

“AAll Strategies” By Randy Olsen May 2017

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Introductory remarks

Typical average human “emotional” trading

Can the S&P be beaten?

- Mathematical (not emotional) timing of S&P
- Cloning hedge funds
- **AAll Strategies**

Details of how to make this practical and affordable

Further work

- use Portfolio123 for backtesting

# Presenter is not a financial professional

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Physicist (not a financial analyst)

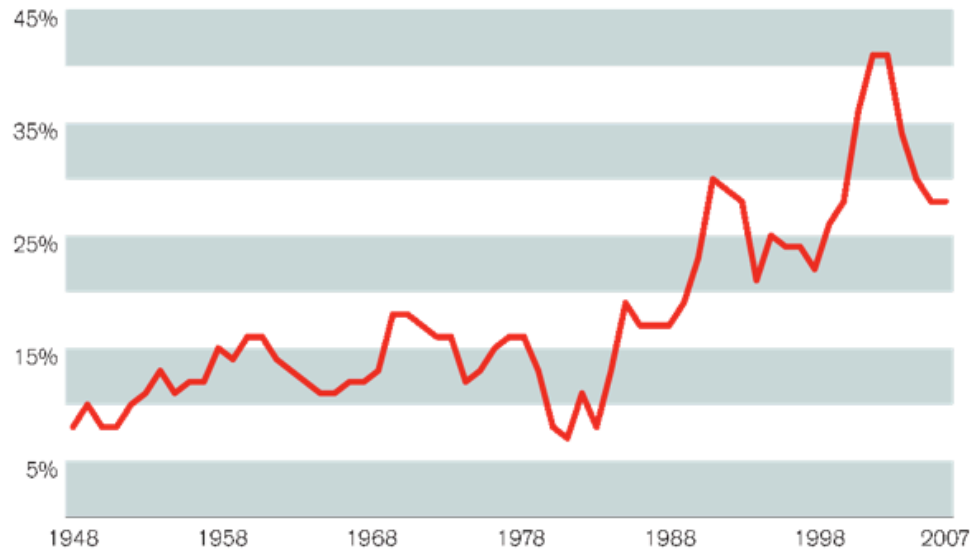
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# MONEY DISTORTED INFORMATION ABOUT INVESTING MAKES FIGURING OUT THE TRUTH MUCH HARDER THAN PHYSICS



