Q3 2018 Market Review & Outlook

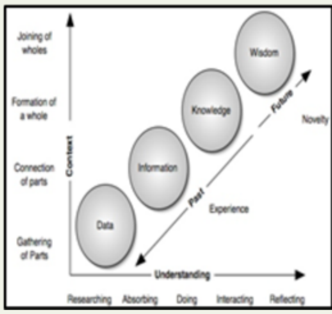
Morgan Creek Capital Management

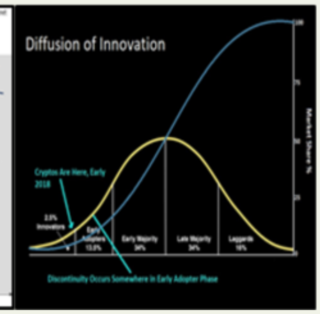
MORGAN CREEK CAPITAL MANAGEMENT

Table of Contents

Letter to Fellow Investors

When It Comes To Wisdom & Innovation: #PatienceIsAVirtue





Source(s): @TheMoneyRoller, quora.com, marketwatch.com, coindaily.com

One of the things we have always loved about the investing business is that you can practice your craft over your entire life and there is no set retirement age. Indeed, there are myriad examples of legendary investors remaining active well into their golden years and we have written about a number of octa and nonagenarians (Soros, Robertson, Jones, Templeton) in these letters over the years. Even more importantly, there is a consistent pattern of results over time that these great investors actually get better as they get older and oftentimes they have created the majority of their fortunes after age sixty. There are a few Latin proverbs that say "experience is the teacher of all things" and "experience is the mother of wisdom;" and therefore, perhaps simply by practicing their craft over so many decades and accumulating so much experience, these icons of the investment world became wise. That said, it seems unlikely that the sole criteria for becoming an investment icon is simply the passage of time and gathering of some large amount of experience (or there would be a lot more legendary investors). Writer Terry Pratchett has said, "Wisdom comes from experience. Experience is often a result of lack of wisdom." So, we will posit that what separates the great investors from the masses is the ability to learn from their mistakes and the ability to be resilient after failure. One of our favorite managers has a motto that sums this up perfectly, "With every investment we either become richer, or wiser, never both." Seneca the Younger said something similar a couple of millennia earlier when he offered that "Failure changes for the better, success for the worse." As investors tend not to be reflective after winning and oftentimes become complacent and let their guard down, a surefire way to lose money in the future. To that point, the first picture at the top of the letter shows the journey toward wisdom and shows how reflection is the most critical element of making the jump from knowledge to wisdom. There are many investors who have learned how to gather data (fewer who can determine what data is the most important), perform analysis to turn that data into information (fewer who have a true analytical edge) and then synthesize that information to create knowledge (fewer who can perform this step consistently). We have often quipped that in the Age of the Internet (where all the world's information is at everyone's fingertips) that we are drowning in information and thirsting for knowledge. What we are all really thirsting for, however, is wisdom and the basic problem is that you can not rush wisdom, it only comes with the passage of time and the development of pattern recognition and muscle memory.

One of our long-time investment heroes (who we should write a letter about some time) was the co-founder of Neuberger Berman, Roy Neuberger, who lived a life that exemplified our point that investing is a vocation for a lifetime. Roy went into his office in New York City every day until he was 94 years old, managed his own money until he was 101 and finally passed at 107. Neuberger's investing motto can be paraphrased by saying "There are three rules for managing money; rule number one, don't lose money; rule number two, don't lose money; rule number three, don't forget the first two rules." We believed for many years that Roy was the longest tenured value investor, but it turns out there was another (a bit less famous) centenarian that edged Neuberger out for the oldest living (most experienced) active investor title. Irving Kahn (the subject of the second picture at the top) started Kahn Brothers Group with his two sons in 1978 and was still actively engaged in managing their $1 billion of assets in 2015 when he passed away at 109 after nearly nine decades in the investment business. Kahn was born on December 19, 1905 in NYC to immigrant parents from Russia and Poland, grew up in the Bronx and attended City College of New York, but in 1928 he elected to withdraw after two years to help support his parents. When talking about that decision, Kahn showed his strength of character when he said, "My mother, Esther, and my father, Saul, were willing to drop the language, religion, and friends of their own countries and come to America to look for a new life." Kahn was faced with a challenging dilemma, he needed to generate meaningful income to help support his family, but he did not have proper credentials to compete for many of the best jobs. In reflecting on that time, he said "Like most kids, I wanted to get a well-paid job, but I didn't know where to find one. At the time, the stock market was hot, and there were a lot of advertisements and public relations items in the newspapers about Wall Street, so I walked into a Wall Street firm, Hammerschlag, Borg, and asked if they were looking for a boy. They gave me a job right away." Exhibiting resourcefulness and courage, these two personality traits would serve him well throughout his career and Kahn made the most of his opportunity, quickly assimilating into the Wall Street environment. Having entered the business at the tail-end of the Roaring 20s, markets were booming, and the pace was frenetic. Kahn worked in the New York Stock Exchange building at 11 Wall Street and he recalled how he was overwhelmed by the pandemonium, saying "After one week of working there, I decided to quit because I thought the people were crazy. They were running around and screaming at each other during trading hours, and they were like clowns! I felt that I wasn't learning anything, and so I went to my boss. He convinced me not to quit, and he sent me to the main office where I became a broker's assistant, doing securities research." We have said in the past that life can oftentimes be a series of happy accidents, and that willingness of Kahn's boss to place him in research would forever change his path toward becoming a great investor.

In order to learn more about investing, Kahn enrolled in Benjamin Graham's Security Analysis class at Columbia University. Graham's class was very popular with young Wall Street traders as he would use popular securities to illustrate examples of both good (long) and bad (short) companies and many students took the class year after year in order to capitalize on Graham's stock ideas. The class met one evening a week for two hours and Kahn and Graham became friendly while riding the subway together to campus. Kahn became Graham's teaching assistant (which he continued to do until Graham retired in 1956) and he would spend a great deal of time on campus developing the relationship with his mentor and also spending time with his future wife, Ruth Perl (a psychology student who he would marry in 1931). Kahn described his role as "my duties were to prepare statistical analyses for class discussions and to mark case studies and exams" and also described the benefits for him at the time as "Not only did I come to truly understand the essence of security analysis by serving as his teaching assistant, but I was also able to earn some extra money" (helping with his original objective to support his family). One of the most beneficial elements of learning from Graham was that Kahn said that "Ben always believed in the Socratic approach. He never provided students with a ready answer, believing that through thorough discussions and rational deductions, solid conclusions would be reached…Ben believed that if he told me the answer right away, I would forget it, but if I took the initiative to look it up myself, then I would always remember it." In investing, the ability to engage in meaningful dialogue and debate, to seek out opposing points of view and to be able to ask the important questions when evaluating an opportunity is the key to success. Too often, investors accept someone else's opinion, or recommendation, and act on that information without exploring both sides of the story or thinking critically about what they might be missing (i.e., what could lead to them being wrong and losing money). Kahn's perspective on this point was that he sought to "[always] know much more about the stock I'm buying than the man who's selling does."

Recounting some of the other benefits of learning from Graham, Kahn said that "He used the Harvard case system. Ben never asked you to believe what he said unless there were concrete examples to support what he said." An example of this came up right before the Crash in 1929, as Kahn remembered how "a student asked Ben if he should buy the warrants of utility company American and Foreign Power Co. - the Internet stock of the day. Ben asked the student to calculate the total market value of the Pennsylvania Railroad, a blue chip company. This exercise showed the whole class how distorted the market had become, and, of course, Ben was right because American and Foreign Power soon tumbled following the crash." Recasting the question into a simple comparison of an established company and an upstart company helped elucidate the fact that markets had reached an irrational peak. Kahn summarized Graham's talent as a teacher in saying "Very few people have Ben Graham's ability to take a subject very complex and boil it down to something simple." Those who have read our letter on Graham (*Not So Intelligent Investors: #Gravity Rules*) may recall that unfortunately, Graham didn't follow his own teachings during the Crash and stayed leveraged long, losing nearly everything (he got wiser, as opposed to richer). He did learn his lesson, however, changed his ways and in the years following the Crash, Graham focused on honing the craft of security analysis and developing the concept of value investing. Kahn (like an artist studying at the elbow of a great Master) learned at the side of his mentor and said that "the concept of value investing, which has been the focus of my life ever since. Value investing was the blueprint for analytical investing, as opposed to speculation." Kahn would later say definitively that "Benjamin Graham remains the father of investment analysis for both elementary and advanced pupils." And his most important contributions to investment theory was "the promotion of certain elemental standards of safety for securities." (Margin of Safety, later embraced by Seth Klarman as we described in #TheValueOfValue.) During Kahn's tenure as a teaching assistant, Graham would author his seminal works on investing and Kahn was quick to point out that while most focus on *Security Analysis* and *The Intelligent Investor*, "Ben's best book is not the book he's known best for [The Intelligent Investor]. His best book, his most important book, was 'Storage and Stability" (Kahn wrote the foreword), which made a case for using a unique monetary policy tool of tying commodity prices to currencies in order to reduce economic volatility and avoid depressions (sound money, what a novel concept, more on this later). It was reported that the Administration reviewed the concept but decided not to implement the ideas for political reasons (sounds familiar…).

