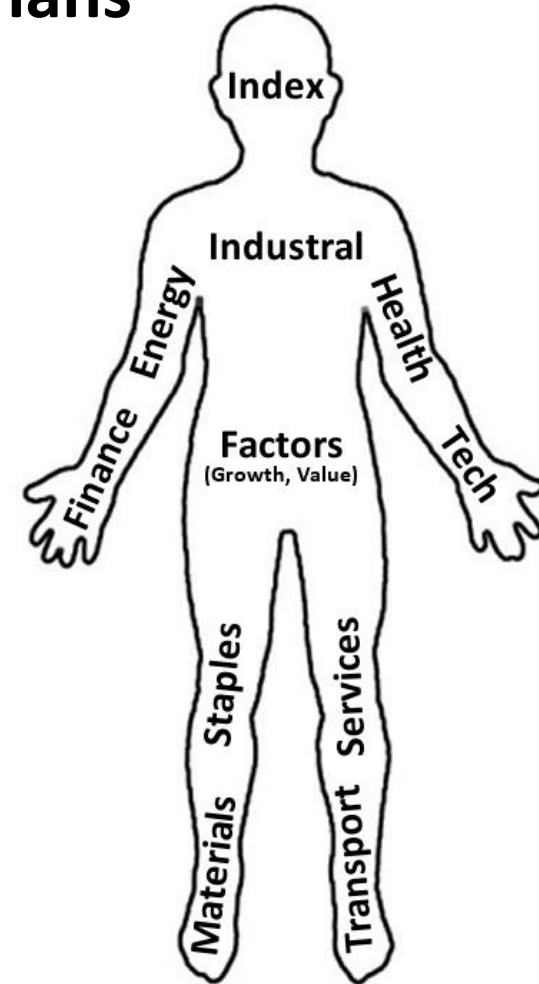
# How Our Genetic Algorithm Works

Consider This Analogy to Humans



Human

**Genetic Evolution:  
Mutation  
Crossover**



Strategy



# What are the Gene Mutations

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1	Name	ETF Sector Rotation-I													
2	Description	SG-A, BMS-A, DSD-1, Mutation and Mating. Population of 10 Strategies. SOS weighted vote. Gene Categories: Cmd, Mat, Enr, Fin, Ind, Cns, Res, Hea, Tk1,													
3	Members	10													
4	StGuard	SG-Armor													
5	BMS	BMS-A													
6	Trade	Month-End													
7	BOD	Track													
8	PT-Int	125													
9	DSDays	-1													
10	S.Filt	0													
11	S.Trends	0													
12	BothFilt	0													
13	QtrNotch	0													
14	Materials	XLB,IYM,VAW,RTM,IGE													
15	Energy	XLE,IYE,VDE,FXN,FENY,RYE													
16	Financial	XLF,IYG,IYF,VFH,FNCL,KBWB,KBWR,FXO,KIE,KRE,KBE,RYF,IAT,IAK,IAI													
17	Industrial	XLI,DIA,IYT,IYJ,ITA,VIS,FXR,XAR,PPA,XTN,RGI													
18	Staples	XLP,VDC,IYK,RHS,FXG,FSTA,RCD,PBJ													
19	Retail/Discr	XLY,IYC,RTH,XRT,PMR,VCR,FDIS,FXD,IBUY,IPAY,FONE,GAMR													
20	Healthcare	XLV,IYH,VHT,IHI,FXH,RYH,IHF,XHE,PTH													
21	Bio-Pharma	PPH,BBH,PJP,IBB,XBI,FBT,IHE,XPH													
22	Technology	XLK,IYW,RYT,IGV,VGT,FXL,ROBO,ARKK,ARKW													
23	Semi-Tech	QQQ,IGM,IGN,XNTK,SMH,XSD,PSI,XT,XNTK,QTEC,FTEC,SNSR													
24	Factors	IVV,RSP,EQWS,GURU,EPS,EZM,CSD,MNA,DGRO,DGRW,FVD,FDL,HDV,PFM,NOBL,QDF,VIG,RDVY,SPYD,SDY,DTD,MMTM,MTUM,BEMO,FDMO,PDP													
25	Stylebox	SPY,MDY,SPYG,MDYG,SPYV,MDYV,IJH,IJJ,IJK,IVE,IVV,IVW,IJR,IJS,IJT,IWL,IWX,IWY,OEF,SPTM,RSP,RPG,FEX,FTA,FTC,FNK,FNX,FNY													
26															

Index

Industrial

Health

Tech

Factors  
(Growth, Value)

