

# April 2020

It should be clear to anyone that has read our recent Worth Sharings that we believe the panic lows seen in March, on the 23rd for the S&P 500, will hold, and have responded accordingly. Most of what follows provides context, and some touches on our longer term concerns:

From Morningstar:

## **Almost Nobody Knew**

The bear market that arrived in silence.

**John Rekenhaller**

Apr 7, 2020

### **Inefficient Markets?**

I was corresponding with several friends who own defined-contribution accounts, but who don't closely follow the financial markets. They were perplexed by my comment that the Dow Jones Industrial Average had posted its record high on Feb. 12. By that date, China had recorded 70,000 COVID-19 cases, and the disease had reached the United States. How could stocks rise, even as a pandemic approached?

Their answer: Investors are idiots. By mid-February, they maintained, informed observers understood that the U.S.-- and other developed nations--would order lockdowns to control the spread of the coronavirus, and that such actions would wreak economic havoc. Apparently, though, none of those intelligent onlookers owned stocks. Only the dummies did.

Call that the anti-efficient market hypothesis, or AEMH. Per their claim, the financial markets are not all-knowing. Nor do mutual fund managers suffer from the paradox of skill. Quite the contrary. The reason that most equity funds trail the averages is not because competition is too fierce. It is instead because investment managers are dunces.

### **The Academic Response**

I informed them they had it backwards. Stock prices are a certain indicator of what people understood at the time. Had there been any sizable recognition that the coronavirus would lead to mass business shutdowns one month later, that knowledge would have made its way to shareholders, and equities would have traded lower. That U.S. stocks were instead at record highs showed that my friends had used hindsight bias.

This did not convince them. They pointed out that no matter what evidence they furnished to demonstrate that the coronavirus crisis should have been foreseen, I would brandish my stock-market indicator, to "prove" that they were mistaken. When I responded that this was not solely my personal belief, being the consensus among finance professors, they laughed. So ended the conversation.

No question, my friends' memories were flawed. In mid-February, the coronavirus had affected only scattered Chinese cities. Japan and Korea, now regarded as the economic coal mine's canaries, each had only a handful of cases. The first Italian death would not occur for another 10 days. Events have moved so quickly that it is difficult to recall how different things were less than two months ago.

Nonetheless, their contention was worth considering. Had I argued unfairly? It is after all highly convenient to claim that because equity prices reflect all available information, the rest cannot be known. I set my previous answer aside and considered the topic afresh.

### **Caught by Surprise**

Institutional investors, and those who serve them, are paid to investigate the smallest of investment issues. For example, the first entry for a Google search on “investment research 2014” is “[The World Cup and Equity Markets](#),” by Goldman Sachs. If that is not technically the smallest of investment issues, then it surely must be close.

Yet before the largest stock market decline in more than a decade, Goldman seems to have been silent. I could find no publication from the company about the coronavirus until Feb. 28, by which time the S&P 500 had already dropped by 11%. That article’s title, “[2020’s Black Swan: Coronavirus](#)”, suggests the company’s mindset. A black swan cannot be anticipated. The implicit message is not to blame Goldman for being unable to forecast the unforecastable.

Apparently, one should not blame other research firms, either. Mainstream researchers (including Morningstar) almost entirely missed the looming problem. There were a few outliers. Hedge-fund manager Bill Ackman, (in)famous for his short of Herbalife ([HLF](#)), was the most notable, allegedly making a [10,000% profit](#) by betting that corporate credit yield spreads would widen. Another hedge fund, Valiant Capital, [also anticipated](#) the chaos. Several bloggers [sounded the alarm, too](#).

Their knowledge helped retail investors not a whit, because those people don’t run registered funds. Neither could institutional investors easily profit. Bill Ackman’s recent trades have benefited his Pershing Square Fund handsomely, and his fund also boomed last year. But it [lost money](#) in 2018, 2017, 2016, and 2015. How could institutions have known in advance that this would be his year?

### **Like No Other**

I do not think that they could. Nor, I believe, could they be expected to have recognized this bear market. The New Era’s technology-stock crash was widely expected, albeit for several years before it occurred. The 2008 global financial crisis was less anticipated, but there certainly were more skeptics than portrayed in “[The Big Short](#).” By summer 2008, warnings that real estate problems might jeopardize equity valuations were rife.

Even 1987’s crash, based on fears of a recession that never materialized, approached more noisily. There was a looming sense among investors, fed by the business press, that the stock market rebound had come too far, too fast, particularly as it was accompanied by rising interest rates. To be sure, few investment managers dodged Black Monday, but more than in 2020, including some mutual funds.

The problem is, the cause of this downturn looks like no other within memory. The last U.S. stock market decline that was associated with a disease occurred in 1920, and it’s debatable whether the Spanish flu had much to do with that outcome, since stocks rose during 1918, when the virus was at its deadliest. Investors have learned over the decades to fear inflation, recession, and speculative bubbles. Until now, they did not learn to fear infections.

Could the economic damage from the coronavirus have been predicted? Sure. Some investors did just that. Unfortunately for those attempting to profit from information, though, every year researchers predict dozens of events that never occur, or that do happen but have trivial investment consequences (for example, the Ebola

virus hitting American shores). The better question is, should investors have recognized that, after many false alarms, the bear was indeed at the door?

No, I do not believe that they should have. Whether stocks were too expensive in mid-February, given this late stage of the economic cycle, can be debated. However, I do not think that they foolishly discounted the threat posed by the coronavirus. They were wrong, but rationally wrong. ...

## What Prior Market Crashes Can Teach Us About Navigating the Current One

The regularity of market crashes is a reminder that patience is key to investing in equity markets.

Paul D. Kaplan | Apr 16, 2020

The circumstances of the current market crash might be unique to the coronavirus pandemic, but they lead investors to wonder: Are such drops normal for equity markets, or is this different?

During the global financial crisis of 2007–09, some observers described the events that unfolded as a “black swan,” meaning a unique negative event that couldn’t be foreseen because nothing similar had happened before. But the data I’d seen from Ibbotson Associates, a firm that specialized in collecting historical market returns (and which Morningstar acquired in 2006 and merged into Morningstar Investment Management LLC in 2016), demonstrated a long history of market crashes. Some ended up being part of a larger financial crisis.

So, if these “black swan events” happen somewhat regularly—too frequently to render them true black swan events—then what are they? They’re more like “black turkeys,” according to Laurence B. Siegel, the first employee of Ibbotson Associates and now director of research for the CFA Institute Research Foundation. In a 2010 article for the *Financial Analysts Journal*, he described a black turkey as “an event that is everywhere in the data—it happens all the time—but to which one is willfully blind.”

Here, I take a look at past market declines to see how the current coronavirus-caused market crisis compares.

### How Frequent Are Market Crashes?

The overall number of market crashes depends on how far back we go in history and how we identify them.

In this case, I consider market crashes over the past nearly 150 years. The chart below uses real monthly U.S. stock market returns going back to January 1886 and annual returns over the period 1871–85, which I originally compiled for Siegel’s 2009 book, *Insights Into the Global Financial Crisis*. Here, I use the term “bear market” (generally defined as a decline of 20% or more) interchangeably with the term “market crash.”

Each bear-market episode is indicated with a horizontal line, which starts at the episode’s peak cumulative value and ends when the cumulative value recovers to the previous peak.

The chart shows that over this period of almost 150 years, \$1 (in 1870 U.S. dollars) invested in a hypothetical U.S. stock market index in 1871 would have grown to \$15,303 by the end of March 2020.