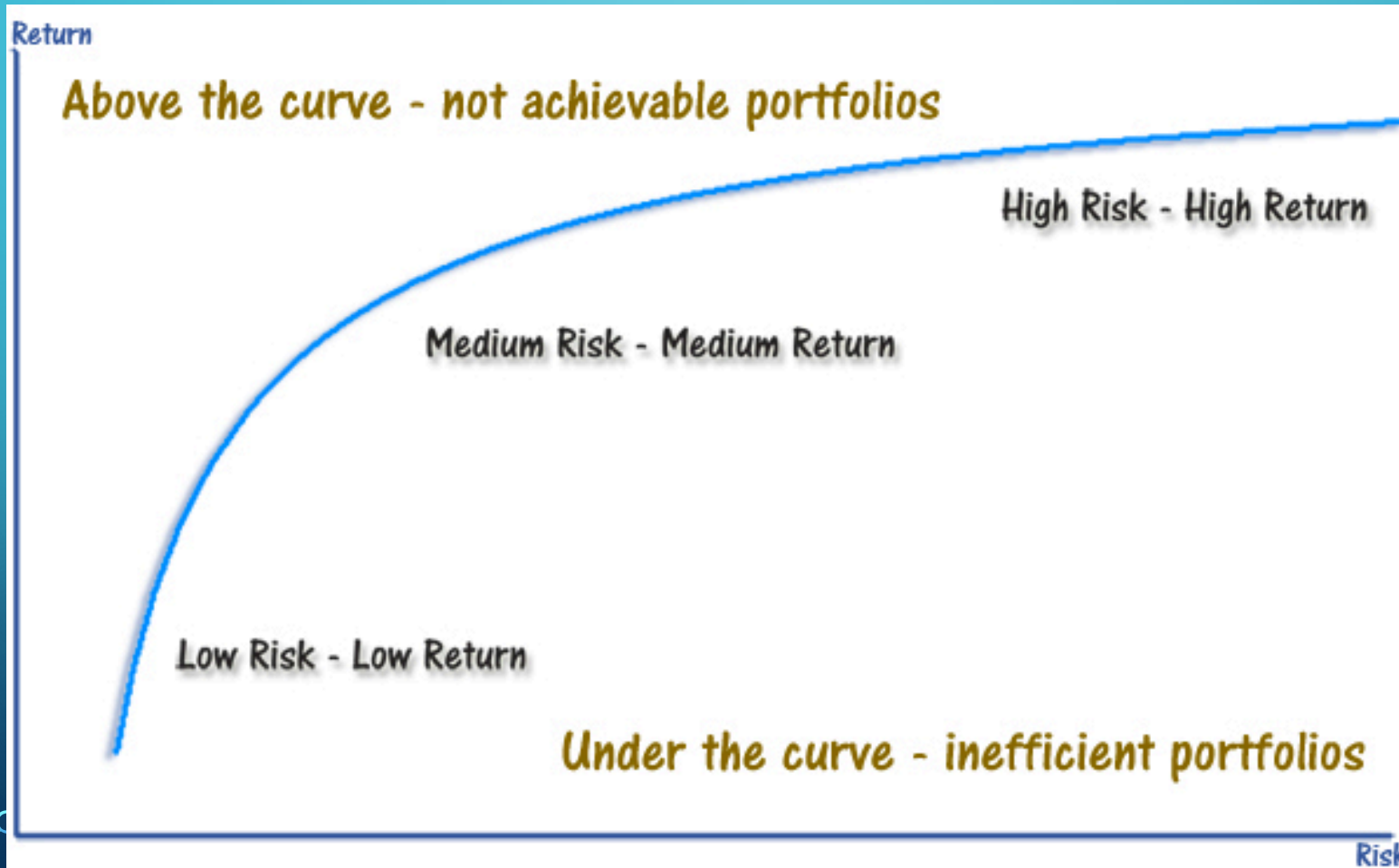
**FINANCIAL-INDUSTRY PROFITS  
AS A SHARE OF U.S. BUSINESS PROFITS**



**US GDP by Industry  
(2007)**



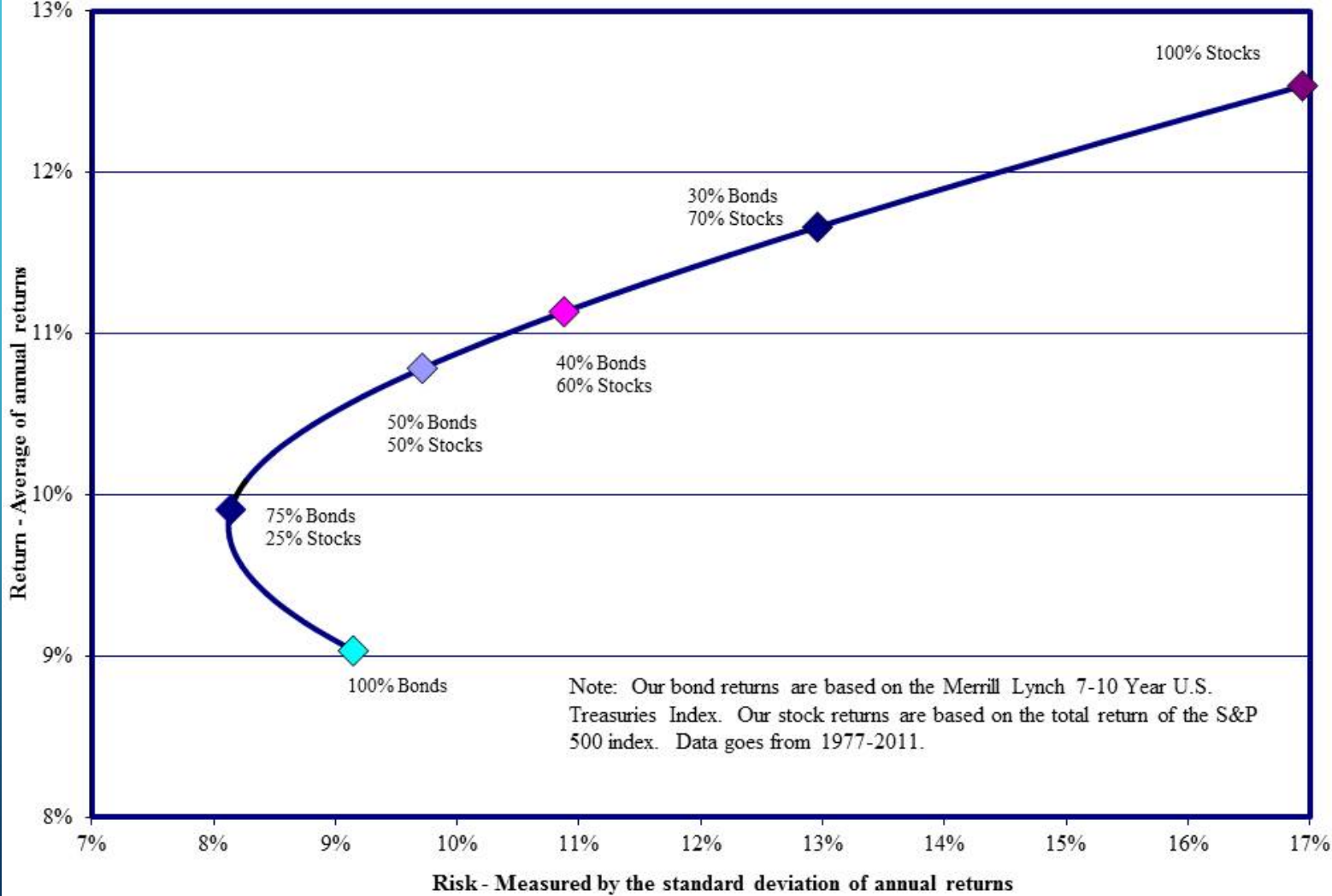
# MODERN PORTFOLIO THEORY



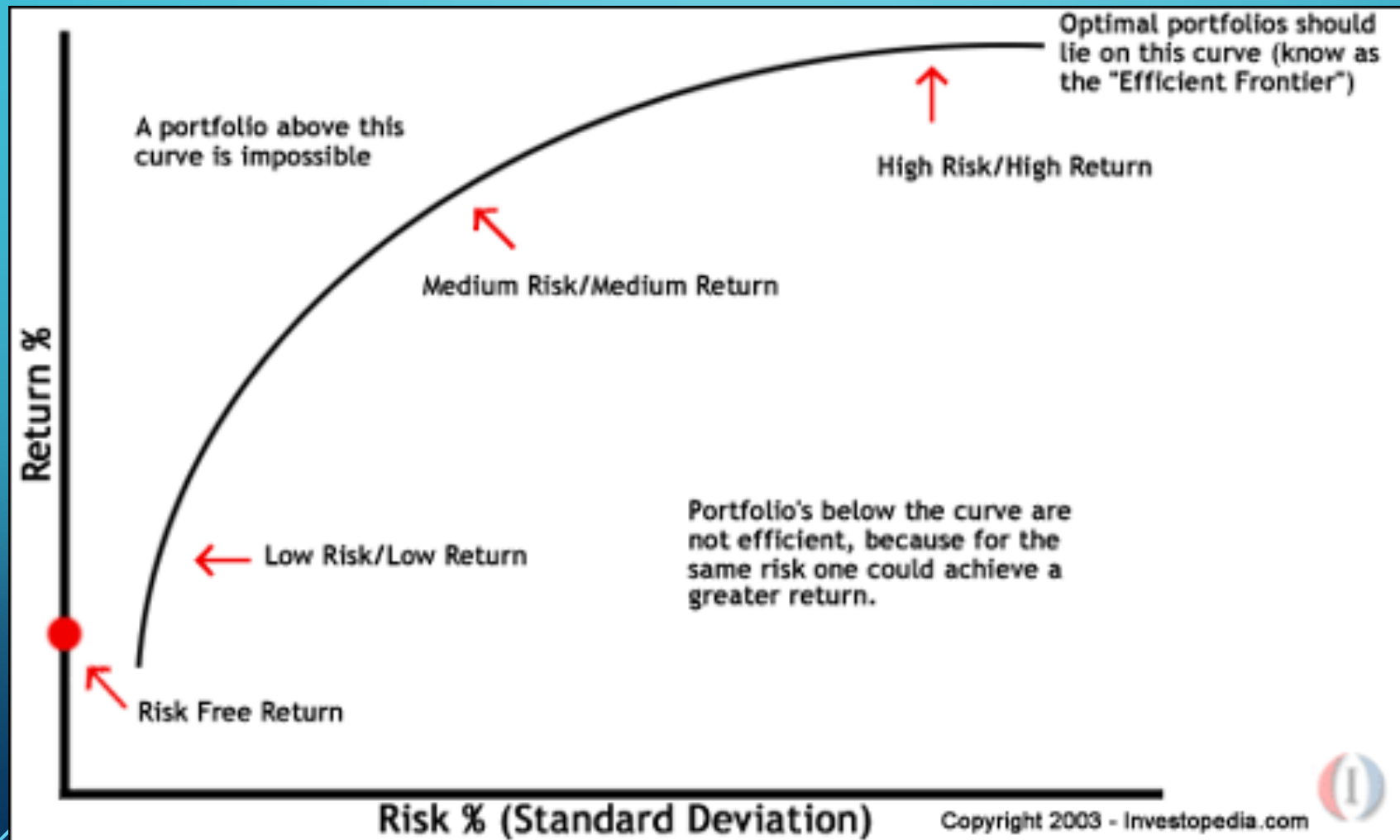


# An Efficient Frontier

## The Power of Diversification



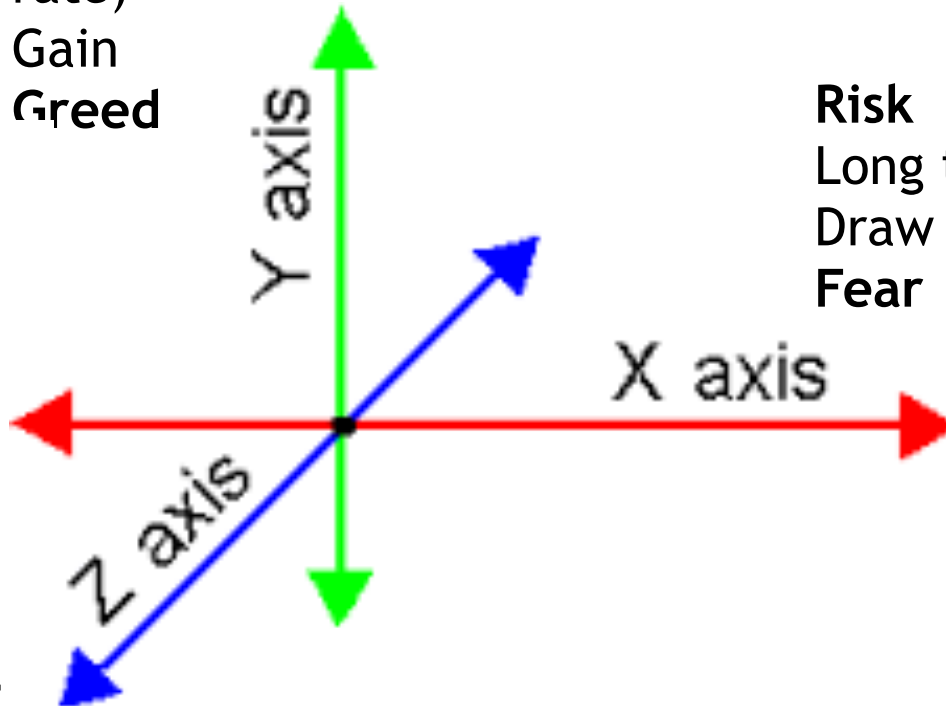
# MODERN PORTFOLIO THEORY



**Return** (CAGR= compound annual growth rate)

Gain  
Greed

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



**Effort**

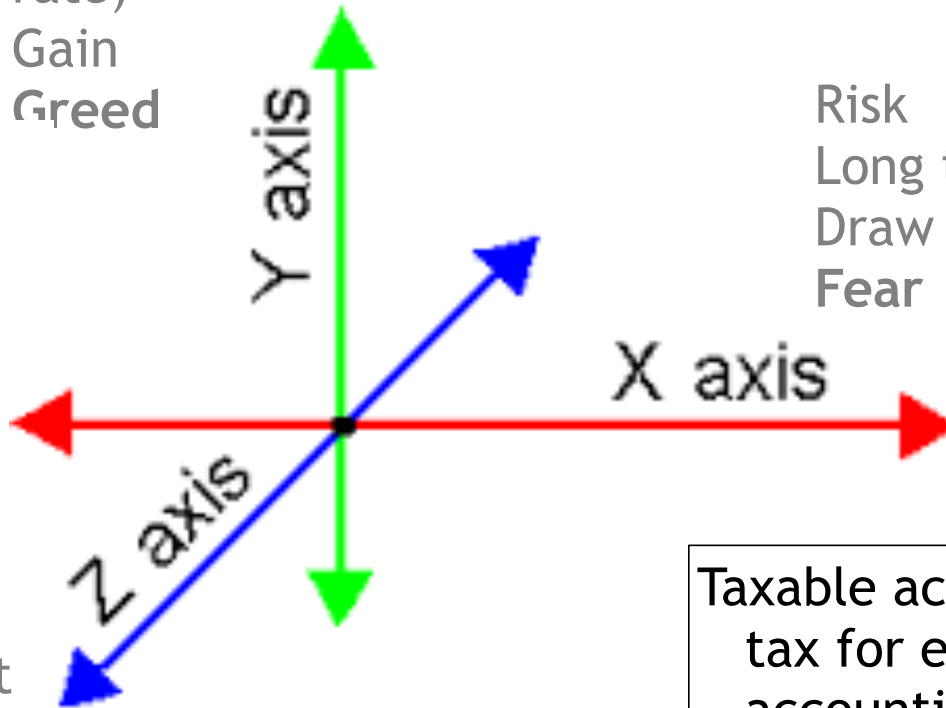
Costs (advisor fees, mutual fund fees)  
Personal effort (accounting, self education....)  
Time spent managing portfolio and communicating with others

**Hassel**

Return (CAGR= compound annual growth rate)

Gain  
Greed

Risk (Beta= standard deviation of return)  
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Fear



Effort  
Costs  
Personal effort  
Time spent managing portfolio and others

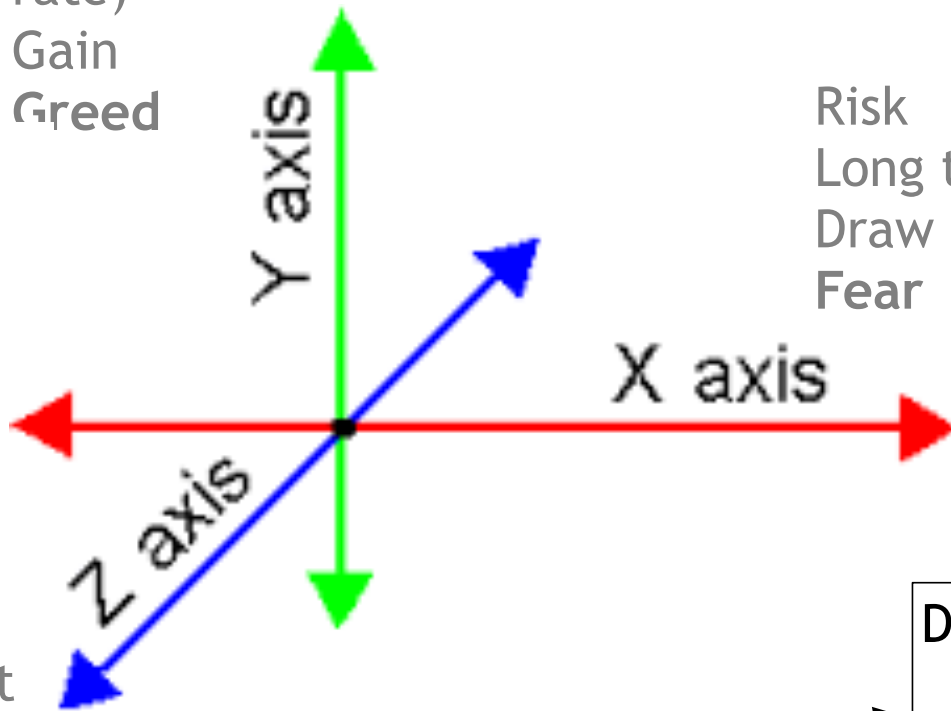
Hassel

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

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

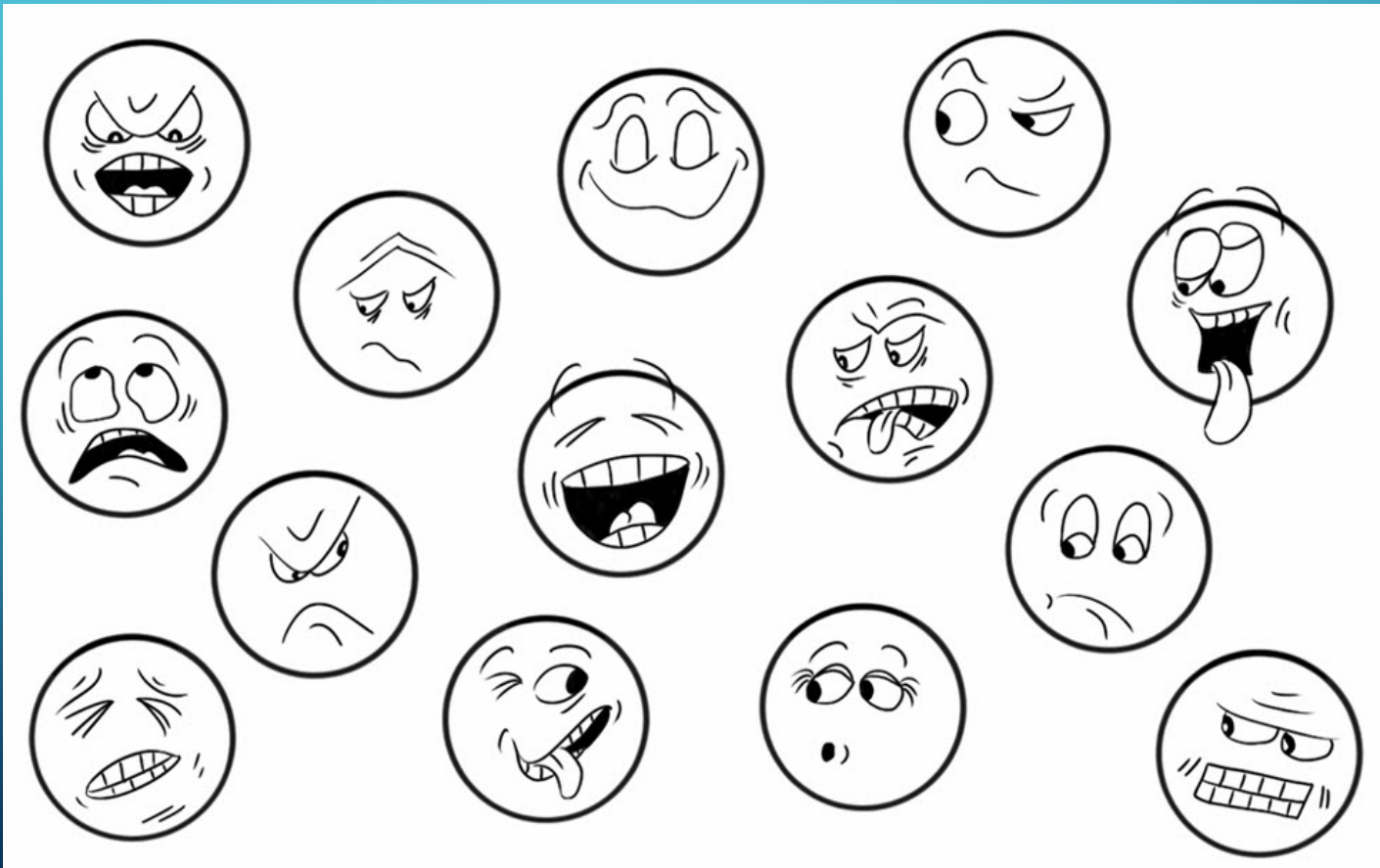


Effort  
Costs (advisor fees, mutual fund fees)  
Personal effort (accounting, self education...)  
Time spent managing portfolio and communicating with others