Finance

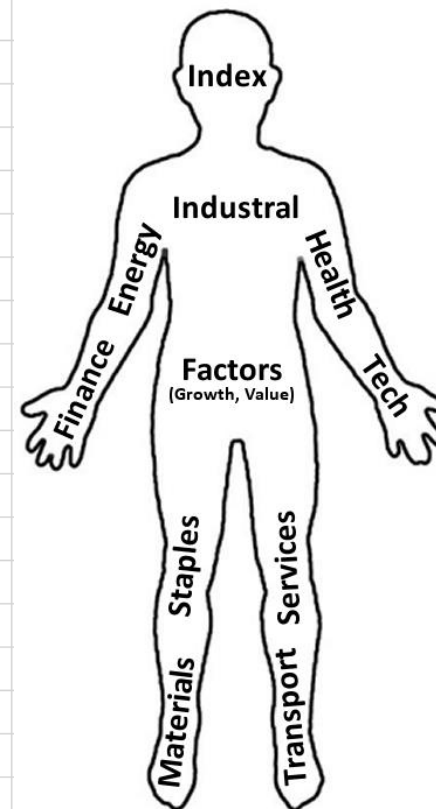
Energy

Materials

Staples

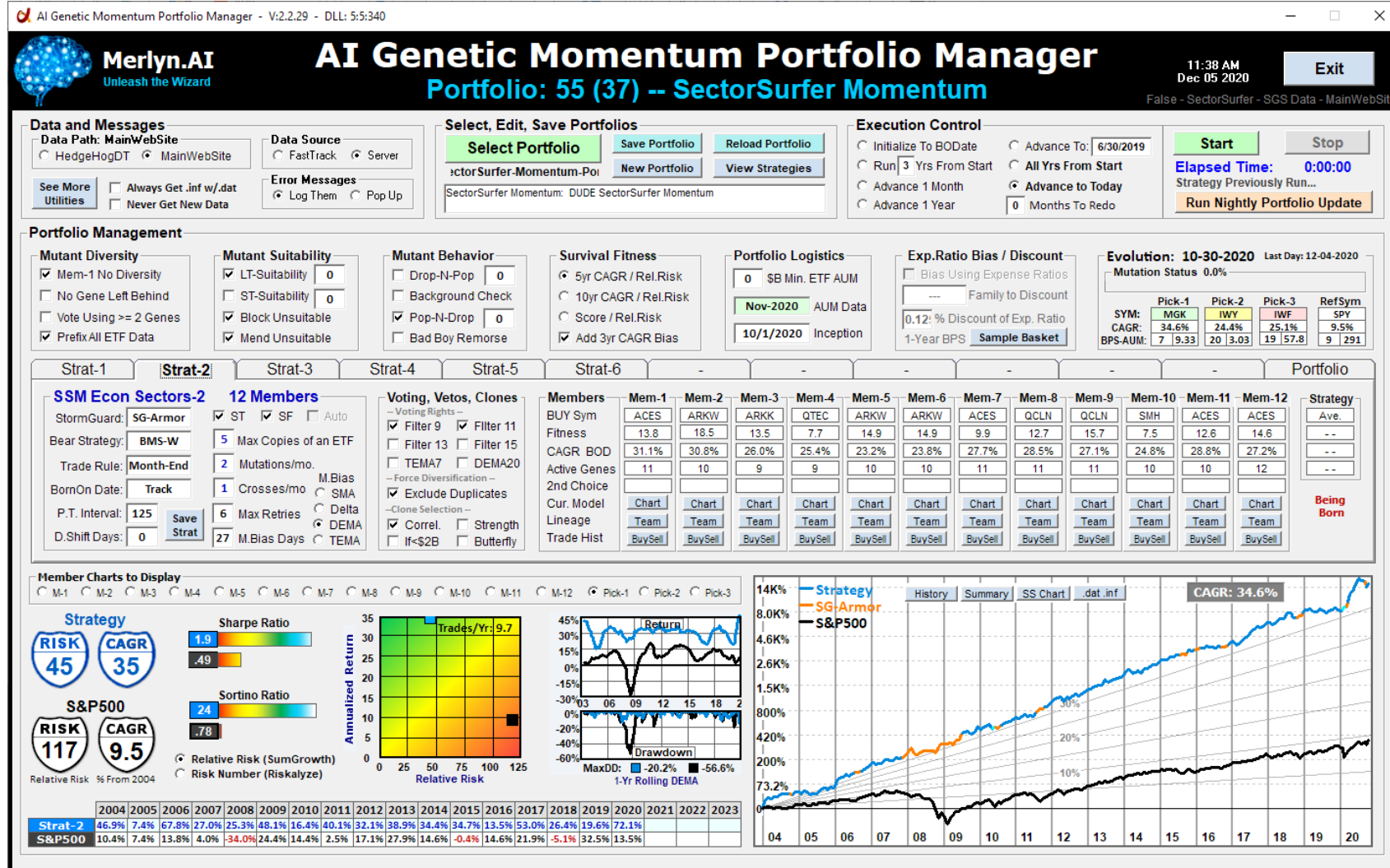
Transport

Services





# All of our Published Indexes Employ Merlyn.AI Genetic Algorithms



Model Hypothetical Performance

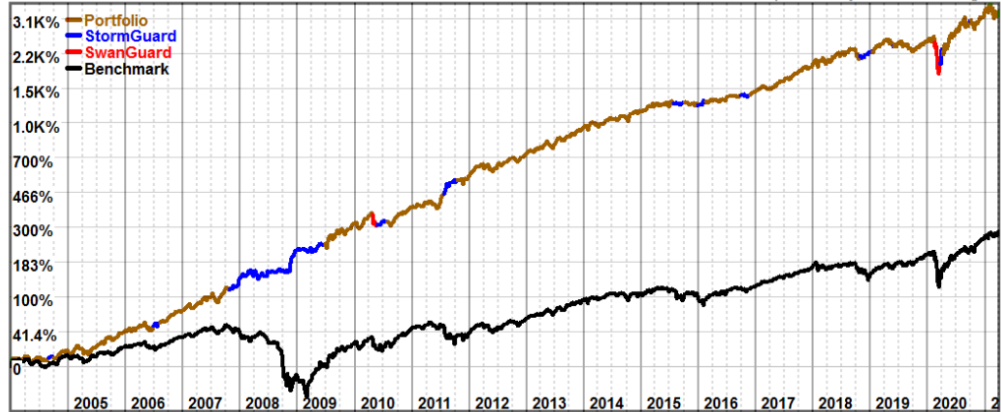
Bull-Rider Bear-Fighter Portfolio

Hypothetical Portfolio Performance

- Portfolio Inception Date: 09-01-2019 When the portfolio design was completed and available.
- Forward Walk Starting: 01-02-2004 Backtesting ends. Walk through out-of-sample data begins.
- Bear Market Strategy: BMS-I,W Invoked by StormGuard-Armor. Selects only safe harbor funds.
- Benchmark Index: B8020 Based on suitable Fidelity Asset Manager target allocation mutual funds.

	RISK	CAGR	SHARPE
Portfolio	31.9	22.7%	1.75
Benchmark	71.1	7.9%	0.36

Note: Above statistics are measured from 6/1/2004. Calculations performed by SumGrowth Strategies.