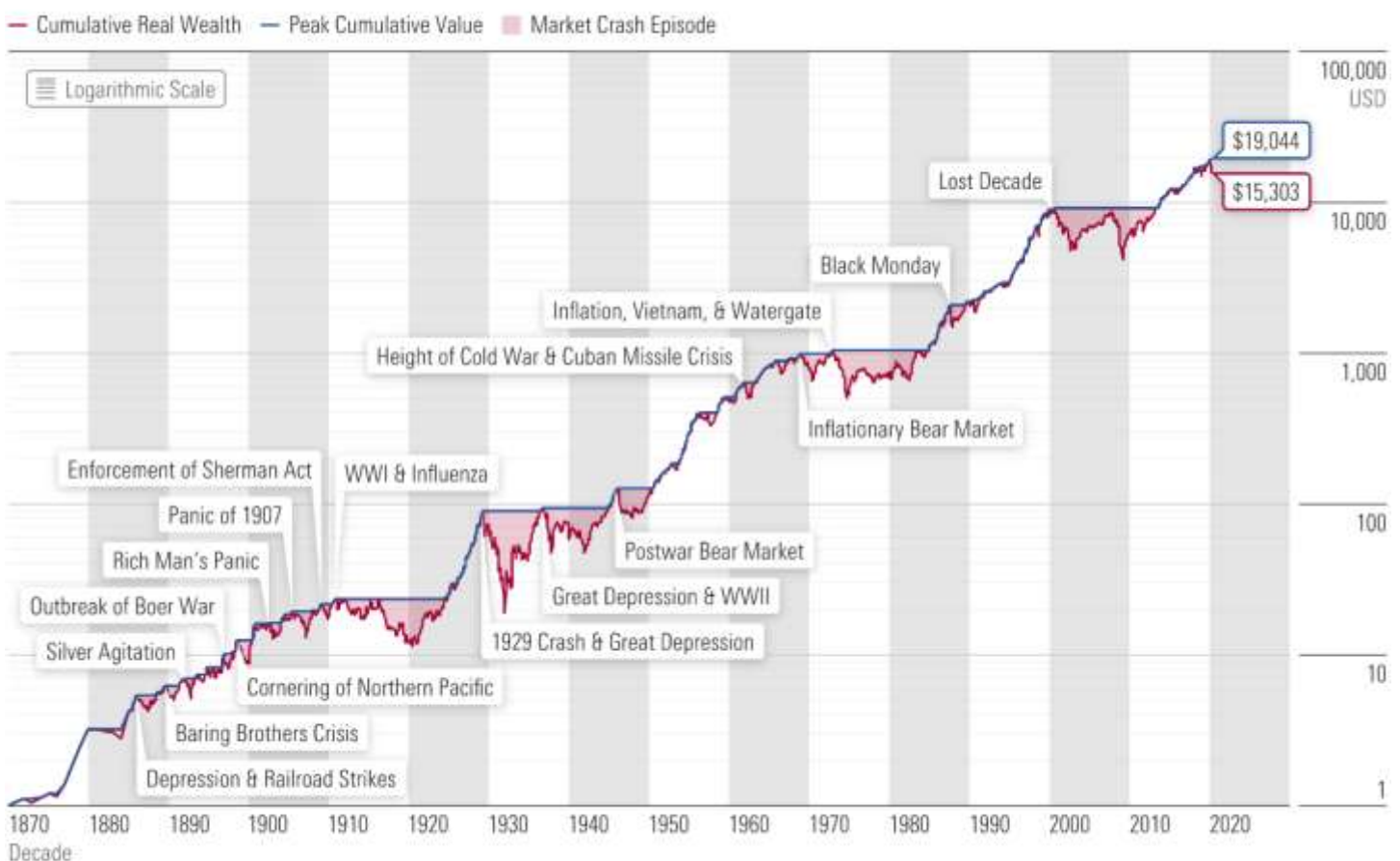
But it wasn't a smooth ride to get there. There were many drops along the way, some of which were severe.

The market always eventually rebounded and went on to new highs, but it may have been hard to believe this during some of the long-term bear markets, including:

- The 79% loss due to the crash of 1929, which led to the Great Depression, the worst drop on the chart.
- The 54% drop from August 2000 to February 2009, also known as the Lost Decade. The second-worst drop on the chart, this period started when the dot-com bubble burst. The market began recovering but not enough to get
- the cumulative value back to its August 2000 level before the crash of 2007-09. It didn't reach that level until May 2013—almost 12 and a half years after the initial crash.
- The 51% drop between June 1911 and December 1920. This market downturn, the fourth-worst on the chart, may be most relevant to today's situation, since it included the influenza pandemic of 1918.

These examples show that market crashes have occurred numerous times throughout the 19th, 20th, and 21st centuries (even before the coronavirus crash). Recognizing their frequency can help provide a better sense of the risks of equity investing.

**Market Crash Timeline: Growth of \$1 and the U.S. Stock Market's Real Peak Values**



Data as of Mar 31, 2020

Sources: Kaplan et al. (2009); Ibbotson (2020); Morningstar Direct; Goetzmann, Ibbotson, and Peng (2000); Pierce (1982); [www.econ.yale.edu/~shiller/data.htm](http://www.econ.yale.edu/~shiller/data.htm).

## Measuring the Pain of Market Crashes

To measure the severity of each market crash in a way that takes into account both the degree of the decline and how long it took to get back to the prior level of cumulative value, I calculated a “pain index” for each one.

The pain index for a given episode is the ratio of the area between the cumulative value line and the peak-to-recovery line, compared with that area for the worst market decline of the past 150 years. So, the crash of 1929/first part of the Great Depression has a pain index of 100%, and the other market crashes' percentages represent how closely they matched that level of severity.

For example, the market suffered a 22.8% drop during the Cuban Missile Crisis. The crash of 1929 led to a 79% drop, which is 3.5 times greater. That's significant, but the market also took four and a half years to recover after that trough, while it took less than a year to recover after the trough of the Cuban Missile Crisis. So, the pain index, considering this time frame, shows that the first part of the Great Depression was actually 28.2 times worse than the Cuban Missile Crisis downturn.

The chart below lists the bear markets for the past nearly 150 years, sorted by the severity of market decline. It also shows the pain index and pain index ranks.

### Largest Real Declines in U.S. Stock Market History

Decline Rank	Decline (%)	Peak	Trough	Recovery	Pain Rank	Pain Index (%)	Event(s)
1	79.00	Aug 1929	May 1932	Nov 1936	1	100.00	1929 Crash & Great Depression
2	54.00	Aug 2000	Feb 2009	May 2013	3	85.51	Lost Decade (Dot-Com Bust & Global Financial Crisis)
3	51.87	Dec 1972	Sep 1974	Jun 1983	4	80.41	Inflation, Vietnam, & Watergate
4	50.96	Jun 1911	Dec 1920	Dec 1924	2	89.34	WWI & Influenza
5	49.93	Feb 1937	Mar 1938	Feb 1945	5	59.57	Great Depression & WWII
6	37.18	May 1946	Feb 1948	Oct 1950	6	29.06	Postwar Bear Market
7	35.54	Nov 1968	Jun 1970	Nov 1972	7	14.22	Inflationary Bear Market
8	34.22	Jan 1906	Oct 1907	Aug 1908	8	8.23	Panic of 1907
9	30.41	Apr 1899	Jun 1900	Mar 1901	9	8.18	Cornering of Northern Pacific Stock
10	30.21	Aug 1987	Nov 1987	Jul 1989	10	7.73	Black Monday
11	27.32	Oct 1892	Jul 1893	Mar 1894	16	3.14	Silver Agitation
12	22.80	Dec 1961	Jun 1962	Apr 1963	14	3.55	Height of Cold War & Cuban Missile Crisis
13	22.04	Nov 1886	Mar 1888	May 1889	11	6.25	Depression & Railroad Strikes
14	21.67	Apr 1903	Sep 1903	Nov 1904	12	5.00	Rich Man's Panic
15	21.13	Aug 1897	Mar 1898	Aug 1898	15	3.20	Outbreak of Boer War
16	20.55	Sep 1909	Jul 1910	Feb 1911	17	3.11	Enforcement of Sherman Antitrust Act
17	20.11	May 1890	Jul 1891	Feb 1892	13	4.80	Baring Brothers Crisis

