

# Dual Momentum Investing

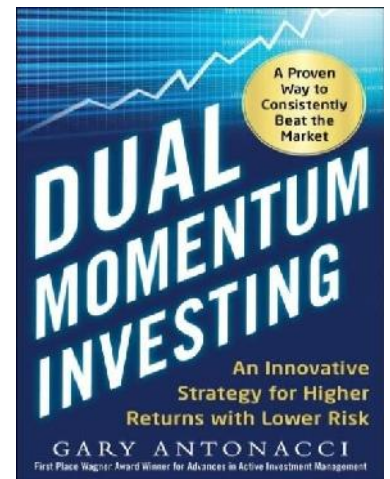
Gary Antonacci

Portfolio Management Consultants



# Gary Antonacci

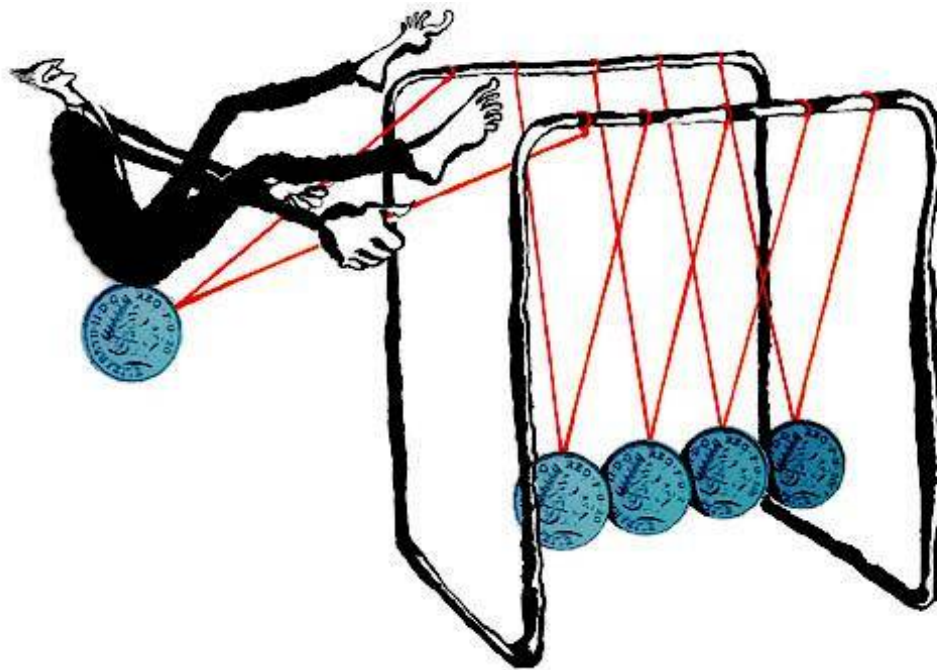
- Over 40 years' experience with underexploited investments
- 2012 first place winner of the NAAIM *Wagner Award*
- Author of *Dual Momentum Investing: An Innovative Approach to Higher Returns with Lower Risk*



# Topics for Today

- What is momentum?
- Why does it work?
- What are its issues?
- How to best use it?

# What is Momentum?



# Sir Isaac Newton (1643-1727)

**A body in motion tends to stay in motion.**





# Buy strong stuff!



# Isaac Newton's Nightmare South Sea Stock December 1718 – December 1721



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# Isaac Newton's Nightmare South Sea Stock December 1718 – December 1721



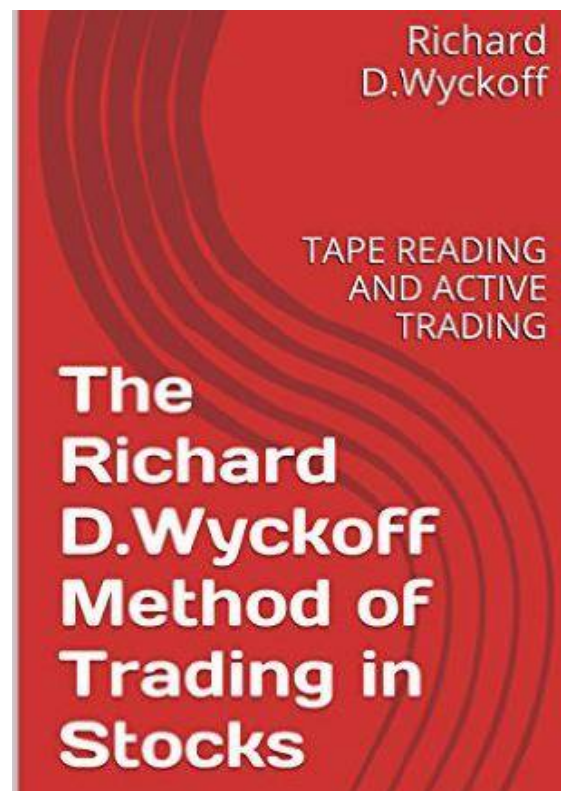
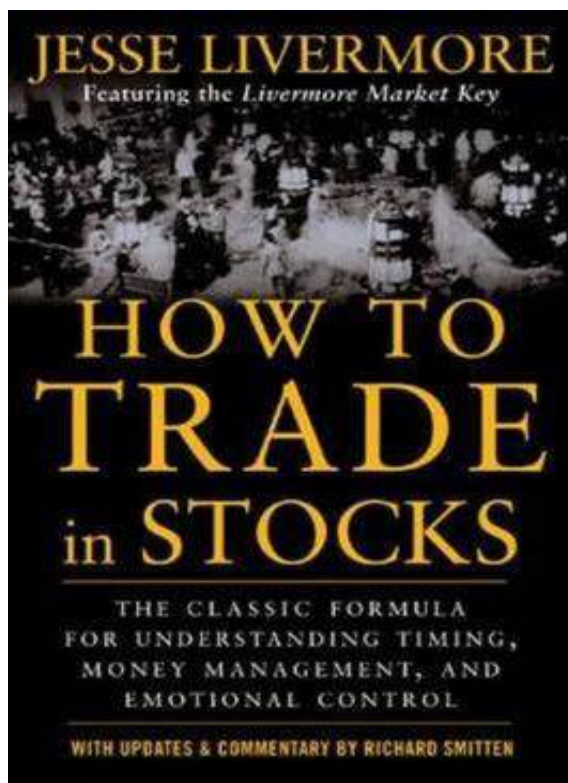
# David Ricardo (1772-1823)

**Cut your losses short, and  
let your profits run on.**

*The Great Metropolis, 1838*



# Jesse Livermore and Richard Wyckoff



**Alfred Cowles III & Herbert Jones**

***Econometrica*, July 1937**

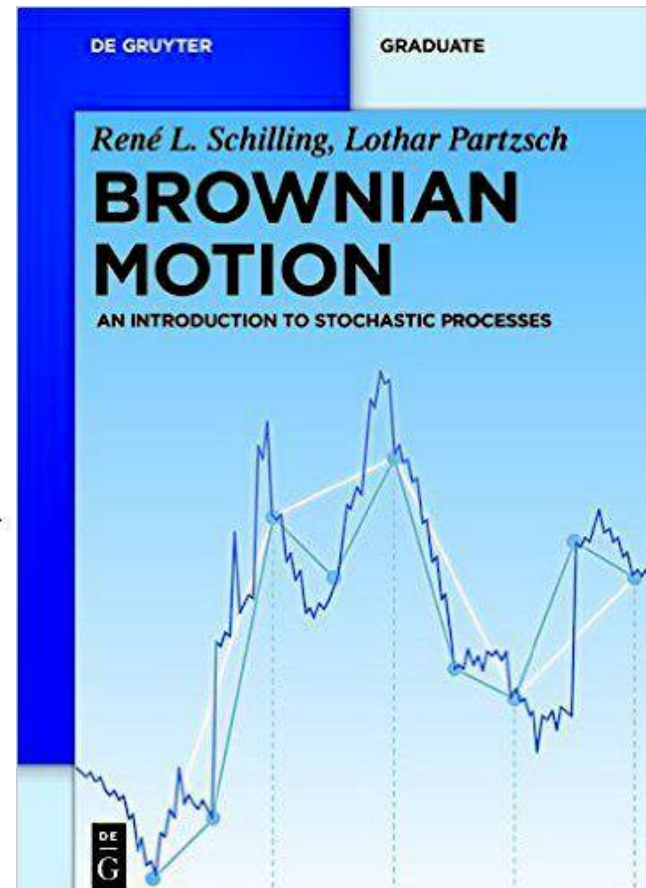
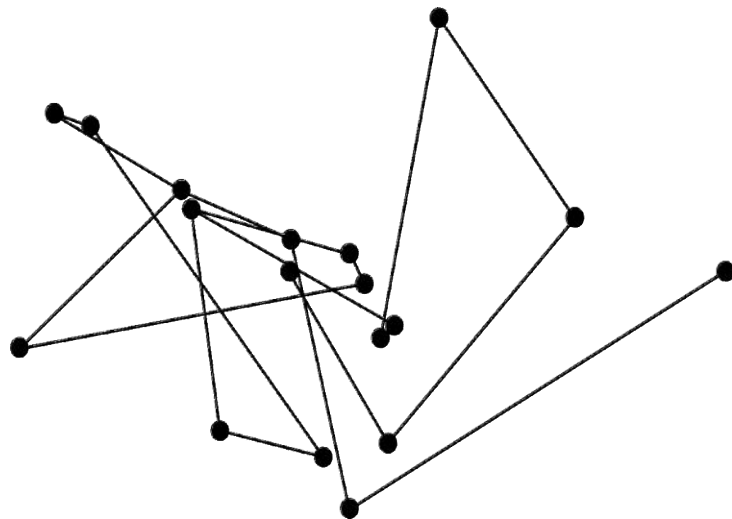
**NYSE stocks from 1920-1935**



**The tendency is very pronounced for stocks that have exceeded the median in one year to exceed it also in the following year.**