	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Bull-Rider Bear-Fighter	27.9%	19.1%	35.1%	23.7%	32.7%	17.1%	7.5%	12.3%	28.6%	16.5%	11.2%	29.9%
B8020 Benchmark for 80:20	37.7%	16.3%	-5.3%	15.3%	23.5%	5.8%	-0.6%	7.3%	21.1%	-8.7%	25.1%	18.7%

Hypothetical portfolio model performance assumes trade signals provided are executed at the close of the subsequent market day. Past performance does not guarantee future performance. Copyright 2021 SumGrowth Strategies, LLC all rights reserved.

RISK

32

Riskalyze

Merlyn.AI

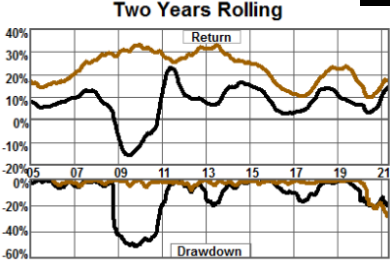
Apr 14, 2021

CAGR

23

Percent

Underlying Strategies	Weight
1. Bonds BRBF-a	10%
2. Bonds BRBF-b	10%
3. StyleMix BRBF	10%
4. Factors BRBF	10%
5. Regions BRBF	10%
6. Countries BRBF	15%
7. Sectors BRBF-a	20%
8. Sectors BRBF-b	15%



	YTD	1-Yr	3-Yr	5-Yr	10-Yr	17.3-Yr
Return	4.0%	47.2%	17.8%	19.2%	21.2%	22.7%
Drawdown	7.0%	44.8%	12.9%	13.3%	9.8%	7.9%