Sources: Kaplan et al. (2009); Ibbotson (2020); Morningstar Direct; Goetzmann, Ibbotson, and Peng (2000); Pierce (1982); [www.econ.yale.edu/~shiller/data.htm](http://www.econ.yale.edu/~shiller/data.htm)

### A Direct Comparison of the Most Severe Market Crashes

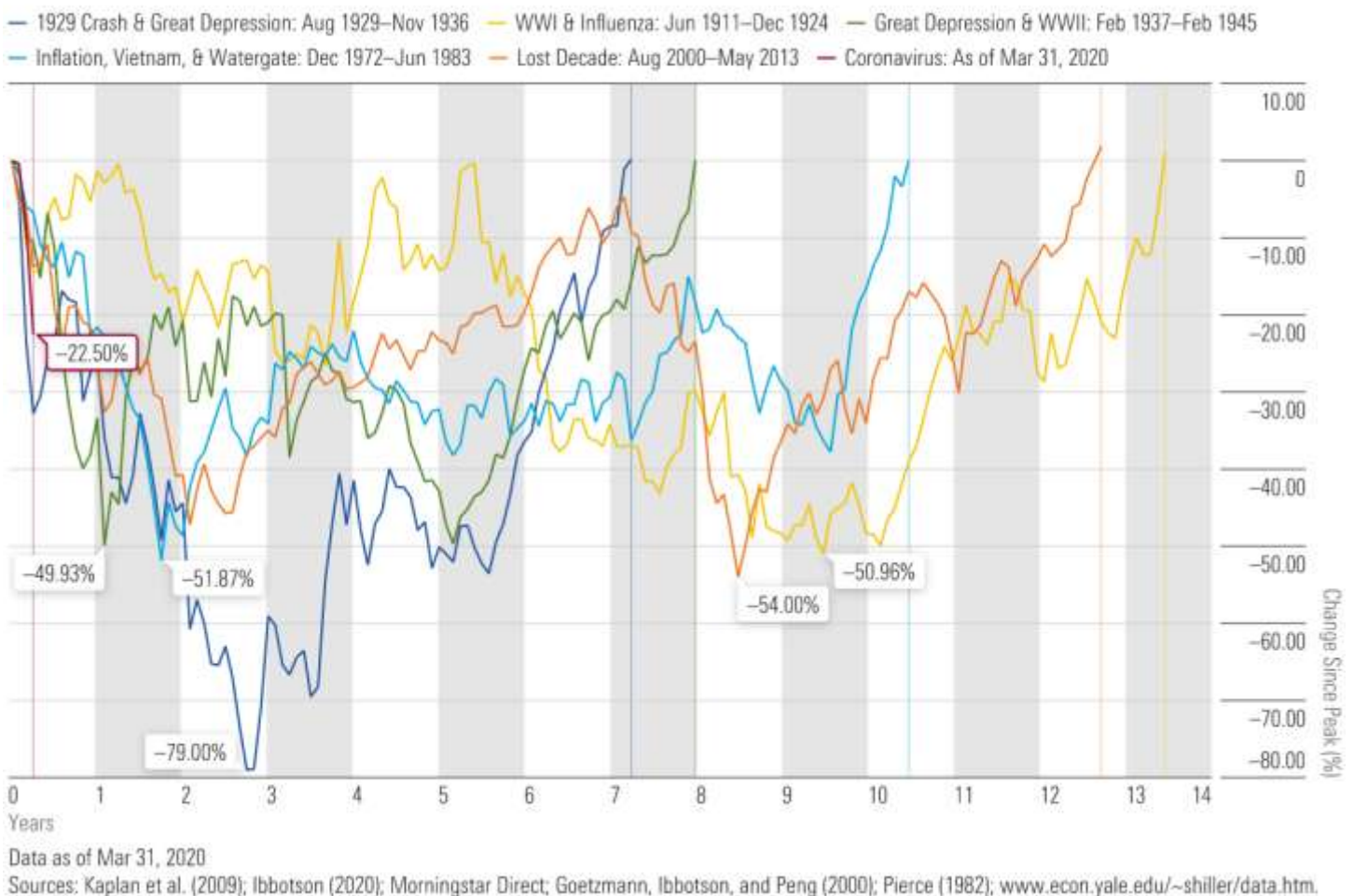
The chart below places the recent stock market sell-off into the context of the five other most severe market crashes to compare their time to recovery.

In terms of steepness, the current decline is serious—it roughly matches the initial sell-off during the crash of 1929. The other most severe episodes include the inflationary bear market during Vietnam/Watergate, the

second half of the Great Depression/World War II, the Lost Decade, and the World War I/influenza pandemic downturn that I previously mentioned.

Naturally, there's a lot of variation in the length and severity of each episode. These five market crashes had an average of 57 months between when the decline began and when the market hit its trough, 125 months between when the decline began and when the market reached its previous peak, and a 57.15% decline. And in addition to these episodes, there were also 12 other bear markets over the 150-year period. Overall, bear markets have occurred roughly every nine years.

**The 2020 Coronavirus Sell-Off: How It Compares to U.S. Stock Market Performance in the 5 Most Severe Bear Markets Since 1871**



It's impossible to know how long this particular decline will last and how long the recovery will take, but these averages make it easier to understand how many times the sky also seemed to be falling over the past nearly 150 years—frequently for longer periods of time—and that the market did always eventually recover its value, and then some.

This pattern is also present around the world. For instance, in Canada, there has been a market decline about once every seven years over the past 64 years. The nuances vary—Canada's average time to recovery is about 34 months—but the overall trend of regular market crashes and subsequent recoveries is similar.

### **With Risks Come Rewards for Patient Investors in Equity Markets**

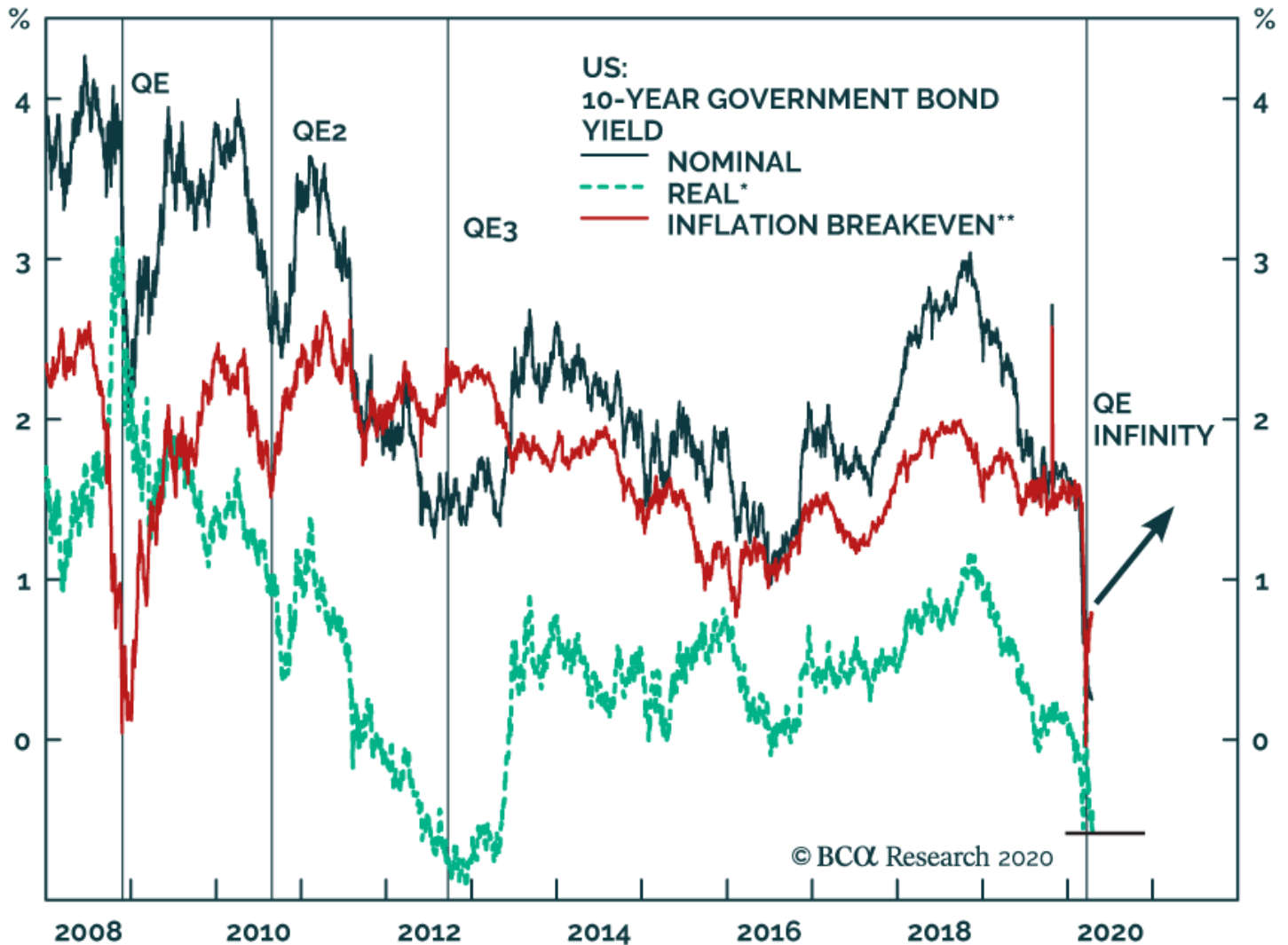
This historical stock market return data provides clear evidence that market crashes aren't as unique as one might have thought. ... and today's coronavirus-caused crash is only the most recent example.

