



The problem with index funds

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

“Most people get interested in stocks when everyone else is. The time to get interested is when no one else is. You can't buy what is popular and do well.”

Warren Buffett

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

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

- 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)



ADVISOR 2019 SYMPOSIUM

**Fashion Island Hotel
Newport Beach, California**

March 11-13 2019

How Do the Largest Holdings of Index Funds Impact Performance?

“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%

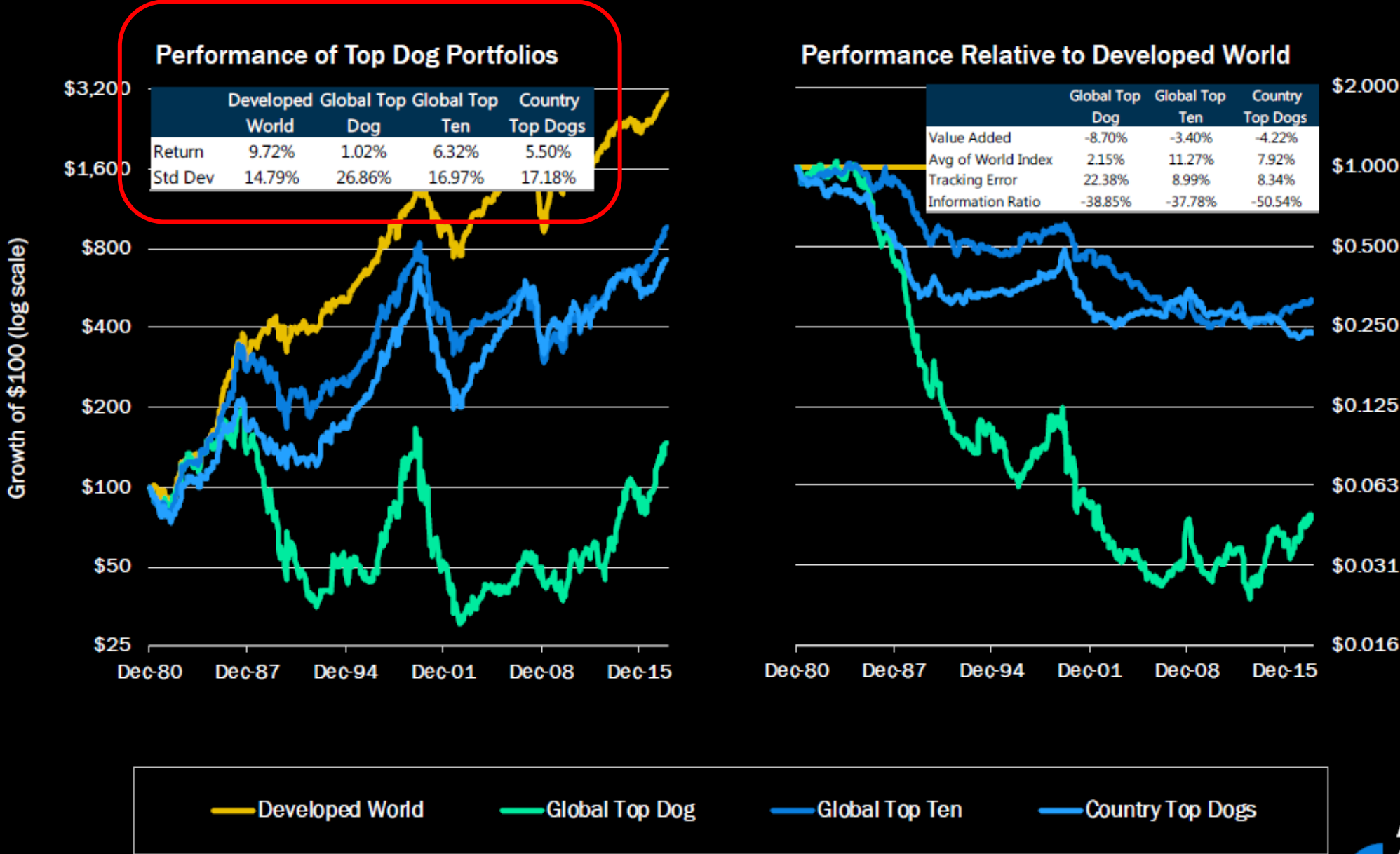
“Top Dogs” Vanish Because They Underperform!

- 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!

