



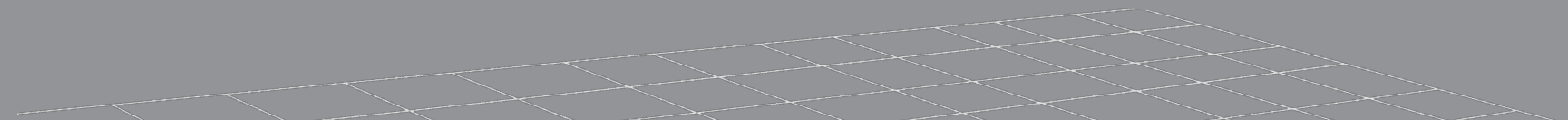
Market Values, Cycles & Bubbles

Barry Ritholtz

Ritholtz Wealth Management

Markus Brunnermeier

29. April 2021



■ Tax deductible **donations**



■ Ramanan Laxminarayan

- Center For Disease Dynamics, Economics & Policy (CDDEP.org)
- Princeton colleague
- Webinar speaker on Covid



Frothy markets

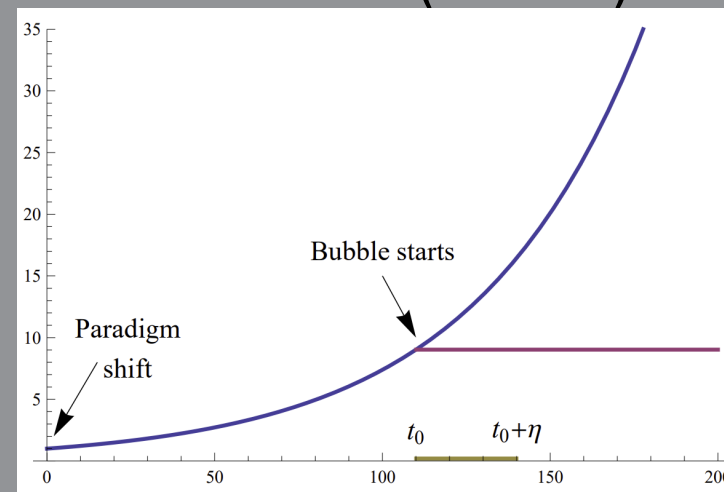
- New Jersey Deli Valued at \$105 Million



- Bloomberg: Sales in 2020 \$14,000
- SPACS
 - Record IPO levels despite Covid crisis

Bubble Theories

- Bubble = value comes from retrading
 - (partially) dynamically complete incomplete markets
 - Incomplete markets: Bewley (1979), Brunnermeier-Sannikov (AER2016)
 - Modern Asset Pricing: $P_t = E[PV(\text{cash flow})] + E[PV(\text{service flow})]$
 - OLG: Samuelson, Tirole (1985) (long-horizons)
 - Heterogeneous beliefs + short-sale constraint
 - Intuition: Greater fool theory (I dump on fool you if x, you dump on fool me if y.)
- Exploding/extrapolative bubbles
 - “Bubble riding”: Abreu Brunnermeier (2003) [synchronization risk]
 - Noise trading risk: DSSW



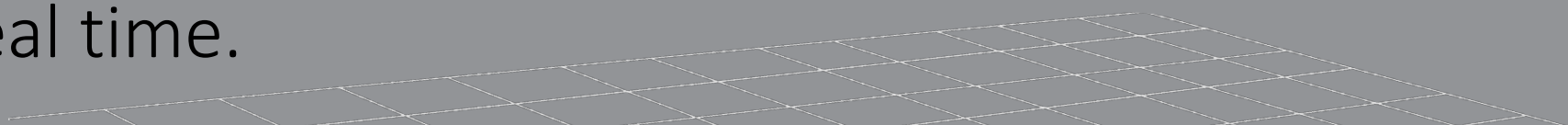
Policy choices:

- Tobin tax
 - Lower frequency or re-trading – resell option of bubbles
 - For stocks (but not for US Treasuries)
- Ease shorting – Current challenges for shorting are
 - Shorting is costly: fee to borrow stock
 - Shorting is risky: lender can recall stock → short-squeeze
 - Meme investing → correlated trades → easier short-squeezes
- Ease short coordination? → attack stocks
 - Side effect: Predatory shorting (Brunnermeier Oehmke)



Barry Ritholtz's Poll Questions

1. Today's market valuations are:
 - a. The most expensive we have seen in a long while!
 - b. Pricey, but tolerable
 - c. TINA, Federal Reserve made Valuations no longer matter
 - d. Its complicated
2. The current bull market:
 - a. Is 12 years old, and very late in the cycle;
 - b. Is looking past the pandemic and forward to the recovery;
 - c. 2020 crash and recovery reset the clock, its barely a year old
 - d. Who cares about the age of a bull market?
3. How Bubblicious is the market today?
 - a. Congratulations! Its a Bubble!
 - b. Pockets of froth + speculation,
 - c. Nothing to worry about! Its all good!
 - d. No one can identify a bubble in real time.





PRINCETON UNIVERSITY
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FOR FINANCE

— PUBLIC

APRIL 29, 2021
12:30 PM

**Barry Ritholtz on Market
Values, Cycles & Bubbles**

WITH INTRODUCTIONS BY
MARKUS BRUNNERMEIER

Market Values, Cycles and Bubbles

Today's Discussion

1. Bull & Bear Markets?
(What is a market cycle, anyway?)
2. How Much Do Valuations Matter Anymore?
(How do you measure value?)
3. Is this a Bubble?
(And how can you tell?)



Bull & Bear Market Cycles

Bull Market Cycles

Survey question: *The Current Bull Market is:*

- a) 12 years old, and very late in the cycle;
- b) Looking past the pandemic + forward to the recovery;
- c) Reset by the 2020 crash/recovery, its barely a year old;
- d) Who cares about the age of a bull market?

What is a Bull/Bear Market ?



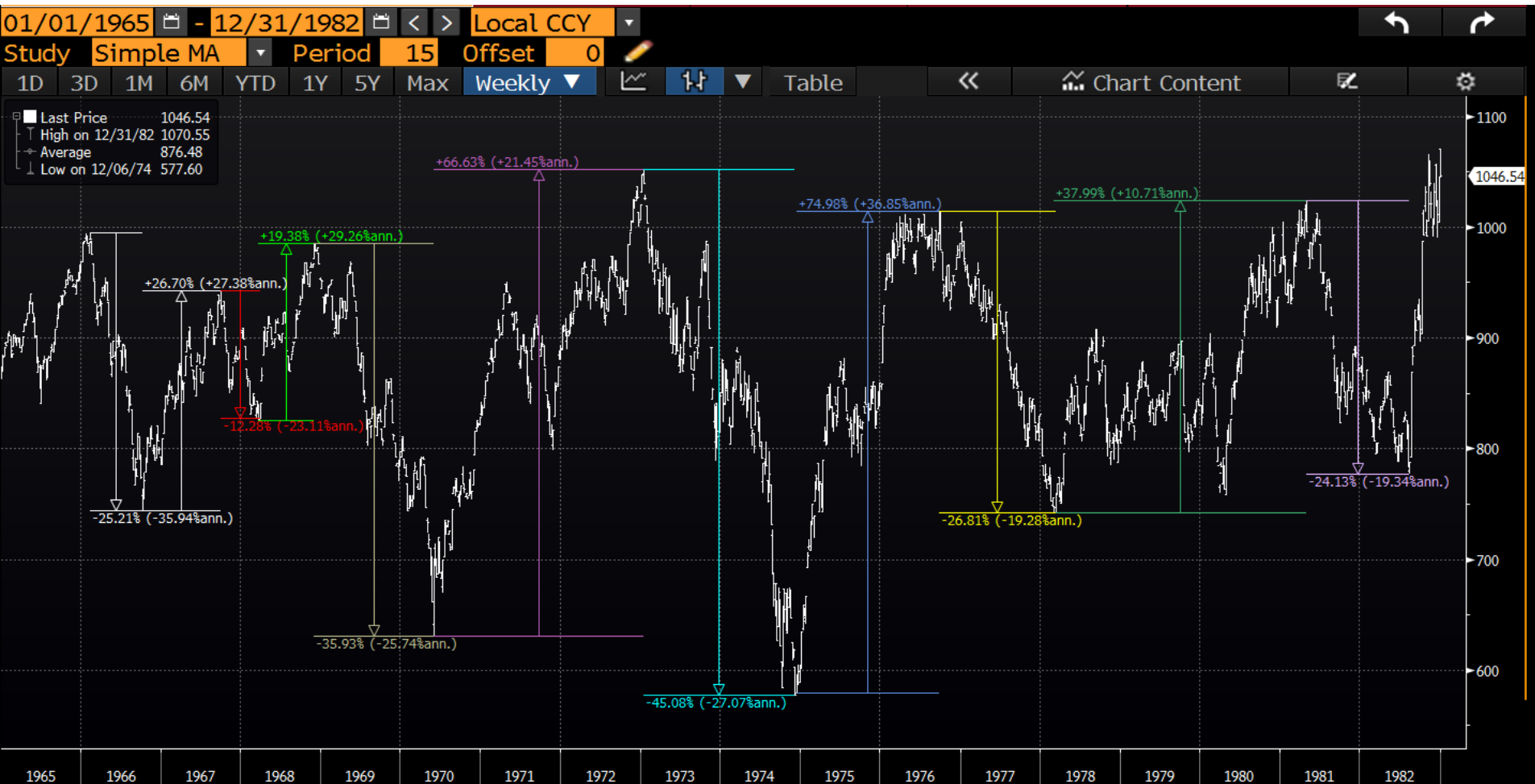
What is a Bear Market ?

