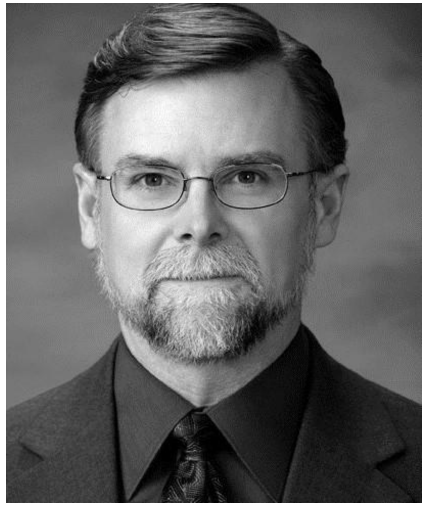
The problem with past performance

Rob Brown, PhD, CFA

Julex Capital Advisory Board Member, Website www.robbrownonline.com



40 Grove Street, Suite 140, Wellesley, MA 02482
Phone 781-489-5398
Email info@julexcapital.com
Web www.julexcapital.com

The problem with past performance

Do we pay too much attention . . . and draw the wrong conclusions?

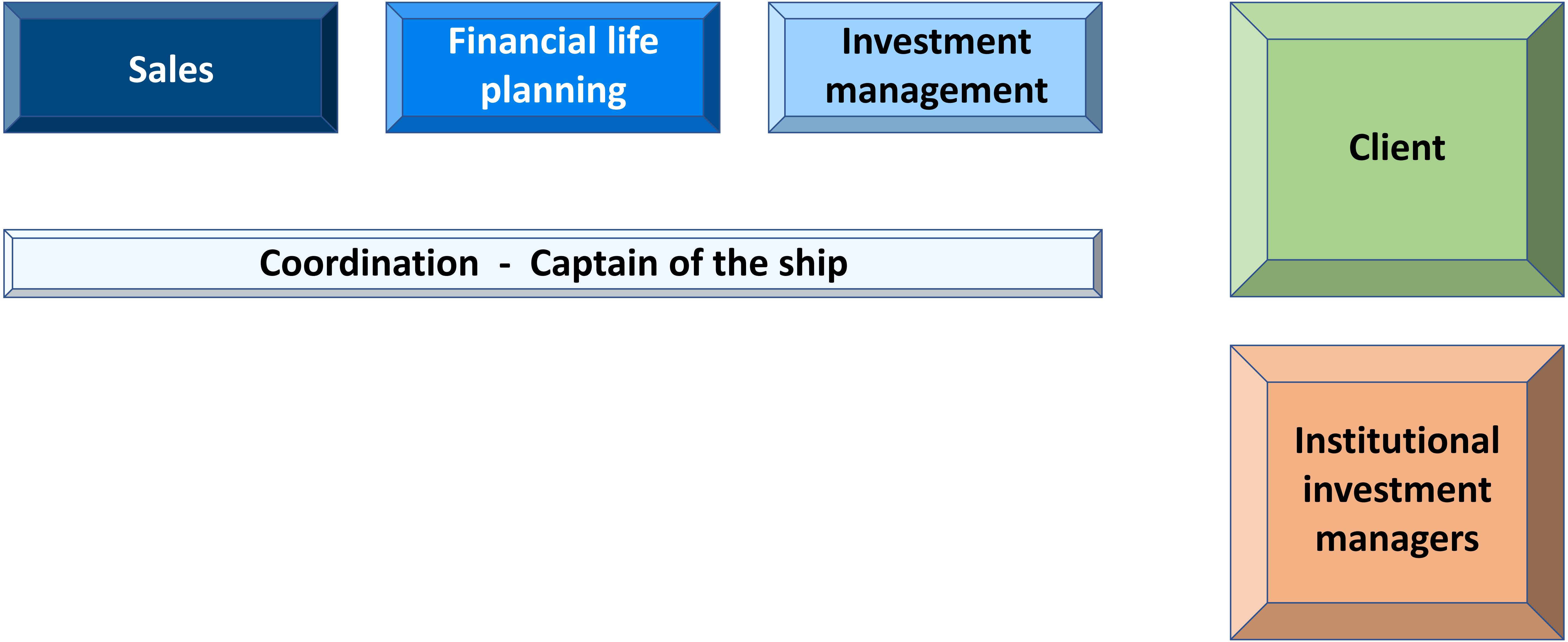
Different roles, different players

Each uses “past performance” in different ways for different reasons

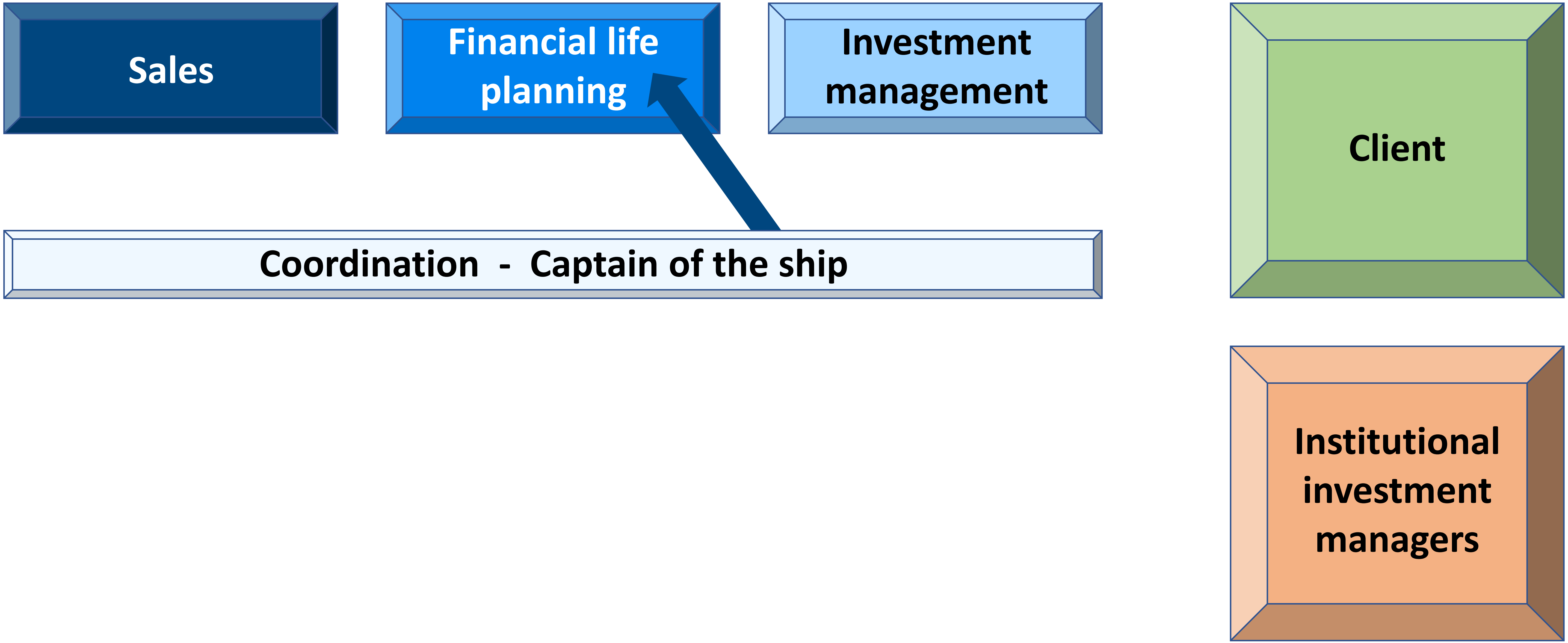
Some are GOOD . . . many are BAD

This is one reason why the SEC and FINRA are laser-focused on your use of past performance

Different roles, different players



Different roles, different players



Different roles, different players

JULEX CAPITAL

Sales

Financial life planning

Coordination - Captain of the ship

Investment management

Client

Institutional investment managers

Sales - Different roles, different players

Sales

Financial life planning

Coordination - Captain of the ship

Investment management

Client

Institutional investment managers

Role - Sales

- **Bad**
  - You can invest in the past
  - Misleading relative comparisons
  - Cherry picking time periods
  - Reinforcing highly irrelevant time periods, e.g., last 1-, 3-, and 5-year returns

Role - Sales

- **Bad**
  - You can invest in the past
  - Misleading relative comparisons
  - Cherry picking time periods
  - Reinforcing highly irrelevant time periods, e.g., last 1-, 3-, and 5-year returns
- **Good**
  - Reinforcing - You can’t invest in the past, only in the future
  - Ultra-narrow, highly - specific relative comparisons (like-to-like)
  - Reinforcing - Don’t mistake a bull market for brilliance
  - Using past performance to demonstrate/reinforce the need for patience

