Behavioral Finance: How Our Humanness Affects Investment Returns

Linda A. Duessel, CFA®, CPA, CFP®
Senior Equity Strategist
Senior Vice President

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The 1970s

Amos Tversky and Daniel Kahneman → Prospect Theory

U.S. Average Household Income: $19,554

Happy Days, Three's Company, Laverne and Shirley

ESPN Debuts

Sally Field—Best Actress in Norma Rae

Dustin Hoffman—Best Actor in Kramer vs. Kramer

"Bad Girls" by Donna Summers

Chrysler Bailout $1.5 Billion

Pittsburgh is The City of Champions!

People are Funny

|		
Cognitive Dissonance Bias	Mean Reversion Bias	Gamblers Fallacy Bias
Wishful Thinking Bias	Representativeness Bias	Disposition Effect Bias
Loss Aversion Bias	Availability Bias	Optimism Bias
Illusion of Control Bias	Self Attribution Bias	Hot Stove Effect Bias
Framing Bias	Ambiguity Bias	Group-Think Bias
Belief Perseverance Bias	Herding Bias	Self-Serving Bias
Mental Accounting Bias	Anchoring Bias	Money Illusion Bias
Cognitive Bias	Frequency Bias	Inequity Aversion Bias
Endowment Effect Bias	Illusion of Validity Bias	Overconfidence Bias
Hindsight Bias	Regret Aversion Bias	Reciprocity Bias
Seasonality Bias	Recency Bias	Systemic Bias
Self Control Bias	Gender Bias	Emotional Bias
Uncertainty Bias	Base Rate Fallacy Bias	Status Quo Bias
Bandwagon Effect Bias	Vividness Bias	Congruence Bias
Confirmation Bias	Conservatism Bias	

Why is behavioral finance important?

"Investing is not a game where the guy with the 160 IQ beats the guy with the 130 IQ… Once you have ordinary intelligence, what you need is the temperament to control the urges that get other people into trouble in investing."

–Warren Buffett

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Representative bias

Defined: Humans judge the probability of an event based on their mental model, rather than its actual probability.

A physical view of risk

Distance to danger ⟵

Source: Gavekal Research. May 2, 2024

Federated Hermes
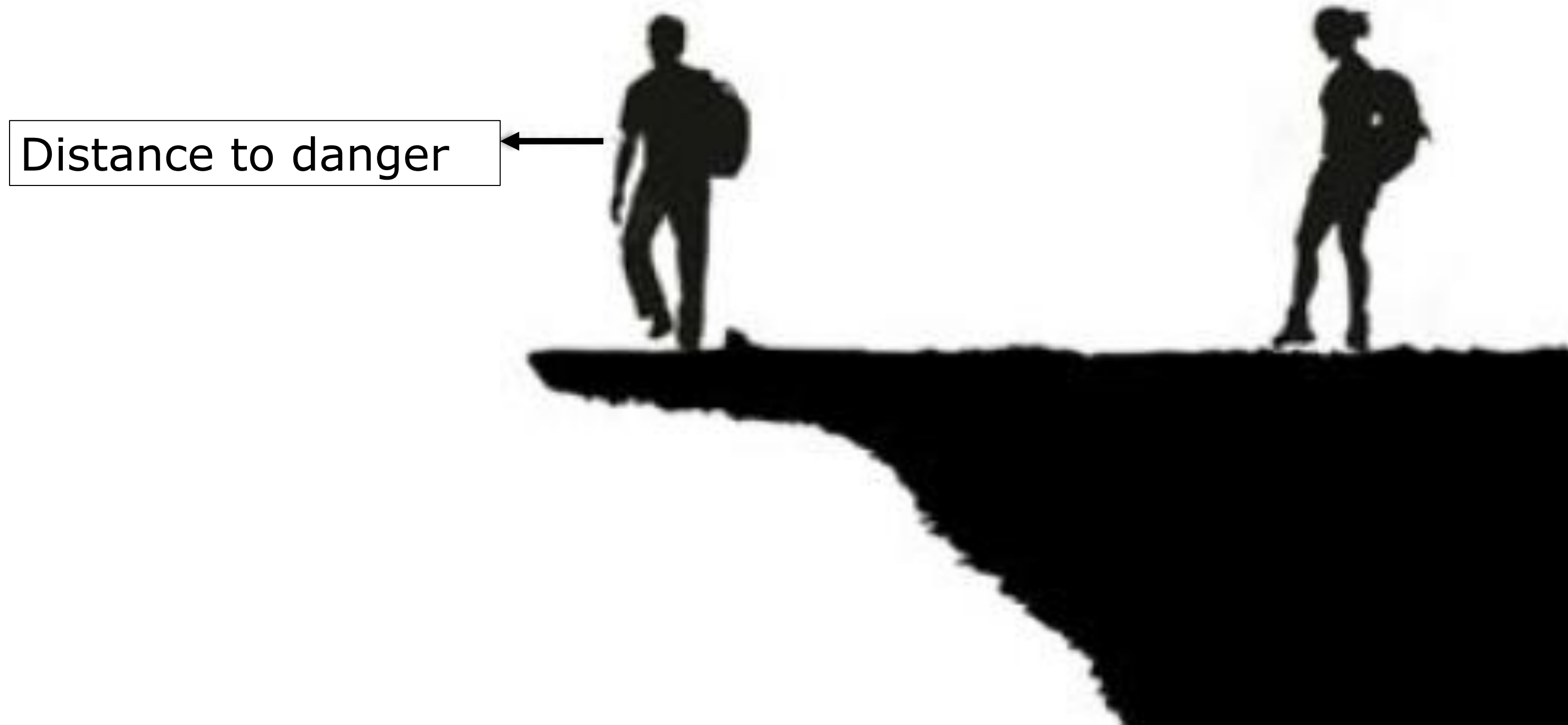
Representative bias

Average High School GPA	3.4
Average College GPA	3.1

Prospective Student

	High School GPA	Predicted College GPA	Actual College GPA
David	2.2	2.0	2.7
James	3.0	2.8	2.9
Caroline	3.8	3.5	3.3

Actual GPAs are closer to average than predicted GPAs

Anchoring bias

Defined: We have a hard time handling abstract figures, so we anchor onto the initial value.

Anchoring bias

Estimate the Percentage of Division 1 football players in the NFL

	Random Number Chosen	Median Group Estimate
	10	25
	65	45
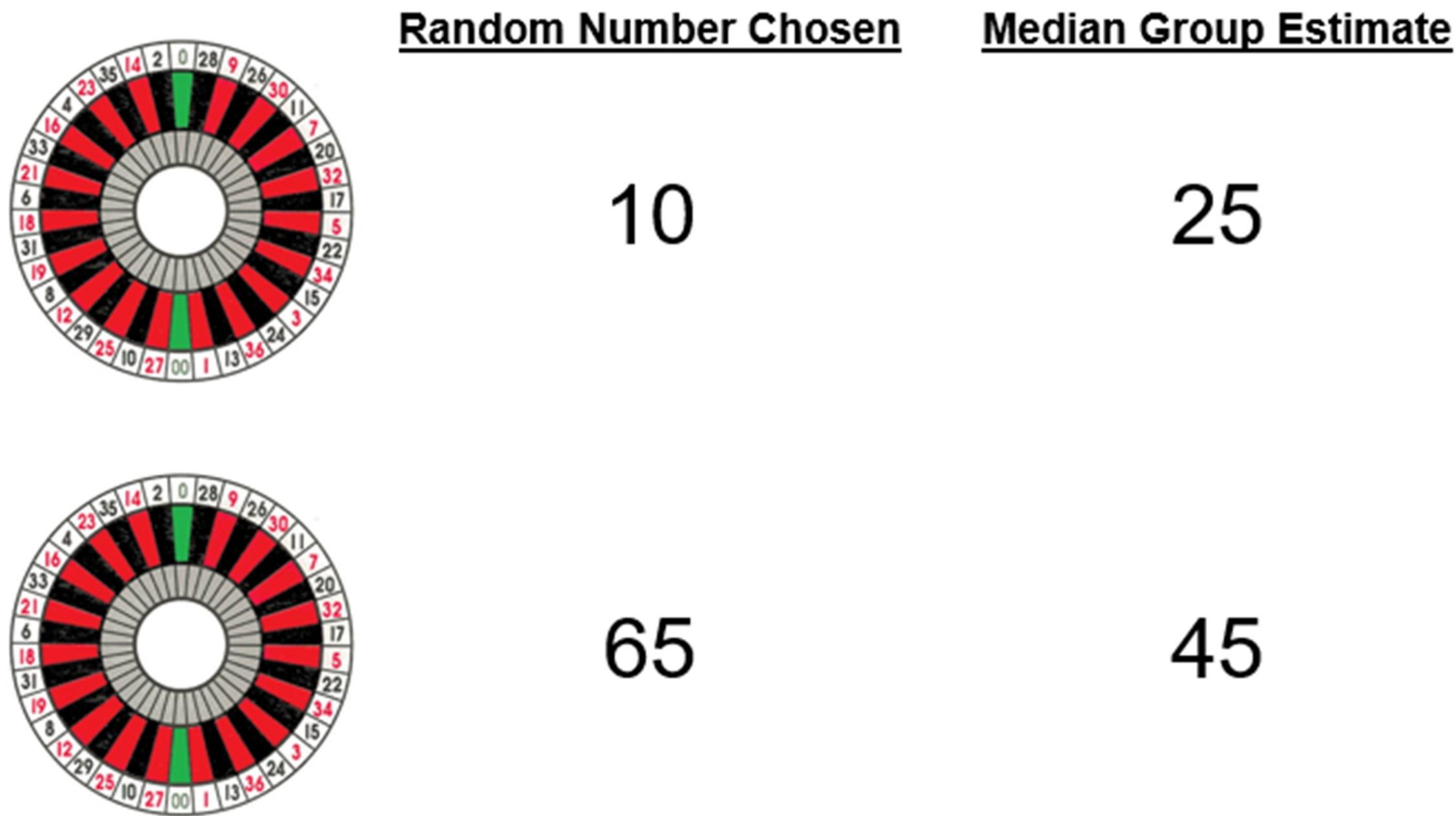
Source: Tversky, A. and Kahneman, D. 1974. "Judgement Under Uncertainty: Heuristics and Biases, Science"