-20%

What is a Bull Market ?



Bear Markets Begin Above Prior Bear Markets



Bear Markets Begin Above Prior Bear Markets

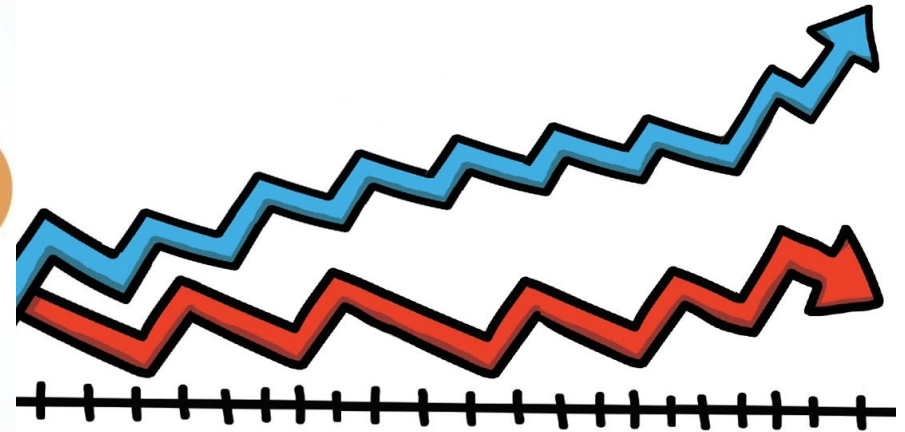
20 Years of Ups and Downs

S&P 500 Index



Source: Bloomberg

Bull Market 4 Traits



What is a Secular Bull (Bear) Market?

4 characteristics:

1. Broad economic expansion, rising corporate revenues + profits;
2. Rising stock prices making new all-time highs;
3. Improving investor sentiment manifest in the willingness to pay more for each dollar of earnings;
4. Lasting over a substantial length of time – years and decades

What's the Dominant Narrative?

Robert J. Shiller

Winner
— of —
the Nobel
Prize

narrative
economics

How Stories Go
Viral & Drive Major
Economic Events

THE NEW YORK TIMES BESTSELLER

THINKING,
FAST AND SLOW



DANIEL

KAHNEMAN

WINNER OF THE NOBEL PRIZE IN ECONOMICS

"[A] masterpiece... This is one of the greatest and most engaging collections of insights into the human mind I have read." —WILLIAM EASTERLY, *Financial Times*

THE INTERNATIONAL BESTSELLER

The
Psychology
of
Money



TIMELESS LESSONS ON WEALTH, GREED,
AND HAPPINESS

MORGAN HOUSEL

"One of the best and most original finance books in years."

—JASON ZWEIG
Wall Street Journal

H

NARRATIVE
AND
NUMBERS
THE VALUE OF
STORIES IN BUSINESS

ASWATH DAMODARAN

Columbia Business School
Publishing

#1 NEW YORK TIMES BESTSELLER



best-selling author of
THE BLIND SIDE

MICHAEL
LEWIS
THE BIG SHORT

MISBEHAVING
The Making of
Behavioral Economics

Richard H. Thaler

YOUR
MONEY & YOUR
BRAIN

HOW THE NEW SCIENCE OF NEUROECONOMICS
CAN HELP MAKE YOU RICH



"PIONEERING."
—DAVID GREENGLASS,
CENTIMARK INVESTMENT STRATEGIST,
THE WALL STREET JOURNAL

"ILLUMINATING."
—PETER D. WILSON,
EDITOR,
MANAGEMENT SCIENCE

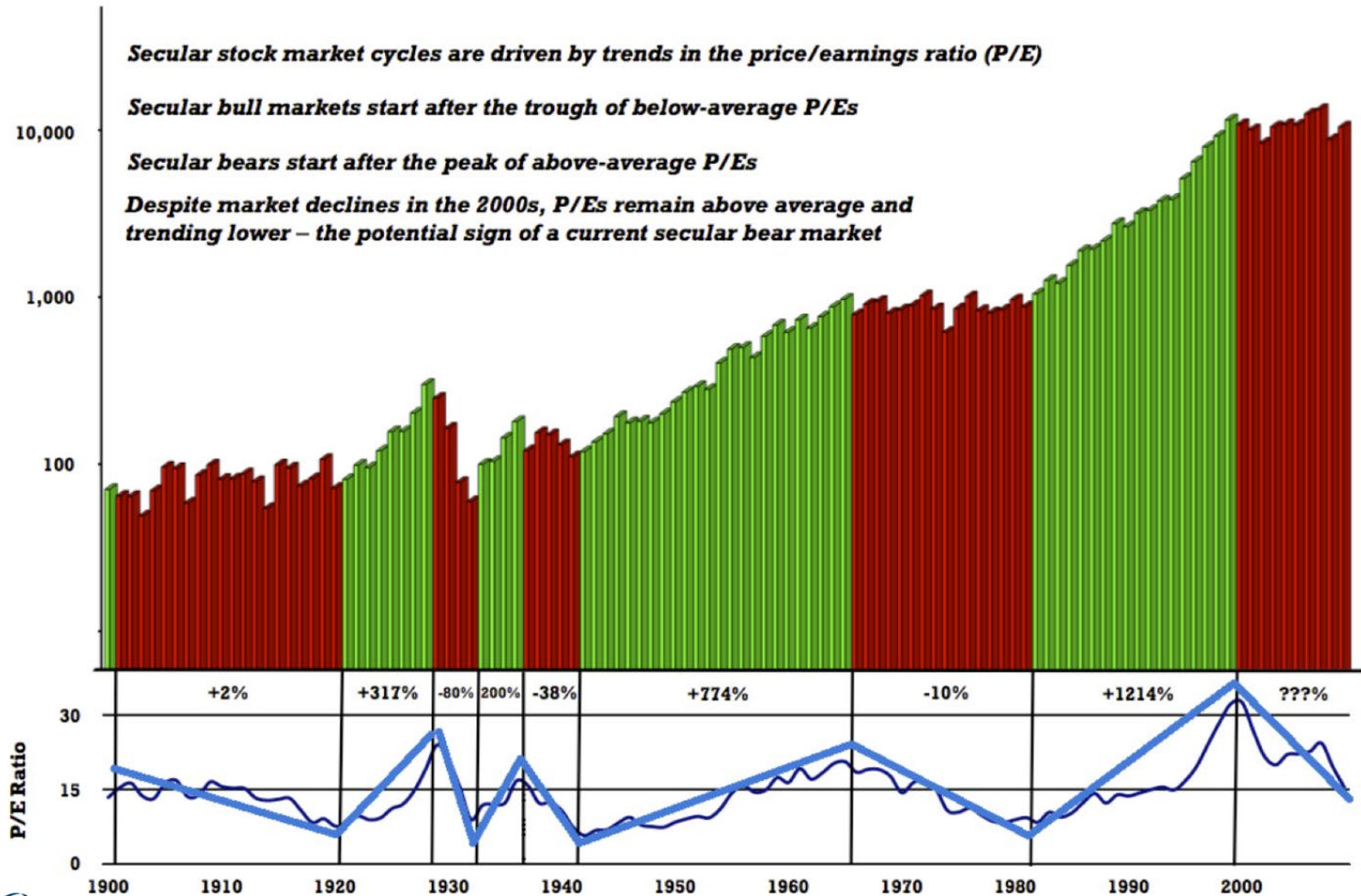
"THIS SHORT AND ENTERTAINING BOOK PACKS A VAST AMOUNT OF
SERIOUS INFORMATION ABOUT YOUR BRAIN, ABOUT YOUR MIND, AND ABOUT YOUR MONEY."

