“AAII Strategies” By Randy Olsen Sept 2017

- Economic overview
- Review of Modern Portfolio Theory
- Typical average human “emotional” trading
- Can the S&P be beaten?
  - Mathematical (not emotional) timing of S&P
  - Cloning hedge funds
  - **AAII Strategies**
- Details of how to make this practical and affordable
- Further work use Portfolio123 for backtesting

Presenter is not a financial professional

Physicist (not a financial analyst)

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MONEY DISTORTED INFORMATION ABOUT INVESTING MAKES FIGURING OUT THE TRUTH MUCH HARDER THAN PHYSICS

OVERHAULING ECONOMIC THEORY HTTP://WWW.DEBTDEFLATION.COM/BLOGS/DEBUNKING-ECONOMICS/

- Mainstream Economic Theory
  - Static (Equilibrium)
  - Does not understand that bank loans create money (e.g. home equity loans)
  - Does not predict economic cycles (booms and busts)

- Steve Keen's Theory
  - Dynamic
  - Does understand that banks create money
  - Predicts economic cycles

Predicted the Crash before it happened, 2005

- Massive private debt is the problem, even more so than the government debt
- The trend was unsustainable
- The crash occurred when private creation of money contracted

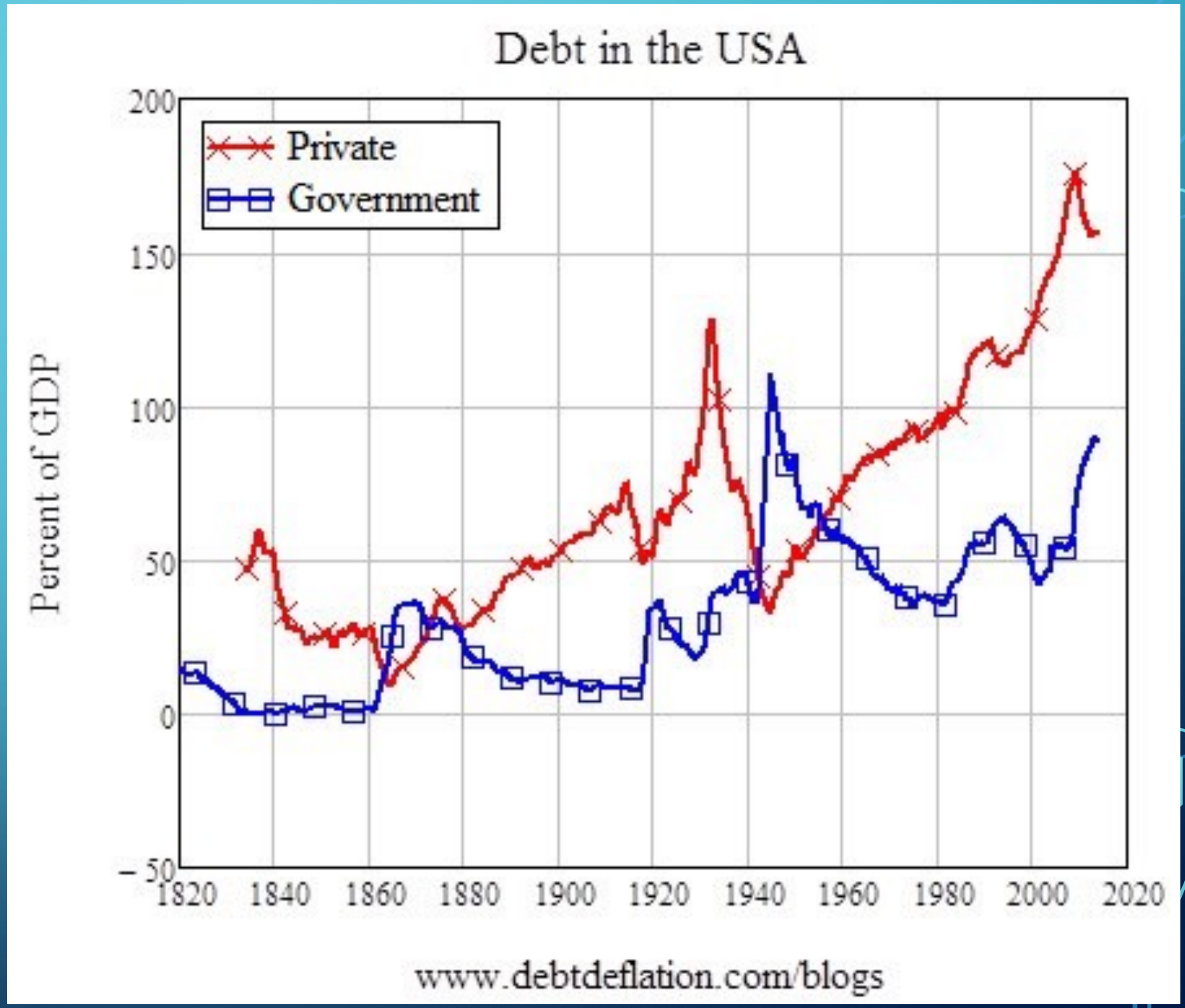
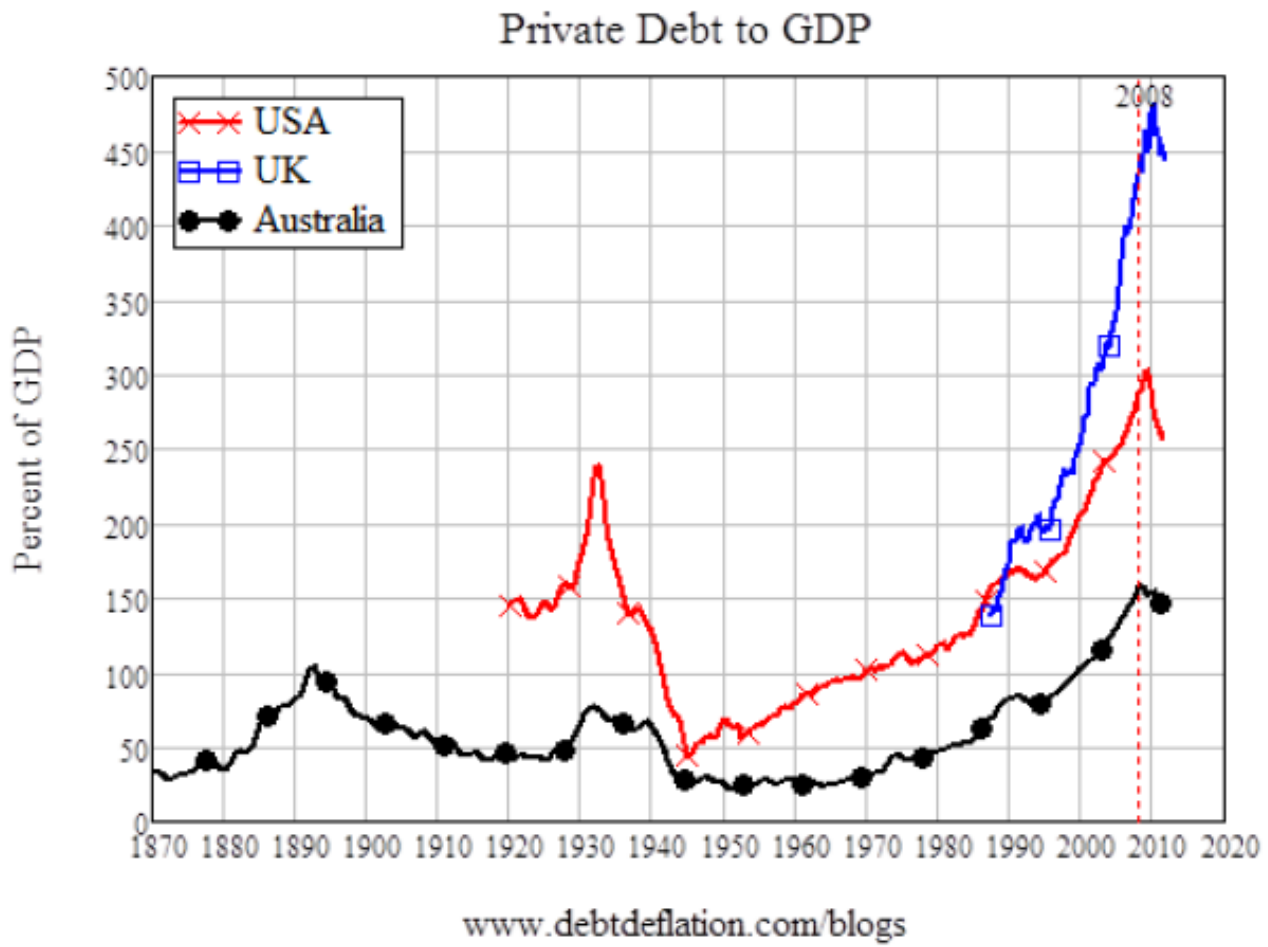
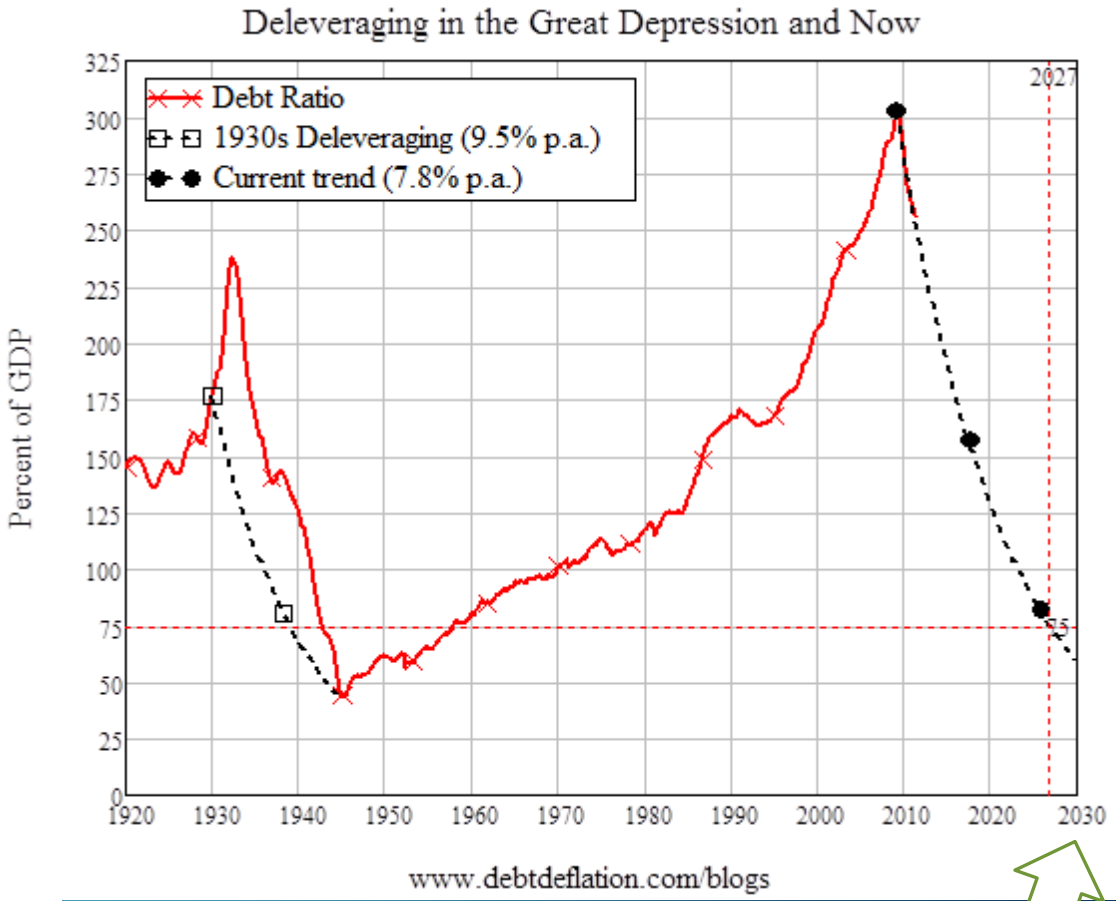
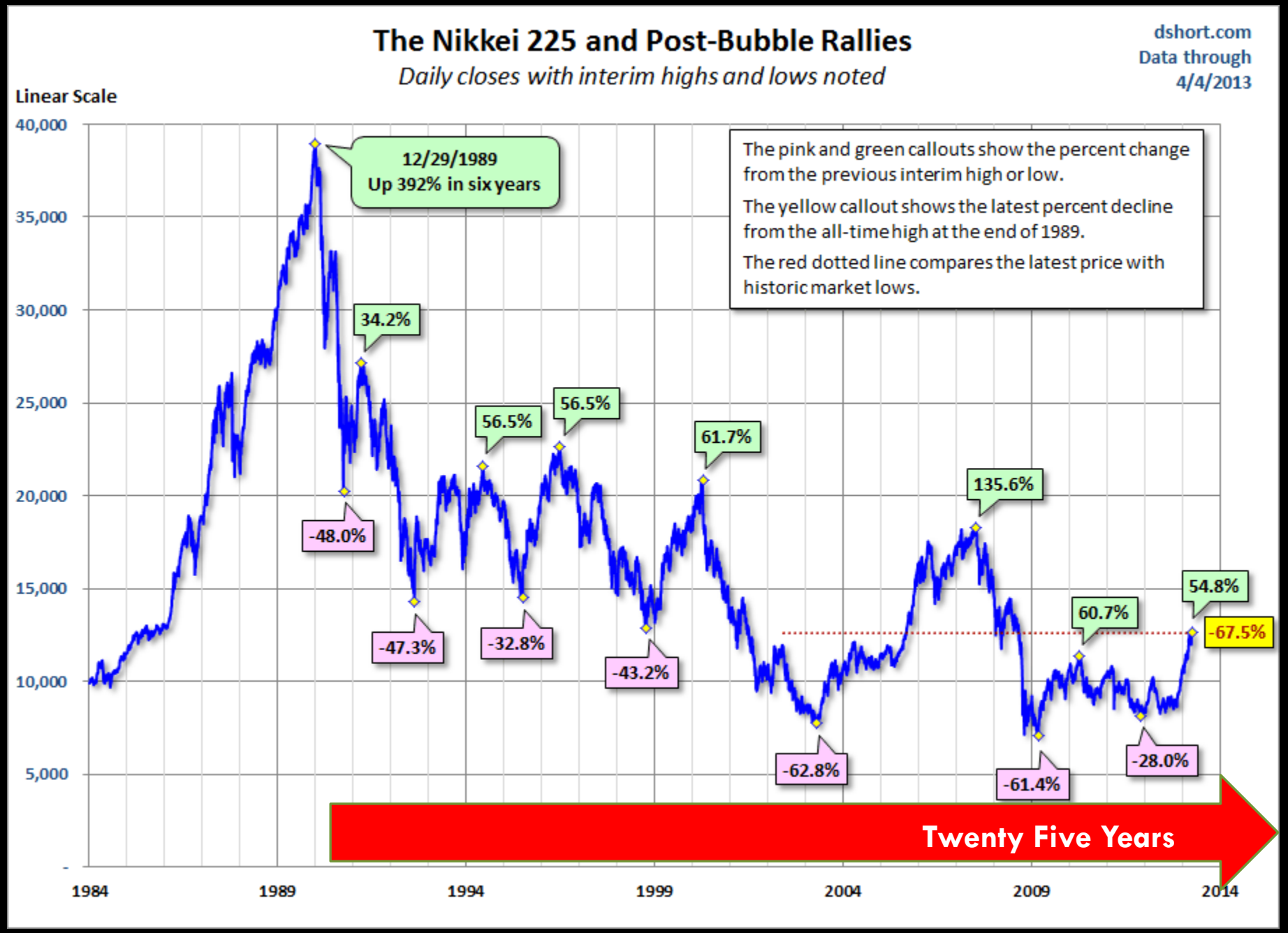


Chart2: The De-leveraging Process Has Only Just Begun

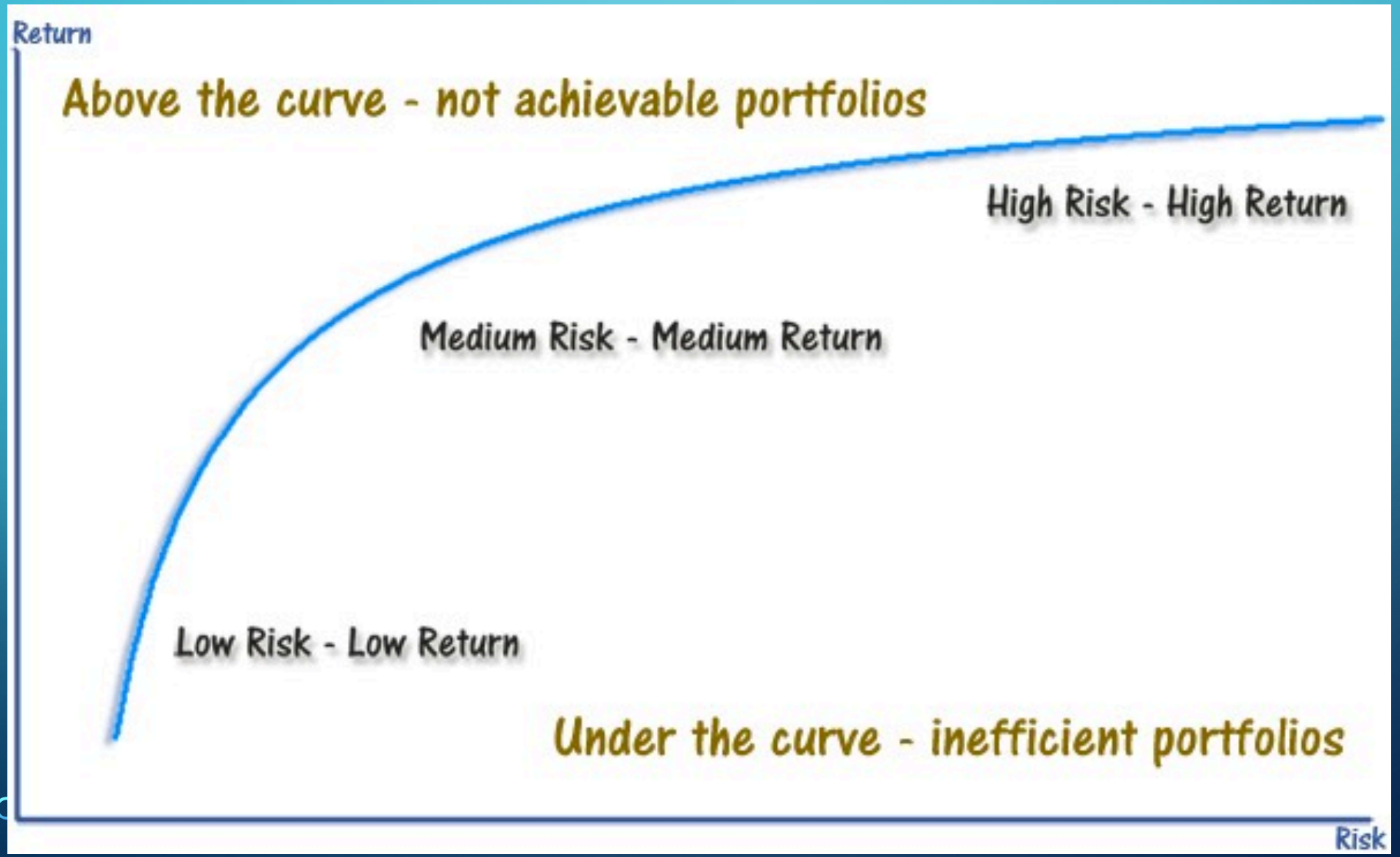


Source: Steve Keen's Debtwatch



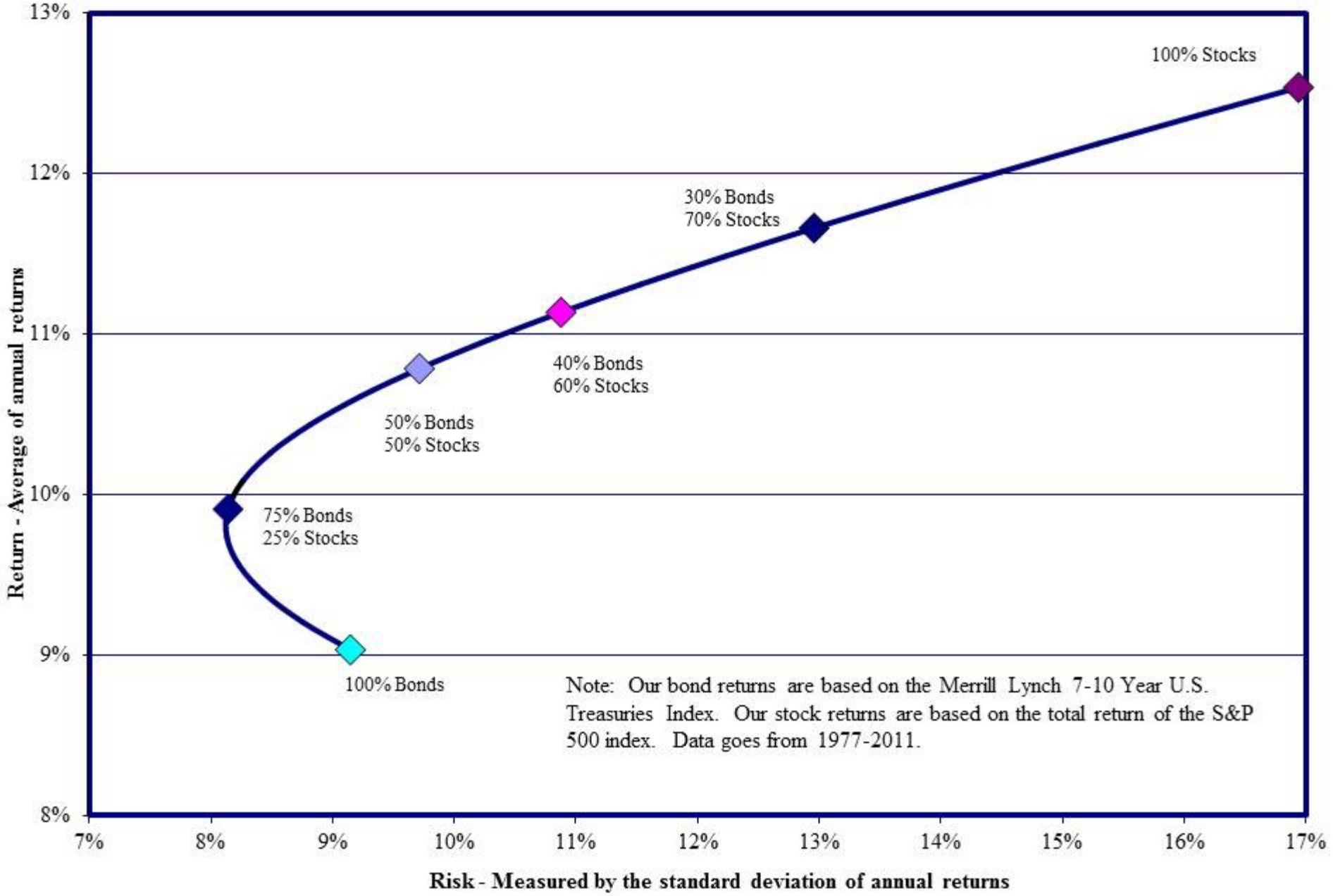

The Nikkei 225 and Post-Bubble Rallies
Daily closes with interim highs and lows noted
dshort.com
Data through
4/4/2013
Linear Scale
12/29/1989
Up 392% in six years
The pink and green callouts show the percent change from the previous interim high or low.
The yellow callout shows the latest percent decline from the all-time high at the end of 1989.
The red dotted line compares the latest price with historic market lows.
34.2%
-48.0%
-47.3%
56.5%
-32.8%
56.5%
-43.2%
61.7%
-62.8%
135.6%
-61.4%
60.7%
-28.0%
54.8%
-67.5%
Twenty Five Years
40,000
35,000
30,000
25,000
20,000
15,000
10,000
5,000
-
1984
1989
1994
1999
2004
2009
2014