Bounded rationality bias

Defined: Humans make decisions based on the limited knowledge they can accumulate.

Bounded rationality bias

Investors Underperform When Buying Thematic Strategies

Bounded rationality bias

Solar Energy Has Changed The World…

GLOBAL CUMULATIVE SOLAR POWER CAPACITY INSTALLED*
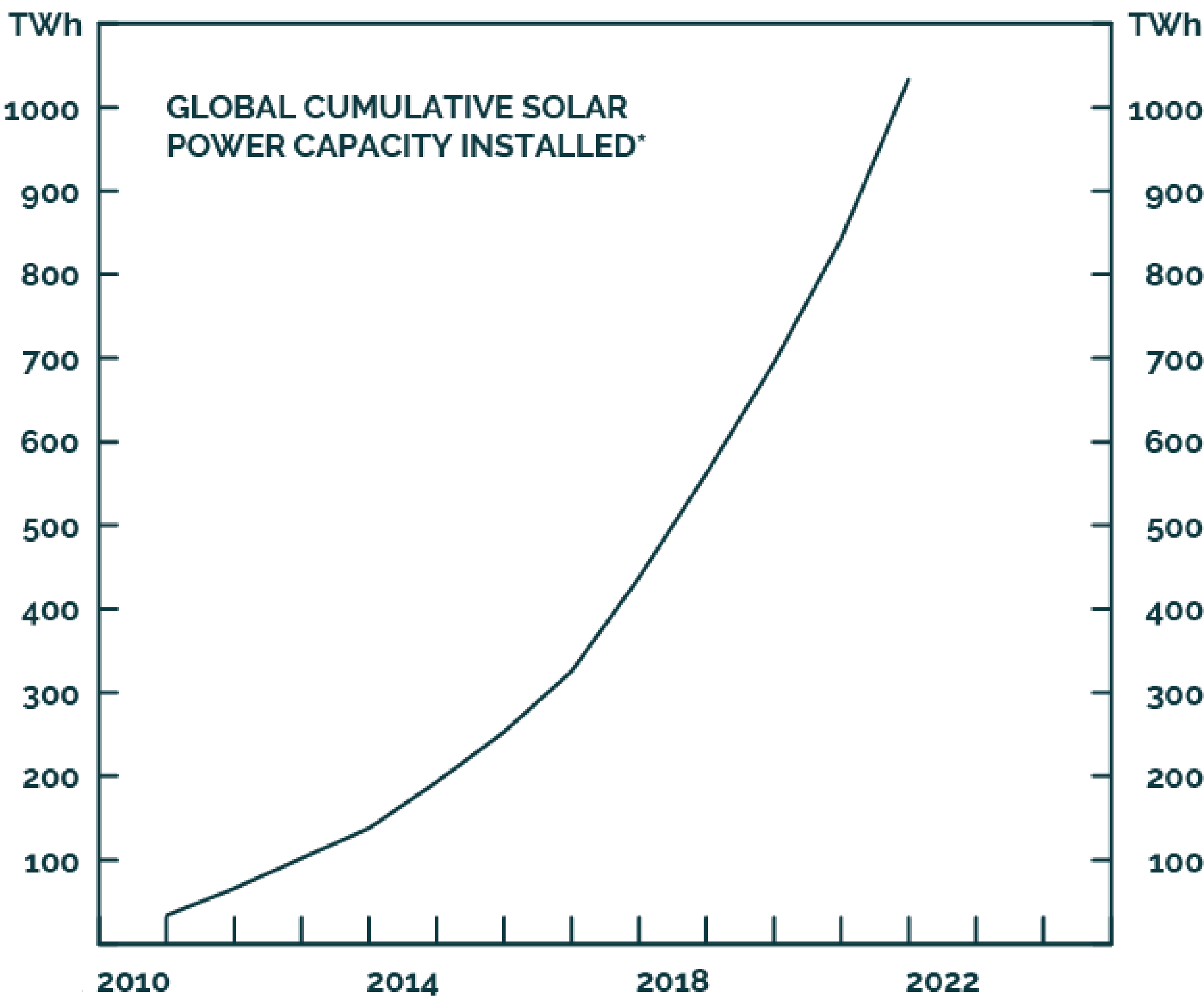
…But It Has Been A Terrible Investment

TOTAL RETURN: GLOBAL SOLAR EQUITIES RELATIVE TO MARKET

Source: BCA Research. March 27, 2024

Bounded rationality bias

Tobacco Became An Amazing Buy When Tobacco Demand Plummeted

US SALES OF CIGARETTES PER PERSON PER DAY*

US TOBACCO TOTAL RETURN VS MARKET**

Gamblers' fallacy/Monte Carlo fallacy bias

Defined: Belief that if an event happens more often than normal, it is less likely to happen in the future.

Federated
Hermes

Vividness bias

U.S. Personal Savings Rate (Monthly, SA) %

33.8% April 2020

26.3% March 2021

- *July 2005 trough was at 2.19%*
- *Personal Savings Rate Averaged 6.7% over the last 30 years.*

2.4% Sept. 2022

Average (Aug 1994-2024) 5.8%

Aug 2024 4.8%
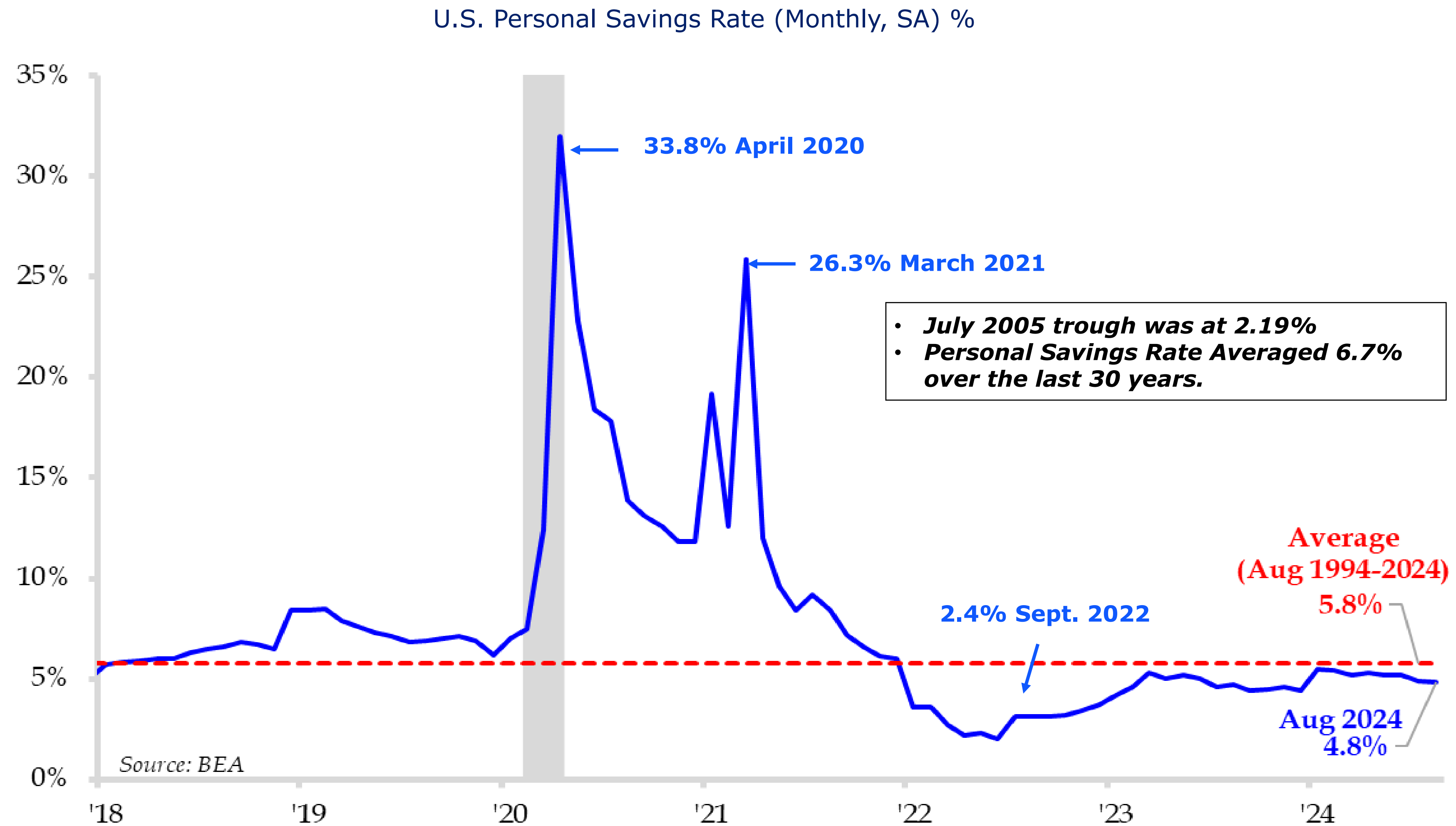
Source: BEA

Source: BEA, Strategas Research Partners. Data as of August 31, 2024
Note: Shaded area represents recession.