—DANIEL KAHNEMAN, WINNER OF THE 2002 NOBEL PRIZE IN ECONOMICS

JASON ZWEIG
EDITOR, THE INTELLIGENT INVESTOR

What is a Bull/Bear Market ?

100 Years of Secular Markets, P/E Expansion & Contraction



The Current Bull Market is:

a) 12 years old, and very late in the cycle;

Bull markets begin when they make new highs after a long, broad trading range (2013 not 2009)

b) Looking past the pandemic + forward to the recovery;

Markets are always forward looking – what does this tell you?

c) Reset by the 2020 crash/recovery, its barely a year old;

Data suggests slight outperformance following 30% drop

d) Who cares about the age of a bull market?

There is no evidence the age of a market is what ends them



Valuations:

Are you looking at
them the wrong way?

Market Valuations

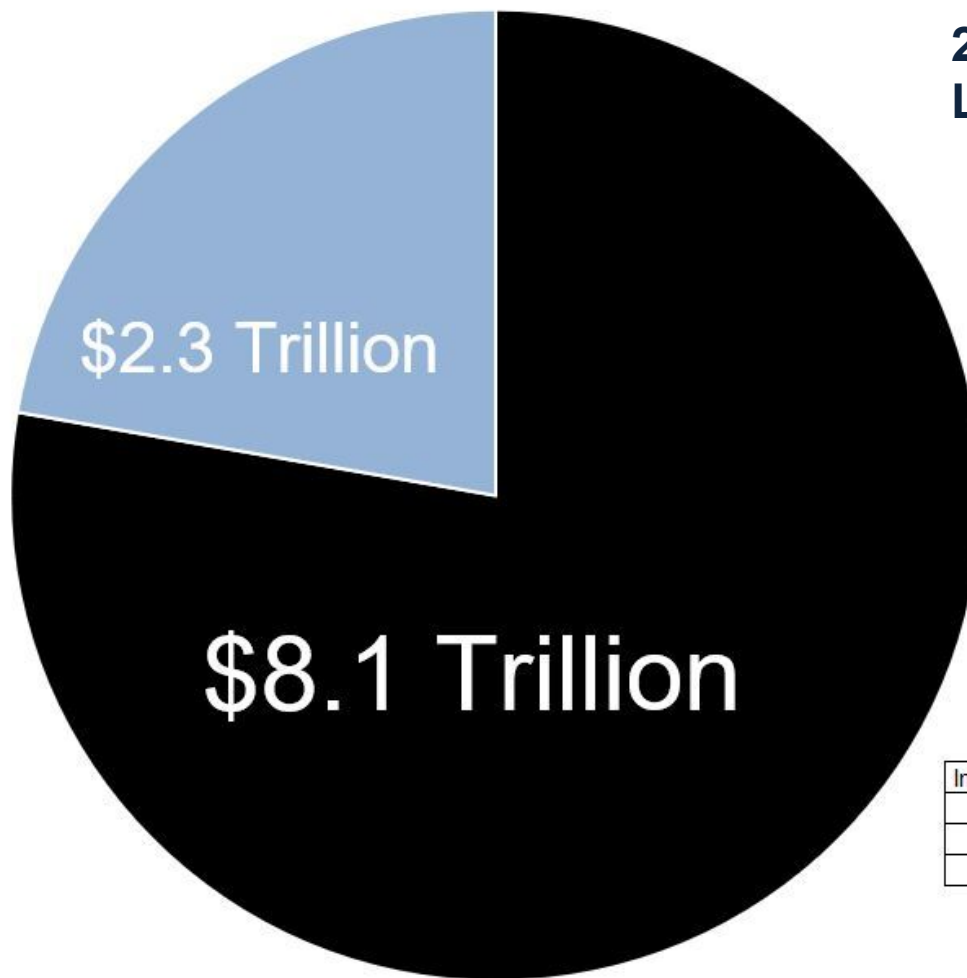
Survey question 2

2. *Today's Market Valuations Are:*

- a) The most expensive we have seen in a long while
- b) Pricey, but tolerable
- c) TINA, Fed made Valuations no longer matter
- d) Its complicated

Why Markets Don't Care If the Economy Stinks

Department Stores
Airlines
Oil & Gas Equipment & Services
Travel Services
REIT - Hotel & Motel
Resorts & Casinos
REIT - Retail
Oil & Gas E&P
Apparel Manufacturing
Oil & Gas Refining & Marketing
Banks - Diversified
Food Distribution
Oil & Gas Midstream
REIT - Healthcare Facilities
Lodging
Beverages - Brewers
Banks - Regional
Insurance - Life
Pharmaceutical Retailers
Oil & Gas Integrated



**2020 Advantage
Lockdown Stocks**

Internet Content & Information
Software - Infrastructure
Consumer Electronics
Internet Retail

Market Cap % of S&P500, by Industry

Industry	YTD Performance	% of S&P 500
Department Stores	-56.17%	0.01%
Airlines	-52.31%	0.19%
Oil & Gas Equipment & Services	-48.54%	0.21%
Travel Services	-48.13%	0.37%
REIT - Hotel & Motel	-41.29%	0.03%
Resorts & Casinos	-41.10%	0.17%
REIT - Retail	-41.03%	0.19%
Oil & Gas E&P	-40.35%	0.55%
Apparel Manufacturing	-40.19%	0.15%
Oil & Gas Refining & Marketing	-40.02%	0.27%
Banks - Diversified	-36.48%	2.43%
Food Distribution	-36.03%	0.09%
Oil & Gas Midstream	-34.77%	0.23%
REIT - Healthcare Facilities	-34.60%	0.17%
Lodging	-34.18%	0.17%
Beverages - Brewers	-33.49%	0.03%
Banks - Regional	-32.92%	0.89%
Insurance - Life	-31.75%	0.35%
Pharmaceutical Retailers	-31.46%	0.12%
Oil & Gas Integrated	-30.09%	1.18%

Context Matters

Inflation

vs

Deflation

Commodity prices over last year...

Lumber: +265%

WTI Crude: +210%

Gasoline: +182%

Brent Crude +163%

Heating Oil: +107%

Corn: +84%

Copper: +83%

Soybeans: +72%

Silver: +65%

Sugar: +59%

Cotton: +54%

Platinum: +52%

Natural Gas: +43%

Palladium: +32%

Wheat: +19%

Coffee: +13%

Gold: +3%

Commodity prices over last 10 years...