We have all heard someone described as "wise beyond their years" and Irving Khan was one of those people. Whether it was taking responsibility for supporting his parents, realizing that jobs on Wall Street were lucrative because of the advertising buzz or his ability to break away from his older mentor and not only avoid the pain of the stock market Crash, but to profit from it. Being able to relate seemingly disparate events and draw meaningful and actionable ideas from that analysis is an incredible valuation skill in investing. Kahn had observed the incredible Florida real estate bubble that had emerged in the early 1920s that culminated in a speculative blow-off top in 1926 where properties had jumped fivefold in that year before collapsing and used that experience to create some markets wisdom (remember he was only 21). Kahn said, "The real estate bust in Florida showed me that any market mania comes up against hard reality in the end. Since stock prices were trading at extremely high levels in 1929, I really couldn't assign a number to what companies were worth, and so I thought of shorting the market." It is one thing to actually be paying attention to a market in which you are not participating (usually can't learn from other people's mistakes in investing, have to make your own), but quite another to make the leap that the events of one market would impact another. What Kahn did next was truly extraordinary. As he recounts the story, his love of reading paid big dividends, saying "From some of the financial history books I read that discussed the market cycle, I learned that stocks in certain industries were especially volatile, and copper was one. I looked at the stock index list and decided to short a copper company called Magma Copper. Because I had little money, I had to ask my brother-in-law, who was a lawyer, to open a brokerage account for me. With $50 (about $750 today), I shorted the stock in the summer, and my brother-in-law said it wouldn't be long before I lost all my money because the market was going up, and I was telling it to go down. In October 1929, when the stock market crashed, my $50 became nearly $100. That was the first trade of my life." Call it Beginners' Luck, or maybe chalk it up to outstanding execution of the process of research and analysis, but either way you look at it, the pupil outplayed the master in what was one of the most challenging investment environments of all time. Like Roy Neuberger, Kahn's core investment philosophy was seared in his brain during the next few years, commenting "when the Dow Jones Industrial Average dropped 85 percent - from 350 to 50 points, between 1929 and 1933 - the Great Depression became very real to me…The Depression taught me what frugality means and the importance of not losing money" (don't forget Rules one and two). Kahn's version of Roy's Rules was the realization that contrary to the popular wisdom (perpetuated by Wall Street that wants to sell investors stocks) "you don't have to be fully invested all the time. Have patience, keep your standards." And "Investors must remember that their first job is to preserve their capital. After they've dealt with that, they can approach the second job, seeking a return on that capital."

The experience of working in a Wall Street investment house gave Kahn insight into the misalignment of interests between the street and investors and he maintained that "The gambling nature of Wall Street has little or no interest in the serious, underlying nature of businesses" and understood just how dangerous it was to confuse the price of a security and the value of a business. Under Graham's tutelage after the Crash, he came to the core belief that "Value investing… is one of the best ways to step apart from the crowd and to protect oneself from the unpredictable behavior of the securities markets." Furthermore, Kahn learned that there was a significant, and meaningful, difference between investing and speculating and said that "You gain much more by slow investing and concentrating on what you know, than on fast investing, which is nothing more than gambling." Kahn had learned the absolute necessity of doing original research and not relying on other sources of information that contained bias and always advised people to "do you[r] own homework and don't believe in the newspapers." The original value investing premise developed by Ben Graham was to buy securities when their price fell below fair value, to make sure that there was a margin of safety to protect the downside of any investment. One of the challenges of using a security analysis approach back then was that "in the early days, many companies had opaque financial reporting standards, and so it took quite some effort to read between the lines and delve into the footnotes of financial statements to find out about the quality of a company's management. Sometimes the lack of information made things difficult, and sometimes company executives did not treat shareholders as if they were business owners." We know it is just shocking to think that corporate management teams would make decisions that put their interests above shareholders, but Kahn summed up the problem succinctly saying, "Remember that many complex factors - such as accounting choices and the human problems within management and with large shareholders - lie behind reported earnings." Kahn was even more cynical that we are (impressive feat) and created one of my favorite investment maxims in discussing the problem with reported earnings when he said (very bluntly) "Don't trust quarterly earnings. Verify reports through the source and application statement. Figures can lie, and liars can figure." One of my other favorite sayings about this topic is that "if you torture the data long enough, it will confess."

Kahn learned very early in his career about the perils of data access and reliability, telling investors all the time "Don't depend on recent or current figures to forecast futures prices; remember that many others knew them before you did." When we get together as an investment team, our baseline is that we are not privy to much proprietary information so we have to create an edge from better analysis, synthesis and perhaps a little wisdom from a few of us with gray hair. Kahn pointed out that when he got into the business it was actually the opposite, it was possible to gain an information advantage because access was difficult (no internet), accounting rules were less robust (less consistency) and preferential relationships with management were not considered illegal (like they are today after Reg FD). Kahn reminisced about the good old days, saying "Net-net stocks were easy to find in the early days. All I had to do was to look over annual reports and study balance sheets. I tried to find companies that had dependable assets such as cash, land, and real properties. Then I made sure they didn't have too much debt and had decent prospects. If these stocks traded at below their net working capital, then I would be interested in buying them." It is actually pretty tough not to make money when you can buy dollar bills for fifty cents and the early value investors did gain a material advantage and generate superior returns for many years following the Depression. Kahn described that period saying "The Great Depression was like a big storm that sank every ship. It was easy to make money if you had the right approach and knew where to look because some companies were in good shape and had nothing but cash. For example, some export companies were not severely affected by the Depression, but they were beaten down and had net cash per share that was much greater than their stock price. You didn't have to be very smart to find value. All you needed was the right investment model." One of the core tenets of our investment philosophy is borrowed (stolen) from Michael Steinhardt who coined the term "variant perception." The construct is that you have to come up with a thesis that is materially different from the consensus and have identified a catalyst that will unlock that differential. Kahn says something similar, "We basically look for value where others have missed it. Our ideas have to be different from the prevailing views of the market. When investors flee, we look for reasonable purchases that will be fruitful over many years." The Graham mantra of being greedy when others are fearful (and conversely fearful when others are greedy) is clearly evident here. In the end, we come back to patience, the ability to capture excess returns from time arbitrage (having a longer time horizon than the competition). In Kahn's words, "Our goal has always been to seek reasonable returns over a very long period of time. I don't know why anyone would look at a short time horizon. In my life, I invested over decades. Looking for short-term gains doesn't aid this process." In essence, "The analyst must both practice, and to his client preach, patience." Kahn would say (likely echoing Graham) that "Value investing is an art not a science" and went on to say that "Between the ultra depression-conservatism of Ben Graham and the brilliance of monopoly investor Warren Buffett, there are ample levels [of Value investing] that should fit your own pattern of risk to reward, suitable for your capital needs and lifestyle."

Kahn developed his investment style during the greatest dislocation in the history of U.S. capital markets, so it is not surprising that he adopted a value strategy most closely aligned with the post-Depression approach developed by Ben Graham. Kahn would describe his approach by saying "I prefer to be slow and steady. I study companies and think about what they might return over, say, four or five years. If a stock goes down, I have time to weather the storm, maybe buy more at the lower price. If my arguments for the investment haven't changed, then I should like the stock even more when it goes down." The most important premise underlying this strategy is that there is a determination of fair value and that securities are only purchased below that value in order to limit downside risk. It is logical that should the price fall further below fair value there would be incentive to buy more. The problem for most investors is that they buy stocks based on price movements and are prone to chase rising prices (FOMO). Kahn had observed how "The public is spellbound by daily price moves. Less noticed are long-term economic changes that ultimately set future prices," and "Prices are continuously molded by fears, hopes, and unreliable estimates, capital is always at risk unless you buy better than average values." In other words, unless you buy with a margin of safety, you put yourself in a position to lose money (perhaps a lot of money). In our opinion, one of the most important rules in investing is to never conflate a good company with a good price. Kahn makes this point, saying "There are always good companies that are overpriced. A disciplined investor avoids them. As Warren Buffett has correctly said, a good investor has the opposite temperament to that prevailing in the market…If a company has great prospects everyone already knows about it. We won't be comfortable paying for good prospects." Discipline is one of the most important things in investing and having the ability to invest without emotion is critical for long-term success. Kahn's view was that "You must have the discipline and temperament to resist your impulses. Human beings have precisely the wrong instincts when it comes to the markets." We routinely say the same thing with slightly different words, reminding investors that humans do two things really well, they buy what they wish they would have bought and sell what they are about to need.

Kahn recognized early in his career that there was incredible value in independent thinking and the ability to separate from the herd (especially when markets become expensive) in order to make superior returns. One thing that he learned from the blow-off top during his formative investing experience was that "Shrewd investors must… resist following the crowd; when everyone is making money these investors know this portends a decline." Kahn learned very early that while security values were relatively stable, "Security prices are as volatile as ocean waves - they range from calm to stormy" (tremendously undervalued to tremendously overvalued). The real problem that he identified was that the exact timing of when those pricing anomalies would revert back to the mean (move back toward fair value) was extremely difficult to determine (markets behave irrational longer than rational investor can remain solvent) and Kahn quipped that "No one knows when the tide will turn. Those who are leveraged, trade short-term and have bought at high prices will be exposed to permanent loss of capital." Those last four words are the most important as they are the bane of any investor's existence; once the capital is permanently impaired you lose the benefits of compounding. He said specifically that "Remember the power of compounding. You don't need to stretch for returns to grow your capital over the course of your life." Einstein was right when someone asked him what the most powerful force in the world was and he replied, "compound interest." Irving Kahn's long-term investing success was driven by his ability to focus his attention on a relatively concentrated portfolio, and hold that portfolio relatively consistently (not a lot of turnover). "I stick to the 20 odd stocks that I hold…I don't watch it (the stock market every day), because I'm not a trader." Trading isn't bad in and of itself, it is just a very different game. Being an investor requires discipline, focus and patience and those were Kahn's greatest strengths. He often quoted the Mark Twain line that "History doesn't repeat, but it rhymes" and he was fond of saying in a very matter of fact manner that "Throughout all the crashes, sticking to value investing helped me to preserve and grow my capital." Keeping it simple, just like his mentor.

