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Why DIY investing doesn't work

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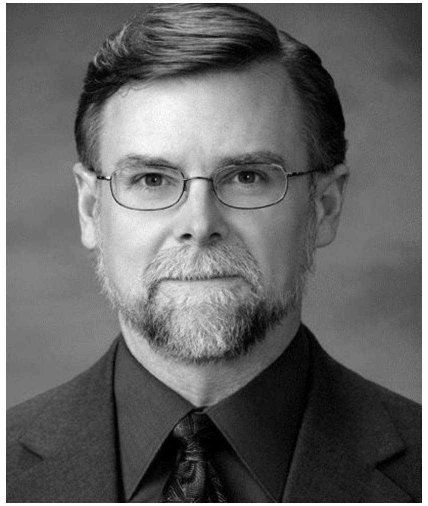

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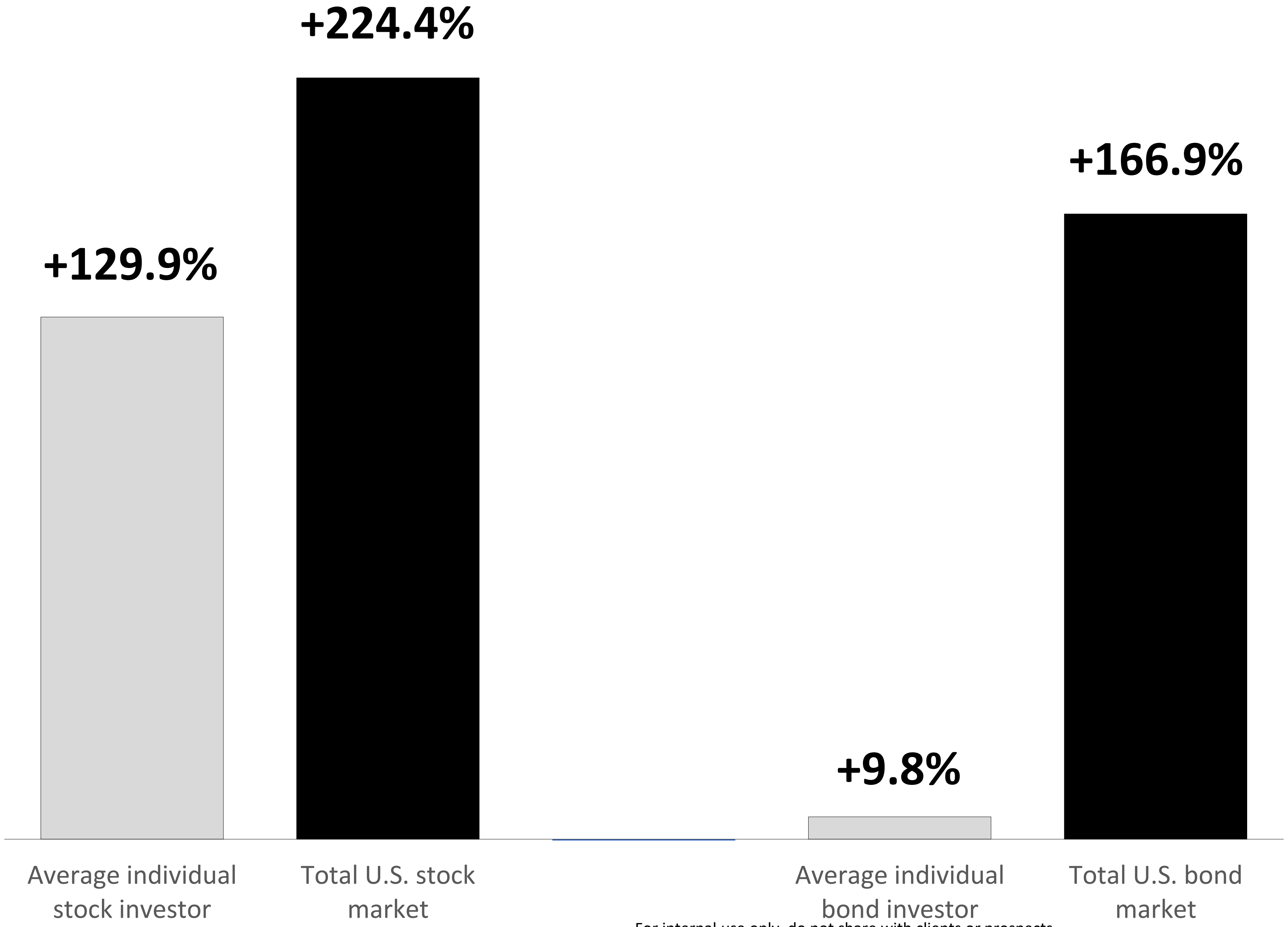
Why DIY investing doesn't work

- Numbers - Prove that it doesn't
- Access - DIY folk lack access
- Industry - Encourages DIY folk to focus on all the wrong things
- Experience and training - What DIY folk lack
- Behavioral bias - We're all human
- Retirement years - Facing a different of powerful issues

Numbers

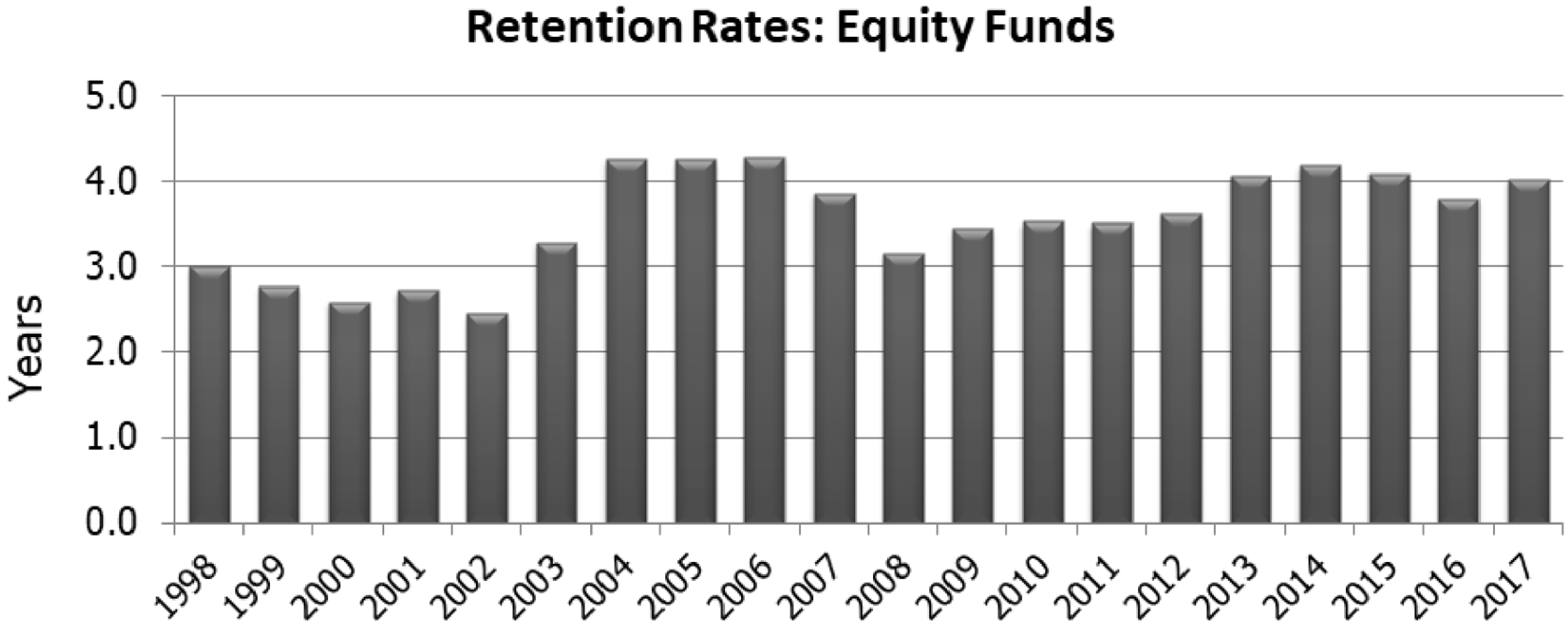
Prove that DIY doesn’t work

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



Results for the 20 years ending 1/1/2020

Focus on past performance encourages "performance chasing"



Access

DIY folk access to the good stuff at the good prices

Limited access for DIY folk

- Some won't work directly with individuals
- Not eligible reduced minimums
- Can't provide the required $-volume
- Some don't like dealing with individuals . . . feeling they're just too high maintenance
- Some won't work with those they consider "leppers"

- Almost universally, there is no access to the good stuff

- Reverse - only have access to the bad stuff . . . acts like a vacuum cleaner
- Groucho Marx - *"I refuse to join any club that would have me . . . "*

The access question is really all about “alts”