Coffee: -55%

Cotton: -54%

Brent Crude -47%

WTI Crude: -45%

Heating Oil: -43%

Silver: -42%

Gasoline: -40%

Natural Gas: -38%

Sugar: -34%

Corn: -17%

Wheat: -16%

Copper: -2%

Soybeans: +9%

Gold: +19%

Platinum: +40

Palladium: +278%

Lumber: +397%

Different Buyers at Different Times

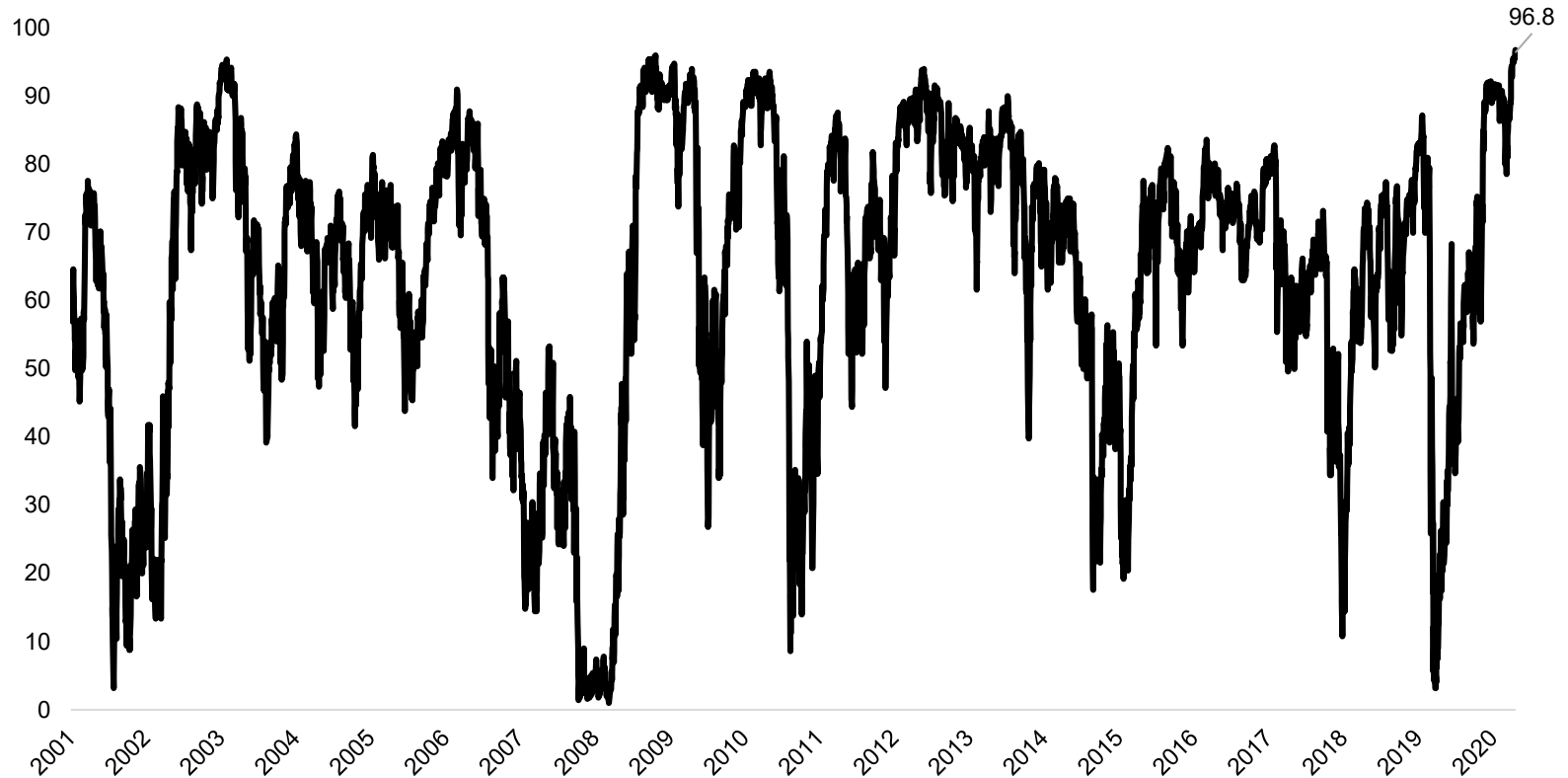
S&P 500 Level



Everything is Working

S&P 500

(Percent of stocks above 200-day moving average)



Data Source: Stockcharts.com

\$100 Million Dollar Pastrami!

Markets

David Einhorn Sees Broken Markets in a New Jersey Deli Valued at \$105 Million

By [Brandon Kochkodin](#)

April 15, 2021, 5:53 PM EDT

- ▶ Hedge fund titan says ‘there is no cop on the beat’ in markets
- ▶ Company’s CEO is also the local high school’s wrestling coach



Einhorn Sees Broken Markets in N.J. Deli's \$105 Million Valuation

Say Cheese!

Grilled Cheese and \$100 Million of Irrational Exuberance

Grilled Cheese Truck market valuation may be a sign of excess in financial markets.

By Barry Ritholtz

February 5, 2015, 8:49 AM EST



I'll have mine with some net income. *Photographer: David Livingston/Getty Images*

Today's Market Valuations Are

a) The most expensive we have seen in a long while
True, but only if you use single variable analysis

b) Pricey, but tolerable
Assuming you have a long-term holding period and are prepared to lower your return expectations

c) TINAL: Fed made Valuations no longer matter
That's too 1999 for me

d) Its complicated
In finance this is almost always a winning answer



Bubbles:

How can you tell? What do you do?

The logo for Bubblicious 3 Bubblegum features a large, stylized number '3' in the center, surrounded by a vibrant, multi-colored background of pink, purple, and red. The background is filled with various circular patterns, including concentric circles, spirals, and solid circles of different sizes, creating a bubbly, energetic effect. The words 'BUBBLICIOUS' and 'BUBBLEGUM' are written in a bold, white, sans-serif font with a purple outline, positioned on either side of the central '3'.

BUBBLICIOUS

BUBBLEGUM

18 5-PIECE GUM PKGS. (90 PIECES)