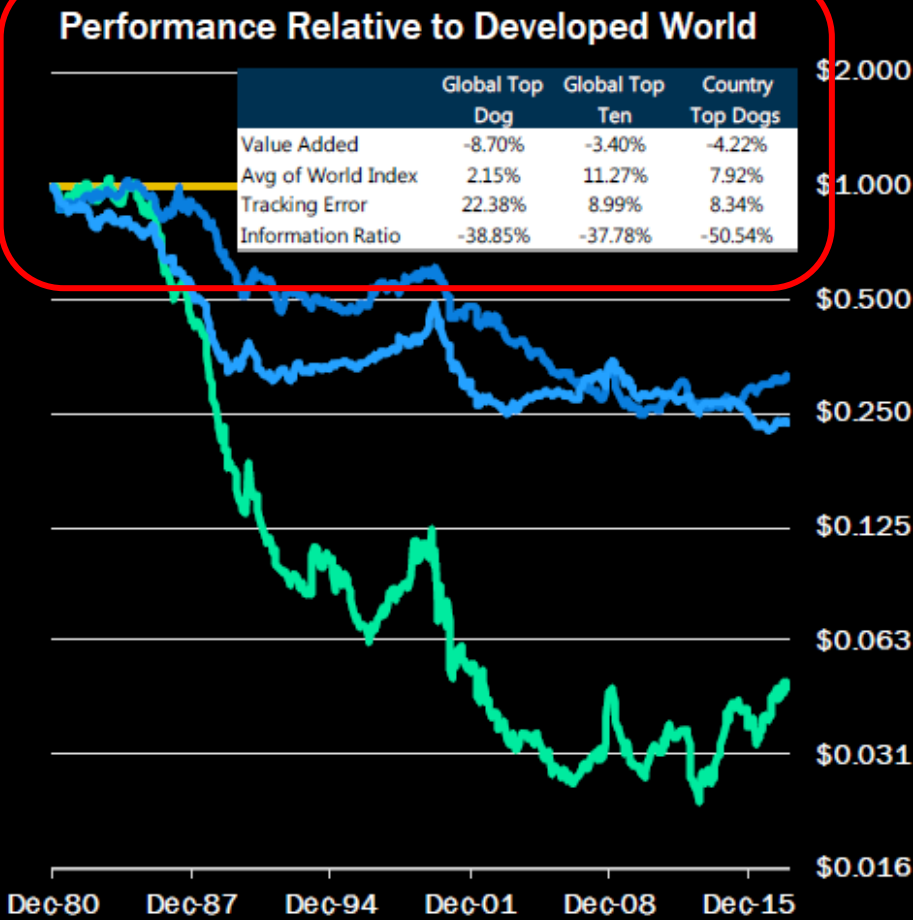
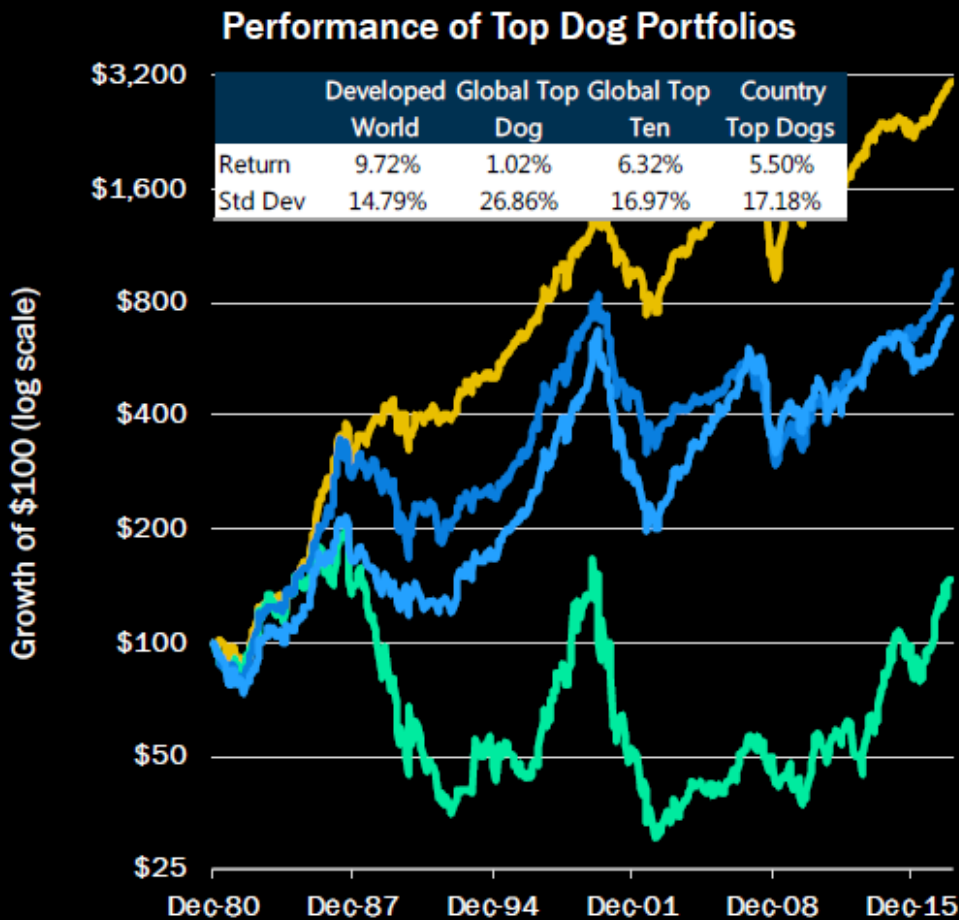
Performance of Largest Market Cap Stocks, 1982–2011