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

Hassel

# BAD TRADING: EMOTIONAL





## “Average Investor” (Emotional)

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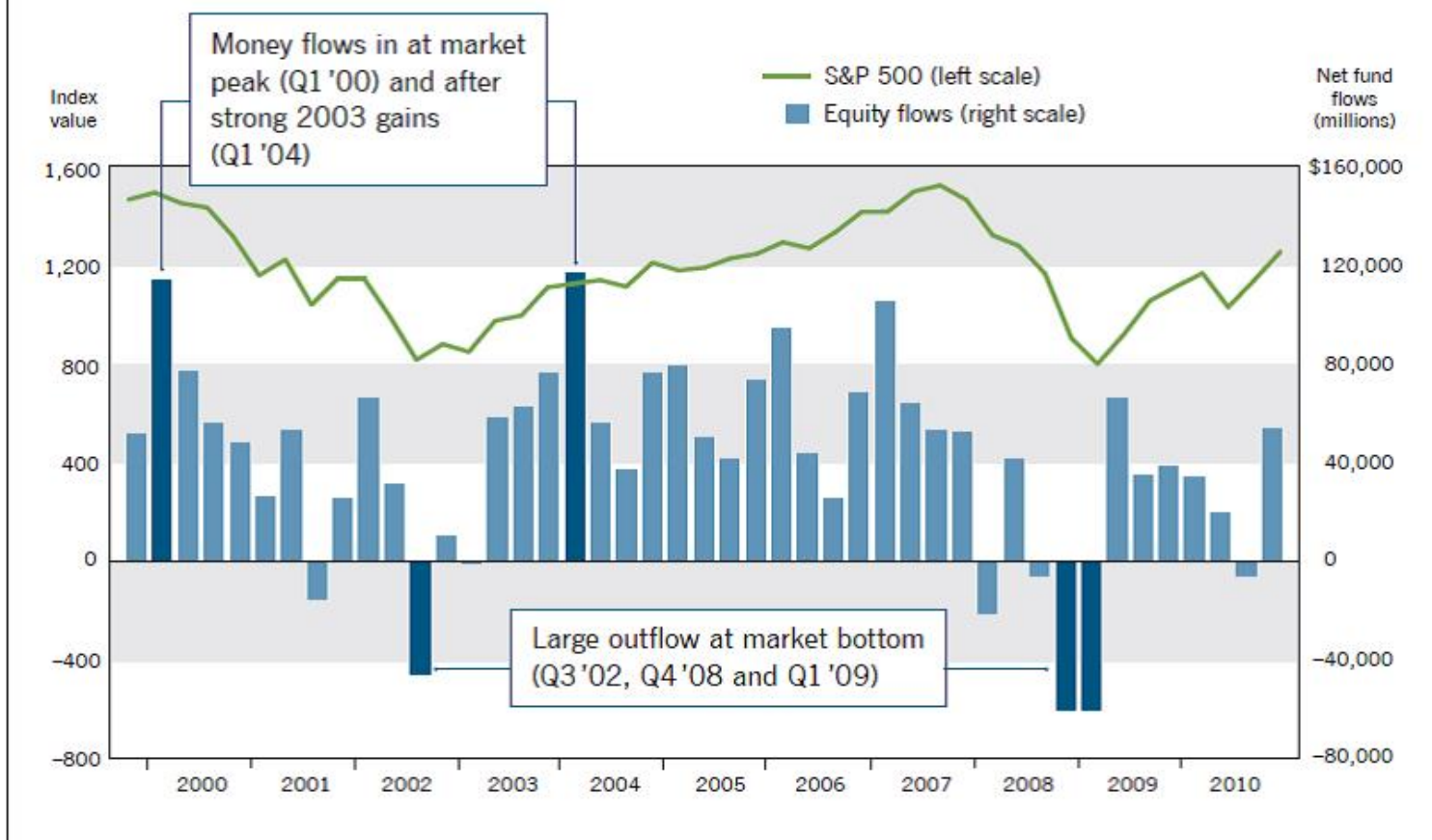
Can't stick to buy and hold

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

Dalbar Study

Morningstar study

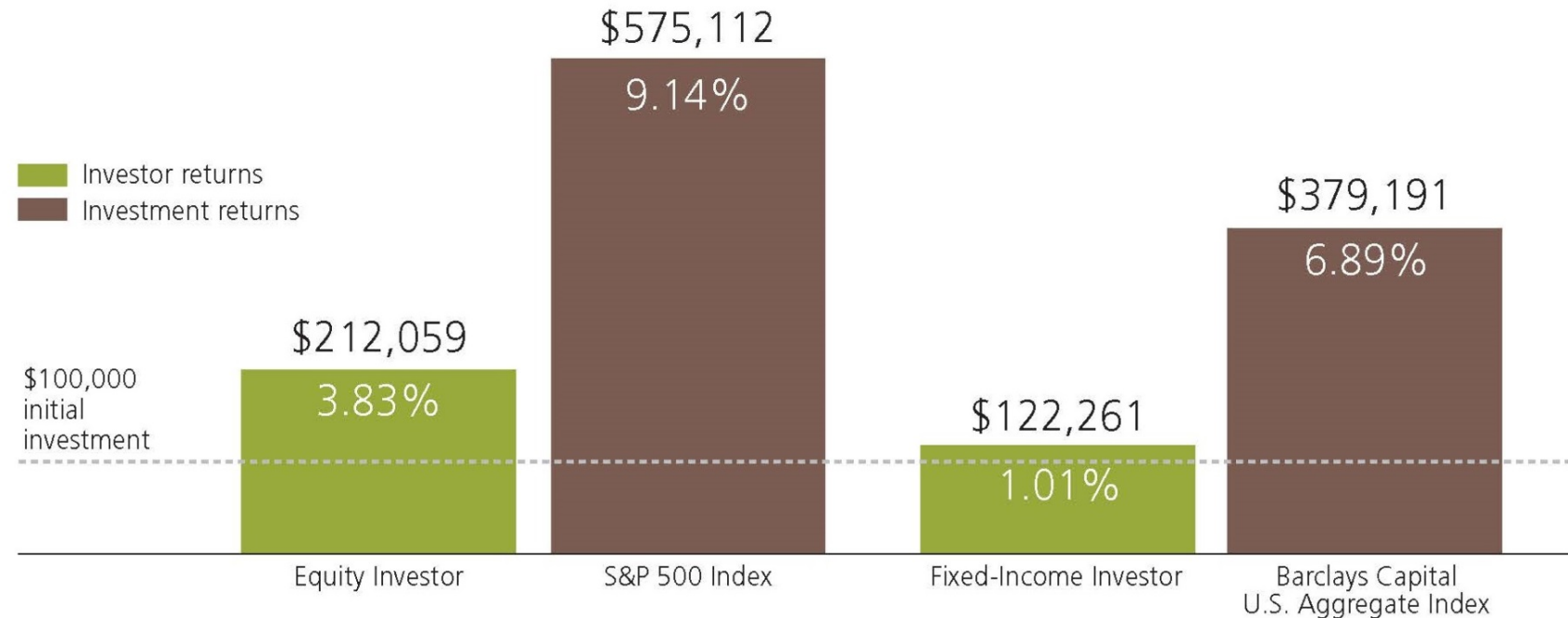
## The impact of rising and falling stock prices on investor behavior



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



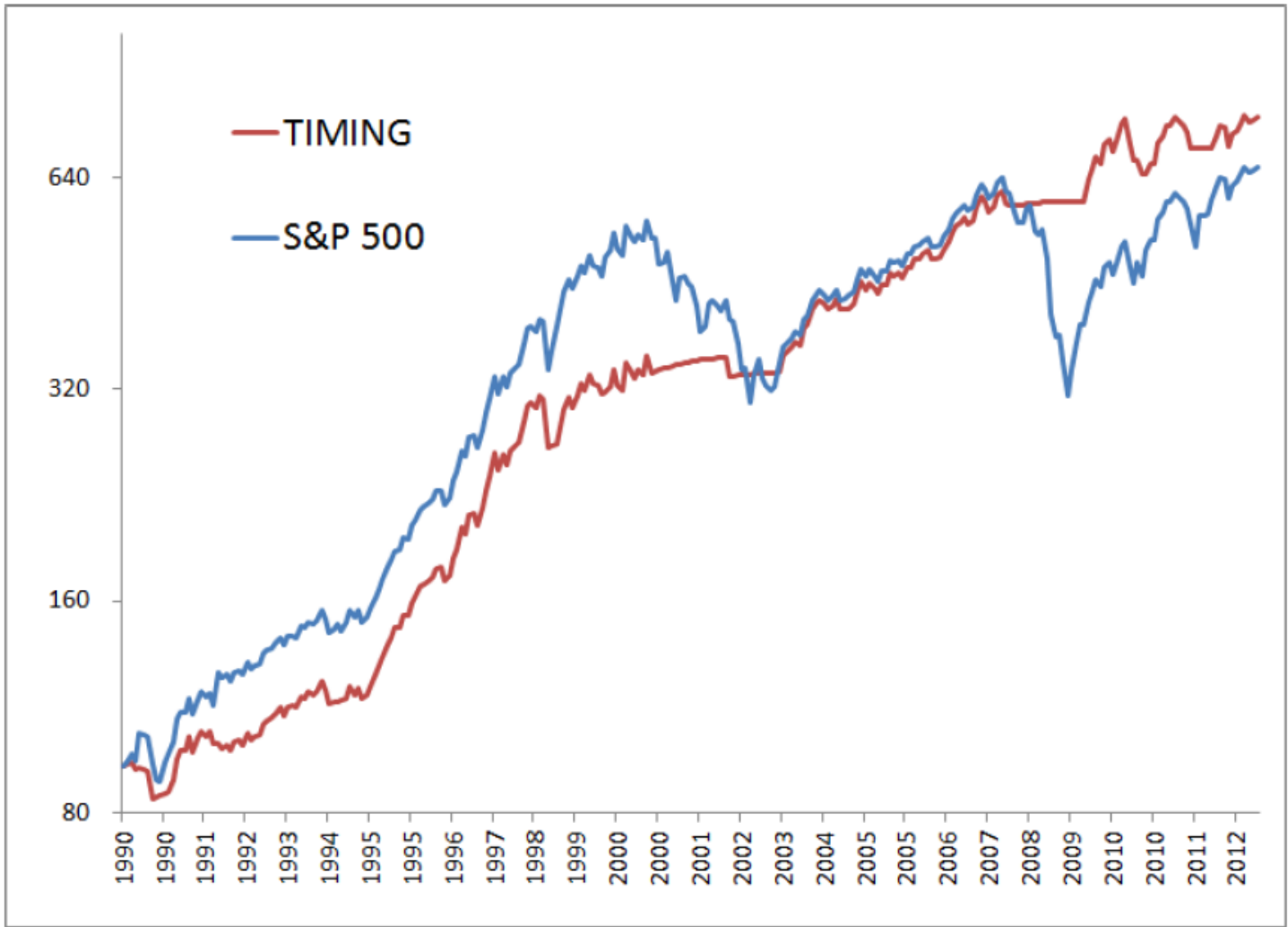
Source: DALBAR (average equity and fixed-income investors data). DALBAR uses data from the Investment Company Institute, Standard & Poor's and Barclays Capital index products to compare mutual fund investor behavior with an appropriate set of benchmarks. These behaviors are then used to simulate the "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?

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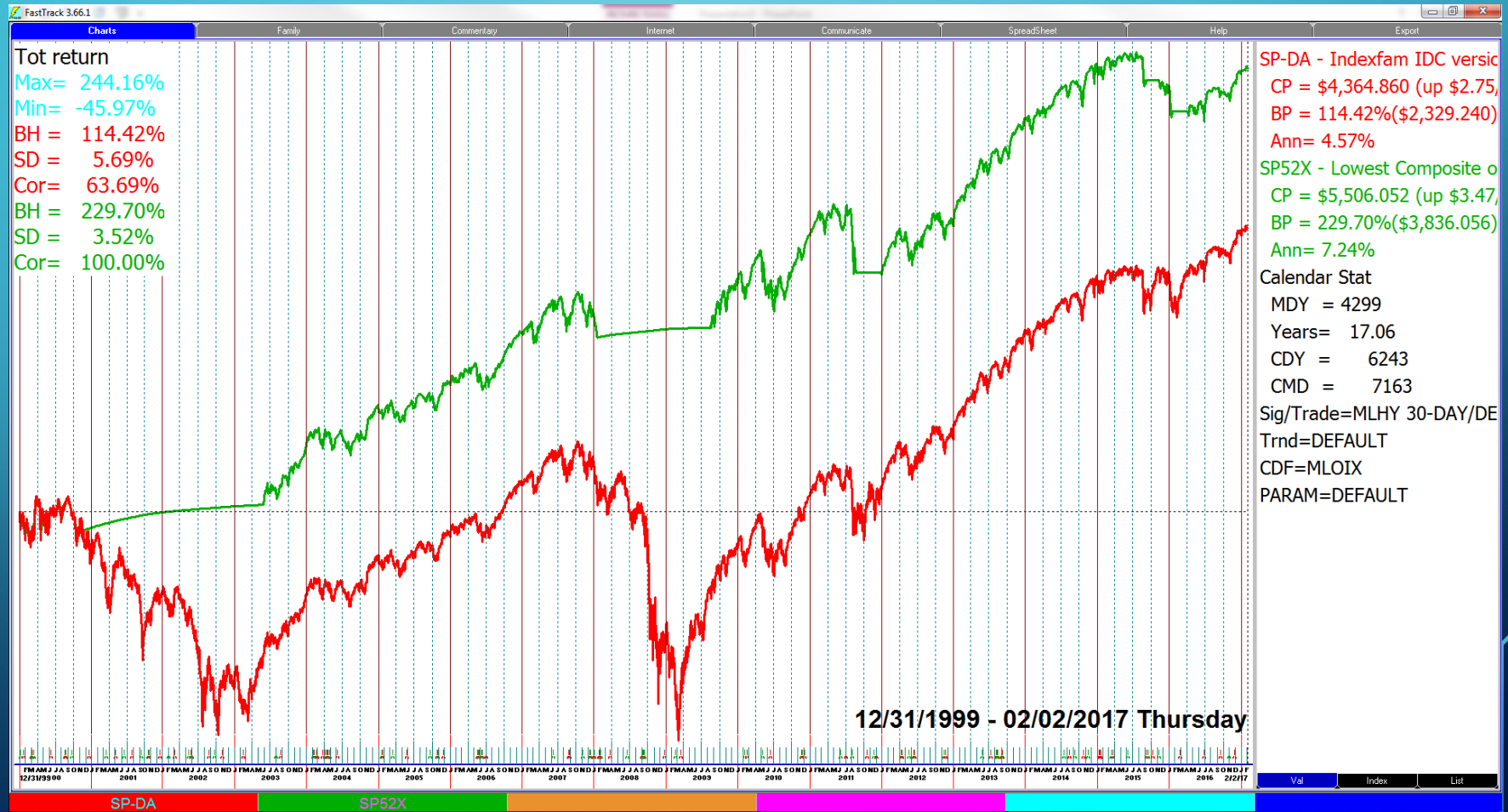
Yes