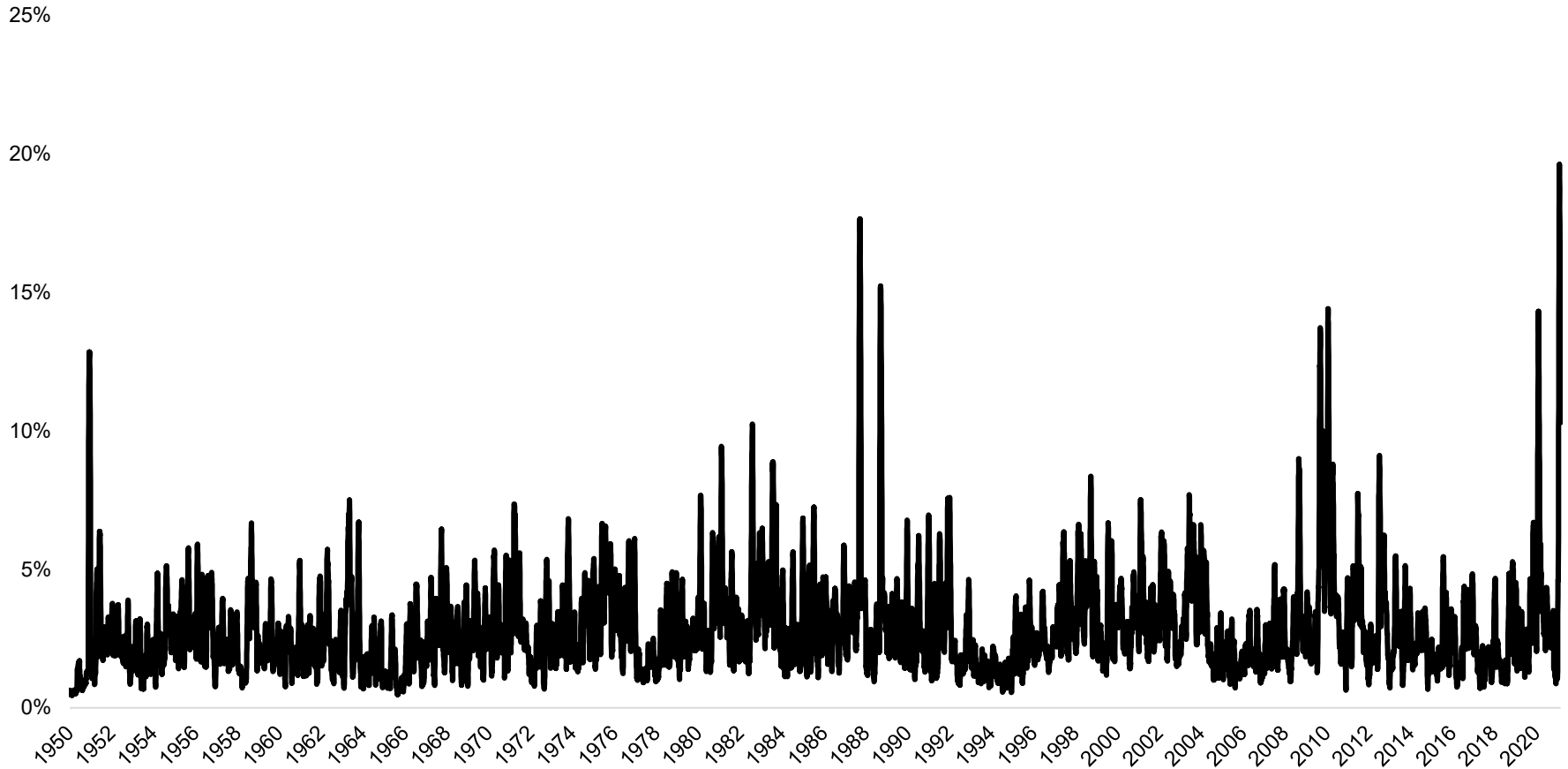
Survey question: *How Bubblicious is the market today?*

- a) Congratulations! Its a Bubble!
- b) Pockets of froth + speculation,
- c) Nothing to worry about — its all good!
- d) No one can identify a bubble in real time.

Most Volatile Year Ever

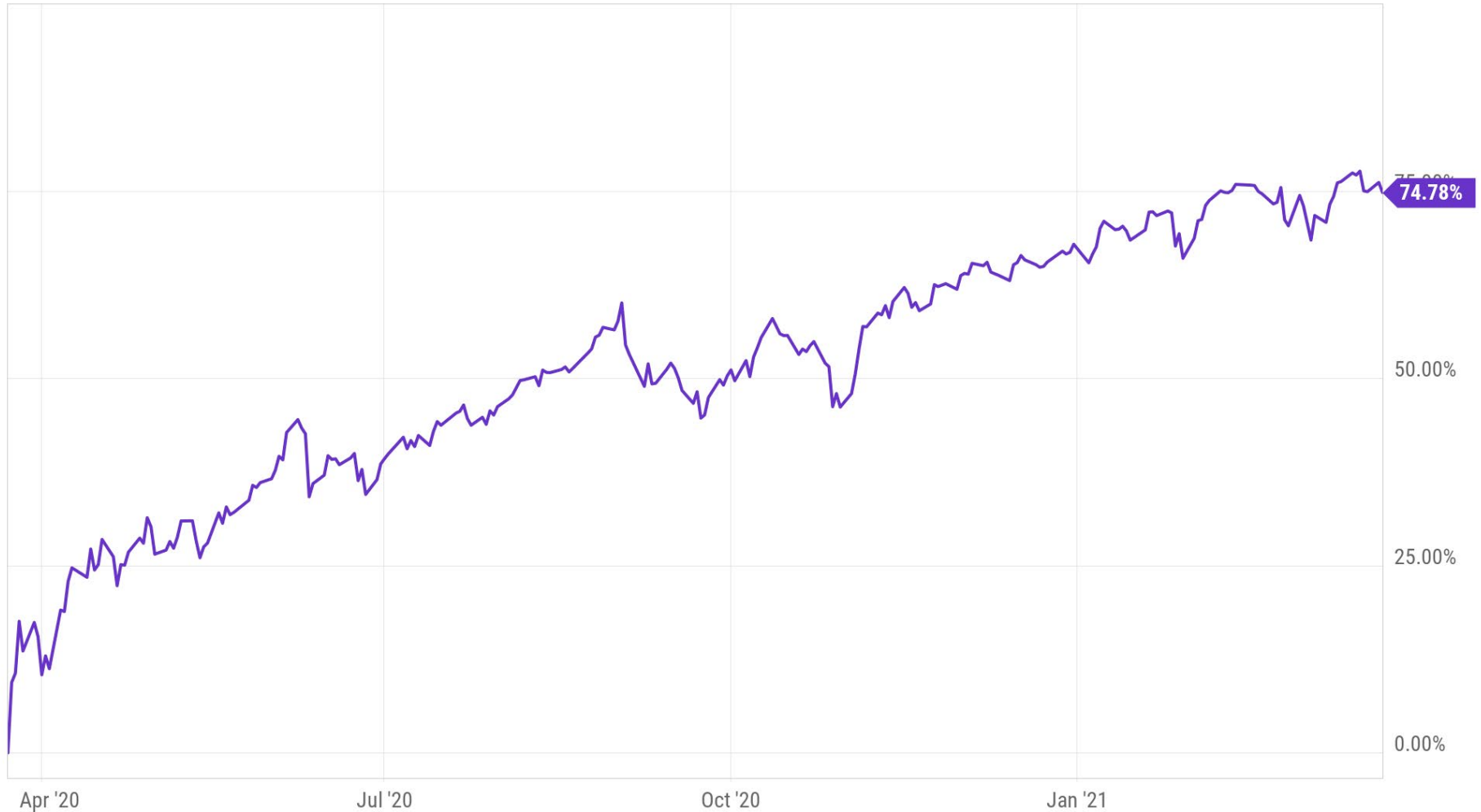
S&P 500

(30-Day Standard Deviation)



