

More on Bubbles

From WSJ:

A Stock Market Bubble? It's More Like a Fire

Wild market speculation can feel like an out-of-control blaze: The more it expands and the hotter it gets, the more havoc it can wreak

By Jason Zweig
Nov. 20, 2020

The stock market isn't a bubble, but parts of it are on fire.

So far in 2020, the NYSE FANG+ index of giant technology stocks is up 78%. The [Renaissance IPO ETF](#), an exchange-traded fund that holds recent public offerings, is up 84%. The [SPDR S&P Kensho Clean Power ETF](#), which invests in renewable-energy companies, has gained 88%.

Meanwhile, the overall stock market is up almost 11%.

That's a key difference.

For years, anyone who thinks any financial asset is somewhat overvalued has called it a bubble. The financial use of "bubble" [originated centuries ago](#) to describe massive speculation that [inflates market prices to the bursting point](#).

Financial bubbles have never had a formal definition, though, and they are [diabolically difficult to identify](#) without the benefit of hindsight. A new book, "Boom and Bust: A Global History of Financial Bubbles," by finance scholars William Quinn and John Turner of Queen's University Belfast in Northern Ireland, helps clarify the muddled thinking on the topic.

The image of a bubble is itself a misnomer. As any kid who's ever chewed gum knows, bubbles often barely expand before bursting, and they don't bother anybody much except parents and teachers.

Financial markets, however, can easily heat up fivefold or even 10-fold and then collapse at least 50% in a flash, burning millions of speculators and sometimes charring entire economies. Think of the U.S. after [the stock market crash of 1929](#), or [Japan 60-plus years later](#).

Rather than regarding overvalued assets as a bubble, we might consider them a fire. The more it expands and the hotter it gets, the more havoc it can wreak.

On Fire

Stocks of alternative-energy, newly public and big technology companies are up an average of roughly 80% so far this year.

- SPDR S&P Kensho Clean Power ETF
- Renaissance IPO ETF
- NYSE FANG+
- S&P 500 Index



Source: FactSet

“Boom and Bust” looks closely at 300 years’ worth of market manias using the metaphor of “[the fire triangle](#).” That image has long been evoked to explain the conditions necessary for flames to erupt and persist: oxygen, fuel and heat. Remove one, and you can prevent or put out a fire.

The oxygen of investing is marketability, or the ease of buying and selling an asset. Centuries ago, that meant carving up difficult-to-transfer corporate ownership into tradable shares. Nowadays it’s carrying a stockbroker in your pocket. With a smartphone-trading app, you can buy or sell so-called fractional shares in increments anyone can afford.

On popular trading apps like Robinhood, you can put as little as \$1 in [Berkshire Hathaway](#) Inc.’s Class A shares, which cost about \$345,000 apiece. You can trade that morsel of approximately 0.000003 shares commission-free.

The second side of the fire triangle, fuel, is manifested in financial markets by money and credit. Low interest rates make investing with borrowed money cheaper, while paltry yields on safe savings compel people to invest in riskier alternatives.

Today, borrowed money fuels mega-billion-dollar private-equity firms buying entire companies—and individual investors conducting small “margin” trades with as little as \$2,000 in a brokerage account.

The third side of the triangle, heat, is supplied by speculation. When prices go up, more people buy, inflaming prices even more and attracting another rush of speculators.

That lures in naive buyers who think making money is easy. But [hedge funds and other institutions](#) also chase those hot returns, fanning the flames even higher.

The “Boom and Bust” book completes the metaphor by noting that the fire triangle has in recent years been [updated with a fourth component](#), an “exothermic chain reaction.”

Marketability, credit and speculation are necessary, but not sufficient, to start and maintain a market fire. A fourth component, what the authors call a “spark,” is also needed.

That can come from new technology, government intervention or both. The stock-buying binge of the late 1990s was sparked by euphoria over the potential of the internet. China’s more-recent market booms have been stoked by government policies and propaganda.

“Boom and Bust” shows that most bubbles tend to be confined to a few stocks or industries.

That was true in 1824-25, when Latin American mining stocks listed in London rose more than fivefold in roughly six months, while British blue-chip companies lost almost a tenth of their market value. Again in London, in the 1890s, shares in bicycle companies more than doubled in a year even as major stocks went nowhere.

In 1999, with internet stocks going ga-ga, the tech-heavy Nasdaq Composite Index gained 86%. Without [technology companies](#), the S&P 500 would have been up only 5%.

Today isn’t much different.

In proportion to market size—which weights giant tech stocks heavily—the companies in the S&P 500 recently traded at 21 times expected earnings over the next 12 months, according to Matarin Capital Management, an investment firm in New York. That’s about 24% higher than their average over the past quarter-century.

To counteract the effect of a handful of giant stocks, however, we can weight companies equally. In that light, the S&P 500 is at about 17 times expected earnings, roughly 10% above its long-term average. That implies that most stocks aren’t cheap—but are hardly overstretched.

I don’t see much cause for concern about overheating in relatively small areas like newly listed stocks, alternative-energy firms and [shell companies formed to do buyouts](#).

The bigger worry is that a fire among a few giant stocks can set the neighborhood ablaze. After the technology-heavy Nasdaq index collapsed in 2000, the broader S&P 500 also tumbled.