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



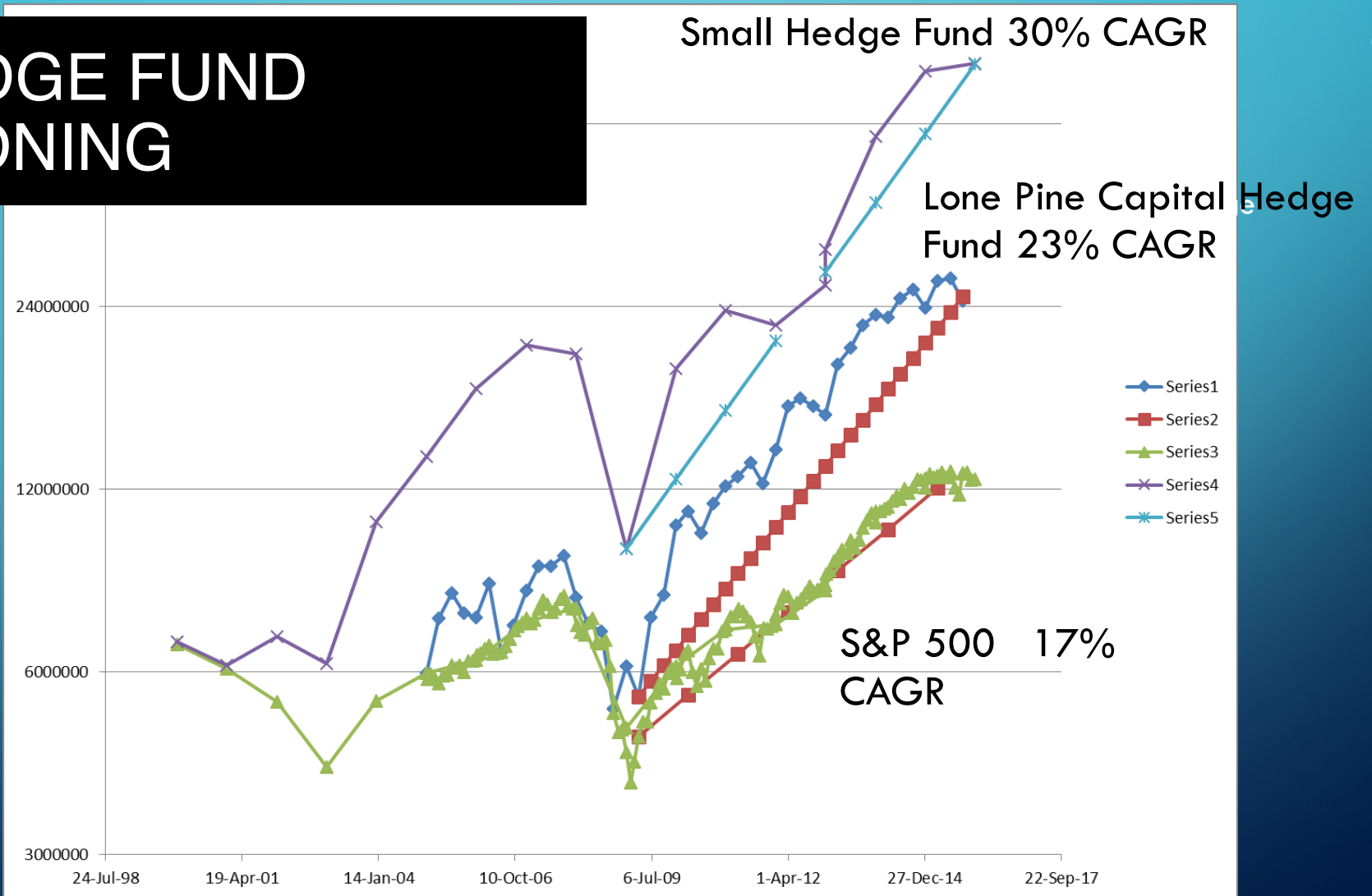
# 50/200 MA CROSS

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





# HEDGE FUND CLONING



[HTTP://WWW.AAII.COM/STOCK-SCREENS?A=MENUBARHOME](http://www.aaii.com/stock-screens?a=menubarhome)

# AAII Strategies

The screenshot shows the AAII website's 'Stock Screens' page. The page features a navigation menu, a search bar, and a 'Stock Screens' section with a descriptive paragraph. Below this is a 'Site Highlights' box with links to 'Screen Snapshots', 'Monthly Performance', 'Getting Started', 'Constructing Winning Stock Screens', '2016 Year-End Screening Review', and 'FAQ'. A note indicates the next update will be on 5/15/17. The main content is a table titled 'Screen Performance Snapshots' with tabs for YTD, 3-Year, 5-Year, 10-Year, Inception, Risk Index, Category, and Alphabetical. The table lists three strategies: Fisher (Philip), Driehaus, and O'Neil's CAN SLIM Revised 3rd Edition.

**NOTE:** The next update, with 4/30/17 data, will take place on 5/15/17. Data as of 3/31/2017

Screen	Annual Price Gain (%)						Risk Index	Category
	YTD	3 Yr	5 Yr	10 Yr	Inception	Risk Index		
1. <b>Fisher (Philip)</b> - A perspective on the evolution of the investment philosophy of a successful money manager who learned from his mistakes. <a href="#">View the Strategy</a>	21.6%	10.2%	7.8%	1.9%	5.6%	2.27	Growth & Value	
2. <b>Driehaus</b> - Classic momentum approach that seeks out stocks that are rapidly rising in price with the belief that the rising price will attract other investors. <a href="#">View the Strategy</a>	18.1%	22.9%	20.8%	18.1%	13.5%	2.22	Growth With Price Momentum	
3. <b>O'Neil's CAN SLIM Revised 3rd Edition</b> - How to implement								

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



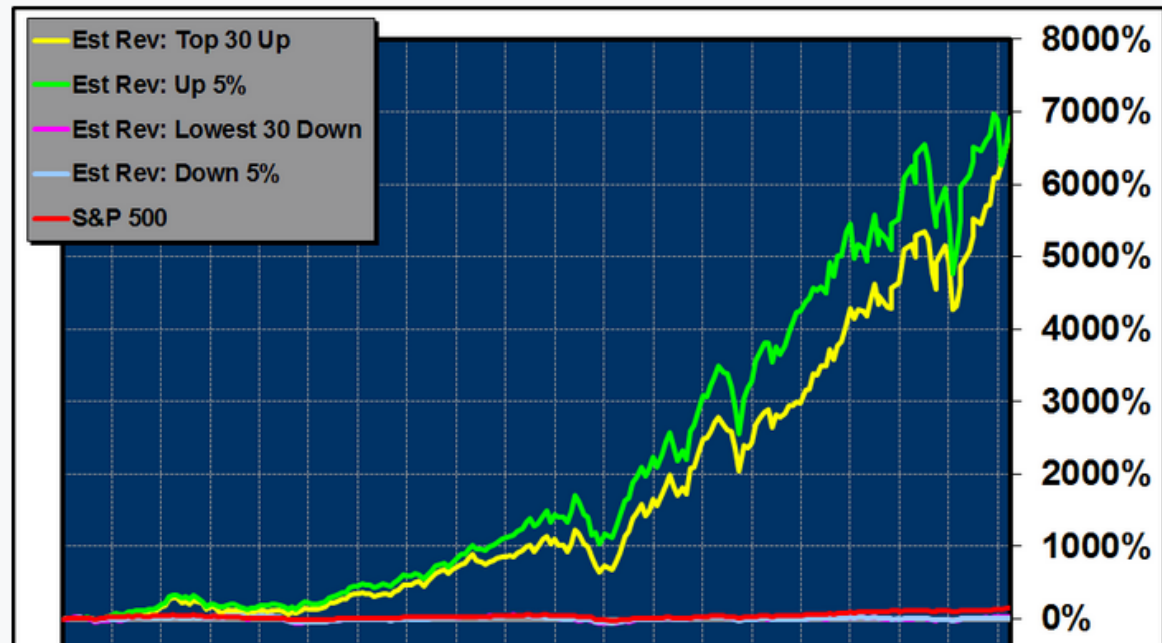

# Est Rev: Top 30 Up

» [Printer-friendly](#)

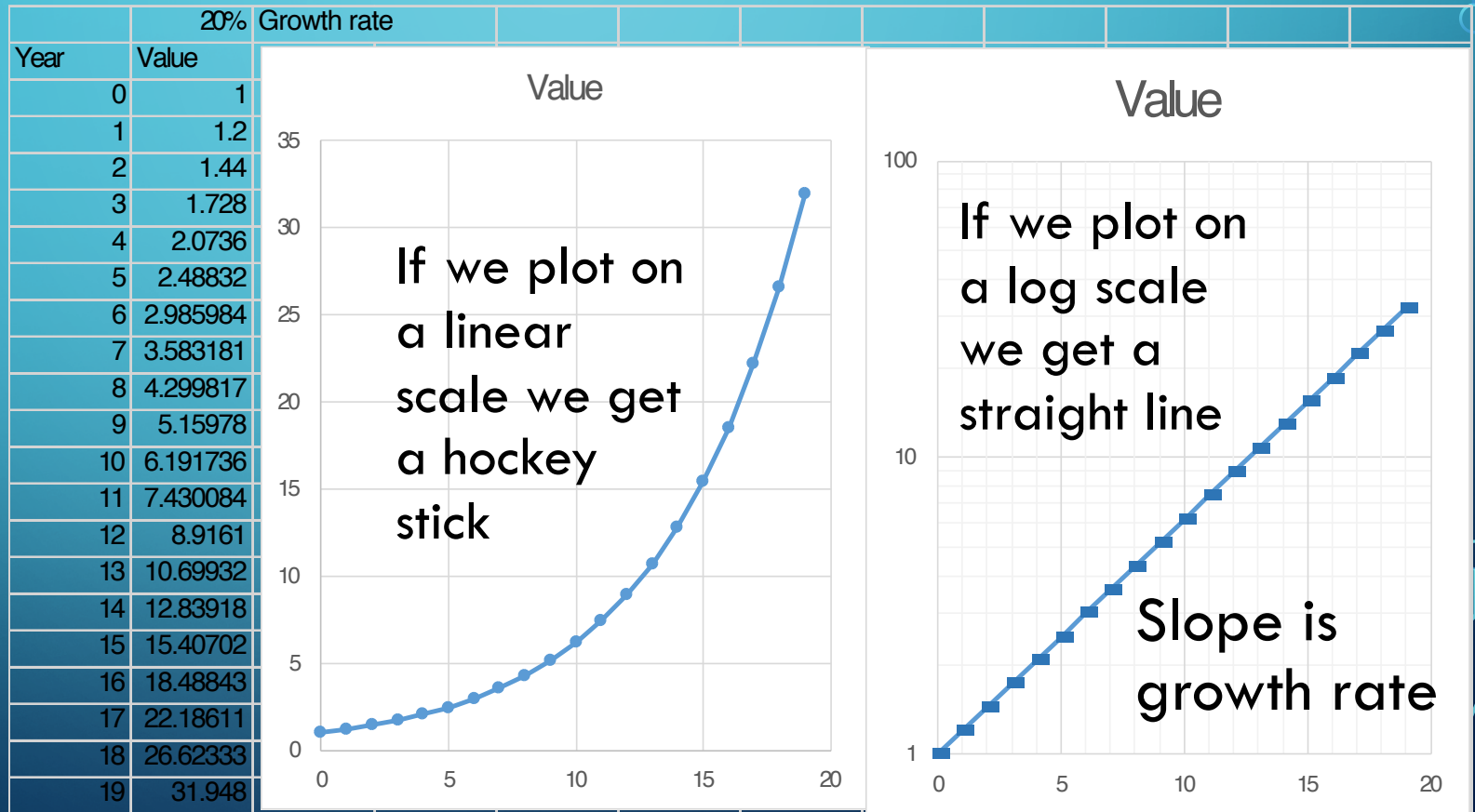
How often have you heard of a stock price falling on the announcement of increased earnings? Or, in these times, an Internet stock leaping up after reporting negative earnings per share? In these instances, actual earnings did not turn out as expected. And, like the presidential primaries, expectations 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**