MODERN PORTFOLIO THEORY (CIRCA 1973)

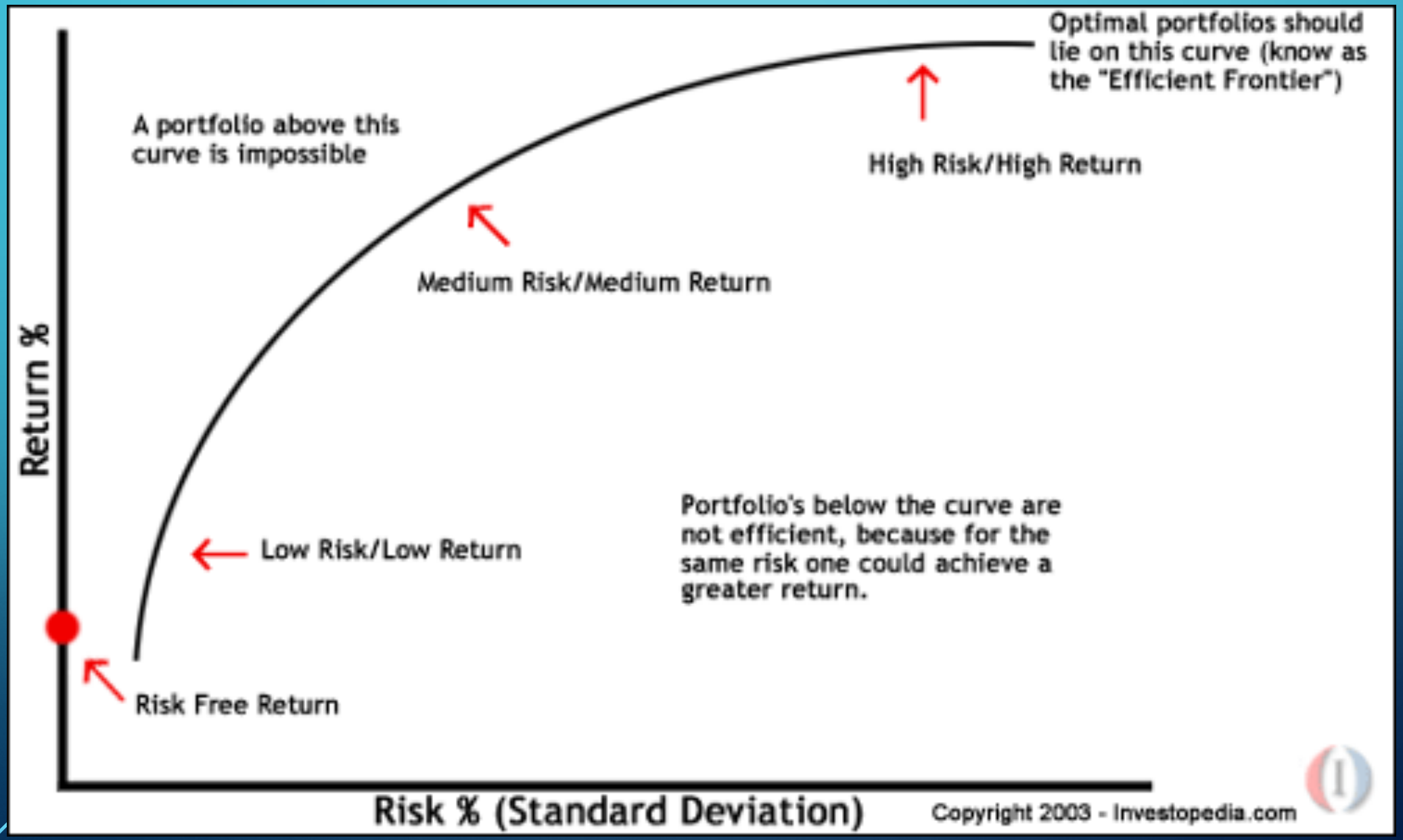


An Efficient Frontier

The Power of Diversification

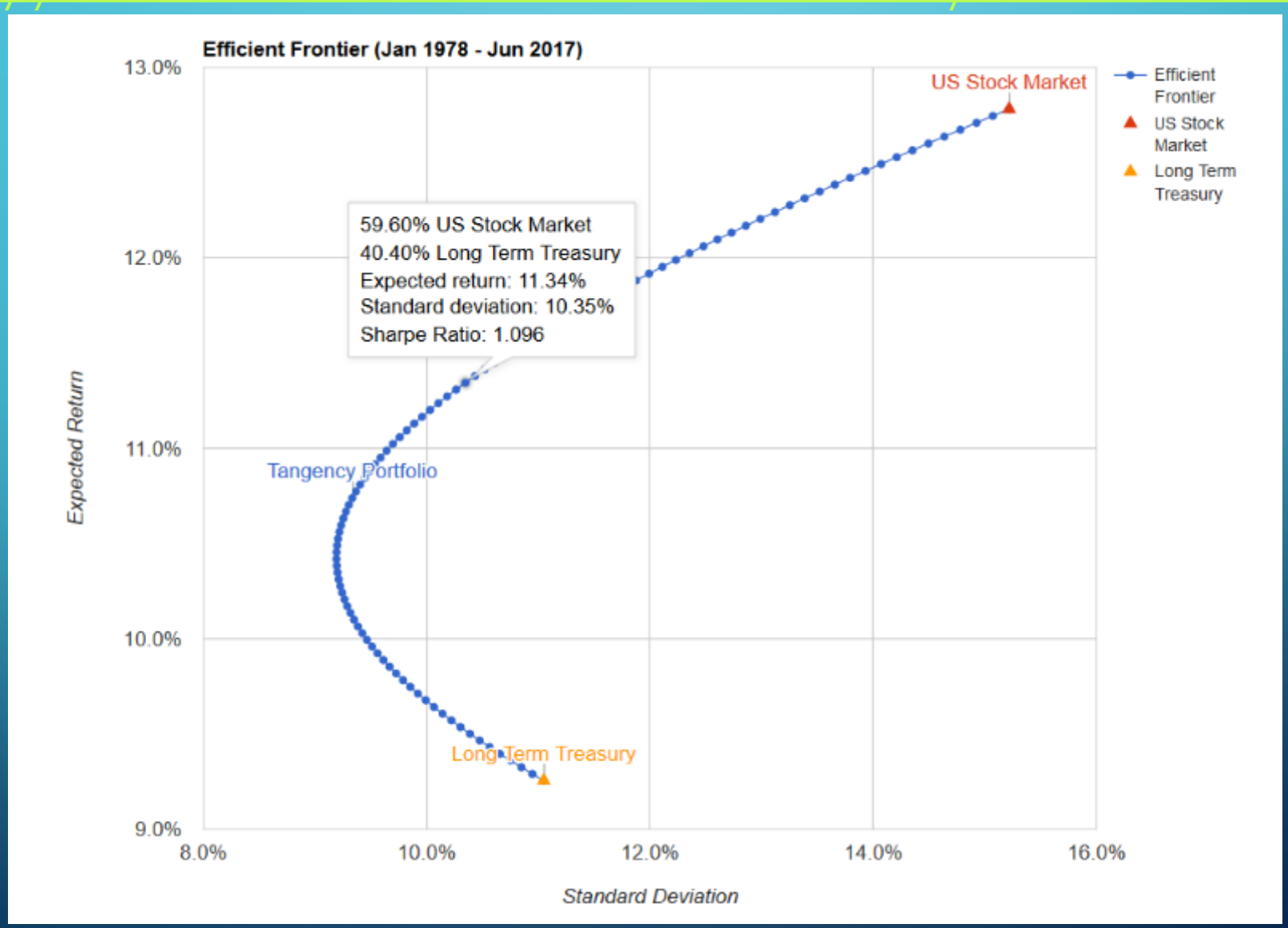


MODERN PORTFOLIO THEORY



EFFICIENT FRONTIER (JAN 1978 - JUN 2017)

HTTPS://WWW.PORTFOLIOVISUALIZER.COM/EFFICIENT-FRONTIER



EFFICIENT FRONTIER (JAN 2000 - JUN 2017)

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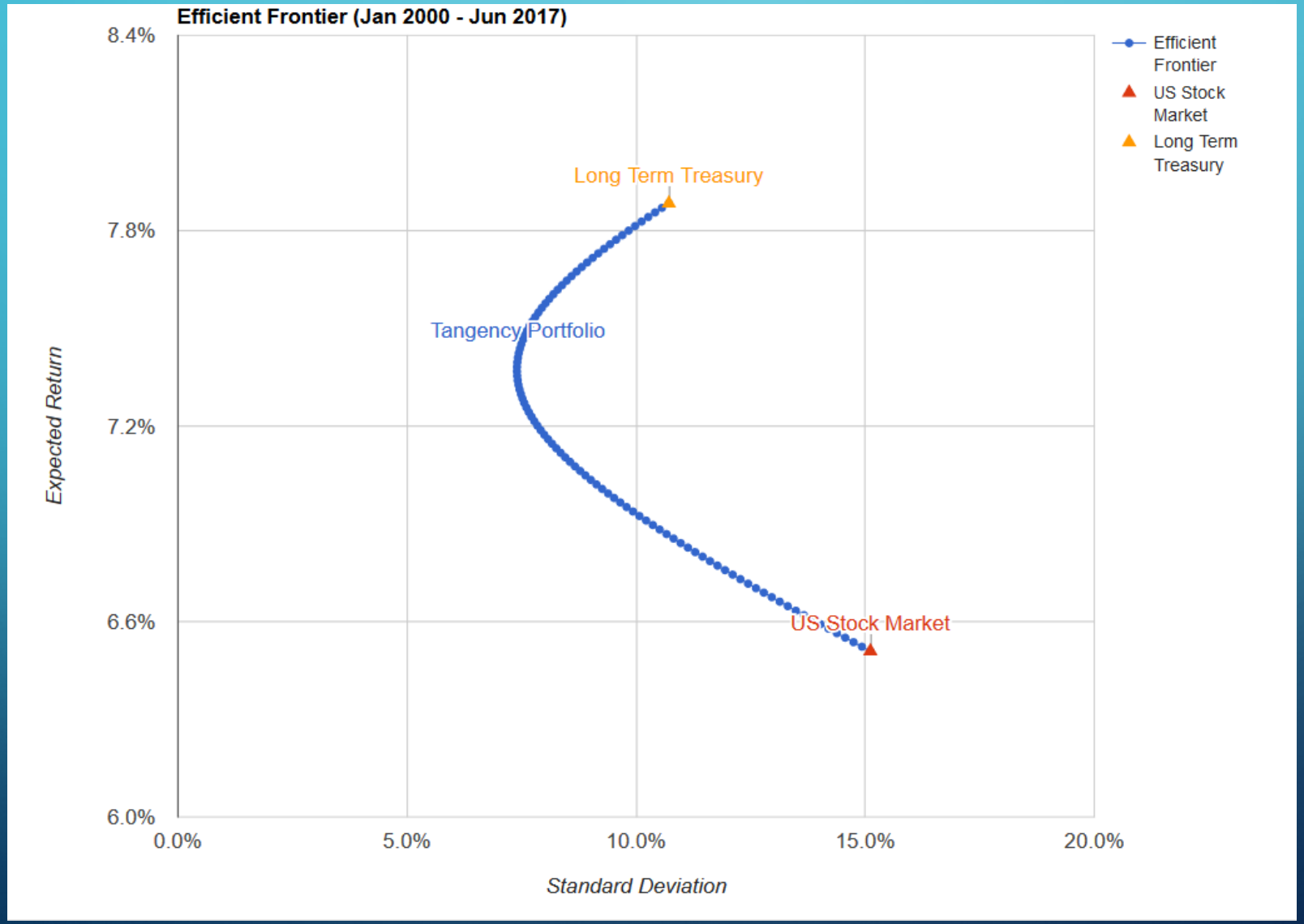
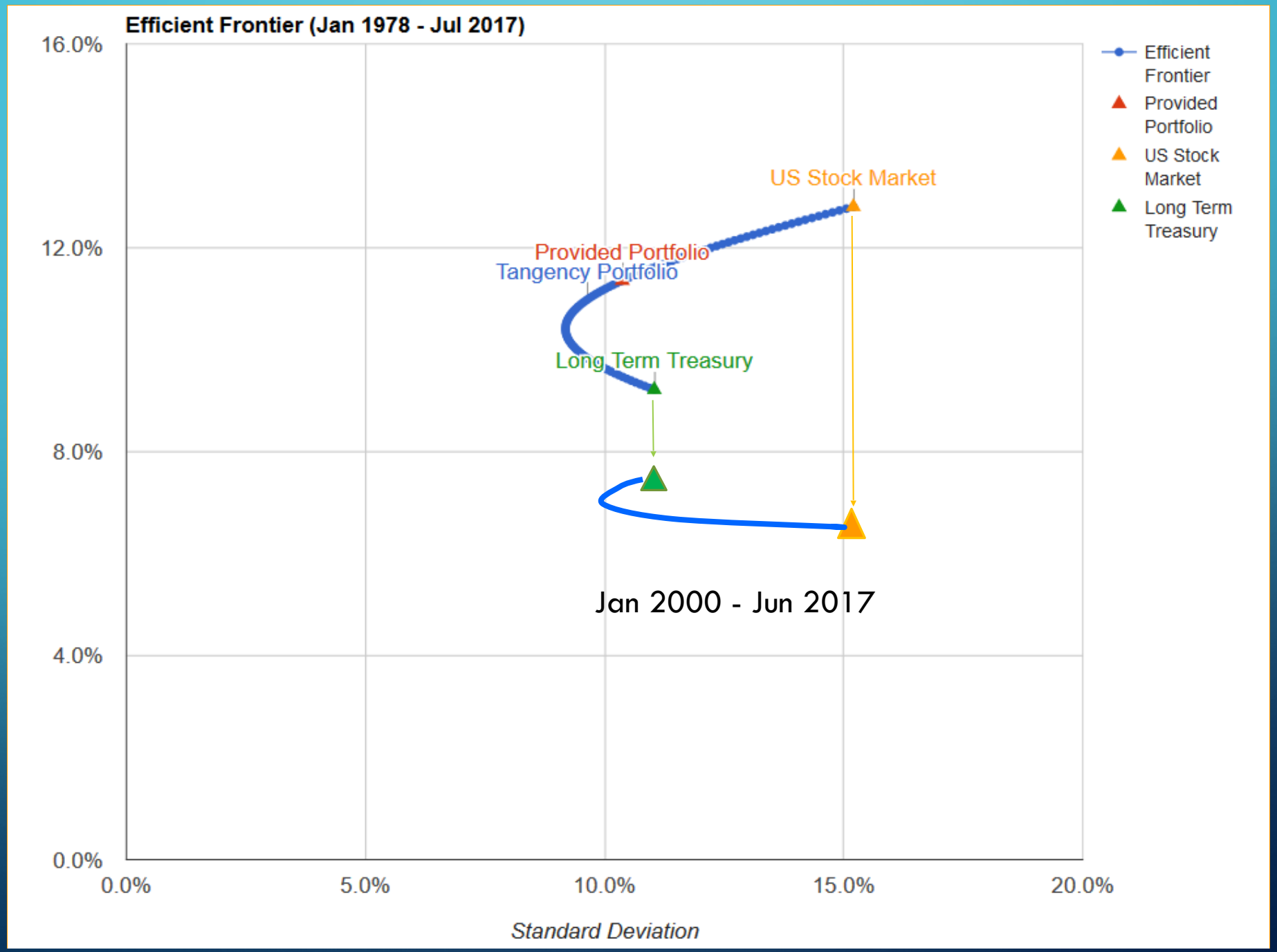
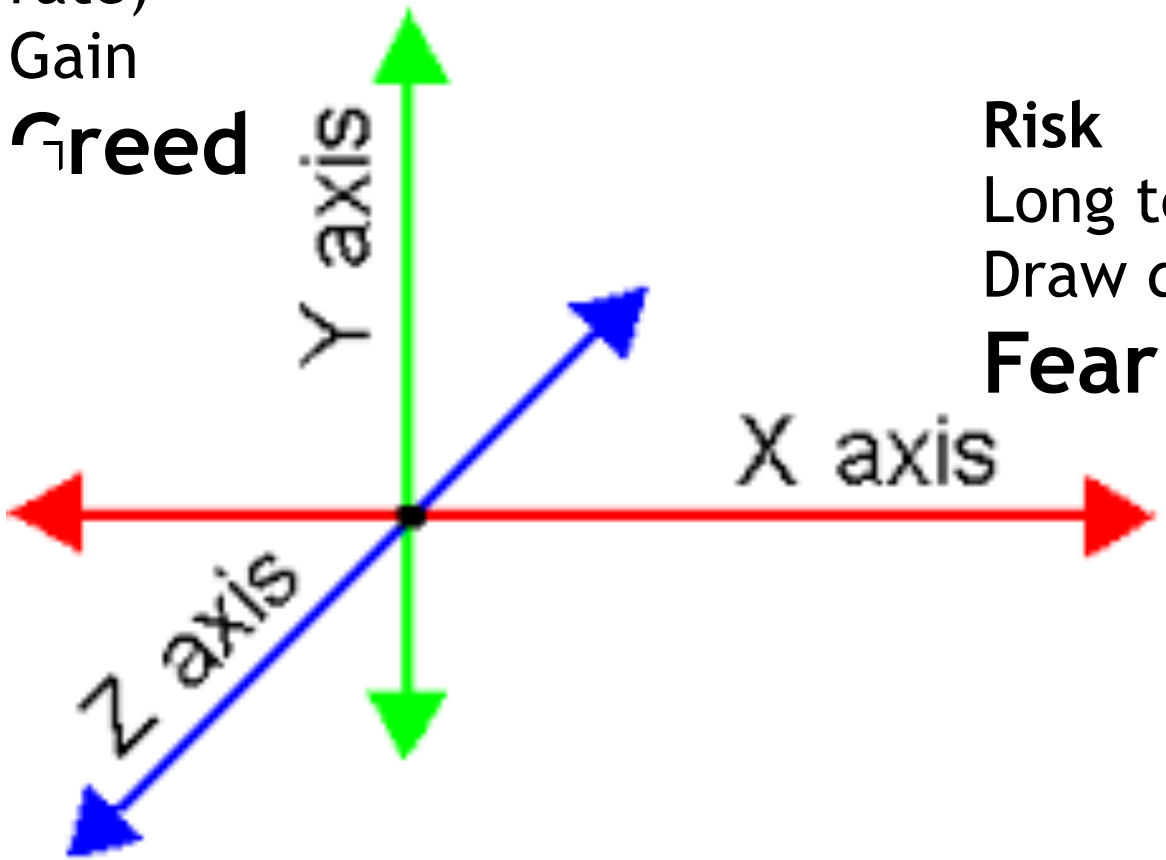



Efficient Frontier (Jan 1978 - Jul 2017)
16.0%
12.0%
8.0%
4.0%
0.0%
0.0%
5.0%
10.0%
15.0%
20.0%
Standard Deviation
Efficient Frontier
Provided Portfolio
US Stock Market
Long Term Treasury
US Stock Market
Provided Portfolio
Tangency Portfolio
Long Term Treasury
Jan 2000 - Jun 2017

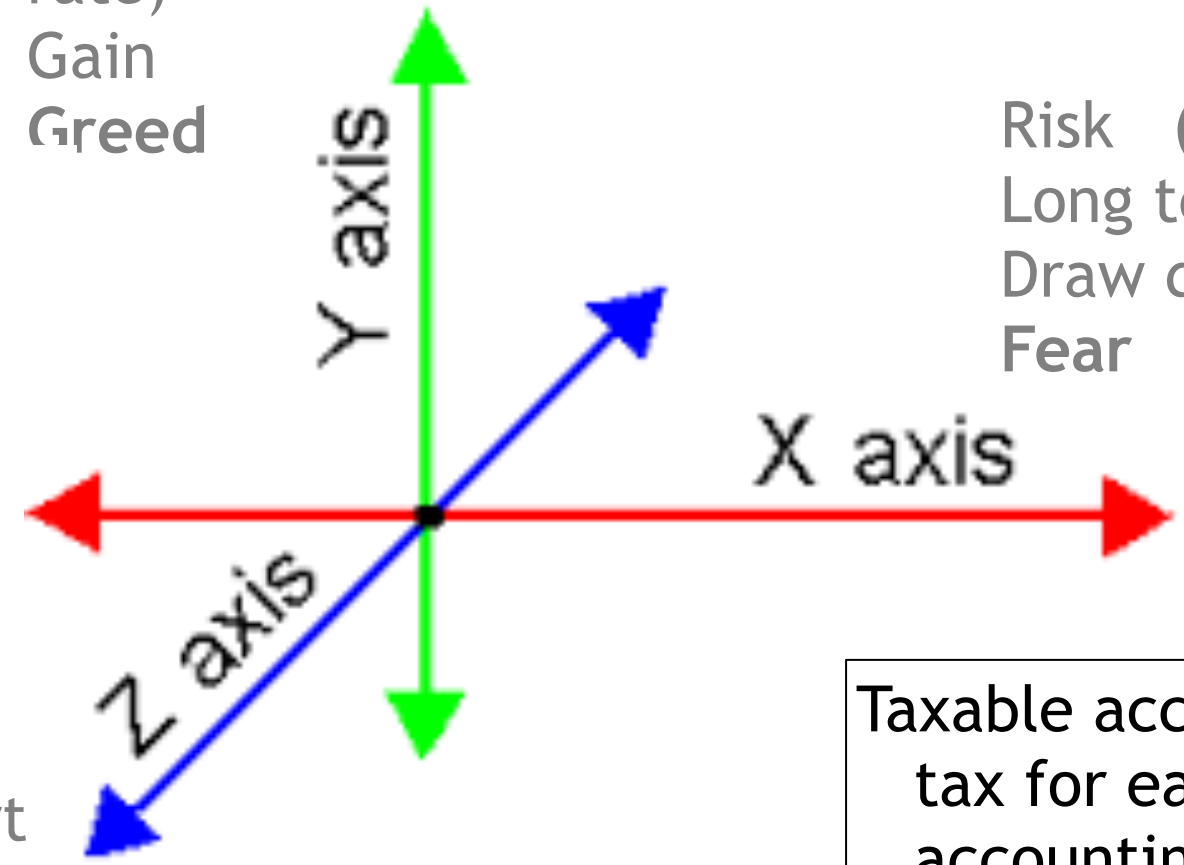
Return (CAGR= compound annual growth rate)
Gain
Greed