**- Cowles & Jones**

# Random Walk Hypothesis





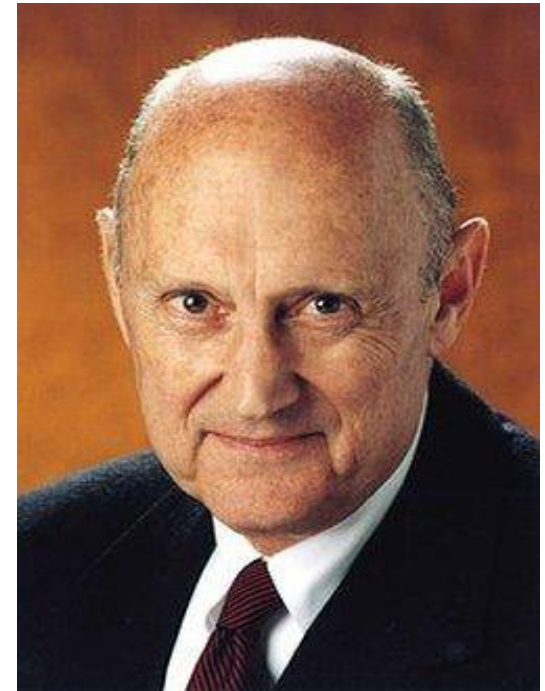
# Efficient Market Hypothesis



**A blindfolded monkey throwing darts at a newspaper's pages could select a portfolio that would do just as well as one carefully selected by experts.**

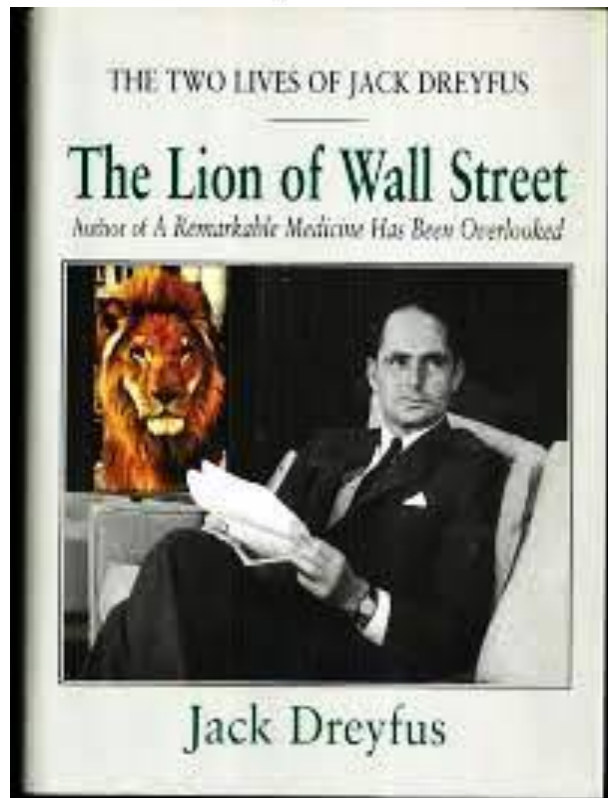
**- Burton Malkiel**

*A Random Walk Down Wall Street*





# Jack Dreyfus



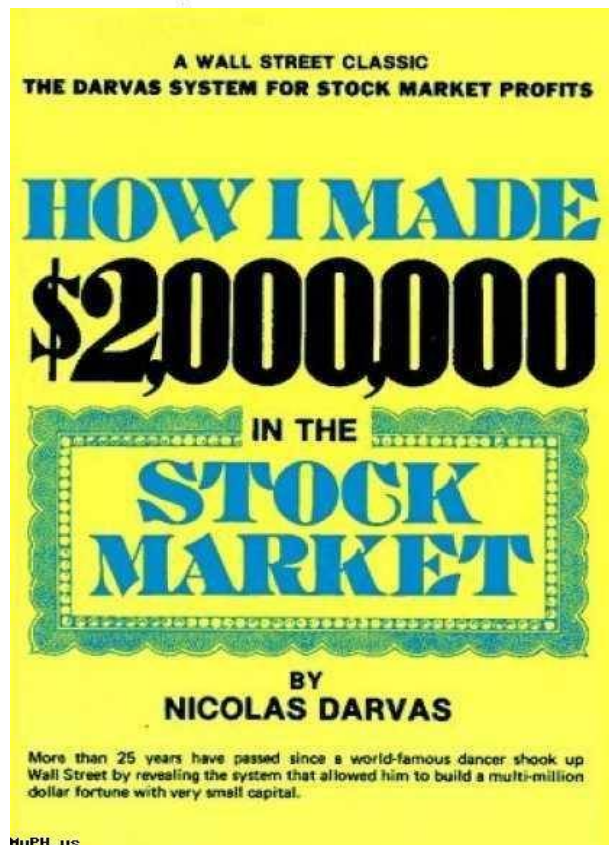
**1953 through 1964:**

**Dreyfus Fund +604%**

**DJIA +346%**



# Nicolas Darvas



# Richard Driehaus



If there's a large move on significant news, either favorable or unfavorable, the stock will usually continue to move in that direction.

— *Richard Driehaus* —



# Academics See the Light



# **Behavioral finance - 1979**

**Behavioral finance - 1979**

**Value and size factors – 1982**

**Behavioral finance - 1979**

**Value and size factors – 1982**

**Mean Reversion – 1988, 1990**

Jegadeesh & Titman

**Seminal 1993 study using 1962 to  
1989 US stock data**

# Jegadeesh & Titman

**Seminal 1993 study using 1962 to 1989 US stock data**

**Deciles ranked by momentum**



# Jegadeesh & Titman

**Seminal 1993 study using 1962 to 1989 US stock data**

**Deciles ranked by momentum**

**3 to 12 month momentum works!**

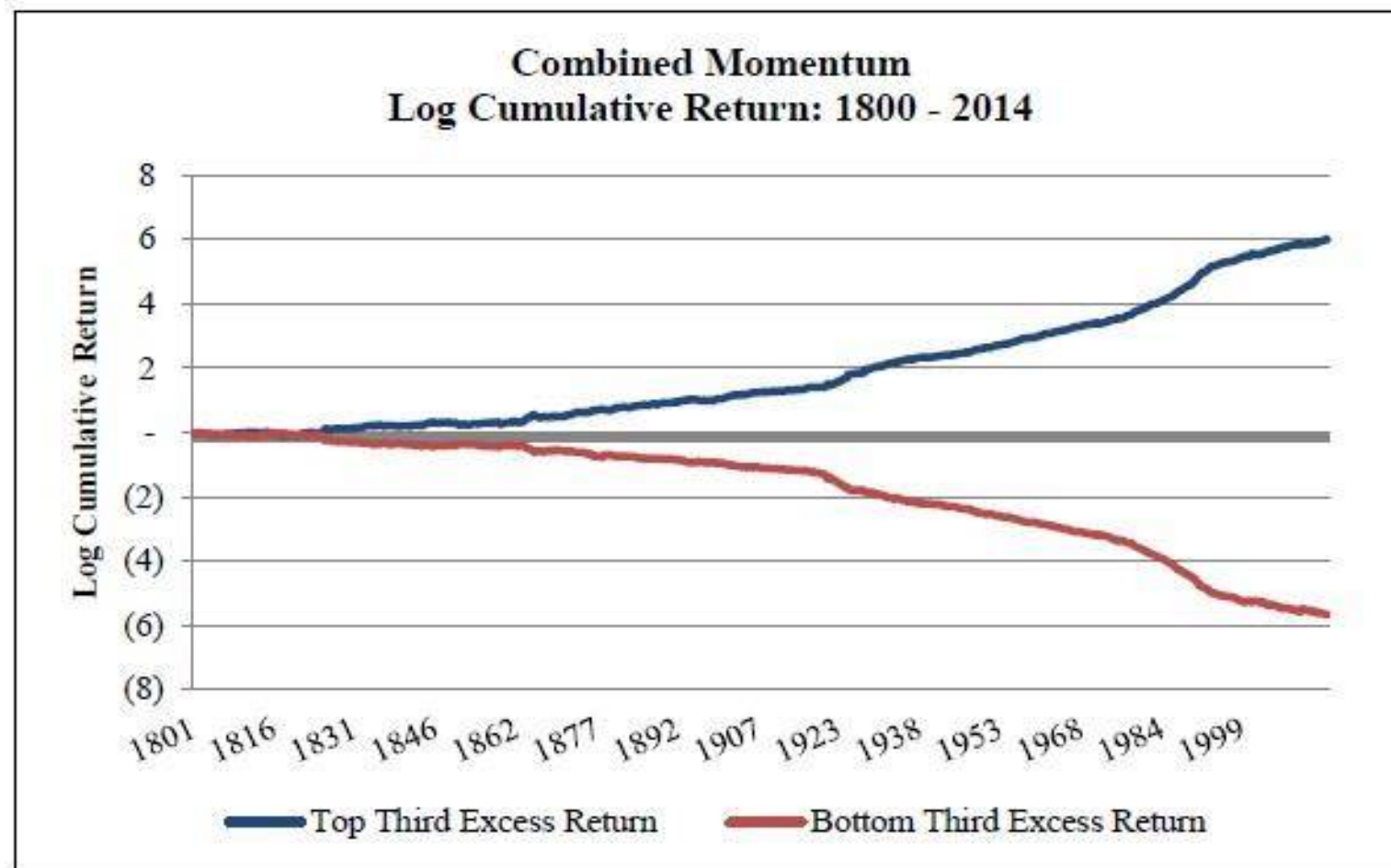
# U.S. Stock Momentum

Top and bottom 10%, months 2-12 momentum  
Jan 1927-Dec 2014, rebalanced monthly

	Winner	Loser	SP500
CAGR	16.95%	-1.5%	10.0%
Standard Deviation	22.6%	33.9%	19.1%
Downside Deviation	16.7%	22.0%	14.2%
Sharpe Ratio	0.66	-0.02	0.41
Worst Drawdown	-77.0%	-97.0%	-84.6%

Source: Ken French Data Library and Standard & Poor's. Results are hypothetical, and are NOT an indicator of future results, and do NOT represent returns that any investor actually attained.