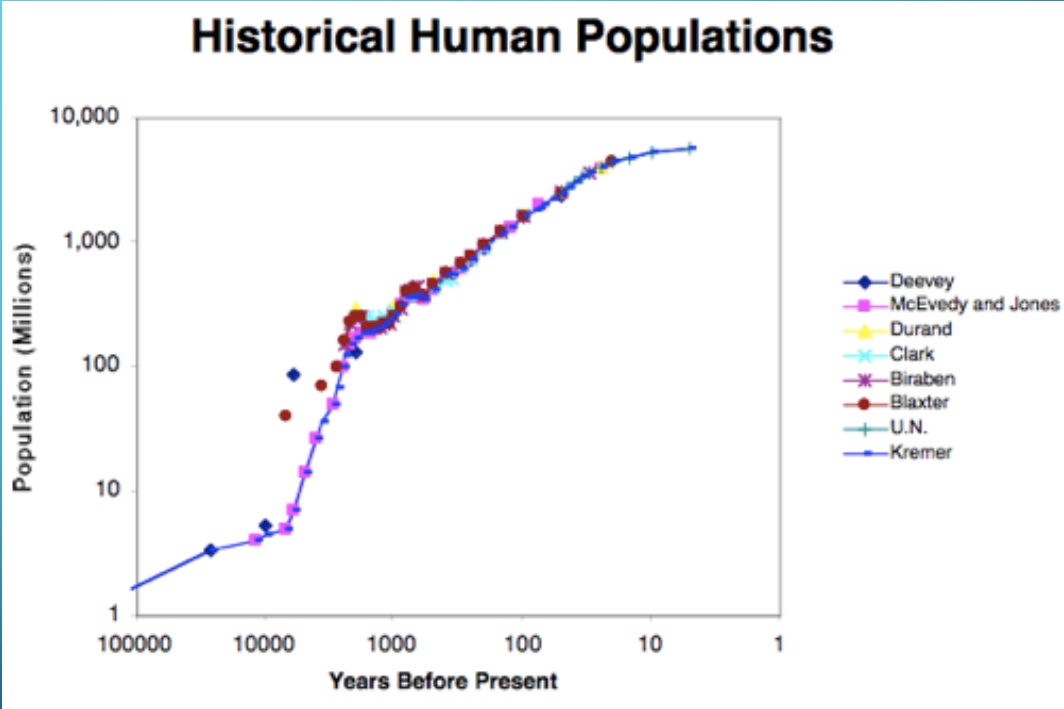
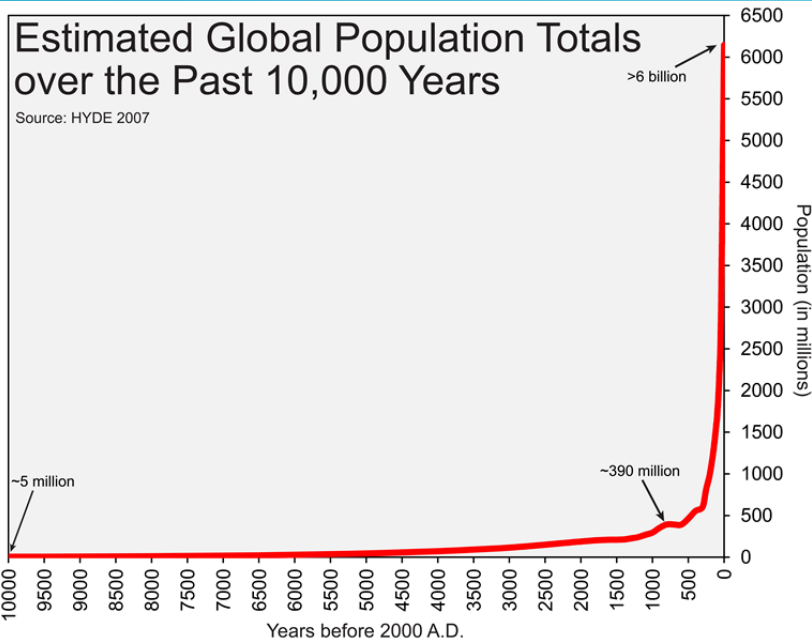