Recently, smaller companies and cheap “value” stocks have started to show signs of recovery—which, if it persists, could reduce the market weight of blazing-hot giants like [Amazon.com](#). That might be the firebreak that this market needs. (We doubt the recent outperformance of small and cheap will suffice. It took the Jan. ’73 to Sept. ’74 Bear, -46.6%, to end the run of the Nifty Fifty, the most comparable bubble to FANG+.)

From a BCA Research Special Report:

November 20, 2020

An Investor's Guide To Stock Market Bubbles

Financial manias are an innate part of markets. ... The propensity for markets to eventually turn into frenzies has made financial bubbles an inevitable part of the investment experience, and a risk that managers must be conscious of.

Today, this risk has resurfaced. With valuations at nosebleed levels while the economy remains battered by the pandemic, many investors have started to wonder whether stock prices have run away from fundamentals.

But what exactly does this mean in terms of investment strategy? In this report, we attempt to provide some insights on answering this question. Specifically, we examine the following issues:

- **The value in timing bubbles:** Should investors even try to time bubbles? Why can’t they just use a simple valuation framework to avoid frothy markets?
- **Similarities between bubbles:** Are there any commonalities in the environment surrounding bubbles that can help us diagnose and time them?
- **Investment implications:** Is there a bubble in FAANGM stocks? If so, how could it pop?

To answer these questions, we assess the advantages and shortcomings of the traditional valuation approach that most investors use when markets seem bubbly. We examine the monetary, financial, and economic circumstances surrounding eight bubbles from the past four centuries, in order to obtain a list of commonalities that can serve as indicators to diagnose financial exuberance. We then use these indicators to identify whether FAANGM stocks are in a bubble and if so, when such a bubble could potentially pop.

To build our sample of historical asset bubbles we use the following three criteria: First, to be considered a bubble, the price of the relevant security had to grow by a substantial amount in a short period of time. Second, the stock price had to have clearly decoupled from the fundamental drivers of the security. Third, a new narrative or “new-era thinking” had to be in place underpinning the mania. **Table 1** shows the asset bubbles we have chosen for our analysis, as well as their start date, end date, and the narrative behind them.

TABLE 1
Sample Of Bubbles

BUBBLE	START DATE	END DATE	PRICE APPRECIATION	NARRATIVE
Tulip Prices*	June 1636	Feb. 1637	432%	Exotic tulips are a sign of status. Growing Dutch wealth means that tulips can always be resold at a higher price.
South Sea Company/ UK Stock Market	Feb. 1720	July 1720	625%	Thought of as a safe haven: investing in government debt. Herd mentality fueled speculation.
Railway Stocks	Q1 1842	Q4 1845	112%	Not enough railways can be built. The industrial revolution will cause railway demand to continually be higher than supply.
Dow Jones	June 1924	Aug. 1929	322%	Living in the post-WWI era of prosperity - one that was assumed would continue.
Nifty Fifty	July 1970	Jan. 1973	91%	"One-decision stocks": Growth stocks with solid balance sheets can be bought and held forever as new growth industries are in a structural uptrend.
Japanese Stock Market	Jan. 1986	Dec. 1989	199%	Buying into the development progress of the Japanese economy to match that of developed countries.
US TMT Stocks	Aug. 1998	Mar. 2001	205%	The "New Economy": The growth brought about by the Internet is so large that traditional valuation measures are irrelevant.
US Real Estate	Nov. 2003	July 2006	33%	Americans will never miss their mortgage payments, and real estate price cannot drop nationally.

* WHILE WE CONSIDER TULIPMANIA AS A BUBBLE FOR THE PURPOSE OF THIS REPORT, PLEASE BE ADVISED THAT THERE CONTINUES TO BE DISAGREEMENT IN THE ACADEMIC LITERATURE OVER HOW BIG OF A BUBBLE IT WAS, AND OVER WHETHER IT WAS A BUBBLE AT ALL. AT THE VERY LEAST, THE MOST RECENT RESEARCH SUGGESTS THAT THE TULIP BUBBLE MIGHT HAVE BEEN CLOSER TO THE 2018 BITCOIN BUBBLE, WHERE ONLY A HANDFUL OF PLAYERS WERE INVOLVED AND WHERE, CONTRARY TO THE POPULAR NARRATIVE, THE ECONOMY WAS UNAFFECTED. FOR MORE DETAILS, PLEASE SEE METTE LÜTZHOFT AND SARAH GREEN CARMICHAEL, "THE REAL STORY OF THE DUTCH TULIP BUBBLE IS EVEN MORE FASCINATING THAN THE MYTH YOU'VE HEARD," (MAY 12, 2019). END DATE REPRESENTS PEAK OF ASSET PRICE.

The Value In Timing Bubbles

Many investors would argue that it is futile to try to time bubbles. A common argument amongst more conservative investment professionals is that valuation measures – such as the Shiller Cyclically-Adjusted PE (CAPE) – should be used as a guidepost, and that one should start taking money off the table once prices look frothy. ...