Risk (Beta= standard deviation of retu
Long term loss of money
Draw down or maximum draw down
Fear

Effort
Costs (advisor fees, mutual fund fees)
Personal effort (accounting, self education….)
Time spent managing portfolio and communicating with others
Hassel

Return (CAGR= compound annual growth rate)
Gain
Greed

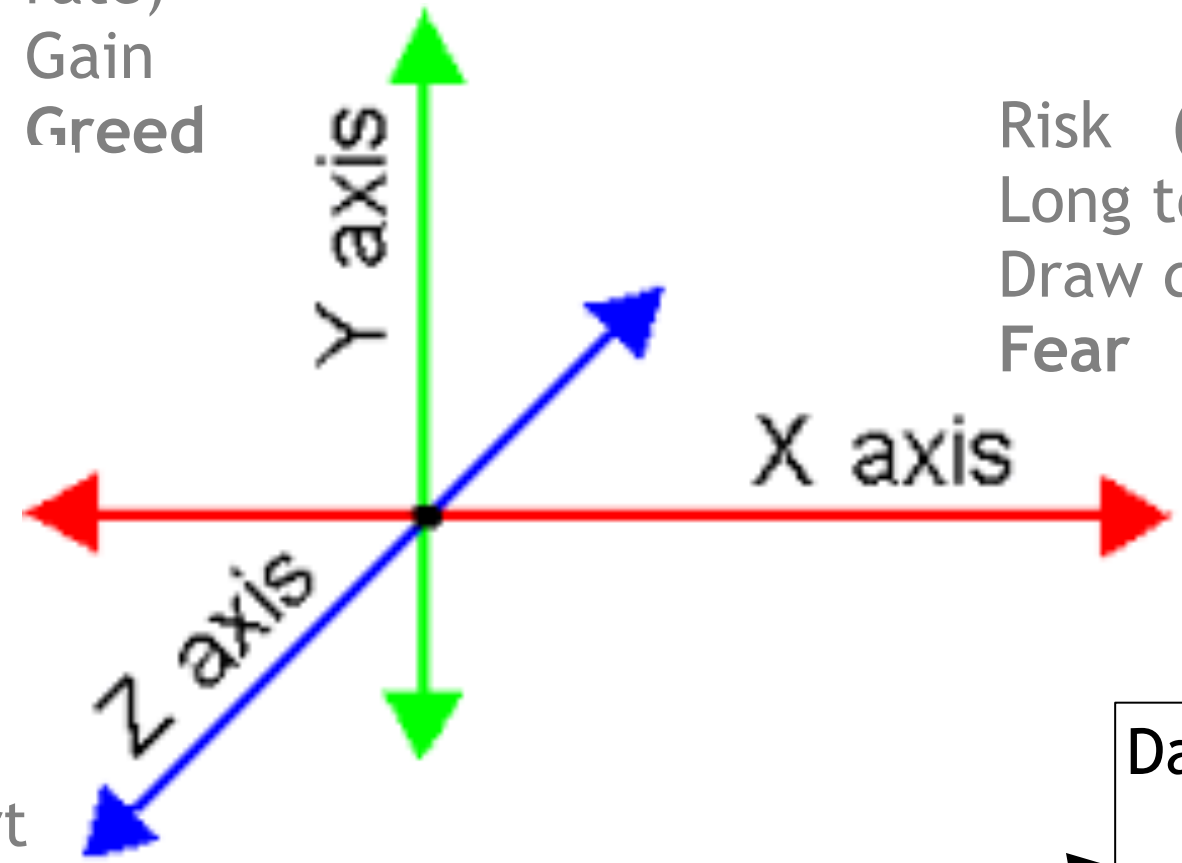


Risk (Beta= standard deviation of retu
Long term loss of money
Draw down or maximum draw down
Fear

Effort
Costs
Personal effort
Time spent managing portfolio and
others
Hassel

Taxable account
tax for each transaction
accounting for each transaction
Retirement account (tax deferred)
no tax for each transaction
no need to do accounting

Return (CAGR= compound annual growth rate)
Gain
Greed



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Effort
Costs (advisor fees, mutual fund fees)
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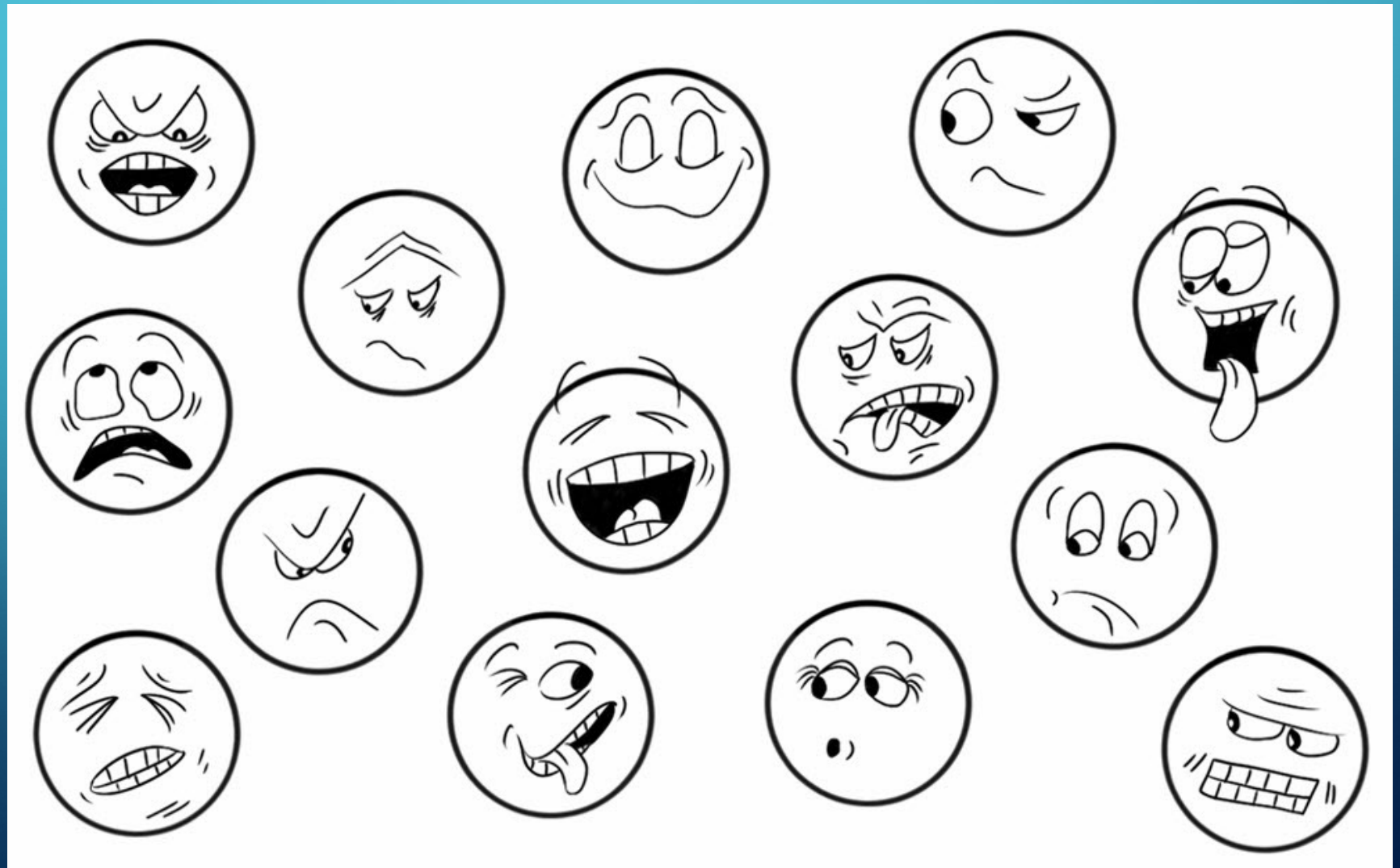
Time spent managing portfolio and communicating with others

Day trading
up to full time job, 40+ hrs/ week
End of the week trading
perhaps just minutes/week

BAD TRADING: EMOTIONAL



“Average Investor” (Emotional)

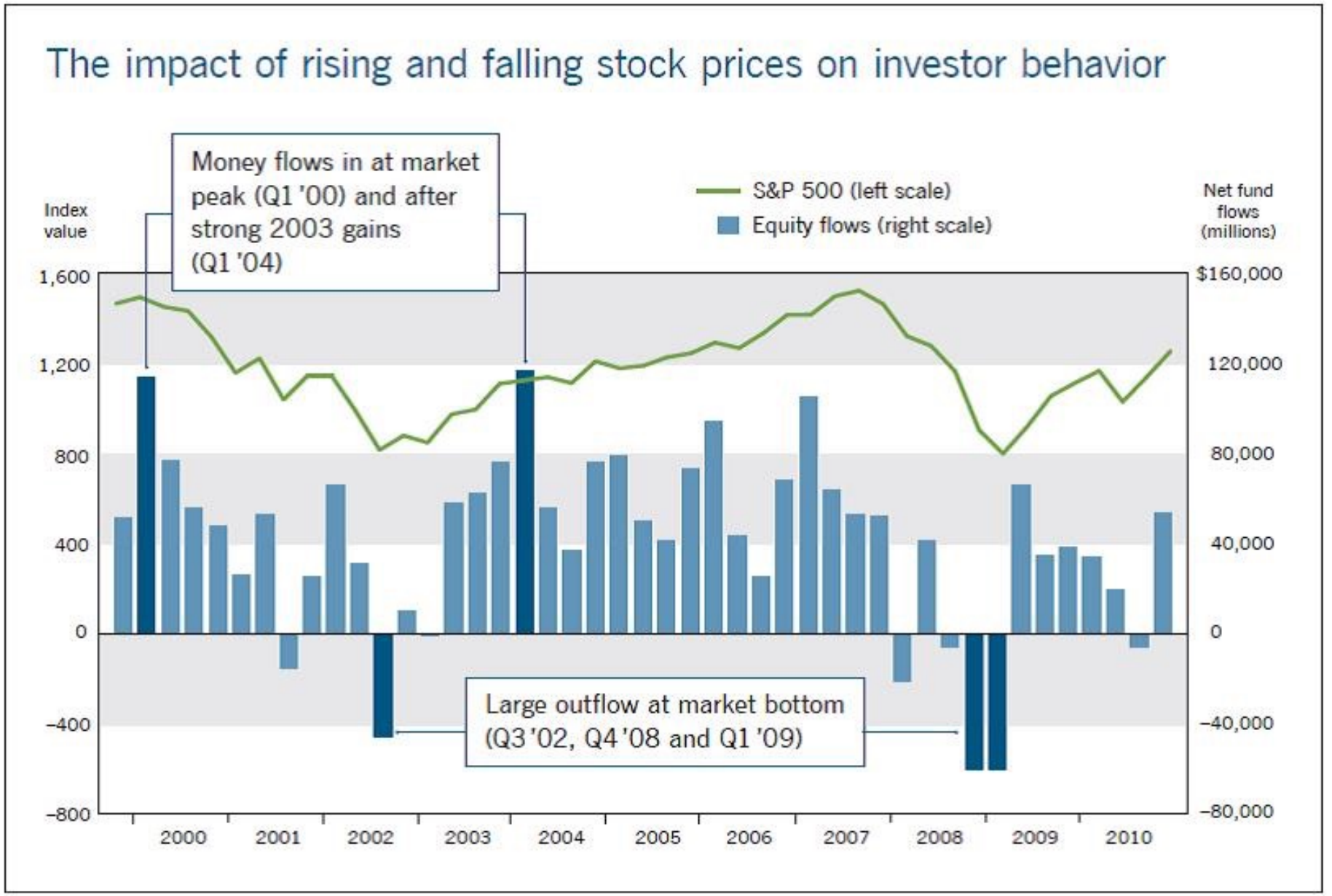
Can’t stick to buy and hold

Chases Dot com stocks at the market top then panics a couple years later after the Nasdaq crashes

Dalbar Study

Morningstar study

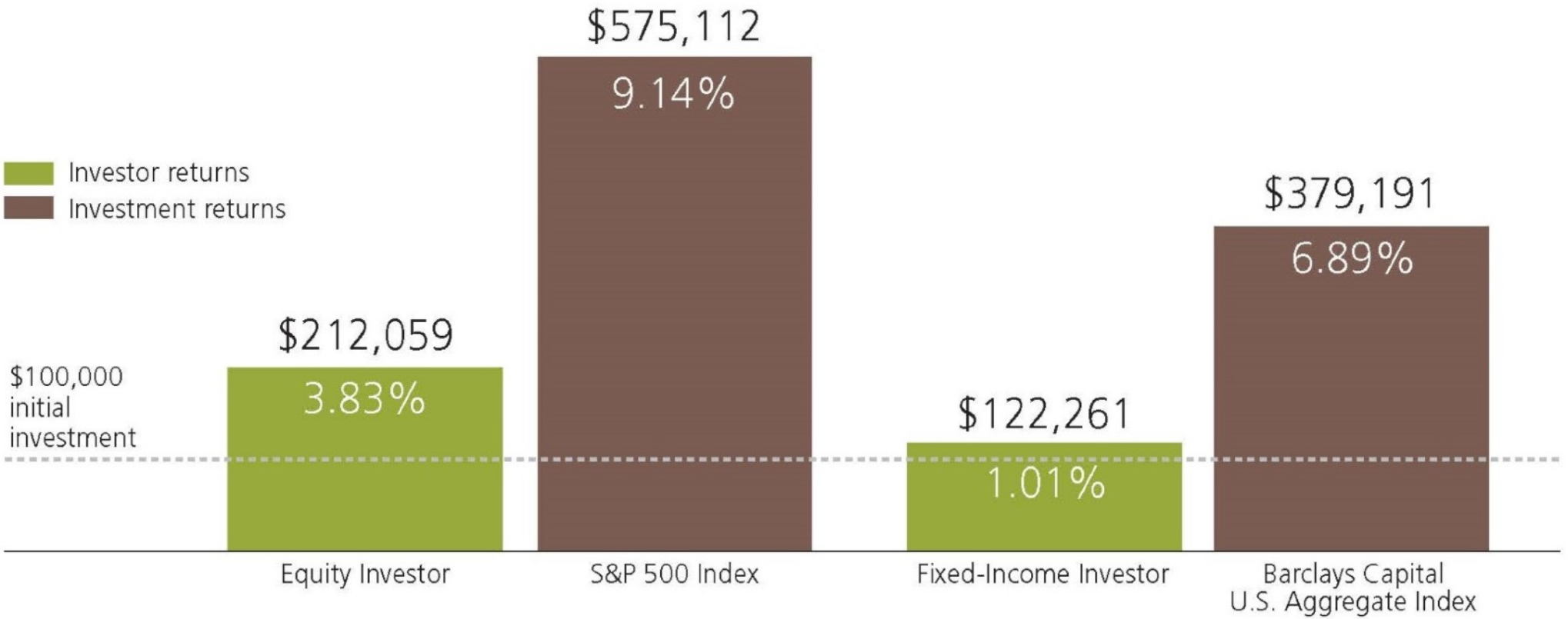
The impact of rising and falling stock prices on investor behavior



Sources: Index data — Standard & Poor's; equity flows data — Strategic Insight, based on flows into domestic/international equity funds and ETFs.

DALBAR Quantitative Analysis of Investor Behavior

Ending values and average annual total returns of hypothetical $100,000 initial investments for 20 years ended 12/31/10



Source: DALBAR (average equity and fixed-income investors data). DALBAR uses data from the Investment Company Institute, Standard & Poor's and Barclays Capital index products to compare mutual fund investor behavior with an appropriate set of benchmarks. These behaviors are then used to simulate the "average investor." Hypothetical equity and fixed-income investor investments are based on average annual total returns. The indexes are unmanaged, and their results include reinvested dividends and/or distributions but do not reflect the effect of sales charges, commissions, account fees, expenses or taxes.

Is it possible to outperform the S&P 500?

Yes

- Example 1 simple 200 DMA crossing Meb Faber
  - 1D/200D (but only last day of the month)
- Example 2 50D/200D moving average crossing
  - Example 3 Cloning hedge funds
- Example 4 **AAII Strategies**

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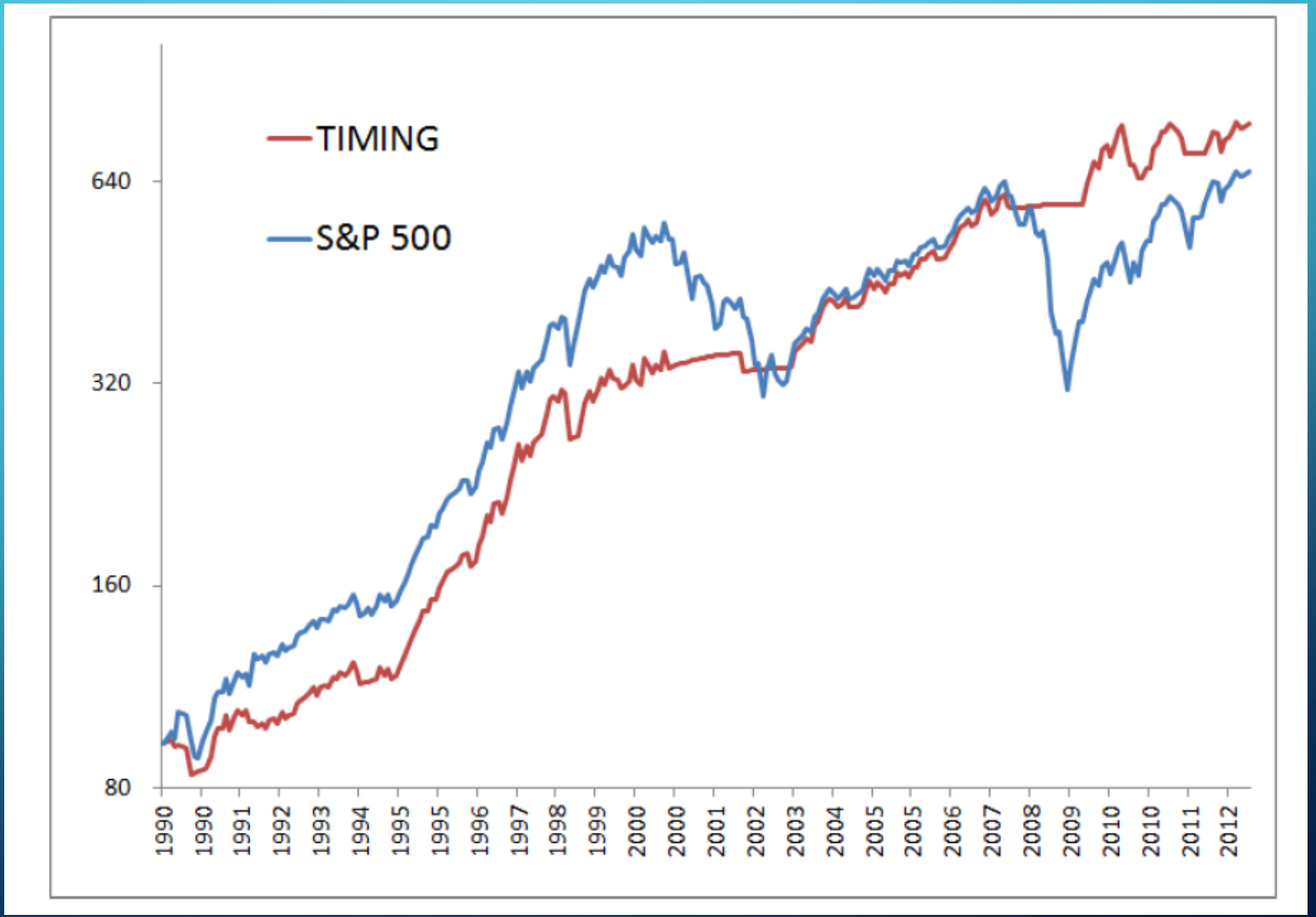
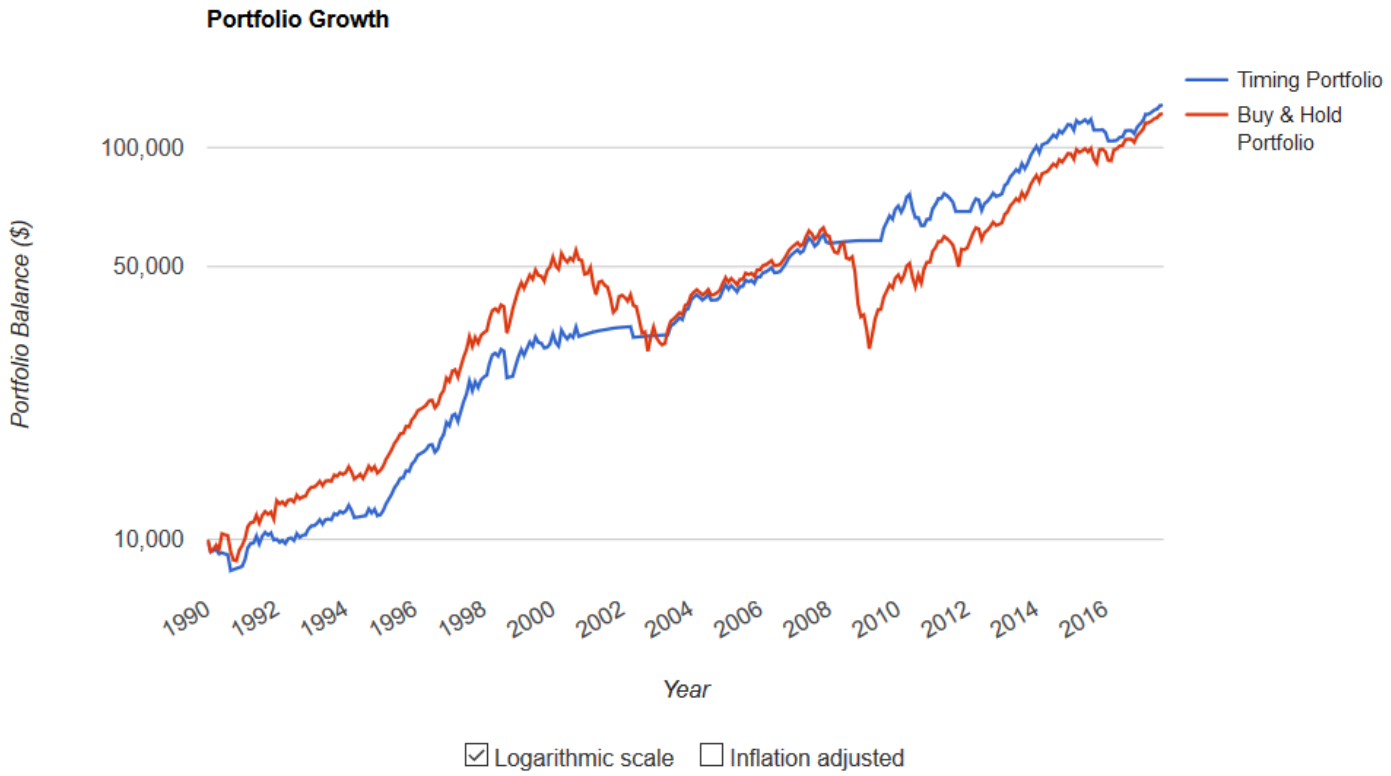
A QUANTITATIVE APPROACH TO TACTICAL ASSET ALLOCATION



HTTPS://WWW.PORTFOLIOVISUALIZER.COM/EXAMPLES#MOVINGAVERAGES
10-MONTH SIMPLE MOVING AVERAGE (SMA) FROM 1990 ONWARDS.