Given what this data shows about the regularity of market declines, it's clear that market risk is about more than volatility. Market risk also includes the possibility of depressed markets and extreme events.

These events can be frightening in the short term, but this analysis shows that for investors who can stay in the market for the long run, equity markets still continue to provide rewards for taking these risks.

From BCA Research | Daily Insights on 4/20:

## Inflation Expectations Will Drive Yields



\* 10-YEAR TIPS YIELD.

\*\* 10-YEAR NOMINAL BOND YIELD MINUS 10-YEAR TIPS YIELD.

NOTE: VERTICAL LINES DENOTE QE ANNOUNCEMENT DATES.

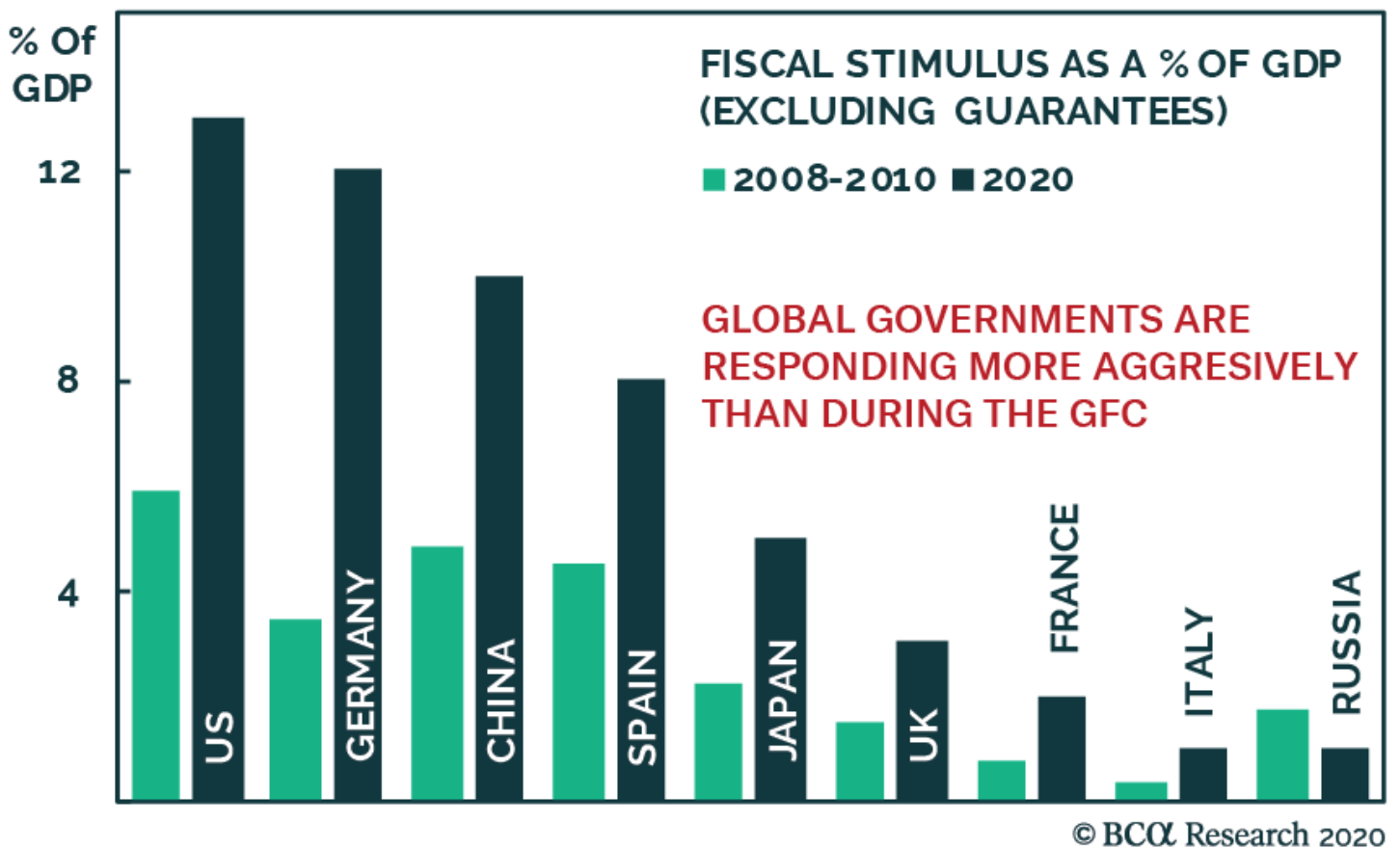
It is easy to expect US yields to remain at rock bottom levels for the next 12 to 24 months. The Fed is engaging in an exceptionally large QE program. Realized inflation will fall this year as a gargantuan output gap will re-open on the back of an enormous GDP contraction. The dollar has surged, especially against EM currencies, which imparts a deflationary impulse to the US economy. These forces also guarantee that the Fed will not hike rates for an extended period.

Despite this accommodative policy backdrop, yields can still rise over the coming 12 months. After the GFC, real interest rates fell as investors digested the reality that US rates would remain at zero for a long time. Yet, in 2009, 10-year Treasury yields rose sharply as inflation breakevens increased more than TIPS yields declined. If the Fed is providing enough liquidity to sustain well-functioning markets, such dynamics can repeat themselves. A lower dollar will also be a key ingredient / ratifying indicator for a durable rebound in inflation breakevens. A lower dollar will confirm that the Fed is providing enough liquidity to satiate dollar demand, and it will favor risk-taking around the world. A lower dollar will moreover boost commodity prices and help realized inflation increase down the line.

Bottom Line: Treasury yields can rise despite a very easy Fed. If the Fed is successful at supporting the economy and provides enough liquidity to allow markets to function properly, then inflation expectations will rise, which will weigh on Treasury prices. ...

on 4/22:

## The Growing Flood Of Fiscal Spending



NOTE: LOAN GUARANTEES ARE EXCLUDED IF THERE IS A SPECIFIC AMOUNT IN THE NEWS.

SOURCE: VARIOUS NEWS AGENCIES, BROOKINGS, IMF AND BCA CALCULATIONS.

The global economy is furiously weak, but politicians around the world are not seating idly by. The flood of stimulus unleashed over the course of the past two months dwarves the fiscal easing that followed the GFC. European governments are much more aggressive than they were 11 years ago, although France and Italy still lag well behind the US. Even Germany, a bastion of fiscal rectitude, has opened its purse nearly as much as the US.