Valuation is a relative concept

The valuation of equities and other assets are inextricably linked. When interest rates are low, future cash flows are discounted at lower rates, which means that multiples tend to be higher (**Chart 1**, panels 1 and 2). As a result, equities and other fixed-income assets tend to be expensive at the same time, presenting a conundrum for asset allocators since the money they take out from an expensive asset must go somewhere else. This dilemma is particularly relevant today, since shifting to safer assets at near zero interest rates makes it hard for many funds to hit their return targets.

The definition of "expensive" changes with time

To decide whether a market is expensive or not, investors typically compare the market’s valuation to its historical distribution. While this exercise can often provide promising results in hindsight, it is less effective when used for out-of-sample results. Consider that, for an investor in 1996, the CAPE ratio was already more

than two standard deviations above of its historical mean – a whole four years and 145% of returns before the dot-com bubble eventually peaked (More generally, there are no reasons as to why valuations should be

stationary. In fact, many research papers have pointed to the fact that with increased information transparency and accounting rules, equities have become structurally more expensive as time goes by. This makes valuation indicators which rely on historical distributions less reliable. For more detail, please see John B. Carlson, Eduard A. Pelz, and Mark Wohar, “Will The Valuation Ratios Revert to Their Historical Means? Some Evidence From Breakpoint Test”, Federal Reserve Bank of Cleveland Working Paper 1-13, (2001)) (Chart 1, panel 3).

The “long term” is often too long for most managers

Chart 2 shows the S&P 500 returns over US Treasuries at different levels of valuation and across different time frames. Importantly, we look at how the CAPE compares to its historical distribution using the available data up to each point in time, thus eliminating hindsight bias.

We can derive a couple of observations from this chart: First, valuations do provide a valuable signal for long-term subsequent returns (five years or more), though they are most effective at extremes. It is also notable that equities underperformed Treasuries over long periods only when they were more than two standard deviations expensive.

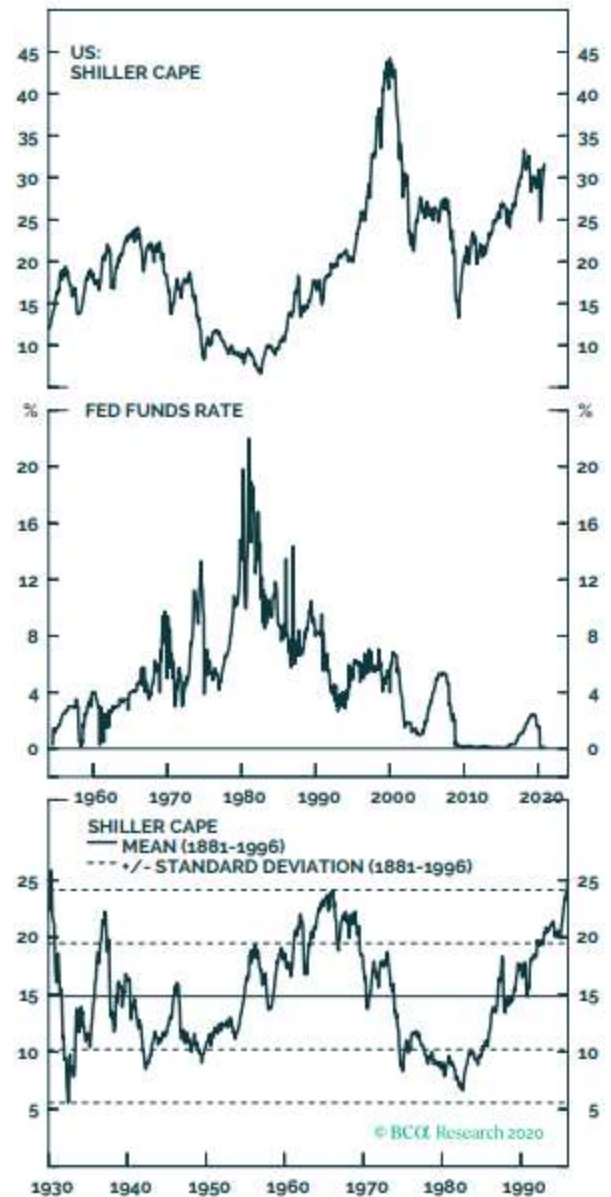
Second, valuations do not provide any useful allocation signals for cyclical horizons (three years or less). Crucially, the highest one-year returns of equities relative to Treasuries were realized when the market was extremely expensive.

Why is this important? Many asset managers cannot afford to underperform their benchmark over multi-year periods and by large amounts. For them, losing out in a “blow-off” rally is often not an option, as doing so would incur a significant amount of career risk. This means that, regardless of how difficult it is to time the rise and fall of a financial mania, most institutional investors must at the very least attempt to do so.

All the points above do not mean that valuation is meaningless. On the contrary, we believe that valuations are often the foundational pillar to decide whether a bubble exists in the first place. However, for most investors, frothy valuations are a necessary but not a sufficient condition to decide to lower allocation to an asset class. Instead, a more nuanced approach where several quantitative and qualitative factors are considered is needed in order to guide investment strategy. We explore such factors in the next section.

Similarities Between Bubbles

CHART 1
Problems With Valuations...