Vividness bias

The 2000 Tech Bubble Pop Led to a Generation of Value-Focused Investors

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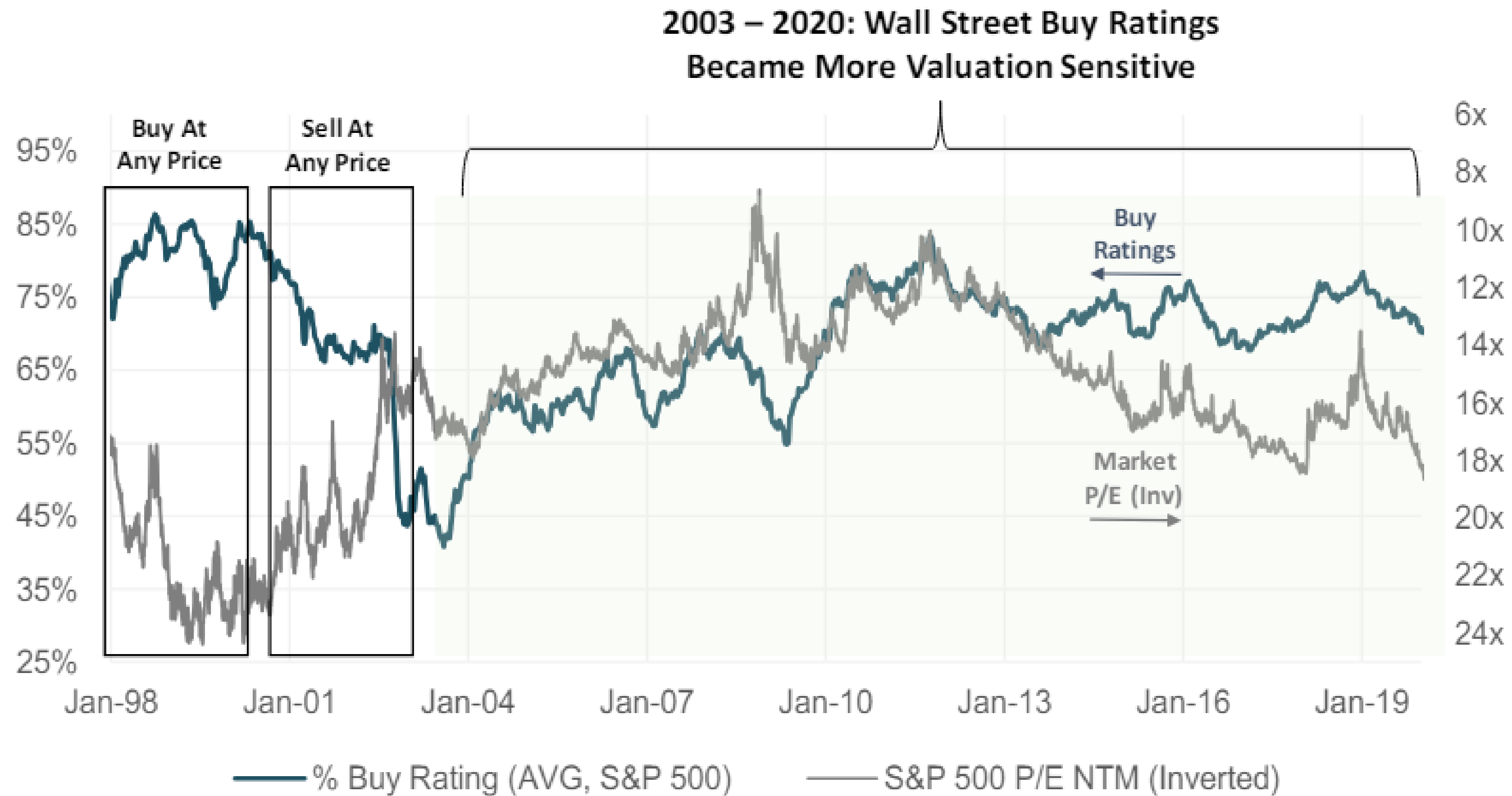
Overconfidence bias

Defined: Humans overestimate their abilities and knowledge, leading to poor decision making.

Overconfidence bias

Beware Excessive Trading, Under-Diversification, Taking Excessive Risks
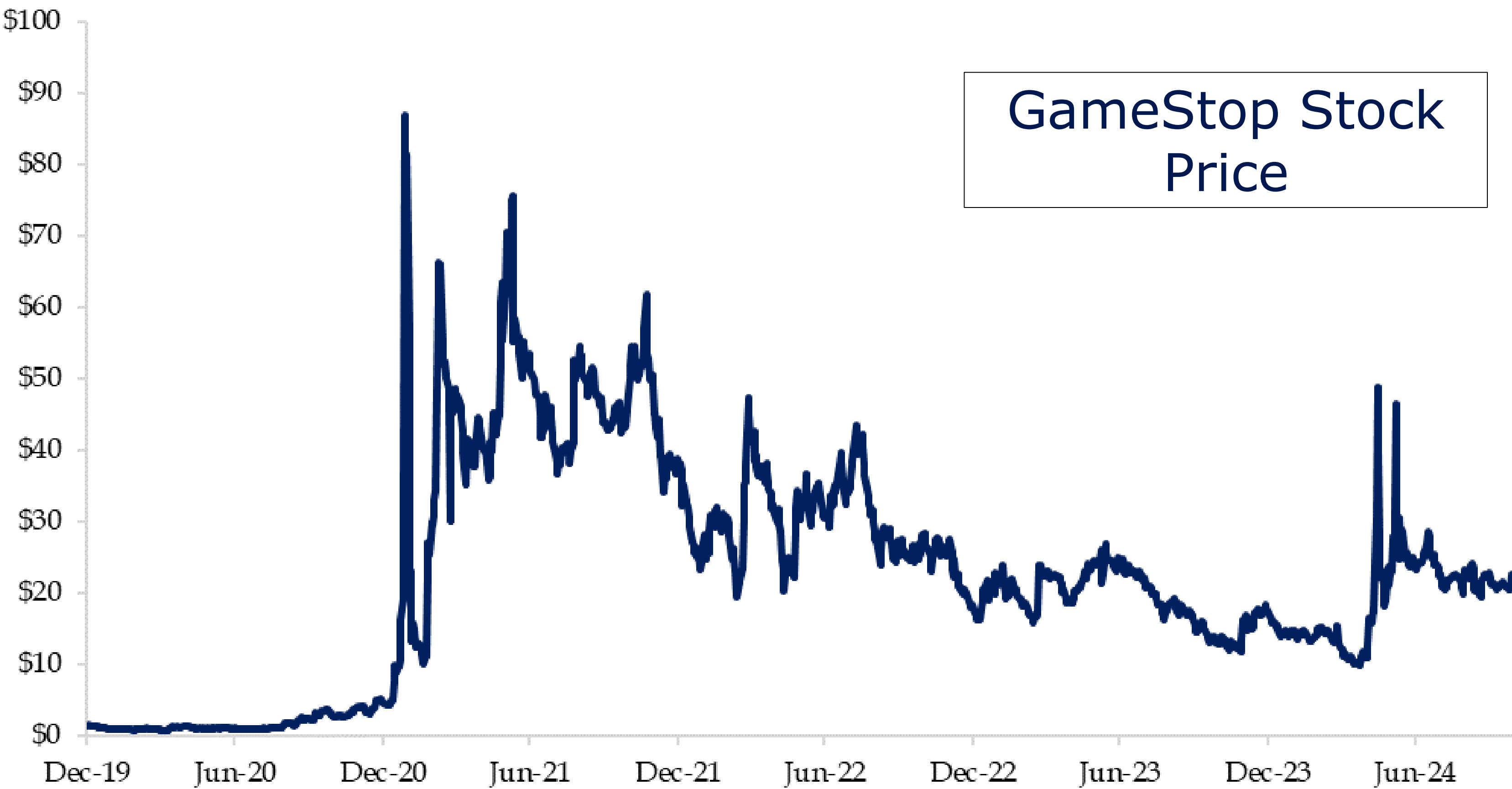

GameStop Stock Price

Herding bias

Defined: The strongest trading bias—buying high and selling low.