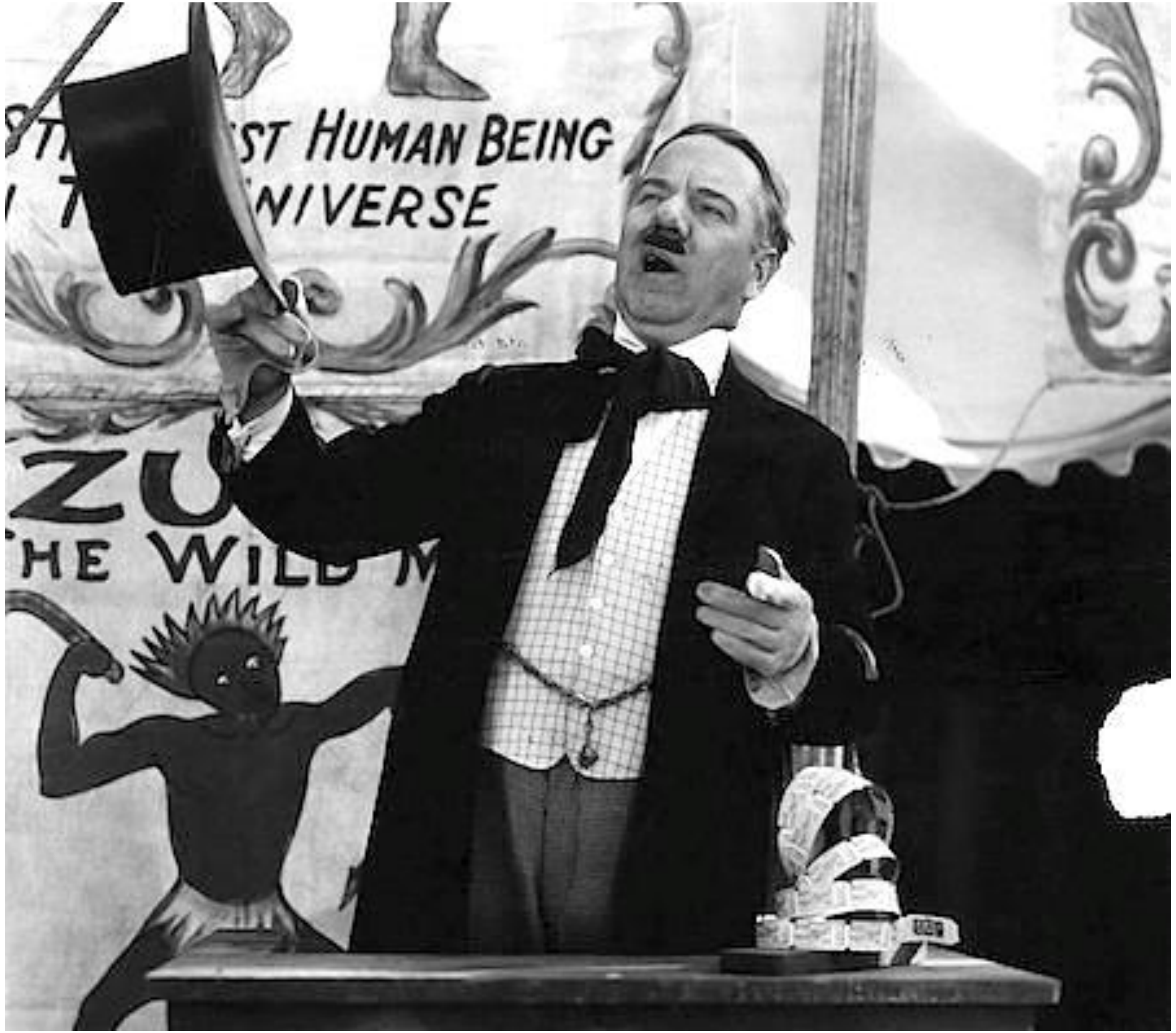
- This is important as
  - Preponderance of “alts” grows
  - The investment industry pushes and exaggerates “alts”

- Reality
- Four general categories
  - Seriously bad stuff
  - Offensively over priced stuff
  - Good stuff, but expensive
  - Best of the best . . . no access unless you work with the right folk and are talking nine-figures

Industry

The investment industry works hard to encourage DIY folk to focus on all of the wrong things

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



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

You too can beat the market, just use our stuff

Experience and training

DIY folk just don’t have the training or experience

Investing is no different from law, medicine, or accounting

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%

And the next cycle will be . . . . back up again

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16 %

9/30/1981

39
years

8/4/2020

½ %

And the next cycle will be . . . . back up again

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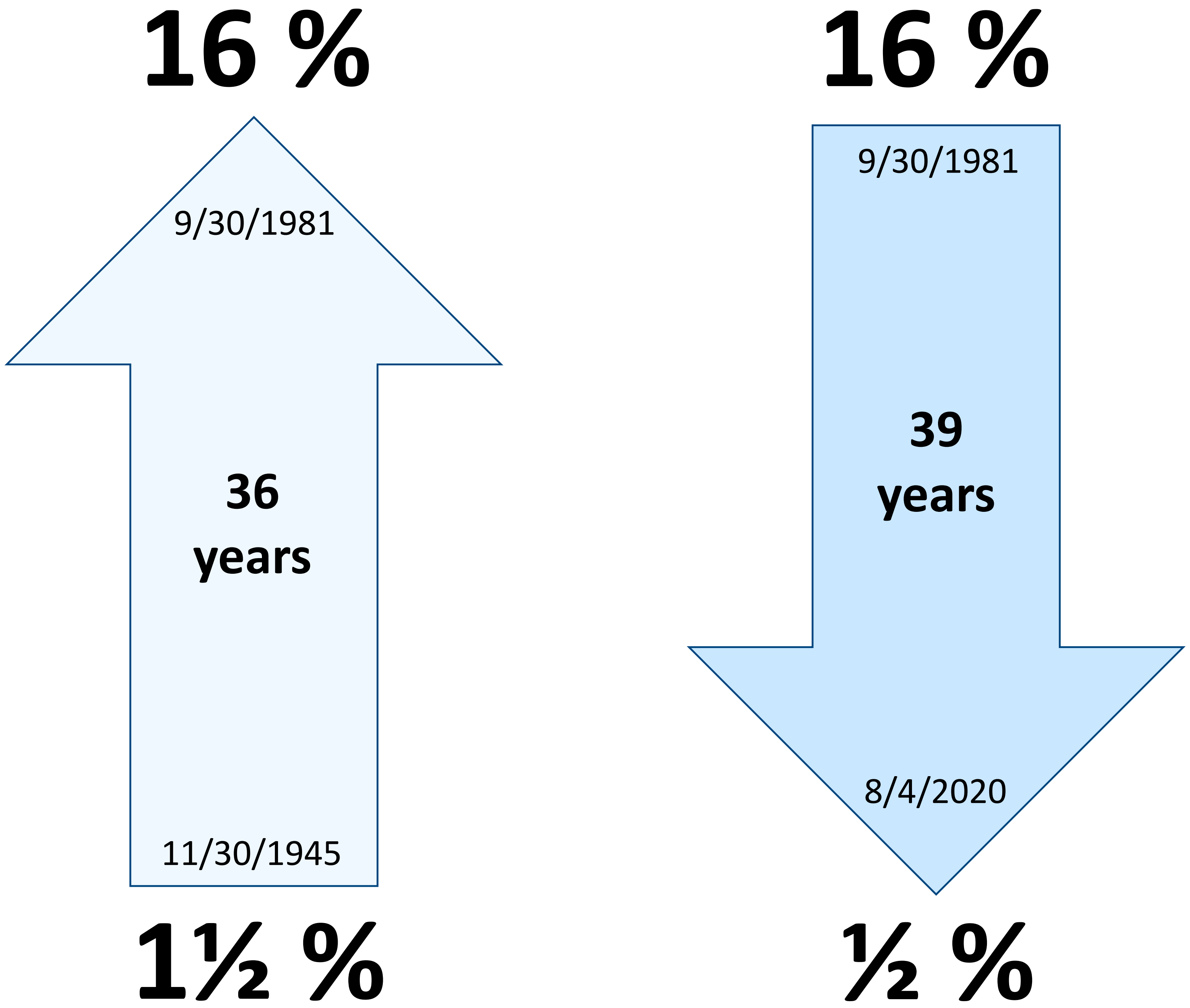
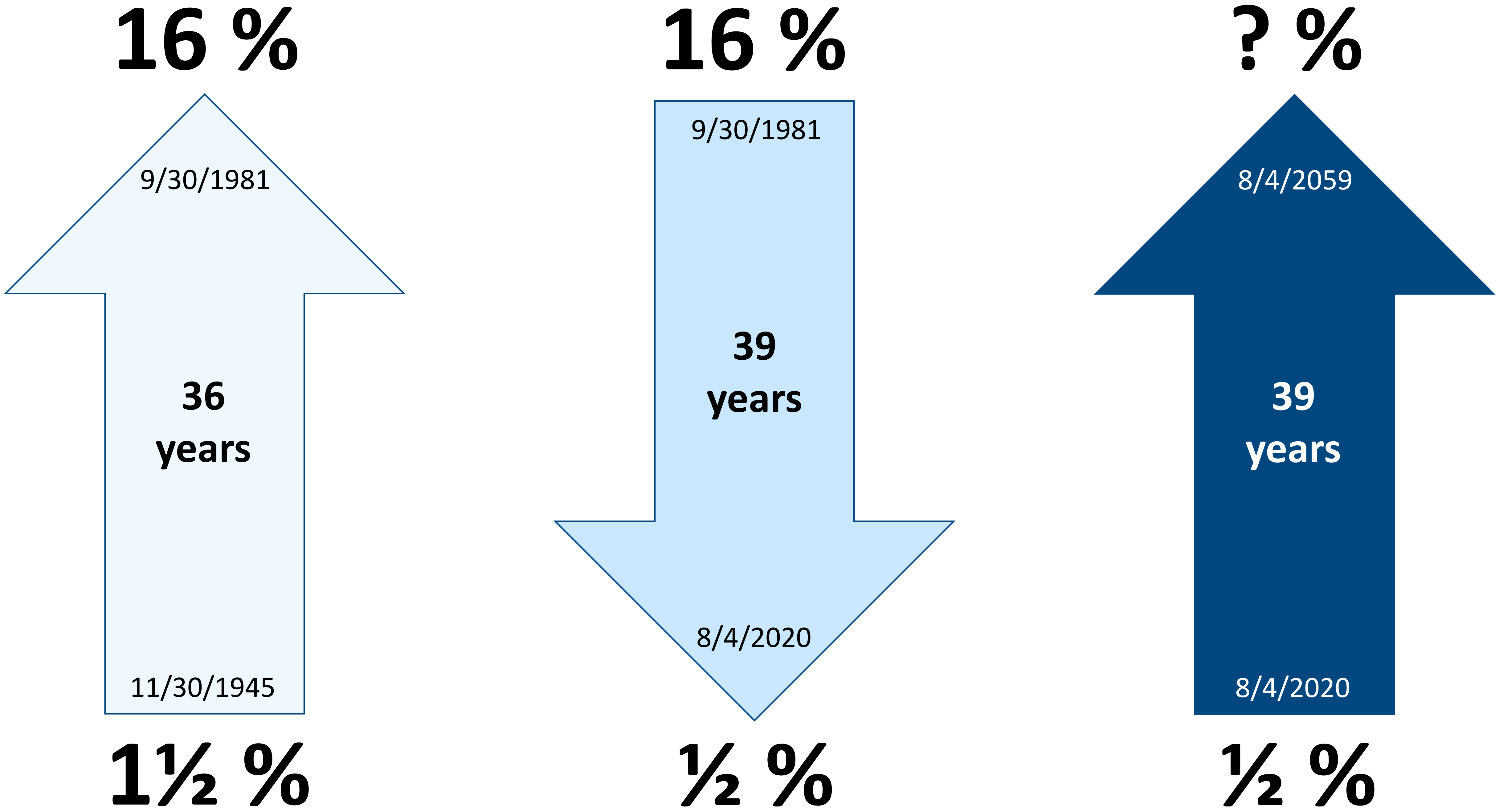
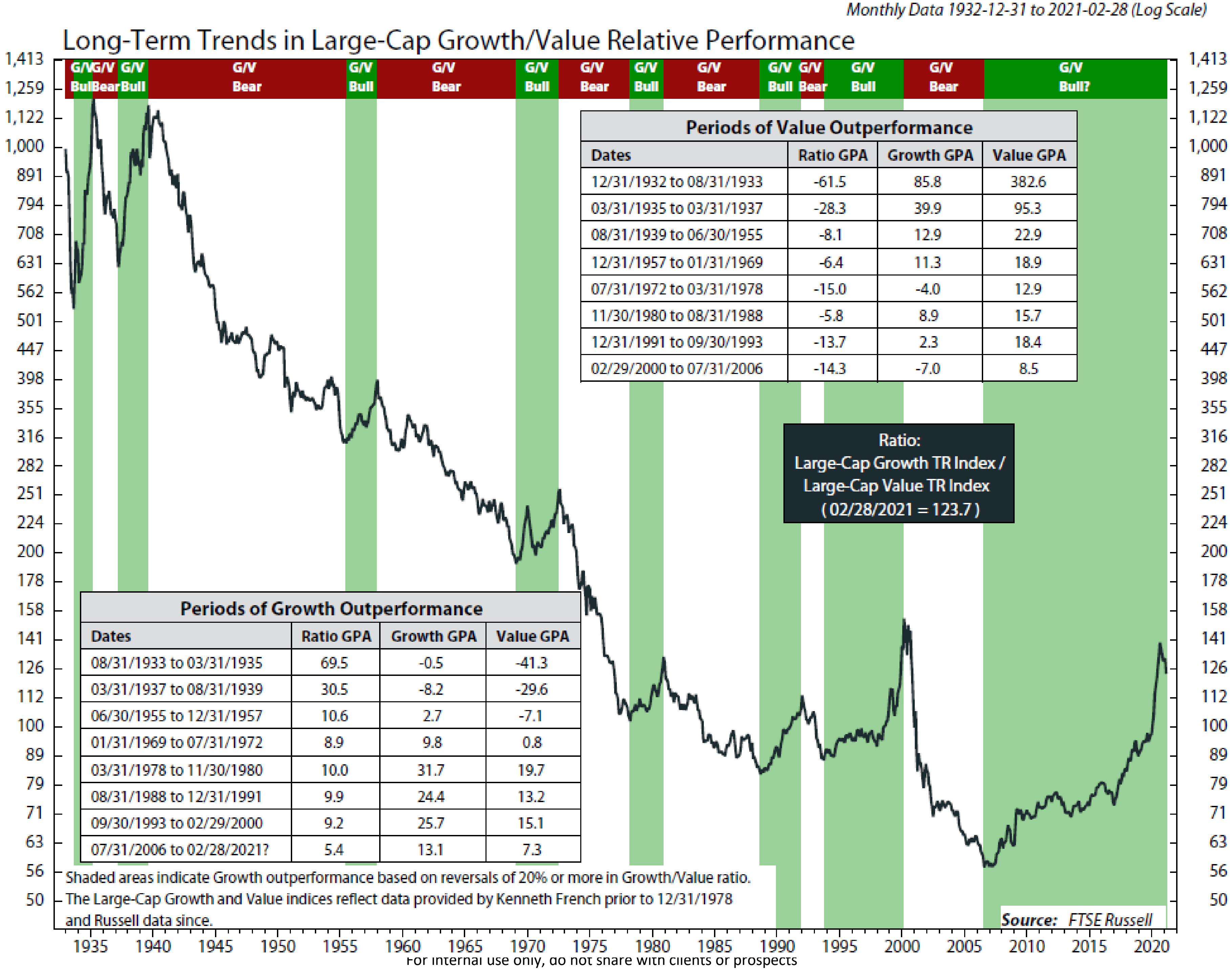