After nearly a half century of working in the investment business (about the time the average person would retire), Kahn decided to strike out on his own and form an investment advisory business with his sons, Thomas (who Kahn gave the middle name Graham in honor of his mentor) and Alan in 1978. His decision was motivated partly in response to the rise of passive investing and index funds. Kahn believed strongly that fundamental analysis and active management were a superior strategy for investing capital. That belief was rooted in his observations during the Nifty Fifty Era during the late 1960s and early 1970s when investors created a mania around investing in only the top Blue Chip companies of the day. We know how that story ended (the way all bubbles end) with the collapse of the markets in 1973-74 and the generation of very significant losses for speculators (those who chased prices higher) who pushed companies like Polaroid to 90X earnings. Kahn had very strong opinions about the flaws of the Index Fund (we resemble that remark) and had said that "the index fund will come and go, leaving the time-tested guidelines of professional investing unchanged" and "Investors will reject the index fund concept as an unconditional failure." While clearly with the benefit of hindsight (and the Tax Act of 1986 that mandated the creation of DC Pensions that funnel money into mutual funds), Kahn's negative forecast for index funds did not come to pass (one can't be right all the time, even when one has plenty of experience and wisdom), as today there are actually more indexes than stocks (by a wide margin), but there are a couple of points that Kahn made then that are important in the current environment. First, Kahn believed strongly (as do we) that active management would always play an important role in investing saying, "It is unlikely that, in this ever-changing world any formula will ever successfully replace the study and objective analysis of individual securities." While no one at the time could have foreseen the incredible developments in computing technology and algorithmic trading that have led to the explosion of quantitative investing, we will double down on the argument that there will always be a role for fundamental analysis (computers can process facts faster, but still lack reason). Second, Kahn made the point (that we often make today) that there is no such thing as passive, that formulaic investing is simply "slow active" and said that "Those who manage index funds cannot expect the contents of these indexes to be any more permanent in the future than they have been in the past." Case in point, half of S&P 500 companies will turn over in a decade (mergers, bankruptcies, etc.).

However, Kahn's most important belief about the danger of index funds (again one we share) was that they are "dumb" (meaning rules based) and they cannot react effectively in times of market stress. He posited a question in an interview right as he was starting Kahn Brothers, asking "What will happen when, as is certain, the index fund concept encounters a market climate in which it performs less well than it has in the recent climate?" Investors clearly knew the answer from the most recent debacle following the bursting of the Nifty Fifty Bubble and Kahn reiterated the point that we originally made when writing about George Soros and the theory of Reflexivity, that markets are pushed higher by the virtuous cycle of passive money chasing higher prices and markets are pushed lower by the vicious cycle of passive money trying to exit. In Kahn's words "The price effect of some billions of dollars of index funds trying to unload at the same time should be spectacular - and chastening to any investor foolish enough to think that index fund investing is 'prudent'." The critical point here is that index funds and passive investment strategies are not only less prudent than active management strategies, but that there are times when they will be the epitome of imprudent, when the act of investing (buying based on fundamental analysis) morphs into speculation (buying simply because price is rising). The worst example of this egregiously imprudent behavior is the creation and use of low-vol index strategies that simply buy stocks because the volatility of their price is low. This rules-based strategy is the antithesis of value investing as the rules reflexively create a systemically dangerous situation by pushing the volatility of the stock lower (through increased buying), which leads to more buying in a self-reinforcing cycle right up until the bubble pops and then the whole process reverses. As the stock moves lower, the volatility rises (through increased selling), which leads to more selling, exacerbating the crash.

One final point Kahn made for forming his firm was that the average results for most institutional investors was sub-par and he believed there were two reasons for the underperformance. "First, the institutional client illogically expects security selection to be limited to the major corporations conventionally selected by others. This conventional bias dooms performance to an approximation of the averages…" Kahn's contention was that investors should invest across the spectrum of company size and that the capitalization weighting of index funds was (again) the antithesis of prudent investing because everyone was crowding into the same few large companies (was clearly truer back then versus today, as there are more types of indexes now). "Second, the institutional investor believes he should have his hand held a few times a year to confirm his own reactions to the current scene…Mixing short-term expectations with assessments of the slower forces behind security prices dilutes long-term returns." Kahn was again focused on the behavioral challenges that investors face, that the constant focus on short-term results creates pressure to react in precisely the wrong way at the wrong time, to sell when others are selling and to buy when others are buying; a strategy that his experience and wisdom knew would produce inferior results over the long term.

In 2011, after another thirty-three years in the business (now with eighty-three total), Kahn was asked about how the investment landscape had changed and whether being a Graham-style value investor was still an appropriate strategy given the changes in the markets over this storied career. Kahn admitted that things had changed and made a few interesting points that only someone with his longevity could really have proper perspective, saying "When I got to the street in [19]28/29 it was much more a rich man's game. Not that I was rich…It's no longer a rich man's business. It's a business for everybody." The democratization of investing is evident and there are tools and strategies for investors at every level of experience and knowledge to participate in the markets. Khan also pointed out that "If the art of investing were actually easy, or quickly achieved, no one would be in the lower or middle classes," and "Successful investors, like successful doctors, must have a good understanding of the hard facts expressed in numbers…" Kahn has been an analyst his whole career and he believed, as Julien Robertson was fond of saying, that you should "never fudge the numbers." Kahn also made a point about the importance of mentors, saying "Most know someone who has had a successful career of investing profitably, search that person out and learn from them." Kahn did lament the loss of the deep value opportunities of his early days, saying "I understand that net-net stocks are not too common anymore, but today's investors should not complain too much because there were only a handful of industries in which to look for stocks in the old days. Now there are so many different types of businesses in so many different countries that investors can easily find something. Besides, the Internet has made more information available. If you complain that you cannot find opportunities, then that means you either haven't looked hard enough or you haven't read broadly enough." Perhaps the glory days of buying cigar butt companies (cents on the dollar) were indeed gone forever (too many investors arbitraging those opportunities away), but the globalization of the industry and the incredible advances in technology have created myriad opportunities for investors. Kahn's motto was "There is always something to do. You just need to look harder, be creative, and be a little flexible!" We would agree that creativity and flexibility are #Edges that can be utilized to generate significant alpha, particularly when those characteristics are utilized to find big ideas and future themes. Taking it back to Kahn's early days, doing analysis on the best buggy whip company was a waste of time while investing in even average car companies was highly profitable as the horseless carriage became the dominant technology of the new century.

Kahn believed strongly that one of the keys to investing success was to be an active learner, particularly in areas around science in the pursuit of big ideas. He said that "to be a successful investor learning is essential" and highlighted his love of books, saying "I'm a passionate reader. That's why being an investor is the perfect job for me." Charlie Munger is known to have said, "In my whole life, I have known no wise people (over a broad subject matter area) who didn't read all the time - none, zero." Kahn had a funny quote when asked what he read saying, "I read a lot of science. I read no fiction and no mystery stories and no sex novels. So, that leaves a lot of time for science… Reading about science gives me an open mind! When European scientists discovered uranium and found that it could produce power, people thought they had had too much to drink." His point was that things that sound fantastical are often those opportunities that have the most investment potential. Jim Grant wrote once in his iconic investment letter Grant's Interest Rate Observer that "the key to making outsized returns is to believe in something before everyone else understands it and to get everyone to agree with you, later." Kahn would echo that sentiment saying, "Many scientific ideas that sounded unbelievable in the early days of my life have now become reality, so it is important to read science books and to learn about the future." We have made the case many times in these pages that the largest way to create significant wealth is to invest in disruptive innovation and be willing to believe in the future of a technology or innovation long before others understand it or are willing to adopt it. The challenge for investors is that that eventual adoption can take a long time and patience is required, as is a thick skin (and firm resolve) as you will be ridiculed and chastened for taking an unconventional position; however, the rewards will be worth it. Kahn also commented on the other side of disruption, capitalizing on those being disrupted, saying "Disregard the competition at your peril - they are always attacking your company's trade position and its earnings." We have always believed that a strong investment program will be not only long the disruptors, but also short the disrupted. History is replete with examples of huge swaths of market capitalization being transferred from one company(ies) to another with superior technology and both movements of capital are compelling investment opportunities. Finally, Kahn puts a positive spin on the creative destruction process (powerful coming from him when he was 106) saying, "People are always worried about the economy and the world, especially since the financial crisis of 2008 and Europe's sovereign debt crisis in 2011. I feel that people should learn to be optimistic because life goes on, and sometimes favorable surprises come out of the blue, whether due to new policies or scientific breakthroughs." We would agree wholeheartedly and will discuss one of those favorable surprises that was a great surprise to emerge from the depths of the global financial crisis, blockchain technology and bitcoin.

Kahn had said that one of the things he learned from Ben Graham was the power of a positive attitude and he tells a story of how this applied in his life during the Depression: "When my boss reduced my salary from $100 to $60, he asked me why I was smiling, and I said, 'I thought you were going to fire me!'" He kept that positive mental attitude as well as a keen sense of humor throughout his incredible career. When asked why he worked so much more since his wife passed away he quipped "I simply wasn't able to find anyone else as interesting as the woman I shared a bed with for 65 years." A few years later, at 100 years, old, when asked why he doesn't retire, he replied matter-of-factly that "It's like I'm married to the business, more so because my wife isn't here. It's sort of like a game with me. It's fun to get things right for the right reason." We love this quote. Investing is an incredibly fun business and the active pursuit of new ideas and new opportunities is invigorating (perhaps it helps explain why so many continue into twilight years), but the getting things right for the right reason (definition of skill) is truly the most rewarding element of investing. Kahn was also adamant about staying active and constantly trying new things, saying, "The important thing is to keep that brain going you see…Learn things that you can't do yet - that keeps you young!" Having a purpose every day is critical to both physical and mental health, but Kahn's insight that focusing on new things actually keeps you young is rooted in science. When you seek new challenges and try new things, new synapses form in the brain and energy increases. We have said to many people in the past year that focusing time in the blockchain and cryptocurrency areas over the past few years has been one of the most invigorating experiences in our career and we have actually told people that we feel younger (could be having a seven-year-old at home too…). Kahn also makes the point about the value of networking, saying "You have to stay in motion, be open and get to know people from all over the world." Again, we could not agree more and with advances in social media technology, we have been amazed at the ability to expand our own network across countries, industries and cultures.