Similarity #1: Bubbles start with easy monetary policy and end with tight monetary policy

The gyrations of monetary policy are often key in determining the path of financial manias. Bubbles often originate in periods during which interest rates are low and monetary policy is stimulative – a trend that goes back to the very origins of financial markets. During the 1630s, Dutch interest rates declined sharply, while the Bank of Amsterdam grew its balance sheet by more than 40% between 1636 and 1637, just before the Tulip bubble reached its zenith.

Less than a century later, the Bank of England (BOE) cut rates to their lowest level in almost 20 years, fueling speculative buying in the stock of the South Sea Company. The same dynamic played out in the 19th century, however, in this instance easy monetary policy by the BOE created a bubble in British railway equities. Modern financial markets have not been any different: Every single one of the great bubbles from the past century started during or immediately following a period of easy monetary policy.

It is straightforward to see why monetary policy plays such an important role in the formation of a financial bubble. As policy rates go down, economic agents look to invest in assets further up the risk curve in order to obtain higher yields. Meanwhile, easy lending conditions and ample liquidity allow market participants to spend more freely in riskier investments. While many of these investments can initially be worthwhile, a sustained period of easy monetary policy can eventually lead investors to underestimate their risk and overestimate their growth – resulting in prices which eventually diverge from fundamentals.

However, while a low interest rate environment makes for fertile grounds for a bubble to emerge, it is also rarely an environment where a bubble pops. In fact, every single one of the bubbles we analyze burst when monetary policy was tightening, and all the bubbles reached their peak within two years from the initial rate hike (**Chart 4**).

Why are rising interest rates so toxic for bubbles? When interest rates start to rise, the dynamics that give birth to the bubble reverse course. High interest rates tighten lending conditions – suffocating the leverage that helped inflate the bubble in the first place. Furthermore, risky cash flows get discounted at higher rates, making high growth investments comparatively less appealing, and attracting more scrutiny in the process.