Financial life planning - Different roles, different players

Sales

Financial life planning

Coordination - Captain of the ship

Investment management

Client

Institutional investment managers

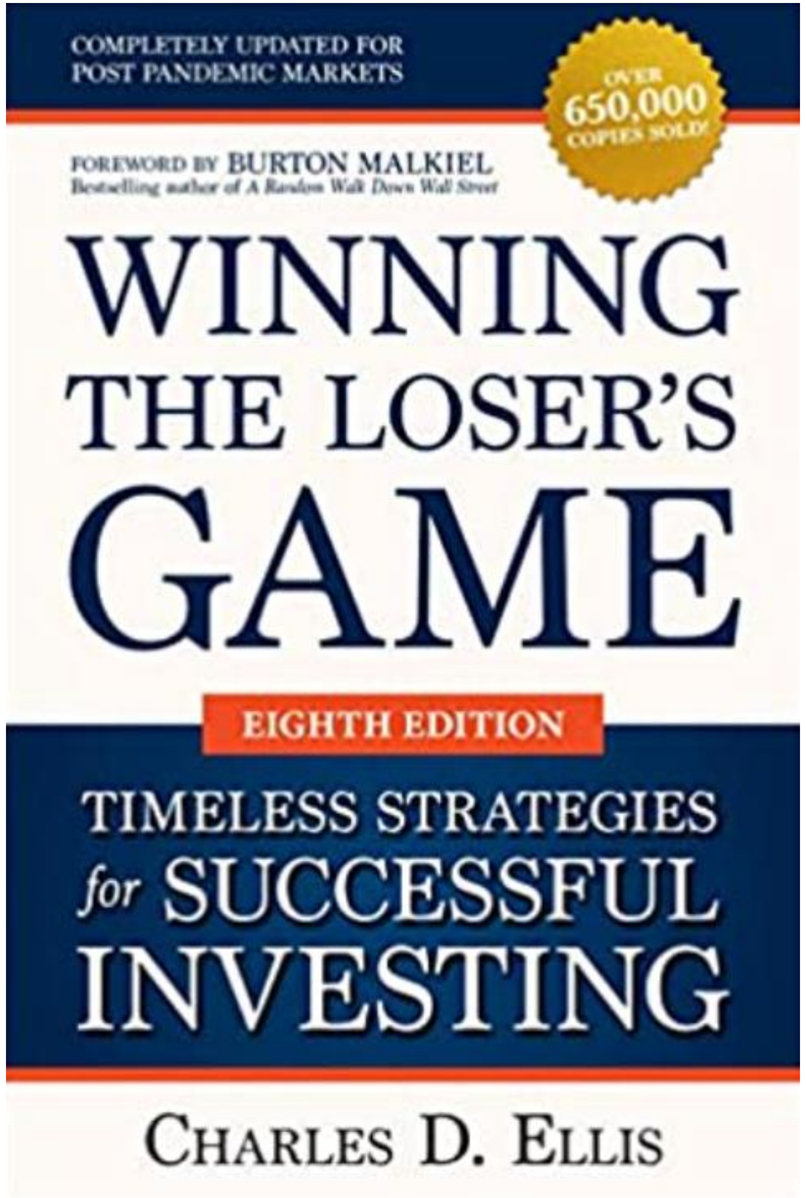
Role - Financial life planning

- **Bad**
  - Focus on beating a benchmark . . . instead of meeting a need
  - In client meetings, drawing attention to what markets did
  - Maintain client portfolios that invest in a little bit of everything - so that you always have some winners to discuss
  - Demonstrating action by continually selling losers and reinvesting in those that won over the last several years

Role - Financial life planning

- Bad
  - Focus on beating a benchmark . . . instead of meeting a need
  - In client meetings, drawing attention to what markets did
  - Maintain client portfolios that invest in a little bit of everything - so that you always have some winners to discuss
  - Demonstrating action by continually selling losers and reinvesting in those that won over the last several years
- Good
  - In every meeting, always answer this client question before they ask it: ***"Am I OK?"***
  - Continually refine and update the client's life financial goals and progress towards those goals
  - Discuss what the client needs to earn in the future in order to achieve their goals, and why this is reasonable in light of prospective opportunities/risks
  - Adopting Time Segmentation Investing (aka Lifetime Income Model) to establish and continually reinforce patience . . . making "time" your friend

There two different types of games



Ellis observes that all games are of one of two types, winner's games and loser's games

- In a **winner's game**, the outcome is determined by the correct actions of the winner
- In a **loser's game**, the outcome is determined by mistakes made by the loser

Charlie spends most of the book explaining how and why investing is a loser's game . . . one wins by avoiding making mistakes

Three of the most powerful avoidable mistakes include:

- **Emotional bias**
- **Falling prey to distracting sales practices**
- **Basing one's investment decisions on past performance**