**Momentum works with stocks,  
stock indices, sectors, bonds,  
commodities, and currencies  
from 1800 until now!**



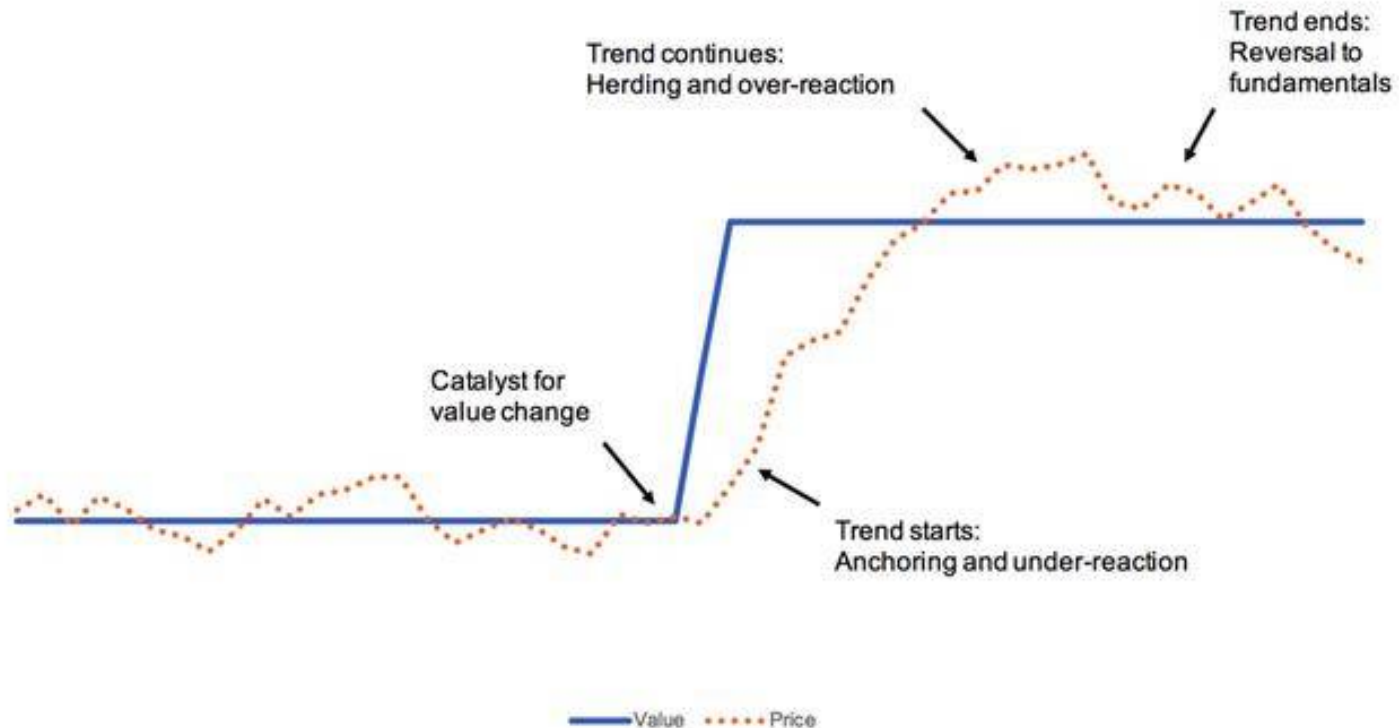
Source: Geczy and Samonov (2015), "215 years of Global Multi-Asset Momentum: 1800-2014"

# WHY MOMENTUM WORKS





# Underreaction and Overreaction



Initial Underreaction

**Anchoring/Conservatism**

**Initial Underreaction**

**Anchoring/Conservatism**

**Slow diffusion of information**



**Initial Underreaction**

**Anchoring/Conservatism**

**Slow diffusion of information**

**Disposition effect**

# Later Overreaction

**Herding effect**

# Later Overreaction

**Herding effect**

**Recency bias**



# Later Overreaction

Herding effect

Recency bias

Overconfidence

# Systematic Momentum

- **High and consistent returns**
- **Works with all assets**
- **Has persisted over time**
- **Good reasons for it**

## Fama & French

The premier market anomaly is momentum. Stocks with low returns over the past year tend to have low returns for the next few months, and stocks with high past returns tend to have high future returns.



“Dissecting Anomalies”

*Journal of Finance*, July 2008

# Want To Do Momentum?





# MOMENTUM ISSUES



# Scalability

	50 Stock Portfolio	100 Stock Portfolio	150 Stock Portfolio	200 Stock Portfolio	250 Stock Portfolio	300 Stock Portfolio	500 Stock Universe
1 month hold	17.0%	14.4%	13.6%	12.7%	12.1%	11.5%	9.8%
2 month hold	16.1%	14.2%	13.2%	12.6%	12.0%	11.4%	9.8%
3 month hold	15.2%	13.8%	12.9%	12.3%	11.7%	11.2%	9.8%
4 month hold	14.5%	13.5%	12.8%	12.1%	11.6%	11.2%	9.8%
5 month hold	14.4%	13.3%	12.6%	12.0%	11.6%	11.2%	9.8%
6 month hold	13.9%	13.1%	12.4%	11.9%	11.5%	11.1%	9.8%
7 month hold	13.7%	12.8%	12.1%	11.7%	11.3%	11.0%	9.8%
8 month hold	13.4%	12.6%	11.9%	11.5%	11.2%	10.9%	9.8%
9 month hold	12.9%	12.2%	11.6%	11.2%	11.0%	10.8%	9.8%
10 month hold	12.6%	11.9%	11.4%	11.0%	10.9%	10.7%	9.8%
11 month hold	12.2%	11.6%	11.1%	10.8%	10.7%	10.5%	9.8%
12 month hold	11.8%	11.3%	10.8%	10.6%	10.5%	10.4%	9.8%

Results are hypothetical, and are NOT an indicator of future results, and do NOT represent returns that any investor actually attained. Please see disclosures for additional information.



## Table 2. Value Add of Momentum Strategies Before and After Trading Costs

Region and Definition	\$10B, Large-Cap Portfolio		\$1B, Small-Cap Portfolio	
	Value Add vs. Market, Before Transaction	Value Add vs. Market, After Transaction	Value Add vs. Market, Before Transaction	Value Add vs. Market, After Transaction
	Costs	Costs	Costs	Costs
United States -2 to -12 months	2.7%	-3.4%	5.2%	0.4%
United States -2 to -12 months, 3-month hold	2.0%	-1.6%	3.7%	0.7%
United States -2 to -6 months	0.0%	-9.7%	2.7%	-5.2%
Average	1.6%	-4.9%	3.9%	-1.4%

Source: Research Affiliates, LLC, using CRSP/Compustat and Worldscope/Datastream data from Hsu et al. (forthcoming).



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# Oldest Momentum Funds





PowerShares DWA Tech iShares Core US Gr

01 March 2007 - 18 April 2016

Copyright, StockCharts.com



■ AQR Momentum ■ iShares Core US Gr

09 July 2009 - 18 April 2016

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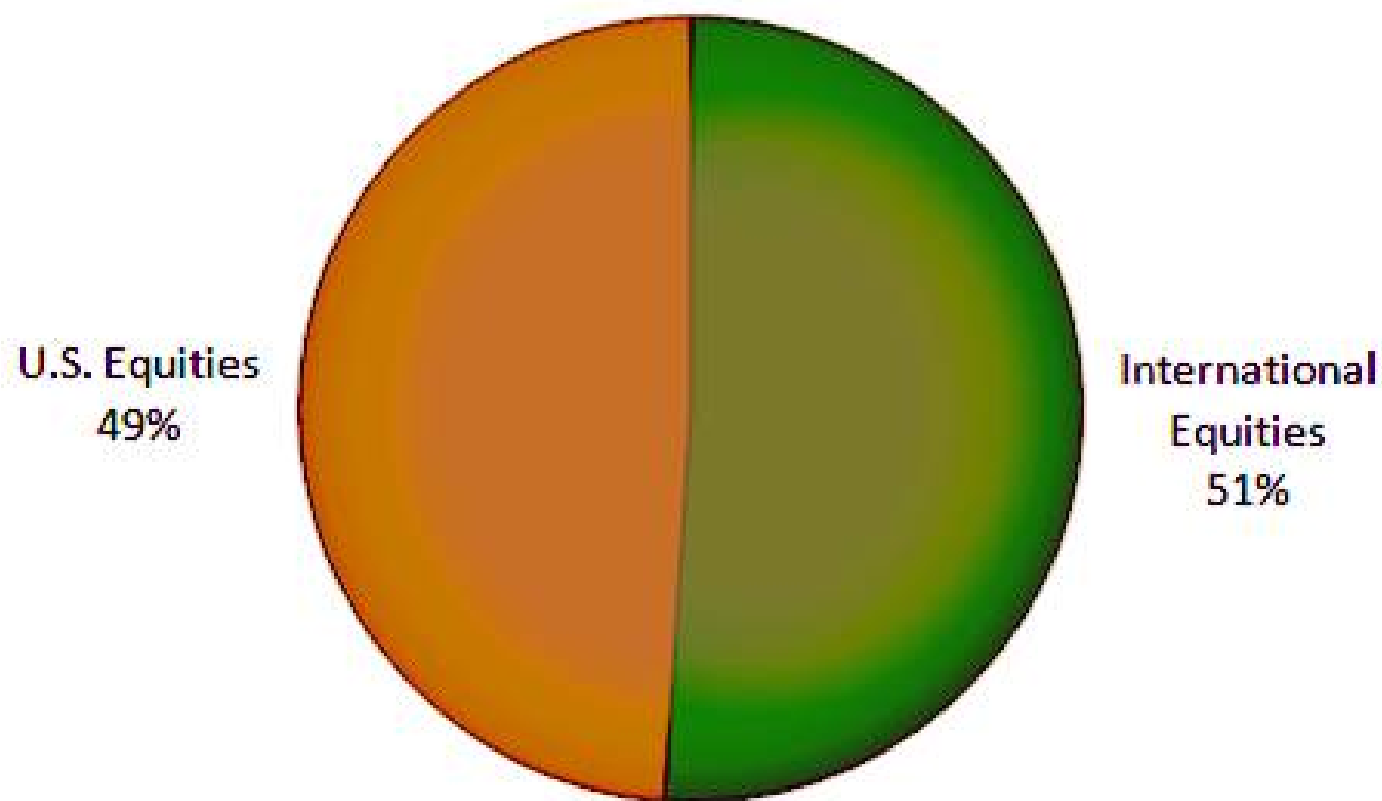