**CHART 2
...A Poor Timing Tool**

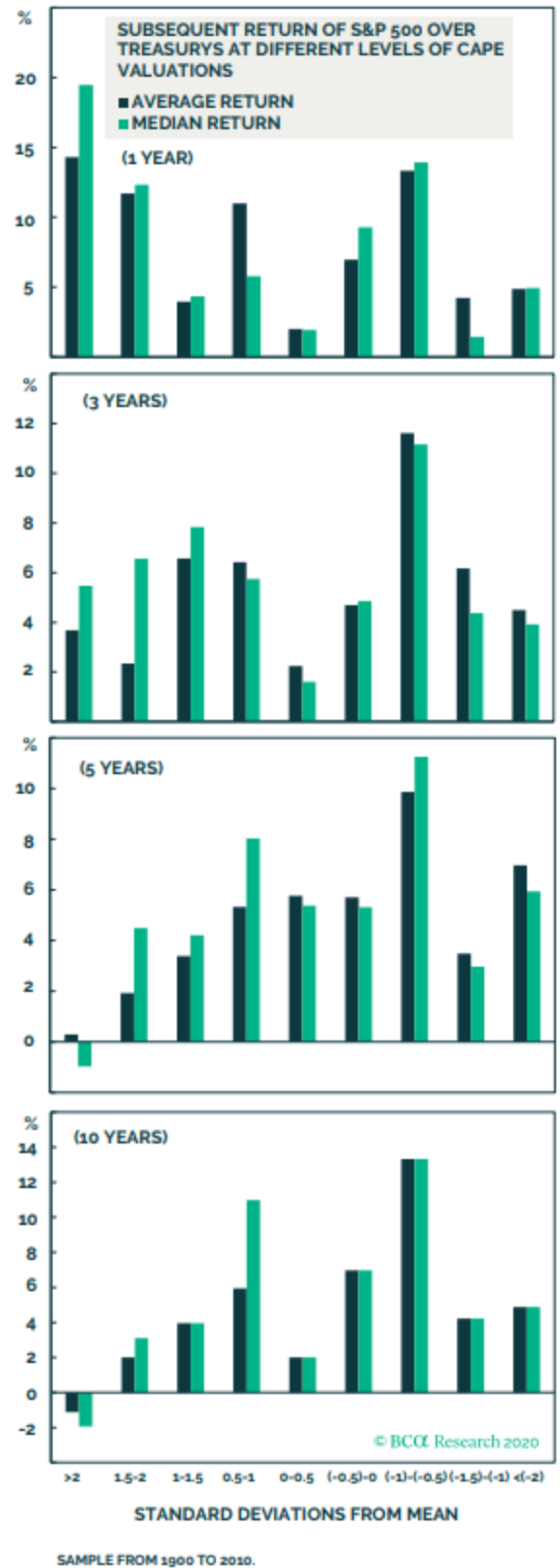
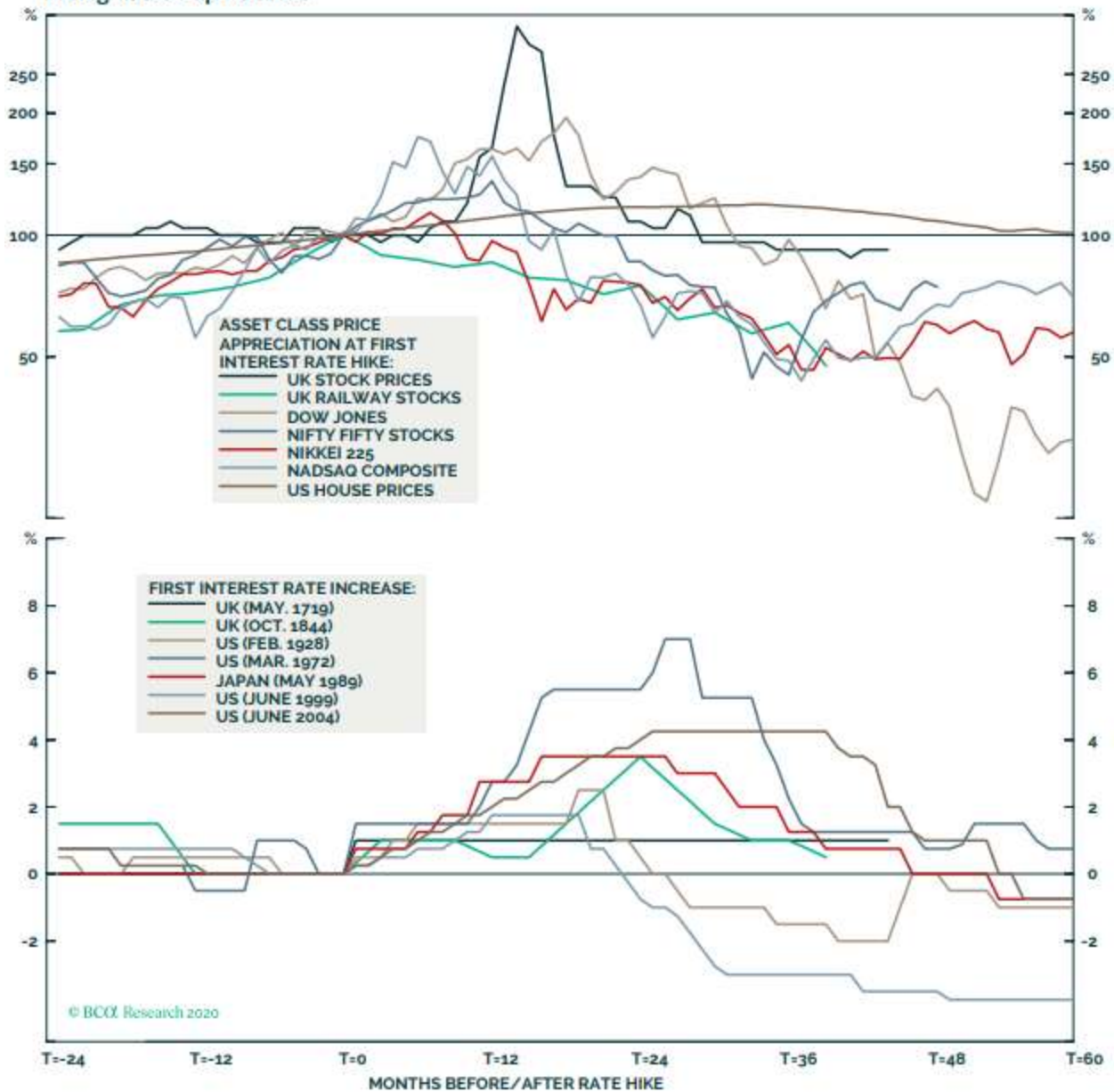


CHART 4
Rising Rates Pop Bubbles



Similarity #2: Financial innovation tends to supercharge bubbles

Manias often go hand-in-hand with financial innovation. Novel ways to invest have often provided fuel for a bubble to grow – though the mechanism by which this happened was not always the same.

Some innovation allowed investors to embed leverage into their position. This was the case during the railway bubble in the 1840s, where the preferred investment vehicle for many investors was partially paid shares – which required an upfront payment of less than 10% of the investment value. Likewise, the 1920s saw the rise of the investment trust in both Britain and the US, which allowed fund managers to buy shares on margin, dramatically increasing the leverage that was used for investment.

In other cases, financial innovation encouraged trading that previously wasn't possible. The invention of futures contracts in 17th century Holland is a prime example. Whereas physical tulip bulb trading could be done only during certain times of the year, futures enabled year-round market action. Additionally, transactions became much easier, as physical delivery of tulip bulbs was not needed since transactions could be settled on a cash

basis. Similarly, financial deregulation in the 1980s allowed Japanese corporates to engage in “zaitech” – a form of financial engineering where surplus funds could be used to invest in speculative assets.

Financial innovation can also hide the risks that market participants are taking. This was the case in the 2008 crisis, where the repackaging of mortgages into complex financial derivatives concealed the fact that investors were putting their money in much riskier securities than their credit ratings suggested.