Investment management - Different roles, different players

Sales

Financial life planning

Coordination - Captain of the ship

Investment management

Client

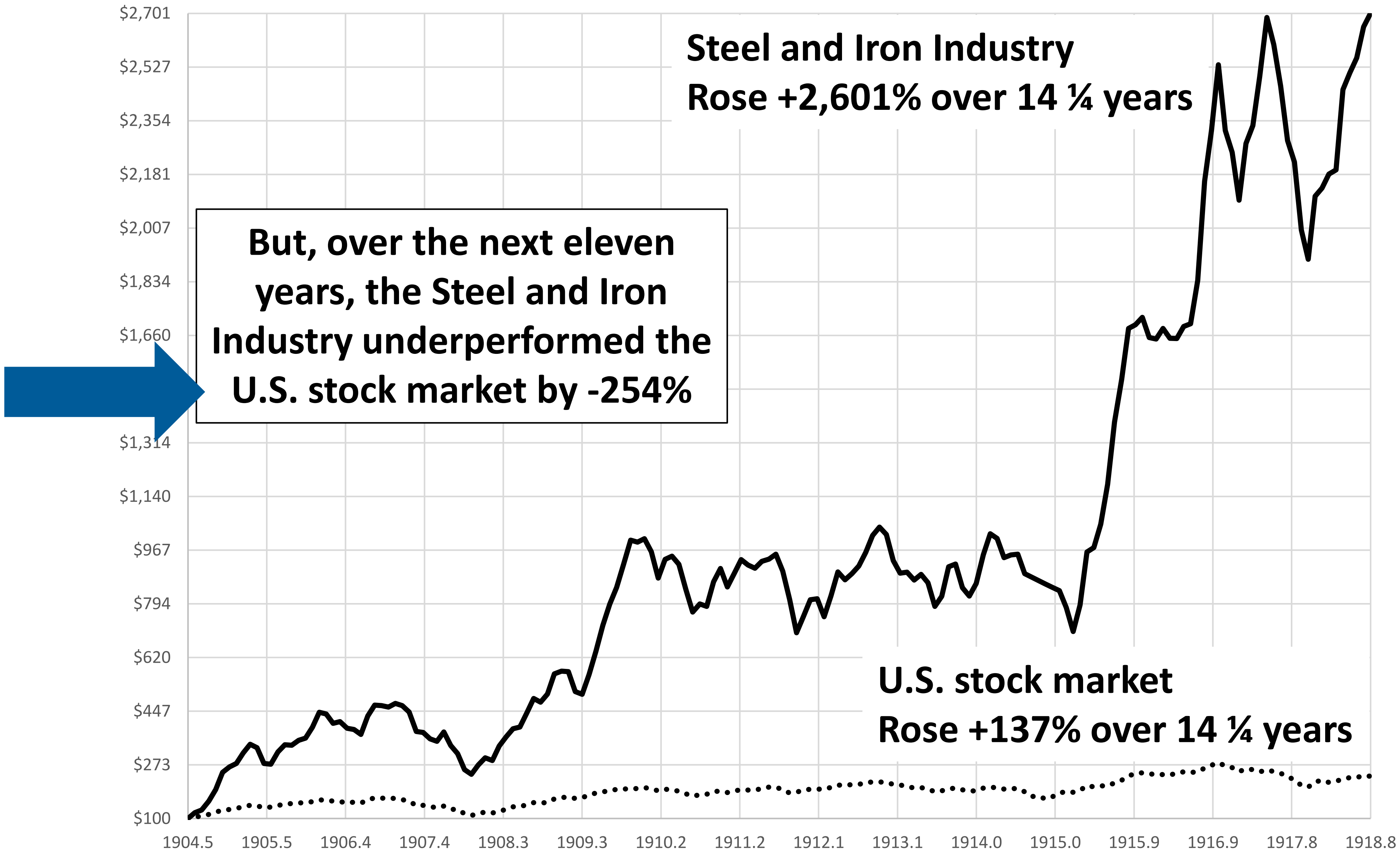
Institutional investment managers

Role - Investment management

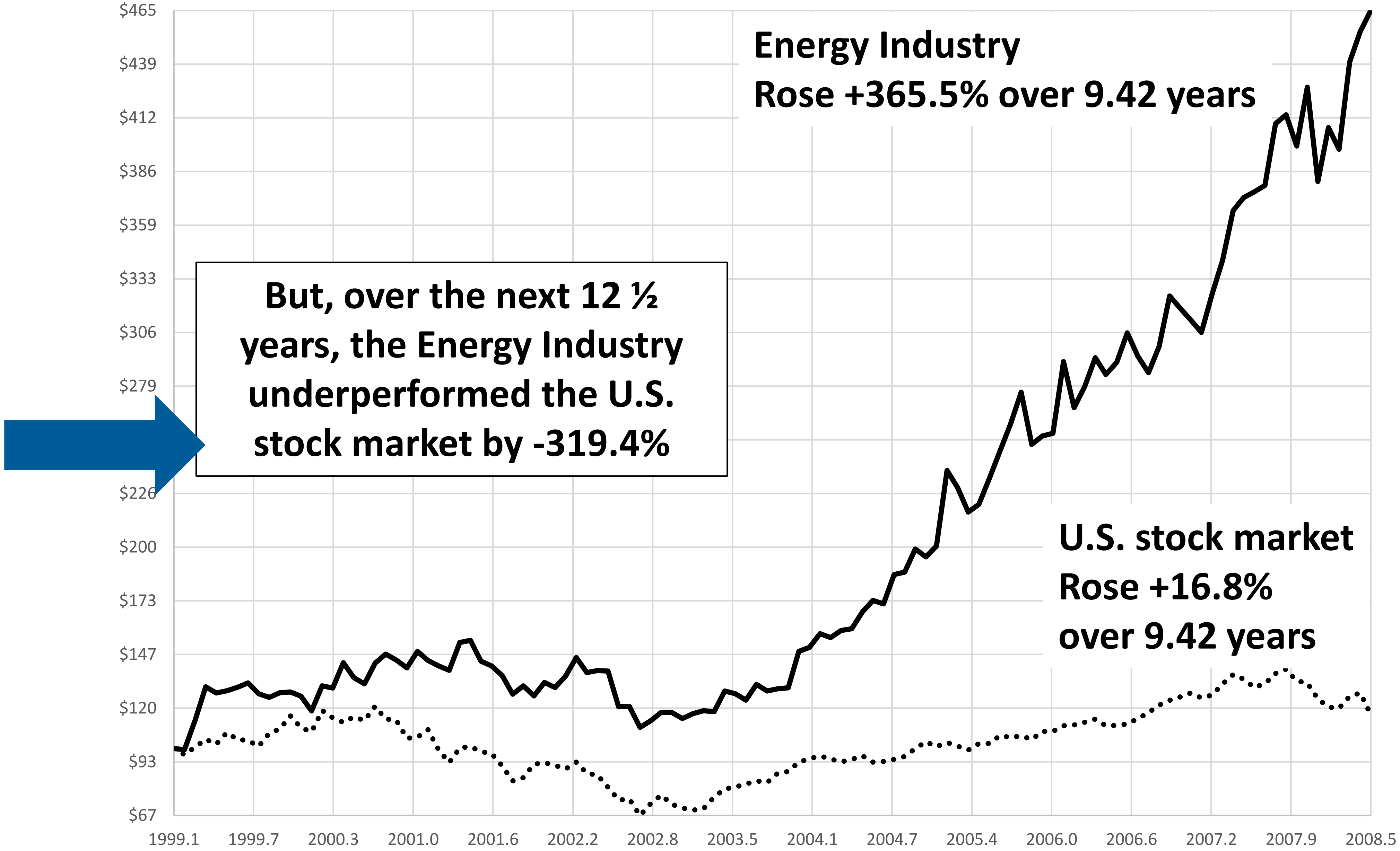
- **Bad**
  - Refusal to separate beta and alpha - 94% of a portfolio's returns result from its asset mix and not from manager skill*
  - Encouraging the belief that asset class returns continue, i.e., winners repeat, as do losers
  - Joining the bandwagon of manias, froth, and speculation - get your Cathie Wood onesie
  - Building portfolios using a software tool that relies on past returns, standard deviations, and correlations – garbage in garbage out

* ***Determinants of Portfolio Performance***," the seminal 1986 paper on asset allocation by Gary P. Brinson, Randolph Hood, and Gilbert L. Beebower

Focus on past performance leads to retail froth & speculation



Result of focusing on past performance



Role - Investment management

- **Bad**
  - Refusal to separate beta and alpha - 94% of a portfolio's returns result from its asset mix and not from manager skill*
  - Encouraging the belief that asset class returns continue, i.e., winners repeat, as do losers
  - Joining the bandwagon of manias, froth, and speculation - get your Cathie Wood onesie
  - Building portfolios using a software tool that relies on past returns, standard deviations, and correlations – garbage in garbage out
- **Good**
  - Helping investors understand that price matters

* ***Determinants of Portfolio Performance***," the seminal 1986 paper on asset allocation by Gary P. Brinson, Randolph Hood, and Gilbert L. Beebower

JULEX CAPITAL

Next 15 years

You're confident that this investment will be worth a solid $300 fifteen years from today

You can buy this investment opportunity today for

Therefore, your expected cumulative rate of return is

$100 → +200%

Next 15 years

You're confident that this investment will be worth a solid $300 fifteen years from today

You can buy this investment opportunity today for

$50

$100

$200

Next 15 years

You're confident that this investment will be worth a solid $300 fifteen years from today

You can buy this investment opportunity today for	Therefore, your expected cumulative rate of return is
$50	+500%
$100	+200%
$200	+50%

JULEX CAPITAL

Next 15 years

You're confident that this investment will be worth a solid $300 fifteen years from today

You can buy this investment opportunity today for	Therefore, your expected cumulative rate of return is
$50	+500%
$100	+200%
$200	+50%

Yes, the price you pay for an investment matters

You always want to pay less for it, not more

JULEX CAPITAL

Past 15 years	Next 15 years	
	You're confident that this investment will be worth a solid $300 fifteen years from today	
Fifteen years ago this investment was selling for just $33.33	You can buy this investment opportunity today for	Therefore, your expected cumulative rate of return is
	$50	+500%
$33.33	$100	+200%
	$200	+50%

Helping investors understand that price matters

Past 15 years | **Next 15 years**

You're confident that this investment will be worth a solid $300 fifteen years from today

Fifteen years ago this investment was selling for just $33.33	Therefore, the realized cumulative return on this investment over the past 15 years was	You can buy this investment opportunity today for	Therefore, your expected cumulative rate of return is
	+50%	$50	+500%
$33.33	+200%	$100	+200%
	+500%	$200	+50%

Helping investors understand that price matters

Past 15 years		Next 15 years	
		You're confident that this investment will be worth a solid $300 fifteen years from today	
Fifteen years ago this investment was selling for just $33.33	Therefore, the realized cumulative return on this investment over the past 15 years was	You can buy this investment opportunity today for	Therefore, your expected cumulative rate of return is
	+50%	$50	+500%
$33.33	+200%	$100	+200%
	+500%	$200	+50%

Helping investors understand that price matters

JULEX CAPITAL

Past 15 years

Next 15 years

You're confident that this investment will be worth a solid $300 fifteen years from today

Fifteen years ago this investment was selling for just $33.33	Therefore, the realized cumulative return on this investment over the past 15 years was	You can buy this investment opportunity today for	Therefore, your expected cumulative rate of return is
	+50%	$50	+500%
$33.33	+200%	$100	+200%
	+500%	$200	+50%

Helping investors understand that price matters

JULEX CAPITAL

Past 15 years

Next 15 years

Yes, the price you pay for an investment matters

You always want to pay less for it, not more

You're confident that this investment will be worth a solid $300 fifteen years from today