5 Stocks Account for 28% of S&P 500: Microsoft, Apple, NVIDIA, Alphabet, and Amazon

Source: Bloomberg, Strategas Research as of October 29, 2024

Herding bias

FOMO: Momentum Investing Works Until It Doesn't.
Calm Periods Create Value but Mimetic* Crisis Destroy Them

Average gains in calm times— 8.9%/year

Bulk returns

Right and left tails' returns

Log scale
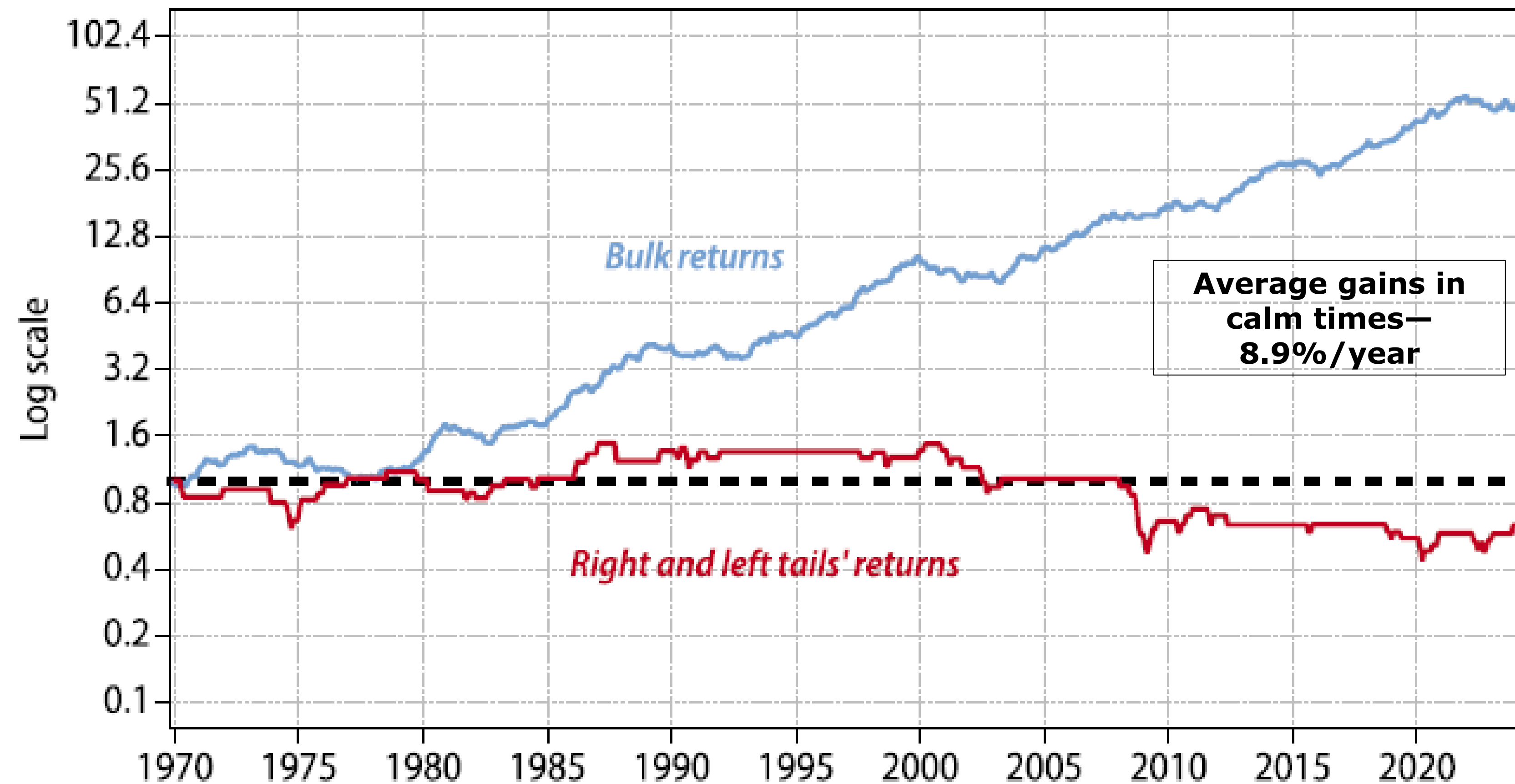
*Mimetic is an ancient Greek word meaning *imitation, imitation, imitation*.

Source: Gavekal Research. Macrobond. March 8, 2024

Herding bias

The Most Popular ETFs Often Go On To Underperform
Large Capitalization Stocks, Relative Returns by Quintile of Three-Month ETF Flows-to-Capitalization Measured Over One-Year Holding Periods, 2010 through Late-October 2024

Quintiles of Three-Month ETF Flows-to-Capitalization
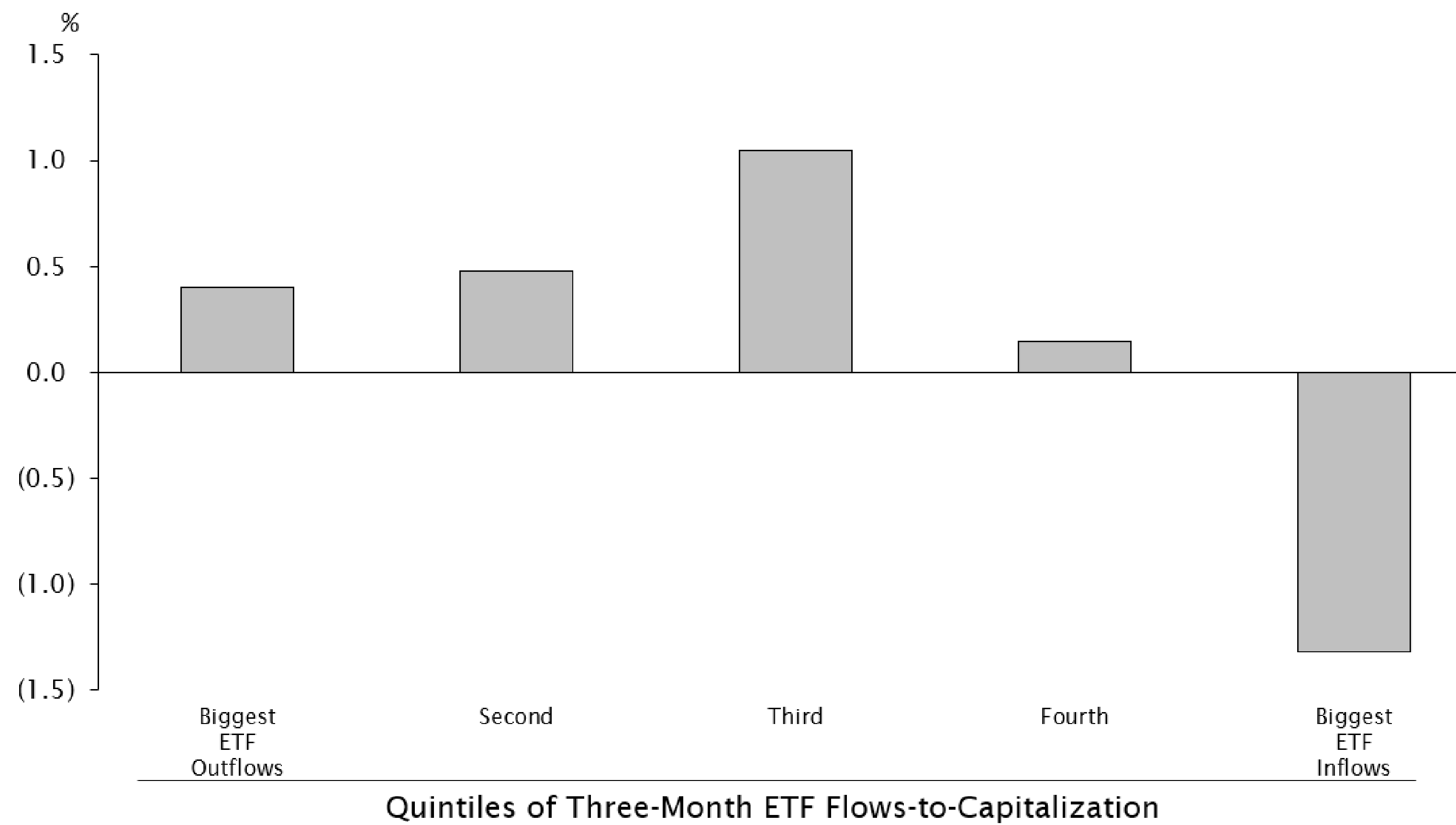
Note: Net new money flows are based on the net flows in the prior three months. Equally weighted data
Source: FactSet Research Systems, Empirical Research Partners Analysis. October 31, 2024

Hindsight bias

Defined: People believe they predicted an event after it occurred.