# What To Do?





## Global Equities % by Market Cap



Source: Morningstar Direct 04/30/2014 MSCI ACWI Ex. USA and MSCI USA Index

# Relative Momentum

**Switch between the S&P 500 and the MSCI All Country World Index (ACWI) ex-US**

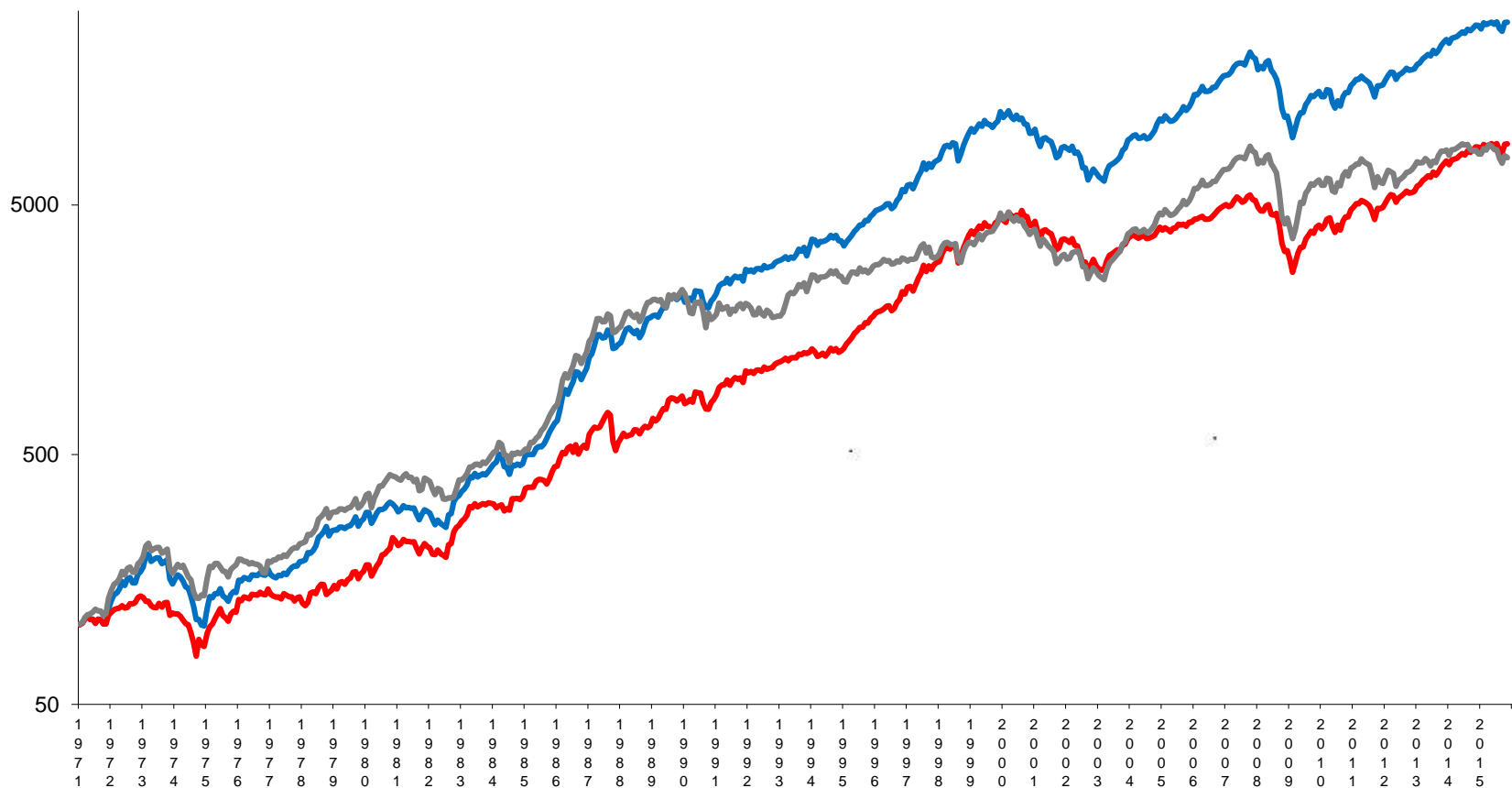
**Monthly rebalancing, 12-month look back**