Fifteen years ago this investment was selling for just $33.33

…ative return on this investment over the past 15 years was

You can buy this investment opportunity today for

Therefore, your expected cumulative rate of return is

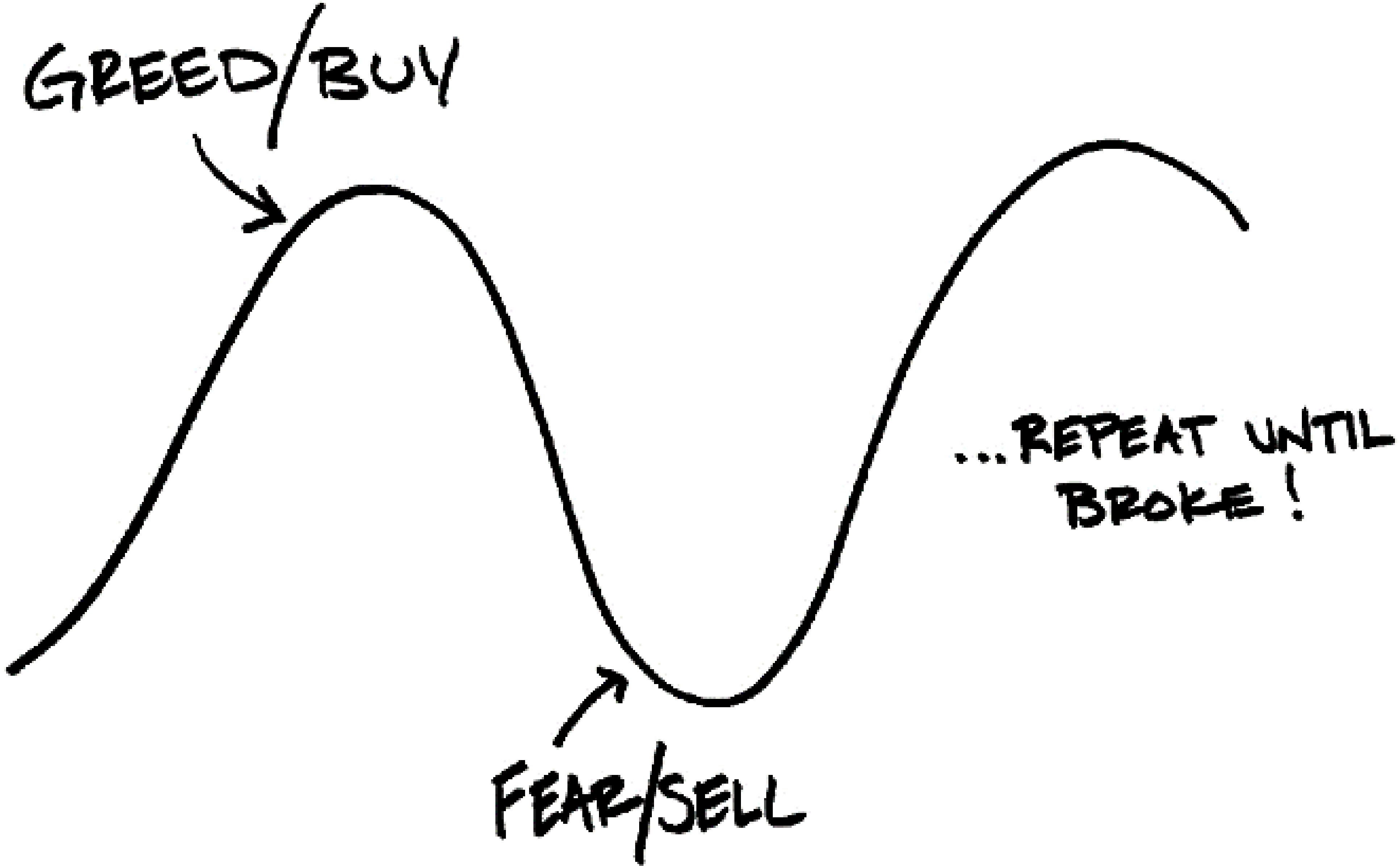
	+50%	$50	+500%
$33.33	+200%	$100	+200%
	+500%	$200	+50%

Helping investors understand that price matters

Past 15 years		Next 15 years	
		You're confident that this investment will be worth a solid $300 fifteen years from today	
Fifteen years ago this investment was selling for just $33.33	Therefore, the realized cumulative return on this investment over the past 15 years was	You can buy this investment opportunity today for	Therefore, your expected cumulative rate of return is
	+50%	$50	+500%
$33.33	+200%	$100	+200%
	+500%	$200	+50%

Yes . . . past high returns often result in ("cause") low future returns

SEC Rule 156 - “*Past performance is not indicative of future results*”



Role - Investment management

- **Bad**
  - Refusal to separate beta and alpha - 94% of a portfolio's returns result from its asset mix and not from manager skill*
  - Encouraging the belief that asset class returns continue, i.e., winners repeat, as do losers
  - Joining the bandwagon of manias, froth, and speculation - get your Cathie Wood onesie
  - Building portfolios using a software tool that relies on past returns, standard deviations, and correlations – garbage in garbage out

- **Good**
  - Helping investors understand that price matters
  - Returns revert, i.e., winners become losers and losers become winners
  - Past returns are incredibly useful for understanding:
    - Is the investment manager doing what their investment philosophy/process said it would
    - The "transparent" risks . . . the normal everyday risks . . . there are still the "opaque" risks to understand
  - Rock solid understanding of statistical significance - separating "noise" from "relationship"

* ***Determinants of Portfolio Performance***," the seminal 1986 paper on asset allocation by Gary P. Brinson, Randolph Hood, and Gilbert L. Beebower

Institutional investment managers - Different roles, different players

Sales

Financial life planning

Coordination - Captain of the ship

Investment management

Client

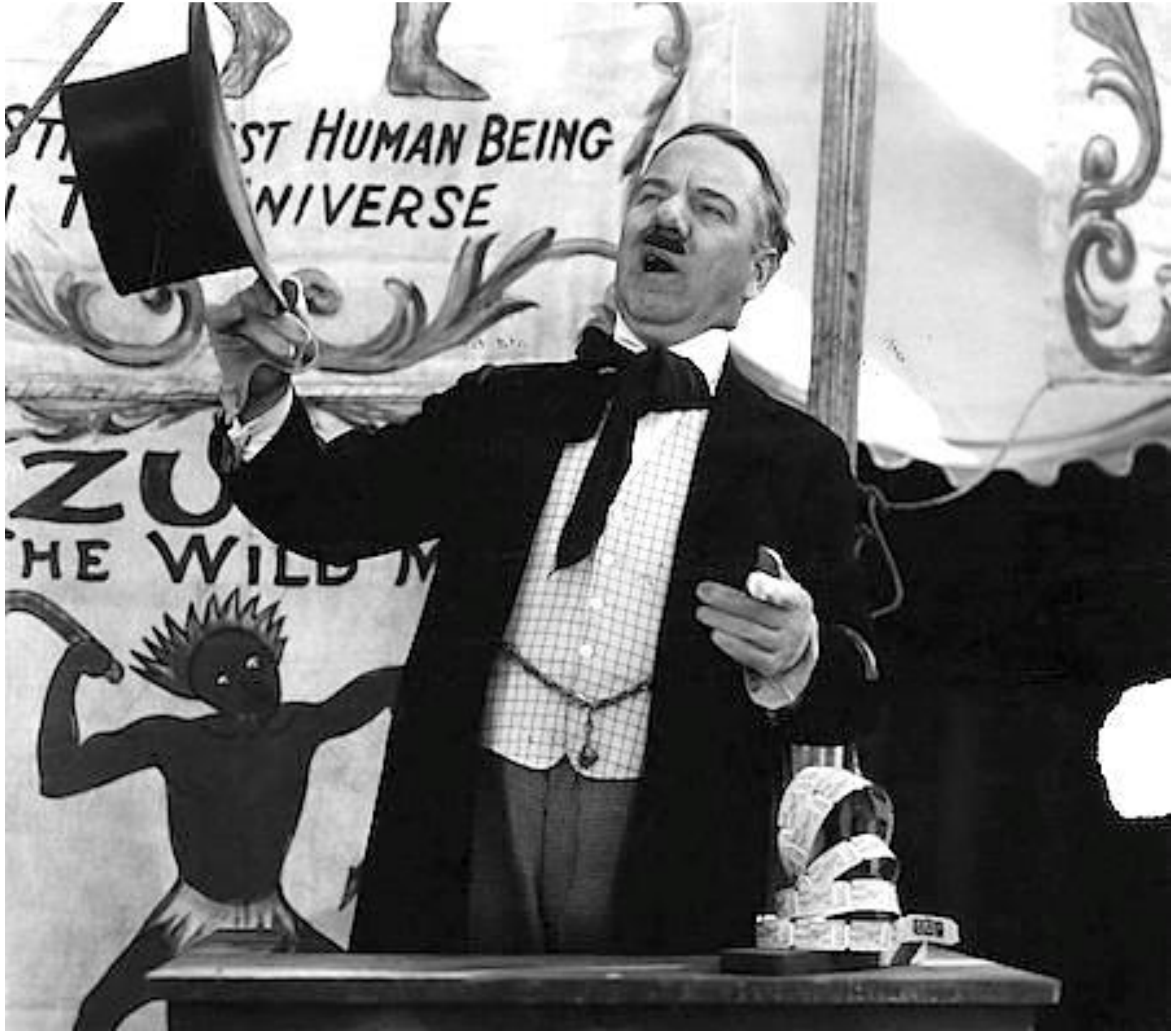
Institutional investment managers

Player - Institutional investment managers

- Bad
  - Touting performance over the last 1-, 3-, 5-, and 7-years versus the S&P 500 Index
  - Cherry picking performance highlighted
  - Implying that past performance will continue into the future
  - Purposefully conflating beta with alpha