Hot stove bias

Defined: Humans overweight worst outcomes.

Hot stove bias

The Wall of Worry

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Hot stove bias

Market Corrections Come More From Fear (P/Es) Than Earnings
Forward Earnings Expectations <u>Rarely</u> Decline Throughout History

Peak	Trough	S&P 500 Decline	% Decline From P/E NTM	% Chg In NTM EPS
12/2/1968	5/26/1970	-33.51%	NA	NA
1/11/1973	10/4/1974	-10.23%	NA	NA
12/31/1976	3/6/1978	-19.92%	No NTM Data Available	
9/11/1978	11/14/1978	-19.34%	NA	NA
10/5/1979	11/7/1979	-12.08%	NA	NA
11/28/1980	8/12/1982	-49.15%	NA	NA
8/25/1987	12/4/1987	-56.78%	-64%	7.4%
1/2/1990	1/30/1990	-15.99%	-15%	-1.3%
7/16/1990	10/11/1990	-19.39%	-20%	0.1%
2/2/1994	4/4/1994	-14.06%	-16%	2.3%
2/18/1997	4/11/1997	-19.78%	-21%	1.7%
10/7/1997	10/27/1997	-10.80%	-11%	0.5%
7/17/1998	8/31/1998	-19.34%	-20%	0.8%
7/16/1999	10/15/1999	-12.08%	-16%	3.5%
3/24/2000	10/9/2002	-49.15%	-41%	-7.9%
10/9/2007	3/9/2009	-56.78%	-21%	-35.9%
4/23/2010	7/2/2010	-15.99%	-24%	8.0%
4/29/2011	10/3/2011	-19.39%	-24%	5.0%
7/20/2015	2/11/2016	-14.06%	-14%	0.1%
1/26/2018	2/8/2018	-10.16%	-15%	4.8%
10/3/2018	12/24/2018	-19.63%	-20%	0.7%
2/19/2020	3/23/2020	-33.92%	-34%	0.2%
1/3/2022	10/12/2022	-25.43%	-32%	6.7%
7/31/2023	10/27/2023	-10.28%	-14%	3.3%

Regret bias

Defined: Going to great lengths, sometimes illogical ones, to avoid having to own the feeling of regret.

U.S. Household Personal Savings Rate
The Great Depression & WWII Were Followed By a Generation of Rising Saving

Savings Rate Rose After The Great Depression

UnitedStatesNow
What Were the Effects on the Children of the Great Depression?
www.unitedstatesnow.org/what-were-the-effects-on-the-children-of-the-great-d...

Most of the children who survived the Depression years carried the scars of the era well into adulthood, and many even to death. These people tend to be very frugal, and often focus intently on saving.

Source: Piper Sandler Research, Federal Reserve. February 27, 2024

Regret bias

High Policy Uncertainty Periods Can Provide Great Investment Opportunities
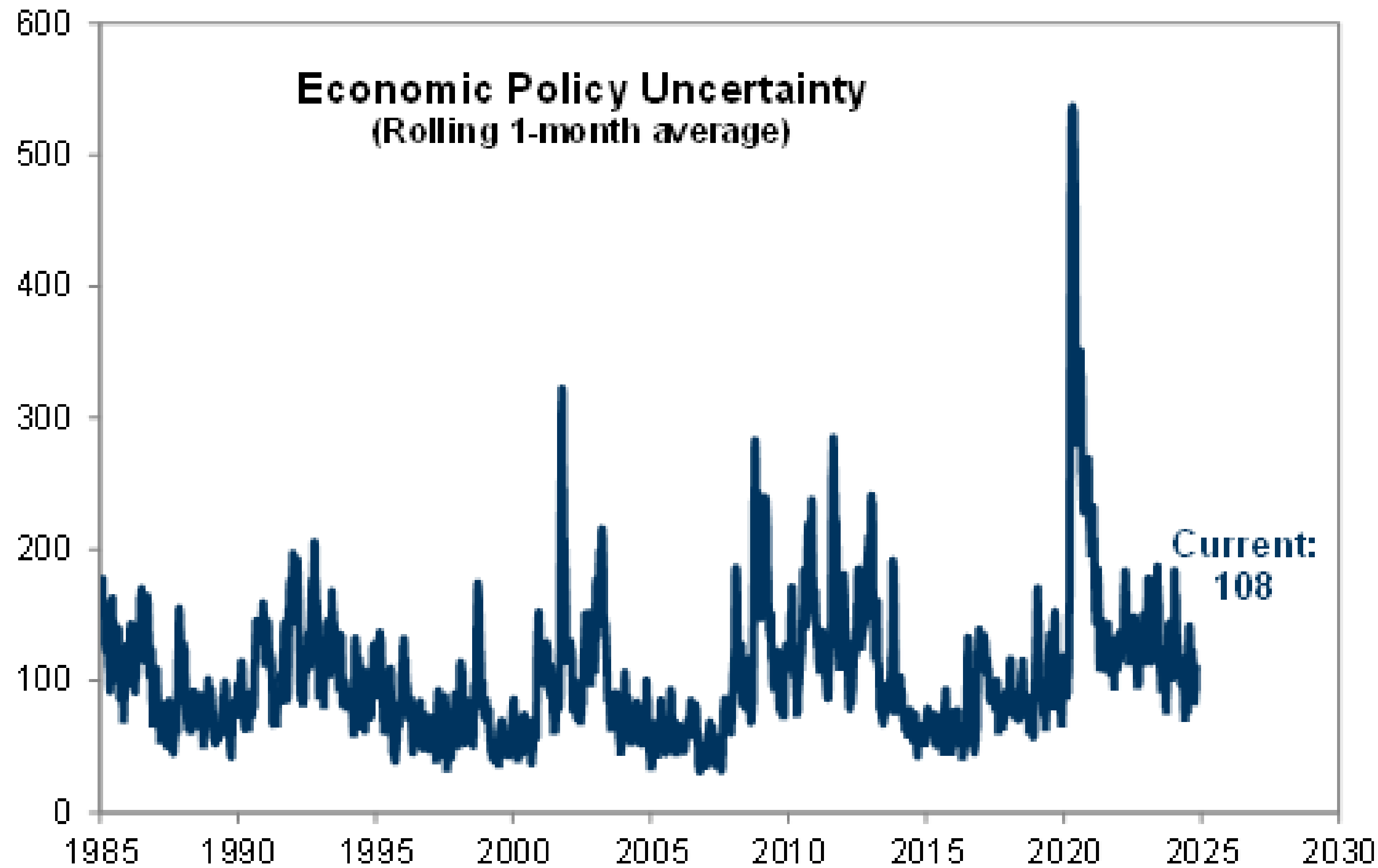
Myopic loss aversion bias

Defined: People focus on short-term losses & gains and weigh them more heavily than long-term losses and gains.