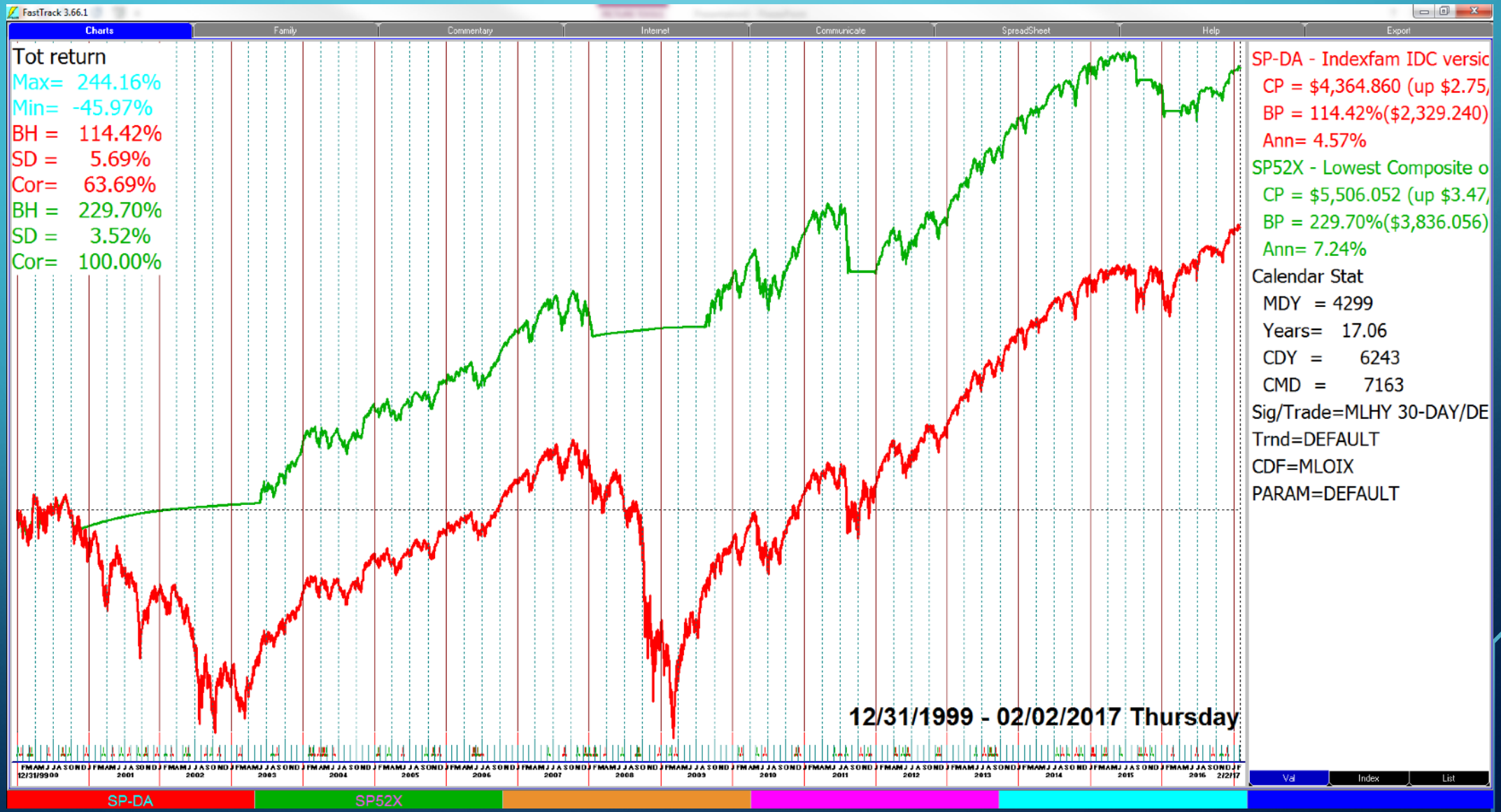
Portfolio	Initial Balance	Final Balance	CAGR	Stdev	Best Year	Worst Year	Max. Drawdown	Sharpe Ratio	Sortino Ratio
Timing Portfolio	$10,000	$128,815	9.68%	10.21%	37.45%	-14.48%	-16.77%	0.69	1.07
Buy & Hold Portfolio	$10,000	$122,409	9.48%	14.29%	37.45%	-37.02%	-50.97%	0.52	0.75

Save timing model »

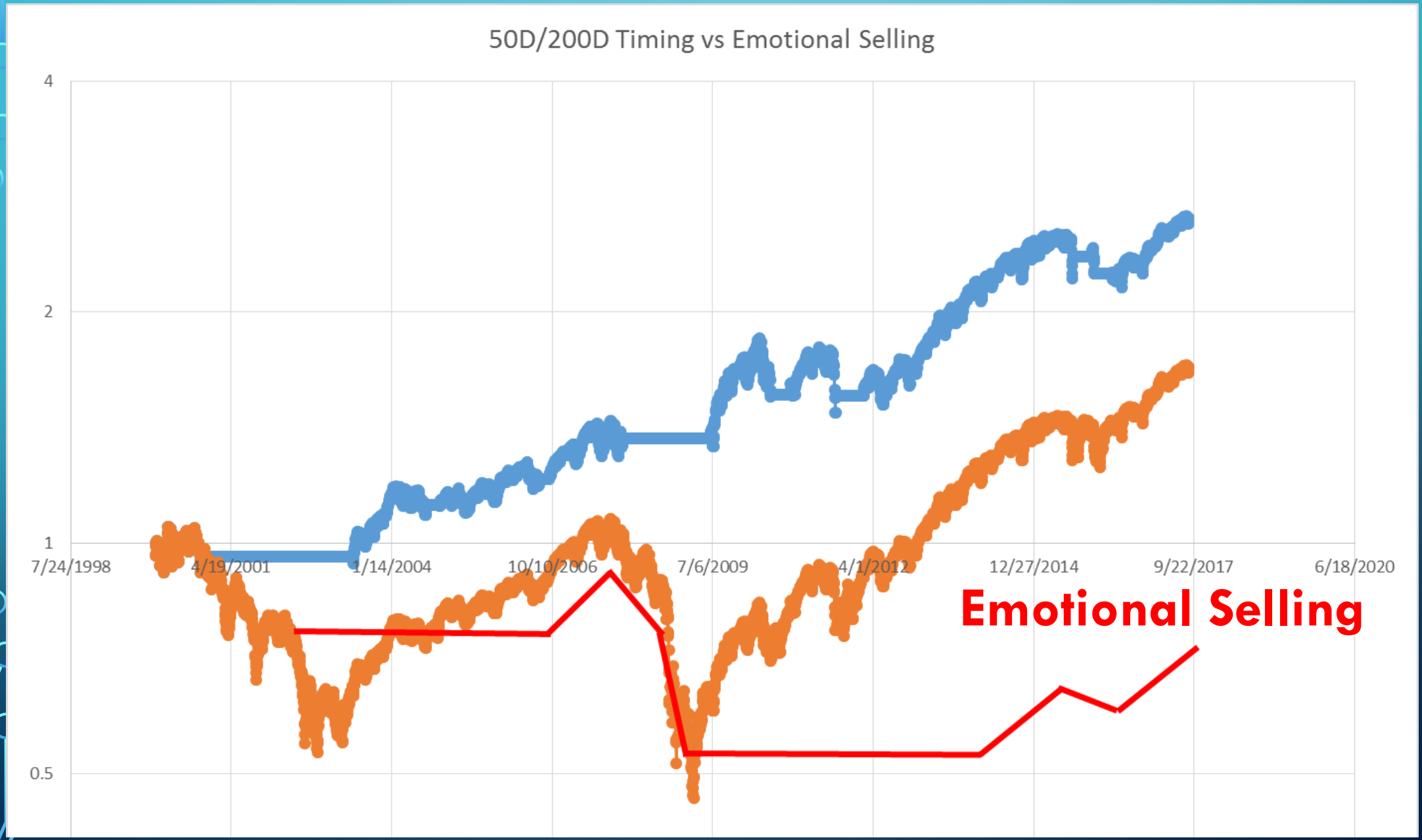


50/200 EMA CROSS

Return	Description		MDD
4.57	S&P500 DA - Buy and Hold		55.31
7.24	S&P500 DA - 50/200 MA Cross		18.09



EMOTIONAL SELLING



HTTP://WWW.PHILOSOPHICALECONOMICS.COM/2016/01/MOVINGAVERAGE/

MARKET TIMING PAPER

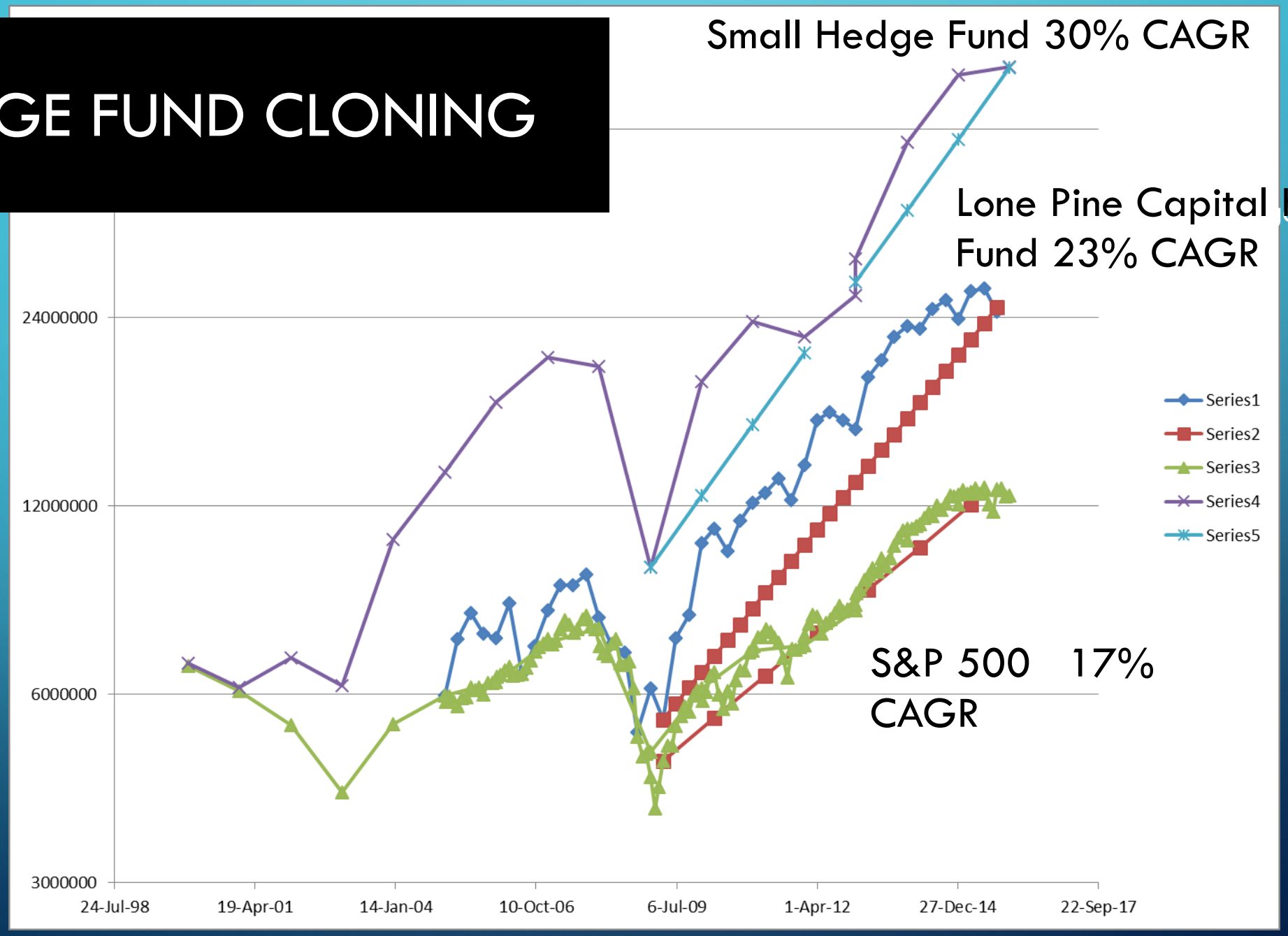
Trend Following In Financial Markets: A Comprehensive Backtest

MONTHLY MOVING AVERAGE (MMA) TIMING STRATEGY	EXCESS ANN TR		WIN % ON ANN TR	
	vs. X/Y	vs. RISK	vs. X/Y	vs. RISK
U.S. EQUITIES, 1871 - 2015	1.5%	0.5%	100.0%	66.7%
U.S. FACTOR INDICES, 1928 - 2015	0.9%	-0.4%	93.3%	23.3%
30 U.S. INDUSTRIES, 1928 - 2015	1.0%	-0.2%	83.3%	43.3%
10 U.S. SECTORS, 1928 - 2015	1.1%	-0.4%	100.0%	40.0%
FOREIGN EQUITIES USD, 1971 - 2015	2.5%	1.9%	89.6%	74.0%
FOREIGN EQUITIES LOCAL CCY, 1971 - 2015	1.5%	1.4%	77.4%	74.2%
FOREIGN EQUITIES LOCAL CCY, 1901 - 1971	1.7%	0.0%	87.5%	37.5%
GLOBAL CURRENCIES, 1973 - 2015	1.5%	1.6%	90.9%	86.4%
FIXED INCOME, 1928 - 2015	0.4%	-0.3%	63.6%	9.1%
COMMODITIES, 1947 - 2015	3.4%	3.2%	100.0%	100.0%
100 LARGEST S&P 500 STOCKS, 1963 - 2015	-1.5%	-3.4%	27.0%	12.0%
BUBBLE ROADKILL SAMPLE, 1981 - 2015	3.8%	10.3%	71.4%	90.5%
ALL INDICES TESTED	1.6%	0.9%	87.6%	59.0%
ALL SECURITIES & INDICES TESTED	0.9%	0.3%	69.6%	47.6%

The performance is excellent in all categories except the individual S&P 500 stock category,

Performance is excellent in all categories except the individual S&P stock category

HEDGE FUND CLONING



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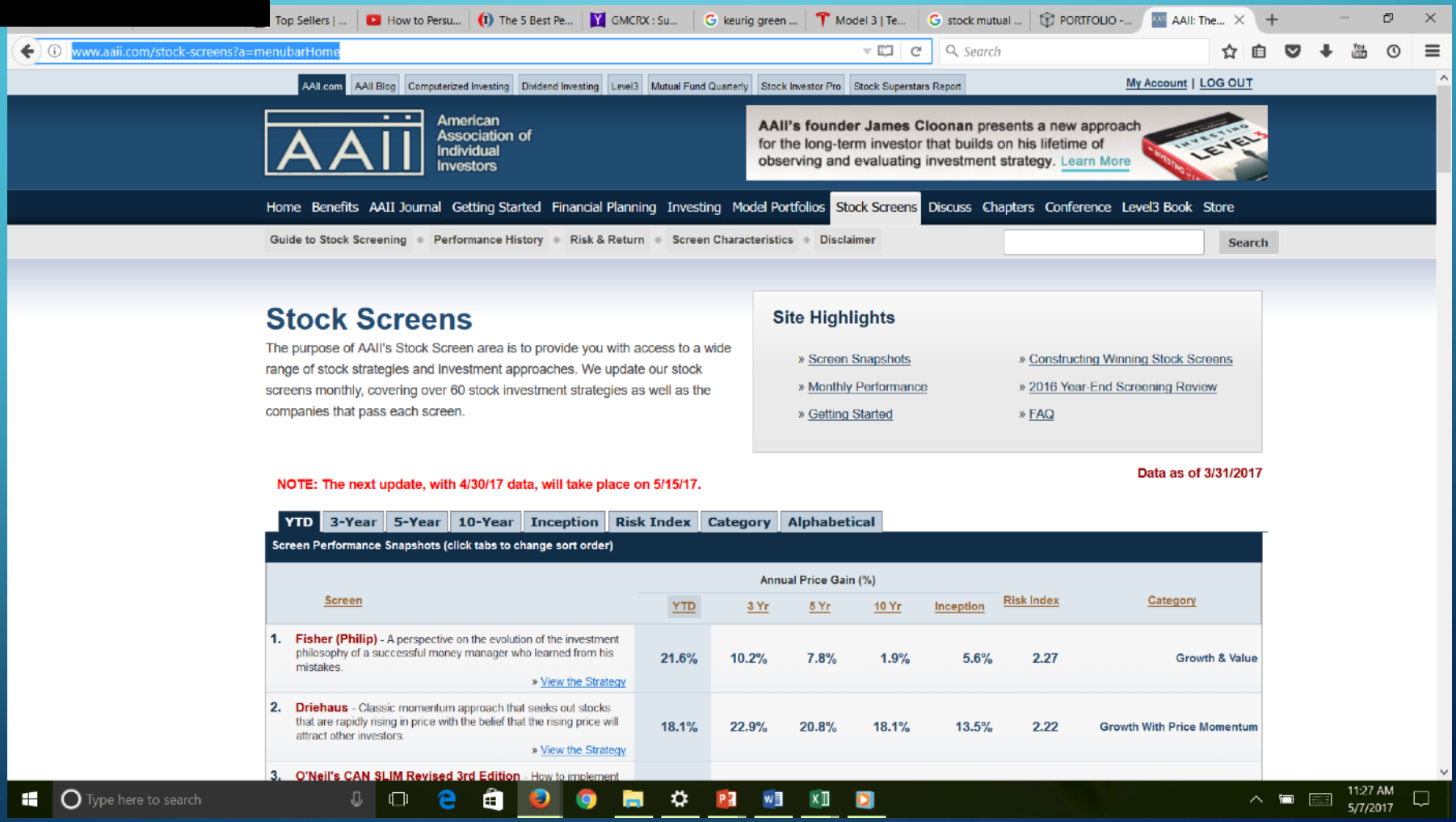
AAII Strategies



YTD | 3-Year | 5-Year | 10-Year | Inception | Risk Index | Category | Alphabetical

Screen Performance Snapshots (click tabs to change sort order)

Screen	Annual Price Gain (%) YTD	3 Yr	5 Yr	10 Yr	Inception	Risk Index	Category
1. **Est Rev: Top 30 Up** - Introduction to the use of earnings estimates. » View the Strategy	11.5%	16.7%	18.5%	21.2%	23.3%	1.82	Earnings E
2. **Est Rev: Up 5%** - Introduction to the use of earnings estimates. » View the Strategy	0.4%	10.4%	12.4%	18.3%	23.3%	1.77	Earnings E
3. **O'Shaughnessy: Tiny Titans** - O'Shaughnessy tries to predict the future using historical long-term trends. » View the Strategy	-3.2%	4.5%	17.3%	5.4%	21.8%	1.91	Value With Price Mo
4. **Piotroski: High F-Score** - A study of low price-to-book-value stocks to see if it's possible to establish basic financial criteria to help separate the winners from the losers. » View the Strategy	-8.7%	-17.0%	16.7%	13.7%	21.5%	2.08	
5. **O'Neil's CAN SLIM** - An approach that combines both fundamental and technical factors to seek out companies with strong earnings and price momentum. » View the Strategy	2.7%	10.7%	15.8%	15.4%	21.3%	1.93	Growth With Price Mo
6. **Graham--Enterprising Investor Revised** - Credited as one of the fathers of in-depth security analysis, Graham's approach focuses on the concept of intrinsic value. » View the Strategy	-4.1%	17.7%	8.5%	14.4%	19.2%	1.78	
7. **Stock Market Winners** - A screen that tries to interpret and apply successful trading rules in the real market environment. » View the Strategy	-0.2%	17.8%	19.1%	15.1%	18.9%	1.44	Growth & Value W Mo

for the long-term investor that builds on his lifetime of observing and evaluating investment strategy. Learn More

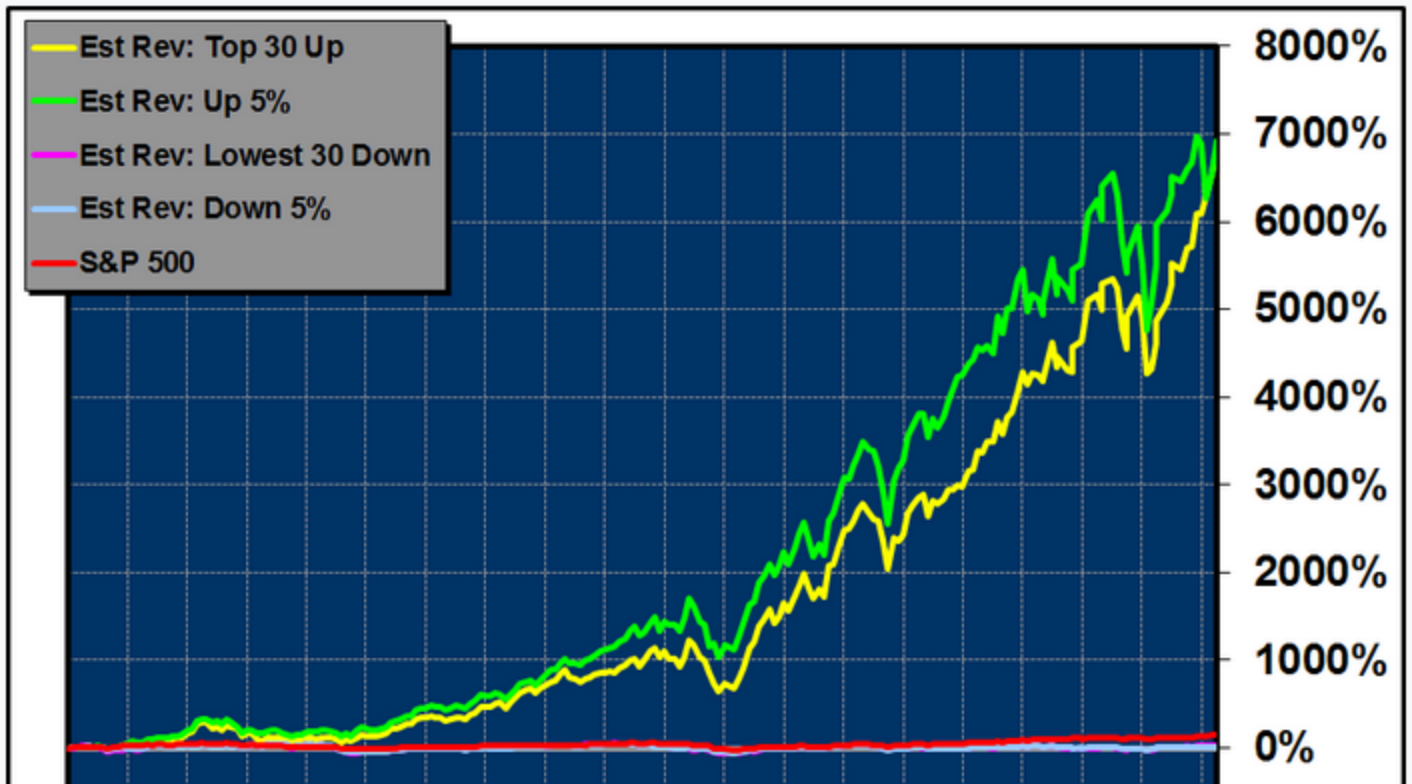
Est Rev: Top 30 Up

» Printer-friendly

How often have you heard of a stock price falling on the announcement of increased earnings? Or, in these times, an Internet stock leaping up after reporting negative earnings per share? In these instances, actual earnings did not turn out as expected. And, like the presidential primaries, expectations play a key role in determining if a stock's price "gains" or "loses" when actual earnings are reported.