Sales based on the last 1-, 3-, 5-, and 7-year performance numbers

JULEX CAPITAL



For internal use only, do not share with clients or prospects

Past winners are next year's losers, and vice versa

1999	2000	2002	2003	2007	2008	2011	2012	2015	2016
MSCI Emerging Markets 66.8%	**Russell 2000 Value 22.8%**	**Bloomberg Barclays Aggregate 10.3%**	MSCI Emerging Markets 55.8%	**MSCI Emerging Markets 39.4%**	Bloomberg Barclays Aggregate 5.2%	**Bloomberg Barclays Aggregate 7.8%**	**MSCI Emerging Markets 18.2%**	**S&P 500 Growth 5.5%**	**Russell 2000 Value 31.7%**
Russell 2000 Growth 43.1%	Bloomberg Barclays Aggregate 11.6%	Bloomberg Barclays High Yield -1.4%	**Russell 2000 Growth 48.5%**	MSCI World ex USA Stocks 12.4%	Bloomberg Barclays High Yield -26.2%	Bloomberg Barclays High Yield 5.0%	Russell 2000 Value 18.1%	S&P 500 LargeCap 1.4%	Russell 2000 SmallCap 21.3%
S&P 500 Growth 28.2%	S&P 500 Value 6.1%	MSCI Emerging Markets -6.2%	Russell 2000 SmallCap 47.3%	S&P 500 Growth 9.1%	**Russell 2000 Value -28.9%**	S&P 500 Growth 4.7%	S&P 500 Value 17.7%	Bloomberg Barclays Aggregate 0.6%	S&P 500 Value 17.4%
MSCI World ex USA Stocks 27.9%	Russell 2000 SmallCap -3.0%	Russell 2000 Value -11.4%	Russell 2000 Value 46.0%	Russell 2000 Growth 7.1%	Russell 2000 SmallCap -33.8%	S&P 500 LargeCap 2.1%	Russell 2000 SmallCap 16.4%	Russell 2000 Growth -1.4%	Bloomberg Barclays High Yield 17.1%
Russell 2000 SmallCap 21.3%	Bloomberg Barclays High Yield -5.9%	MSCI World ex USA Stocks -15.8%	MSCI World ex USA Stocks 39.4%	Bloomberg Barclays Aggregate 7.0%	S&P 500 Growth -34.9%	S&P 500 Value -0.5%	MSCI World ex USA Stocks 16.4%	MSCI World ex USA Stocks -3.0%	S&P 500 LargeCap 12.0%
S&P 500 LargeCap 21.0%	S&P 500 LargeCap -9.1%	Russell 2000 SmallCap -20.5%	S&P 500 Value 31.8%	S&P 500 LargeCap 5.5%	S&P 500 LargeCap -37.0%	Russell 2000 Growth -2.9%	S&P 500 LargeCap 16.0%	S&P 500 Value -3.1%	Russell 2000 Growth 11.3%
S&P 500 Value 12.7%	MSCI World ex USA Stocks -13.4%	S&P 500 Value -20.9%	Bloomberg Barclays High Yield 29.0%	S&P 500 Value 2.0%	Russell 2000 Growth -38.5%	Russell 2000 SmallCap -4.2%	Bloomberg Barclays High Yield 15.8%	Russell 2000 SmallCap -4.4%	MSCI Emerging Markets 11.2%
Bloomberg Barclays High Yield 2.4%	S&P 500 Growth -22.1%	S&P 500 LargeCap -22.1%	S&P 500 LargeCap 28.7%	Bloomberg Barclays High Yield 1.9%	S&P 500 Value -39.2%	Russell 2000 Value -5.5%	S&P 500 Growth 14.6%	Bloomberg Barclays High Yield -4.5%	**S&P 500 Growth 6.9%**
Bloomberg Barclays Aggregate -0.8%	Russell 2000 Growth -22.4%	S&P 500 Growth -23.6%	S&P 500 Growth 25.7%	Russell 2000 SmallCap -1.6%	MSCI World ex USA Stocks -43.6%	MSCI World ex USA Stocks -12.2%	Russell 2000 Growth 14.6%	**Russell 2000 Value -7.5%**	MSCI World ex USA Stocks 2.8%
Russell 2000 Value -1.5%	**MSCI Emerging Markets -30.7%**	**Russell 2000 Growth -30.3%**	**Bloomberg Barclays Aggregate 4.1%**	**Russell 2000 Value -9.8%**	**MSCI Emerging Markets -53.3%**	**MSCI Emerging Markets -18.4%**	**Bloomberg Barclays Aggregate 4.2%**	MSCI Emerging Markets -14.9%	Bloomberg Barclays Aggregate 2.7%

Player - Institutional investment managers

- **Bad**
  - Touting performance over the last 1-, 3-, 5-, and 7-years versus the S&P 500 Index
  - Cherry picking performance highlighted
  - Implying that past performance will continue into the future
  - Purposefully conflating beta with alpha
- **Good**
  - Eschewing discussion of performance . . . instead focusing on the causal reasons why their future performance will be superior
  - Developing a solid understanding of the long-run behavior of the asset category in which they are investing
  - Clearly separating their contribution (alpha) which is costly . . . from the market's (beta) which is "free"
  - When discussing performance, always comparing it to very similar strategies, e.g., tactical asset allocation versus a universe of similar tactical asset allocation managers