Kahn's son, Thomas, offered these thoughts about his dad around his 100th birthday, "My father continues to research ideas and talk to companies. One of the nice things about this business is that there's no mandatory retirement age, and you allegedly get wiser as you get older." We like Thomas' use of the term allegedly (we all can relate to poking fun at Dad), but we do believe very strongly that wisdom does indeed come from experience and the plying of a trade for many years (deliberate practice over time creates skill). We have also argued that it is the ability to learn from the mistakes that makes you wise and in investing that is particularly true since even the greatest investors of all time are only right about 58% of the time (lots of chances to learn). Kahn was quoted in a conversation with an investment professional (sixty years his junior) saying, "I think people my age are brighter than people your age. You don't make the same mistakes and that by itself gives you an enormous edge." Kahn was not being critical of the youngster, but rather making the point that surviving mistakes in the past and being able to avoid making those same mistakes in the future (you will make plenty of new ones…) provides an edge to an investment analyst (or anyone else for that matter). Becoming the world's oldest living active investor had many benefits and Kahn joked that one of them was that "You get to be famous when you live long enough!" In that same interview at the youthful age of 106, Kahn makes the key point that "In life, the goal is to achieve happiness, so start thinking about the things that count!" We can't think of a better point to end our journey through the wisdom of Irving Kahn and we are excited about the fact that should we be so fortunate to stay active in investing as long as he did, we have only reached the halfway point and that is a very exciting prospect indeed.

Speaking of halfway points, there are many observers who are commenting that the 2018 Bear Market in bitcoin (and other cryptocurrencies and utility tokens) means that the bubble has popped and the end is nigh for blockchain and crypto. We will say it very definitively, nothing could be further from the truth and blockchain technology, cryptocurrencies (and other crypto assets) and bitcoin are actually #JustGettingWarmedUp. The third picture at the top of the letter is an excellent depiction of the adoption timeline of new technology that has been customized for crypto assets. What this model shows is that with any new technology there are five distinct phases in the long-term adoption of that technology that follow a repeatable pattern as the idea moves from creation to broad use. Technology is always championed in the earliest phase by the "Believers" (starting with and including the creators) and the goal of the initial phase is to establish that the technology works, discover some potential use cases for the new technology and begin the process of evangelizing the idea to others (who all think the Believers are crazy by the way…). In the case of bitcoin, we wrote two letters ago about Satoshi's vision for a peer-to-peer digital currency and the process that led to the posting of the original white paper ten Halloweens ago. Last quarter, our theme was Eureka!, that "moment (also known as an Aha! moment, an epiphany or insight) is a psychological term that describes the common experience of suddenly understanding a previously incomprehensible problem, idea or concept; moreover, when things you have been contemplating become suddenly clear and obvious." Satoshi had exactly that type of moment sometime in 2008 when he/she/they (no one knows for sure) solved the intractable problems of central authority and the double spend problem that had relegated earlier digital currency projects to the dustbin of history. We discussed how "research has shown that these types of problems are difficult to solve because of a fixation of the wrong aspects of the problem and that ultimately arriving at the solution requires thinking 'outside the box.'" We view Bitcoin as one of the best surprises to come out of the blue of scientific discovery in a very long time and the potential for the applications of this technology are vast and will impact every business model over time.

We have written and spoken about the fourteen-year computing power technology cycle many times. The cycle began with the Mainframe Era in 1954 (harness power of computing machines), followed by the invention of the microchip in 1968 (harnessing power of miniaturization), followed by the PC Era in 1982 (harnessing power of mass computing), followed by the Internet Age (harnessing the power of connectivity), and then followed by the MobileNet in 2010 (harnessing computing ubiquity). Now we are in the beginnings of the establishment of the TrustNet in 2024 (harnessing the power of peer-to-peer exchange of value). We emphasized this last point when we wrote last quarter that "Between now and 2024, we believe that the impact of the Internet of Value (what we are now officially dubbing the TrustNet) will dwarf the impact of these earlier eras. Five years into our blockchain journey, in an RV rolling through Eureka, CA, we had the epiphany that the coming Digital Age will usher in the greatest period of wealth creation that we will see in our lifetimes." After the Believers emerge, who are responsible for the early eruption of the technology, there is a slow process of winning Converts who help build out the infrastructure necessary to support the growth and adoption of the technology. We discussed this process last time in adapting Archimedes' Principle of Displacement (what he discovered when he cried Eureka!), relabeling the process of conversion as Ignorance Displacement Theory. We wrote, "While we (like all the other intelligent people we know who have looked closely at this topic) originally began somewhat skeptical of the promise of the technology, the more we immersed ourselves in the topic, the more we displaced ignorance with knowledge, and the more excited we became about the potential impact that this technological evolution (I intentionally don't use word 'revolution' as this technology builds on prior computer technology) is likely to have over time." As we grow from the very small percentage of Innovators (2.5% of the general population) toward the Early Adopters (as we win Converts), the S-Curve of adoption begins to take shape and there is a tipping point at around 16% adoption when the Early Majority have their Aha! moment, at which point the momentum begins to accelerate (we then capture the massive market that is the other 84%).

There are just two small (well, actually kind of big) problems that occur during this transition. First, as the technology begins to win Converts and some early projects begin to have success, the potential for large profits attracts Speculators who see the rapid price appreciation (law of small numbers, easier to make big returns off of small base) and are drawn to the movement (like moths to a flame). As the quote in the third picture states under the Speculator section, "We are in a pricing discovery phase, including a rapid price increase. Most of the entrepreneurs are driven by short-term profit. Many new project companies are starting. This time is different. Or is it?" ("This time is different" - the four most expensive words in investing.) This description fits the last couple of years perfectly and in addition to the entrepreneurs trying to capture their place in the ecosystem, the rapid price appreciation potential attracts plenty of the wrong types of market participants as well and there is the creation of a speculative bubble. We wrote last time, "As in every mania, the lure of quick riches attracts all kinds of unseemly individuals…If we compare the mania in the cryptocurrency and initial coin offering (ICO) markets that occurred in late 2017 to the California Gold Rush we can see some eerie similarities as those who pursued quick riches through speculation have mostly found heartbreak and loss while those that focused on providing infrastructure have found significant wealth creation opportunities." We discussed the difference between the Believers and the Converts (us included) that invested in Coinbase (a company that in five years reached $1 billion in revenue) to the Speculators who chased the skyrocketing ICOs of the latest hot project. The former has seen the valuation explode higher with an investment of $300 million by Tiger Global at a valuation of $8 billion and the latter have seen losses of (90%+) and many of those will disappear altogether. We wrote last quarter, "The beauty of the Coinbase (exchange) model is that they make money regardless of which direction the price of cryptocurrencies move day to day," and while cryptocurrencies have struggled mightily in 2018 (even bitcoin has drawn down 80%), Coinbase in on pace to grow revenues nearly 30% for the year.

The second problem is that in order to reach the tipping point into the Early Majority section of the S-Curve in the fourth picture above, there is always a discontinuity (sometimes labeled the burst, crash, chasm or some other negative sounding word) that must be endured and conquered. The pressure on prices caused by the Speculators creates an inevitable bust and as prices begin to decline, those weak hands begin to fold and sell. We discussed this challenge last time when we talked about how we told investors last December that the $19,657 price peak in bitcoin was likely a speculative top and that there would be a correction back to fair value (we believed it to be around $10,000) by the end of 1Q18 (no, unfortunately we didn't short it). We believed that the catalyst for conquering this challenge would be the development of institutional custody solutions that would attract the "Great Wall of Money" (institutional capital) into the crypto asset space and begin the movement toward the Early Majority phase. While we have indeed seen some Early Adopters from the Endowment world (Yale, Harvard, ND and UNC) commit capital to venture funds focused on the infrastructure side of blockchain technology, we have not seen much direct investment into bitcoin from these same institutions. While it may be possible that they are buying in the OTC market (easier to hide the purchases), we do not believe that there is significant enough volume given the sharp drop in prices in recent weeks for this to be occurring. On the contrary, there is a good conspiracy theory that says institutions (JPM, Soros, etc.) are pushing the price down by making negative comments (while shorting futures) in order to buy bitcoin from retail investors at lower prices (actually, not a completely crazy thought). We are clearly in the grip of a shake-out in the bitcoin market and we will admit that we were wrong in our estimation that the impact of futures activity could not put undue pressure on prices (we didn't think that the "paper crypto" issue would be a problem given cash settlement). The problem with the frenzy phase of technology adoption is that once Speculators descend on a market, they only care about one thing, rising prices, and should those prices begin to fall, they leave as quickly as they came. Worse yet, the most sophisticated quantitative traders can take advantage of these market participants because of their superior analytical and trading horsepower. Their complex models and leveraged trading structures allow them to inflict significant damage to market equilibriums in the short-term (can seed moves and exacerbate trends). The good news is that they will help with the recovery on the other side of the chasm once that recovery begins (they are direction agnostic, just need trading volume). That recovery will be driven by the next phase of participants in the third picture, the Builders, who realize that the biggest opportunity comes after the initial pause, the tipping point is reached, and we begin to rapidly scale the S-Curve ramp. The focus on developing new protocols, new use cases and the entrance of new participants in the markets as well as adopters of the new technology and solutions will drive incredible wealth creation. Remember that almost none of the important internet companies were meaningful before the tech wreck and, like the Phoenix (the original name for the global digital currency predicted by Economist in 1988), they rise from the ashes and build upon the mistakes of the early pioneers.