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%

Portfolios of “Top Dogs” Underperform the Market



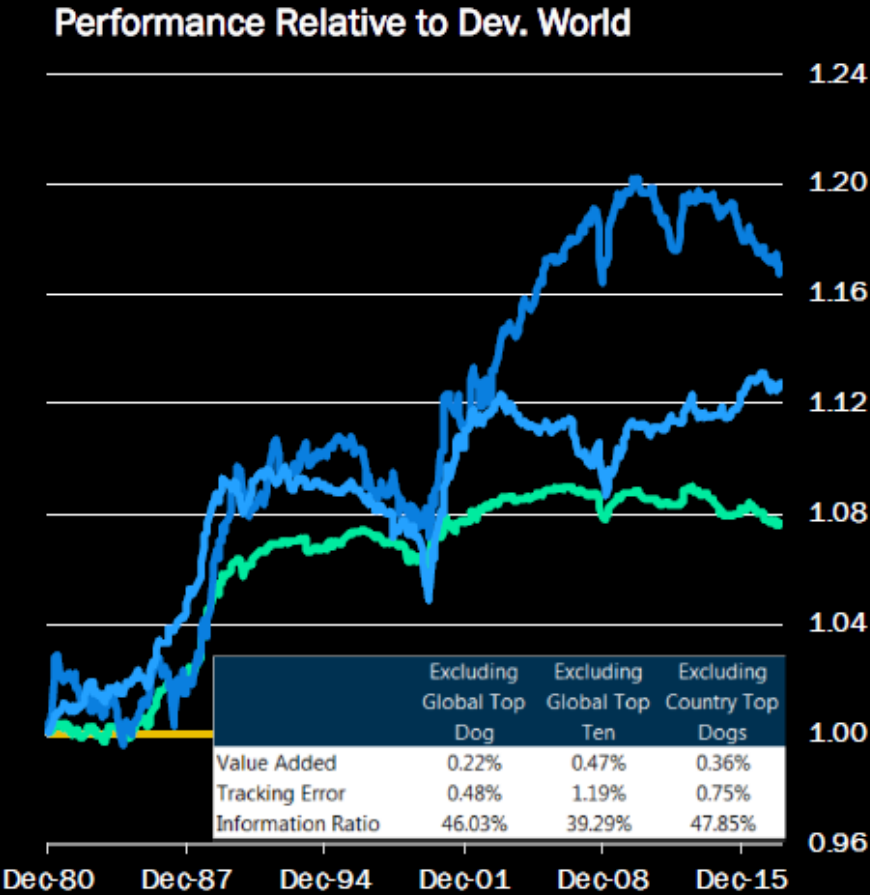
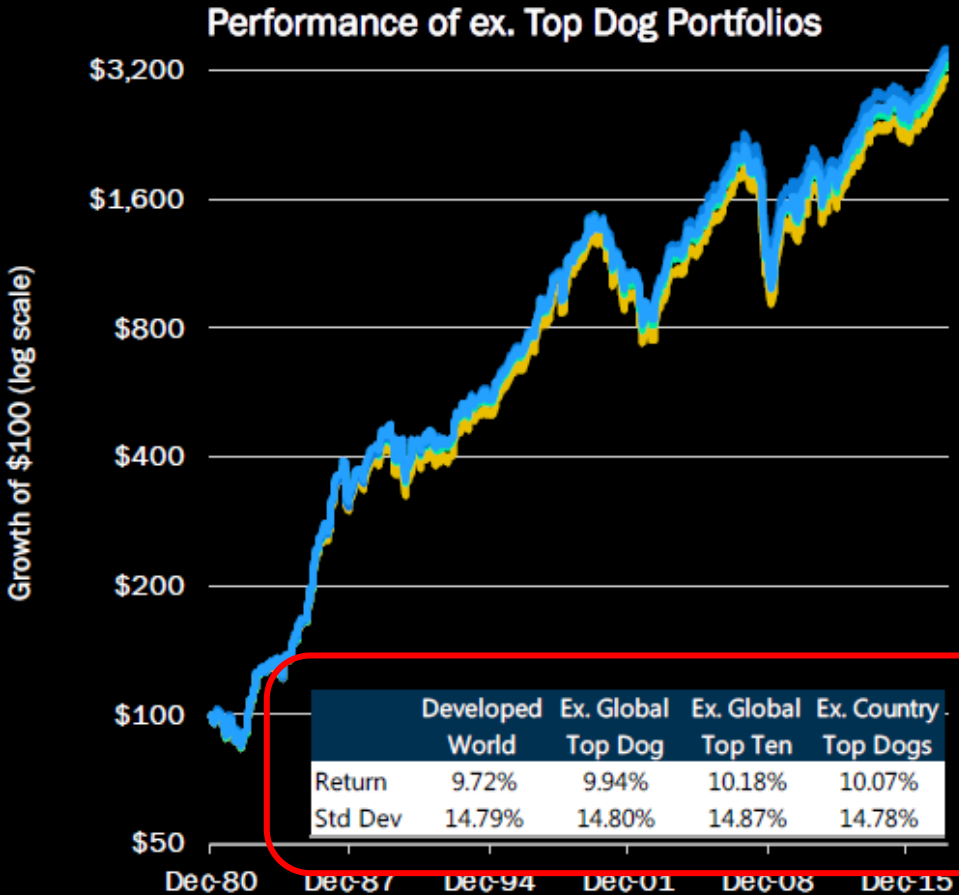
Portfolios of “Top Dogs” Underperform the Market