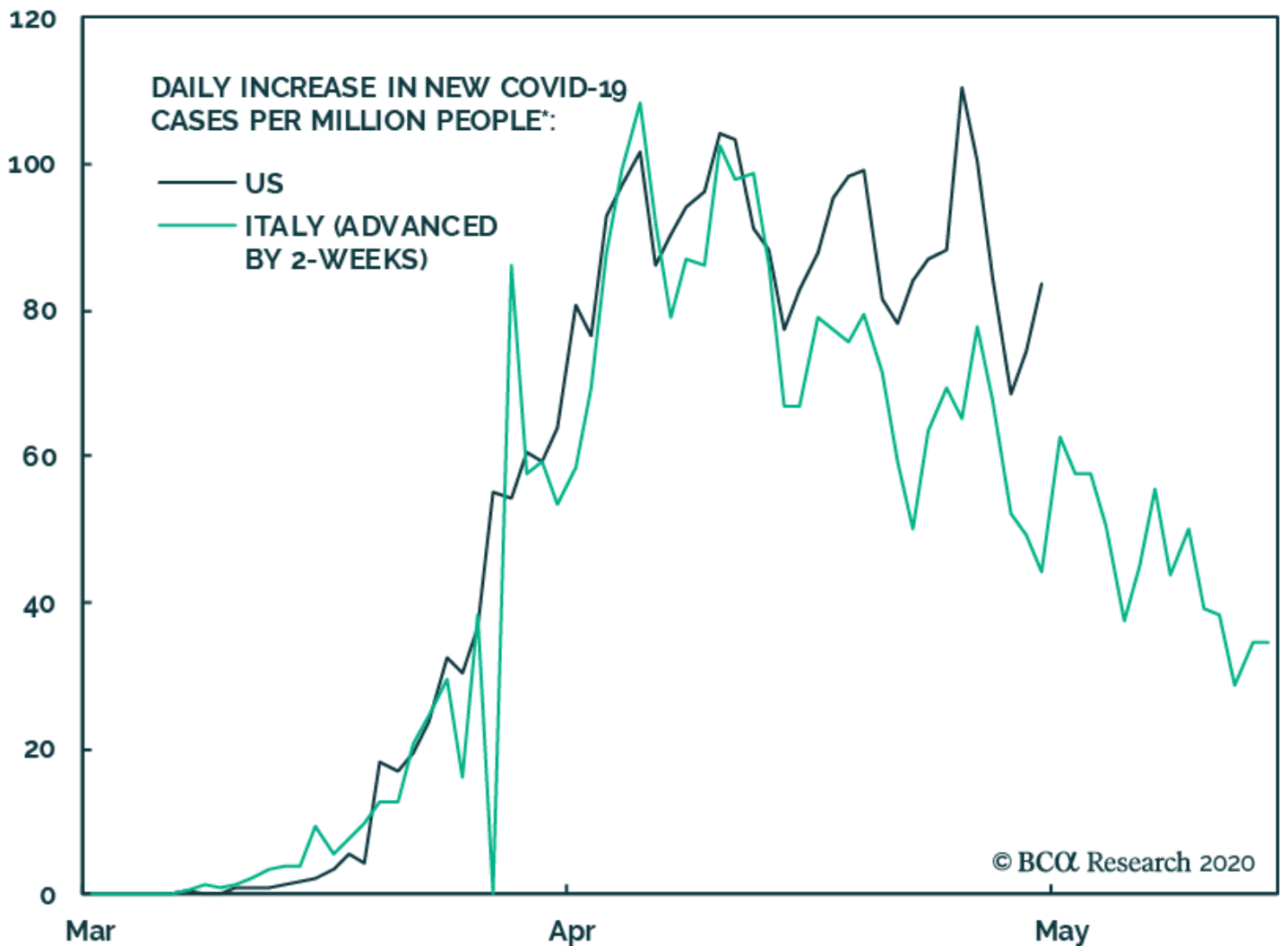


The above chart understates the importance of the efforts implemented by global governments. On top of the additional spending and tax cuts captured in this graph, fiscal authorities are implementing loan guarantees, which so far totals at least \$1.3 trillion. These guarantees will socialize a large share of the private sector balance sheet losses created by COVID-19. This policy will partially insulate both the private sector and the banking system from the economic damages of the disease.

Because the hole in private balance sheets will be smaller than is implied by the economic shock, but the fiscal and monetary response is not, once the global economy re-opens, the velocity of money should avoid the contraction experienced after the GFC. This suggests that the global economy will recover faster than it did 11 years ago.

As a result, while the tactical timing for higher yields remains murky, the cyclical outlook increasingly portends to higher bond yields, most likely driven by rising inflation expectations.

on 5/1:



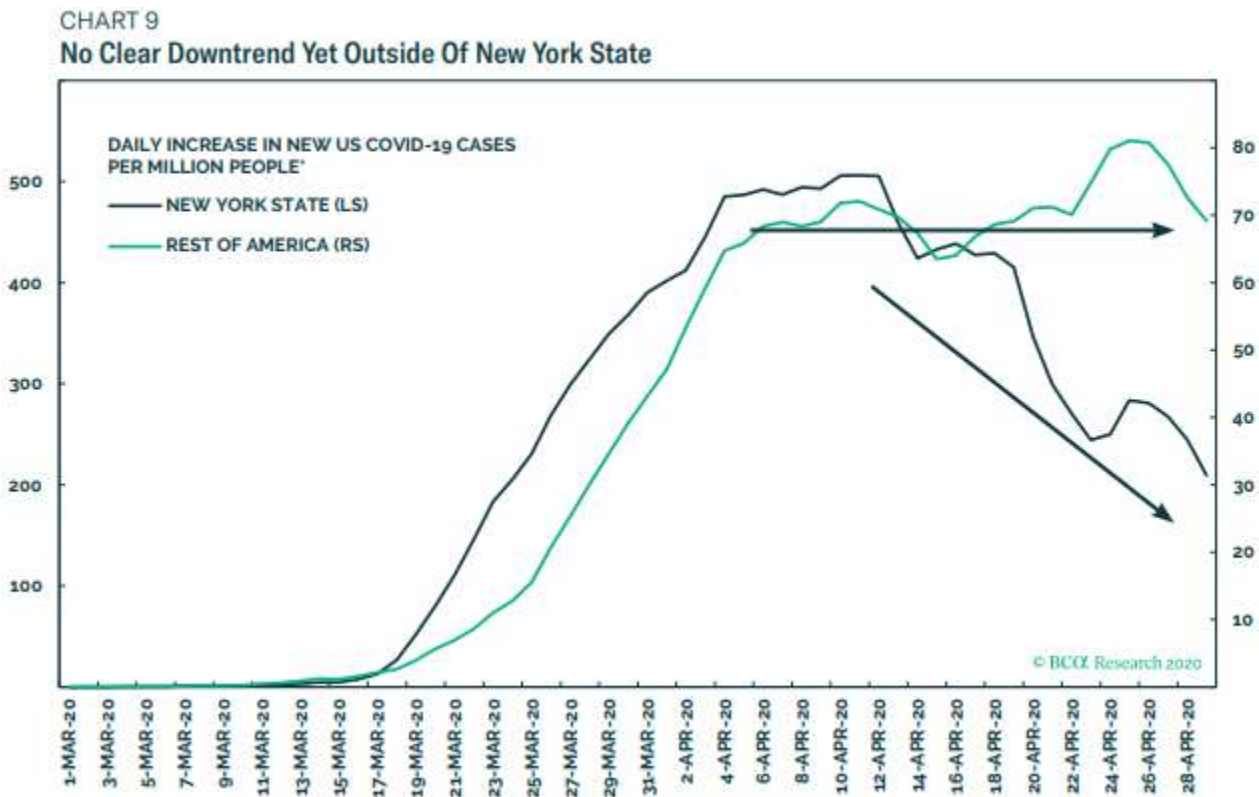
\* SOURCE: CENTER FOR SYSTEMS SCIENCE AND ENGINEERING (CSSE) AT JOHNS HOPKINS UNIVERSITY AND BCA CALCULATIONS. DATA AS OF APRIL 29TH, 2020.