We wrote last time, "One of the ways to determine how much a solution is necessary is to evaluate the loudest opponents of the change. If there is no opposition, there is probably not a lot of need (and vice versa). In the case of bitcoin, there is incredible vocal opposition." We are all familiar with Jamie Dimon calling it a fraud, Warren Buffet calling it rat poison squared (still not sure why squared) and Charlie Munger one upping everyone in saying it was like trading in harvested dead baby brains (seriously, Chuck?!). In the first quarterly letter, we showed a picture of the original cover of Bitcoin Magazine that sums up the essence of bitcoin perfectly, "The corrupt fear us, the honest support us, the heroic join us." Tim May (author of the Crypto Anarchist Manifesto) warned us in 1988 that banks and governments would fight this technology with everything they have (proving how valuable it really is) and given that Berkshire Hathaway has 46% of its portfolio in banks, there is no surprise that the boys in Omaha speak ill of bitcoin. Not to be outdone, this past week a UBS executive came on CNBC and channeled Marc Anthony's critique of Julius Caesar in his Friends, Romans, Countrymen speech saying he was coming to "bury bitcoin, not praise it" (and then proceeded to conflate bitcoin with utility tokens and present myriad other factual errors). It is always important to consider the source and it is never a good idea to ask an incumbent what they think about a disruptive technology (if you want to learn anything, that is). In fact, in every year of bitcoin's existence, there has been a story about how it is dead, and the RIP bitcoin cacophony has reached a fevered pitch in the past few weeks. The odd thing is that these claims are being made despite the fact that the fundamentals of the bitcoin network have never been better (highlighted in the Bonus Surprise below). Bitcoin has been the best performing asset class over the last decade, and the last five years, and is up over 400% in the last two years (inclusive of the 80% drawdown). Just as a reminder, bitcoin is up 10X from the first time we wrote about it in the pages of these letters in Q2 2014. We have said many times in presentations (and wrote last quarter) that "the miracle of bitcoin was that it survived at all (given how many people wanted to kill it) and moved from $0.004 to $10.00, reached critical mass and gained the benefit of the network effect. The subsequent move from $10 to $100, $100 to $1,000 and $1,000 to $10,000 (now $6,500) was not a miracle, but rather the normal growth of a network as it develops over time." The stark reality is the more people, institutions and governments try to fight bitcoin, the stronger it gets, as people realize why the elites and the banks are so afraid of losing their monopoly control of the money supply and see the benefits of sound money. Satoshi designed bitcoin to be the antithesis of fiat currency, saying "There is nobody to act as central bank or federal reserve to adjust the money supply as the population of users grows."

We discussed in the past how Lord Keynes was prone to say, "It would not be foolish to contemplate the possibility of a far greater progress still." Satoshi made a similar statement about bitcoin, saying "It might make sense just to get some in case it catches on." Given the very significant correction in price and looking at the history of previous parabolic moves and crashes (the nature of prices during technology development and adoption), we believe that we are close to a bottom for this cycle and that acquiring a position in bitcoin in the coming months will serve investors very well over time. The most compelling reason to own bitcoin is that it is a network with a fixed supply, which means that as the technology moves along the S-Curve of adoption and more participants join the network, the price must rise. There are many thoughts on what the ultimate use case will be for bitcoin ranging from the global reserve currency ($86 trillion total available market ("TAM")), to a borderless global payments system (tough to estimate TAM but suffice to say a big number) to simply a store of value like digital gold. We made the case in May that "it would not be foolish to contemplate the possibility of achieving "gold equivalence" ($8.4 trillion) which would yield a BTC price of around $400,000 (and even higher if other use cases develop)." Our view on crypto assets is that it is entirely prudent (and therefore wise) to allocate some portion of your portfolio (1% to 5%) to bitcoin (and other cryptocurrencies), as they possess a very powerful combination of the potential to generate meaningful long-term returns and even more meaningful diversification benefits given their low correlation to traditional assets. We wrote last time, "The best part of the story, though, is that the story is just beginning. We are at the equivalent of the 1850s when Eureka was being incorporated as a city. While it is true that all the easy gold (the seventeen-pound nuggets lying on the ground) have been picked up by the Early Adopters, but the real wealth creation opportunities are ahead of us in the future." The transition from the Analog Age to the Digital Age is one of those huge scientific breakthroughs that Irving Kahn talked about being so important for investors to pay attention to in order to win big in investing over the long term. There is still a huge number (89% +) of people who are not Believers, Converts or Builders, and, by definition, those of us in the Early Adopter phase have to continue to believe in something before others understand it, but that dichotomy presents us with a very asymmetric return opportunity. While the Speculators flee from the falling prices (they bought something they did not understand) and the media and the haters rejoice in the crash in the price of bitcoin (because it threatens their meal ticket), Kahn was fond of saying "Real investors should never feel bearish because the time to buy value is when markets go down!" The key word is "investor," as we agree with Kahn completely and know that in the spirit of the holiday markdown season, rather than be those people who run out of the store when prices fall, we will stay in the store and buy what it is on sale. Black Friday weekend markdowns in bitcoin reached (82%) and while there could be some additional downside, we believe that accumulating at these prices in advance of the next parabolic advance will yield very strong returns.

As a reminder, we wrote last time, “We believe that the Blockchain Era and the TrustNet will not be officially ‘crowned’ until 2024 (following the 14-year tech cycle), so we anticipate that the Digital Gold Rush fields will be relatively sparsely populated for a few year yet (plenty of easy nuggets to find).” Our primary thesis is that blockchain technology will enable a digital future where all assets of value can be exchanged globally without the need for a trusted third party. To reach that digital future, massive amounts of infrastructure will be needed to facilitate transactions on the networks. As we mentioned in past letters, we are so excited about the opportunity to participate in the #DigitalGoldRush that we built out the team at Morgan Creek and created a dedicated business unit to specialize in investing in the space, Morgan Creek Digital Assets. We wrote last time, “While Sam Brannan had the distinct advantage of owning the only general store between the port into California and the gold fields near Sacramento (call that the beauty of a monopoly), there are a handful of very competent firms that have raised funds to focus on the investment opportunities in the Digital Gold Rush…” We appreciate that we don’t have the new territory all to ourselves. We also noted that “many of the firms come from one specific area of technology investing or trading. If, however, we instead apply the criteria that an ideal firm to take advantage of the migration to the tokenized economy would have extensive experience in managing institutional capital, a strong regulatory and compliance team, battletested operations personnel and an investment team with a history of being on the frontiers of new technologies, then the list <u>does</u> narrow and Morgan Creek Digital looks more like Brannan’s General Store.”

Philosopher Arthur Schopenhauer said, “Talent hits a target no one else can hit; Genius hits a target no one else can see.” Our experience has been that following the talent is often a proven way to generate superior investment returns. We have noted on many occasions that we have only seen a migration of talent into a new technology one other time in our career and that was in the mid-1990s around the internet. Without exception, the casual (read less informed) observers view those early Innovators with skepticism (even cynicism) and think that what they are pursuing is foolish, and even in some cases, dangerous. Schopenhauer was right that genius hits the target that others cannot see, or as Kahn would say, the things that seem unbelievable when first proposed. Science and technology are the fuel for innovation and, as we set out in the title of the letter, when it comes to both wisdom and innovation, patience is a virtue because transformational change does not happen overnight. Perhaps it is simply the fact that someone who has lived a long life (like Kahn) has experienced more of these cycles of turning the unthinkable into reality (and benefitted from investing in that innovation) that allows them to have the wisdom to fully embrace the opportunity. Or perhaps it is the fact that someone with a long career in investing has made enough mistakes (backing the wrong technology or selecting the wrong talent) to have learned from that collective experience how to differentiate between opportunities that are worth monitoring and those on which are worth going all-in. While we have only half the experience (and probably only some lower fraction of the wisdom) of Irving Kahn, we believe very strongly that the Blockchain Era and the Bitcoin Standard will be a world-changing technological evolution and will create the largest wealth creation opportunity we are likely to see in our lifetime, unless of course we are blessed by the gift of longevity like Mr. Kahn. As our final thought on this topic, we know that the “haters are gonna hate” and Jamie, Warren, Charlie and the UBS and other bank economists are going to continue to criticize bitcoin, but we will quote our partner, Anthony “Pomp” Pompliano, here by saying the best trade of the decade ahead is to go #LongBitcoinShortTheBankers.

Third Quarter Market Review and Outlook

Our January Around the World with Yusko (#ATWWY) Webinar each year is entitled *Channeling Byron: 10 Potential Surprises for the New Year* (#MCCMSurprises), with a nod to Byron Wien, the former Morgan Stanley and Blackstone Strategist who originated the annual 10 Surprises idea. The nice thing about doing the Surprises in late January is that their production coincides with writing the Q4 letter. The process of looking back over the past year's Surprises (counting up hits and misses), gathering information on precisely what the Consensus is for each asset class, geography and sector and then forming Variant Perceptions (the actual Surprises themselves) provides a huge amount of data from which to create the New Year's Market Outlook. The Surprises framework is sufficiently broad that we can cover the vast majority of global markets and can even drill down further, when necessary, to look at investment sectors and individual company ideas that allow for the optimal expression of the investment themes. That Annual Investment Outlook then lends itself quite nicely to a quarterly update throughout the year to check in on the Surprises themselves and the related investment ideas we have come up with to capitalize on those opportunities. So, let's get to the update for the third quarter of 2018; in keeping with the blockchain theme of this year's letters, we will simply "Add a Block" of new analysis to the original text from the Surprises section from the Q4 letter to bring us up to date on the progress of the markets related to each Surprise.