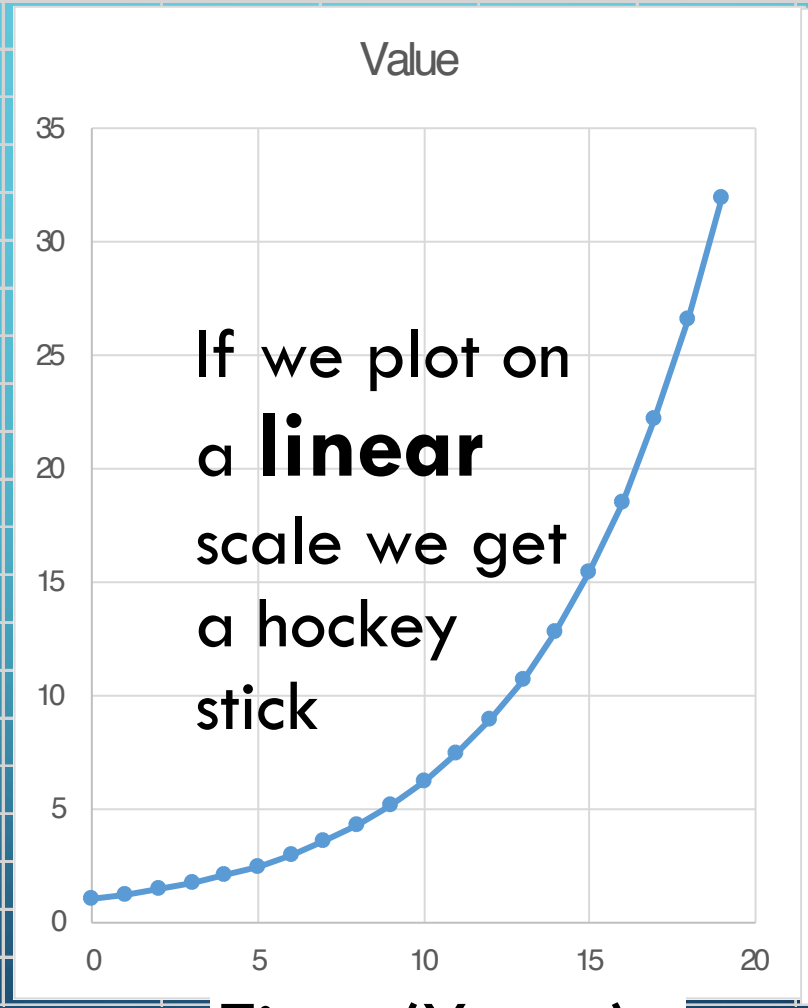
Investors quickly learn that the market is forward-looking. Security prices are established through expectations, and prices change as these expectations change or are proven incorrect. In the last 10 years, we have seen a significant increase in the services that track and analyze expected earnings per share estimates.

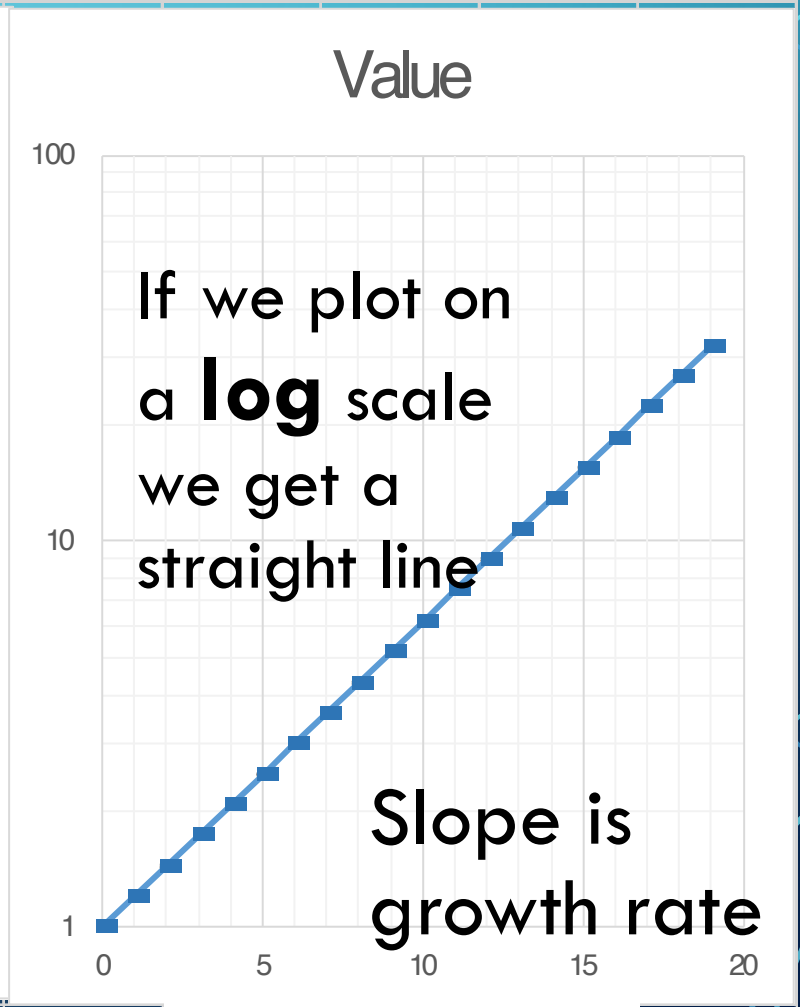
Performance | Passing Companies | Screening Criteria | Chart



WHY USE A LOG SCALE?
STOCKS TEND TO GROW EXPONENTIALLY

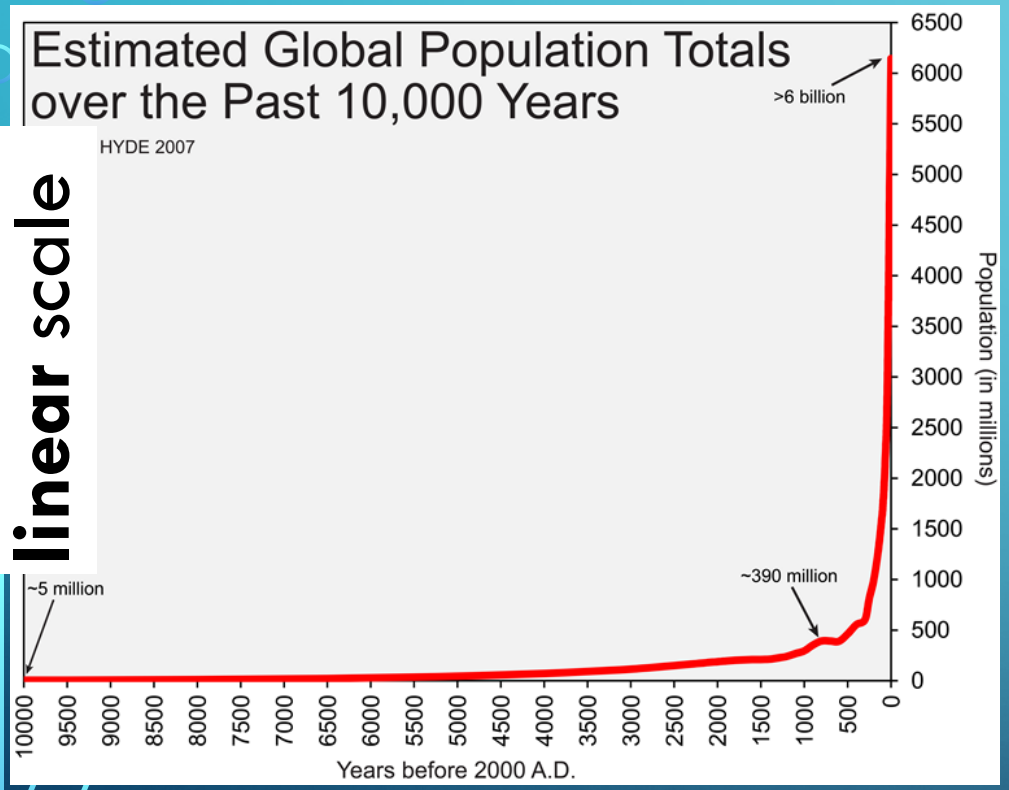
	20%	Growth rate
Year	Value	
0	1	
1	1.2	
2	1.44	
3	1.728	
4	2.0736	
5	2.48832	
6	2.985984	
7	3.583181	
8	4.299817	
9	5.15978	
10	6.191736	
11	7.430084	
12	8.9161	
13	10.69932	
14	12.83918	
15	15.40702	
16	18.48843	
17	22.18611	
18	26.62333	
19	31.948	



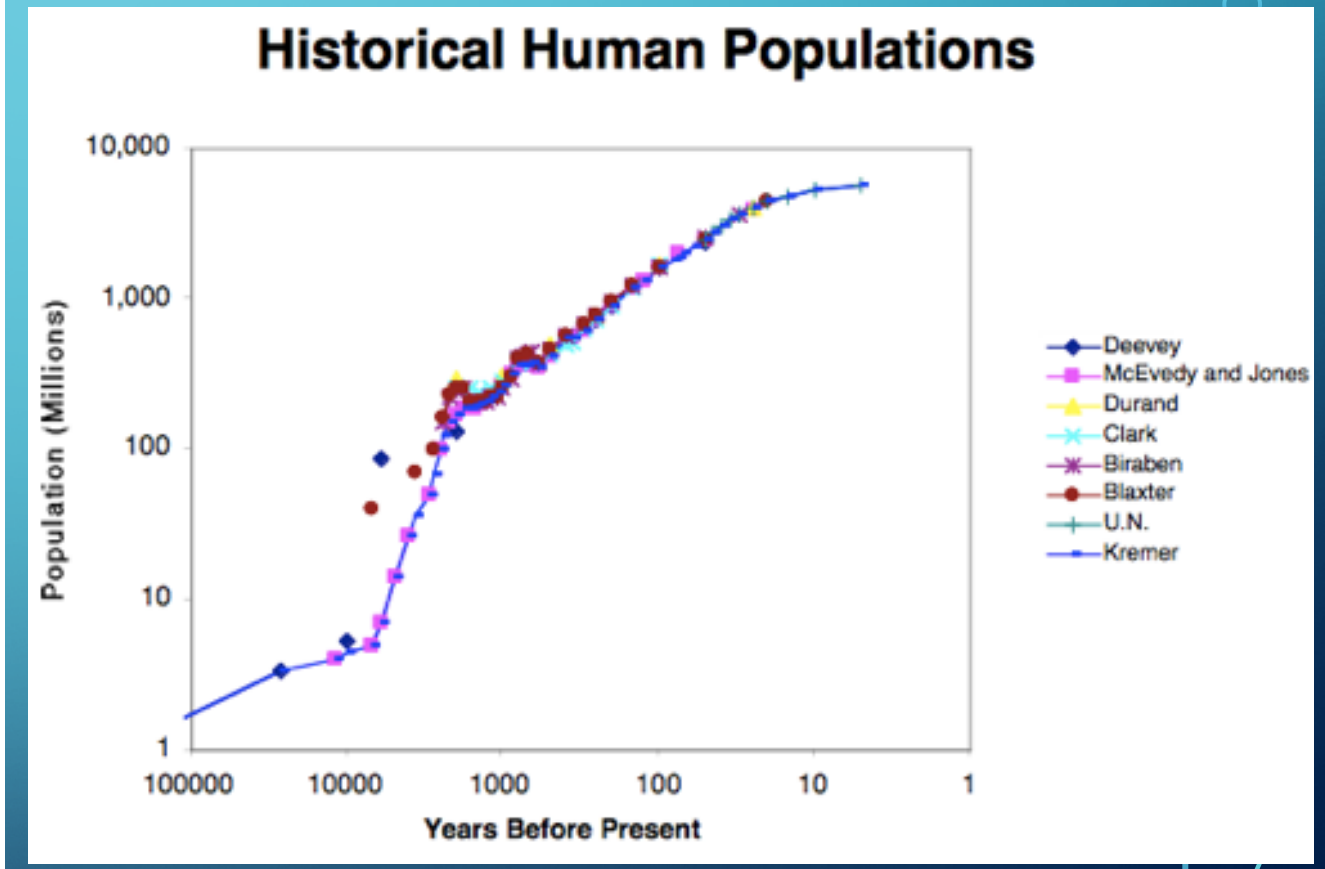


EXAMPLE HUMAN POPULATION VS TIME

linear scale

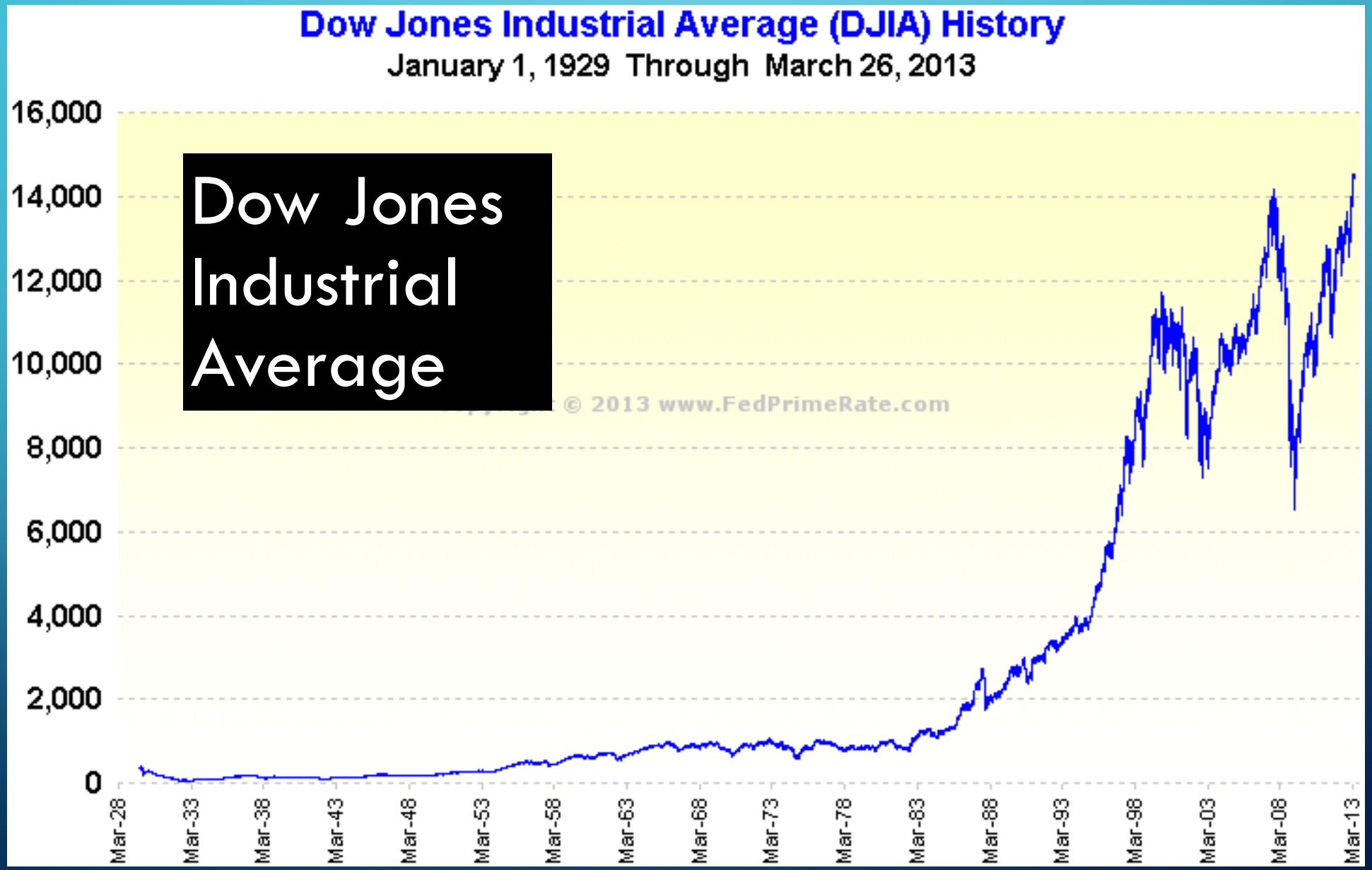


Log (logarithm) scale



LINEAR PLOT

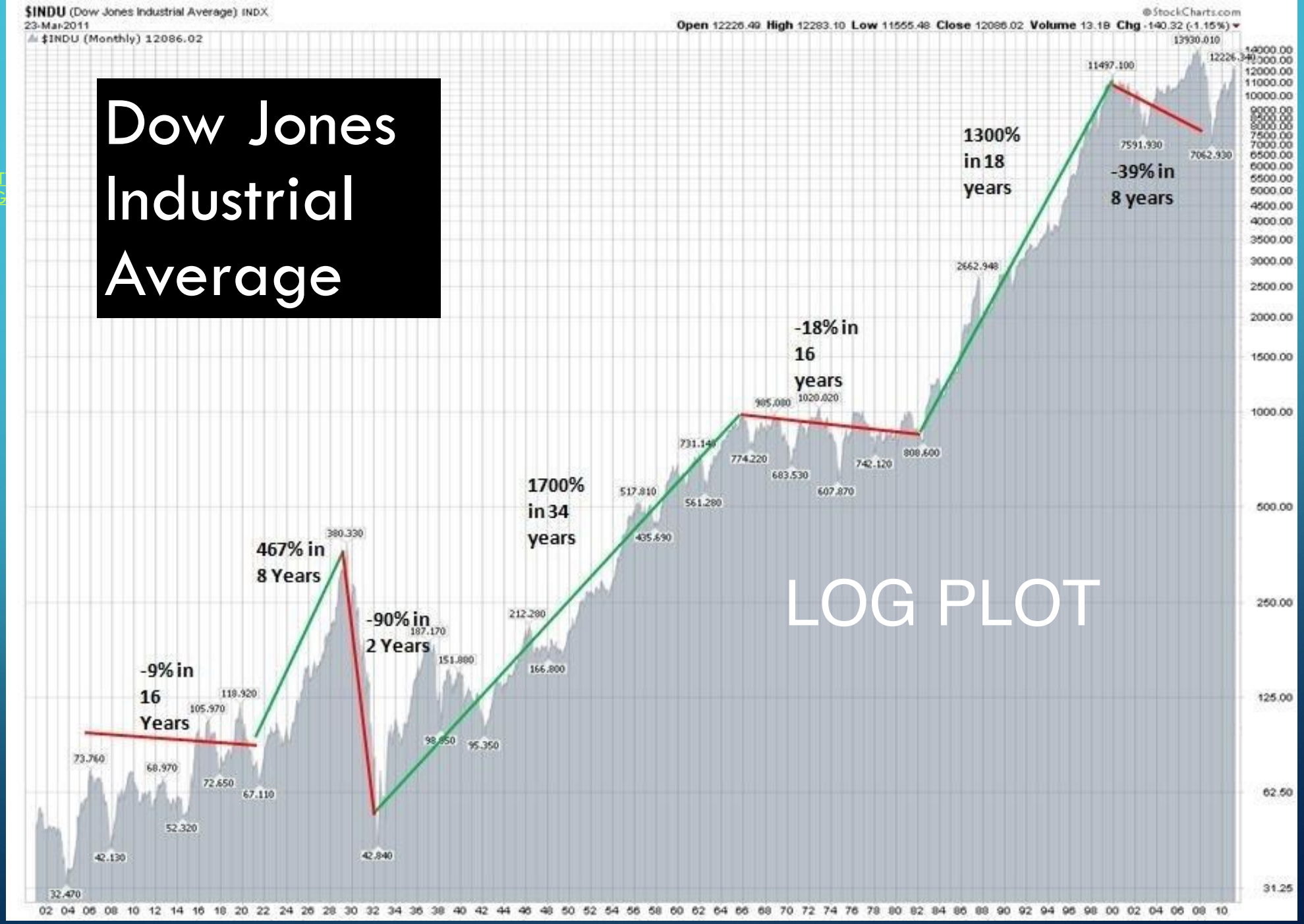
linear scale



Dow Jones Industrial Average

HT
LG

Log (logarithm) scale



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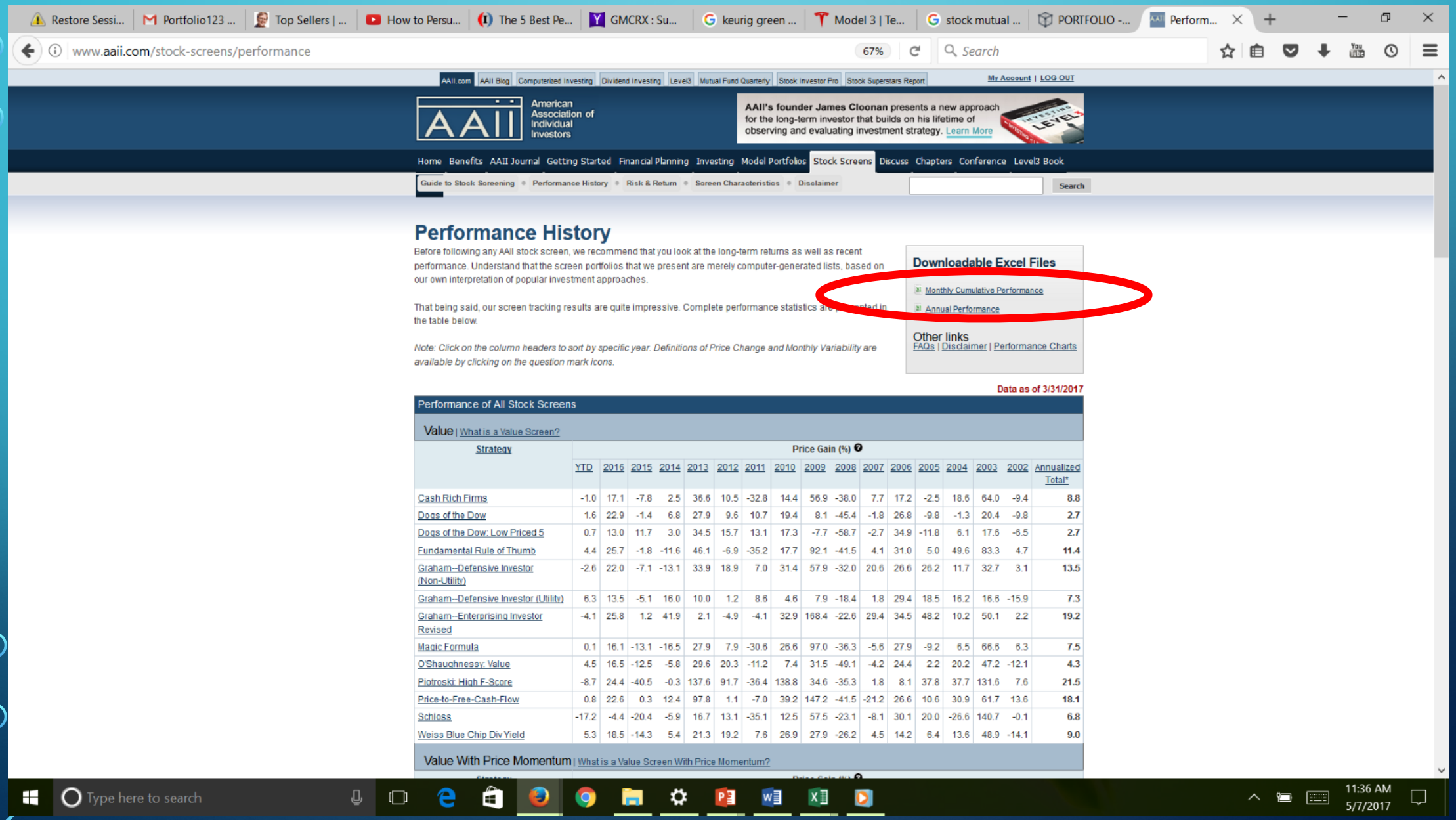

Restore Sessi... | Portfolio123 ... | Top Sellers | ... | How to Persu... | The 5 Best Pe... | GMCRX : Su... | keurig green ... | Model 3 | Te... | stock mutual ... | PORTFOLIO -... | Perform...