And the next cycle will be . . . . back up again



Trees don't grow to the sky



Periods of Value Outperformance

Dates	Ratio GPA	Growth GPA	Value GPA
12/31/1932 to 08/31/1933	-61.5	85.8	382.6
03/31/1935 to 03/31/1937	-28.3	39.9	95.3
08/31/1939 to 06/30/1955	-8.1	12.9	22.9
12/31/1957 to 01/31/1969	-6.4	11.3	18.9
07/31/1972 to 03/31/1978	-15.0	-4.0	12.9
11/30/1980 to 08/31/1988	-5.8	8.9	15.7
12/31/1991 to 09/30/1993	-13.7	2.3	18.4
02/29/2000 to 07/31/2006	-14.3	-7.0	8.5

Periods of Growth Outperformance

Dates	Ratio GPA	Growth GPA	Value GPA
08/31/1933 to 03/31/1935	69.5	-0.5	-41.3
03/31/1937 to 08/31/1939	30.5	-8.2	-29.6
06/30/1955 to 12/31/1957	10.6	2.7	-7.1
01/31/1969 to 07/31/1972	8.9	9.8	0.8
03/31/1978 to 11/30/1980	10.0	31.7	19.7
08/31/1988 to 12/31/1991	9.9	24.4	13.2
09/30/1993 to 02/29/2000	9.2	25.7	15.1
07/31/2006 to 02/28/2021?	5.4	13.1	7.3

Inherent universal truths - that also apply to indexation

- Investors (and markets) take things to extremes . . . no, to *"great extremes"*
- Investors lack patience
- No investment strategy is a strategy for all times

- Winning, outperforming is . . . so seriously easy
- Just take advantage of the above three
- Be on the other side . . . of the above three behaviors

- It is so easy . . . so assured . . . and yet, so hard

The problems with index funds

- Largest stocks “always” underperform
- Industry sector overweighting and excessive dominance
- Zombies
- Bear markets

- Cost . . . just because it’s an index fund doesn’t mean that it’s cheap

The problems with index funds

- Largest stocks “always” underperform
  - Holds in the U.S.
  - Holds outside the U.S.
  - Holds globally
- Industry sector overweighting and excessive dominance
- Zombies
- Bear markets
  - Bear markets can be partially mitigated
  - Behavioral knockout risk

Largest stocks “always” underperform

Holds in the

- U.S.
- Outside the U.S.
- Globally

Largest stocks “always” underperform

- Three studies

- Research Affiliates
- Dimensional (DFA)
- NDR (Ned Davis Research)

Presentation by Research Affiliates - Also in the Journal of Indexes

Largest stocks drag performance DOWN

“Top Dogs” underperform - underperform strongly

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“Top Dogs” Vanish Because They *Underperform*!

- The global top dog outpaced the global cap-weighted stock market only 5% of the time in the last 30 years.
- It delivered an annual shortfall of 10.5% per year, roughly equivalent to losing 2/3 of its value!

Performance of Largest Market Cap Stocks, 1982–2011

Type of Top Dog	Horizon	Relative Return vs. Sector, Avg Across Countries	Frequency of Win vs. Sector, Avg Across Countries
Average, Largest stocks in each sector across G-8 countries	1yr	-5.3%	44%
	5yrs	-4.8%	39%
	10yrs	-5.1%	34%

	Horizon	Relative Return vs. Developed World	Frequency of Win vs. Developed World
Largest market cap stock in Developed World	1yr	-12.5%	33%
	5yrs	-11.2%	15%
	10yrs	-10.5%	5%

e: Arnott, Rob, and Lillian Wu. 2012. “The Winner’s Curse,” *Journal of Indexes* (October 29).