Relative Momentum

S&P 500

MSCI ACWI ex-US

base =100

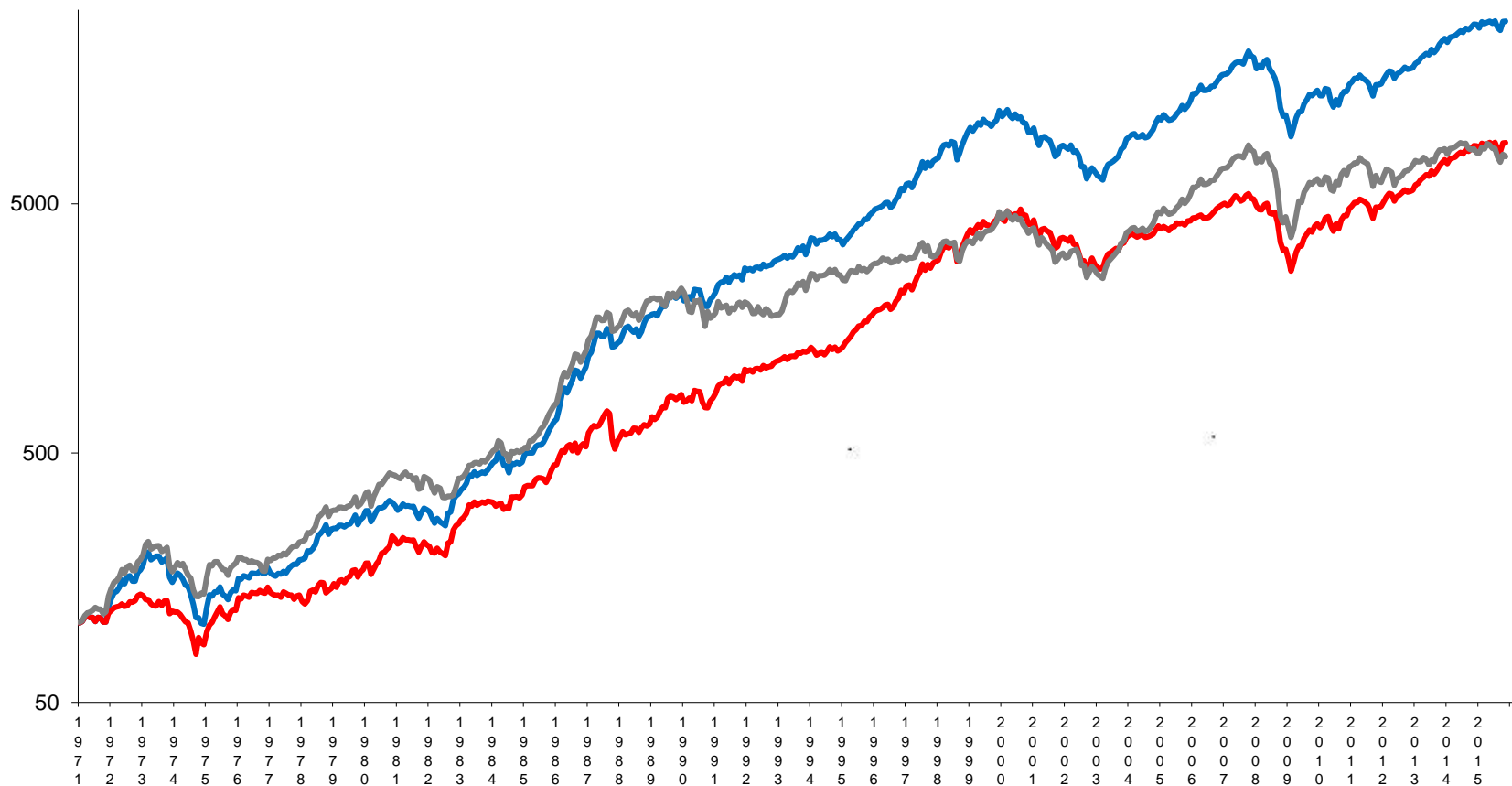


Relative Momentum

S&P 500

MSCI ACWI ex-US

base =100





# Global Macro Participation





# Vertical Diversification

**S&P 500**

**55% always**



**MSCI ACWI ex-US**

**45% always**

# Horizontal Diversification

**S&P 500**

**MSCI ACWI ex-US**



**55% of the time**

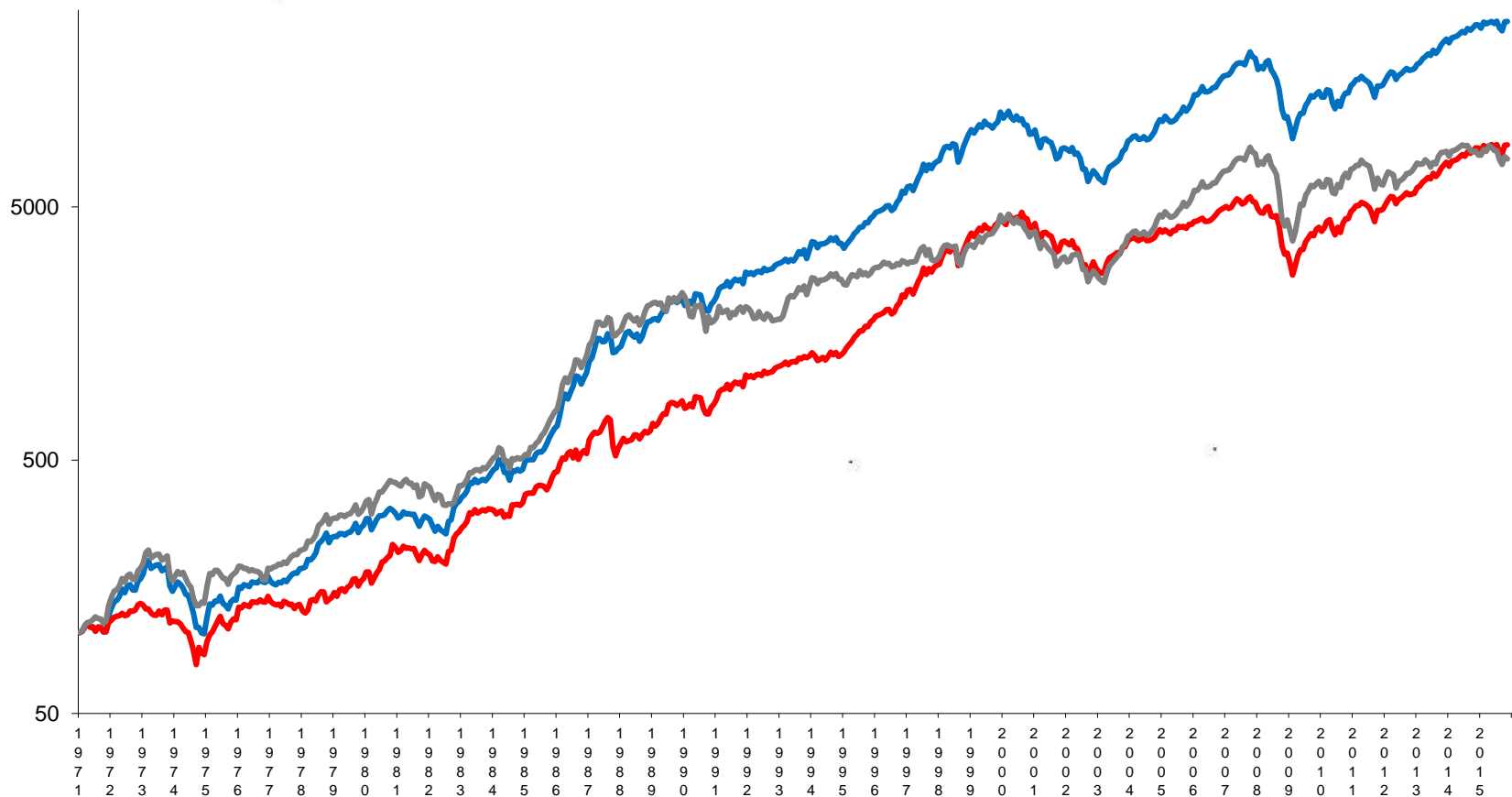
**45% of the time**

Relative Momentum

S&P 500

MSCI ACWI ex-US

base =100





# 2014 Dalbar Report

- **Past 20 year annualized returns**
- **Average U.S. equity fund investor: 5.0%**
- **S&P 500 index: 9.2%**

Source: Dalbar, Inc, "Quantitative Analysis of Investor Behavior"

**We don't have people  
with investment  
problems. We have  
investments with  
people problems.**

**-Gregg Fisher**

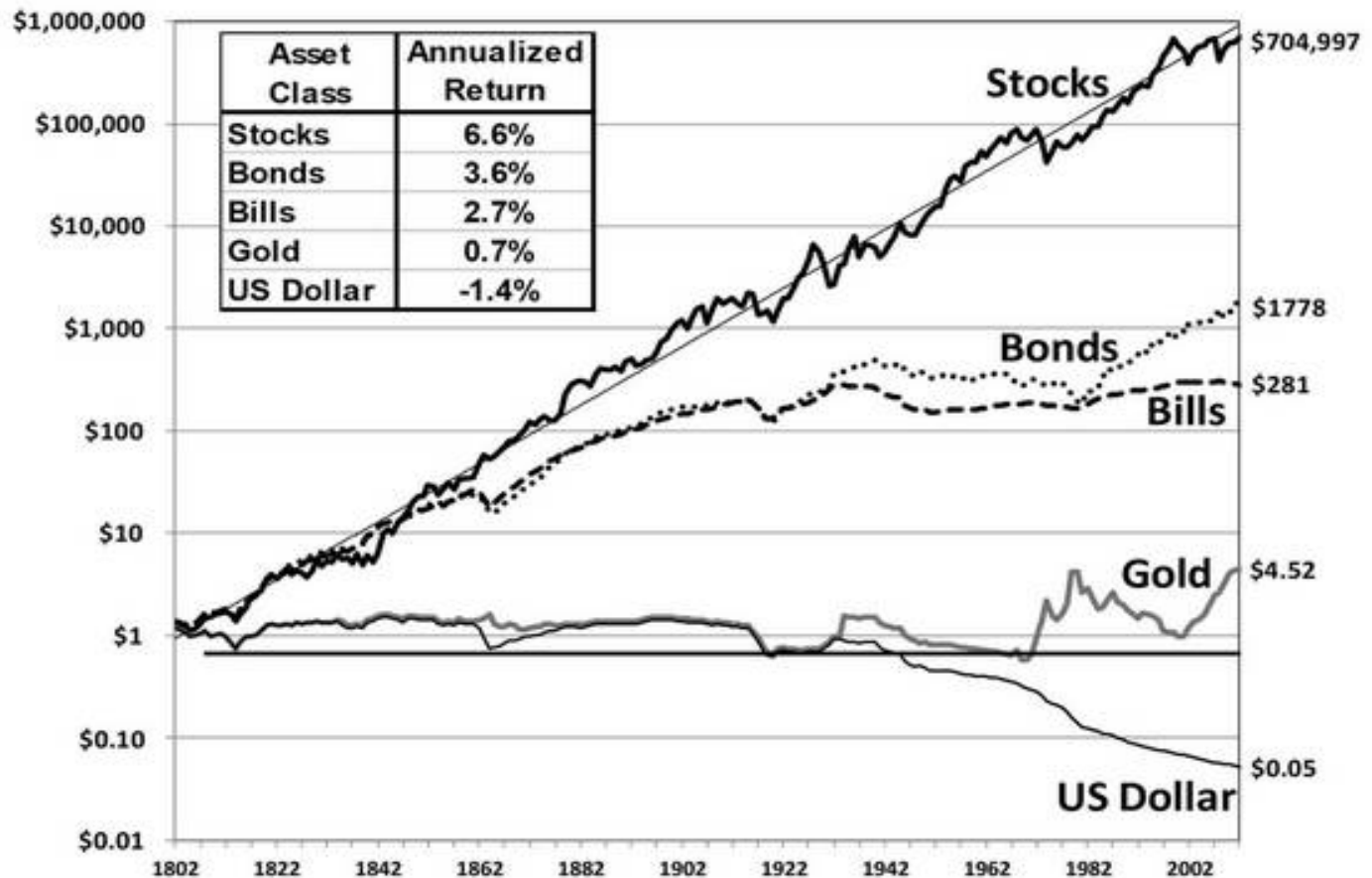


# Bonds





# Risk Premiums



Source: Jeremy Siegel, *Stocks for the Long Run*, McGraw-Hill

# Bond Risks

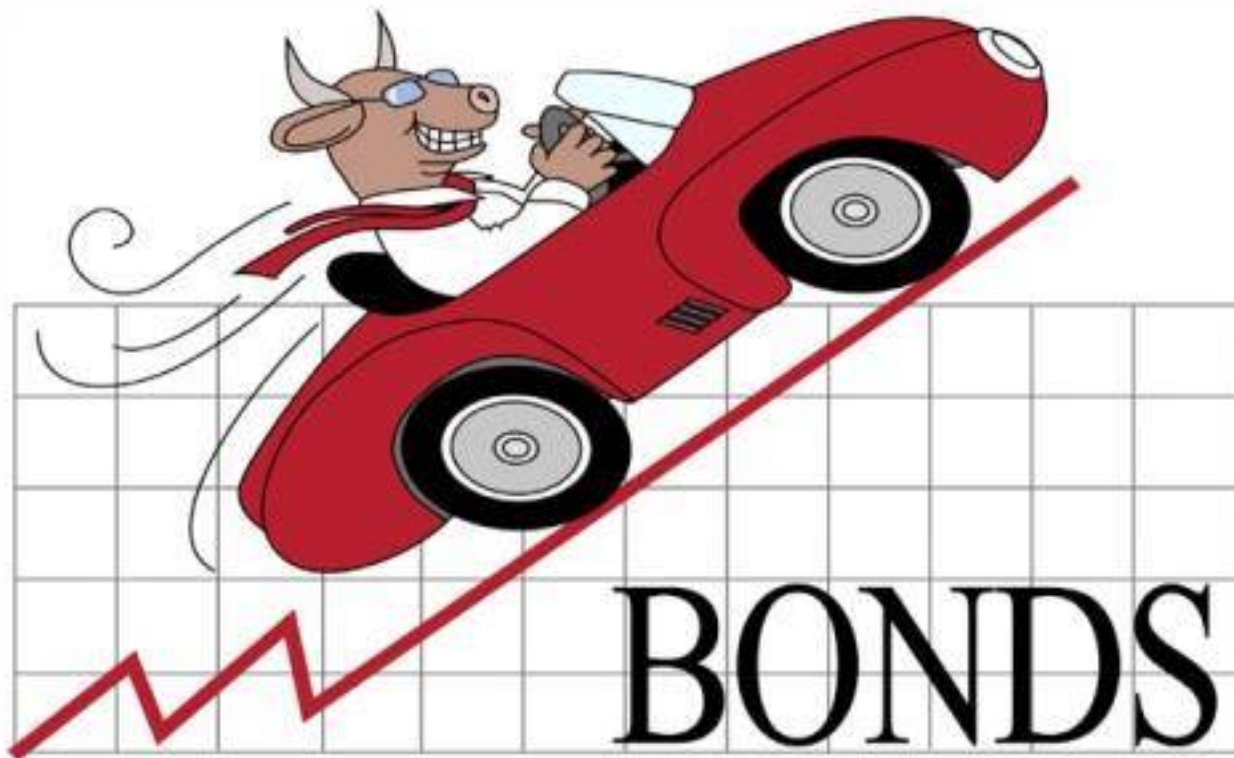
Worst real return drawdown since 1900:

Stocks -73%

Bonds -68%

Since 1807, worst rolling 10-year real return has been worse for bonds

# When To Be In Bonds?



# Two Types of Momentum

- **Relative (cross-sectional)**
  - compare performance to our peers
- **Absolute (time-series)**
  - compare performance to our self

# Absolute Momentum

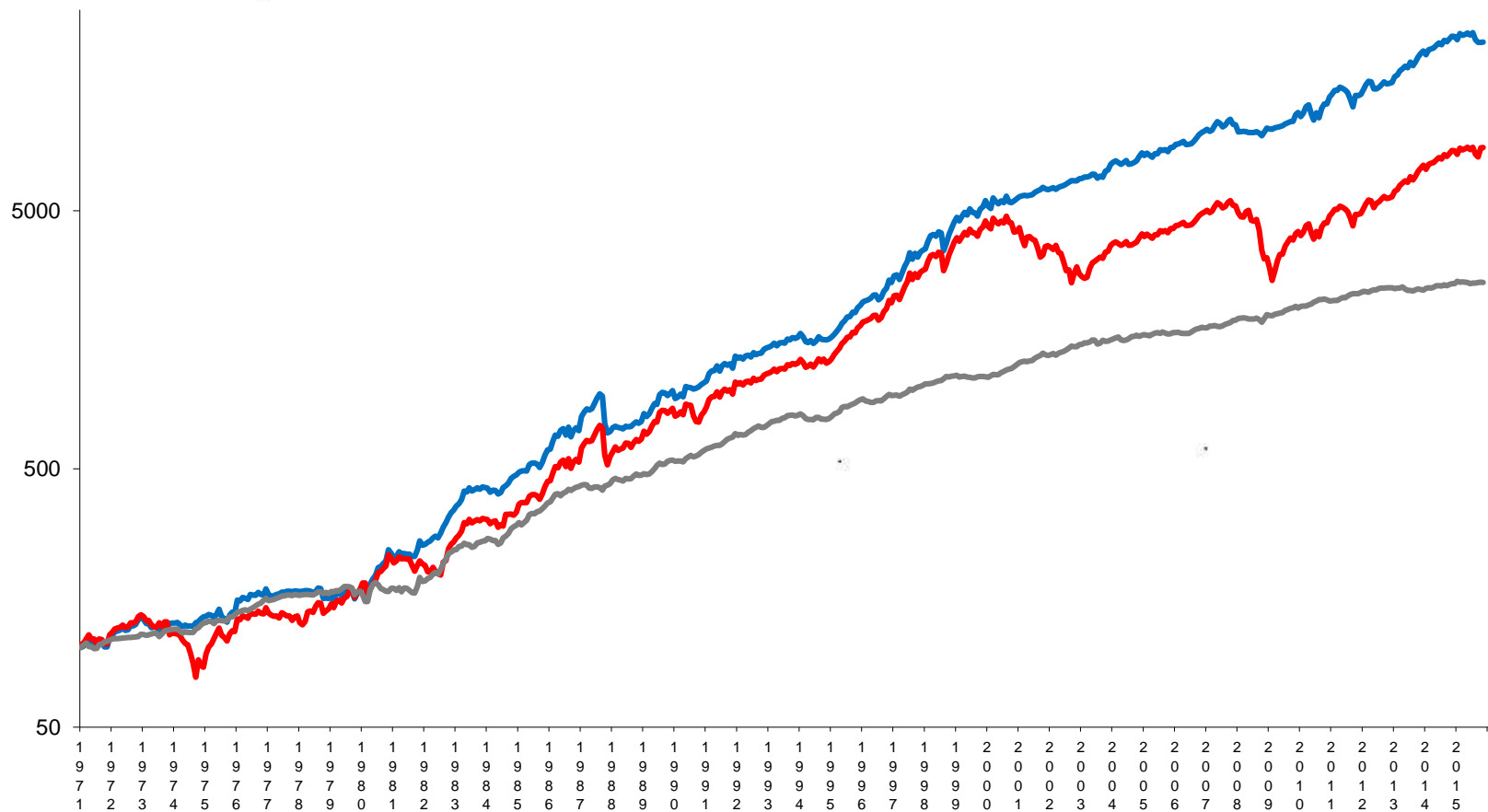
- Switch between the S&P 500 and the Barclays US Aggregate Bond index
- Monthly rebalancing, 12-month look back

— S&P 500 Absolute Momentum

— S&P 500

— Aggregate Bonds

base = 100



# HOW TO BEST USE MOMENTUM

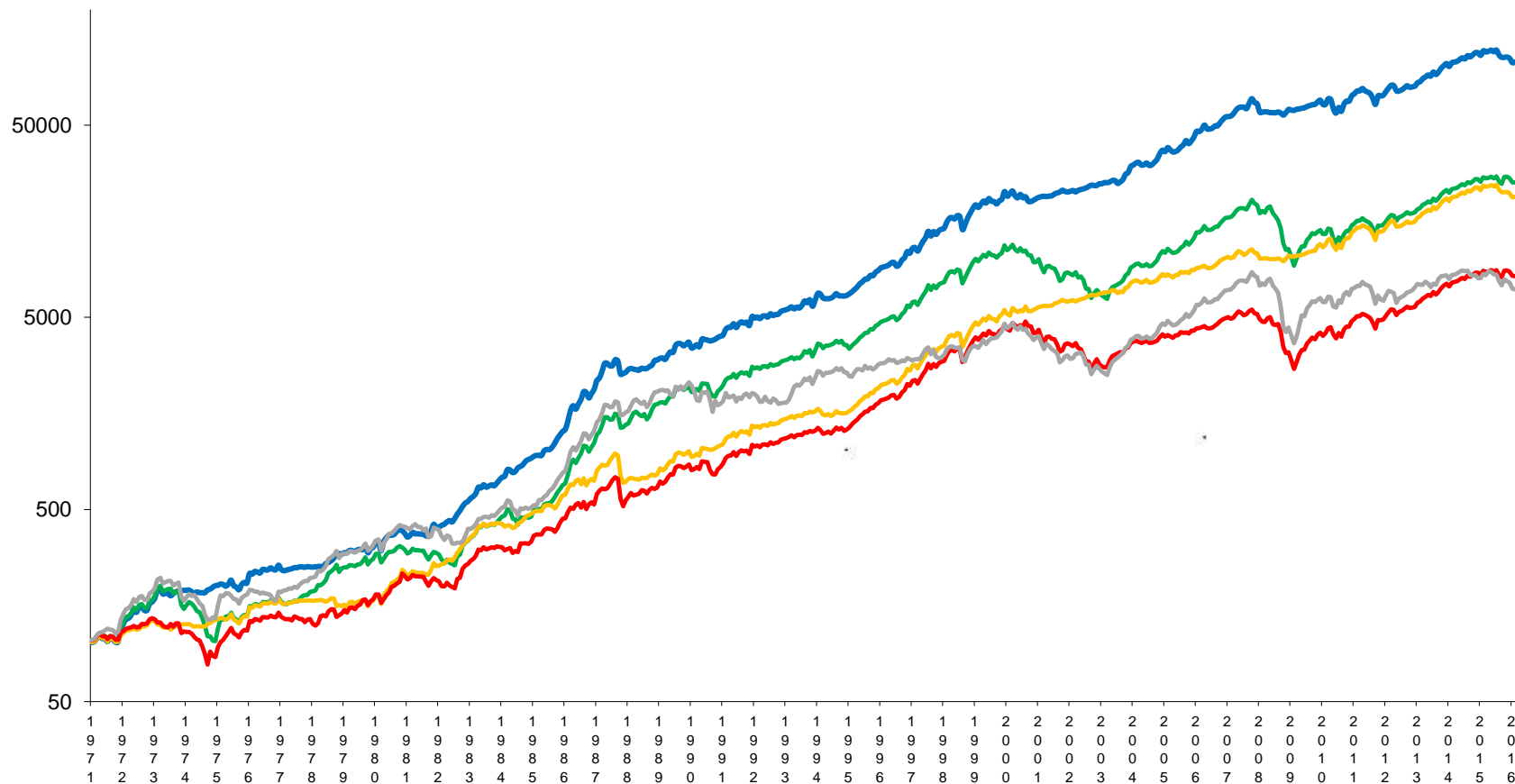


## Dual Momentum

- **Absolute momentum switches between stocks and bonds**
- **Relative momentum switches between the S&P 500 and the ACWI ex-US**
- **Monthly rebalancing, 12-month look back**

Dual Momentum    Relative Momentum    Absolute Momentum    S&P 500    MSCI ACWI ex-US

base =100





# Dual Momentum

Jan 1971 - Feb 2016	CAGR	Standard Deviation	Sharpe Ratio	Worst Drawdown
Dual Momentum	16.7	12.6	0.87	-17.8
Absolute Momentum	12.6	12.0	0.60	-29.6
Relative Momentum	13.0	16.0	0.51	-54.6
S&P 500 Index	10.2	15.2	0.36	-51.0
MSCI ACWI ex-U.S.	9.8	17.3	0.32	-57.4

Results are hypothetical, are NOT an indicator of future results, and do NOT represent returns that any investor actually attained. Indexes are unmanaged, do not reflect management or trading fees, and one cannot invest directly in an index.