Lockdown easing versus new COVID-19 cases: As today marks the beginning of May, it also marks the beginning of many de-containment measures around the US and other G10 countries. While this represents a

glimmer of hope for global economic activity, it remains to be seen whether the path of new confirmed cases continues to justify relaxed restrictions ....

From an Apr. 30th Global Investment Strategy Special Report:

... **Chart 9** highlights that while new cases per capita in New York state are much higher than in the rest of the country, they are declining whereas they have yet to clearly peak elsewhere. Cross-country case comparisons can be problematic due to differences in testing, but with several US states having already begun the gradual re-opening process, this underscores that US policymakers may be allowing a dangerous rise in the odds of a secondary infection wave.



## Investment Conclusions

Our core conclusion that an “L-shaped” global recession is likely to be avoided is generally bullish for equities on a 12-month horizon. However, uncertainty remains extremely elevated, and the recent rise in stock prices in the US (and globally) has been at least partially based on the expectation that lockdowns will sustainably end soon, which at least in the case of the US appears to be a premature conclusion given the current lack of large-scale virus testing capacity. As such, we are less optimistic towards risky assets tactically, and would recommend a neutral stance over a 0-3 month horizon.

# Follow-ups

From Verdad on 4/27:

## When Buffett Was a Quant

*The analyst who stressed quantitative factors*

By Nick Schmitz

Today, Warren Buffett is revered as the “Oracle of Omaha.” Looking back on several decades of incredible results, it’s perhaps not unreasonable to attribute to Buffett some prophetic ability.

But it’s especially interesting to revisit Buffett’s early years, to understand how he saw himself and to what he attributed his early success. Few today would describe Buffett simply as an “analyst who stresses quantitative factors,” but that’s exactly how he described himself in a 1969 letter.

Let’s set the stage. Buffett returned 24.5% per year net of fees compared to 7.4% for the Dow over the ten years from 1957 to 1967. He wrote to his investors that these results had “absolutely no chance of being duplicated or even remotely approximated during the next decade” and that investors should treat his result “as a freak like picking up thirteen spades in a bridge game.”

Buffett was so convinced this performance was anomalous that he closed down the Buffett partnership in 1969. He did this because he was wrestling with three trends he saw in the market and his business model: valuations, selection opportunity at his new AUM levels, and the speculative nature of the market. He wrote:

*(1) opportunities for investment that are open to the analyst who stresses quantitative factors have virtually disappeared, after rather steadily drying up over the past twenty years;*

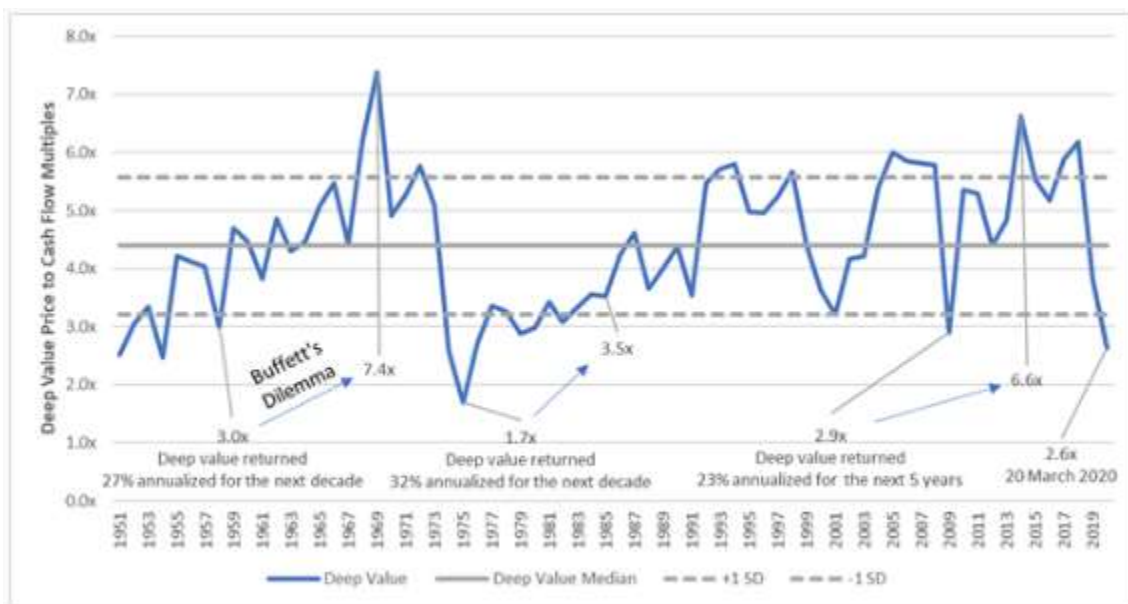
*(2) our \$100 million of assets further eliminates a large portion of this seemingly barren investment world, since commitments of less than about \$3 million cannot have a real impact on our overall performance, and this virtually rules out companies with less than about \$100 million of common stock at market value; and*

*(3) a swelling interest in investment performance has created an increasingly short-term oriented and (in my opinion) more speculative market.*

Why did Buffett believe that investment opportunities for quantitative investors had dried up by 1969? And why did he think that an AUM of \$100M (about \$700M in 2020 dollars) was eliminating so much of his selection opportunity?

Let’s start first by looking quantitatively at the US stock market and the opportunity set available to value investors. Below, we show the price-to-free-cash-flow multiple of the tenth percentile of cheapest stocks from 1951 to 2019.

**Figure 1. Deep Value Price-to-Cash-Flow Multiples over Time**



Source: Ken French, tenth percentile breakpoint on price-to-cash-flow multiples and tenth decile price-to-cash-flow long-term equal-weight returns.

From 1957 to 1969, deep-value stocks went from trading at 3x price-to-cash-flow to over 7x price-to-cash flow, nearing the all-time peak valuation for value stocks. Buffett’s return of 24.5% per year in his first decade was a virtually identical result to simply buying the cheapest 10% of stocks in the market (for context, during that decade, this decile of the market was about 75 stocks that averaged about \$75 million in market cap).

By the end of 1970, Buffett had legendary trailing returns but was selecting from a group of stocks that was generating about one third as much cash flow per dollar invested as when he launched his fund. And he had to do this with \$100 million (a large sum in 1970), which severely limited his ability to gain meaningful exposure to the smallest and most attractive bargains, as he noted in his letter.

Buffett’s decision to close down his fund proved prescient. Multiples for deep-value stocks compressed dramatically over the next few years, dropping to near all-time lows during the peak of the “Nifty Fifty” bubble.

Fast forward to 2020. What should a deep-value investor think about the US market today if they look at it the way Buffett did in 1970?

After the last few years of deep-value stocks selling off relative to growth stocks, and the last few months of deep value getting punished even further relative to others, deep-value stocks are now about as attractive on pricing as when Buffett launched his fund. They traded down to around 2.6x price-to-cash flow at the bottom in late March.

We believe that market multiples explain short- and long-term portfolio returns more than most market spectators probably appreciate. But this is how investors have historically achieved multi-year double-digit returns: buying stocks with high earnings potential at ~30% cash flow yield and holding through the near-term pessimism, rather than trying to predict next quarter’s earnings.

As Buffett later noted, “The most common cause of low prices is pessimism—sometimes pervasive, sometimes specific to a company or industry. We want to do business in such an environment, not because we like pessimism but because we like the prices it produces. It’s optimism that is the enemy of the rational buyer.”

on Apr.13:

## Yesterday's Profits

*If 2020's forecasts are spot on, they may be true but irrelevant to long-term stock returns.*

By Nick Schmitz

Last week we wrote about how cheap stocks had gotten as a multiple of the last twelve months (LTM) of corporate earnings. In this piece is the reason we are not as focused as many on projections of the next twelve months (NTM) of earnings. It isn’t because we disagree that earnings will contract.