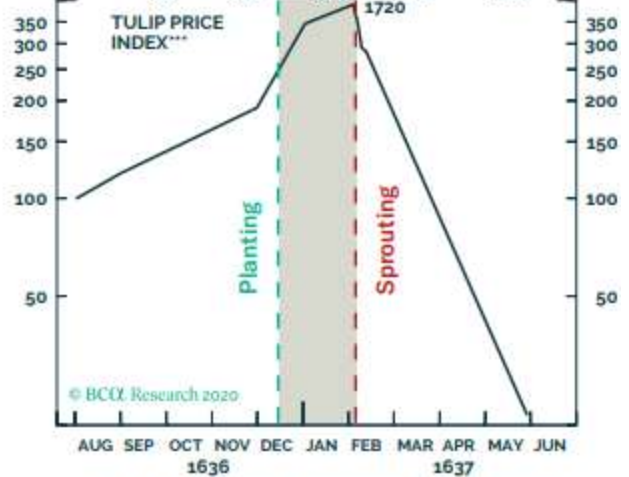
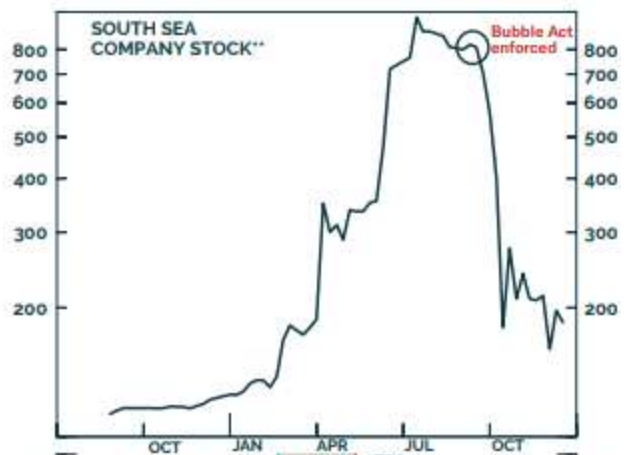
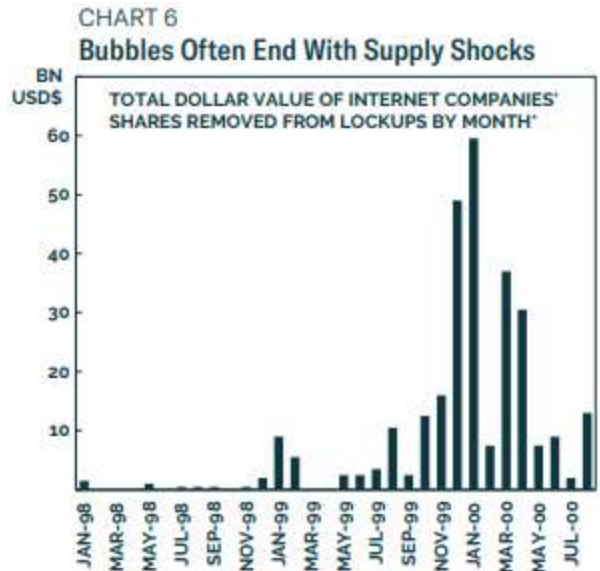
Similarity #3: Supply shocks are often behind a bubble’s collapse

Academic research has revealed that supply shocks often play an important role in the collapse of asset bubbles. Consider the case of the tech bubble in the 1990s: Between 80% to 85% of the shares of new internet IPOs were held by insiders, venture capitalists, and investors. These investors were restricted from selling their holdings by lock-up provisions which limited the number of shares potentially available to be sold short, and also prevented better informed insiders from selling and correcting the overvaluation of the stocks’ in question.

However, these restrictions started to ease at the end of 1999. In the paper “Dotcom Mania: The Rise And Fall Of Internet Stock Prices,” Ofek and Richardson show that as the new millennium approached, tens of billions of dollars’ worth of shares were suddenly removed from their lock-ups (Chart 6, panel 1). The release of this supply of shares created a sudden and powerful force of selling pressure that ultimately resulted in the demise of the tech bubble.

Similar shocks have been triggered by government policy. By 1720, the success of the South Sea Company had encouraged significant speculation in the price of other companies. The large amount of funds that these companies were attracting, alarmed the SSC directors, who did not want their profits eroded by the entry of new corporations.

As a result, thanks to their influence in Parliament, the Bubble Act was passed in June of 1720, which essentially forbade the formation of other joint-stock companies unless approved by royal charter, effectively securing the monopoly that the South Sea Company had over British trade.



* SOURCE: ELI OFEK AND MATTHEW RICHARDSON, "DOTCOM MANIA: THE RISE AND FALL OF INTERNET STOCK PRICES," *THE JOURNAL OF FINANCE*, 58-3, 1113-1137 (2003).
 ** SOURCE: WEBSITE OF LARRY NEAL, ACCESSED VIA [HTTP://WWW.LE.AC.UK/HI/BON/ESFDB/NEAL/NEAL.HTML](http://www.le.ac.uk/hi/bon/esfdb/neal/neal.html), SHOWN IN LOG SCALE.
 *** SOURCE: JAMES E. MCCLURE, AND DAVID CHANDLER THOMAS, "EXPLAINING THE TIMING OF TULIPMANIA'S BOOM AND BUST: HISTORICAL CONTEXT, SEQUESTERED CAPITAL AND MARKET SIGNALS," *FINANCIAL HISTORY REVIEW*, 24-2, 121-141 (2017).