12 Month Returns?

S&P 500 Level % Change



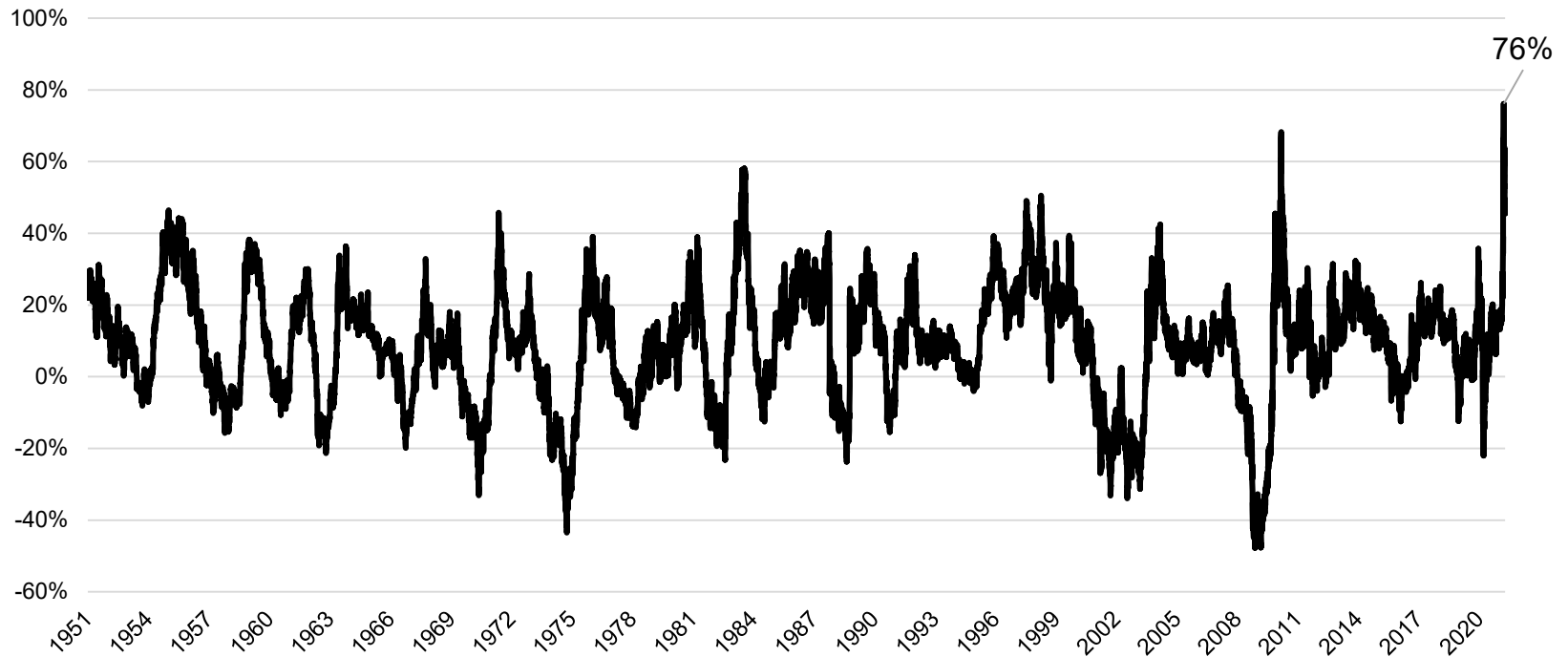
13 Month Returns

S&P 500 Level % Change



It Gets Harder From Here

S&P 500
1-Year Change

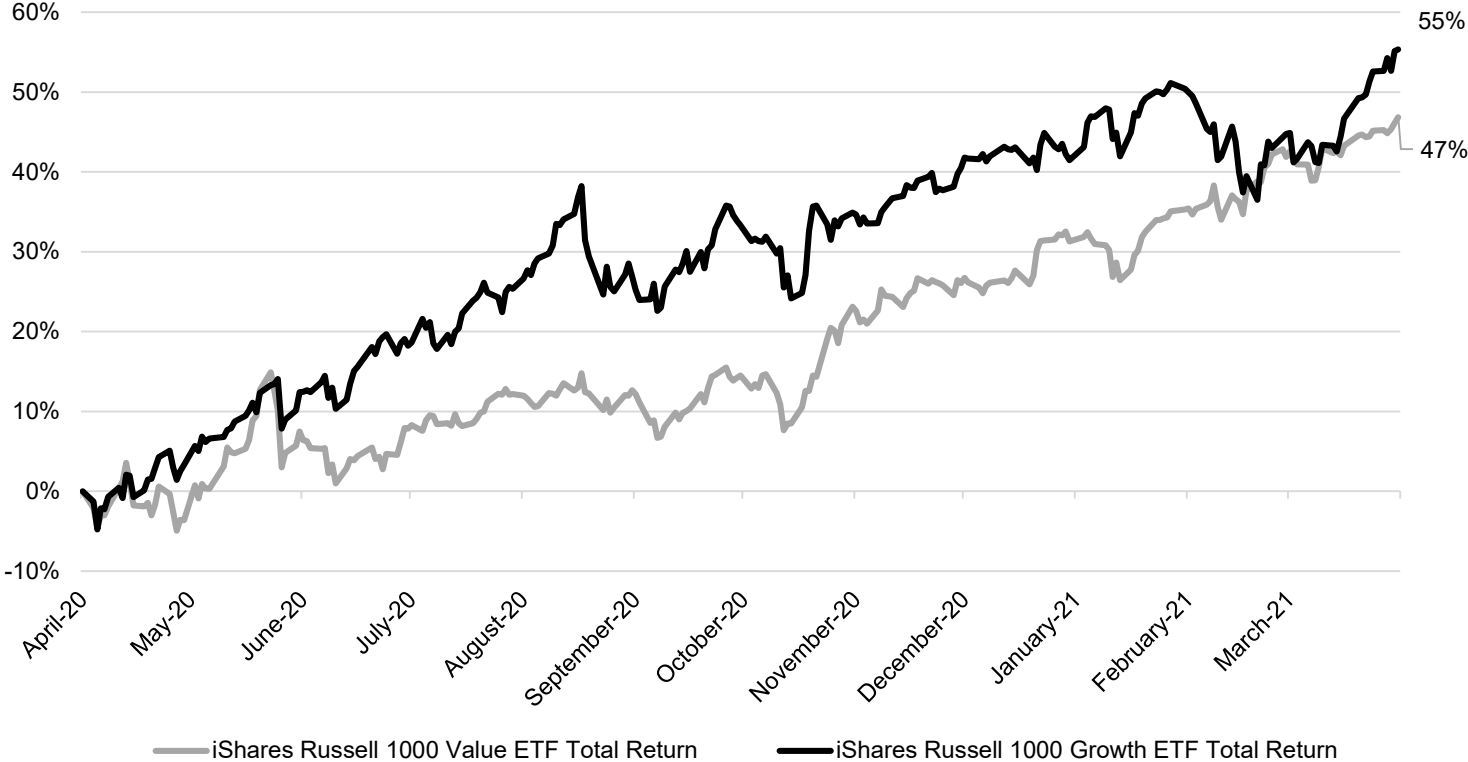


Source: YCharts

Expected Returns

Growth and Value