# WHY USE A LOG SCALE? STOCKS TEND TO GROW EXPONENTIALLY



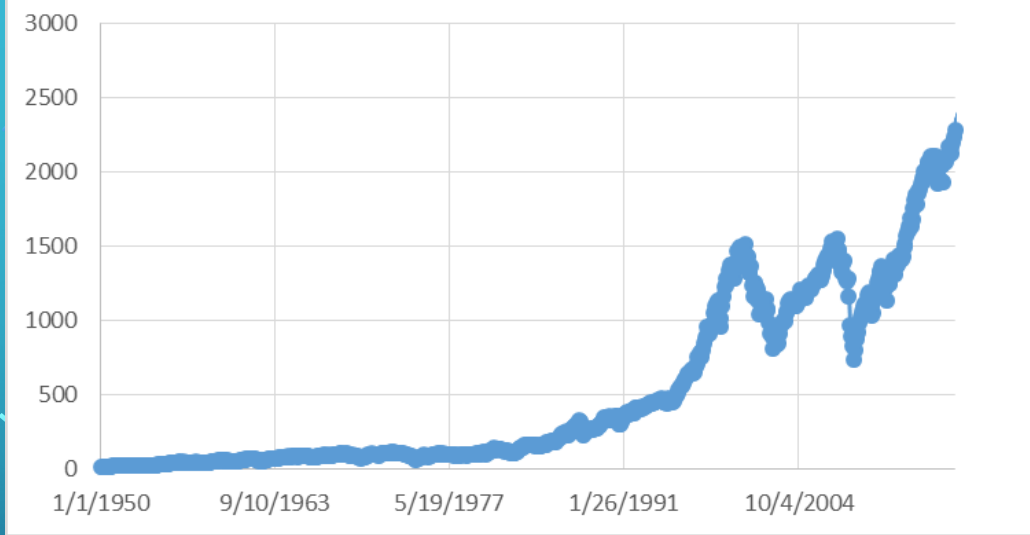


# EXAMPLE HUMAN POPULATION VS TIME

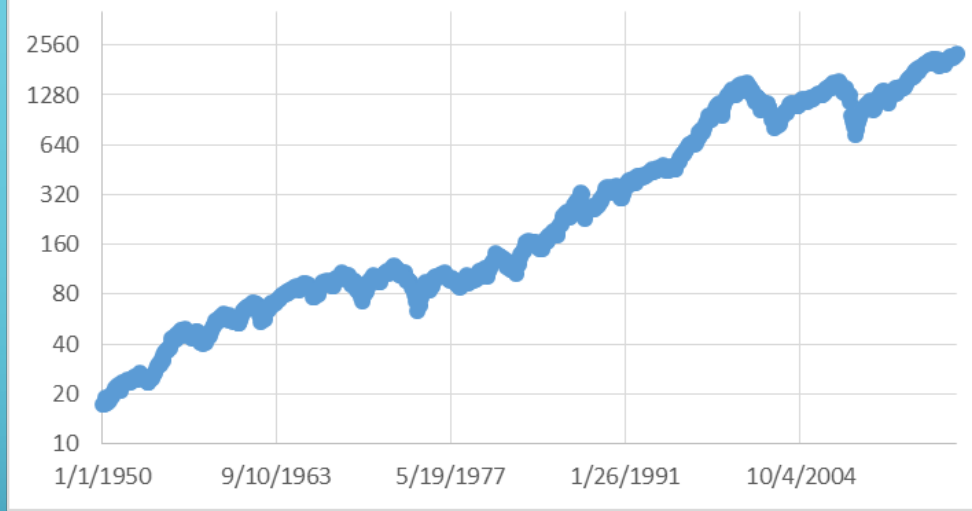




S&P 500 Linear Plot



S&P 500 Log Plot



LINEAR PLOT  
PLOT

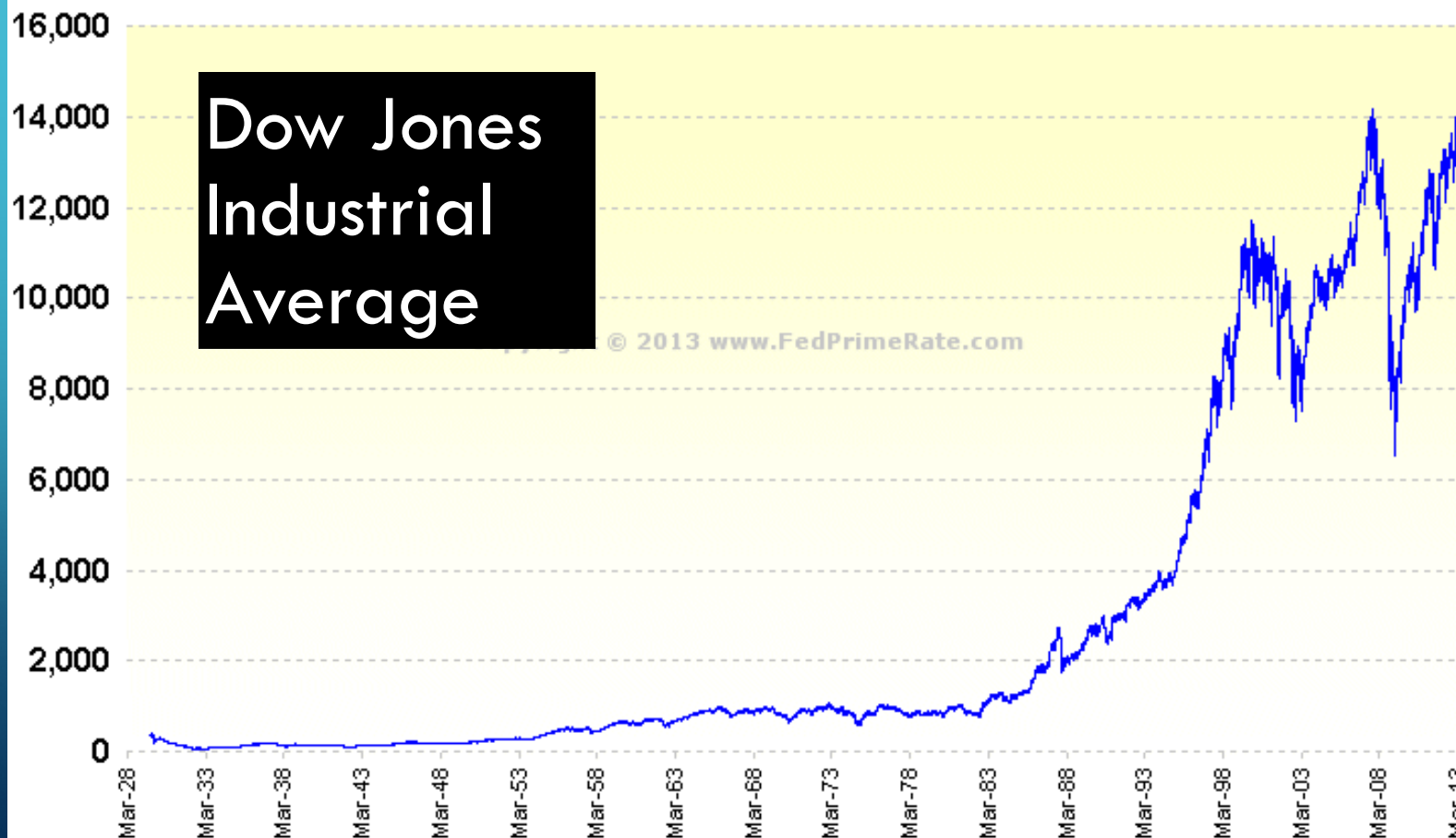
S&P500

LOG

# LINEAR PLOT

## Dow Jones Industrial Average (DJIA) History

January 1, 1929 Through March 26, 2013

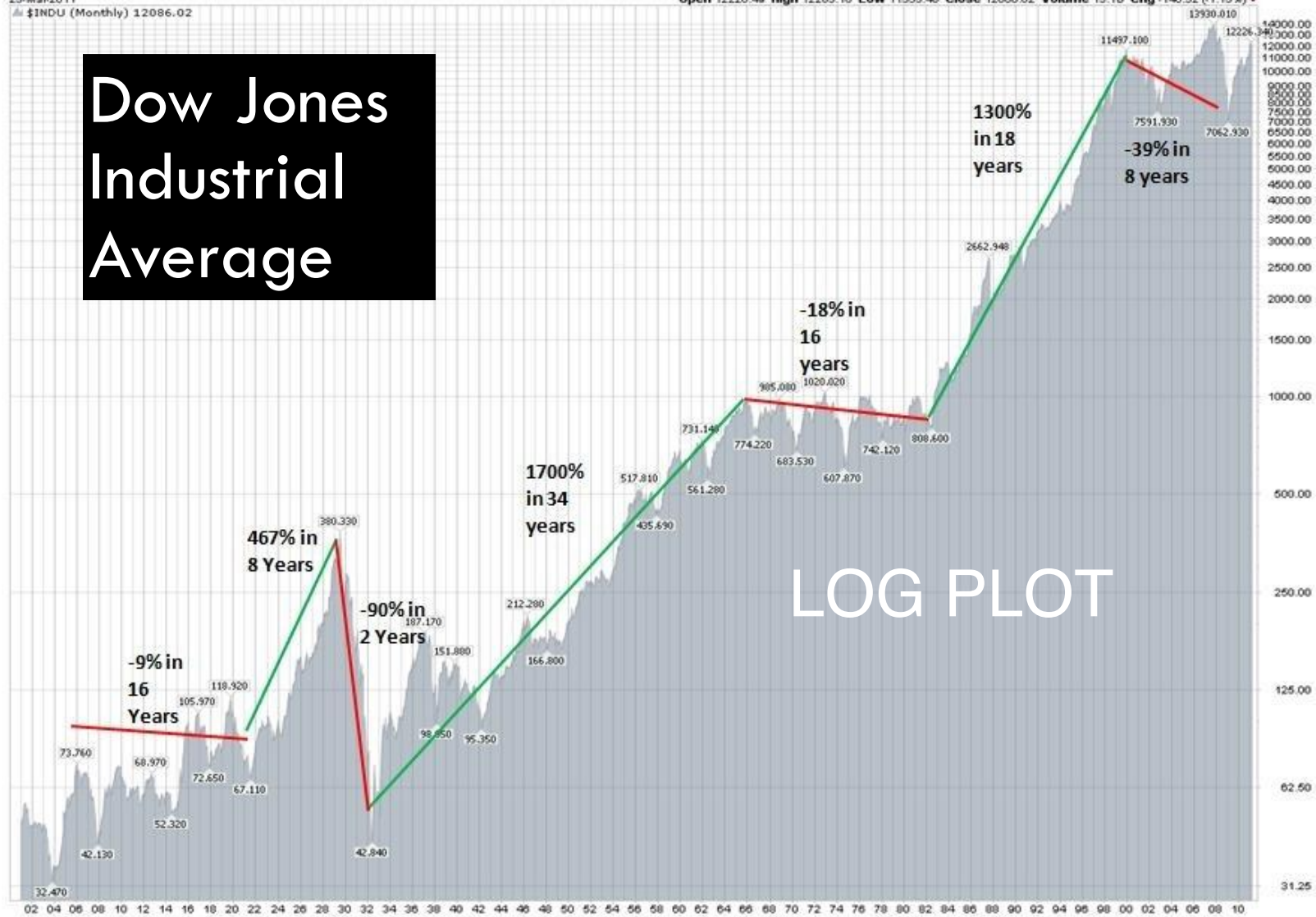


Dow Jones  
Industrial  
Average

\$INDU (Dow Jones Industrial Average) INDX  
23-Mar-2011  
\$INDU (Monthly) 12086.02

Open 12226.49 High 12283.10 Low 11555.48 Close 12086.02 Volume 13.1B Chg -140.32 (-1.15%)  
© StockCharts.com

# Dow Jones Industrial Average



# HTTP://WWW.AAII.COM/STOCK-SCREENS/PERFORMANCE

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

## 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

Strategy	Price Gain (%)														Annualized Total*		
	YTD	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004		2003	2002
<a href="#">Cash Rich Firms</a>	-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
<a href="#">Dogs of the Dow</a>	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
<a href="#">Dogs of the Dow, Low Priced 5</a>	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
<a href="#">Fundamental Rule of Thumb</a>	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
<a href="#">Graham-Defensive Investor (Non-Utility)</a>	-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
<a href="#">Graham-Defensive Investor (Utility)</a>	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
<a href="#">Graham-Enterprising Investor Revised</a>	-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
<a href="#">Magic Formula</a>	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
<a href="#">O'Shaughnessy Value</a>	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
<a href="#">Piotroski High F-Score</a>	-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
<a href="#">Price-to-Free-Cash-Flow</a>	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
<a href="#">Schloss</a>	-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
<a href="#">Weiss Blue Chip Div Yield</a>	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?](#)



# AAll Strategies

annualperformance.xlsx - Excel John Bajkowski

File Home Insert Data Review View Tell me what you want to do Share

E F G H I J K L M N O P Q R S T U V

Site

	Price Gain (%)																			Avg	
	YTD*	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004	2003	2002	2001	2000	1999	1998	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 (%)																			Avg
84																					Ann'l
85	<b>Earnings Estimates</b>	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 (%)																			Avg
94																					Ann'l
95	<b>Specialty</b>	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 (%)																			Avg
99																					Ann'l
100	<b>Indexes</b>	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 AAI EXCEL DATA LOOKS LIKE THIS

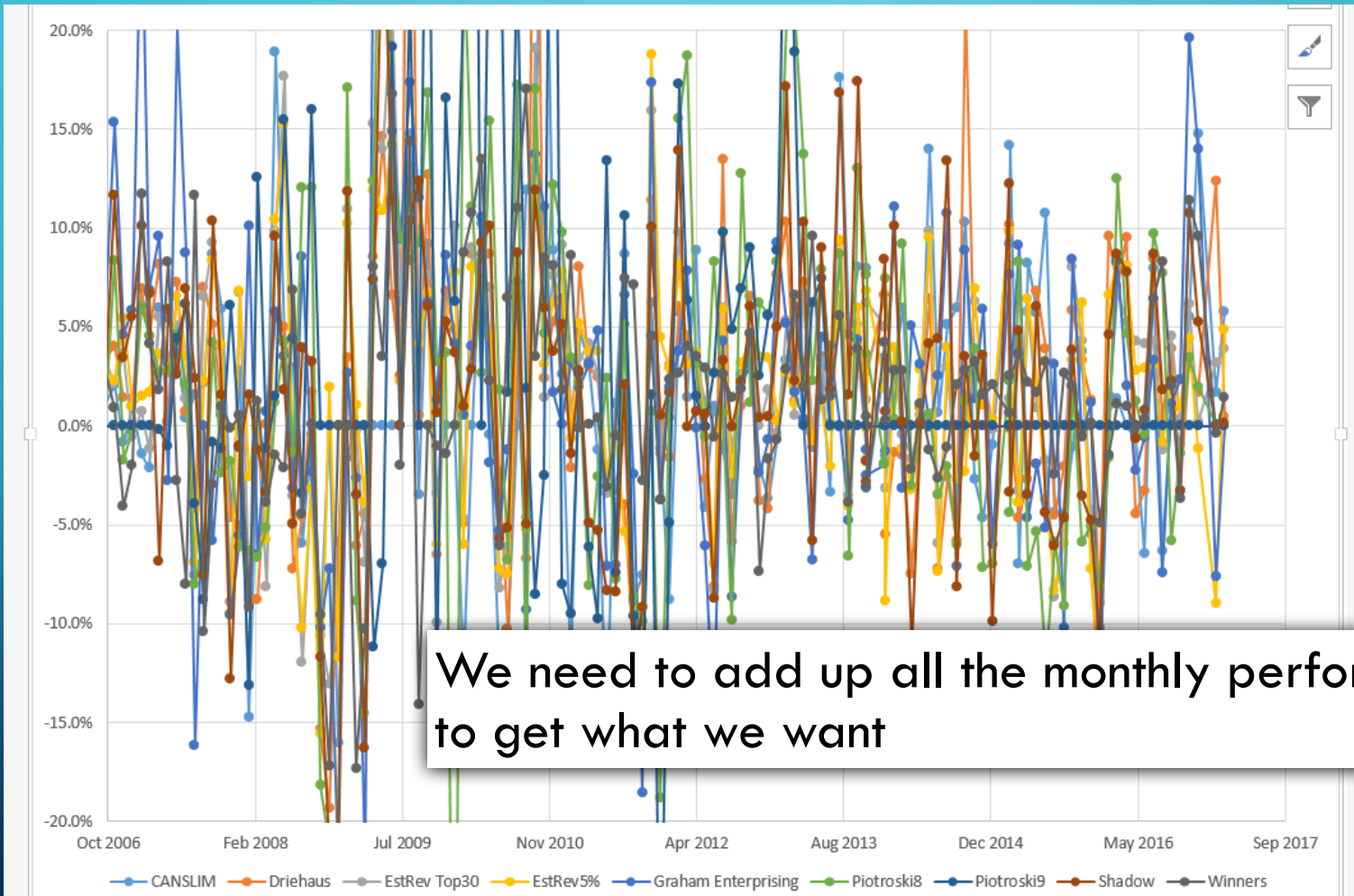
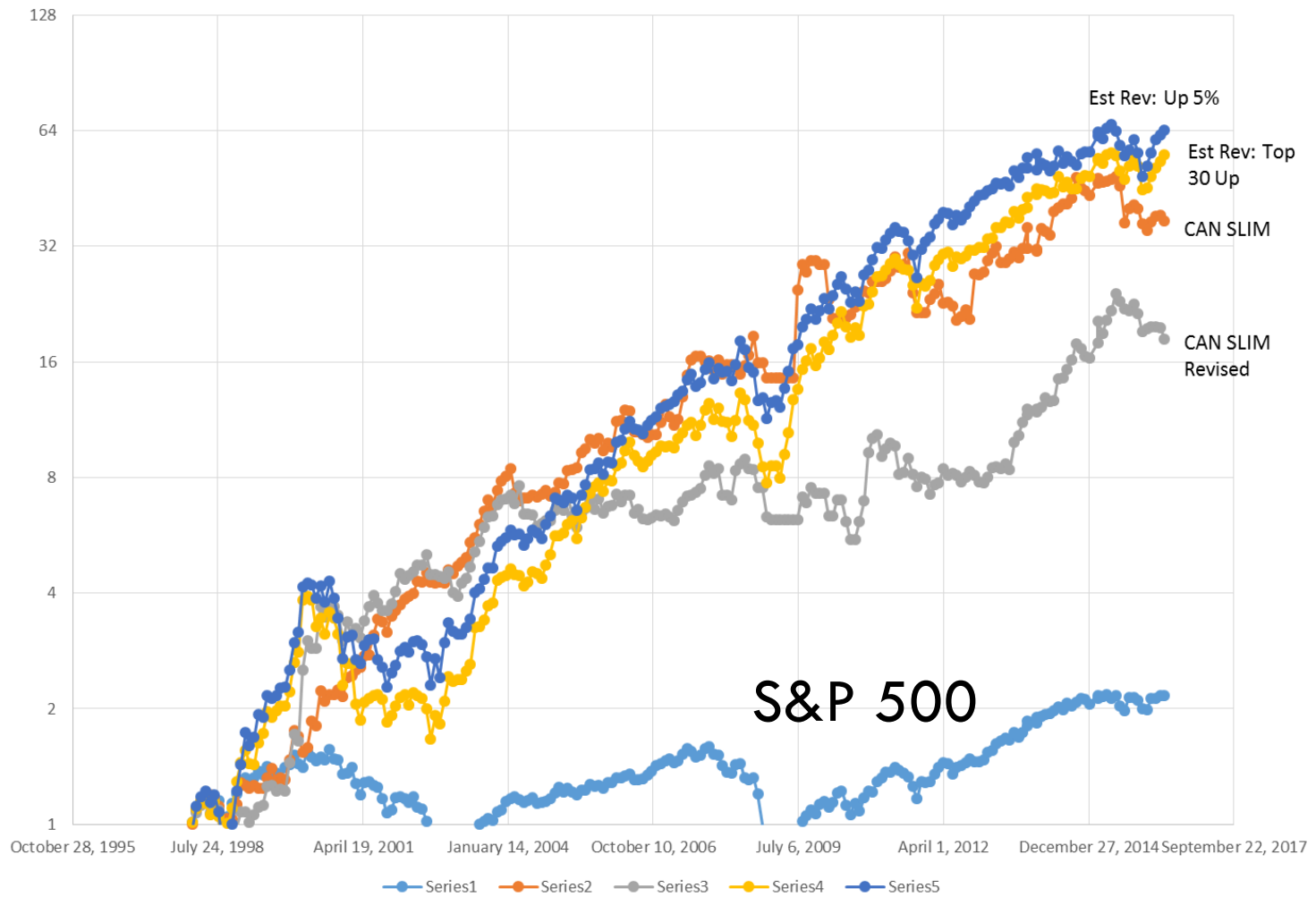
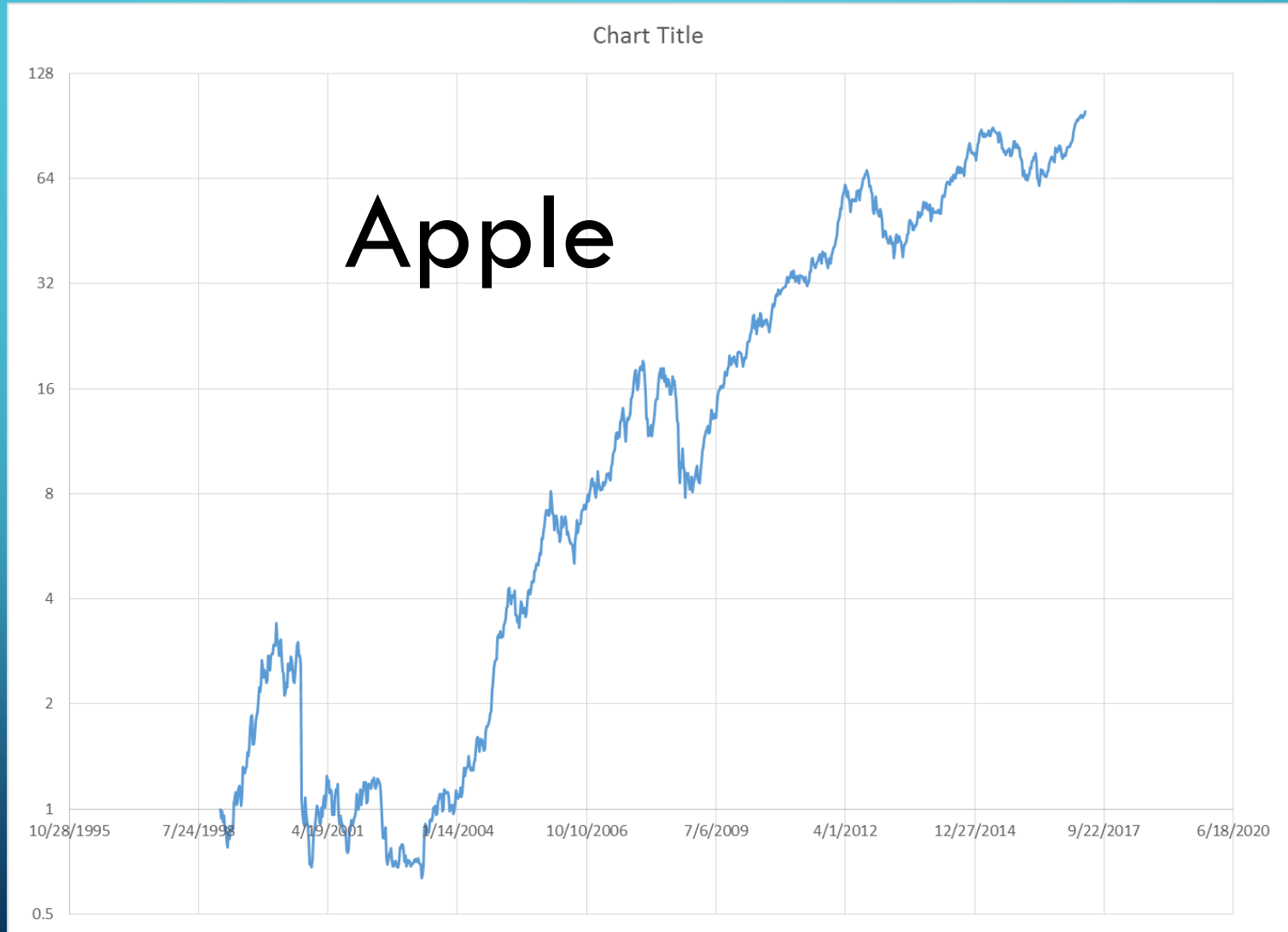