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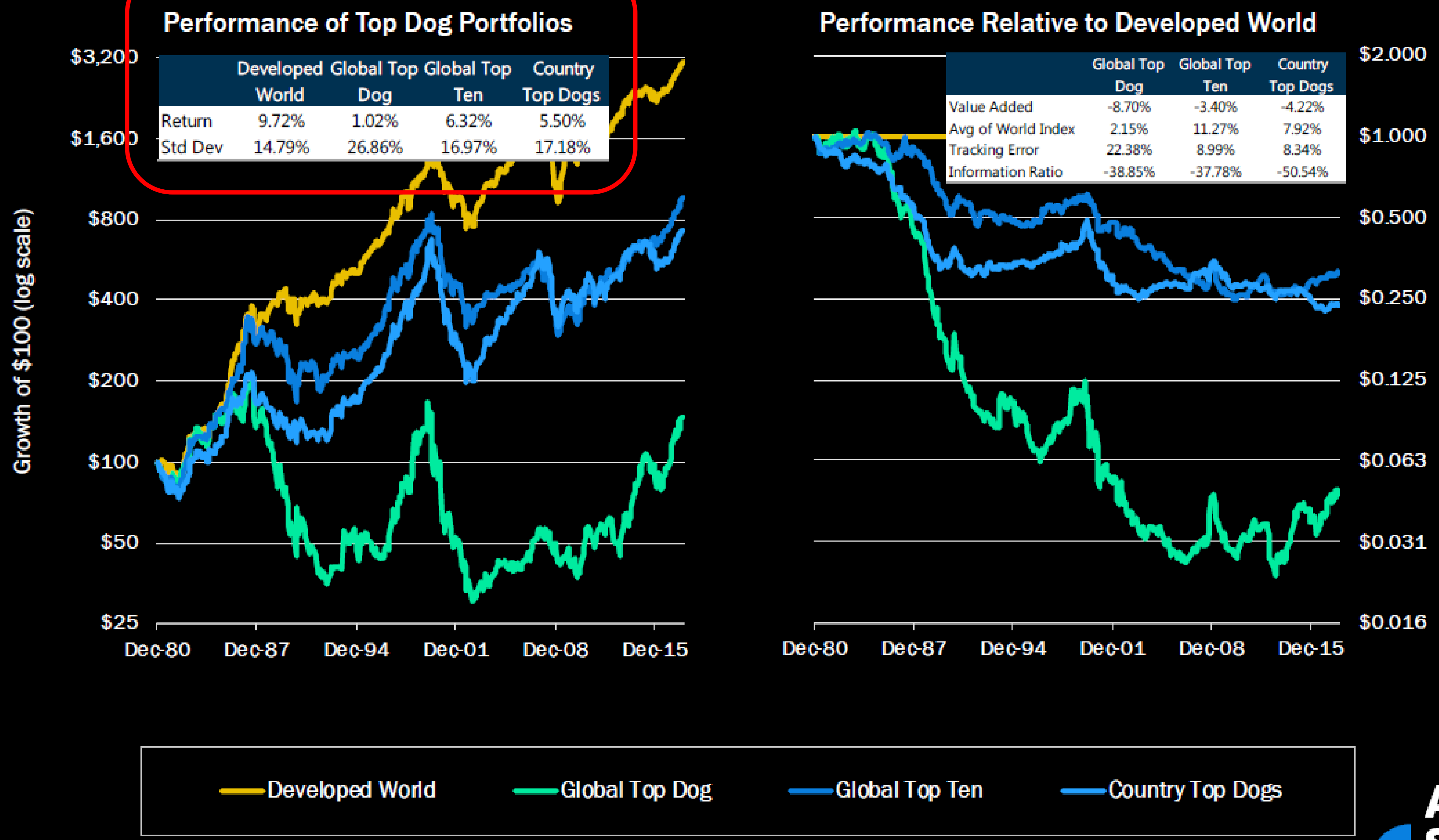
Portfolios of numerous “Top Dogs” underperform

Portfolios of “Top Dogs” Underperform the Market



	Developed World	Global Top Dog	Global Top Ten	Country Top Dogs
Return	9.72%	1.02%	6.32%	5.50%
Std Dev	14.79%	26.86%	16.97%	17.18%

	Global Top Dog	Global Top Ten	Country Top Dogs
Value Added	-8.70%	-3.40%	-4.22%
Avg of World Index	2.15%	11.27%	7.92%
Tracking Error	22.38%	8.99%	8.34%
Information Ratio	-38.85%	-37.78%	-50.54%

e: Research Affiliates, LLC, based on data from Worldscope and Datastream. Data from 1980–2017.

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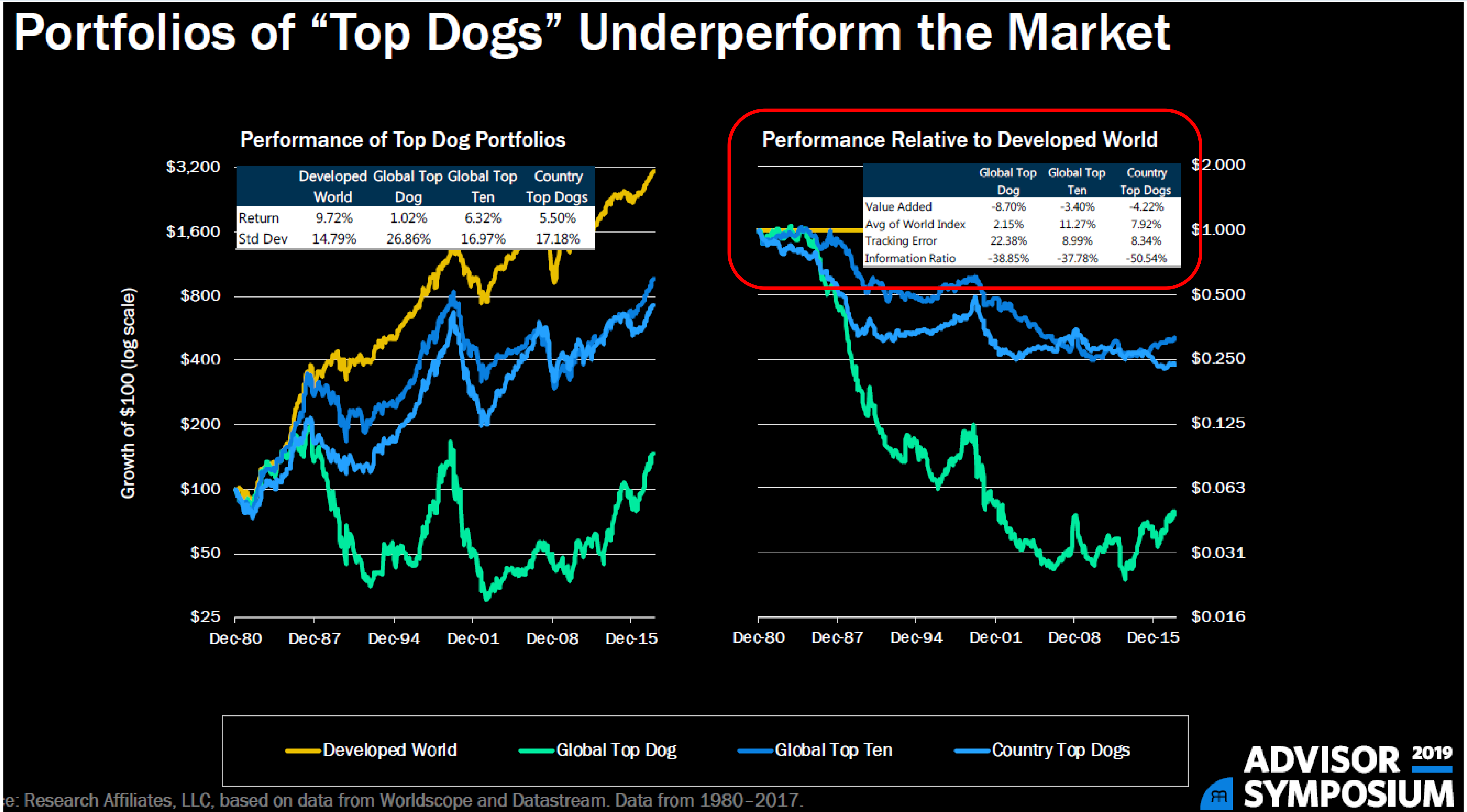

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Just take out the big names and outperform

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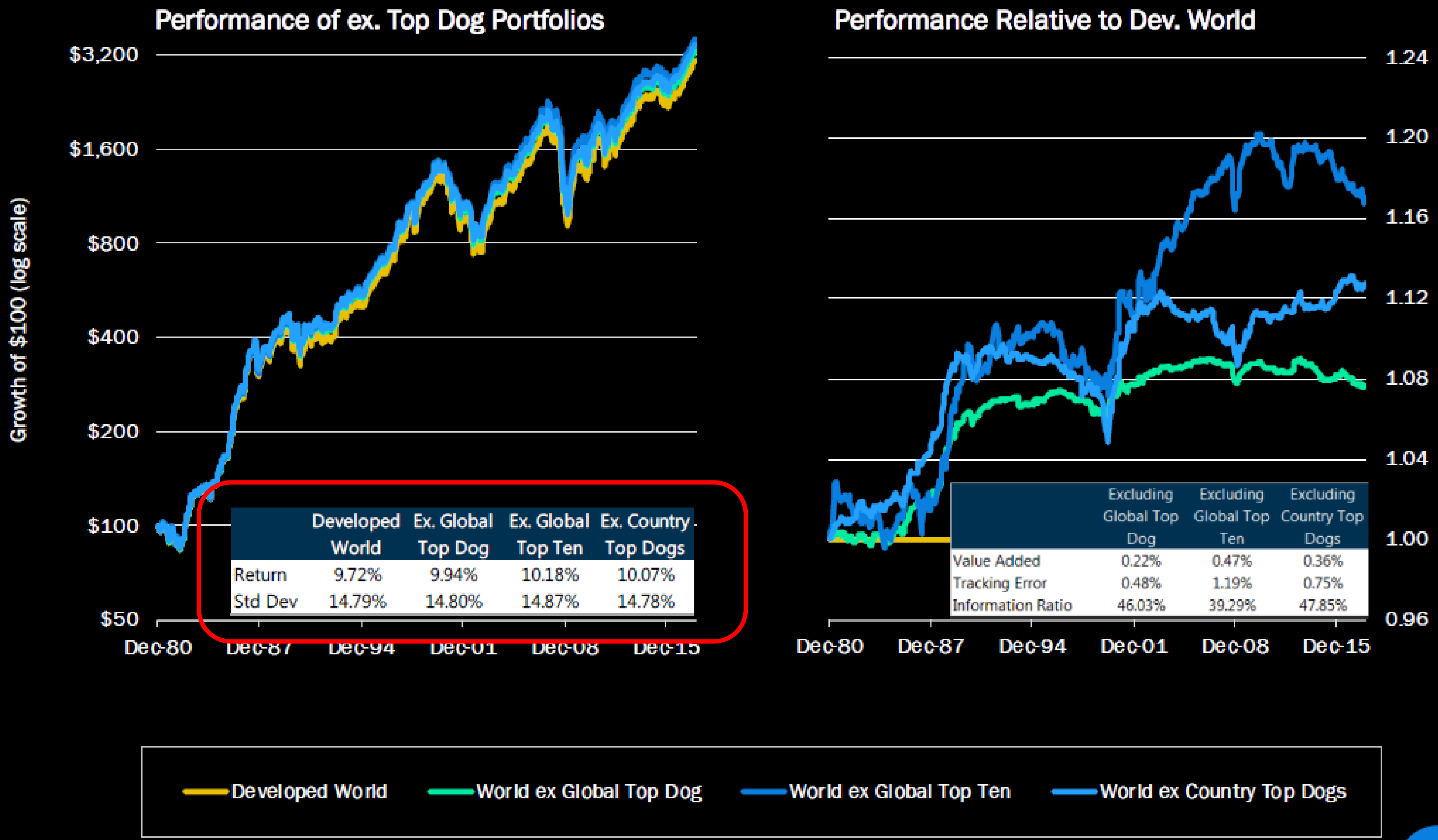
Performance Improves With Each Exclusion… But Investors Must Be Willing To Accept Higher TE



	Developed World	Ex. Global Top Dog	Ex. Global Top Ten	Ex. Country Top Dogs
Return	9.72%	9.94%	10.18%	10.07%
Std Dev	14.79%	14.80%	14.87%	14.78%

	Excluding Global Top Dog	Excluding Global Top Ten	Excluding Country Top Dogs
Value Added	0.22%	0.47%	0.36%
Tracking Error	0.48%	1.19%	0.75%
Information Ratio	46.03%	39.29%	47.85%

ce: Research Affiliates, LLC, based on data from Worldscope and Datastream. Data from 1980–2017.