Client - Different roles, different players

JULEX CAPITAL

Sales

Financial life planning

Coordination - Captain of the ship

Investment management

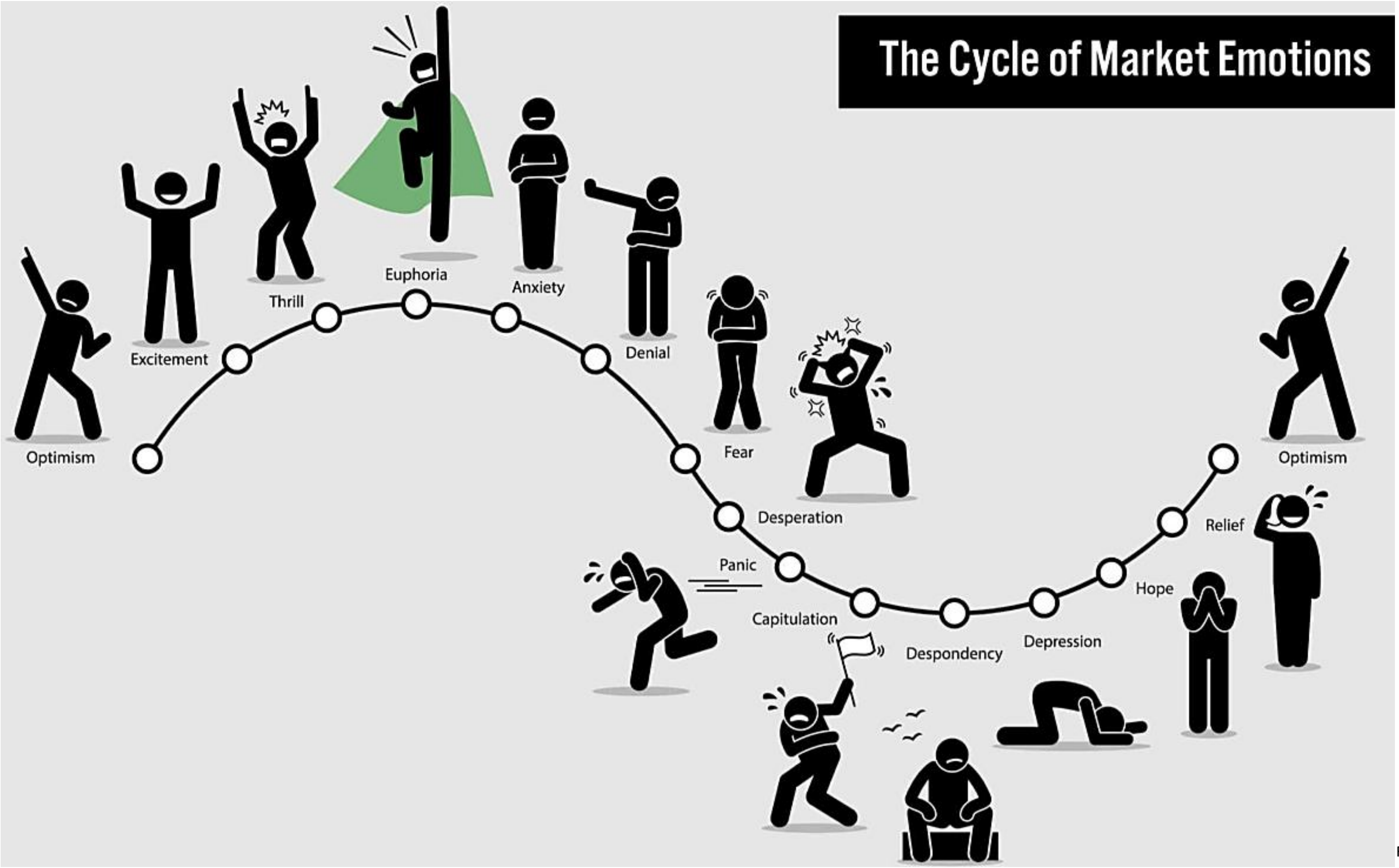
Client

Institutional investment managers

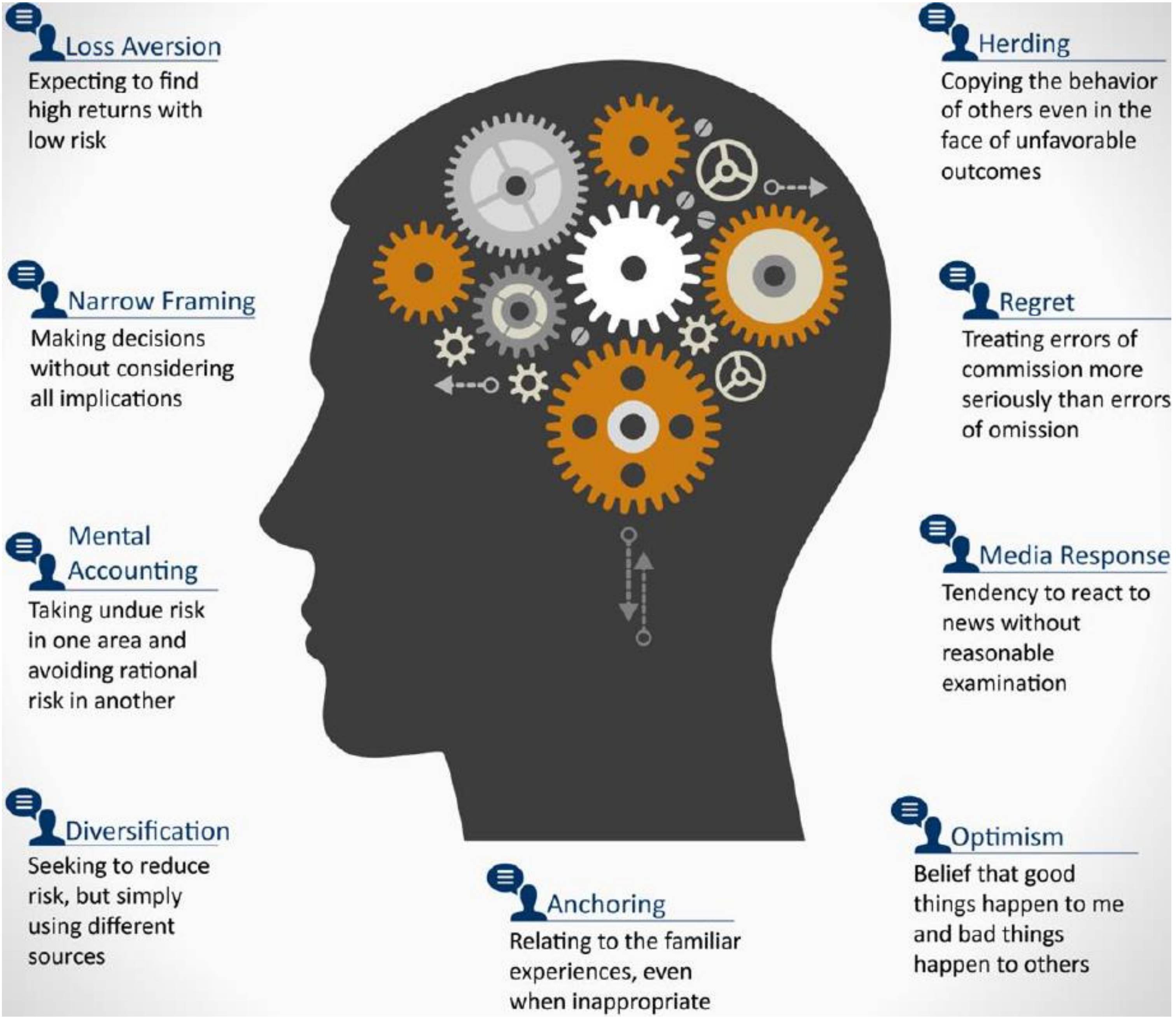
Player - Client

- **Bad**
  - Trained by life experience that winners repeat - how they pick a doctor, dentist, carpenter, artist, restaurant, friends
  - Objective to ***"beat someone else"***
  - Misunderstands what is reasonable, e.g., ***"I can make 20% a year"***
  - Needs to know that everything is "OK" . . . and therefore compares performance to the benchmarks in their quarterly custodial statement

Client behavior when they focus on past performance



Dysfunctional behaviors



Most problematic behaviors are exacerbated by a focus on past performance as opposed to future goals

Player - Client

JULEX CAPITAL

- Bad
  - Trained by life experience that winners repeat - how they pick a doctor, dentist, carpenter, artist, restaurant, friends
  - Objective to “beat someone else”
  - Misunderstands what is reasonable, e.g., “I can make 20% a year”
  - Needs to know that everything is “OK” . . . and therefore compares performance to the benchmarks in their quarterly custodial statement
- Good
  - Desires absolute comfort, confidence of realizing their life financial goals
  - Ignores what others have earned, what markets have delivered
  - Seeks understanding on how their portfolio is best aligned with the future’s opportunities and risks
  - Has the patience to weather downturns, staying focused on reaching their life’s financial goals