— Developed World — Global Top Dog — Global Top Ten — Country Top Dogs

Just take out the big names and outperform

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



— Developed World — World ex Global Top Dog — World ex Global Top Ten — World ex Country Top Dogs

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



RESEARCH

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

Jun 17, 2020

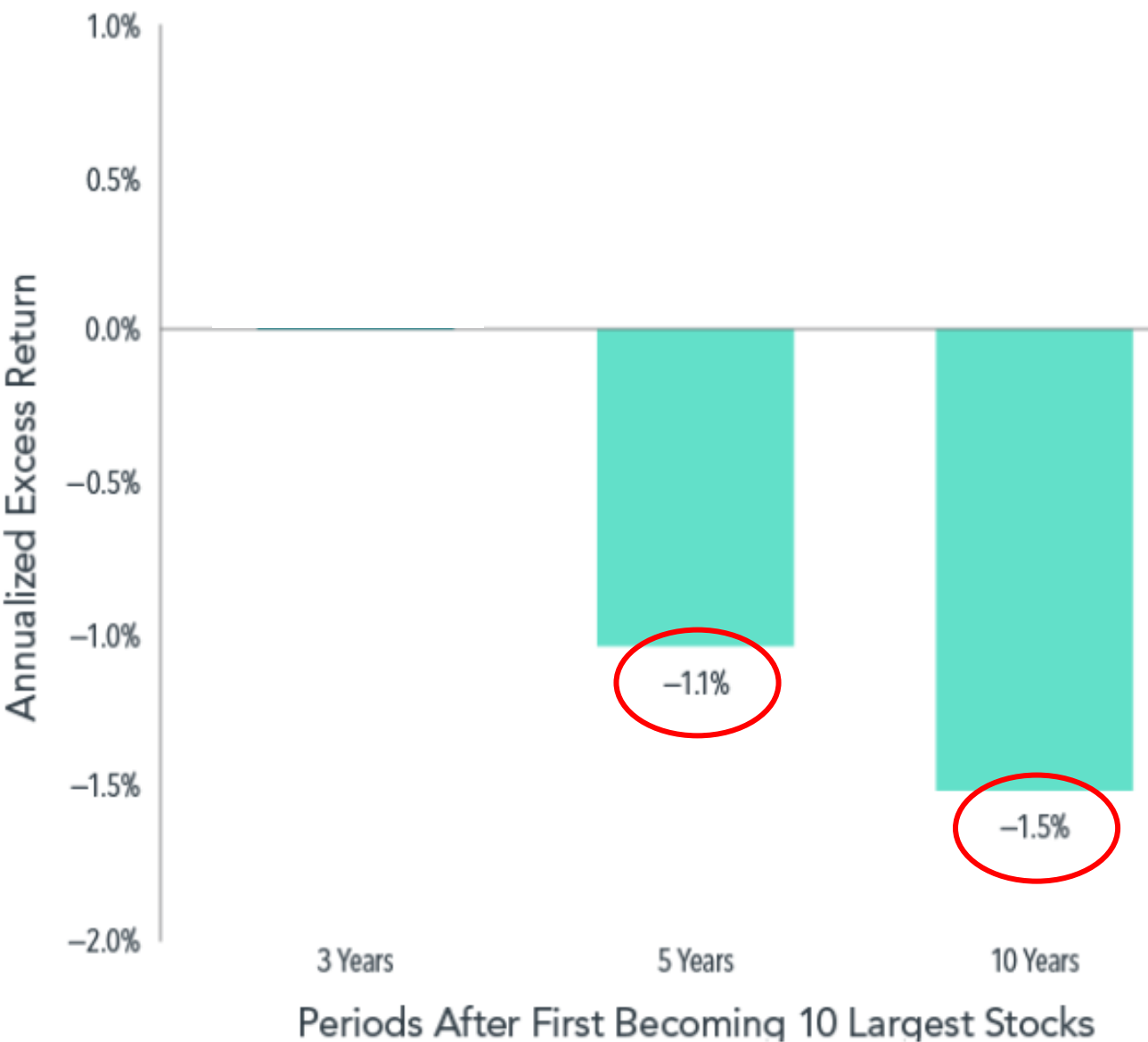
A top-heavy stock market with the largest 10 stocks accounting for over 20% of market capitalization and a marquee technology firm perched at No. 1? This sounds like a description of the current US stock market, dominated by Apple and the other FAANG prospects