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Dimensional (DFA) makes the same observation about the U.S.

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Dimensional

RESEARCH

Large and In Charge? Giant Firms atop Market Is Nothing New.

Jun 17, 2020

A top-heavy stock market with the largest 10 stocks accounting for over 20% of market capitalization and a marquee technology firm perched at No. 1? This sounds like a description of the current US stock market, dominated by Apple and the other FAANG

Largest names underperform by 150bps a year for ten years

Exhibit 3

Power Down

Annualized return in excess of market for stocks after joining list of 10 largest US stocks, 1927–2019

Ten largest stocks each decade - Here in the U.S.

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Largest ten U.S. stocks at the start of each decade

(companies ranked by market capitalization, size)

1930	1940	1950	1960	1970	1980	1990	2000	2010	2020
AT&T	AT&T	AT&T	AT&T	IBM	IBM	Exxon	Microsoft	Exxon	Apple
General Motors	General Motors	General Motors	General Motors	AT&T	AT&T	General Electric	General Electric	Microsoft	Microsoft
General Electric	DuPont	DuPont	DuPont	General Motors	Exxon	IBM	Cisco	Walmart	Amazon
Exxon	Exxon	Exxon	Exxon	Kodak	General Motors	AT&T	Walmart	Apple	Google
Marathon Oil	General Electric	Union Carbide	General Electric	Exxon	Amoco	Altria	Exxon	Johnson & Johnson	Berkshire Hathaway
DuPont	Union Carbide	General Electric	IBM	Sears	Mobil	Merck	Intel	Procter & Gamble	Facebook
Con Edison	Marathon Oil	Sears	Marathon Oil	Texaco	General Electric	Bristol-Myers Squibb	Lucent	IBM	JP Morgan
Philadelphia Company	Texaco	Chevron	Texaco	Xerox	Chevron	DuPont	IBM	JP Morgan	Johnson & Johnson
NY Central Railroad	Sears	Texaco	Union Carbide	General Electric	Atlantic Richfield	Amoco	Citigroup	AT&T	Walmart
Penn Central Railroad	Coca-Cola	Gulf Oil	Kodak	Gulf Oil	Shell Oil	BellSouth	Time Warner	General Electric	Visa

Returns for over 40 years . . . Since Sep 1981

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- Annual returns for over 40 years
- Sep 1981 through Oct 2021

- 12.7% stocks
- 11.5% for a 60/40 portfolio of stocks/bonds
- 8.8% bonds

- Stocks defined as 80% S&P 500 and 20% S&P 400 MidCap
- Bonds defined as 50% 10-year US Treasuries, 25% Dow Jones Investment Grade Corporate Bond Index, 25% GFD Indices USA Total Return AAA Corporate Domestic Bond Index
- The 60/40 portfolio is rebalanced monthly, this rebalancing contributed to its high long-term return

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- 12.7% stocks
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But the 60/40 portfolio only returned **7.7%** during the preceding 81.8 years (since Dec 1899)

So how can this be?

Was the US economy doing better during the most recent 40+ years?

- Stocks defined as 80% S&P 500 and 20% S&P 400 MidCap
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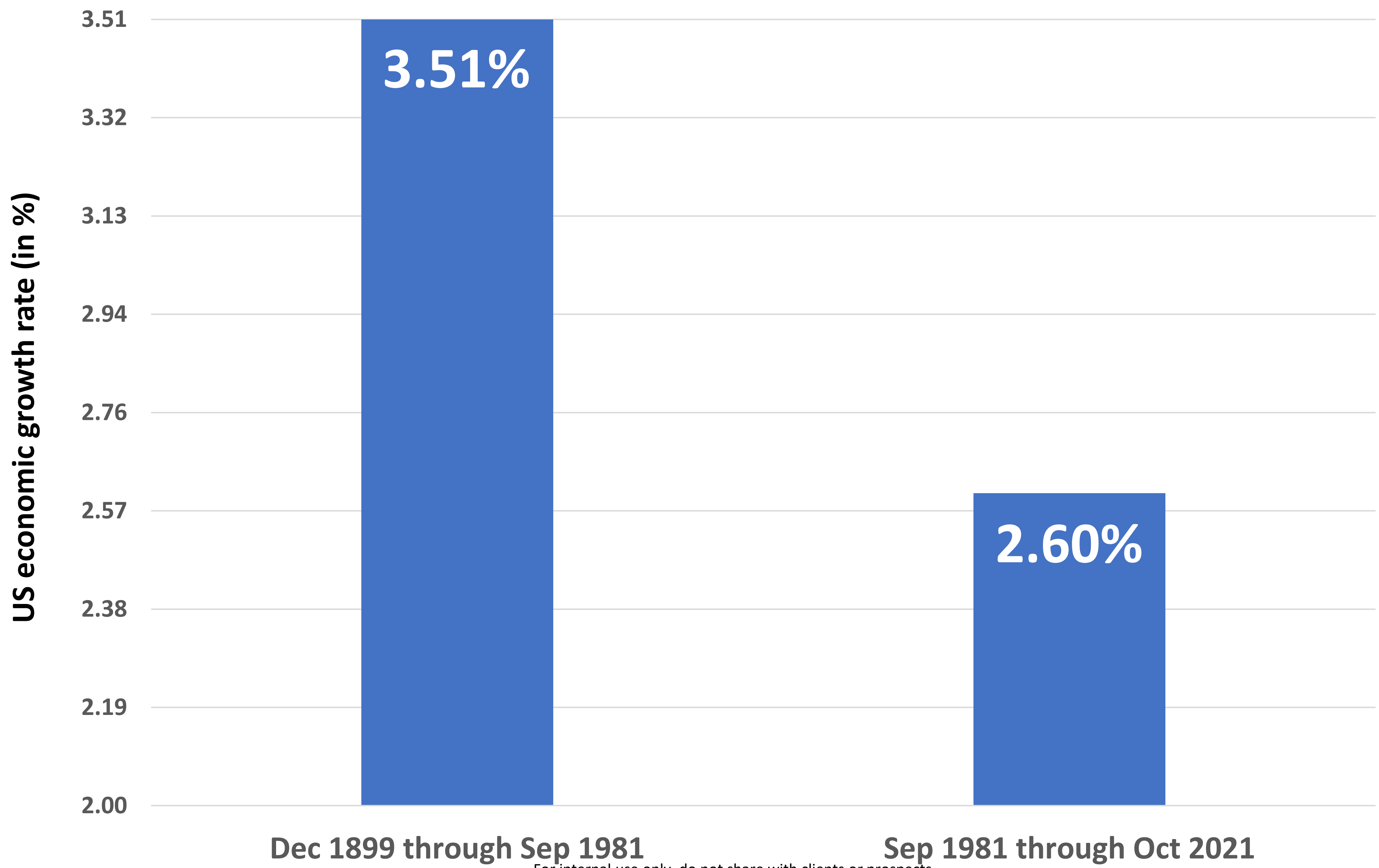
US economy before and after Sep 1981