Different roles, different players

JULEX CAPITAL

Sales

Financial life planning

Investment management

Client

Coordination - Captain of the ship

Institutional investment managers

Possible solutions

Time Segmentation Investing

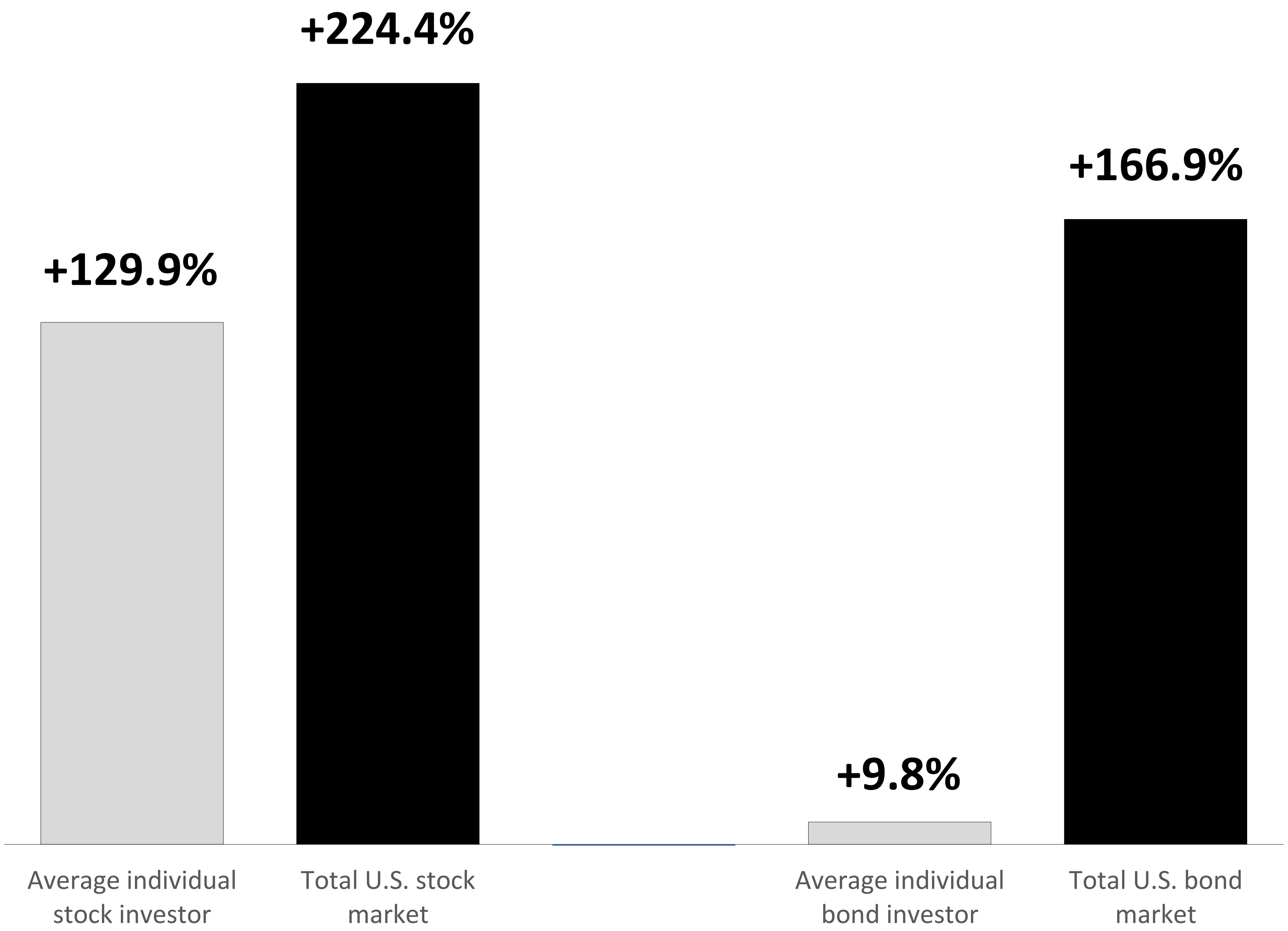
Crisp clear understanding of the value clients will receive . . . for the fee they pay

Possible solutions

- The focus on performance is an unfortunate reality
  - Don’t pander . . . reeducate, reinforce
  - Answer the question BEFORE the client asks it . . . *“Am I OK?”*
- Sales role
  - Invest in the future, not the past
  - Why this organization, team, process has a meaningful edge
- Financial life planning role
  - Answer the question in every meeting
  - Set and continuously reinforce expectations
- Investment management role
  - Separate alpha from beta
  - Don’t confuse a bull market for brilliance

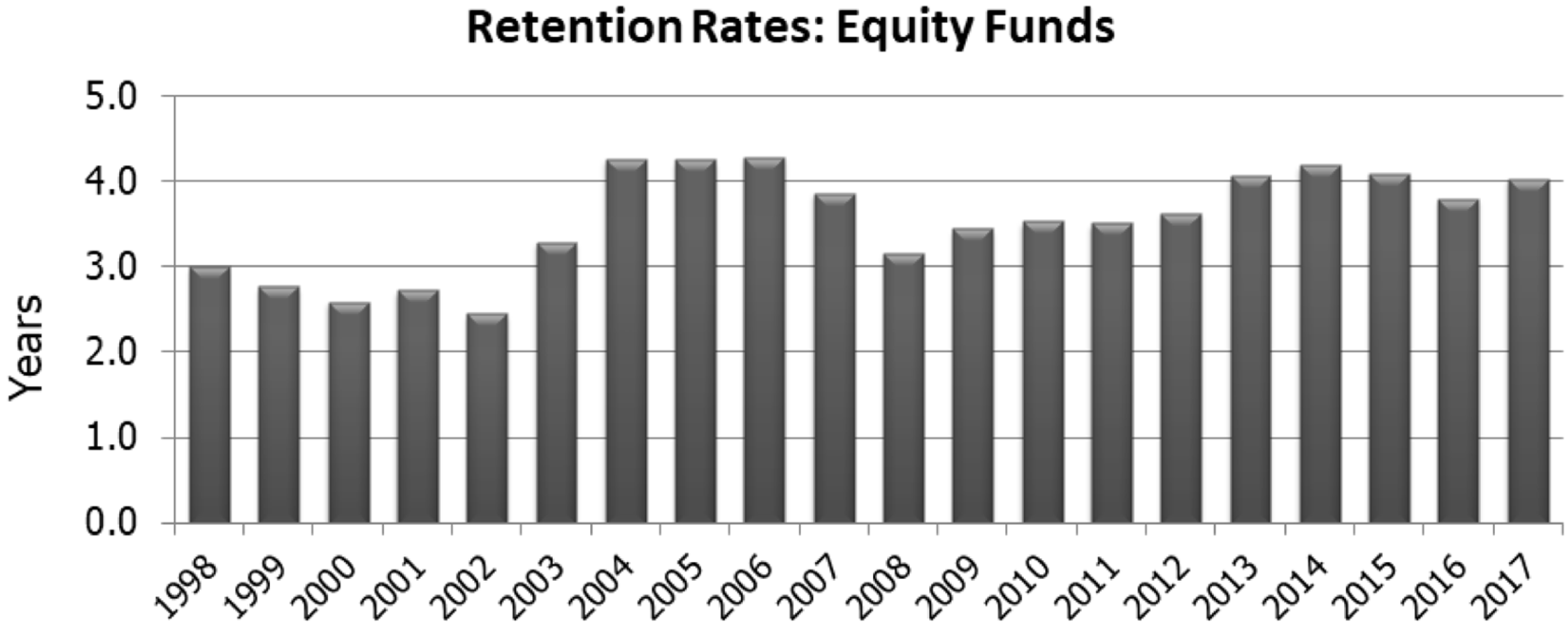
Client focus on past performance results in seriously bad decision-making

JULEX CAPITAL



Results for the 20 years ending 1/1/2020

Focus on past performance encourages “performance chasing”



How I approach the challenge

With my very small roster of clients

Both institutional and retail - I treat them all exactly the same

What Rob does with his own clients

1. **My value prop - why you pay me a fee**
    a. Establish life-long financial goals . . . and comfort/confidence you will realize those goals
    b. Specific levels of financial support at specific future dates
2. **My framework**
    a. Time Segmentation Investing
3. **What I won't do or entertain**
    a. Try me out
    b. Compete against a benchmark
    c. Compete against another manager or advisor
    d. Jointly manage with you
    e. Operate a "shoe store"
4. **Client statements**
    a. All benchmarks have been suppressed - they do NOT appear

What I do in every client meeting . . . the exact same script

JULEX CAPITAL

5. Discussions

a. Quarterly, sometimes more frequently

b. Restate value prop

c. Provide evidence that we remain on track to achieve the agreed upon value prop

d. How have things changed for you - something always has, and I dig until I find it

e. How has Mr. Market delivered something other than what we "expected"

f. What does this (your changes and Mr. Market's) tell us about the adjustments we must make?

g. Why and in what way will this improve the likelihood of you achieving your goals?

h. Recall, I start with a clean sheet of paper, 100% ignoring past "LIMs" - I only do this annually

i. I always end with both setting and reinforcing expectations for what Mr. Market will deliver in the future, being careful to use language and a depth of discussion that they can understand and internalize

Julex Capital

The organization, team, and process that leads to superior performance in the fullness of time

Cost effective, fully transparent, testable . . .

It starts with the firm

JULEX CAPITAL

Firm

- Employee-owned, established 2012
- Model driven, rules-based quantitative investment process
- Specialized in tactical asset allocation, quantitative equity and options overlay

Team

- Average 20+ years of institutional investment experience
- Quantitatively driven research team
- Portfolio management team includes 4 Ph.D.'s

Investment Philosophy

- Long-term outperformance can be achieved by limiting the downside risk during market downturns
- Investment alpha can be generated through quant-based concentrated portfolios

It continues with the people

Team	Role	Experience	Education
Henry Ma Ph.D., CFA	President Chief Investment Officer	Geode Capital – Hedge Fund Manager Loomis Sayles – Director of Quantitative Research Fortis Investments - Director of Quantitative Research Sun Life Financial– Portfolio Manager	Ph.D. Economics – Boston University BA, MA – Peking University
George Xiang Ph.D., CFA	Portfolio Manager Research	State Street Global Advisors (SSGA) – Head of Quantitative Research Loomis Sayles – Senior Quantitative Analyst Conseco Capital – Quantitative Research Manager	Ph.D., Mathematics – Purdue University BA – Nankai University
Frank Zhuang Ph.D.	Portfolio Manager Research	Ericsson – Senior Engineer Nortel, Alcatel/Lucent - Senior Research Scientist	Ph.D. Electric Engineering – University of Maryland MS – West Virginia University
Jeffrey Megar CFA	Investment Committee Member	F-Squared Investments – Senior Vice President State Street Global Advisors – Senior Portfolio Manager Fortis Investments – Senior Portfolio Manager Cypress Tree Investment Management	MBA – Northeastern University BA – Framingham State University
Liam Flaherty	Research	MFS Investments - Independent Contractor MassMutual - Internship	BA – Babson College
Bo Wang	Research		Ph.D. Economics – Boston College BA – Renmin University of China

Is it the right process?