Chart Title



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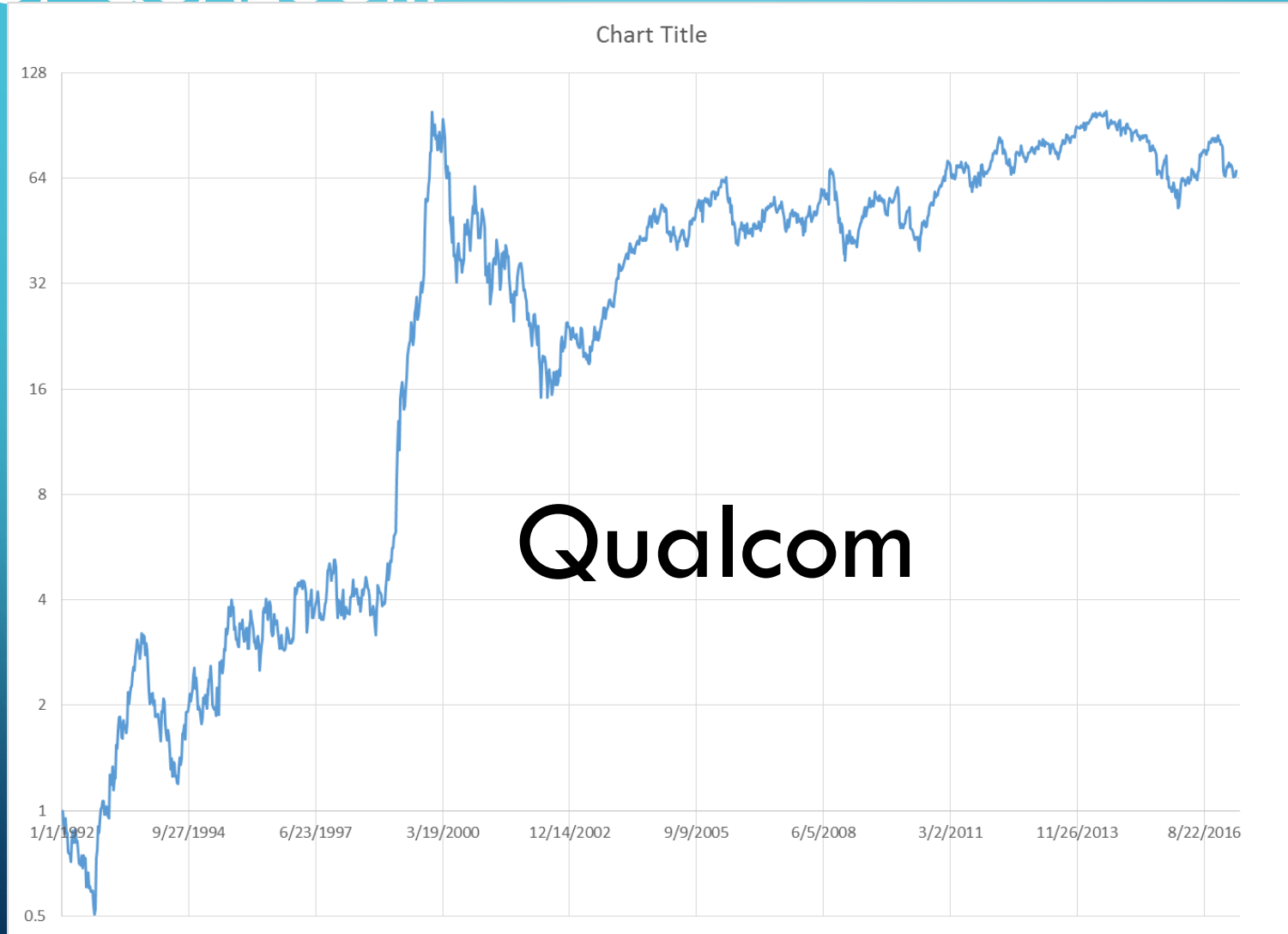


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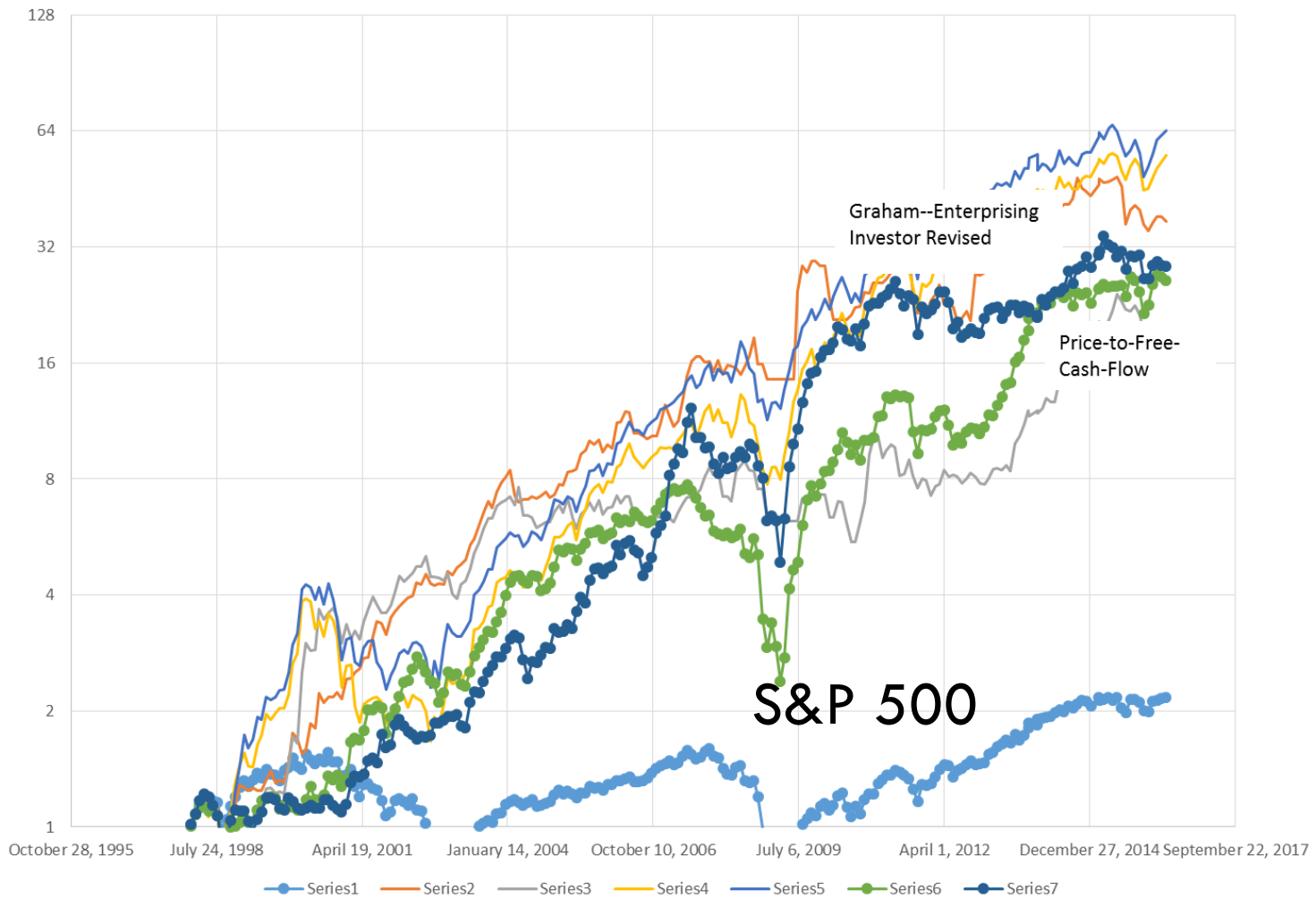