But the British parliament's decision proved to be a mistake. The passing of the Bubble Act immediately put immense selling pressure on the stocks of the affected companies, many of which had been bought on margin by investors. To obtain liquidity to pay for their liabilities, investors rushed to sell all securities they had, including South Sea Company stock. As these shares were being dumped into the market amid a liquidity crunch, the bubble burst, with prices declining by 50% within a month of the enforcement of the Bubble Act (**Chart 6**, panel 2).

In other cases, shocks were triggered because a large stock of supply that was previously hidden from investors came to light. The timing of the tulip bubble is instructive: By the winter of 1636, large price increases had given an incentive to tulip-bulb sellers to plant as many bulbs as they could. And yet, speculation continued to soar: With all the bulbs underground, nobody knew how much supply there truly was.

However, sentiment changed abruptly as the weather became warmer. In their research, McClure and Chandler Thomas show that the collapse of the tulip bubble coincided with sprouting season (**Chart 6**, panel 3). They explain that as all the supply of bulbs became visible, market participants quickly realized that there were just too many bulbs to support the prevailing price. This created a negative sentiment spiral, eventually leading to the bubble's collapse.

Investment Implications

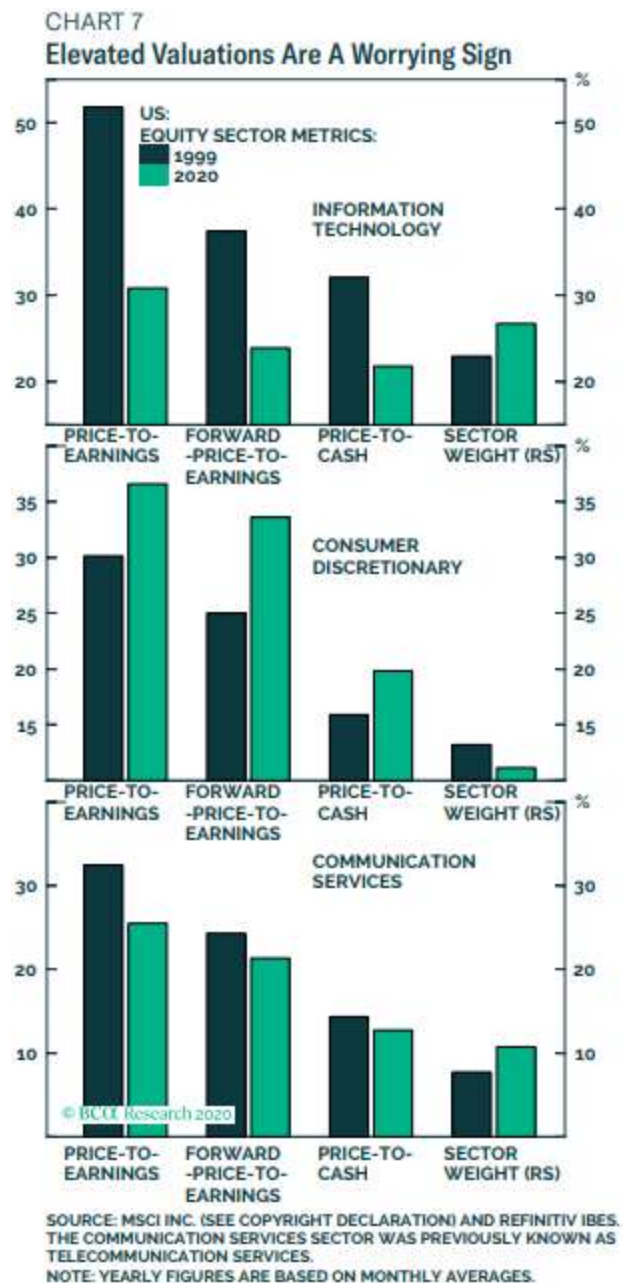
The investment community has begun to worry about a bubble in the so-called FAANGM stocks. Since 2018, those six stocks (constituting almost 25% of the market cap of the S&P 500) have returned over 130%, compared to a mere 35% gain for the S&P 500. Moreover, while the valuations of these stocks are still below 1999 levels, their high multiples have raised some eyebrows, particularly if one considers the current state of the economy (**Chart 7**).

How should investors approach this group of stocks? Based on the analysis in this report, we can conclude with the following answers:

Is the current market environment a bubble?

Some of the circumstances that have characterized previous bubbles are currently in place. After a series of rate hikes started to choke off the bull market in 2018, the Fed began to ease rates. However, this easing took on historical proportions during the COVID crisis, which forced the Fed to grow its balance sheet massively in scale and lower its policy rate to 0%.

What about financial innovation? ETFs and no-commission platforms such as Robinhood have allowed for easier access for new retail investors – a trend that accelerated during the COVID crisis (**Chart 8**, panel 1). Moreover, easy market



access has also increased leverage: Margin debt – the amount of money an investor can borrow from a broker – has shot to near decade highs (**Chart 8**, panel 2).

This combination of extremely easy monetary policy, high valuations, and increased leverage and trading caused by financial innovation are signs that mega-cap tech stocks are indeed in a bubble.

Could the bubble pop?