Investment Objectives:

- High income
- Capital growth in the long run
- Outperforming relevant benchmark: Vanguard Real Estate Index ETF (VNQ)

Multi Factor Stock Selection Model

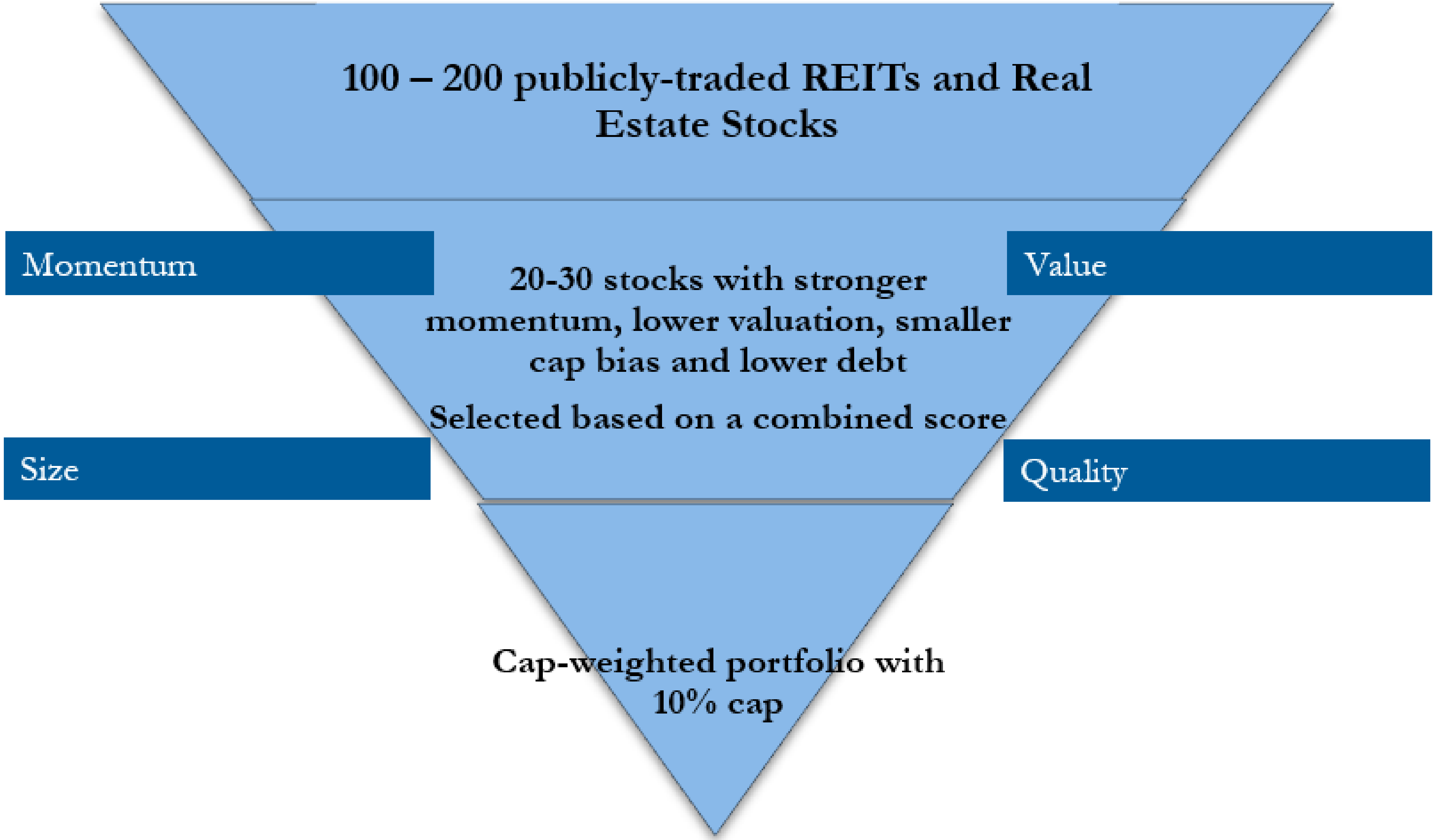
- Value: low price to FFO
- Momentum: price movement
- Quality: low leverage
- Size: small cap bias

Concentrated Portfolio

- 20-30 positions
- Cap-weighted portfolio
- Maximum individual stock weight: 10%

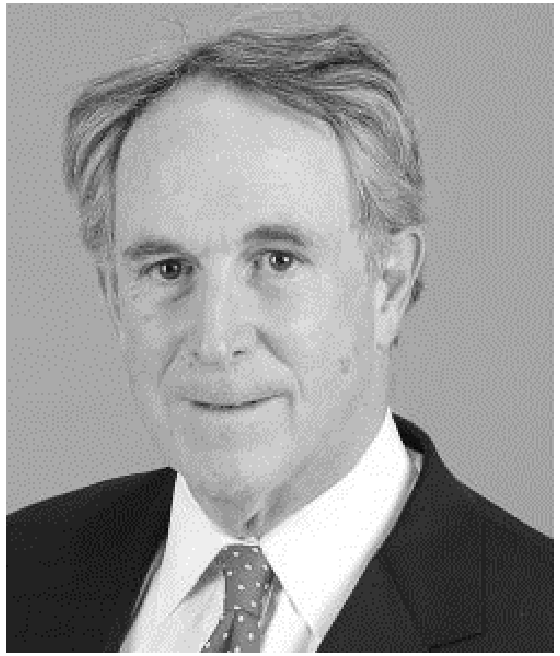
Is it quantitative - and therefore fully testable

JULEX CAPITAL



For more information contact

Jeff Megar, CFA
Email jeff.megar@julexcapital.com
Office 781-772-1378



Brian Phelan
Email brian.phelan@julexcapital.com
Cell 508-527-1431

Bob Peatman
Email bob.peatman@julexcapital.com
Cell 617-875-9316

Important Disclosures

Data and statistics on the behavior and results of retail investors provided by the 2020 Dalbar Study.

Relative calendar year returns for different asset categories provided by Global Financial Data, Inc. on February 7, 2021.

This information in this presentation is for the purpose of information exchange. This is not a solicitation or offer to buy or sell any security. You must do your own due diligence and consult a professional investment advisor before making any investment decisions. The use of a proprietary technique, model or algorithm does not guarantee any specific or profitable results. Past performance is not indicative of future returns. The performance data presented are gross returns, unless otherwise noted.

The risk of loss in trading securities can be substantial. You should therefore carefully consider whether such trading is suitable for you in light of your financial condition. All information posted is believed to come from reliable sources. We do not warrant the accuracy or completeness of information made available and therefore will not be liable for any losses incurred.

Some part of the investment performance shown is HYPOTHETICAL. It is based on the back tests of historical data. Hypothetical performance results have many inherent limitations, some of which are described below. No representation is being made that any account will or is likely to achieve profits or losses similar to those shown. In fact, there are frequently sharp differences between hypothetical performance results and the actual results subsequently achieved by any particular trading program.

One of the limitations of hypothetical performance results is that they are generally prepared with the benefit of hindsight. In addition, hypothetical trading does not involve financial risk, and no hypothetical trading record can completely account for the impact of financial risk in actual trading. For example, the ability to withstand losses or adhere to a particular trading program in spite of trading losses are material points which can also adversely affect actual trading results. There are numerous other factors related to the markets in general or to the implementation of any specific trading program which cannot be fully accounted for in the presentation of hypothetical performance results and all of which can adversely affect actual trading results.

The composition of a benchmark index may not reflect the manner in which a Julex portfolio is constructed in relation to expected or achieved returns, investment holdings, portfolio guidelines, restrictions, sectors, correlations, concentrations, volatility, or tracking error targets, all of which are subject to change over time.

No representation or warranty is made to the reasonableness of the assumptions made or that all assumptions used to construct the performance provided have been stated or fully considered.