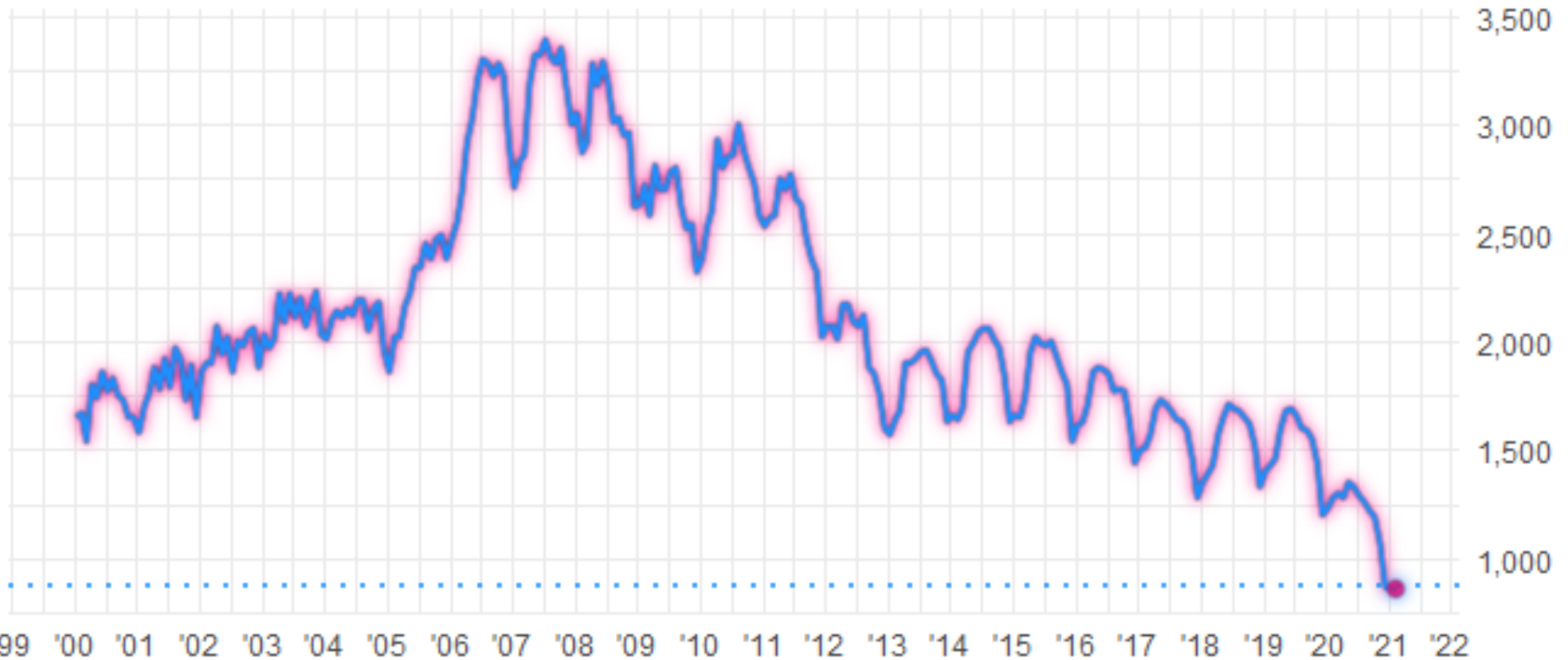
1-Year Returns



Housing Shortage

Tight home sales inventory

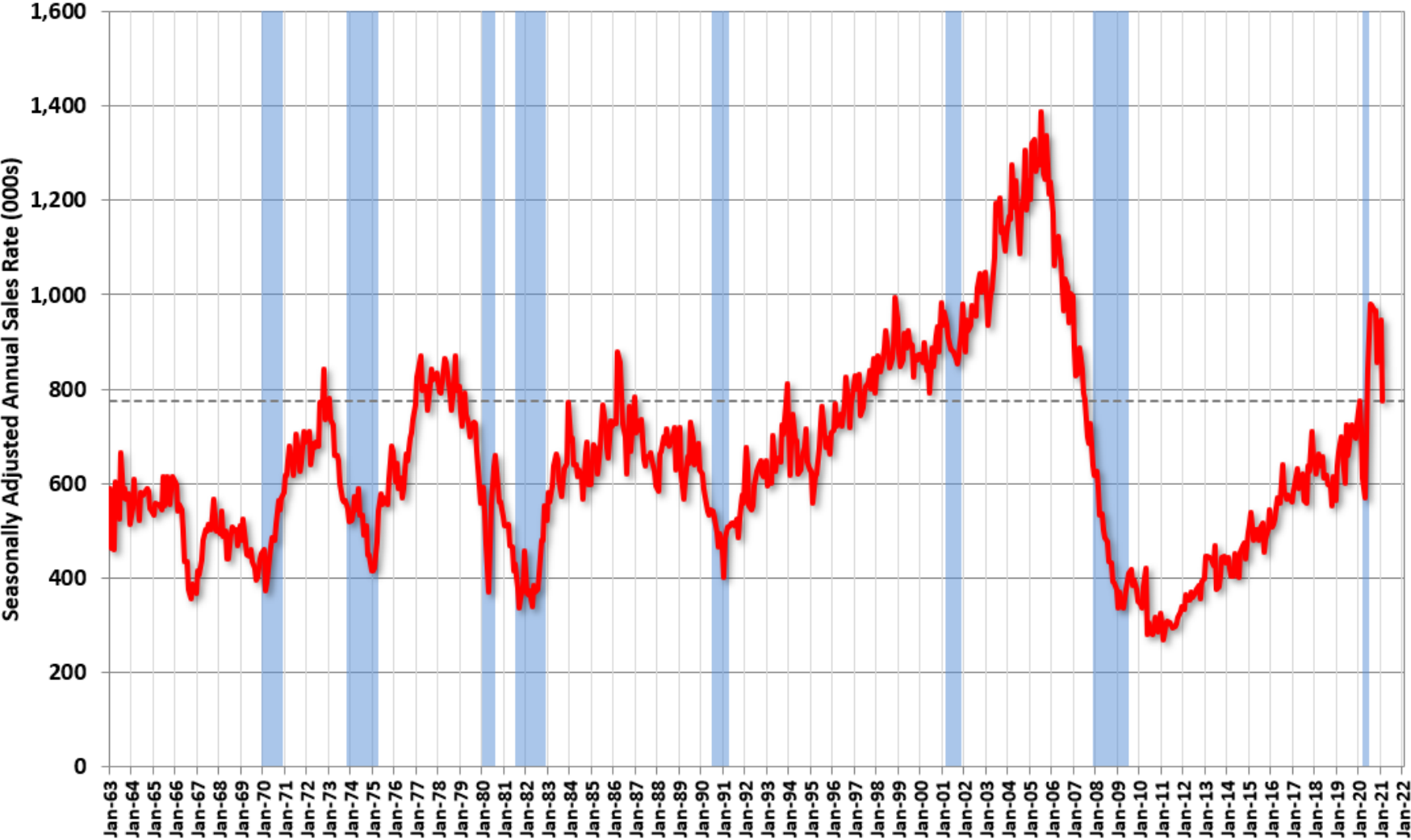
Number of US single-family homes available for sale, (1000s, NSA)



@lenkieferr Source: National Association of Realtors, dotted line at February 2021