High Policy Uncertainty Periods Can Provide Great Investment Opportunities

Source: Alliance Bernstein Investment Research and Management, June 2005
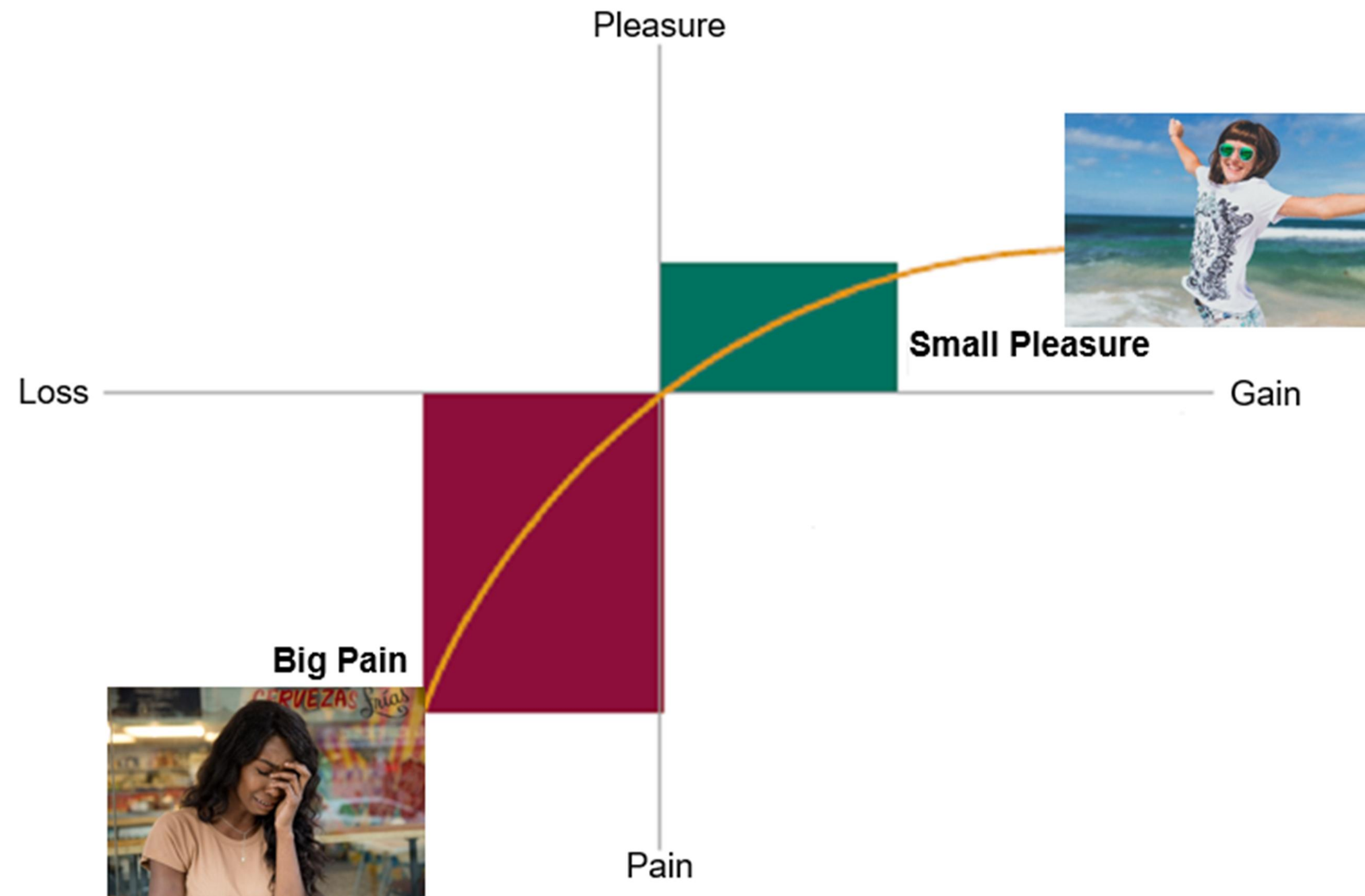
Myopic loss aversion bias

When Will Investors Stop Worrying About Inflation?
Correlation Between S&P 500 Prices and 10 yr. Interest Rates

S&P 500 And 10yr Interest Rates (26wk, weekly)
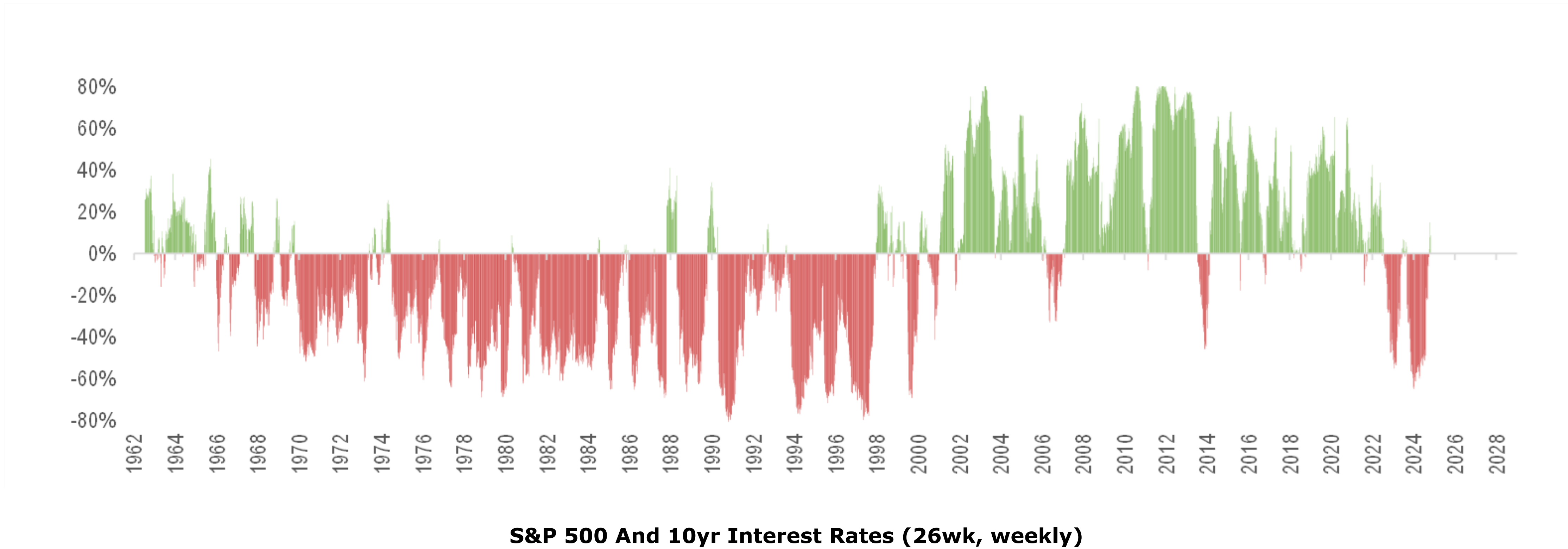
Source: Piper Sandler Research. February 27, 2024

Myopic loss aversion bias

Interest Rates To Remain The Main Determinant of Equity Volatility
Almost Every Equity Rally Since Jan. 2022 Was On The Back of Lower rates
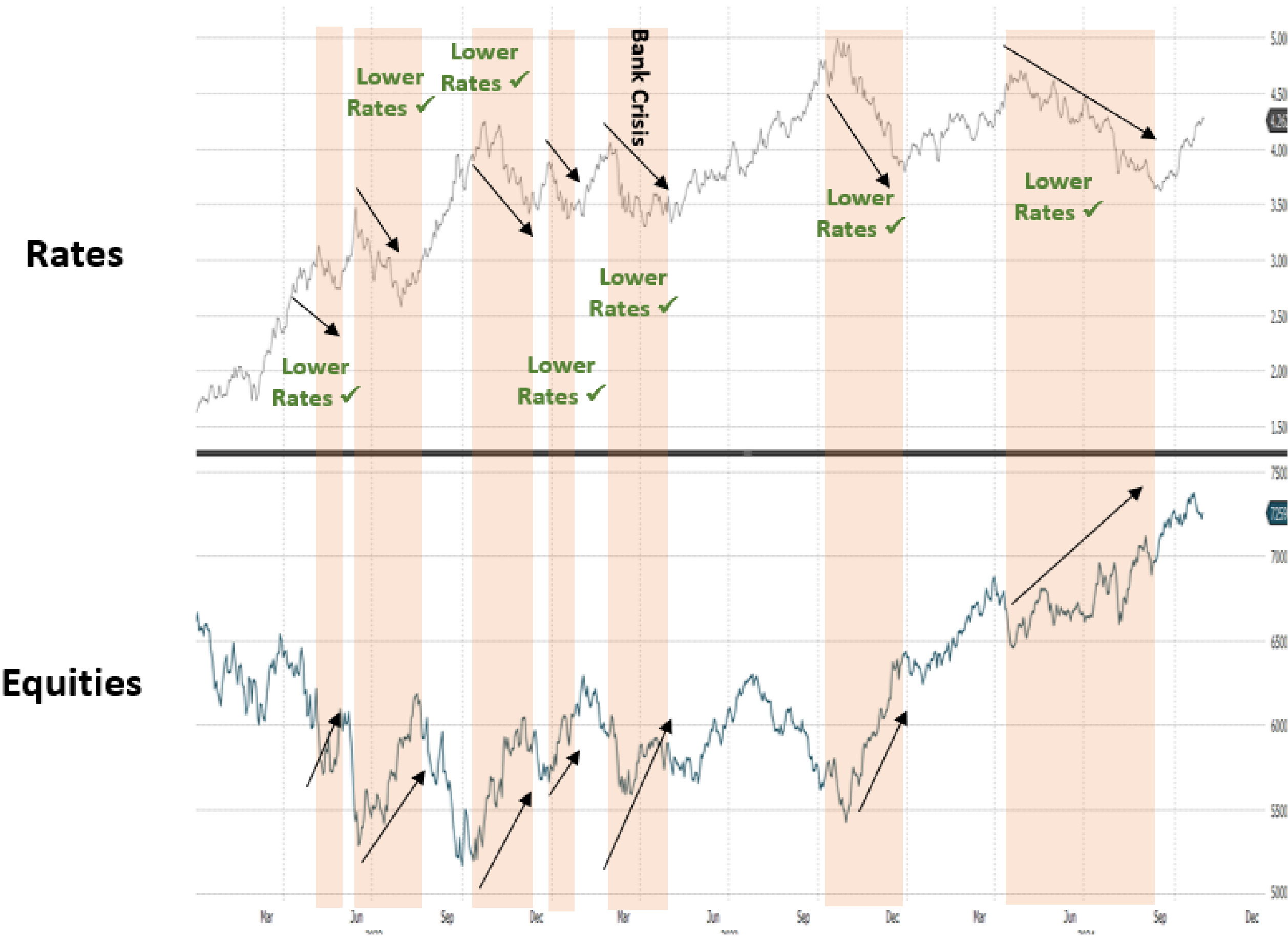
Uncertainty bias

Defined: People prefer known vs. unknown risk.