US economy before and after Sep 1981

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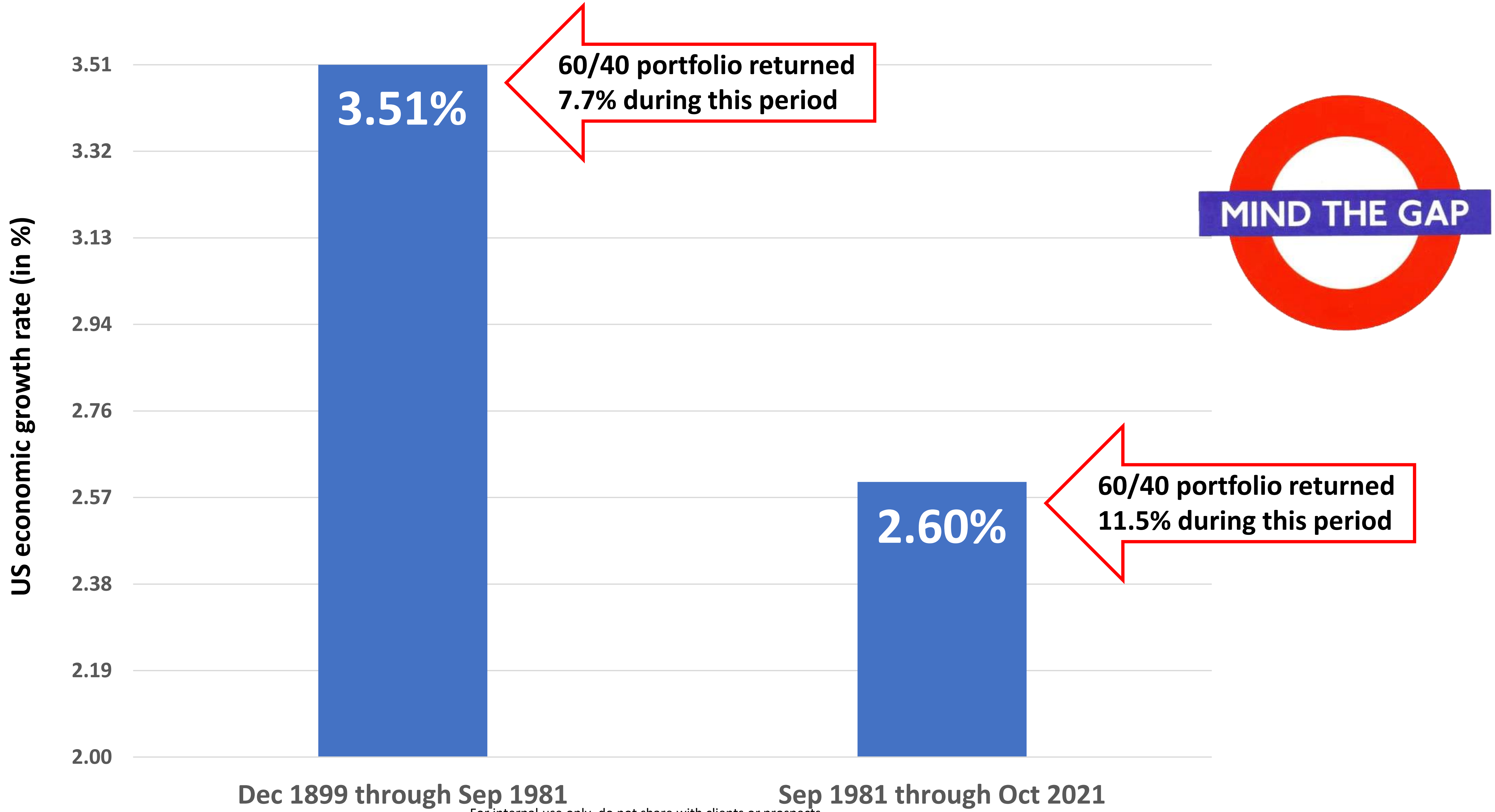


The data . . . the facts

	Sep 1981	Oct 2021	Proportionate change in %
Inflation			
CPI (annualized) over prior 24 months	11.77	3.67	-69
Interest rates			
Current yield on 10-year Treasury bond	15.84	1.55	-90
Debt			
US Federal Government Debt Held by Public (as a percent of GDP)	25.2	95.3	279
Total Consumer Credit Owned and Securitized (as percent of GDP)	11.3	18.4	63
U.S. stocks			
Current dividend yield	5.61	1.32	-76
P/E ratio	7.61	28.63	276
Total market capitalization of S&P 500 Index (as percent of GDP)	24.99	171.35	586

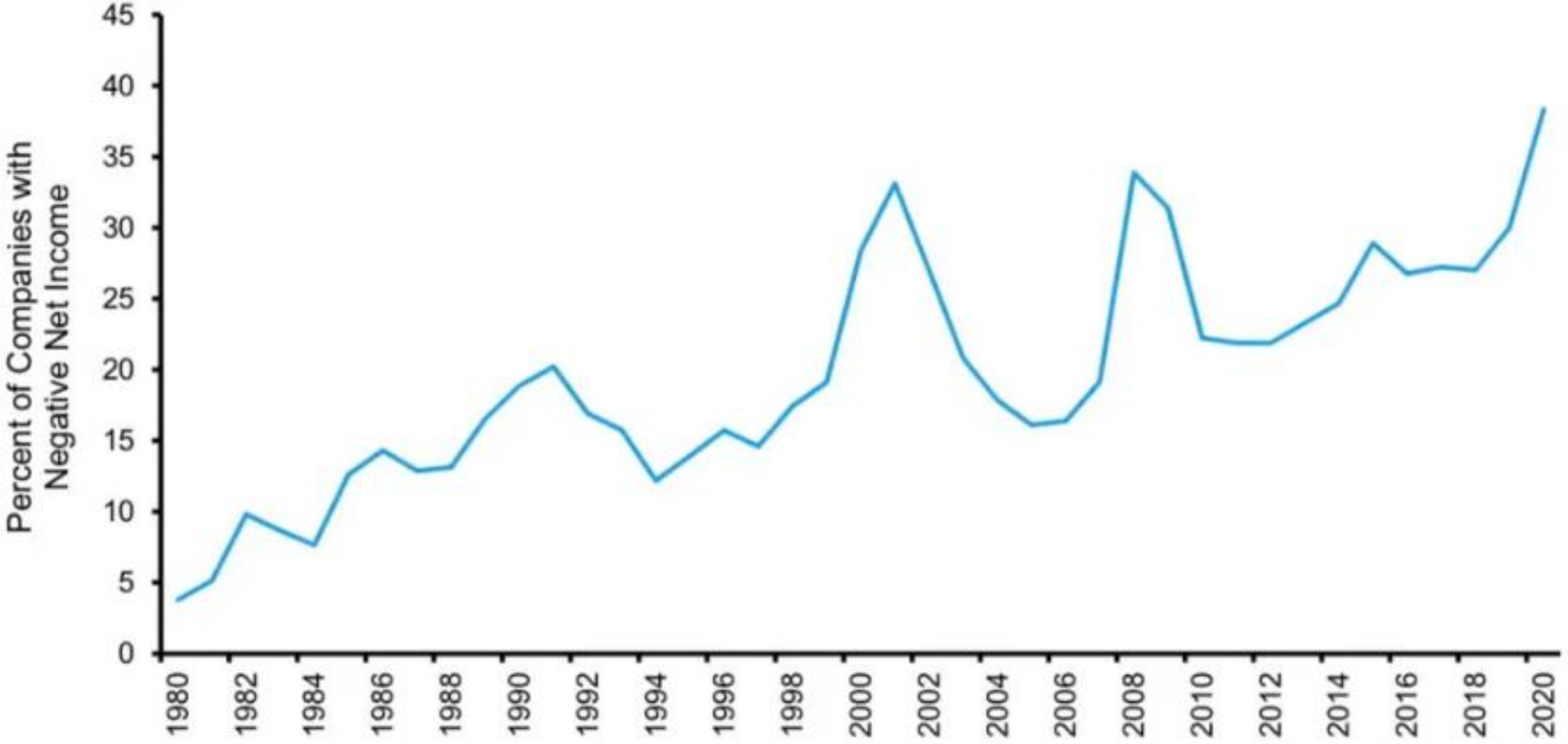
Zombies

This was not a problem in the past

This is a serious, mega problem today

Record level of zombies

Exhibit 5: Percentage of Companies in the Russell 3000 with Negative Net Income, 1980-2020



Source: FactSet.
Note: Constituents of the Russell 3000 Index as of year-end.

If you index, you maximize your exposure to zombies

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- Do you want to maximize your zombie exposure?

- What happens when interest rates go back up
- What happens when credit markets tighten up

- Zombie apocalypse

It all boils down to a simple reality

- Bad things happen
- They always have . . . and always will

- Two main types of “bad things”
  - Bad year
  - Bear market

Bear markets . . . what do these look like?

Bear markets for inflation-adjusted U.S. stocks since 1846

Cumulative loss in %	-41	-52	-47	-30	-52	-35	-37	-39	-50
Duration in years	1.65	1.33	2.08	0.25	1.75	1.58	1.75	2.58	1.08
Start of the bear market	**Average of the last 16 bear markets**	Oct 2007	Aug 2000	Aug 1987	Dec 1972	Nov 1968	May 1946	Sep 1939	Feb 1937
End of the bear market		Feb 2009	Sep 2002	Nov 1987	Sep 1974	Jun 1970	Feb 1948	Apr 1942	Mar 1938

Cumulative loss in %	-79	-48	-27	-37	-32	-35	-31	-30
Duration in years	2.75	4.08	2.00	1.17	1.25	0.67	0.83	1.25
Start of the bear market	Aug 1929	Nov 1916	Oct 1912	Sep 1906	Mar 1876	Jul 1864	Dec 1856	Aug 1853
End of the bear market	May 1932	Dec 1920	Oct 1914	Nov 1907	Jun 1877	Mar 1865	Oct 1857	Nov 1854