A couple of important reminders before we begin. When we talk about Surprises, it is important to clarify that Surprises are intended to be non-consensus ideas, which by definition have some reasonable probability of not occurring. In other words, they are not necessarily predictions (we would expect only a little above half will come true over the long term). To this point, the actual definition of a Surprise is a variant perception (an idea that is materially different from the consensus) that we believe has a better than 50% chance of occurring in the current year. The key point here is that a variant perception must be *materially* different than consensus to be truly valuable. The uncertain nature of a true Surprise fits in perfectly with the famous Soros quote about how meaningful returns are made by "discounting the expected and betting on the unexpected." Michael Steinhardt was famous for saying that, "We made all our big returns from variant perceptions that turned out to be right." Michael's key point is being different and being wrong are not very valuable. One other important point to keep in mind is that a year is a long time in the investment world and things can change (sometimes dramatically) so we need to remember the wisdom of what John Maynard Keynes is often quoted as saying, "When the facts change, I change my mind. What do you do, sir?" We have been, and will remain, vigilant during the year, tracking the progress of each Surprise and are continually looking for opportunities to capitalize on them in the portfolios, but we will also be ready, willing and able to change our minds (and our positioning), should the facts change.

Surprise #1: #ActionsBeatWords

Willy Wonka quipped 'Oh, you should never, never doubt what no one is sure about' and as consensus reaches unanimity on the Death of the Bond Bull Market (really this time, unlike the last five times…) everyone is sure (again) that rates are going to rise this year. With a new, taller Fed chair the trend must be up, deflation is dead and bond returns are soon to follow. Funny thing is that CB jawboning is one thing, action is another; despite all the talk about tightening, conditions remain extremely easy. No one is sure rates will fall, so they will likely continue down in 2018.

If things are so great, then why is the Fed holding interest rates at levels as if the U.S. were still in a

financial crisis? Curiously, the effective Fed Funds rate is still negative, and the Goldman Sachs Financial Conditions Index shows financial conditions are as loose as they have been at any point since the Global Financial Crisis. We have seen this movie before when the Bank of Japan ("BOJ") tried to remove qualitative and quantitative easing ("QQE") stimulus back in 2007 (coincidently 11 years ago that matches their demographic lead) and the equity market crashed (50%), so they had to reverse course and took the assets on the Central Bank balance sheet from 26% of GDP then (equivalent to the Fed level today) to over 100% today. Another curious phenomenon is that despite short rates rising along with the Fed hikes, long rates (until recently) were actually falling, so the yield curve ("YC") has been flattening rather than steepening as everyone expected. Ultimately, it is the 10-year Treasury Yield, what we like to call the "chart of truth", that has been in a three-decade declining channel, and every time the 10-year rate touches the top of the channel (two standard deviations above the declining average) there has been a financial crisis (1987, 1994, 2000, 2008). Today, we are at that point with yields at 2.8%. The most important level is the previous high in the series of lower highs-3.06% in 2013 during the Taper Tantrum. Unless we break that level, the primary trend remains lower. With the recent equity market turmoil, it will be interesting to see how new Fed Chair Jerome Powell responds to a sudden (and long absent) bout of asset price volatility.

During the first half of 2018, it appeared that there was indeed a new Sheriff in town at the Fed, and Jerome Powell's dedication to normalizing interest rates (short rates) was real, as he was resolute in hiking the Fed Funds rate twice despite an increase in equity market volatility in February. The hypothesis that the reversal of the decades long trend of shrinking Fed Chairs (Volker 6-7, Greenspan 5-11, Bernanke 5-8, Yellen 5-0, Powell 6-0), would mark the end of the decline in U.S. interest rates, might actually turn out to be right. The economic and market narrative quickly shifted to *things are so good that the Fed needs to hike to stop the economy from overheating* (comical given trailing year GDP growth barely hit 3%) and *perhaps the Fed was behind the curve in raising rates* (again, comical given that the Real Fed Funds rate was still negative). There were mileposts for the economic bulls to point to such as Q2 GDP coming in at 4.2%, Q2 S&P 500 EPS growth coming in at mid-teens and inflation spiking from 2.1% in January to 2.9% at the beginning of Q3. If one were to simply look at those three numbers in isolation (free from the impact of one-time events like Tax Deform and Saudi Oil price tampering), you could actually make the case that the Fed was indeed acting too slowly as the Real Fed Funds rate had grown more negative during 1H18 (inflation spiking faster than Fed Funds rising), and financial conditions were actually getting looser, rather than tighter. That trend finally began to reverse in Q3 as inflation (Headline CPI) peaked at 2.9% in June and July and fell precipitously (despite oil prices rising) to 2.3% by September (ticked back up to 2.5% in October), so with Fed Funds hitting 2.3% after the third hike in September, the Real Fed Funds rate was essentially neutral (rather than negative, at least for a few weeks before CPI nudged back up). Chairman Powell recently reiterated his commitment to hike again in December and also removed the "accommodative" language from the Fed statement, so it does appear that we will reach a neutral monetary policy by year-end (even if that is a long way from the jawboning about how tight policy is today…).

We pointed out in May (and a few other times over the past few years) that "in the past year, it had been curious to watch the 30-year Treasury rate actually fall slightly as the 10-year rose" and our thesis has been that perhaps investors have a collective fear that the Fed is actually making a policy error by raising rates so late in an economic cycle. We also mentioned "how the continually flattening yield curve was causing stress in the 'Everything Is Awesome' ("EIA") crowd who were sure that the yield curve would steepen (and who had pushed financial stocks higher in anticipation).” That anomaly became rather acute in 1H18 as despite the 10-year yield rising from 2.4% to 2.8%, the 30-year yield has only risen from 2.7% to 2.9% and the 10-30 spread had fallen from 33 bps to a scant 11 bps on July 6, so no matter how many times the EIA crowd repeated the narrative, the data did not support their story (facts win). As Q3 progressed during the summer, it became apparent that the bond markets didn’t get the memo from the Fed, and after an attempt to rally back toward 3%, the 10-year reversed on August 1 at 3% and was threatening the 2.8% neckline of the perfect head-and-shoulders formation that had been traced out from February 1 to May 17 to the opening of the Jackson Hole confab on August 24. It was clearly time for Powell to pull out the shock and awe speech and spook bonds back into a Bear Market. Jerome was up to the task doing his best hawk impersonation (threatening to eat any doves in sight) and yields turned on a dime and headed back up to finish the quarter at 3.1% on the 10-year and 3.2% on the 30-year. The rhetoric was so strong that rates spiked more in the first week of October, up to 3.2% on the 10-year and 3.4% on the 30-year, and for the first time since the beginning of the hiking cycle, the 10-30 spread began to expand a little (the curve actually steepened a bit to 17 bps). This sudden spike was all that the highly-valued equity markets needed to spark a painful correction (more on that later) and investors didn’t have to hunt very far to find Red October. An interesting development was that the normal flight to safety (rush to bonds) during an equity sell-off didn’t happen this time, and by the end of October, the 10-year was still over 3%, finishing at 3.1%, and the 30-year was basically unchanged at 3.4% on October 31. Curiously, the 10-30 spread had widened back out to where it was at the beginning of the year at 25 bps (yields have turned down sharply again in November, but we will talk more about that next time).

As we wrote in the original Surprise above, the danger zone for the long-term downtrend in interest rates begins when the weekly 10-year yield crosses above 3.1% (2013 Taper Tantrum high) and as we discussed last time, “the weekly rate did actually hit 3.1% for about a nanosecond before turning back down (as if it hit a force field) over the next two weeks to finish May at 2.9% and then meandered around that level to end Q2 at the same 2.9% level (the same level as when we penned the Surprise).” The 10-year had attempted to break the 3% level four times in June and July, only to be turned back each time by the Chart of Truth Trend Line, but finally broke through in mid-September and has been fluctuating between 3.1% and 3.2% for the past two months. The weekly yield also broke through the important 3.1% level in the third week of September and, on a technical basis, that does signal a trend reversal from the long-term downtrend as there has been a meaningful break above trend line. The end result of all this activity in yields is that, just like Q2, bond investors received a whole bunch of nothing during Q3, as the Barclay’s Aggregate Index was basically flat, up 0.02%, and remained at the same (1.6%) loss that was incurred in Q1 for the first nine months of 2018. We wrote last time about how bond market perception was not really supported by bond market reality, saying last quarter, “It was very interesting to watch the differential between the narrative of rising rates and the end of the Bond Bull Market and the actual returns of the long Treasury market during the quarter.” Having said that, there was some evidence of bond investor unrest at the long end of the Treasury curve in Q3 as the Barclay’s Long Treasury Index fell nearly as much as Q1, dropping (2.9%) to bring CYTD losses to a meaningful (5.8%). We noted last time that “the counter to the smart money buying safe havens is the risk that the masses begin to notice that the returns on the Bond side of their account statements has flipped to negative over the past year.” That trend continued in Q3. In addition, a significant story is developing in that the longer-term returns in the Bond market have now turned universally negative with the TTM return for the Aggregate Index down (1.2%) and the Long Treasury Index down (3.6%). While these are not huge losses, as we noted last quarter, “they are red numbers and retail investors are prone to selling what isn't working, which invariably turns out to be just what they are about to need."