We believe that the circumstances for the bubble to pop are not yet in place, and could in fact take a couple of years to materialize. Monetary policy is set to remain easy for the foreseeable future, with the market expecting an interest rate hike only in four years' time (**Chart 8**, panel 3). Moreover, monetary authorities are likely to keep credit conditions easy to help the economy recover from the pandemic. As a result, it is unlikely that we will see hawkishness from the Federal Reserve within the next couple of years, which means that the tech bubble could still have room to run.

What about supply shocks? We do not see many obvious possibilities on the horizon. ...

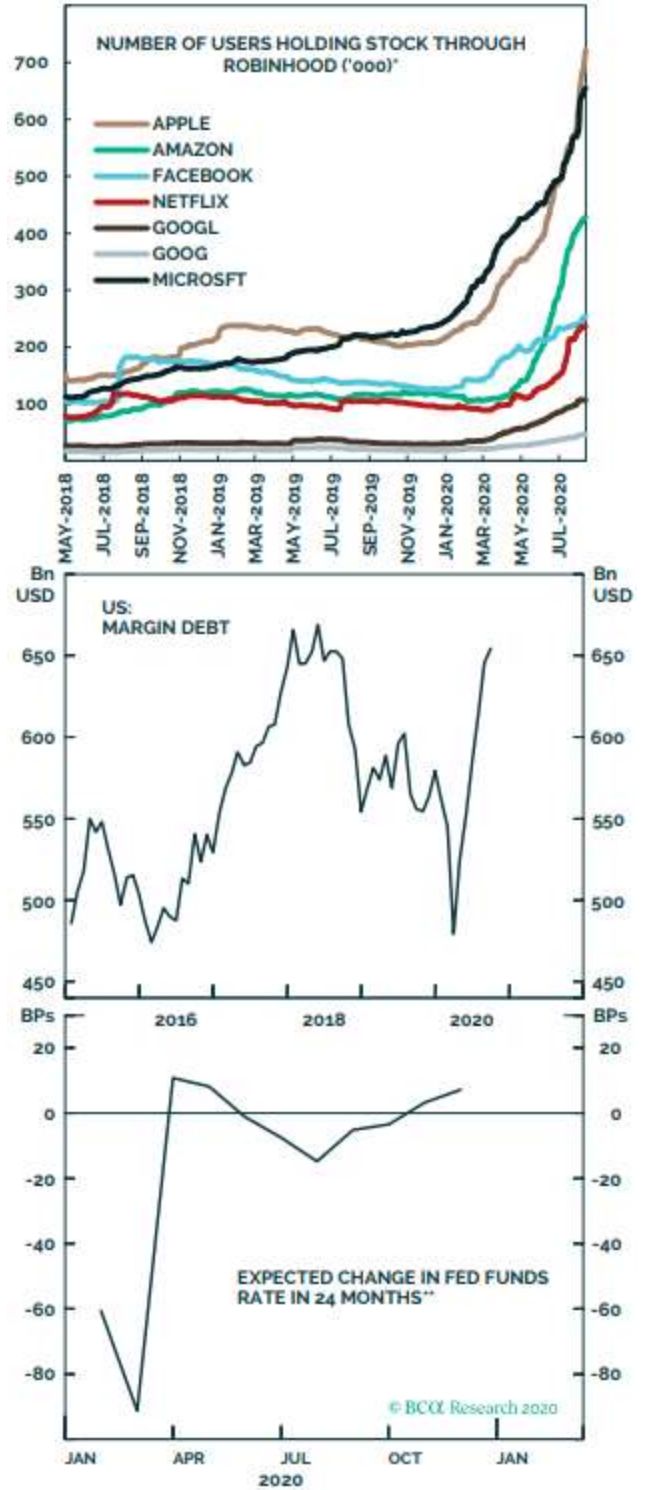
Thus, with hawkish monetary policy still far away and no supply shock apparent in the near future, the bubble in technology stocks should continue.

Our thoughts

We previously shared some of our concerns about each of the original FANG stocks, 3 of which remain in correction territory. Facebook, down 11.3% from its all time high on 8/26, will be hard pressed to find any friends in the new administration.

On Nov. 10th the EU filed antitrust charges against Amazon, down 12.1% since 9/2, "accusing the e-commerce giant of using its access to data from companies that sell products on its platform to gain an unfair advantage over them. The charges, filed two years after the bloc's antitrust enforcer began looking into the company, are the latest effort by European regulators to curb the power of big technology companies. ... the EU commissioner in charge of competition issues, has slapped Google with antitrust fines totaling nearly \$10 billion and opened twin antitrust investigations this summer into Apple. The EU's executive Commission also opened a second investigation Tuesday into whether Amazon favors product offers and merchants that use its own logistics and delivery system." (AP)

CHART 8
While We Could Be In A Bubble, Easy Monetary Policy Will Keep It Running For Now



* SOURCE: ROBINTRACK.
** BASED ON OIS.

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Netflix, down 12.3% since 9/1, clearly faces a supply shock in terms of mounting competition.

On Oct. 30th the Department of Justice filed an antitrust case against Google "... for abusing its dominance in online search and advertising ... And it could just be an opening salvo. Other major tech companies including Apple, Amazon and Facebook are under investigation at both the Justice Department and the Federal Trade Commission." (AP)