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.

Largest ten U.S. stocks at the start of each decade (companies ranked by market capitalization, size)

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
1930	1940	1950	1960	1970	1980	1990	2000	2010	2020

Easiest way to beat a large-cap or all-cap index

- Just leave out the ten or twelve largest names
- Add a healthy dose of patience
- Reap the rewards

Industry sector overweighting and excessive dominance

Sometimes (like now) . . .

. . . a single industry dominates the index, creating imbalance and over-valuation

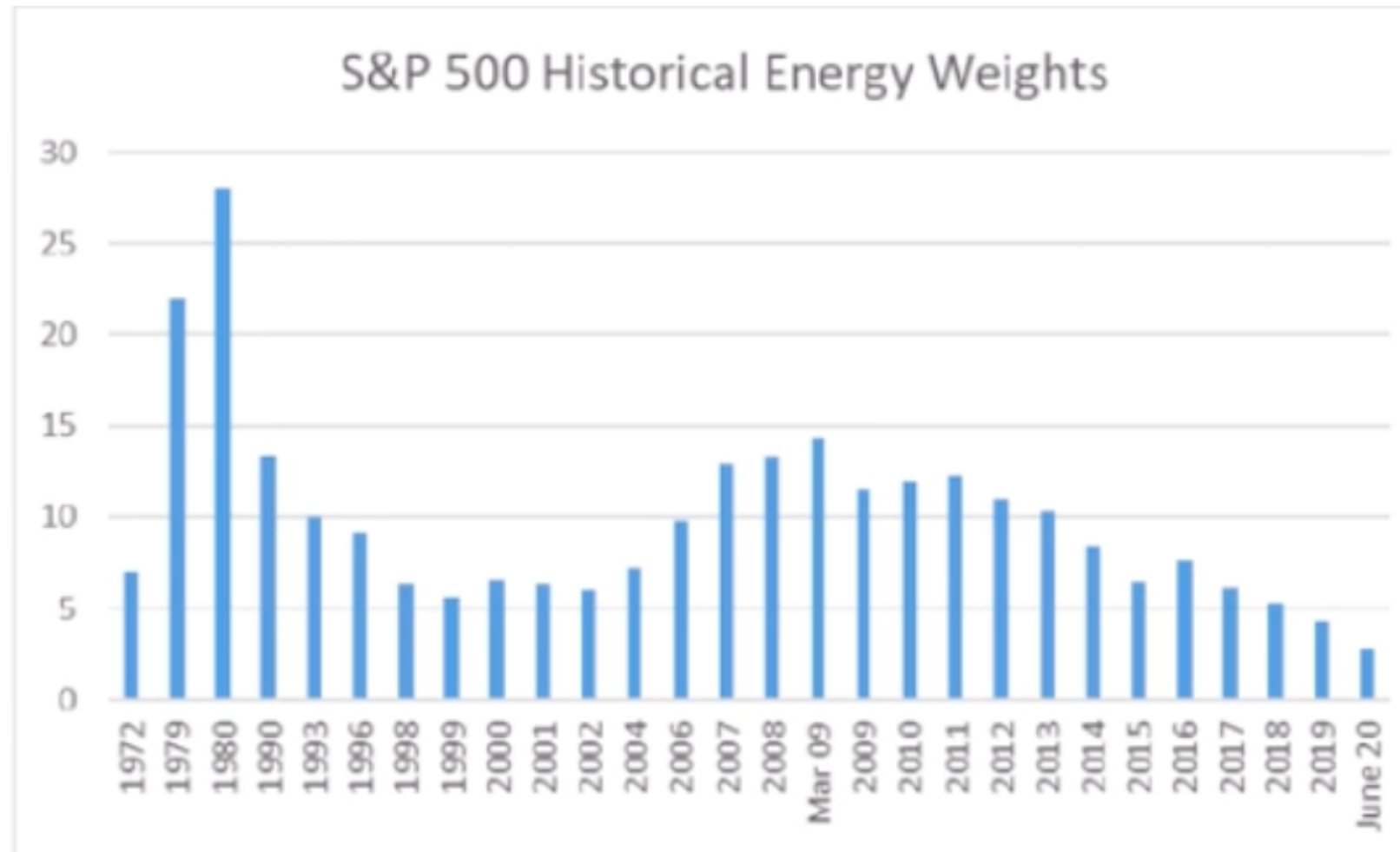
This undiversifying happens over a very extended period of time and, because of that, this phenomenon hasn't been studied – but in our case, that time is now. The S&P 500 is now a concentrated portfolio, and has undone the logic of its original purpose and is not diversified at all. The top five companies,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