SOURCE: www.robbrownonline.com

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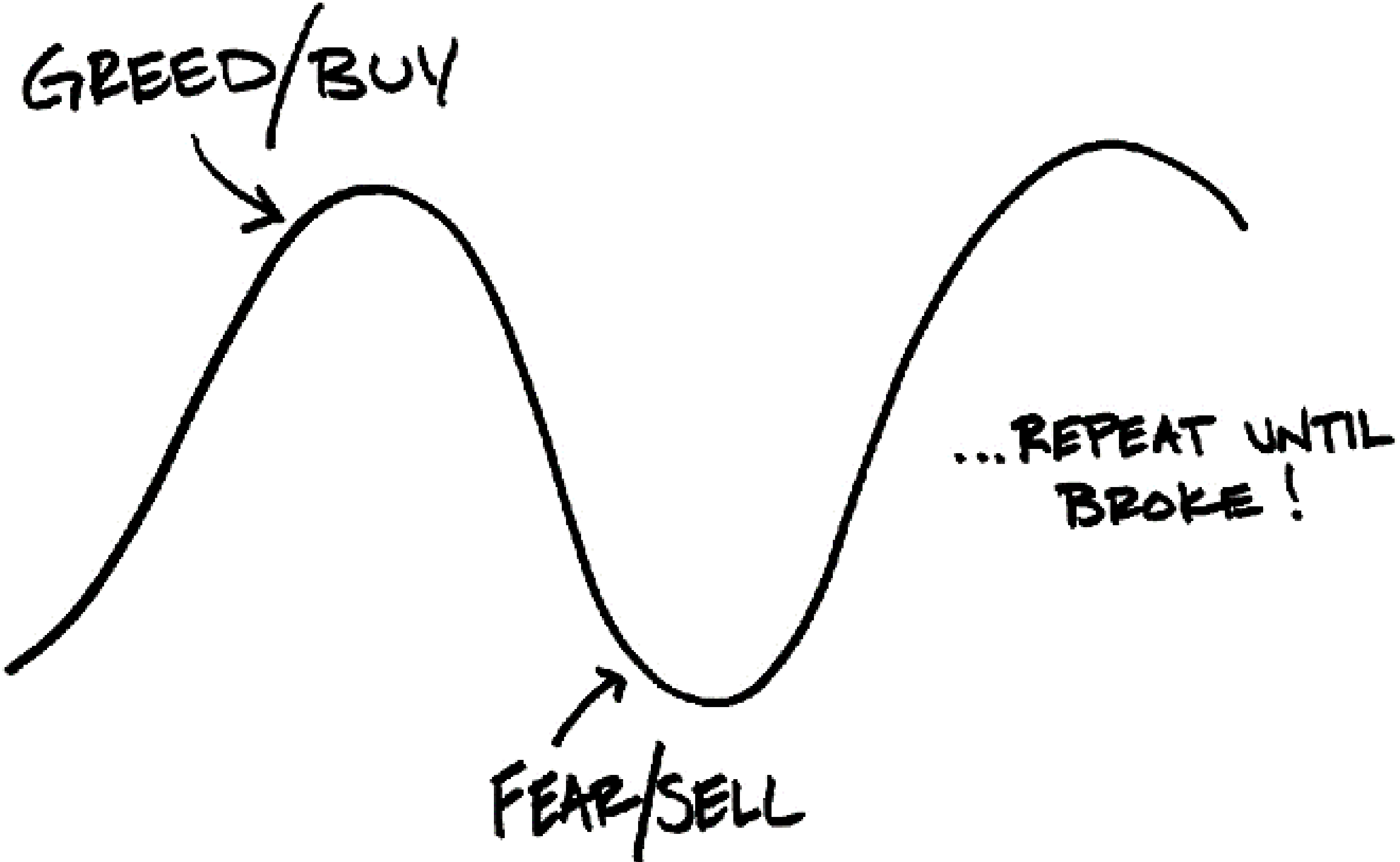
SOURCE: www.robbrownonline.com

By appreciating future “disappointments” . . .

- We avoid the following trap . . . . the trap of behavioral knockout risk



The problem with technology-we've seen it before

This undiversifying happens over a very extended period of time and, because of that, this phenomenon hasn't been studied – but in our case, that time is now. **The S&P 500 is now a concentrated portfolio, and has undone the logic of its original purpose and is not diversified at all.** The top five companies, out of 500 constituents, now account for 21% of the index.

Technology is extremely overweight

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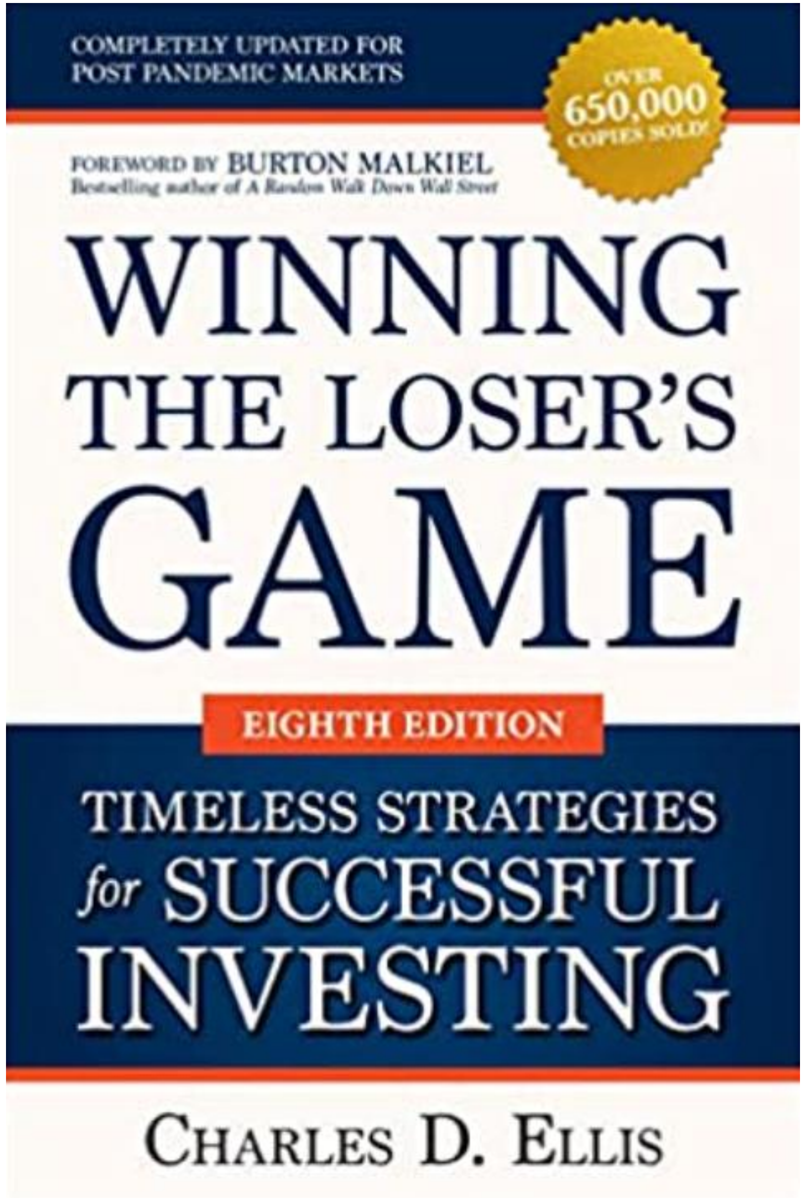
- Today, “technology” comprises 38.1% Of the S&P 500 Index

- This is after adjustment for three companies, that got reallocated to other industries by S&P
  - Amazon (AMZN), which has a 4.9% index weight, is classified as a *"consumer discretionary"*
  - Alphabet (GOOGL) (GOOG), which has a 3.4% combined index weight, is classified as a *"communication services"*
  - Facebook (FB), which has a 2.3% weighting, is classified as a *"communication services"*

In summary, if you add the market capitalization weightings of Amazon, Alphabet, and Facebook to the information technology sector, **the technology sector weighting balloons to roughly 38%, dwarfing even its late 1999/early 2000 weighting**. In this environment, where these leading technology stocks are historically overpriced, as I recently showed with my