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American Association of Individual Investors

AAII's founder James Cloonan presents a new approach for the long-term investor that builds on his lifetime of observing and evaluating investment strategy. Learn More

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Guide to Stock Screening | Performance History | Risk & Return | Screen Characteristics | Disclaimer | Search

Performance History

Before following any AAII stock screen, we recommend that you look at the long-term returns as well as recent performance. Understand that the screen portfolios that we present are merely computer-generated lists, based on our own interpretation of popular investment approaches.

That being said, our screen tracking results are quite impressive. Complete performance statistics are presented in the table below.

Note: Click on the column headers to sort by specific year. Definitions of Price Change and Monthly Variability are available by clicking on the question mark icons.

Downloadable Excel Files

Monthly Cumulative Performance

Annual Performance

Other links
FAQs | Disclaimer | Performance Charts

Data as of 3/31/2017

Performance of All Stock Screens

Value | What is a Value Screen?

Strategy	Price Gain (%)																
	YTD	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004	2003	2002	Annualized Total*
Cash Rich Firms	-1.0	17.1	-7.8	2.5	36.6	10.5	-32.8	14.4	56.9	-38.0	7.7	17.2	-2.5	18.6	64.0	-9.4	**8.8**
Dogs of the Dow	1.6	22.9	-1.4	6.8	27.9	9.6	10.7	19.4	8.1	-45.4	-1.8	26.8	-9.8	-1.3	20.4	-9.8	**2.7**
Dogs of the Dow: Low Priced 5	0.7	13.0	11.7	3.0	34.5	15.7	13.1	17.3	-7.7	-58.7	-2.7	34.9	-11.8	6.1	17.6	-6.5	**2.7**
Fundamental Rule of Thumb	4.4	25.7	-1.8	-11.6	46.1	-6.9	-35.2	17.7	92.1	-41.5	4.1	31.0	5.0	49.6	83.3	4.7	**11.4**
Graham--Defensive Investor (Non-Utility)	-2.6	22.0	-7.1	-13.1	33.9	18.9	7.0	31.4	57.9	-32.0	20.6	26.6	26.2	11.7	32.7	3.1	**13.5**
Graham--Defensive Investor (Utility)	6.3	13.5	-5.1	16.0	10.0	1.2	8.6	4.6	7.9	-18.4	1.8	29.4	18.5	16.2	16.6	-15.9	**7.3**
Graham--Enterprising Investor Revised	-4.1	25.8	1.2	41.9	2.1	-4.9	-4.1	32.9	168.4	-22.6	29.4	34.5	48.2	10.2	50.1	2.2	**19.2**
Magic Formula	0.1	16.1	-13.1	-16.5	27.9	7.9	-30.6	26.6	97.0	-36.3	-5.6	27.9	-9.2	6.5	66.6	6.3	**7.5**
O'Shaughnessy: Value	4.5	16.5	-12.5	-5.8	29.6	20.3	-11.2	7.4	31.5	-49.1	-4.2	24.4	2.2	20.2	47.2	-12.1	**4.3**
Piotroski: High F-Score	-8.7	24.4	-40.5	-0.3	137.6	91.7	-36.4	138.8	34.6	-35.3	1.8	8.1	37.8	37.7	131.6	7.6	**21.5**
Price-to-Free-Cash-Flow	0.8	22.6	0.3	12.4	97.8	1.1	-7.0	39.2	147.2	-41.5	-21.2	26.6	10.6	30.9	61.7	13.6	**18.1**
Schloss	-17.2	-4.4	-20.4	-5.9	16.7	13.1	-35.1	12.5	57.5	-23.1	-8.1	30.1	20.0	-26.6	140.7	-0.1	**6.8**
Weiss Blue Chip Div Yield	5.3	18.5	-14.3	5.4	21.3	19.2	7.6	26.9	27.9	-26.2	4.5	14.2	6.4	13.6	48.9	-14.1	**9.0**

Value With Price Momentum | What is a Value Screen With Price Momentum?

Type here to search

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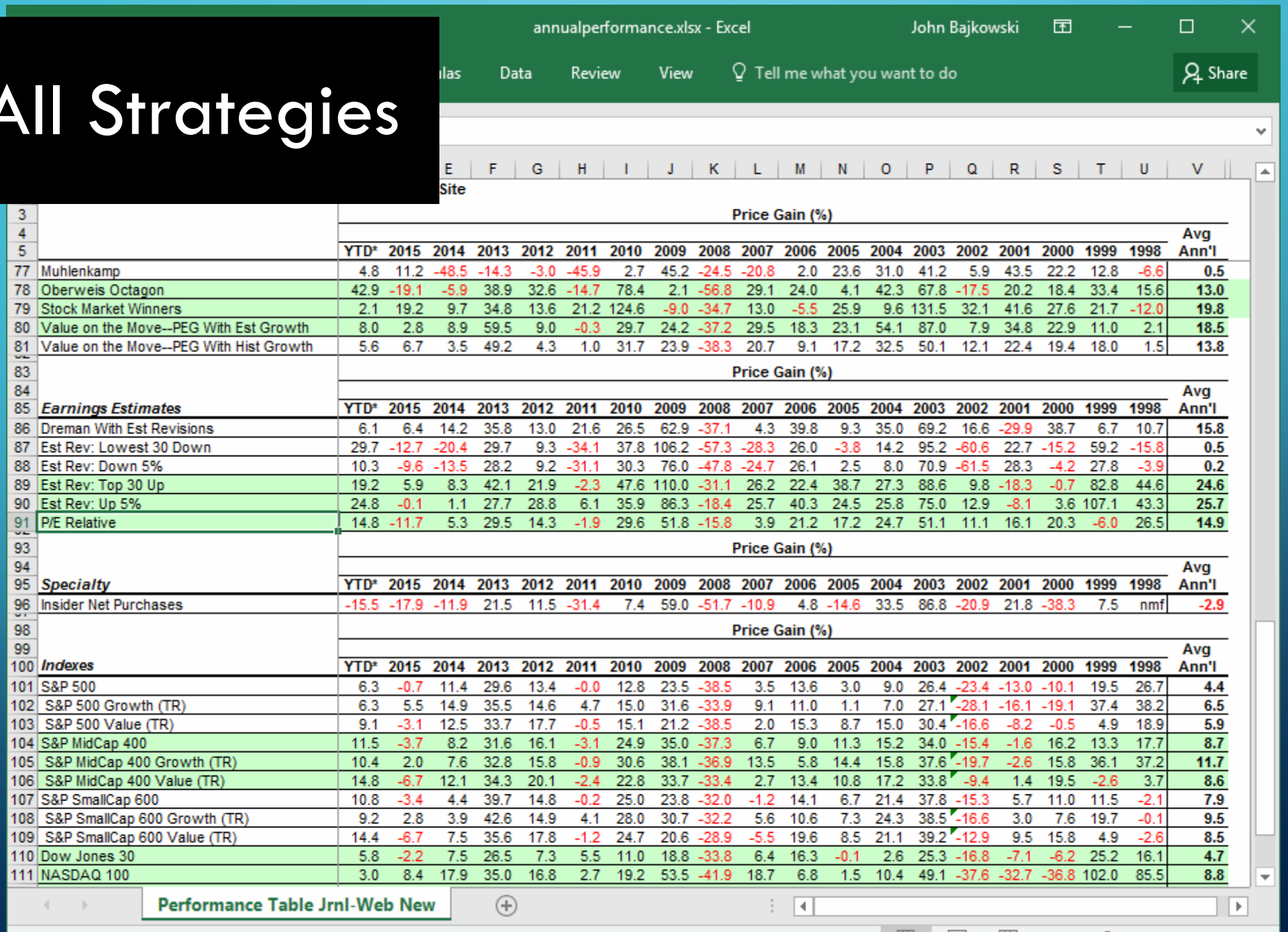
AAII Strategies



annualperformance.xlsx - Excel — John Bajkowski

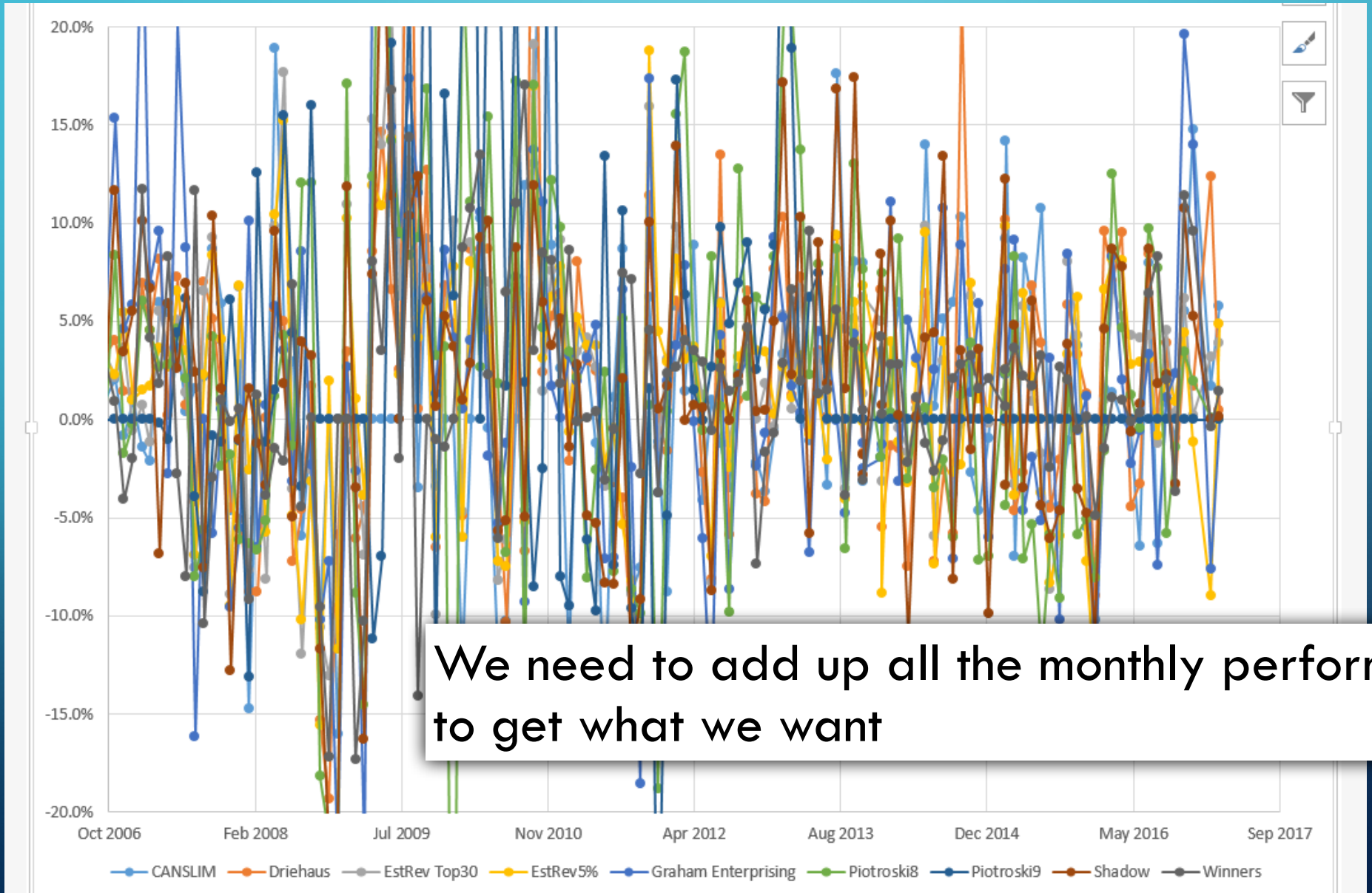
Data Review View Tell me what you want to do — Share

Site

		Price Gain (%)																		
		YTD*	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004	2003	2002	2001	2000	1999	1998	Avg Ann'l
77	Muhlenkamp	4.8	11.2	-48.5	-14.3	-3.0	-45.9	2.7	45.2	-24.5	-20.8	2.0	23.6	31.0	41.2	5.9	43.5	22.2	12.8	-6.6	0.5
78	Oberweis Octagon	42.9	-19.1	-5.9	38.9	32.6	-14.7	78.4	2.1	-56.8	29.1	24.0	4.1	42.3	67.8	-17.5	20.2	18.4	33.4	15.6	13.0
79	Stock Market Winners	2.1	19.2	9.7	34.8	13.6	21.2	124.6	-9.0	-34.7	13.0	-5.5	25.9	9.6	131.5	32.1	41.6	27.6	21.7	-12.0	19.8
80	Value on the Move--PEG With Est Growth	8.0	2.8	8.9	59.5	9.0	-0.3	29.7	24.2	-37.2	29.5	18.3	23.1	54.1	87.0	7.9	34.8	22.9	11.0	2.1	18.5
81	Value on the Move--PEG With Hist Growth	5.6	6.7	3.5	49.2	4.3	1.0	31.7	23.9	-38.3	20.7	9.1	17.2	32.5	50.1	12.1	22.4	19.4	18.0	1.5	13.8
83		Price Gain (%)																			
84																					Avg
85	***Earnings Estimates***	YTD*	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004	2003	2002	2001	2000	1999	1998	Ann'l
86	Dreman With Est Revisions	6.1	6.4	14.2	35.8	13.0	21.6	26.5	62.9	-37.1	4.3	39.8	9.3	35.0	69.2	16.6	-29.9	38.7	6.7	10.7	15.8
87	Est Rev: Lowest 30 Down	29.7	-12.7	-20.4	29.7	9.3	-34.1	37.8	106.2	-57.3	-28.3	26.0	-3.8	14.2	95.2	-60.6	22.7	-15.2	59.2	-15.8	0.5
88	Est Rev: Down 5%	10.3	-9.6	-13.5	28.2	9.2	-31.1	30.3	76.0	-47.8	-24.7	26.1	2.5	8.0	70.9	-61.5	28.3	-4.2	27.8	-3.9	0.2
89	Est Rev: Top 30 Up	19.2	5.9	8.3	42.1	21.9	-2.3	47.6	110.0	-31.1	26.2	22.4	38.7	27.3	88.6	9.8	-18.3	-0.7	82.8	44.6	24.6
90	Est Rev: Up 5%	24.8	-0.1	1.1	27.7	28.8	6.1	35.9	86.3	-18.4	25.7	40.3	24.5	25.8	75.0	12.9	-8.1	3.6	107.1	43.3	25.7
91	P/E Relative	14.8	-11.7	5.3	29.5	14.3	-1.9	29.6	51.8	-15.8	3.9	21.2	17.2	24.7	51.1	11.1	16.1	20.3	-6.0	26.5	14.9
93		Price Gain (%)																			
94																					Avg
95	***Specialty***	YTD*	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004	2003	2002	2001	2000	1999	1998	Ann'l
96	Insider Net Purchases	-15.5	-17.9	-11.9	21.5	11.5	-31.4	7.4	59.0	-51.7	-10.9	4.8	-14.6	33.5	86.8	-20.9	21.8	-38.3	7.5	nmf	-2.9
98		Price Gain (%)																			
99																					Avg
100	***Indexes***	YTD*	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004	2003	2002	2001	2000	1999	1998	Ann'l
101	S&P 500	6.3	-0.7	11.4	29.6	13.4	-0.0	12.8	23.5	-38.5	3.5	13.6	3.0	9.0	26.4	-23.4	-13.0	-10.1	19.5	26.7	4.4
102	S&P 500 Growth (TR)	6.3	5.5	14.9	35.5	14.6	4.7	15.0	31.6	-33.9	9.1	11.0	1.1	7.0	27.1	-28.1	-16.1	-19.1	37.4	38.2	6.5
103	S&P 500 Value (TR)	9.1	-3.1	12.5	33.7	17.7	-0.5	15.1	21.2	-38.5	2.0	15.3	8.7	15.0	30.4	-16.6	-8.2	-0.5	4.9	18.9	5.9
104	S&P MidCap 400	11.5	-3.7	8.2	31.6	16.1	-3.1	24.9	35.0	-37.3	6.7	9.0	11.3	15.2	34.0	-15.4	-1.6	16.2	13.3	17.7	8.7
105	S&P MidCap 400 Growth (TR)	10.4	2.0	7.6	32.8	15.8	-0.9	30.6	38.1	-36.9	13.5	5.8	14.4	15.8	37.6	-19.7	-2.6	15.8	36.1	37.2	11.7
106	S&P MidCap 400 Value (TR)	14.8	-6.7	12.1	34.3	20.1	-2.4	22.8	33.7	-33.4	2.7	13.4	10.8	17.2	33.8	-9.4	1.4	19.5	-2.6	3.7	8.6
107	S&P SmallCap 600	10.8	-3.4	4.4	39.7	14.8	-0.2	25.0	23.8	-32.0	-1.2	14.1	6.7	21.4	37.8	-15.3	5.7	11.0	11.5	-2.1	7.9
108	S&P SmallCap 600 Growth (TR)	9.2	2.8	3.9	42.6	14.9	4.1	28.0	30.7	-32.2	5.6	10.6	7.3	24.3	38.5	-16.6	3.0	7.6	19.7	-0.1	9.5
109	S&P SmallCap 600 Value (TR)	14.4	-6.7	7.5	35.6	17.8	-1.2	24.7	20.6	-28.9	-5.5	19.6	8.5	21.1	39.2	-12.9	9.5	15.8	4.9	-2.6	8.5
110	Dow Jones 30	5.8	-2.2	7.5	26.5	7.3	5.5	11.0	18.8	-33.8	6.4	16.3	-0.1	2.6	25.3	-16.8	-7.1	-6.2	25.2	16.1	4.7
111	NASDAQ 100	3.0	8.4	17.9	35.0	16.8	2.7	19.2	53.5	-41.9	18.7	6.8	1.5	10.4	49.1	-37.6	-32.7	-36.8	102.0	85.5	8.8

Performance Table Jrnl-Web New

PLOTTING THE AAII EXCEL DATA LOOKS LIKE THIS



We need to add up all the monthly performance data to get what we want

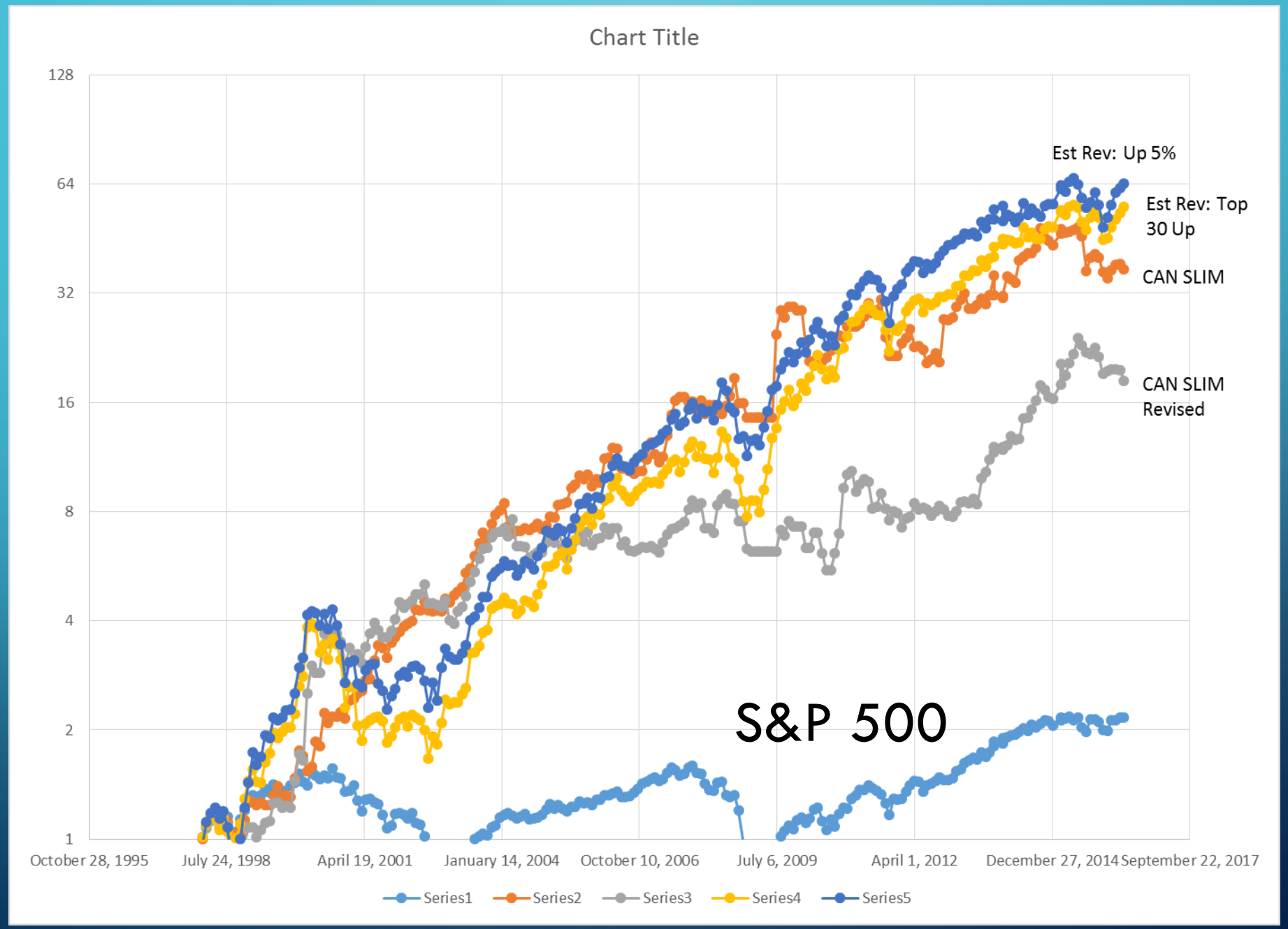


Chart Title
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October 28, 1995
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April 19, 2001
January 14, 2004
October 10, 2006
July 6, 2009
April 1, 2012
December 27, 2014
September 22, 2017
Est Rev: Up 5%
Est Rev: Top 30 Up
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CAN SLIM Revised
S&P 500
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Series2
Series3
Series4
Series5