Deal or No Deal?:
It's better NOT to take the deal early in the game.

$	.01	$	1,000
$	1	$	5,000
$	5	$	10,000
$	10	$	25,000
$	25	$	50,000
$	50	$	75,000
$	75	$	100,000
$	100	$	200,000
$	200	$	300,000
$	300	$	400,000
$	400	$	500,000
$	500	$	750,000
$	750	$	1,000,000

Uncertainty bias

There Is Always Something To Be Uncertain About
Google Search Trends: "Inflation"
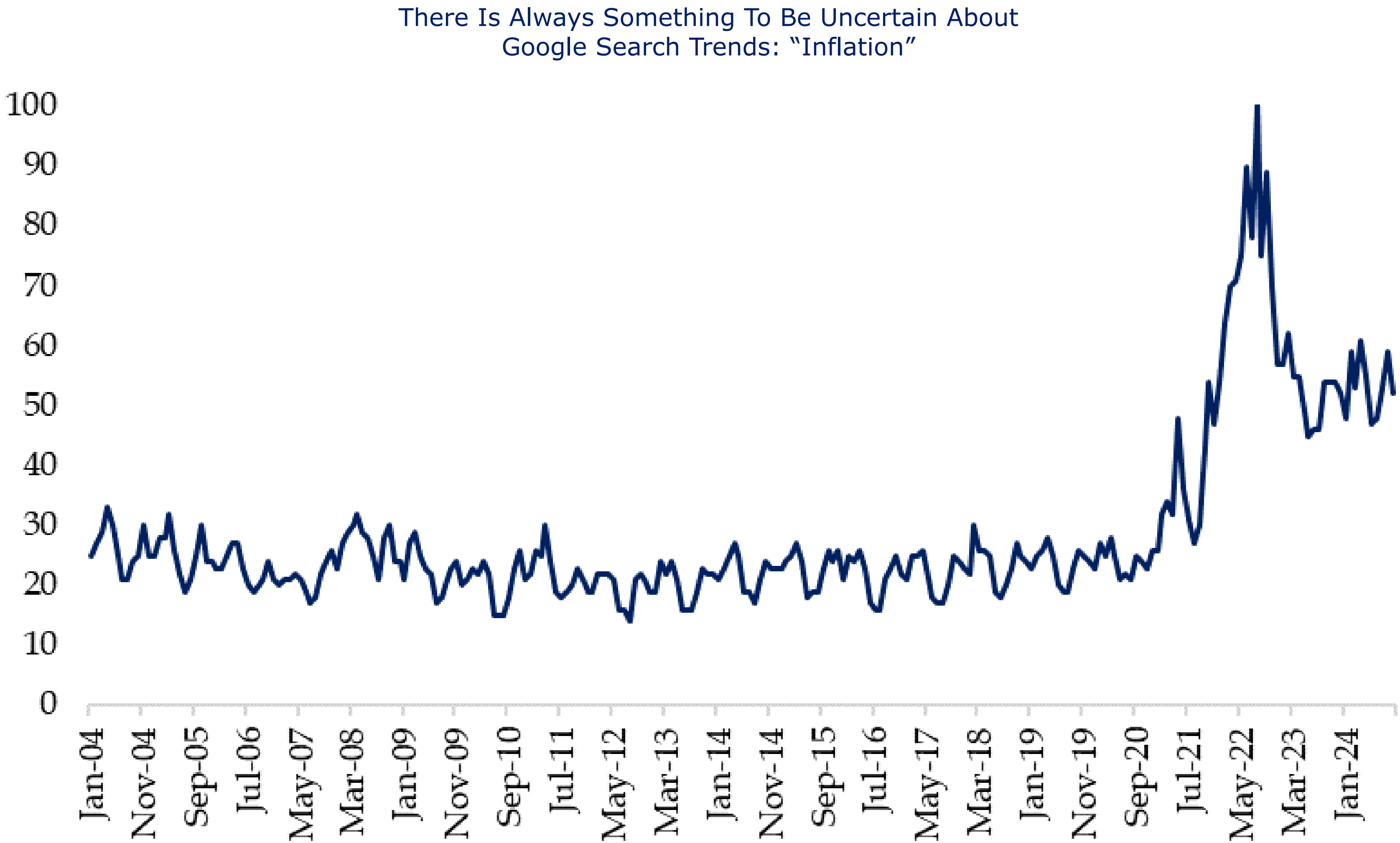
Source: Strategas Research. October 1, 2024

Group think bias

Defined: Lots of times the crowd is wrong.

"Which of the three lines on the right card matches the length of the line on the left card?"
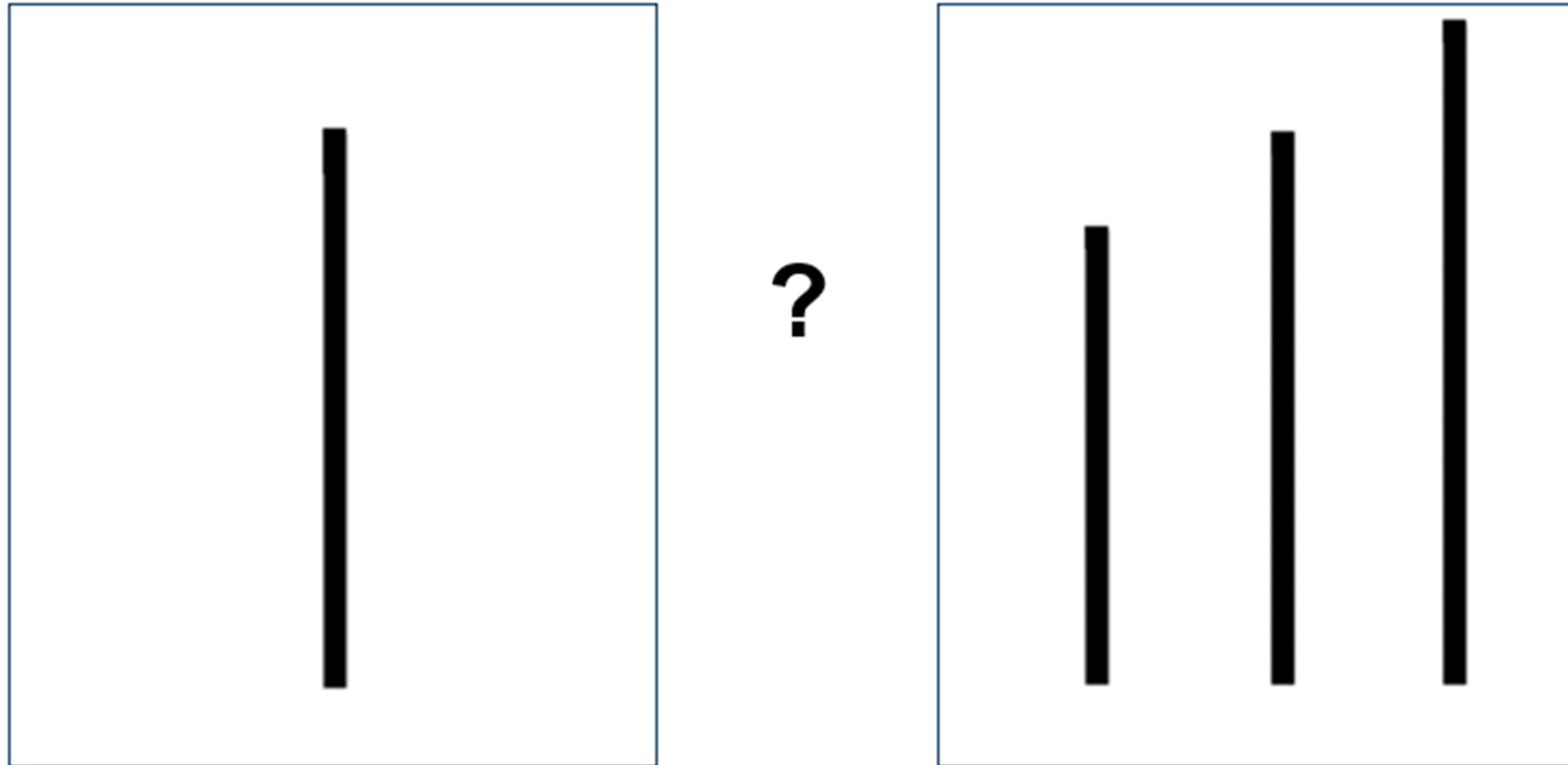
Source: Solomon E. Asch, "Effects of Group Pressure Upon the Modification and Distortion of Judgement.: 1951