# Bull Versus Bear Markets

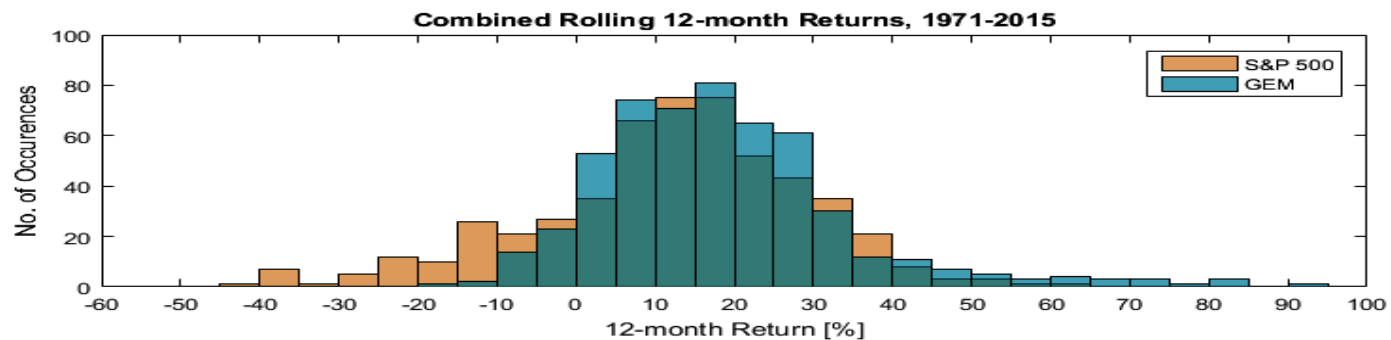
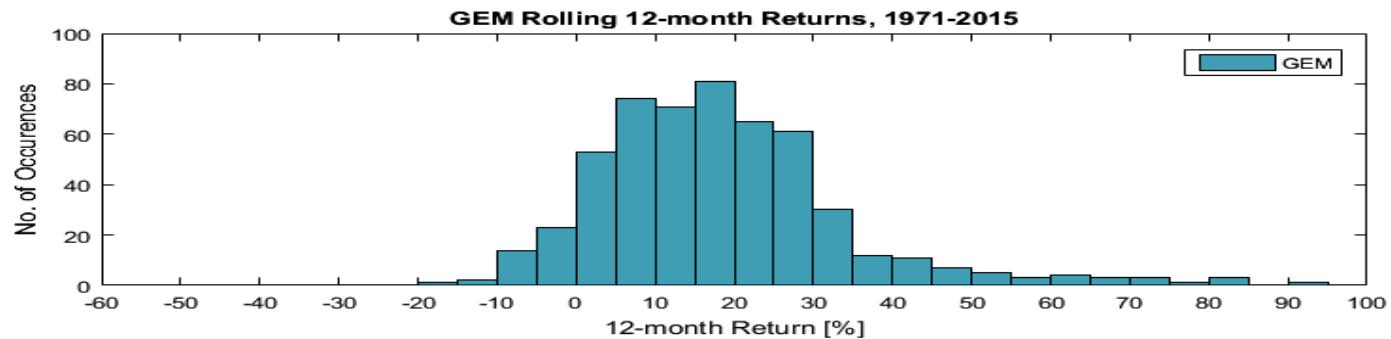
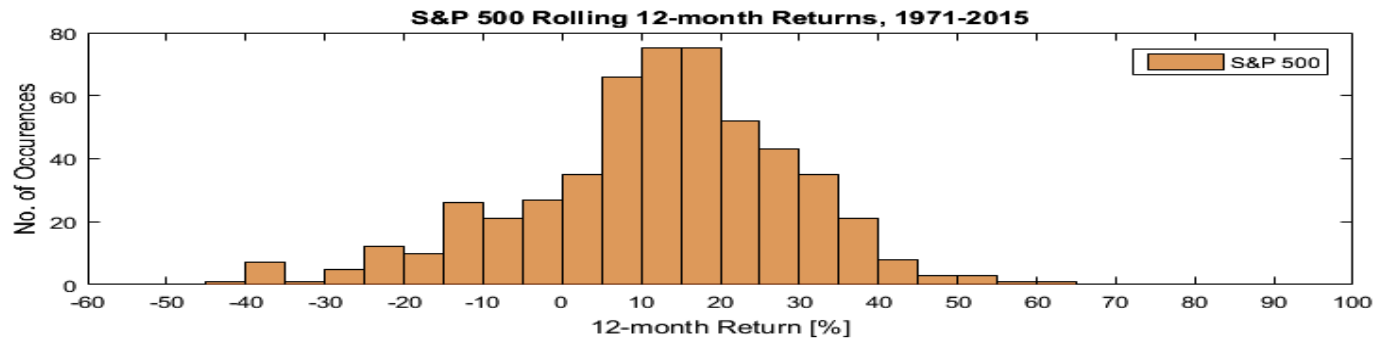
Bull Markets	S&P 500	Abs Mom	Dual Mom
Jan 71-Dec 72	36.0	32.6	65.6
Oct 74-Nov 80	198.3	91.6	103.3
Aug 82-Aug 87	279.7	246.3	569.2
Dec 87-Aug 00	816.6	728.4	730.5
Oct 02-Oct 07	108.3	72.4	181.6
Mar 09-Jul15	227.7	136.8	106.4
Average	277.7	218.1	292.7

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# Bull Versus Bear Markets

Bear Markets	S&P 500	Rel Mom	Dual Mom
Jan 73-Sep 74	-42.6	-35.6	15.1
Dec 80-Jul 82	-16.5	-16.9	16.0
Sep 87-Nov 87	-29.6	-15.1	-15.1
Sep 00-Sep 02	-44.7	-43.4	14.9
Nov 07-Feb 09	-50.9	-54.6	-13.1
Average	-36.9	-33.1	3.6

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# Characteristics of Dual Momentum

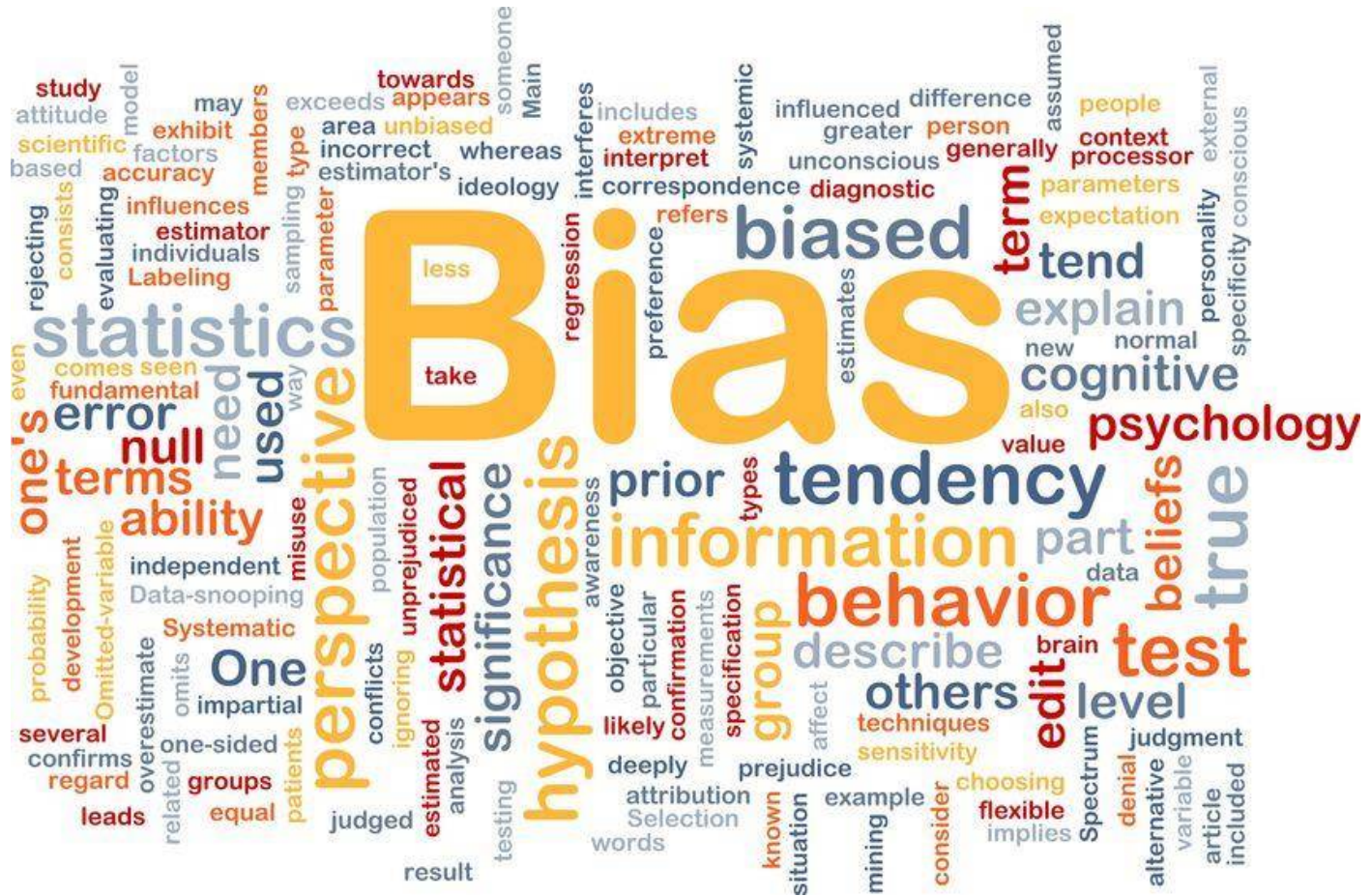
- **High Returns**
- **High Scalability**
- **Low Trading Costs**
- **Low Drawdowns**



# Why Isn't Everyone Doing It?



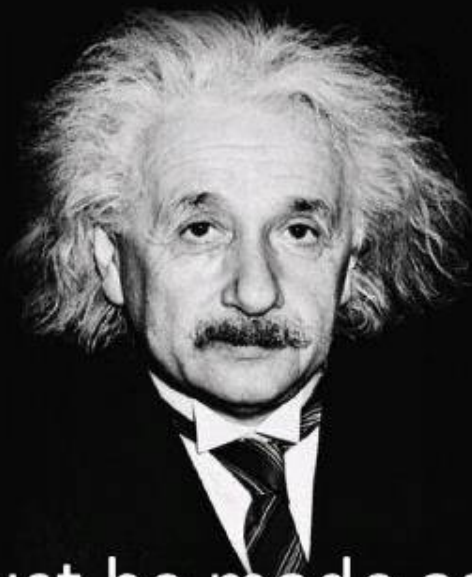
# Behavioral Biases



- **Anchoring/Conservatism**
- **Slow diffusion of information**
- **Familiarity Bias**