We noted in the Q1 letter that "with the Fed promising more rate hikes soon, we are getting very close to Inversion Day." Chairman Powell is also not backing down (even a little bit) from his commitment to keep normalizing short rates (committing to another bump in December). Given his stated plan for 2019 to move the Fed Funds closer to the "neutral" (Fed's definition) level of 3% to 3.25%, dreaded Yield-Curve Inversion is nearing. We know that history says that recessions follow a Yield-Curve Inversion by 12 to 18 months, but we also know that Japan has had six recessions in the recent years without having an inversion. With economic data coming in softer in recent months, (the first estimate for Q3 GDP was only 3.5% (bet revised down) and the GDPNow estimate for Q4 is even lower at 2.8% (bet keeps falling)), there appears to be increasing evidence that the Fed is not only not behind the curve, but perhaps has indeed made a policy error by tightening liquidity this late in the economic cycle. Ray Dalio has written recently about how the current period resembles the 1930s and there is an eerie similarity to the 1937 policy error by the Fed to end QE (the original) and boost rates from zero to 25 bps, which turned a garden variety recession into the Great Depression (an economy that was even more fragile than today and couldn't take even a 25 bp hike). With all of that said, with most of the year gone, it does appear that this Surprise will turn out to be wrong and that rates will end the year higher than where they began. With the benefit of new information, we see why investors could have been compelled by the strong economic and earnings data during the middle of the year, but as that data continues to erode, we will make the case that this Surprise is just early (oftentimes called the euphemism for wrong) and that Lacy Hunt (from Hoisington Management) will turn out to be right; we will see the secular low in rates in the future (rather than in the past). Importantly, we repeat again what we wrote in February, that should this Surprise turn out to be wrong and "if rates do actually begin to creep higher, it will be increasingly challenging for equity multiples to expand and as the earnings recovery fades over the course of the year, there could be double trouble for the equity Bulls" (equity Surprises more likely to be right). To emphasize that point, remember that at the end of Q1 the TLT:SPX Ratio was slightly negative (long bonds were down (3%), but stocks were down (4%) to that point). By the end of Q2, that spread had reversed in favor of equities and was up to 4% (TLT down (3%) and SPX up 1%) and we wrote (clearly early again…) "at the halfway point, this Surprise looks challenged, but that is precisely why there is so much return potential in buying TLT; or even better, buying out of the money call options on TLT as a pure safe haven hedge trade." No one wanted any stinking hedges in Q3 and the spread blew out to a near record wide 15% (TLT down (7%) and SPX up 8%). For perspective, the TLT:SPX spread was negative for the three years from 2014-2016 and has now been positive over the past two years with the gap standing at 30%. As mentioned earlier, the strange development was that as Red October emerged for stocks, bonds were not a safe haven and while the spread shrank to 11% during the month it was because SPY shed 4% more than TLT, down (7%) instead of down (3%). Those out of the money call options on TLT are even cheaper today than they were last quarter, and we think they will turn out to be a great investment in 2019.

The one place where there had been some support for higher interest rates (more reasons for this Surprise to be wrong) was in the U.S. inflation data in the first half of the year. There had been a consistent upward bias in the inflation data starting last summer (coincident with oil price recovery). In fact, we wrote in the last two quarterly letters that "one could make the case (and we might) that the bulk of that move is from oil moving from $42 last June to $70 today and that the move will be transitory (more on that in the oil Surprise) but the higher inflation data does jive with higher rates." Oil prices peaked on July 4 at $74.31 and then lowered sharply (following the game plan we highlight in the oil Surprise below) for the balance of the summer, hitting a low of $64.85 on August 15, before getting caught up in the "reflation euphoria" triggered by the Powell speech at Jackson Hole and surging back to $75.30 to end the quarter basically flat. It turns out Presidents don't like high oil prices before elections, so Trump started jawboning the Saudis to increase production, but when they politely declined, he simply issued waivers to the eight largest importers of Iranian oil that they would be exempt from the sanctions ban. This move caught the whole world off sides (net long oil and predicting $100 prices), as they all thought the return of Iran sanctions was going to take 1 million bpd of production off-line. Oil collapsed in October and early November shedding (28%) through November 13 (completely erasing all the gains in WTI for the year). Be careful what you ask for is good advice here as the unintended consequence of rapidly escalating oil prices will be rapidly falling inflation data in the coming quarters, which will take away one of the last supports for higher interest rates. Inflation indicators have actually begun to stall already. The Core PCE Inflation (Fed's favorite indicator) has held just under the target 2% since June (1.97% in September) after rising sharply from 1.29% last summer. Even the Headline PCE has fallen back below the 2% target, dropping from 2.25% in June to 1.99% in September. We noted last time that Core CPI had jumped smartly from last summer as well and had breached the 2% target (2.26% in June), but has now fallen back to 2.17% in September. We also noted last quarter that Headline CPI was "raising a lot of inflationist eyebrows at 2.9%" in June, but that number has collapsed back to 2.28% in September and is sure to head lower with the collapse in oil prices. We prognosticated in May that "Before everyone gets too excited about runaway inflation, consider that the Core PPI slipped back below 2%, at 1.9%, and has crashed over the past nine months from last summer's heady 4% levels." Core PPI was flat in Q2, but edged up a tad in Q3, hitting 2.3% in October, while the Headline number kept dropping and fell from 3.9% in June to 3.4% in October. We have also cautioned that these inflation figures are lagging indicators, so we need to monitor forward-looking data like the 5-year, 5-year Forward Inflation Rate ("FIR") and the 10-Year Breakeven Inflation Rate ("BE"). These indices both peaked in February and while there was some upward momentum in Q3, all of that has been reversed in recent weeks and levels are right where they were in June. The 5-year, 5-year FIR moved from 2.16% to 2.29% in Q3 and right back to 2.15% on November 15, while the 10-year BE moved from 2.11% to 2.14% during Q3 and collapsed down to 2.0% on November 15. We have noted that "these numbers seem to be goal-seeking the Fed Target" and we should point out again that "these inflation levels are the same as where the Fed was implementing QE II and QE III, where they were expanding liquidity rather than reducing liquidity." As such, we think it will be quite interesting to see if the Fed commitment to QT remains strong in the face of fading inflation data and falling commodity prices.

When looking at global bond markets, the picture is less clear as to whether rates are rising or falling, as they are stagnant in Europe, volatile in Japan and very mixed in Emerging Markets. The Barclay's Global Aggregate Ex-US Bond Index fell in line with the U.S. counterpart, dropping (0.9%) to bring CYTD returns to (2.4%). Unlike Q2, where the losses were driven by currencies, the DXY was flat in Q3 (after a (5%) drop in Q2) so the small declines were attributable to yield moves and credit deterioration. We wrote last quarter that "the fact that interest rates around the developed world (primarily Europe and Japan) actually fell in Q2, running completely counter to the narrative and in synch with the Surprise," however, things were less clear in Q3. In Japan, 10-Year JGBs began the period at 0.04% (awfully close to the Kuroda-san target of 0%) and did see a consistent upward movement during the quarter to close September at 0.13%. While this level of rates is still awfully close to zero, again the percentage movement is significant. JGB rates headed back down during Red October and have fallen back to 0.10% in November, precisely at the level they were before all the global volatility began in early February. We wrote about something important last time, saying, "When you look at the short end of the Japanese YC it is stunning to think that everything out to the 5-year JGB still has a negative yield (paying the government to borrow money?)." Japan still has over $5 trillion of government bonds with negative yields, a truly striking statistic. The question is how will that change given the GDP just fell back into negative territory during Q3, down (0.3%), matching that same decline in Q1 (Q2 was up 0.8%), so with trillions of yen in QQE stimulus unable to create positive GDP growth, why do all the central banks still believe in the magic of QE to generate growth? Over in Europe, German 10-year Bunds started Q3 at 0.3% and steadily climbed up to 0.5% by the end of the period, so clearly rates are rising, right? Well, given that Bunds yielded 0.8% in early February, it is hard to make that case. Further still, while yields kept climbing for the first week of October to 0.6%, they have collapsed in recent weeks and are back down to 0.37% in November as GDP growth disappointed in Q3 and Italian Banking Crisis fears reared their ugly head once again. Finally, as we noted last time, "we remain a very long way away from the 0.92% peak from 2015 that defines the changeover point for the long-term downward trend."

EU GDP had been recovering in recent years and looked pretty healthy in Q3 2017, hitting a high of 2.8% annualized, but after three disappointing quarters of 0.4%, 0.4% and 0.2% in 2018, that annual rate has collapsed back to 1.7% (the same as during the global slump in 2016). We have written over the past year that unexpected euro strength and slowing global growth (from Trade War fears) were dragging down EU exports (particularly Germany and France) and that future EU growth was likely to disappoint investors. On the inflation front, the downward trend has reversed in 2018 and EU inflation ticked back up a bit to 2.1% in September (up from 1.1% in February). We noted last time that "the patient continues to not be strong enough for Dr. Draghi to pull out the main line of QE morphine just quite yet," and while Super Mario has slowed the pace of buying EU government bonds, he is still buying. The really important question is who in the world would buy a 10-year Italian Government bond at 2% other than the ECB (we wouldn't, would you?). Japanese inflation had been cratering in early 2018, so there was a welcome respite from the crash in Q3 as Japan CPI ticked up from 0.7% in June back to 1.2% in September (still anemic, but better). We wrote in February that "despite Super Mario (Draghi) and Krazy Kuroda-san's best efforts, the specter of deflation still hangs over the majority of the developed world." We continue to scratch our heads to understand how interest rates will rise meaningfully in this depressed economic environment, but we have to acknowledge the Fed's commitment toward continued normalization of rates (more hikes). As we noted last time "while the rest of the world continues to need more liquidity, they could be forced to follow the Fed into tightening to defend their currencies." As such, it appears that all eyes really are on Judicious Jerome to see if he can walk the fine line between monetary normalization or plunge the global economy into recession (no pressure JP…).