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**

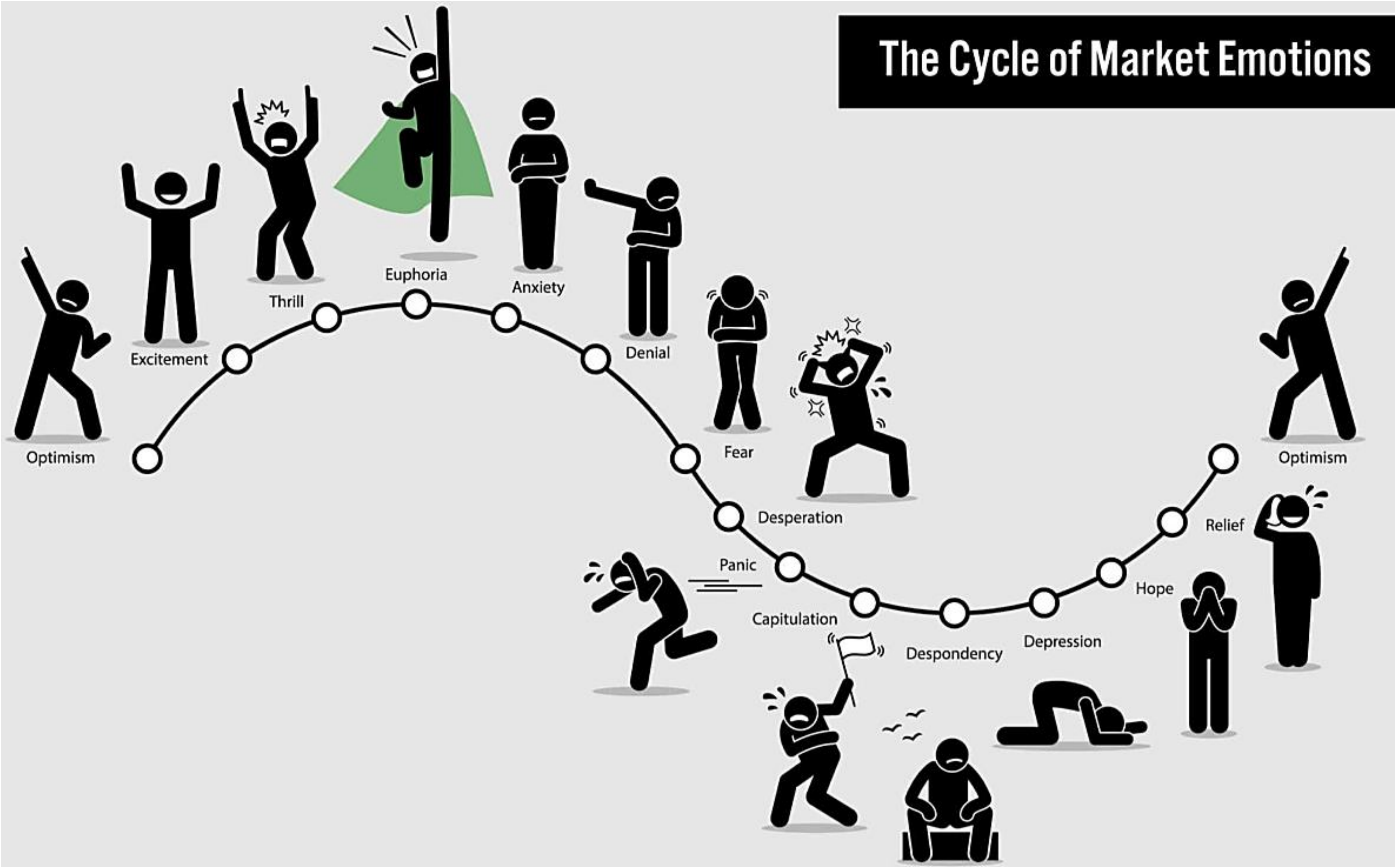
Behavioral bias

We’re all human

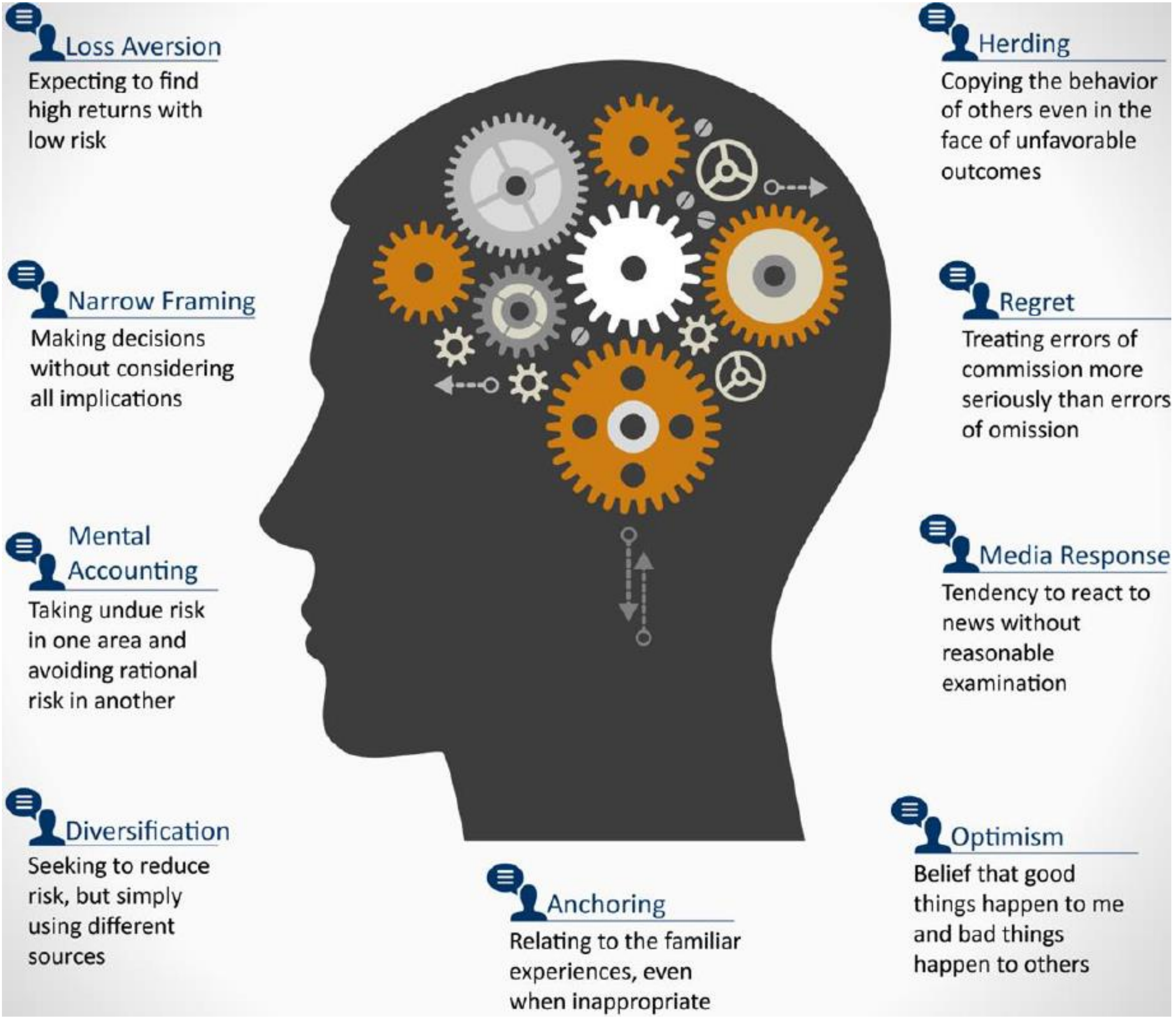
None of us can escape this peril

Best Practice - If you meet an emotional person, just make sure they have nothing to do with your investments

Client behavior when they focus on past performance

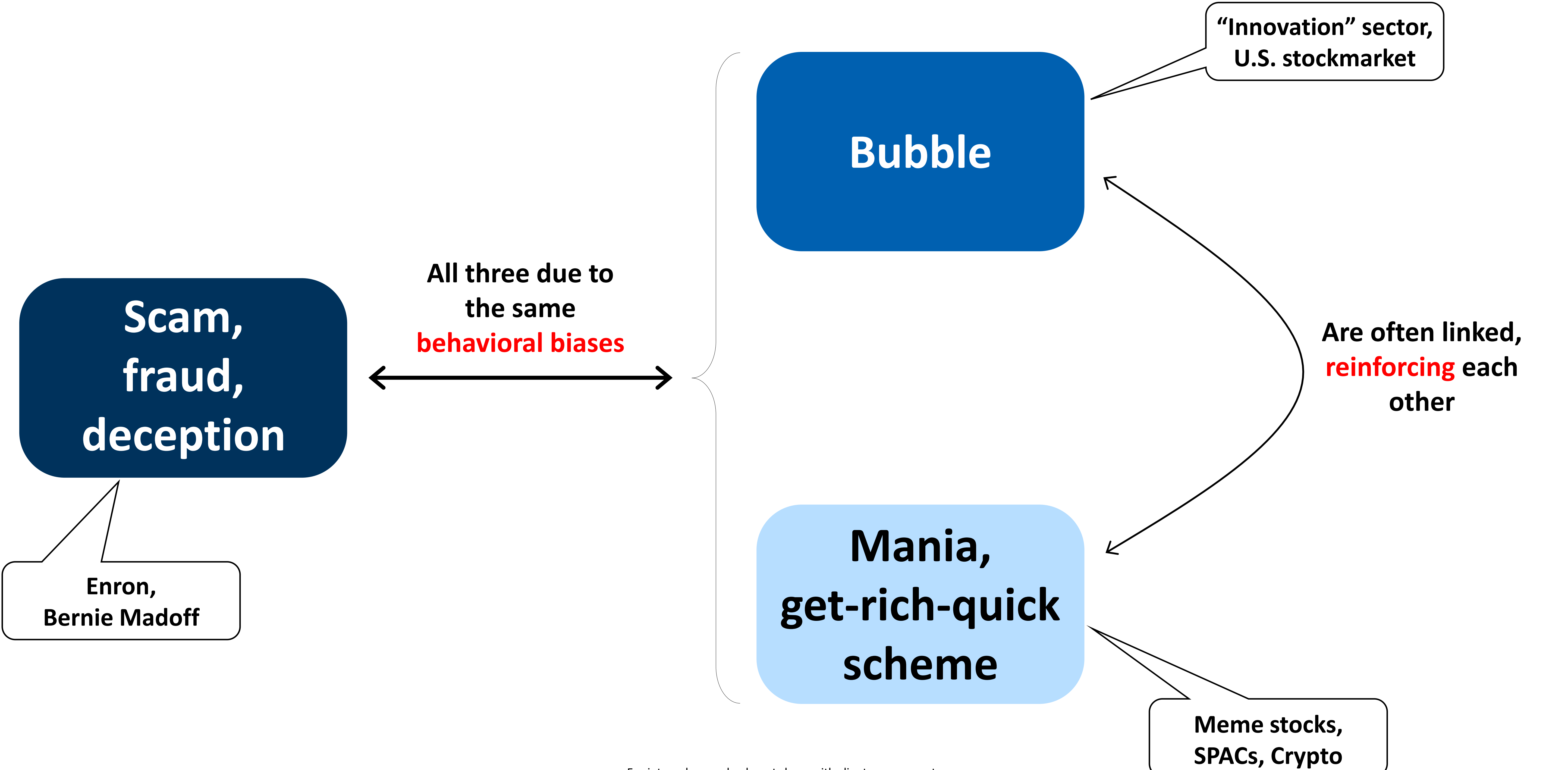


Dysfunctional behaviors



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

What do these dysfunctions . . . all have in common



Retirement years

The retirement years present an entirely different set of challenges for the DIY folk

The retirement years

- Spousal handoff
- Shrinking network
- Cognitive decline
- Better use for your time

Spousal handoff

- How will your spouse manage the money once you’re gone

- Rather inconsiderate . . . to impose such an added transition on them at your point of passing

Shrinking network

- Good investments result from
- Input and challenge
- From your
  - Network
  - Information sources
- When these decline, your success will fall exponentially . . . they shrink and narrow

Cognitive decline

- All of us . . . No exceptions

- Our mental capacities decline
  - Ability to . . .
  - Interpret
  - Evaluate
  - Compare
  - Consider
  - Expand
  - Be challenged
  - Reinvent
  - Adapt
  - Parameterize

Better use for your time

- Seriously
- You spent your entire life working your fingers to the bone . . . Just so that you would spend your retirement years
  - By yourself
  - Reading macroeconomic research reports
  - Building investment spreadsheets
  - Managing your own money
- What can I say . . . you need serious help

Why DIY investing doesn't work

- Numbers - Prove that it doesn't

- Access - DIY folk lack access

- Industry - Encourages DIY folk to focus on all the wrong things

- Experience and training - What DIY folk lack

- Behavioral bias - We're all human

- Retirement years - Facing a different of powerful issues

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Behavioral bias in investment decision making

Friday

January 28th

11:00 a.m. EASTERN

Important Disclosures

All data and statistics were provided by Global Financial Data, Inc. (unless otherwise indicated in the exhibit)

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