New Home Sales

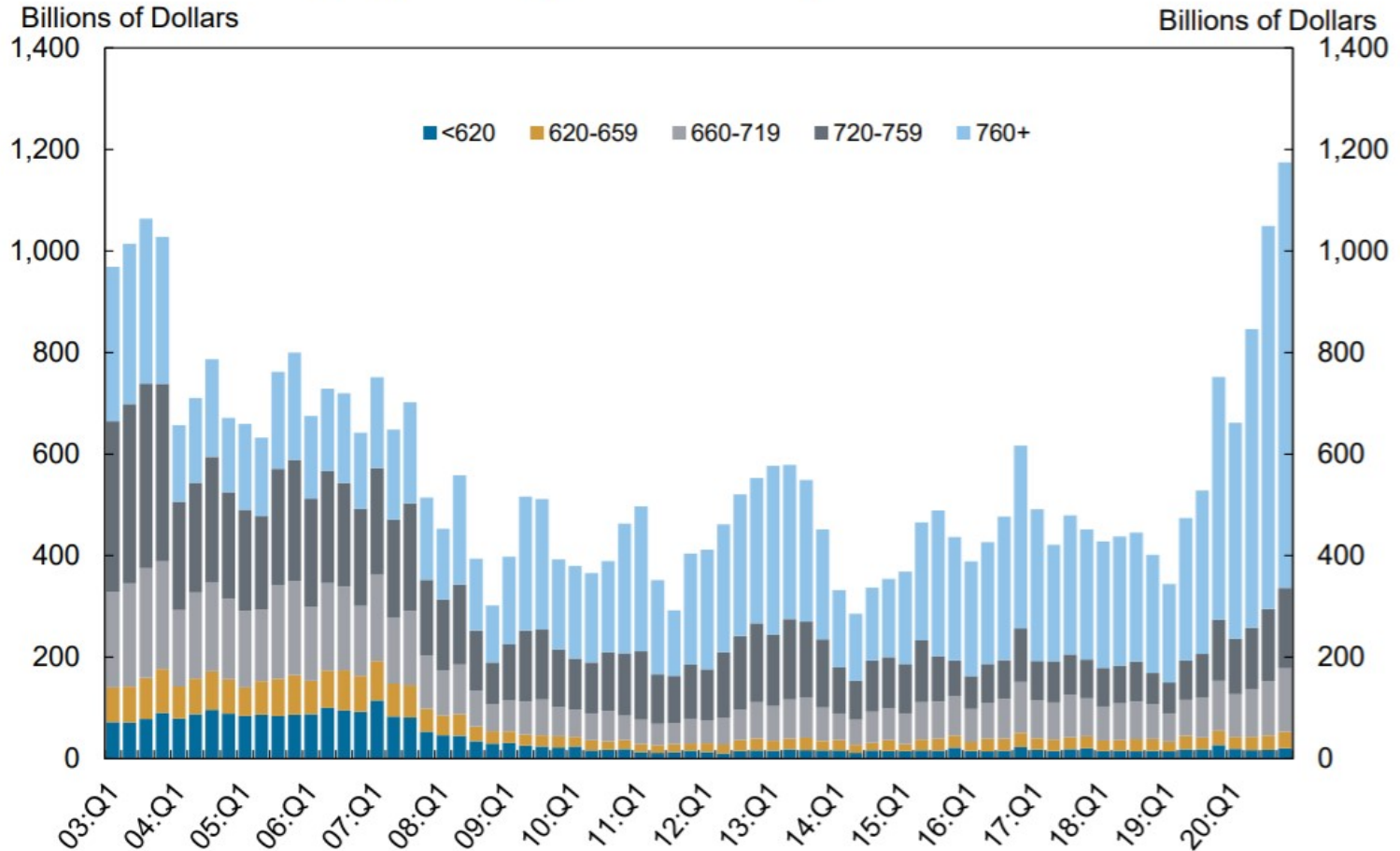
New Home Sales and Recessions



<http://www.calculatedriskblog.com/>

Not a Bubble

Mortgage Originations by Credit Score*



Source: New York Fed Consumer Credit Panel/Equifax

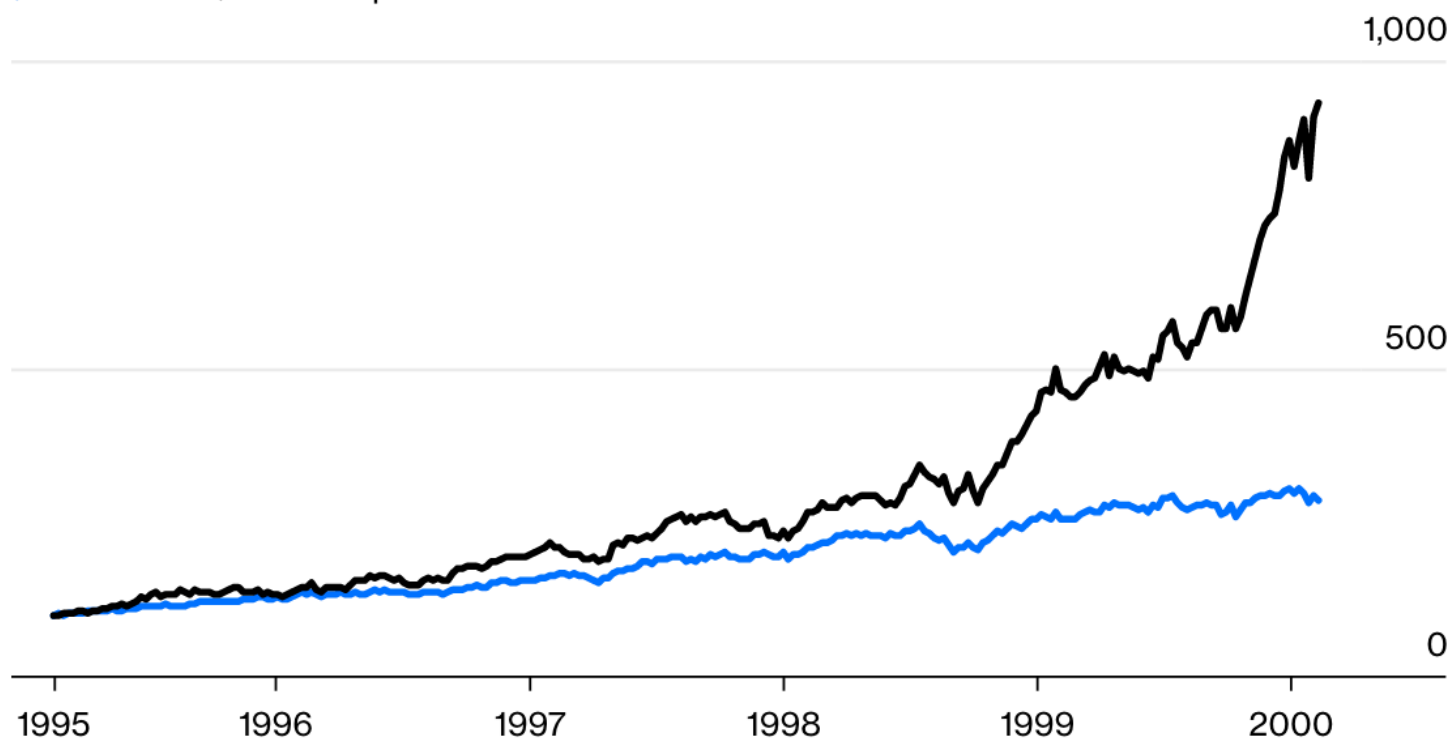
* Credit Score is Equifax Riskscore 3.0

How to Spot a Bubble in Real Time

Notice the Difference?

1995-2000: S&P 500 returns: annual, 25%; five years, 211%. Nasdaq 100 returns: annual, 60%; five years, 946%

— S&P 500 / Nasdaq 100



Source: Bloomberg

1995-2000:

S&P 500:
25% per year
211% over 5 years

Nasdaq 100:
60% per year
946% over 5 years

2015 – 2020

SPX 11.8%/yr
75% over 5 years

NDX 17.6%/yr
125% over 5 years

How to Spot a Bubble in Real Time

1. Standard Deviations of Valuation
2. Significantly elevated returns
3. Excess leverage
4. New financial products
5. Expansion of Credit
6. Trading Volumes Spike
7. Perverse Incentives
8. Tortured rationalizations
9. Unintended Consequences
10. Employment trends

How Bubblicious is the market today?

a) Congratulations! Its a Bubble!

Hard to see elements of a bubble

b) Pockets of froth + speculation

Yes, but there always are

c) Nothing to worry about — its all good!

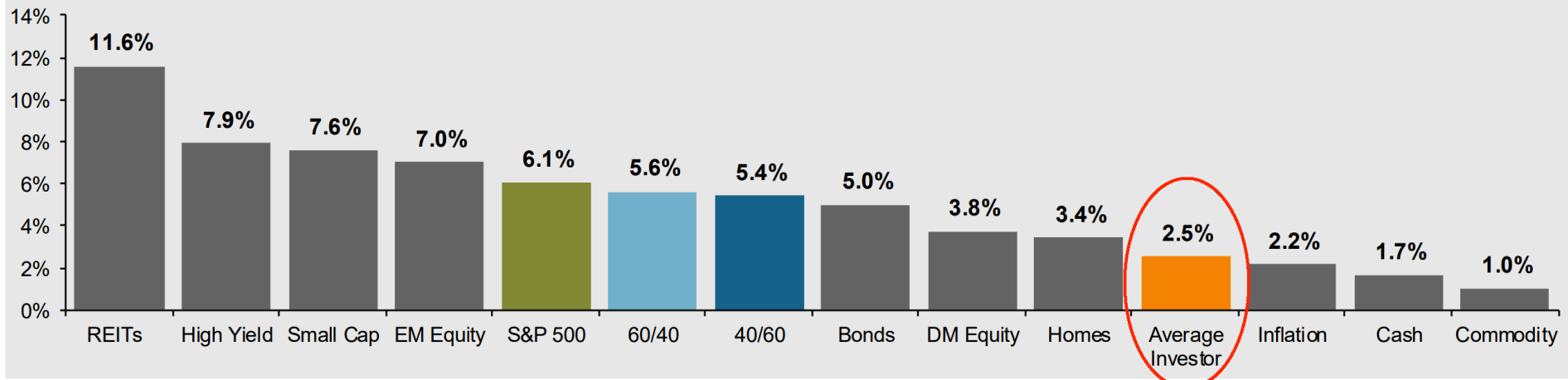
Always a wrong answer

d) No one can identify a bubble in real time.

Identifying and acting on are two very different things

One Final Thought

20-year annualized returns by asset class (1999 – 2019)





Barry L. Ritholtz

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