MAI Indexes

WIZ Index

Bull-Rider Bear-Fighter Index

<https://maiindexes.com/wiz-index>

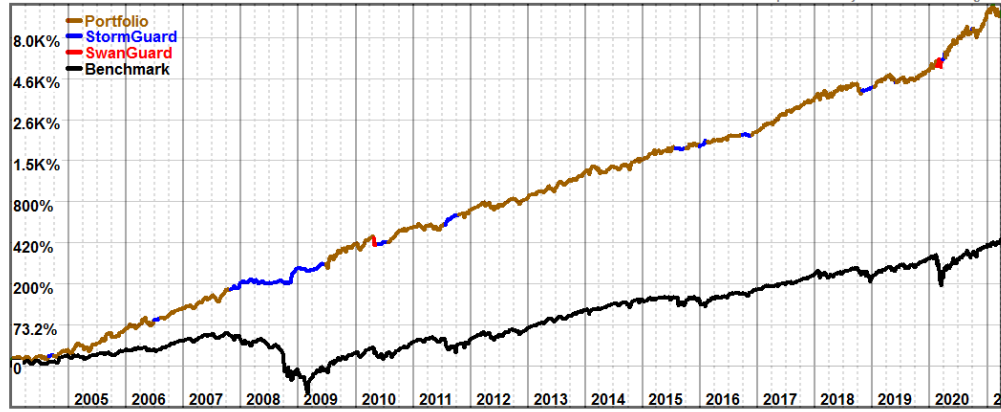
SectorSurfer Momentum Portfolio

Hypothetical Portfolio Performance

- Portfolio Inception Date: 11-01-2020 When the portfolio design was completed and available.
- Forward Walk Starting: 01-02-2004 Backtesting ends. Walk through out-of-sample data begins.
- Bear Market Strategy: BMS-W,Y Invoked by StormGuard-Armor. Selects only safe harbor funds.
- Benchmark: S&P500 Index Market-cap-weighted index of 500 largest US publicly traded companies.

	RISK	CAGR	SHARPE
Portfolio	25.8	31.7%	1.65
Benchmark	75.6	10.1%	0.50

Note: Above statistics are measured from 6/1/2004. Calculations performed by SumGrowth Strategies.



	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
SectorSurfer Momentum	36.2%	25.1%	25.7%	16.4%	44.4%	17.7%	22.6%	17.2%	54.0%	19.3%	25.9%	101.7%
S&P500 Index	26.5%	15.1%	2.1%	16.0%	32.4%	13.7%	1.4%	12.0%	21.8%	-4.4%	31.5%	18.4%

Hypothetical portfolio model performance assumes trade signals provided are executed at the close of the subsequent market day. Past performance does not guarantee future performance. Copyright 2021 SumGrowth Strategies, LLC all rights reserved.

RISK

26

Riskalyze

Merlyn.AI

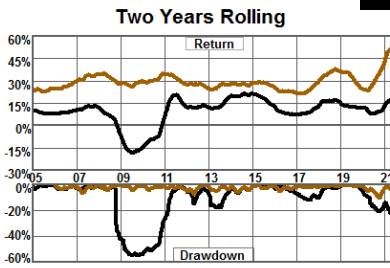
Apr 14, 2021

CAGR

32

Percent

Underlying Strategies	Weight
1. SSM Econ Sectors-1	20%
2. SSM Econ Sectors-2	20%
3. SSM Econ Sectors-3	15%
4. SSM Econ Sectors-4	15%
5. SSM GeoPolySect-1	15%
6. SSM GeoPolySect-2	15%



	YTD	1-Yr	3-Yr	5-Yr	10-Yr	17.3-Yr
Return	9.9%	75.4%	45.7%	41.2%	33.4%	31.6%
Drawdown	10.3%	47.6%	18.0%	16.9%	14.4%	10.1%

MAI Indexes

DUDE Index

SectorSurfer Momentum Index

<https://maiindexes.com/dude-index>

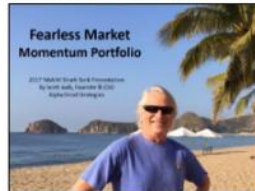
## Essential Videos and Details

Need-to-Know Basics and Deep-Dive Topics for the Curious

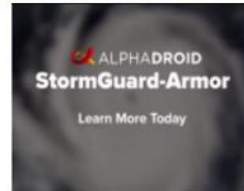
<https://www.alphadailybrief.com/Pages/EssentialVideos.aspx>

### Some Worthy Informational Videos

Technology Introduction - 7 min.



Market Crash Protection - 1 min.



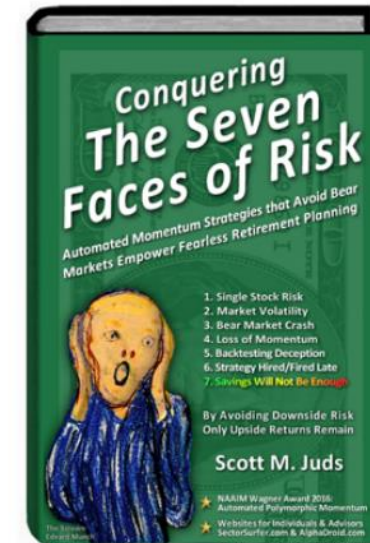
Merlyn.AI Overview - 2 min.



Technology Details - 31 min.



Merlyn.AI Details - 100 min.



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- <https://www.alphadailybrief.com/Pages/RiskAvoidance.aspx>
- <https://www.alphadailybrief.com/Pages/BearStrategies.aspx>
- <https://www.merlyn.ai/>



Sector Rotation and Risk Management  
Houston AAI Chapter Sat. Nov. 19, 2022