- Periodically a problem
- Today . . . It is a serious problem with Technology
- Previously . . . It was a serious problem with Financials . . . back in Oct 2007
- Before that . . . It was a genuine problem with Energy . . . back in Nov 1980
 - 28.5% back in 1980
 - 2.5% today

Again, believe it or not, energy companies comprised seven of the top 10 market capitalization equities at the end of 1980.

The energy over- and underweights

Thus, an S&P 500 Index investor would have been very top-heavy in energy in 1980, with this weighting slowly coming down over time.



(Source: S&P Global, Bloomberg, Horizon Kinetic)

INVEST AHEAD ▶▶

The S&P 500 is really the S&P 5. Big tech dominates the index



By Paul R. La Monica, CNN Business

Updated 6:58 AM ET, Tue February 11, 2020

- 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

Is the rise of technology anything new?

- This is so seriously old hat
- Seen this story . . . time and time again
- For over 150 years
- Following the exact same script as with prior evolutionally developments
- Boring . . . and dangerous

And Apple is one of the “cheap” technology stocks

previous set of published articles that shows how lofty the valuation multiples are on Apple shares.



Salesforce is more representative of today's technology stocks

Salesforce.com is in the same position, with its absolute and relative valuation ratios off the proverbial charts.

Valuation

Calendar	2013	2014	2015	2016	2017	2018	2019	Current	5-Yr	Index
	315.14									
Price/Sales	8.67	7.21	8.13	5.97	7.48	8.41	8.39	13.00	8.05	2.33
Price/Earnings	—	—	—	236.07	—	147.28	178.73	110.53	315.14	24.75
Price/Cash Flow	6.81	32.87	34.50	25.29	31.00	33.64	33.00	59.74	31.75	14.32
Price/Book	1.30	9.87	10.96	7.01	8.35	7.13	4.33	6.48	8.11	3.36
Price/Forward Earnings	—	769.23	138.89	54.35	58.82	49.51	52.36	91.74	71.82	—
PEG Ratio	4.11	41.30	4.63	1.98	1.96	2.48	2.77	4.61	2.79	—
Earnings Yield %	0.40	-0.88	-0.17	0.42	0.00	0.68	0.56	0.90	0.28	—
Enterprise Value (Bil)	5.03	38.85	52.76	49.01	72.80	105.72	143.83	245.53	90.84	—
Enterprise Value/EBIT	—	—	622.02	380.40	404.16	119.86	116.18	1,687.58	535.99	—
Enterprise Value/EBITDA	7.32	160.84	88.44	68.81	78.63	60.12	48.02	105.20	72.31	—

“What were you thinking?”