This year’s corporate earnings will likely look a lot worse than last year’s corporate earnings for most companies. One of the direst forecasts, from Citibank, has global earnings falling 50% in 2020. Does this mean that stock prices should fall 50% as well? The Chief Global Equity Strategist at Citi believes so. “Typically, stock markets fall the same as EPS [earnings per share] in a recession,” he said. His logic suggests that stocks should fall about another 20% from here.

Wall Street may be right that global earnings will take a 50% hit in 2020. And the prognostications of Chief Global Equity Strategists may be right that stocks will trade down 20% more in the interim to match that drop in earnings. But what’s the implication for investors?

GMO’s Jeremy Grantham once famously observed that “profit margins are probably the most mean-reverting series in finance,” meaning that profit declines are predictably followed by profit increases. And if a stock is worth the discounted sum of its long-term cash flows in perpetuity, the small minority of cash flows that come in the next few quarters should be largely irrelevant. In other words, the long-term earnings power of a stock is measured more by long-term averages than earnings at the bottom of a recession.

Stocks trading in line with earnings would thus imply an inefficient market, one that could be easily arbitrated by those who simply buy every time earnings fall significantly on the bet that they will mean revert.

In fact, Eugene Fama, who won the Nobel Prize for arguing that markets were efficient, found that mean reversion of earnings was remarkably predictable. Fama and Ken French found in their 2000 paper that profitability margins mean revert 38% per year. And they revert the most after they collapse the most: “An important practical implication of this result is that forecasts of earnings (e.g., by security analysts) should exploit the mean reversion in profitability,” they wrote. “In particular, negative changes in earnings and extreme changes seem to reverse faster.”

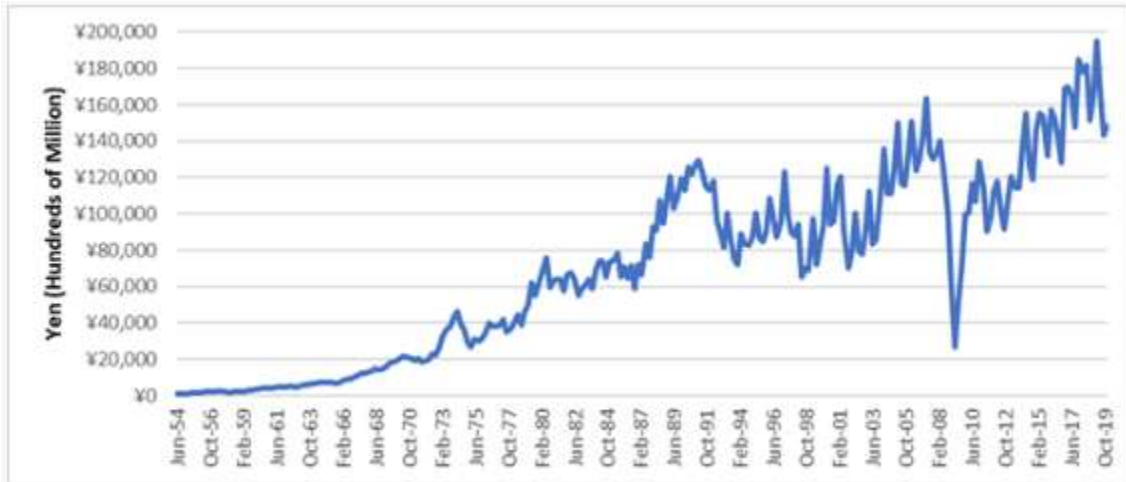
To check that Grantham and Fama’s theory wasn’t on the losing side of today’s conflicting advice from sell-side banks, we decided to test out of sample on aggregate Japanese corporate earnings over time.

Japan’s Ministry of Finance has conducted surveys of corporate earnings since shortly after WWII, and they cover about one million Japanese firms. We like the Japan test because Japan did go through 20 years of corporate profit stagnation after the asset bubble burst in 1990, removing much of the criticism that the reversion findings are a byproduct of long-term positive GDP growth.

So how did aggregate Japanese profits recover after extreme contractions? And if you had had the godlike ability to know how much they would contract ahead of time, would it have been a good idea to get out of the market right before the earnings came out because stock prices hadn't declined "that" much yet?

Corporate profit growth in Japan has been extremely volatile historically during "brief" windows.

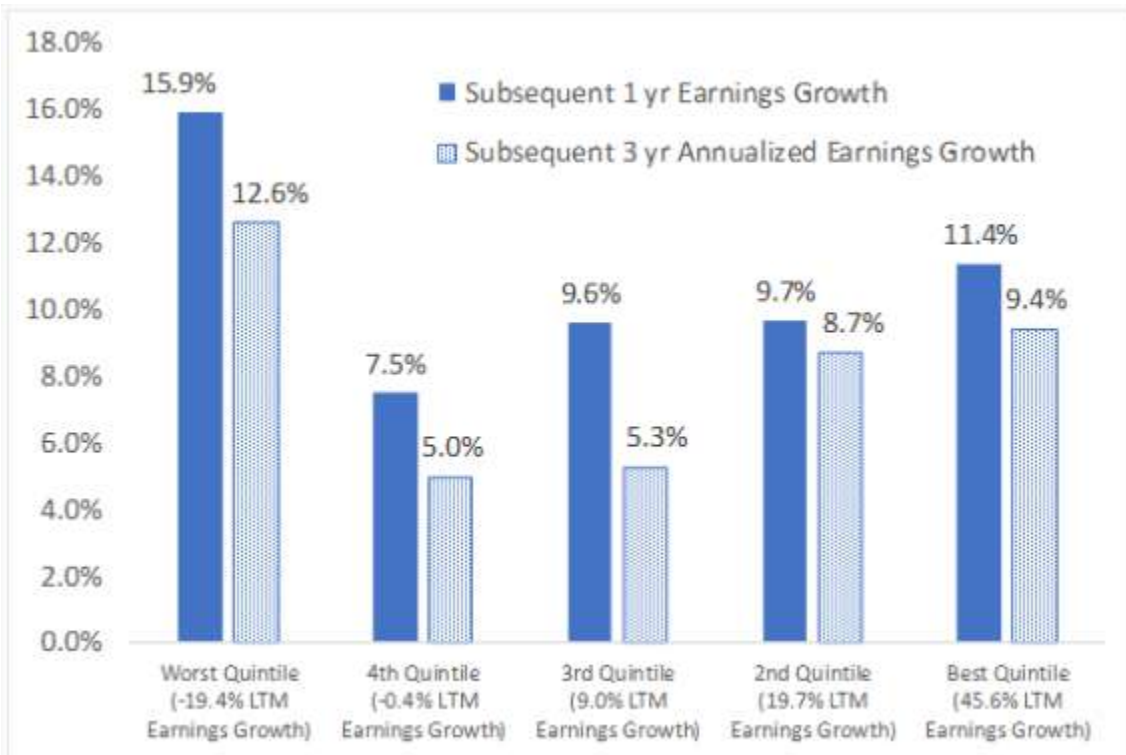
Figure 1: Aggregate Japanese Quarterly Operating Income, 1954–2019



Source: Japan's Ministry of Finance.