# Too Simple





Things must be made as simple as possible – but never simpler



# Counter Intuitive



# Career Risk

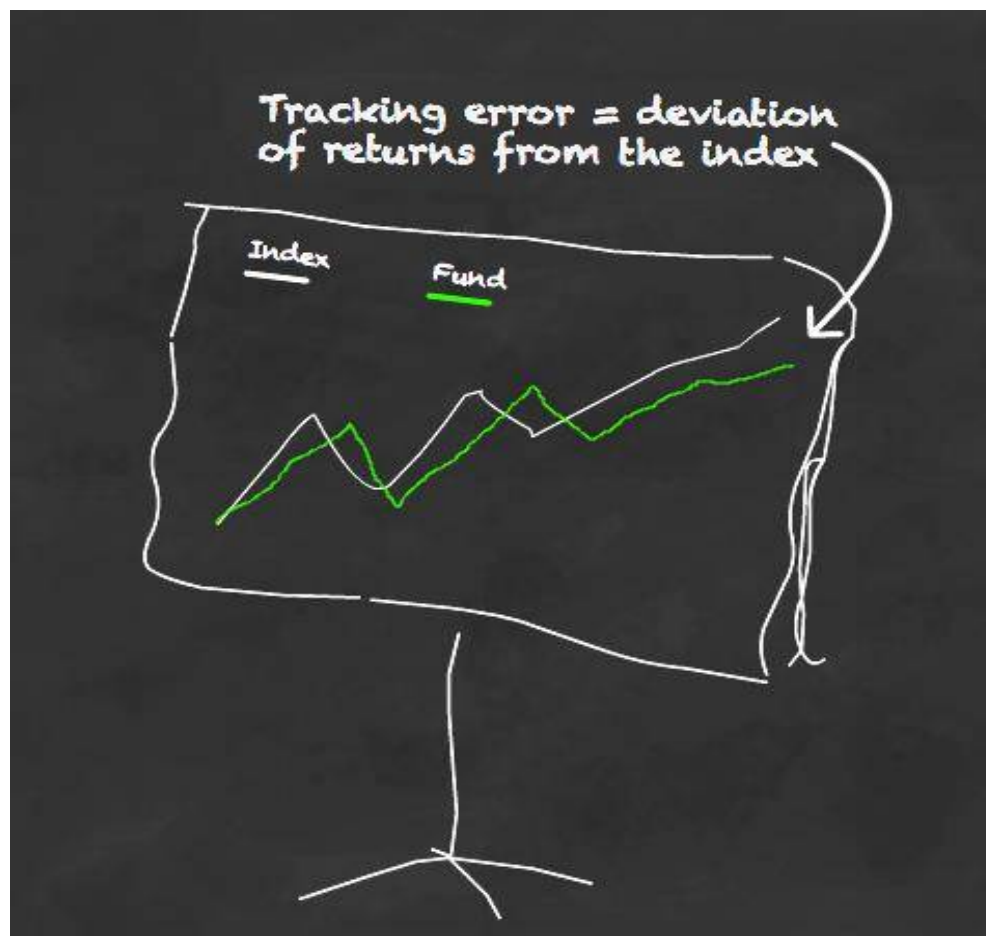




# Real Risks ?



# Tracking Error



# Whipsaws





# MARKET VOLATILITY



+1.25%	▲	283.42	900,000	-2.85%	▼	274.68	210,000
+2.42%	▲	621.05	850,000	+1.53%	▲	655.05	760,000
+4.11%	▲	621.36	150,000	-1.11%	▼	610.33	980,000
-0.89%	▼	421.25	650,000	+1.59%	▲	365.26	420,000
+3.24%	▲	526.48	960,000	+3.00%	▲	698.48	750,000
-1.05%	▼	862.34	700,000	+0.02%	▲	365.76	600,000
-5.82%	▼	624.26	120,000	-1.65%	▼	684.26	940,000
+7.69%	▲	982.34	720,000	+1.59%	▲	598.35	120,000
+2.65%	▲	698.25	240,000	+1.94%	▲	685.96	100,000
+4.10%	▲	741.27	320,000	-5.32%	▼	785.27	400,000
+1.50%	▲	663.74	710,000	+2.05%	▲	531.21	410,000
-0.25%	▼	282.12	740,000	-3.21%	▼	286.42	160,000
+4.42%	▲	532.09	360,000	-5.42%	▼	598.97	230,000
+4.78%	▲	696.35	320,000	-5.90%	▼	590.22	120,000
-0.59%	▼	451.25	100,000	+0.84%	▲	491.25	500,000
+1.24%	▲	426.45	420,000	+9.23%	▲	566.83	480,000
-2.05%	▼	516.25	100,000	+4.03%	▲	631.55	510,000
+1.82%	▲	281.26	120,000	+0.89%	▲	864.26	220,000
+3.69%	▲	112.34	450,000	-0.99%	▼	132.41	490,000



# THE 3 SECRETS OF SUCCESS

# Patience

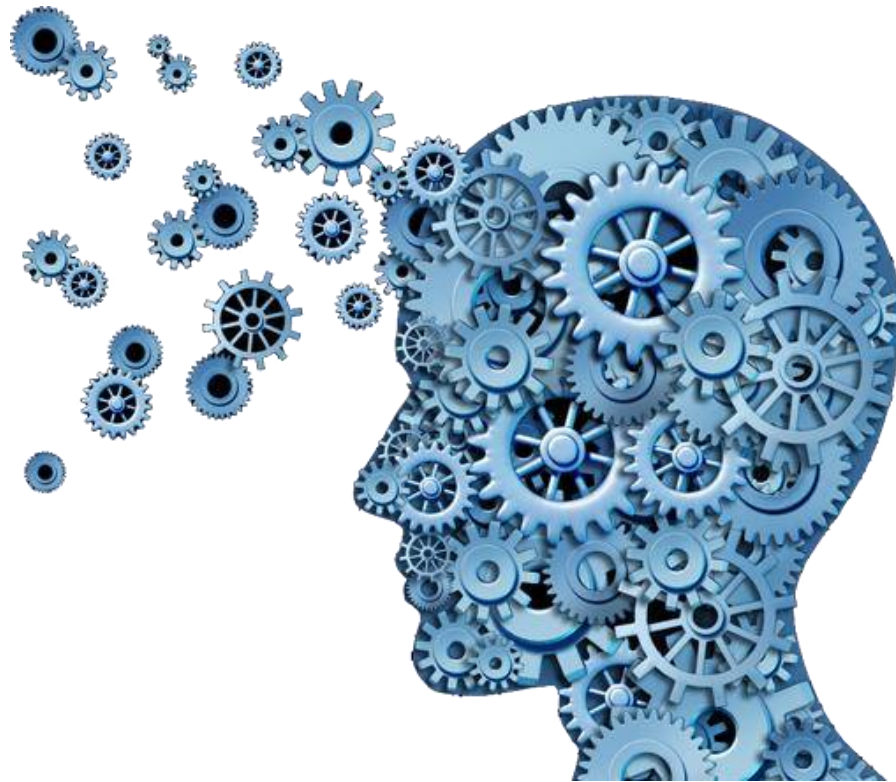


# Discipline





# Understanding



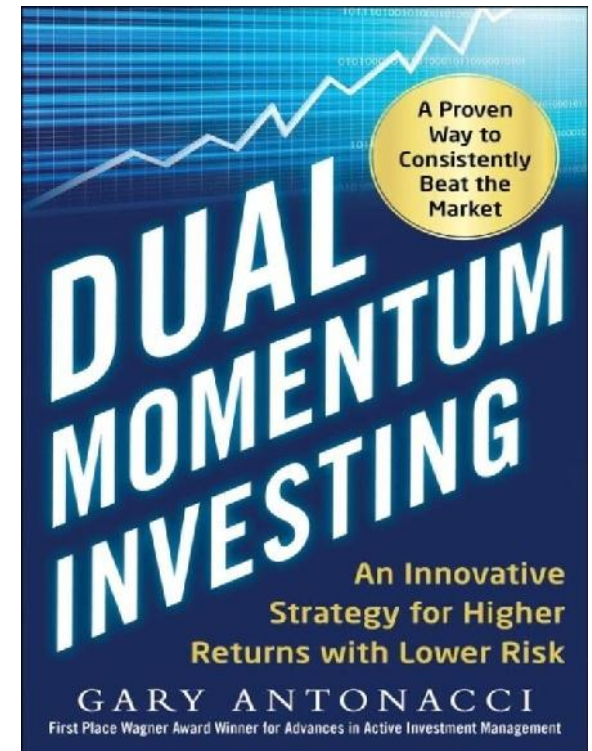
# Dual Momentum Investing

***USA Best Book Award***

***Rare Amazon 5 Star Rating***

***250+ Book Reviews***

***Easy D-I-Y Instructions***



# Questions

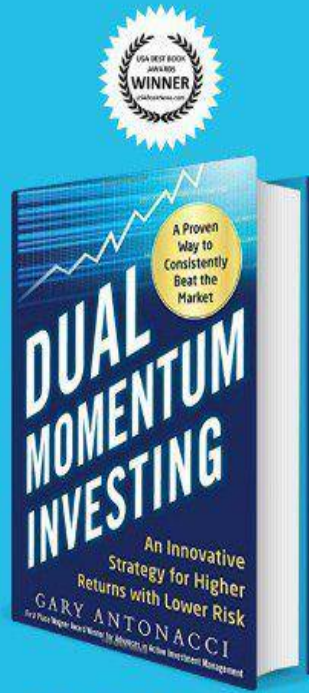




**The most important metric is not the returns achieved but the returns weighed against the risks incurred.**

**Ultimately nothing should be more important than the ability to sleep soundly at night.**





DISCOVER  
**DUAL**  
MOMENTUM  
INVESTING

AN INNOVATIVE STRATEGY FOR  
HIGHER RETURNS WITH LOWER RISK

BY GARY ANTONACCI

**May the Momentum Be With You!**



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