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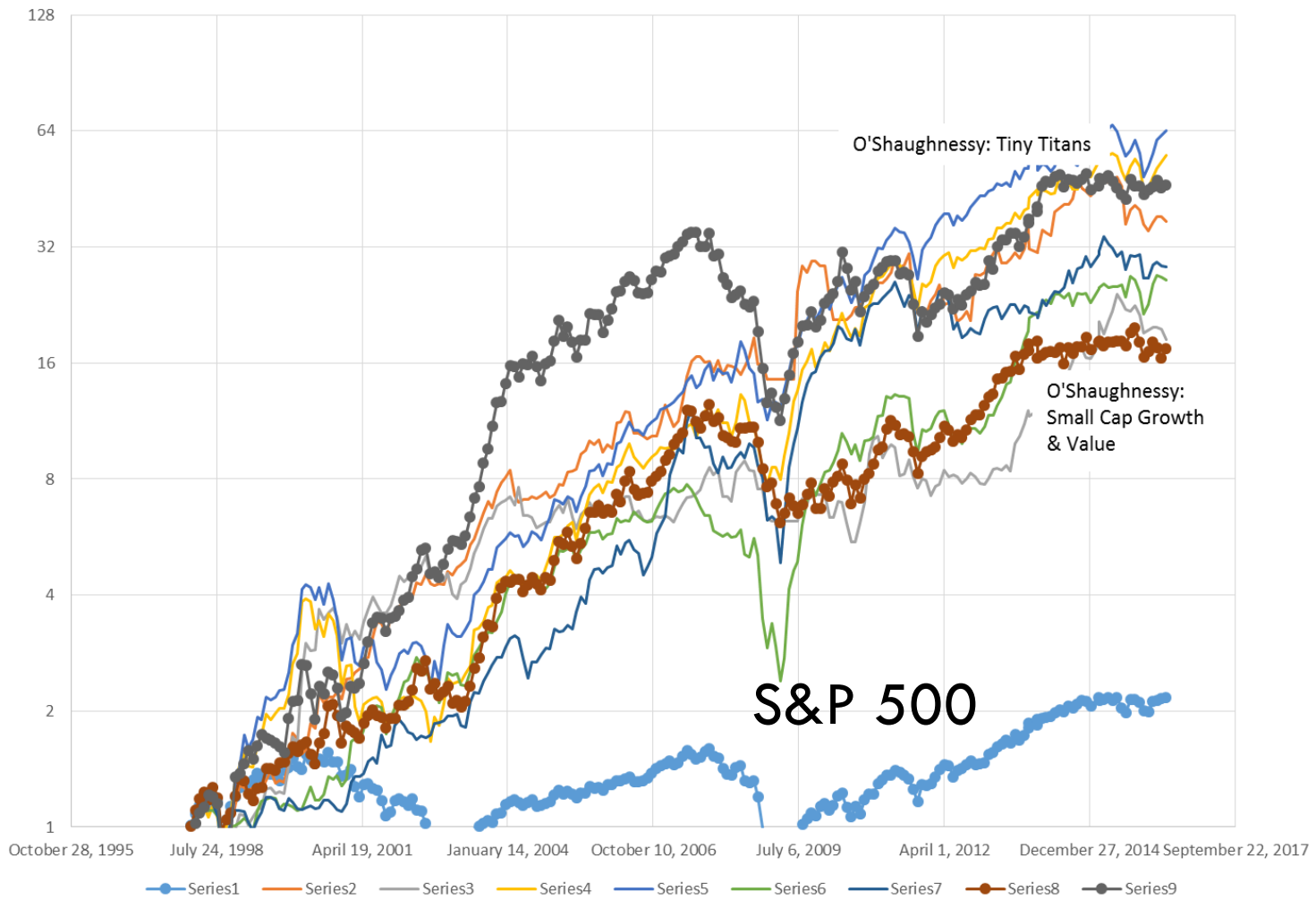
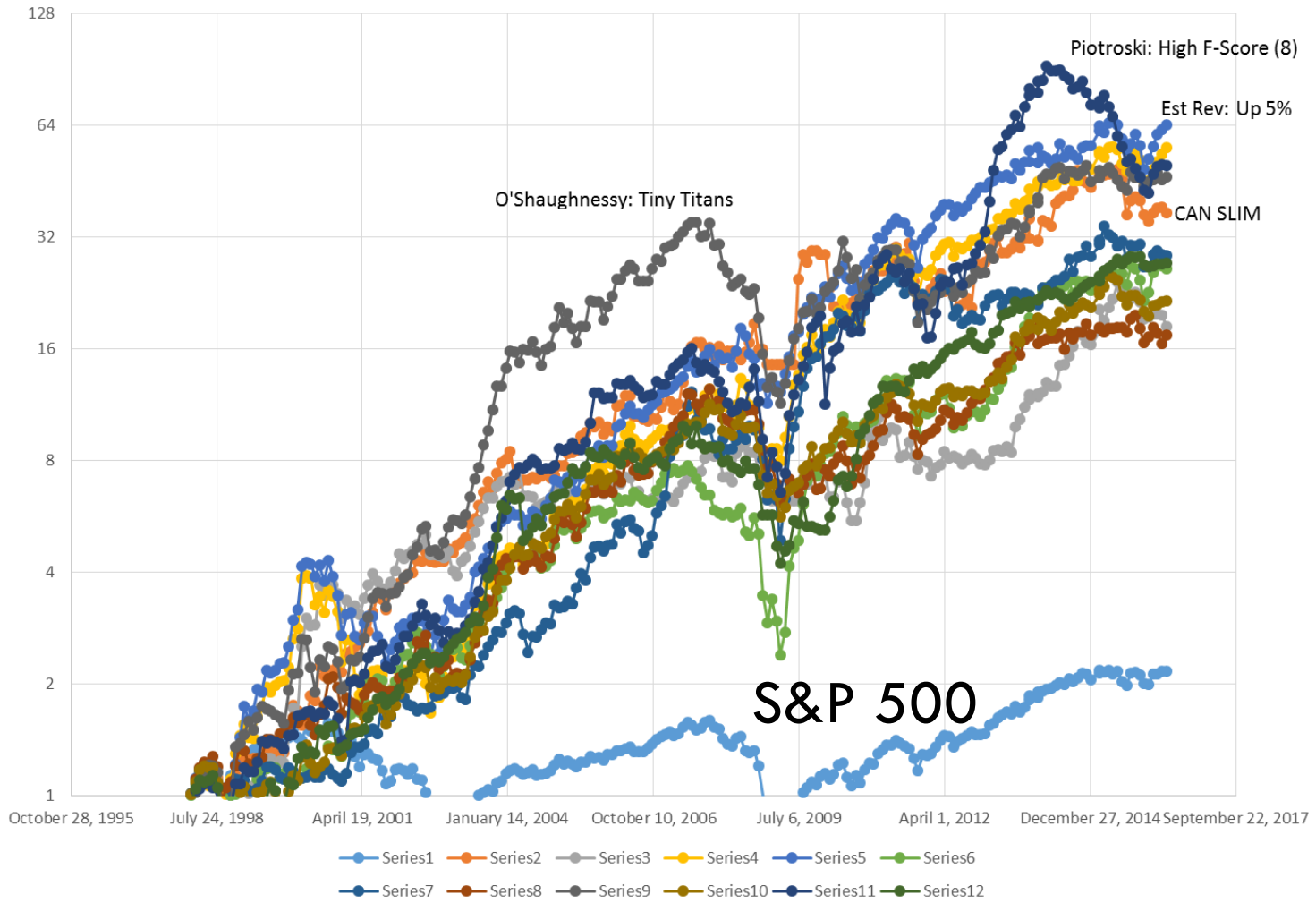




Chart Title





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

Several ways to get ~20%

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

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

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

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



» [View the Strategy](#)

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



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

	» <a href="#">View the Strategy</a>						
59. <b>Schloss</b> - 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.	-17.2%	-7.6%	-9.0%	-4.7%	6.8%	1.96	
	» <a href="#">View the Strategy</a>						
60. <b>S&amp;P 500 Growth (TR)</b>	8.5%	11.5%	13.8%	9.4%	6.4%	1.10	
61. <b>O'Shaughnessy: Growth Market Leaders</b> - O'Shaughnessy tries to predict the future using historical long-term trends.	1.5%	4.6%	11.9%	3.8%	6.3%	1.24	Value V
	» <a href="#">View the Strategy</a>						
62. <b>Fisher (Philip)</b> - A perspective on the evolution of the investment philosophy of a successful money manager who learned from his mistakes.	21.6%	10.2%	7.8%	1.9%	5.6%	2.27	
	» <a href="#">View the Strategy</a>						
63. <b>S&amp;P 500 Value (TR)</b>	3.3%	8.9%	12.7%	5.8%	5.4%	1.00	
64. <b>Dow Jones 30</b>	4.6%	7.9%	9.4%	5.3%	4.4%	0.98	
65. <b>O'Shaughnessy: Value</b> - Value screen created by James O'Shaughnessy based on his study of a wide range of value approaches.	4.5%	0.2%	6.0%	-0.7%	4.3%	1.34	
	» <a href="#">View the Strategy</a>						
66. <b>S&amp;P 500</b>	5.5%	8.1%	10.9%	5.2%	4.2%	1.00	
67. <b>Dogs of the Dow</b> - Identifying contrarian plays among the Dow Jones industrial stocks.	1.6%	9.3%	11.7%	3.4%	2.7%	1.21	
	» <a href="#">View the Strategy</a>						
68. <b>Dogs of the Dow: Low Priced 5</b> - Identifying contrarian plays among the Dow Jones industrial stocks.	0.7%	9.7%	13.6%	-0.1%	2.7%	1.55	
	» <a href="#">View the Strategy</a>						

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

# Details

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## 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***

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[http://www.aaii.com/journal/article](http://www.aaii.com/journal/article/adjusting-for-the-real-world-testing-variations-of-piotroskis-screen?title=adjusting-for-the-real-world-testing-variations-of-piotroskis-screen&url=http://www.aaii.com/journal/article/adjusting-for-the-real-world-testing-variations-of-piotroskis-screen)

“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 AAll Estimate Revisions Stock Screen

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January 21, 2017

<http://www.aall.com/computerizedinvesting/articles/backtesting-a-stock-screen-to-improve-your-results?a=demail01212017>

### 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.

☆ Est Rev Top 30

ABOUT SETTINGS RULES HEDGE RULES BACKTEST ROLLING BACKTEST CLEAR RESULTS RE-RUN SCREEN

SHOW CLEAR SCREEN TYPE: Stock METHOD: Long As Of 08/26/2006 TOTALS 7237

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

☰ X [icon] ●	Daily \$ Amount, 20 Day Average - Greater Than \$ 500K	3782
☰ X [icon] ● and	#AnalystsCurFY > 0	3402
☰ X [icon] ● and	#AnalystsNextFY > 0	3371
☰ X [icon] ● and	CurFYEPSMean > CurFYEPS4WkAgo	1297
☰ X [icon] ● and	NextFYEPSMean > NextFYEPS4WkAgo	946
☰ X [icon] ● and	CurFYUpRev4WkAgo > 0	844
☰ X [icon] ● and	CurFYDnRev4WkAgo = 0	536
☰ X [icon] ● and	NextFYUpRev4WkAgo > 0	522
☰ X [icon] ● and	NextFYDnRev4WkAgo = 0	422
☰ X [icon] ● and	showvar (@#AnalCurFY, #AnalystsCurFY )	422

- #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 AAll “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						Correl				
	Return	CAGR	Drawdown	Sharpe	Sortino	StdDev	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%	-	-	-	-	



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

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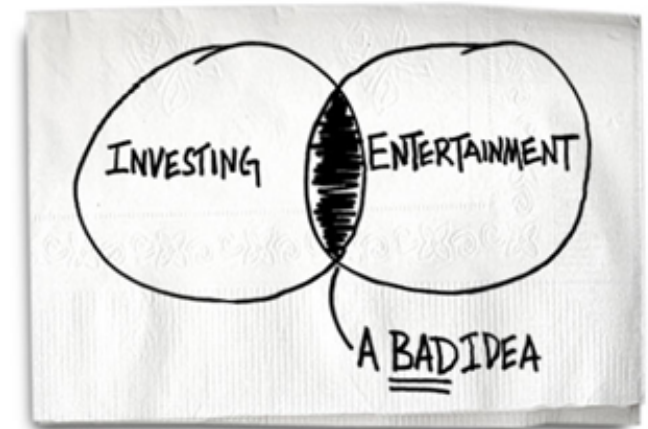
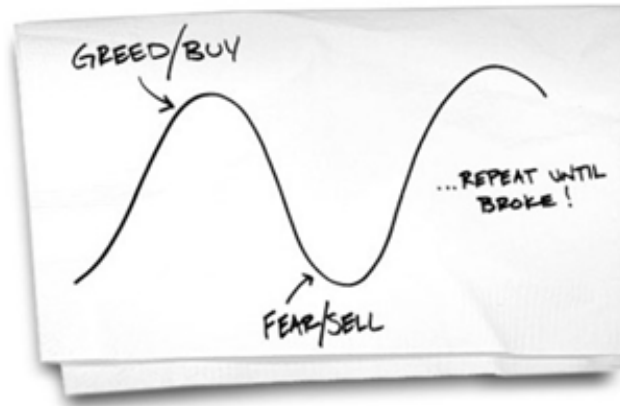
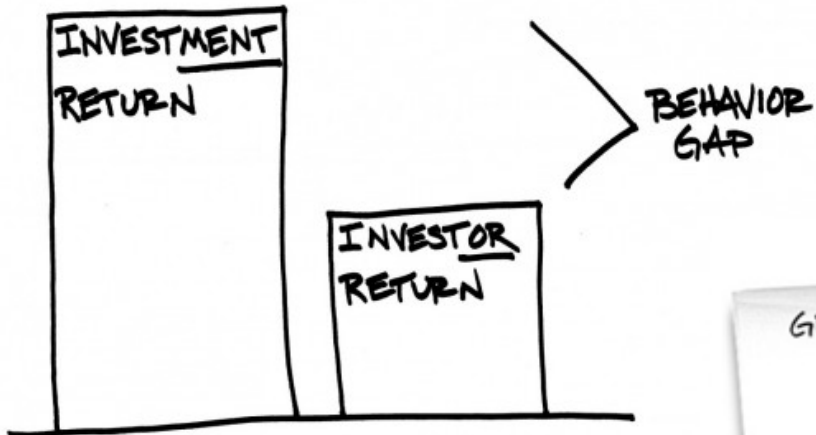
It is not cheap 99\$/month

- Al Z has been using it for years
- I just started a month ago

(35\$/month but not for serious work)

# Summary cartoons

# Carl Richards



Questions?



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