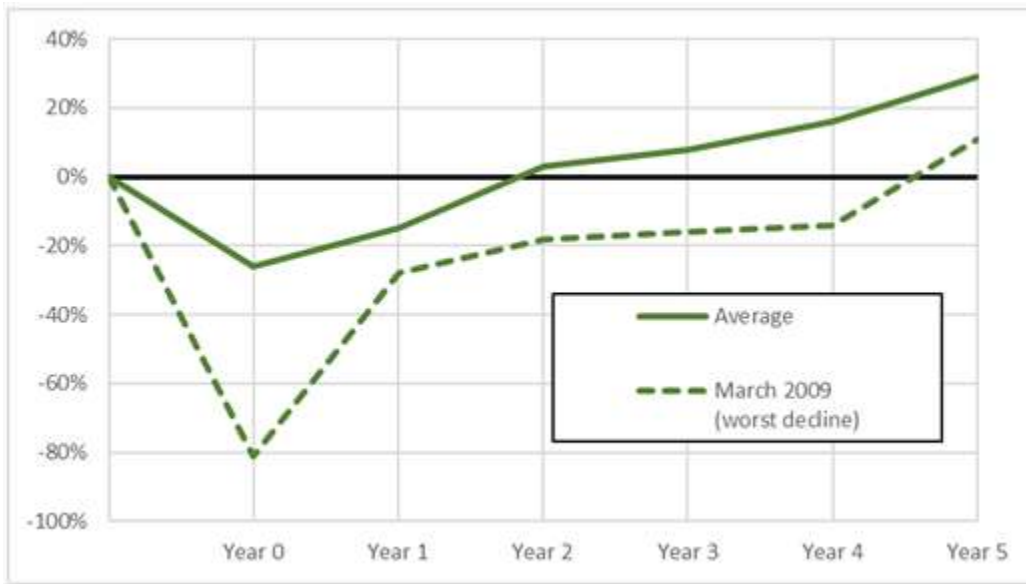
But, following the worst 20% of all historical quarters since 1954, when profits contracted about 19% on average compared to the year before that, the one- to three-year forward growth rates were significantly higher. After profits shrank a lot, they recovered a lot. For the economy as well as for individual stocks, "negative changes in earnings and extreme changes seem to reverse faster."

Figure 2: Mean Reversion of Japanese Earnings



In the extremes, following the 20 worst historical quarters for profit declines, profits typically recovered 1–2 years after the contraction. In the worst contraction, by March of 2009, quarterly profits had contracted 81% compared to March of 2008, but two years later they were only 18% lower than before that pain.

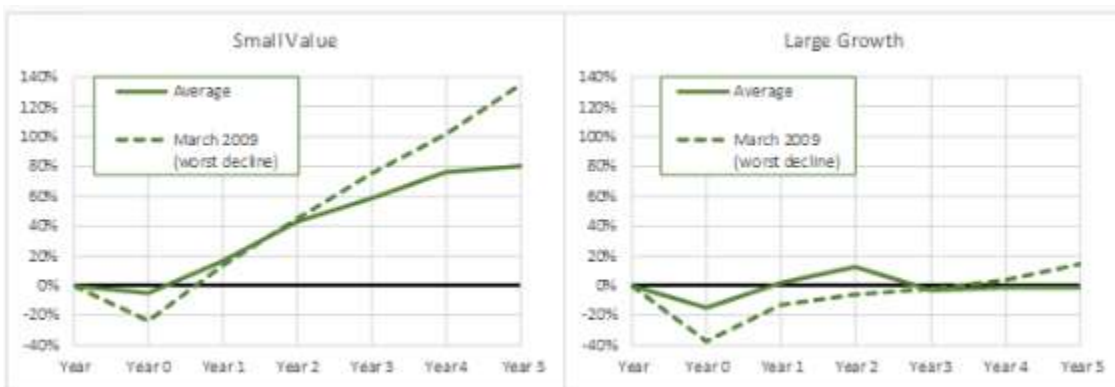
Figure 3: Time until Corporate Earnings Broke Even Following the 20 Worst Contractions



Source: Japan's Ministry of Finance.

Unless you were concentrated in extremely high-expectation large growth stocks, we believe it was a very bad call to get out of equities because earnings were forecasted to disappoint. We tested stock returns following the 20 worst earnings contractions using the Ken French Japan data, which goes back to 1990. We compare a diversified bet on small, low-expectation stocks to a more concentrated bet on large, high-expectation stocks. These are the cumulative stock returns, including the “Year 0” down year when earnings were contracting.

Figure 4: Cumulative Returns Including and Following the 20 Worst Earnings Contractions



Source: Japan's Ministry of Finance, Ken French Library 5x5 Size and Value Quintile Stock Returns. Only 2 out of 20 of these instances were during the tech bubble.

We found no evidence that Fama or Grantham were wrong on this general theory when applied to Japan. Profit mean reversion was particularly strong after profits had decreased the most. And stock analysts would have been wise to exploit that finding both before and after Fama's paper.

Unless there is a credible model that long-term profits will not generally recover this time after an extreme contraction, we believe you should be skeptical of recommendations to sell stocks until they are down x% because this year's earnings forecast is down x%. Even if the forecasts are spot on, they may be true and yet truly irrelevant to long-term stock returns. Firms are worth what goes on in perpetuity, not in the temporary purgatory of a recession.

As Fama suggested, analysts would be wise to remember this. When the head of Global Equity Strategy for a major bank is ignoring Fama's advice on CNBC and valuations are low, we feel it's likely a good time to buy for the long haul.

This time, profits may not be down because of a long-term secular trend of competitive forces, a GDP growth ceiling, technological evolution, a shock due to a lending meltdown, or the Smoot-Hawley Tariff Act. Society's reaction to a terrifying virus caused it. But isn't that all the more reason to be skeptical that profits won't mean revert yet again and that today's discount when the dust settles might be a source of returns? The cause of this contraction may be unprecedented, but margin mean reversion in extremes is not.

## Positions

**MAIN** - BDC purchased for 2 clients on 4/1 @ 19.29:



Insider Buying:

Trade Date↑	No. Part Participants	Net Sell (Shares)	Net Buy (Shares)
03/23/2020	1 French Arthur		2,000
03/19/2020	4 Beauvais Jason, Smith Bre		5,727.79
03/18/2020	5 Foster Vincent, Morris Jess		10,050
03/13/2020	15 Hyzak Dwayne, French Arth		3,127.955
03/04/2020	1 Morris Jesse		1,300



From our primary BDC analyst on Apr. 12:

## MAIN Update:

- ... remains a Tier 1 which implies solid regular monthly dividends and better-than-average credit performance potential over the coming quarters.
- A majority of MAIN's borrowings are flexible unsecured Notes ... and SBA debentures. MAIN has an active relationship with the SBA that could be beneficial over the coming quarters.
- During the Financial Crisis, MAIN adequately supported its LMM portfolio using a wide range of tools as well as assisting management. There were some deferred payments, waived covenants that negatively impacted a couple of quarters but ultimately, MAIN shareholders benefitted from realized gains and dividend income from equity investments. It should be noted that MAIN's management was very upfront about the changes in portfolio investments providing shareholders with plenty of information throughout the process.
- Even after taking into account the recent decline in stock prices, my average annualized returns over the last four to five year is still over 9% and likely headed higher as the market rebounds later this year.

**OMFL** - Purchased this Multifactor ETF that times its exposures for a client on 4/1. It was featured in our Worth Sharing **Factor Timing** - 9/22/19. The S&P 500 (via SPY, orange line) has been added to Morningstar's chart:

## Invesco Russell 1000<sup>®</sup> Dynamic Mltfct ETF OMFL

<b>Year Range</b> 22.00 – 34.16	<b>SEC Yield</b> ⓘ 1.75%	<b>12-Month Yield</b> ⓘ 2.13%
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<b>Expense Ratio</b> 0.290%	<b>Total Assets</b> 973.8 Mil	<b>Category</b> US Fund Large Blend
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Subsequent to Morningstar's analysis featured in our **Factor Timing** Worth Sharing, BlackRock launched its ETF. We have added OMFL (orange line) to BlackRock U.S. Equity Factor Rtnn ETF's Morningstar chart since inception. We will continue to monitor DYNF. With just 72.2 Mil in Total Assets, compared to 1.1 Bil for OMFL, its inadequate liquidity will likely be resolved should it eventually outperform OMFL.

DYNF -484.17|-4.64% OML -3.47|-0.03%

USD