As a reminder, and I have used this quote in my writing lately, remember what Scott McNealy, the former CEO of Sun Microsystems said about his company trading at a 10x revenue multiple at the peak of the dot-com bubble era.

At 10 times revenues, to give you a 10-year payback, I have to pay you 100% of revenues for 10 straight years in dividends. That assumes I can get that by my shareholders. That assumes I have zero cost of goods sold, which is very hard for a computer company. That assumes zero expenses, which is really hard with 39,000 employees. That assumes I pay no taxes, which is very hard. And that assumes you pay no taxes on your dividends, which is kind of illegal. And that assumes with zero R&D for the next 10 years, I can maintain the current revenue run rate. Now, having done that, would any of you like to buy my stock at \$64? Do you realize how ridiculous those basic assumptions are? You don't need any transparency. You don't need any footnotes. What were you thinking?

- Exxon Mobil Exit From Dow Reveals S&P 500 Index Structural Flaws

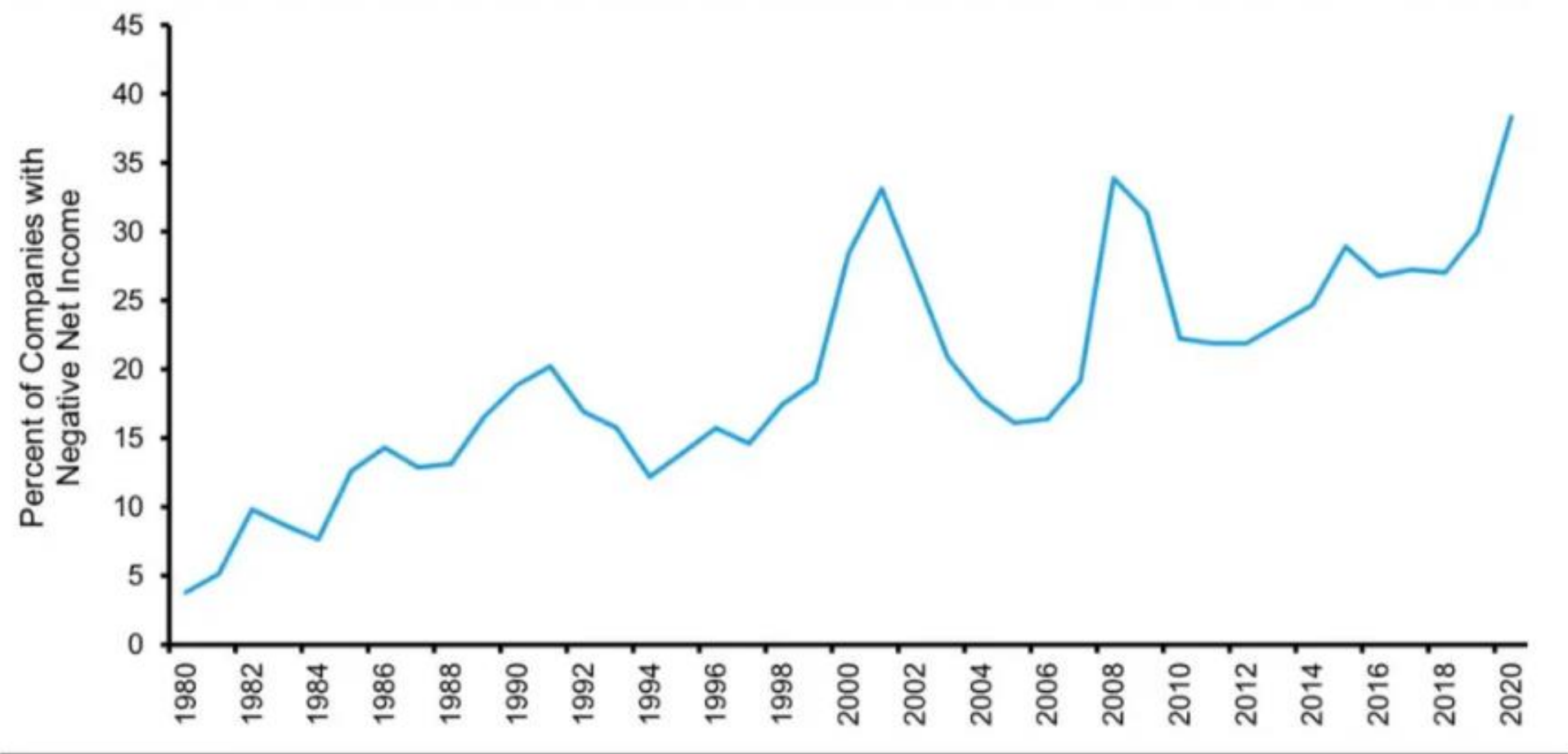
- <https://seekingalpha.com/article/4371418-exxon-mobil-exit-from-dow-reveals-s-and-p-500-index-structural-flaws>