Group think bias

Are We In a Bubble?
Large-Capitalization Stocks-Top Decile of Price Momentum
Relative Trailing Nine-Month Returns* 1952 Through Late-October 2024
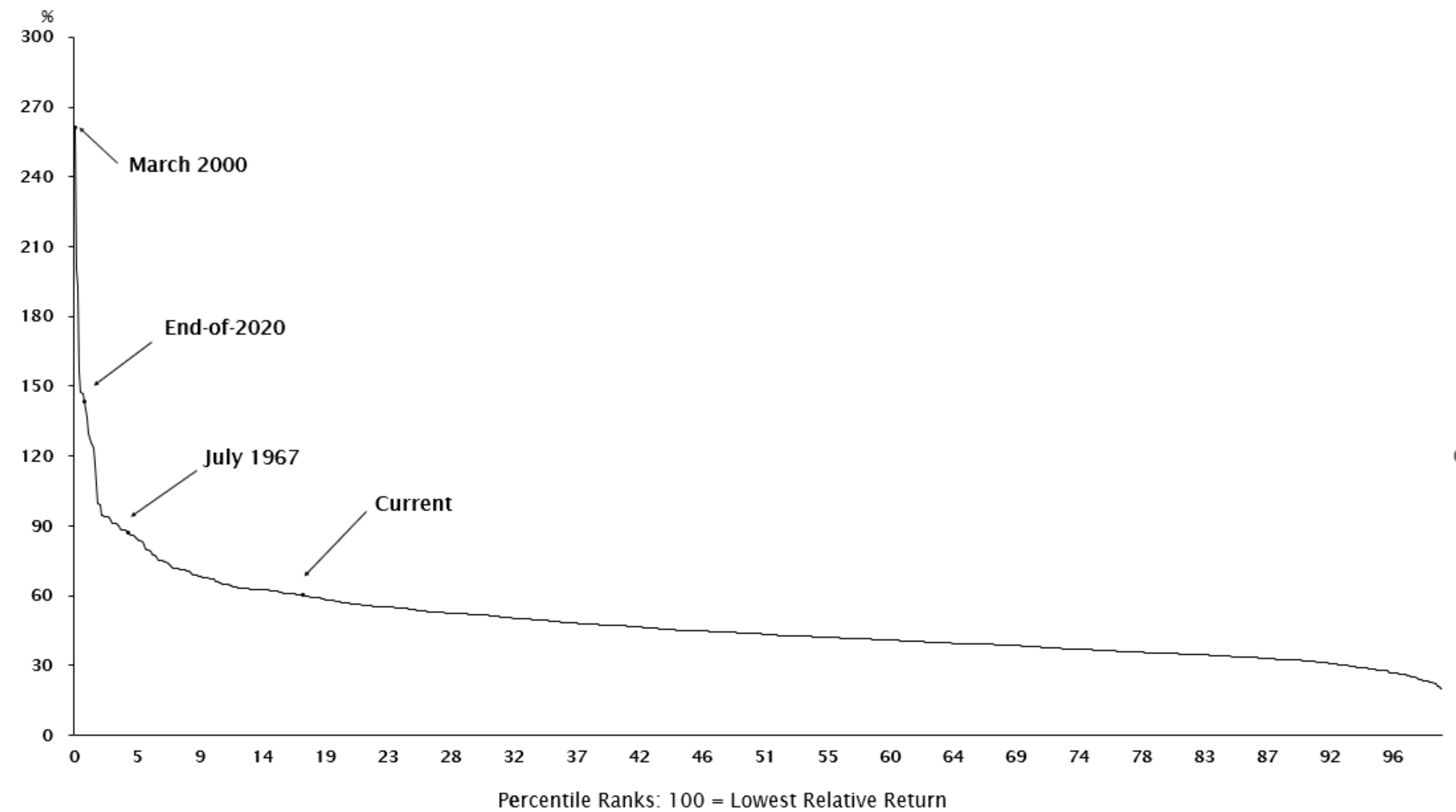
Cognitive dissonance bias

Defined: Predisposition to disregard news that does not respond to your world view.

Difference in Ideological Positions of The House and Senate
Scale: 0-Centrist, 2-Stronger Conservative or Liberal Ideologies

Source: BofA Research. November 16, 2020
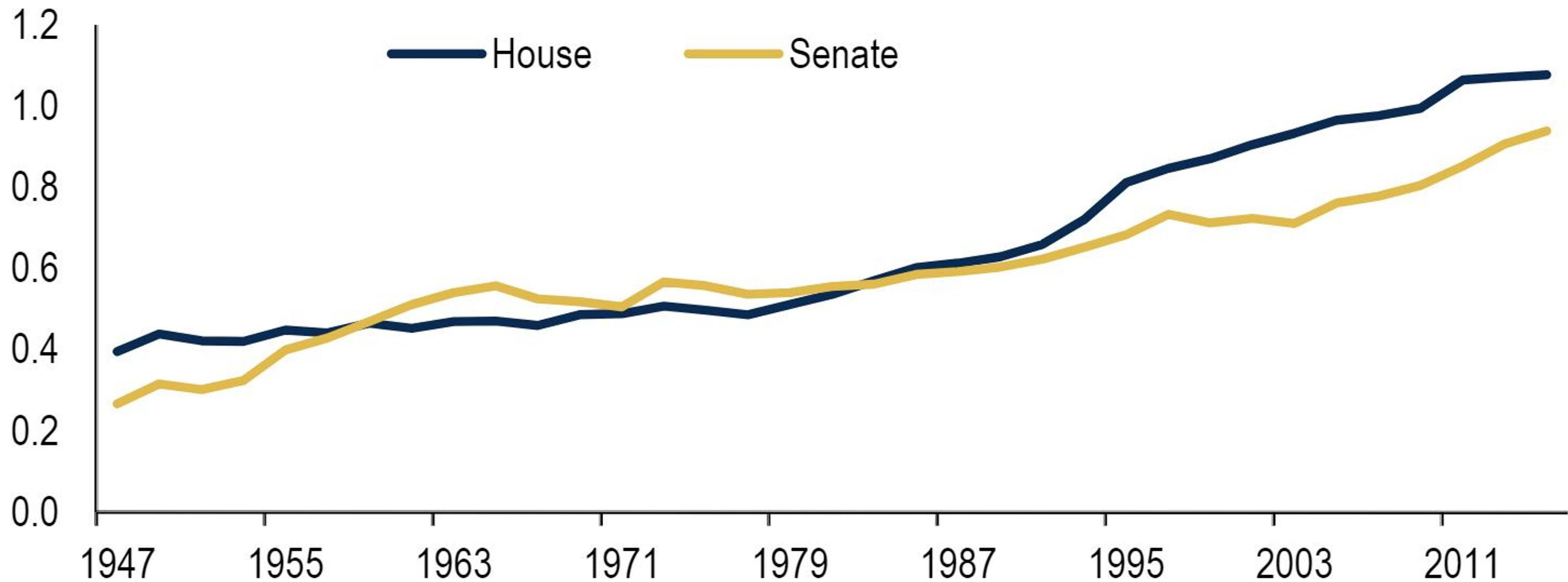
Cognitive dissonance bias

Bernie Madoff is Infamous

Cognitive dissonance bias

But Harry Markopolis is Not Famous At All

It is best to stay in your lane

History of Bull and Bear Markets

COVID-19

Industrial Revolution 3.0 Bull
11.5 Years (Mar 2013 – Present)
+375% Return

Dot Com Bull
19.4 Years (Jul 1980 – Mar 2000)
+1,158% Return

Great Recession Bear
12.8 Years (Mar 2000 – Mar 2013)
Max Decline -56%

Post-War Bull
18.1 Years (Sep 1954 – Jan 1973)
+276% Return

-19% Pullback

-20% Pullback

-19% Pullback

-35% Pullback

-33% Pullback

-13% Pullback

-27% Pullback

-13% Pullback

Stagflation Bear
7.4 Years (Jan 1973 – Jul 1980)
Max Decline -48%

-20% Pullback

-13% Pullback

Bull Market   **Bear Market**

Great Depression Bear
24.7 Years (Sep 1929 – Sep 1954)
Max Decline -86%

Recessions — S&P 500

Source: Federated Hermes. As of December 31, 2024.

Federated Hermes

Diversify

Ranked Cross Asset Returns By Year Since 2000

*2024 YTD Annualized
Source: BofA Global Investment Strategy, Bloomberg. October 2024

Know thyself

Advisor help, perhaps?

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LINDA DUESSEL

Mind on the Market

With more than 30 years of experience, Linda Duessel is nationally recognized for her expertise in analyzing equity market conditions. Linda discusses personal finance with investor groups across the country on topics of interest ranging from the impact of the alternative minimum tax to investing for retirement. Additionally, Linda has been extensively quoted by Associated Press, The Wall Street Journal and Barron's, as well as featured in the annual roundtable for USA Today.

As senior equity market strategist, Linda is part of the equity income team, which is responsible for formulating Federated Hermes' views about the market and the firm's positioning strategies within the equity income team. As senior client portfolio manager, she is responsible for articulating the strategy, process, positioning and performance of Federated Hermes' equity income products.

Like to keep an eye on her insights? Here are three ways:

1 Attend her quarterly webcasts Focused on timely market trends and topics.

2 Read her weekly market views. Look for them on our site and in our weekly email.

3 Connect with her on LinkedIn

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