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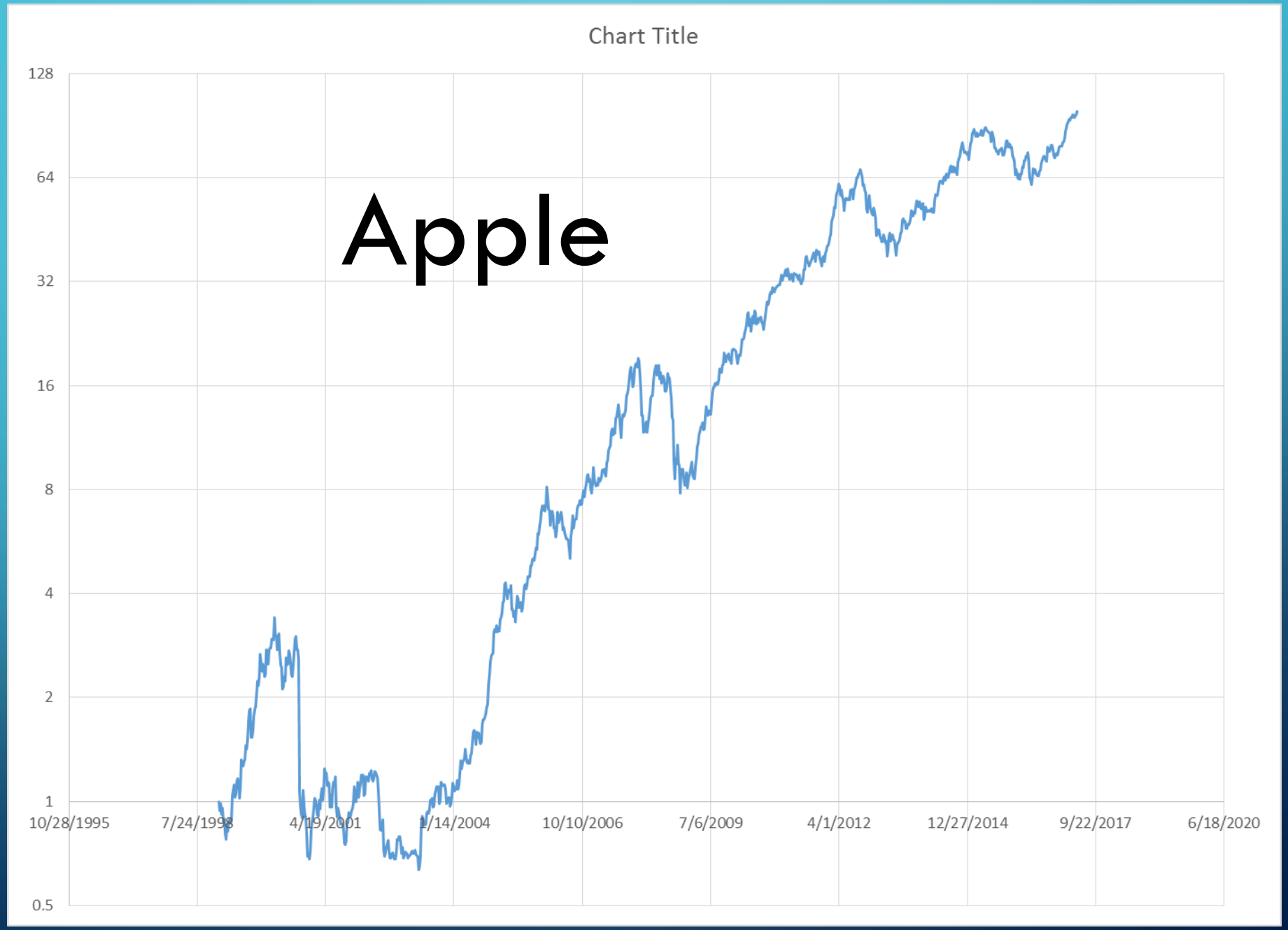

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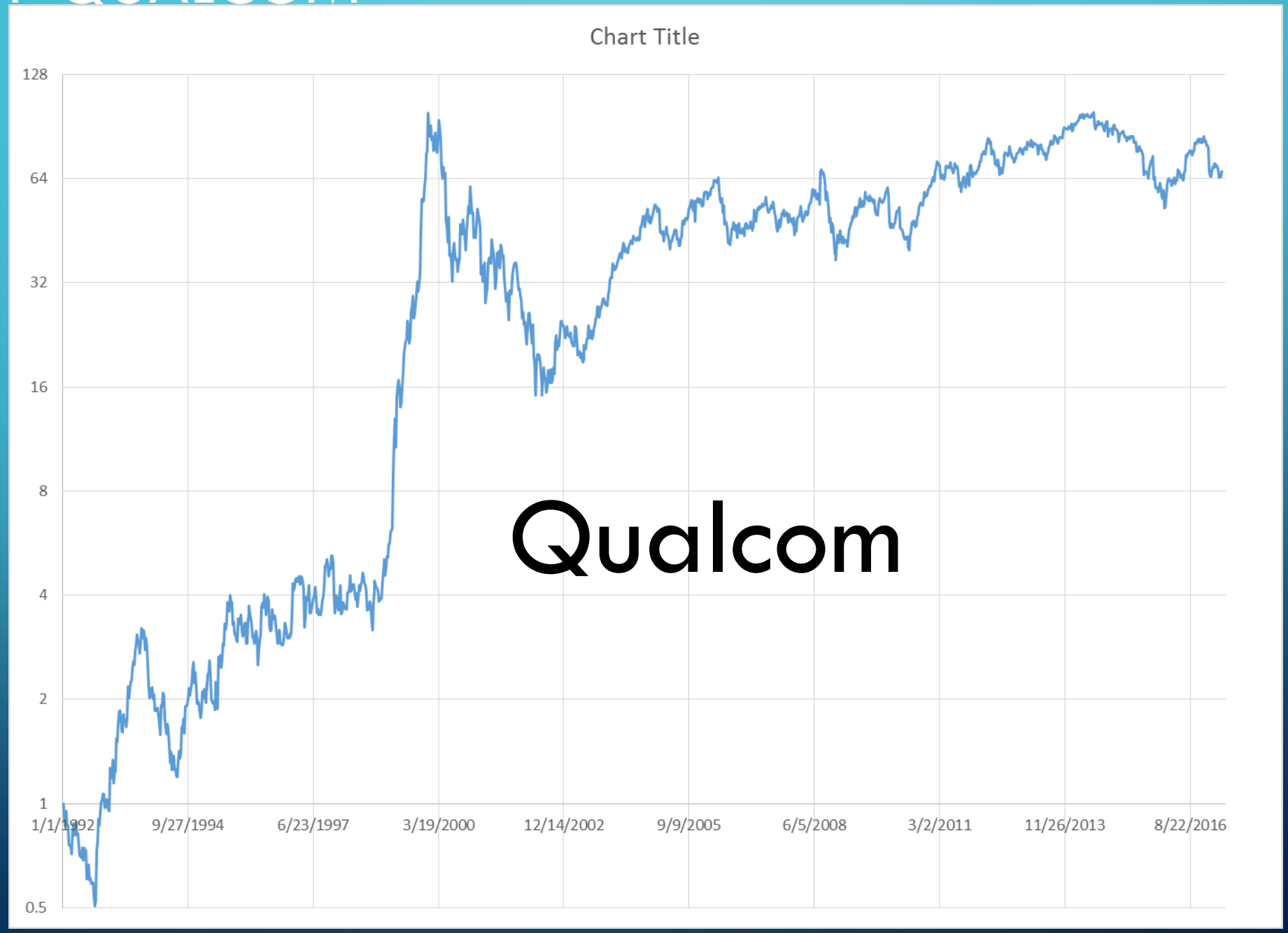

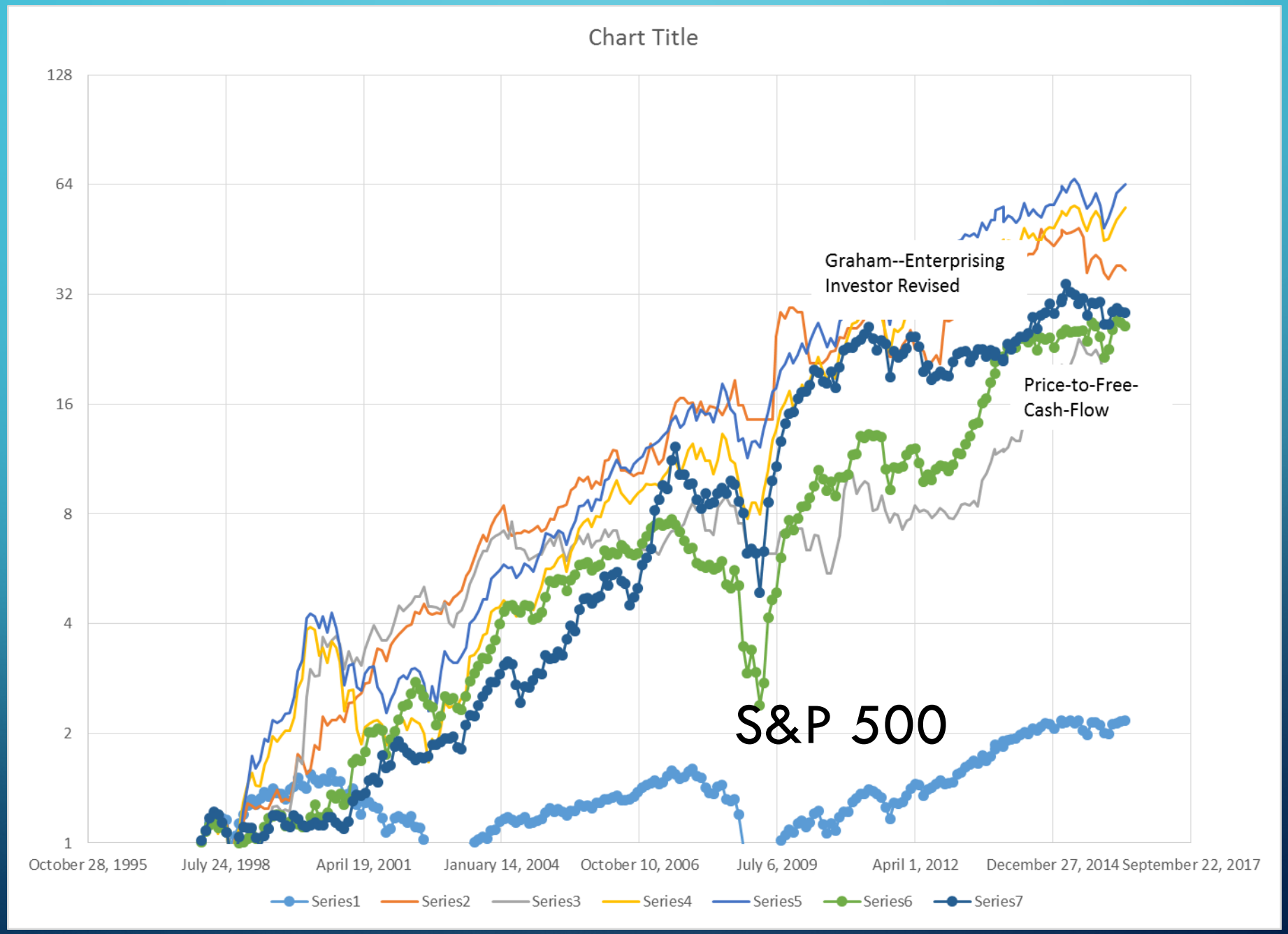
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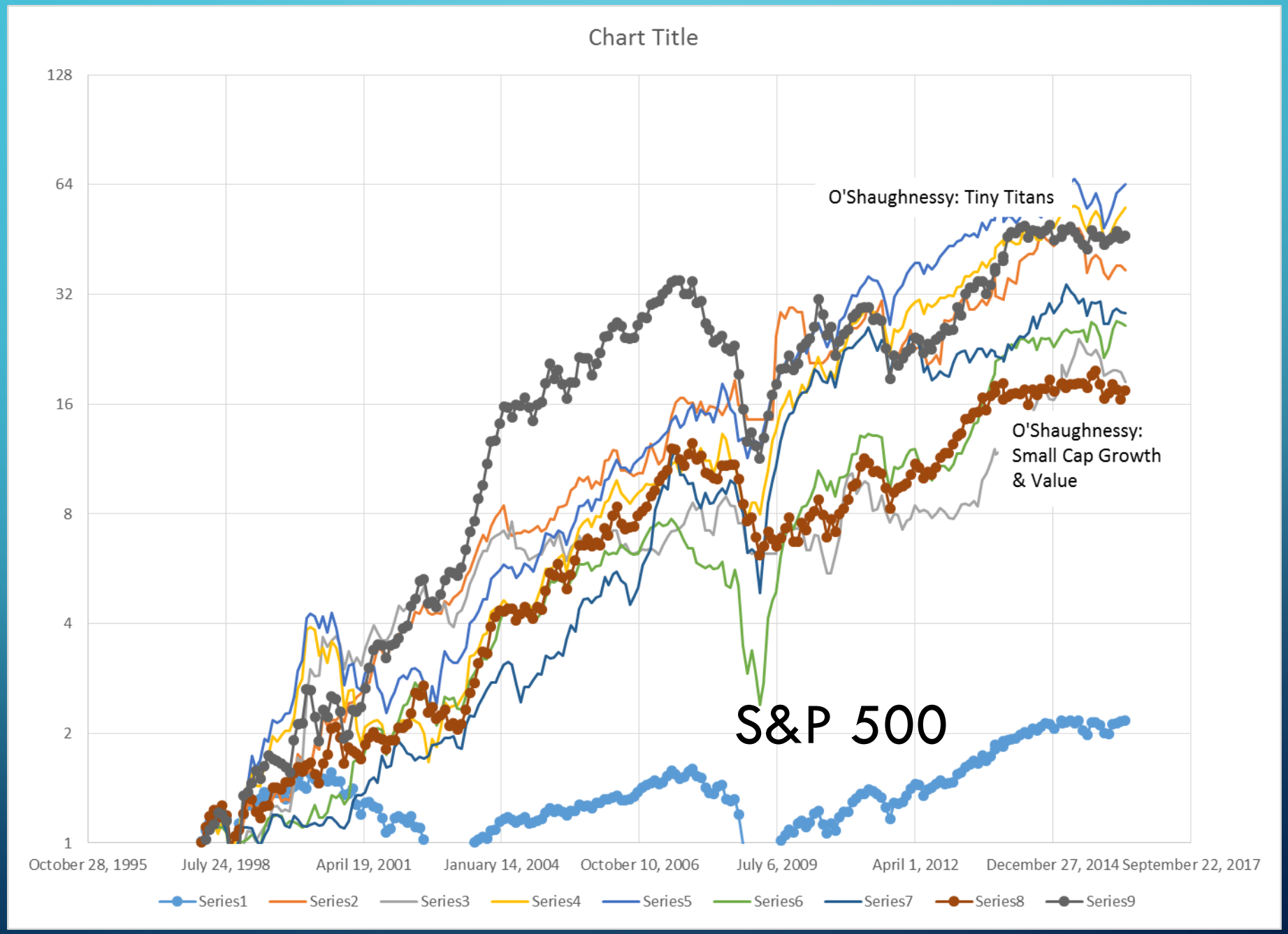
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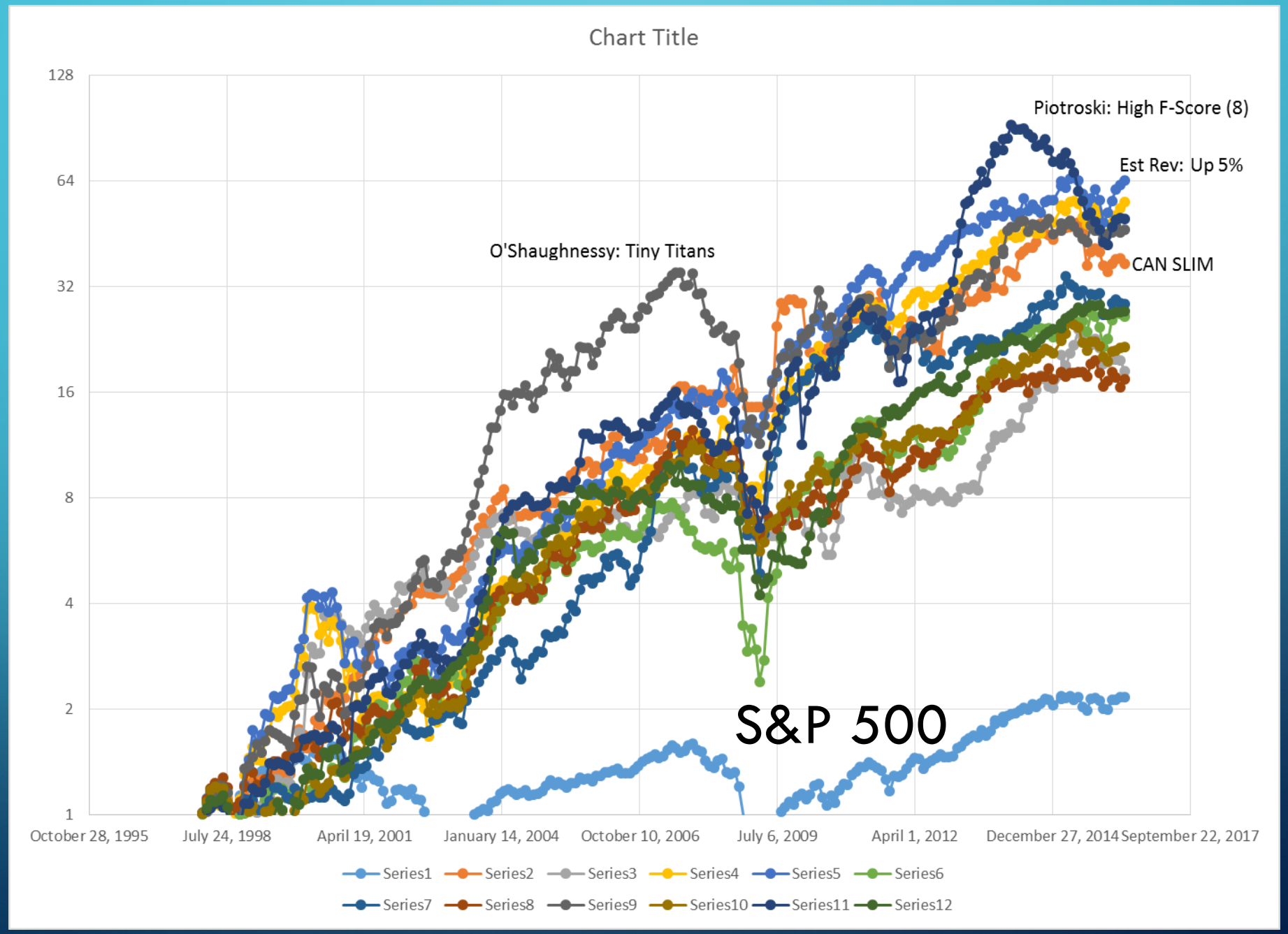
O'Shaughnessy: Tiny Titans
O'Shaughnessy: Small Cap Growth & Value
S&P 500
Series1
Series2
Series3
Series4
Series5
Series6
Series7
Series8
Series9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October 28, 1995
July 24, 1998
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December 27, 2014
September 22, 2017
Piotroski: High F-Score (8)
Est Rev: Up 5%
O'Shaughnessy: Tiny Titans
CAN SLIM
S&P 500
Series1
Series2
Series3
Series4
Series5
Series6
Series7
Series8
Series9
Series10
Series11
Series12

Screen	Annual Price Gain (%) YTD	3 Yr	5 Yr	10 Yr	Inception	Risk Index	
1. **Est Rev: Top 30 Up** - Introduction to the use of earnings estimates. » View the Strategy	11.5%	16.7%	18.5%	21.2%	23.3%	1.82	
2. **Est Rev: Up 5%** - Introduction to the use of earnings estimates. » View the Strategy	0.4%	10.4%	12.4%	18.3%	23.3%	1.77	
3. **O'Shaughnessy: Tiny Titans** - O'Shaughnessy tries to predict the future using historical long-term trends. » View the Strategy	-3.2%	4.5%	17.3%	5.4%	21.8%	1.91	Value W
4. **Piotroski: High F-Score** - A study of low price-to-book-value stocks to see if it's possible to establish basic financial criteria to help separate the winners from the losers. » View the	-8.7%	-17.0%	16.7%	13.7%	21.5%	2.08	
5. **O'Neil's CAN SLIM** - An approach that combines both fundamental and technical factors to seek out companies with strong earnings and price momentum. » View the Strategy	2.7%	10.7%	15.8%	15.4%	21.3%	1.93	Growth W
6. **Graham--Enterprising Investor Revised** - Credited as one of the fathers of in-depth security analysis, Graham's approach focuses on the concept of intrinsic value. » View the Strategy	-4.1%	17.7%	8.5%	14.4%	19.2%	1.78	
7. **Stock Market Winners** - A screen that tries to interpret and apply successful trading rules in the real market environment. » View the Strategy	-0.2%	17.8%	19.1%	15.1%	18.9%	1.44	Growt
8. **O'Neil's CAN SLIM Revised 3rd Edition** - How to implement							

Several ways to get ~20%

7.	**Stock Market Winners** - A screen that tries to interpret and apply successful trading rules in the real market environment. » View the Strategy	-0.2%	17.8%	19.1%	15.1%	18.9%	1.44	Grow
8.	**O'Neil's CAN SLIM Revised 3rd Edition** - How to implement William O'Neil's revised CAN SLIM approach to screen for fast-growing stocks. » View the Strategy	14.6%	25.8%	24.9%	14.7%	18.2%	1.87	Growth W
9.	**Price-to-Free-Cash-Flow** - An exploration of the basics of cash flow analysis and the implementation of a price-to-free-cash-flow screen. » View the Strategy	0.8%	9.0%	20.1%	15.1%	18.1%	1.78	
10.	**Value on the Move--PEG With Est Growth** - Using PEG ratios and price strength to find growth stocks trading at a reasonable price. » View the Strategy	3.3%	8.9%	14.1%	10.5%	17.5%	1.34	Grow
11.	**O'Shaughnessy: Small Cap Growth & Value** - O'Shaughnessy tries to predict the future using historical long-term trends. » View the Strategy	-0.2%	5.3%	12.6%	6.9%	16.2%	1.53	Value W
12.	**Zweig** - A strategy that seeks to identify companies with strong growth, a reasonable price-earnings ratio and strong price action. » View the Strategy	10.6%	-5.0%	5.3%	-2.2%	15.5%	1.92	
13.	**Neff** - An approach using a stringent contrarian viewpoint—finding undervalued, out-of-favor stocks in the bargain basement that have an optimistic future. » View the Strategy	7.7%	-0.2%	6.3%	7.0%	15.4%	1.63	
14.	**Dreman With Est Revisions** - Utilizing contrarian stocks with upward earnings revisions. » View the Strategy	6.4%	11.3%	13.6%	13.2%	15.2%	1.35	