Zombies

This was not a problem in the past

This is a serious, mega problem today

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

- 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

Bear markets

They can be partially mitigated . . . So why not just do it

The problem with behavioral knockout risk

Right now, at this particular juncture in the financial markets, we find ourselves embroiled in a historic euphoria, where in-favor stocks have been bid to prohibitively expensive valuations, that's going to lead to subpar returns for buy-and-hold investors for many years.

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

	Cumulative percentage return, unannualized	Duration in years	Start date	End date	Volatility, annualized standard deviation of monthly returns	Percentage of monthly returns that were POSITIVE	Annualized return during BEAR market
	-30	1.25	Aug 1853	Nov 1854	27.6	27	-25.1
	-31	0.83	Dec 1856	Oct 1857	19.2	10	-36.4
	-35	0.67	Jul 1864	Mar 1865	32.4	38	-47.1
	-32	1.25	Mar 1876	Jun 1877	7.8	7	-26.2
	-37	1.17	Sep 1906	Nov 1907	13.8	14	-32.7
	-27	2.00	Oct 1912	Oct 1914	11.0	38	-14.8
	-48	4.08	Nov 1916	Dec 1920	15.9	41	-14.8
	-79	2.75	Aug 1929	May 1932	37.3	36	-43.7
	-50	1.08	Feb 1937	Mar 1938	31.6	23	-47.1
	-39	2.58	Sep 1939	Apr 1942	19.3	42	-17.3
	-37	1.75	May 1946	Feb 1948	14.5	29	-23.4
	-35	1.58	Nov 1968	Jun 1970	14.8	26	-24.1
	-52	1.75	Dec 1972	Sep 1974	15.2	14	-34.2
	-30	0.25	Aug 1987	Nov 1987	33.9	0	-76.3
	-47	2.08	Aug 2000	Sep 2002	17.8	36	-26.4
	-52	1.33	Oct 2007	Feb 2009	19.2	25	-42.1
Median BEAR market	-37	1.46			18.5	26	-29.6
Mean BEAR market	-41	1.65			20.7	25	-33.2

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

Cumulative percentage return, unannualized	Duration in years	Start date	End date	Volatility, annualized standard deviation of monthly returns	Percentage of monthly returns that were POSITIVE	Annualized return during BEAR market
-30	1.25	Aug 1853	Nov 1854	27.6	27	-25.1
-31	0.83	Dec 1856	Oct 1857	19.2	10	-36.4
-35	0.67	Jul 1864	Mar 1865	32.4	38	-47.1
-32	1.25	Mar 1876	Jun 1877	7.8	7	-26.2
-37	1.17	Sep 1906	Nov 1907	13.8	14	-32.7
-27	2.00	Oct 1912	Oct 1914	11.0	38	-14.8
-48	4.08	Nov 1916	Dec 1920	15.9	41	-14.8
-79	2.75	Aug 1929	May 1932	37.3	36	-43.7
-50	1.08	Feb 1937	Mar 1938	31.6	23	-47.1
-39	2.58	Sep 1939	Apr 1942	19.3	42	-17.3
-37	1.75	May 1946	Feb 1948	14.5	29	-23.4
-35	1.58	Nov 1968	Jun 1970	14.8	26	-24.1
-52	1.75	Dec 1972	Sep 1974	15.2	14	-34.2
-30	0.25	Aug 1987	Nov 1987	33.9	0	-76.3
-47	2.08	Aug 2000	Sep 2002	17.8	36	-26.4
-52	1.33	Oct 2007	Feb 2009	19.2	25	-42.1
Median BEAR market	-37	1.46		18.5	26	-29.6
Mean BEAR market	-41	1.65		20.7	25	-33.2

Index funds maximize your exposure to bear markets

- Do you want to maximize your exposure to the next bear market
- Will the next bear market be “AVERAGE”
 - If so
 - It will fall -41%
 - It will last 1.65 years
- You can't avoid a bear market
- No one has that type of crystal ball
- BUT . . . Tactical asset allocation is likely to mitigate a useful portion of the next bear

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

For more information contact



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



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

The shoe store versus the doctor's office
(are you selling performance and product or
process and people?)

Friday the 17th

All data and statistics were provided by Global Financial Data, Inc. on September 2, 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.