15. **O'Neil's CAN SLIM No Float** - How to implement William O'Neil's revised CAN SLIM approach to screen for fast-growing stocks. » View the Strategy	0.5%	8.0%	9.2%	6.4%	14.6%	1.38	Growth W
16. **O'Shaughnessy: Growth** - O'Shaughnessy tries to predict the future using historical long-term trends. » View the Strategy	8.1%	6.5%	15.3%	7.1%	14.6%	1.51	Value W
17. **P/E Relative** - A screen that looks at the relationship of a stock's price-earnings ratio to that of the industry and market. » View the Strategy	2.9%	5.6%	9.6%	11.0%	13.7%	1.15	
18. **Driehaus** - Classic momentum approach that seeks out stocks that are rapidly rising in price with the belief that the rising price will attract other investors. » View the Strategy	18.1%	22.9%	20.8%	18.1%	13.5%	2.22	Growth W
19. **Buffett: Hagstrom** - Hagstrom identifies 12 basic principles that a company should possess to be considered for purchase. » View the Strategy	7.3%	9.9%	11.6%	11.5%	13.5%	1.10	
20. **Graham--Defensive Investor (Non-Utility)** - Credited as one of the fathers of in-depth security analysis, Graham's approach focuses on the concept of intrinsic value. » View the Strategy	-2.6%	-1.7%	6.8%	9.2%	13.5%	1.39	
21. **Kirkpatrick Growth** - Investing model outlined in Charles Kirkpatrick's book, Beat the Market: Invest by Knowing What Stocks to Buy and What Stocks to Sell. » View the Strategy	-4.2%	2.0%	2.0%	9.0%	13.2%	2.09	Growth W
22. **Value on the Move--PEG With Hist Growth** - Using PEG ratios and price strength to find growth stocks trading at a reasonable price. » View the Strategy	3.1%	12.0%	13.7%	9.7%	13.2%	1.07	Growt

	» View the Strategy							
23.	**Price-to-Sales** - Research indicates that using price-to-sales ratios may lead to better investment results than price-to-book-value ratios or price-earnings ratios. » View the Strategy	8.2%	9.9%	12.3%	8.5%	13.2%	1.34	
24.	**MAGNET Simple** - A blend of value, growth and momentum investing styles into a single stock selection model. » View the Strategy	4.3%	6.1%	-7.6%	5.5%	13.0%	2.95	Grow
25.	**Lakonishok** - Identifying stocks trading at a discount to their industry norms but showing recent price strength and upward earnings revisions. » View the Strategy	7.3%	13.6%	13.7%	13.6%	13.0%	1.21	Value W
26.	**Foolish Small Cap 8 Revised** - The Motley Fool's small-cap screen with recent revisions they've made to update the screen. » View the Strategy	0.0%	-8.1%	1.3%	-4.1%	11.8%	2.37	
27.	**Fundamental Rule of Thumb** - An old value screen combining the P/E ratio, dividend yield, and an adjusted return on equity that's still applicable in today's market. » View the Strategy	4.4%	3.9%	5.8%	3.2%	11.4%	1.70	
28.	**Dual Cash Flow** - An analysis that can provide advance notice that a company may be facing financial trouble, though earnings and sales appear strong. » View the Strategy	4.6%	-2.7%	6.2%	2.6%	11.4%	1.55	
29.	**S&P MidCap 400 Growth (TR)**	5.1%	9.4%	14.3%	10.2%	11.0%	1.29	
30.	**Return on Equity** - A screen that identifies stocks with above average earnings and sales growth that have consistently outperformed their peers measured by ROE. » View the Strategy	0.9%	4.6%	6.6%	7.1%	10.7%	1.27	

outperformed their peers measured by ROE. » View the Strategy	0.9%	4.6%	6.6%	7.1%	10.7%	1.27	
31. Buffettology: Sustainable Growth - Buffett approach seeking consumer monopolies selling at a reasonable price. » View the Strategy	7.4%	12.2%	13.8%	11.4%	10.6%	1.28	
32. Buffettology: EPS Growth - Buffett approach seeking consumer monopolies selling at a reasonable price. » View the Strategy	9.3%	9.7%	13.9%	10.4%	10.3%	1.21	
33. T. Rowe Price - Price's long-standing approach focuses on growth stocks but avoids over-glamorized stocks. » View the Strategy	7.4%	19.8%	13.5%	11.3%	10.1%	1.72	
34. Oberweis Octagon - Oberweis Asset Management seeks out rapidly growing companies and invests in those they feel are attractively priced. » View the Strategy	-6.1%	1.4%	10.6%	3.4%	10.1%	1.94	Growt
35. Dreman - Avoiding the psychological traps of the market by following the principles of contrarian investing. » View the Strategy	8.2%	6.4%	10.2%	4.0%	9.7%	1.25	
36. Lynch - A strictly bottom-up approach, focusing on companies familiar to the investor. » View the Strategy	4.9%	-7.8%	0.1%	2.4%	9.3%	1.27	
37. Templeton - Favorable margins, consistent earnings growth and price-earnings ratios below historical norms. » View the Strategy	6.9%	7.4%	12.5%	10.4%	9.3%	1.27	
38. Weiss Blue Chip Div Yield - A conservative, blue-chip investment style with a value approach that emphasizes selecting stocks with favorable dividend yields. » View the Strategy	5.3%	3.0%	7.7%	7.8%	9.0%	1.25	

	» View the Strategy							
39.	**NASDAQ 100**	11.8%	14.8%	14.6%	11.9%	8.9%	1.78	
40.	**S&P SmallCap 600 Growth (TR)**	2.4%	10.1%	14.5%	10.1%	8.8%	1.31	
41.	**Rule #1 Investing** - Adapted from Phil Town's Rule #1 book, this screen attempts to identify wonderful companies with attractive prices. » View the Strategy	0.0%	-7.4%	2.4%	6.3%	8.8%	1.92	
42.	**All Exchange-Listed Stocks**	4.8%	2.9%	9.3%	5.1%	8.8%	1.37	
43.	**Cash Rich Firms** - Locating firms with a high proportion of cash to share price. » View the Strategy	-1.0%	1.2%	8.2%	2.5%	8.8%	1.40	
44.	**MAGNET Complex** - A blend of value, growth and momentum investing styles into a single stock selection model. » View the Strategy	13.3%	-17.6%	-11.2%	-13.8%	8.7%	2.74	Grow
45.	**Wanger (Revised)** - First introduced in May 1997, this approach focuses on limiting the risks of investing in small-cap stocks. » View the Strategy	5.2%	10.6%	16.7%	9.1%	8.6%	1.45	
46.	**O'Shaughnessy: All Cap** - Growth-at-a-reasonable-price screen created by James O'Shaughnessy. » View the Strategy	-1.1%	5.8%	6.2%	3.0%	8.3%	1.47	Value W
47.	**Kirkpatrick Value** - Investing model outlined in Charles Kirkpatrick's book, Beat the Market: Invest by Knowing What Stocks to Buy and What Stocks to Sell. » View the Strategy	-4.4%	-7.8%	0.3%	-2.1%	8.2%	2.20	
48.	**Foolish Small Cap 8** - The Motley Fool's Foolish 8 method for investing in small caps looks for profitable and rapidly growing companies with strong price momentum	-28.9%	-0.8%	3.0%	-1.5%	8.0%	2.39	Growth W

	» View the Strategy							
49.	**S&P MidCap 400**	3.6%	7.6%	11.6%	7.4%	7.9%	1.19	
50.	**ADR Screen** - An ADR stock screen seeks out foreign companies with attractive PEG ratios and increasing price strength. » View the Strategy	4.2%	7.6%	13.0%	3.8%	7.7%	1.47	Grow
51.	**S&P MidCap 400 Value (TR)**	3.2%	9.5%	14.3%	8.6%	7.7%	1.12	
52.	**Dividend (High Relative Yield)** - Using the dividend-yield approach to invest during volatile markets. » View the Strategy	1.0%	4.5%	11.6%	6.4%	7.5%	0.99	
53.	**Magic Formula** - Joel Greenblatt's investing approach is based on finding companies with high return on investment that are trading for less than they are worth. » View the Strategy	0.1%	-6.1%	-1.0%	1.5%	7.5%	1.63	
54.	**S&P SmallCap 600 Value (TR)**	-0.4%	8.7%	13.2%	7.4%	7.4%	1.24	
55.	**Graham--Defensive Investor (Utility)** - Graham's approach leads to three separate screens that focus on the concept of intrinsic value, justified by a firm's financial strength. » View the Strategy	6.3%	7.5%	7.9%	4.2%	7.3%	1.03	
56.	**Inve$tWare Quality Growth** - The NAIC adopts a simple buy-and-hold, fundamental approach to growth investing. » View the Strategy	1.4%	4.8%	7.5%	6.1%	7.1%	1.27	
57.	**S&P SmallCap 600**	0.7%	7.9%	12.7%	7.4%	7.1%	1.27	
58.	**Kirkpatrick Bargain** - Investing model outlined in Charles Kirkpatrick's book, Beat the Market: Invest by Knowing What Stocks to Buy and What Stocks to Sell. » View the Strategy	2.6%	-1.0%	0.8%	5.1%	6.9%	1.36	

	» View the Strategy						
59.	**Schloss** - This screen looks for stocks hitting new lows, trading at a price lower than book value per share, with no debt and high levels of insider ownership. » View the Strategy	-17.2%	-7.6%	-9.0%	-4.7%	6.8%	1.96
60.	**S&P 500 Growth (TR)**	8.5%	11.5%	13.8%	9.4%	6.4%	1.10
61.	**O'Shaughnessy: Growth Market Leaders** - O'Shaughnessy tries to predict the future using historical long-term trends. » View the Strategy	1.5%	4.6%	11.9%	3.8%	6.3%	1.24
62.	**Fisher (Philip)** - A perspective on the evolution of the investment philosophy of a successful money manager who learned from his mistakes. » View the Strategy	21.6%	10.2%	7.8%	1.9%	5.6%	2.27
63.	**S&P 500 Value (TR)**	3.3%	8.9%	12.7%	5.8%	5.4%	1.00
64.	**Dow Jones 30**	4.6%	7.9%	9.4%	5.3%	4.4%	0.98
65.	**O'Shaughnessy: Value** - Value screen created by James O'Shaughnessy based on his study of a wide range of value approaches. » View the Strategy	4.5%	0.2%	6.0%	-0.7%	4.3%	1.34
66.	**S&P 500**	5.5%	8.1%	10.9%	5.2%	4.2%	1.00
67.	**Dogs of the Dow** - Identifying contrarian plays among the Dow Jones industrial stocks. » View the Strategy	1.6%	9.3%	11.7%	3.4%	2.7%	1.21
68.	**Dogs of the Dow: Low Priced 5** - Identifying contrarian plays among the Dow Jones industrial stocks. » View the Strategy	0.7%	9.7%	13.6%	-0.1%	2.7%	1.55

	» View the Strategy						
69.	**MAGNET Simple Revised** - Jordan Kimmel's revised stock selection approach that blends value, growth and momentum investing styles into one model. » View the Strategy	11.3%	-4.1%	-3.7%	-0.1%	2.3%	2.31	Grow
70.	**MAGNET Complex Revised** - Jordan Kimmel's revised stock selection approach that blends value, growth and momentum investing styles into one model. » View the Strategy	0.4%	-9.5%	-11.3%	-6.4%	2.0%	2.19	Grow
71.	**Muhlenkamp** - Muhlenkamp uses a bottom-up approach to selecting stocks, but adjusts his benchmarks based upon the broad economic environment. » View the Strategy	0.0%	-14.9%	-13.6%	-12.4%	0.2%	1.57	
72.	**Est Rev: Down 5%** - Introduction to the use of earnings estimates. » View the Strategy	-2.5%	-2.5%	1.2%	-2.0%	-0.4%	1.96	
73.	**Est Rev: Lowest 30 Down** - Introduction to the use of earnings estimates. » View the Strategy	0.9%	0.7%	4.2%	-1.5%	-0.9%	2.33	
74.	**Insider Net Purchases** - A stock screen designed to find small-cap companies that have more stock purchased than sold by insiders. » View the Strategy	-1.4%	-13.3%	-5.6%	-7.6%	-2.0%	1.92	
75.	**Murphy Technology** - An approach that identifies technology stocks with high R&D spending, strong margins and growth, but selling at attractive values. » View the Strategy	3.8%	-12.2%	1.9%	-1.8%	-2.3%	2.73	
	Benchmark: S&P 500	6.5%	8.2%	11.3%	4.9%	4.8%	1.00	

Details

Rebalancing period is Monthly
- Large amount of fees
  - 20 stocks * $7*12months/year = $1680/year
- FolioFN https://www.folioinvesting.com/folioinvesting/home/ $290/yr
  - Up to 2000 Window trades per month at no cost per trade

Easy for Tax-deferred accounts (IRAs)

Lots of accounting for Taxable accounts

Actually much more practical than we would normally think
- I am doing weekly rebalancing!

http://www.quant-investing.com/strategies/price-to-book-piotroski-f-score

What is the Piotroski F-Score

The Piotroski F-Score was developed by Joseph D. Piotroski

In 2000, he wrote a research paper called "Value Investing: The Use of Historical Financial Statement Information to Separate Winners from Losers" (pdf).

measure firm-specific returns as **one-year** (two-year) buy-and-hold returns

All firms in the high BM universe (20% highest = 20% lowest price to book) have a market adjusted return of 5.9%

High Fscore (F8 and F9) have a market adjusted return 13.4% which is 7.5% better than the 5.9% (All firms in the high BM universe)

*This is **13.4% better than the Universe of all stocks***

http://www.aaii.com/journal/article/adjusting-for-the-real-world-testing-variations-of-piotroskis-screen?ct=45be81a70736658d7328c4e4787fe5de6af91211ccad7f41b7d55a8fb21cca0766a31eedcd22fda8b45f14c58c7ec6555788cca68845d05d408cf13be4bc0759

"Piotroski's selection strategy looks like a winner, but it is hardly an investable strategy in the real world."

But it can be.

by Al Zmyslowski
Backtesting the AAII Estimate Revisions Stock Screen
January 21, 2017

http://www.aaii.com/computerized-investing/article/backtesting-a-stock-screen-to-improve-your-results?a=ciemail01212017

Slippage

an investor would be fortunate to incur a cost of only 25 basis points (0.25%) for a round trip (sell-and-buy) transaction at this level of liquidity. Fifty basis points (0.5%) could very well be more reasonable. For this screen, traded monthly, trading costs could result in a 3% to 7% reduction in the compound annual growth rate (CAGR), certainly a significant amount.

this screen is relatively robust to starting dates.

Slides from yesterday's ... | ToAatTC.pdf | Computerized Investing | SCREEN - Screener

www.aaii.com/computerized-investing/article/backtesting-a-stock-s

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at Portfolio123

- #2 enforces a liquidity check, specifically that a stock has traded at least $500,000 per day over the last month. This term is added to all screens to ensure that the stocks are purchasable at a reasonable cost and in reasonable volume. Note that the AAII "Top 30 Up" screen does not have a specific liquidity check.
- One rule of thumb is that purchases should be limited to no more than 1% of daily trading volume so as to not cause undue pricing pressure on the stocks being purchased. In this case, this states that not more than $5,000 of any stock should be purchased, resulting in a portfolio size limited to $150,000 (30 stocks x $5,000 per stock). This size portfolio is adequate to meet many individual investors' needs.

SHOWS THE RESULTS WHEN VARYING LEVELS OF TRADING COSTS (FIGURE 3, #2) ARE INCLUDED IN THE BACKTEST.

Column1	CAGR, Zero trading cost	Avg. Turnov	CAGR, 25 BP R/T Cost	CAGR, 50 BP R/T Cost	CAGR, 100 BP R/T Cost
Screen - Weekly	37.81%	43%	30.03%	23.23%	10.17%
Screen- 2 Weeks	31.08%	67%	25.27%	20.12%	10.06%
Screen- 4 Weeks	23.94%	95%	19.95%	16.40%	9.33%
Screen- 8 Weeks	18.53%	95%	16.62%	14.88%	11.34%
Screen- 13 Weeks	12.30%	91%	11.23%	10.25%	8.23%
Screen - Yearly	8.76%	89%	8.49%	8.25%	7.74%
S&P 500 Eq Weight	6.92%	--	6.92%	6.92%	6.92%

As shown in **Figure 8**, the 37.8% CAGR hoped for by trading weekly quickly turns into something much lower depending on the trading costs incurred.

FIGURE 9: VARYING NUMBER OF STOCKS HELD

# Stocks Held	Ttl Return	CAGR	Drawdown	Sharpe	Sortino	StdDev	Correl Bench	R-Square	Beta	Alpha
Screen - 5	3383.34%	23.76%	-68.82%	0.76	1.06	34.49%	0.45	0.2	0.76	22.56%
Screen - 10	4953.42%	26.56%	-56.35%	0.90	1.24	30.09%	0.51	0.26	0.75	23.66%
Screen - 15	5080.05%	26.75%	-52.15%	0.94	1.30	28.09%	0.54	0.29	0.73	23.26%
Screen - 20	5278.00%	27.03%	-48.01%	0.98	1.34	27.19%	0.55	0.31	0.73	23.26%
Screen - 25	5310.84%	27.08%	-51.60%	1.00	1.37	26.26%	0.56	0.32	0.72	23.12%
Screen - 30	3466.21%	23.94%	-53.21%	0.92	1.26	25.53%	0.57	0.33	0.71	19.95%
Screen - 40	2772.49%	22.34%	-55.64%	0.89	1.22	24.71%	0.58	0.34	0.70	18.25%
Screen - 50	2545.50%	21.73%	-53.88%	0.89	1.21	24.12%	0.59	0.35	0.69	17.55%
Screen - 60	1746.34%	19.13%	-54.70%	0.81	1.10	23.75%	0.59	0.35	0.68	14.99%
Screen - 70	1506.51%	18.14%	-55.23%	0.78	1.06	23.31%	0.60	0.36	0.68	13.97%
Screen - 80	1481.89%	18.03%	-54.67%	0.79	1.07	23.08%	0.60	0.37	0.68	13.81%
Screen - 90	1573.34%	18.43%	-54.59%	0.81	1.10	22.83%	0.61	0.37	0.67	14.18%
Screen - 100	1516.27%	18.19%	-54.01%	0.80	1.09	22.57%	0.61	0.37	0.67	13.92%
S&P 500 Eq Weight	204.21%	6.91%	-60.83%	0.37	0.52	20.60%	-	-	-	-

Most strategies perform best with a small number of stocks, typically 5 to 15, unlike the hundreds of stocks usually held by a mutual fund or ETF

https://www.portfolio123.com for fast, easy and powerful back testing

It is not cheap 99$/month

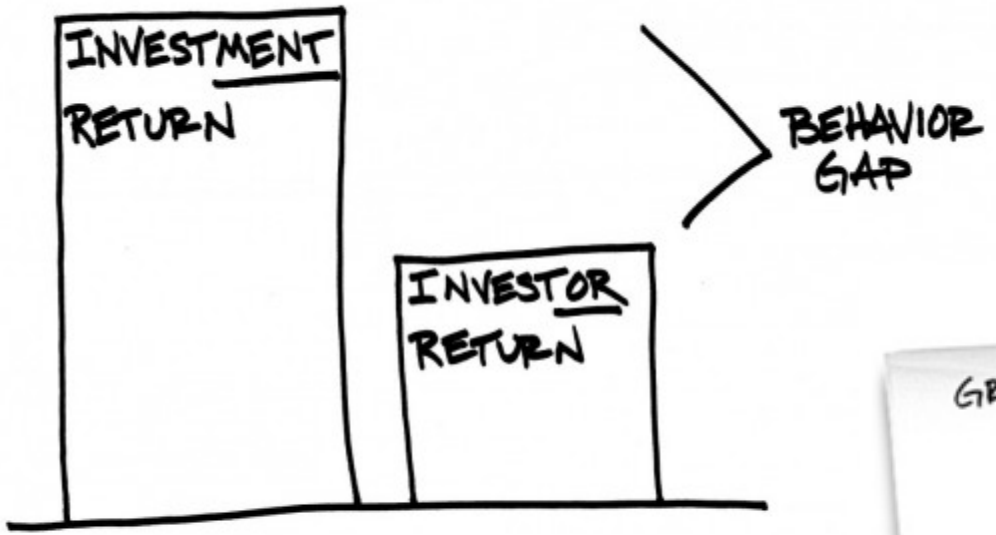
- Al Z has been using it for years
- I just started in April 2017

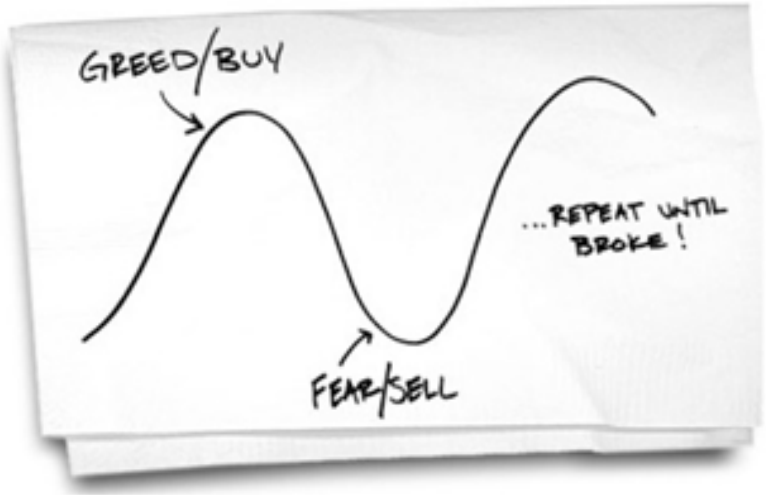
(35$/month plan, but not for serious work)

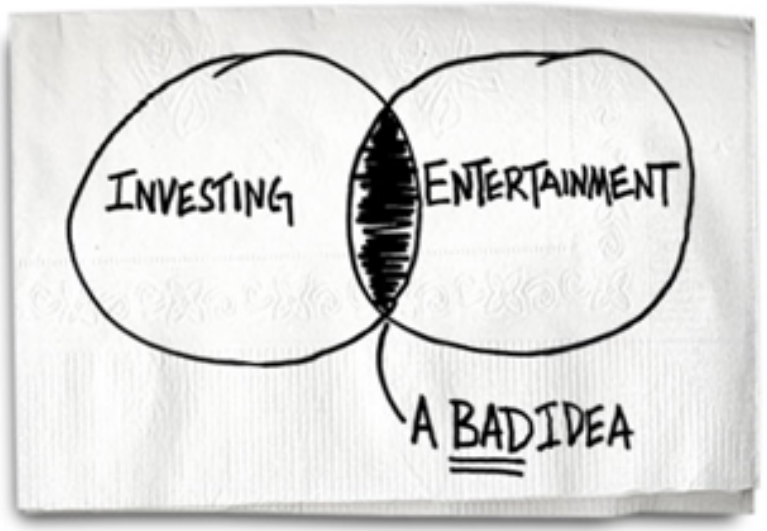
Time-Weighted Return Graph
SEP IRA (Without Fees) 9.27%
25%
20%
15%
10%
5%
0%
-5%
May
Jun
Jul
Aug
From: 04-05-2017 To: 08-25-2017
3d 5d 1m 3m YTD 1y 3y 5y Max

Summary cartoons

Carl Richards







Questions?

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