A short update on Absolute Return ("A/R") strategies where, as mentioned previously, we have been making the case for the past year that if rates actually did rise they would be a far superior alternative to Fixed Income exposure for the average investor. A/R strategies are challenged to make strong returns when interest rates are artificially repressed because their strategy relies on cash returns as a substitute for market beta and then adds alpha from the arbitrage or systematic strategy on top. When cash hovers near zero, these strategies will generate low single digit returns (at best) and may even have bouts of negative returns if volatility spikes or if short side costs rise too high. That said, we described the most critical characteristic of these A/R last time saying, "The most important point here is that Absolute Return strategies are positively correlated to interest rates (core return rises along with rates) rather than negatively correlated like bonds, so they provide equivalent return characteristics and superior hedging characteristics in the current economic environment." We went further, saying it would be challenging to make a strong argument for holding traditional fixed income in the current phase of the economic and credit cycles. We wrote at the beginning of the year that "should rates normalize (read *rise*), these strategies should generate far superior returns to bonds and maybe they are set up very nicely for the year ahead." Returns were solid in Q3 and the slow and steady recovery continued. An interesting fact is that the overall HFRI Dollar Weighted Index generated a record 11th consecutive gain in September and has now been positive in 18 of the last 19 months. While the returns are not record beating, they are materially better than bonds, which has been our contention for the past year. The HFRI Market Neutral Index was the least strong of the A/R strategies, up only 0.3%, to be up 1.1% for the CYTD. The HFRI Relative Value Index was up 1.5%, roughly the same as the return for the first half of the year and is now up 3% for the CYTD. The HFRI Merger Arbitrage Index turned around in 2018 (after a tough 2017) and rose another 0.5% in Q3 to bring CYTD returns to 3.3%. Even after a tough October (when everything went down), these three strategies are still up 0.5%, 2% and 2.4%, respectively, for the year, which is far superior to the (2.4%) loss in the Barclays Aggregate and the (8.7%) loss from Long Bonds through Halloween. The one sector that continues to struggle in A/R is the Macro/Quant area. The HFRI Macro and HFRI Systematic Indexes both managed to stay positive (barely) in Q3, with the Macro Index flat and the Systematic Index up 1.5%, but both indices are negative CYTD at down (3.5%) and down (7%), respectively. Volatility is back (2018 average VIX is above last year's highest level) and the trend-following models are really struggling. We discussed one theory last time that perhaps "the vast quantities of capital that have poured into quant strategies has put pressure on alpha generation." Even though we don't expect rates to explode upwards (hence our view that this Surprise may still come true), we do believe that Absolute Return strategies will continue to benefit from a tailwind in the years ahead versus bonds as the process of interest rate normalization on the short-end of the curve continues.

Surprise #2: #WelcomeBackBears

Global central bankers have been working overtime since 2009 running their printing presses non-stop to provide liquidity to support global equity markets. Very quietly the Fed and the PBoC have been plugging up the spigot on the bubble fuel and even Super Mario (King Jawboner) has been making threats about Tapering. In a dramatic surprise, the talk turns into action, and the Bear hitches a ride on the China express and take their turn at running the markets for a while. Global equity markets sputter and begin a brutal correction back to fair value.

By definition, one of the first two surprises will be at least partially wrong, as the central banks will either take away the monetary stimulus or they won't. That said, the risk to equity markets is that other central banks follow the PBoC and Fed lead of reducing liquidity in response to rising rates and inflation and the rising discount rate pushes the global equity markets into territory they have not seen for many years, a correction (or worse, a Bear Market). We said a year ago that a 1929 Redux would push the S&P 500 toward 2,800 before a correction would ensue and that if the Administration and Congress made similar policy errors to then, that correction could morph into a full-fledged crash. After reviewing the Gann Financial Time Table more closely, we observed that the next market crisis was predicted for 2019 (not 2017 as we originally hypothesized) and 2017 actually did look a lot like 1927 in terms of returns and lack of volatility. The biggest problem that we see for the Bull Market case is that central banks have flooded the world with debt and yet we have had the worst GDP growth in the past decade in the history of the U.S., so profits are unlikely to rise substantially as growth continues to be muted. The one wildcard to the timing of the crash hit us like a "ton of gold bricks" when reviewing a slide

of the SPX deflated by Gold prices and by this measure, while nominal value of equities looks overvalued (on every measure you can observe), the real level of asset prices has gone down dramatically since 2000. Essentially, the government is inflating away their massive debt load by destroying the value of the Dollar (who is the currency manipulator now?). The largest risks to global equity markets is whether China decides to continue to remove the $1 trillion of excess stimulus they injected into the global economy during the 2015 slowdown (we can argue that the U.S. was in Recession in Q1 2016). The good news is that the world's greatest indicator (the $OEXA200R) was still above the magic number of 65 (on weekly chart) that signals an all clear to stay long equities. When it falls below 65 (as it did this week), you should move to 50% cash and if the indicator falls below 50%, you should move to 100% cash.

We have begun this section of the letter each of the past few quarters saying that "the primary point was that no matter what else was happening in the world (economic growth, earnings, geopolitics, etc.), global stock markets just kept focusing on the central bank stimulus and continued to defy gravity, reaching valuation extremes only exceeded during the Tech Bubble in 2000." The amount of global liquidity provided by the Fed, ECB, BOJ, PBoC, BOE and the SNB had been simply jaw dropping, totaling a gaudy $12 trillion since the Global Financial Crisis ended in 2009. In what appeared to be a final parabolic advance of the Bubble in U.S. equities, the S&P 500 breached our 2,800 target, (ever so briefly) in the third week of January only to turn down sharply on the January 26 Bradley Turn Date, had the first (10%) correction in years and hovered between positive and negative territory throughout Q1 and the early part of Q2. With the announcement of a Trade War with China (and the EU, and Mexico and Canada…) in early April, the markets did something peculiar, they began to rally. Little did we know at the time that this was not the cause of the consistent bid under equities (more on the real cause in a minute), but the Buy the Dippers were clearly back in charge and equity markets were strong in the second half of Q2. Things changed quickly as Q3 began. The SPX dipped back down toward 2,700, and we wrote that "things were finally lined up to have a real correction, central banks were finally getting serious about tightening liquidity (most of them), Trade War rhetoric was spiraling higher by the day, global economic data was rolling over (hard in some places) and corporate earnings were set up to disappoint ridiculously high expectations based on the tax cuts." With Jumpy Jerome intent on raising interest rates, some investors actually did the math to realize that higher discount rates meant lower multiples and it actually appeared (for a few days) that the "central bank put narrative" was finally coming to an end. However, as we wrote last time, "As Lee Corso of ESPN fame likes to say, 'Not so fast my friend….' It turns out there is more than one way to get liquidity into the equity markets and since the Fed is prohibited by law from buying stocks (unlike the Swiss and Japanese Central Banks) then all Congress had to do was propose a massive tax cut package and (perhaps…) cut a deal with corporations that, should Congress pass the bill, corporations would use the vast majority of that money to buy back stock." We even nicknamed the deal, #StealthQE.

U.S. Buybacks had hit an all-time record in Q1 at nearly $189 billion (a staggering $50 billion jump over Q4 levels) and those equity share repurchases clearly helped halt the February slide in stocks, but the party was just getting started. We wrote last time that there seemed to be a "constant bid under the equity markets over the past few months, causing the indices to steadily rise over the course of Q2," but we really didn't know just how big the deal on Stealth QE was until Share Repurchase Plan announcements were tabulated in July and companies announced a record $437 billion of proposed buybacks in the coming year. This is a staggering number on its own, but a truly amazing number when compared to the previous record (announced only one quarter earlier) of $242 billion (yes, an 80% increase…). For perspective, Apple (the largest beneficiary of the tax law changes) had set a new all-time record for single company buybacks in Q1 at $20.6 billion announced a $100 billion repurchase plan for the coming twelve months. Perhaps even more amazing (and significantly more controversial) were buyback announcements by the banks (JPM, WFC, BAC, and C) of $20 billion each. When examined more closely, one could argue that this was the most egregious form of corporate theft, as shareholders were diluted massively during the bailouts while management was awarded new shares that are in essence being repurchased with taxpayer money. Leaving that debate for another day, when the final tally for buybacks came in for Q2 it appeared that our spider-sense was right and there was a constant bid for stocks, to the tune of another record-setting $191 billion, and Apple alone was responsible for 11.5% of all S&P 500 buybacks during the period (who owns big hunks of Apple? Berkshire Hathaway and the SNB…hmmm…). The Q2 number was a stunning 59% year-over-year increase from the same period in 2017 and it pushed total buybacks to $380 billion in the first half of 2018, an equally stunning 50% increase over the 2017 total of $253 billion. One of the dirty little secrets of buybacks is how they fuel rising inequality, as the top 10% of people in the U.S. own 84% of all the equities. To push that construct a little further, many companies announced $1,000 bonuses for employees after the tax bill was passed and 5.5 million people received this small windfall. Had companies taken the $646 billion they spent on buybacks over the past year, they could have given those employees a $1,000 bonus every day for 100 days (but then there would have been no money for Stealth QE). We will posit that the bonuses would have done much more for economic growth and would have helped reduce income and wealth inequality, both seemingly much better long-term outcomes.

With the companies buying shares hand over fist, the S&P 500 had a good "year" in Q3, jumping a very robust 7.7% (rising back above our 2,800 target to 2,914). The DJIA had an even better year (nearly matching the average annual return of 10.2%), surging an amazing 9.6% (price weighted indices always win in big momentum surges) and NASDAQ was up "only" 7.1% as the #FAANG companies continued to be prized by passive indices and themselves as the buybacks continued to set records (interesting side note is insider selling is peaking at the same time, which seems like a conflict…). Looking down the capitalization spectrum, the euphoria about small-caps (thesis was domestic companies would outperform during a Trade War) began to fade and while the Russell 2000 Index was up a robust 3.6% (less than half as much as the large-caps) the Russell Microcap Index managed only a scant 0.8% gain (after a stunning 10% jump in Q2). We wrote last quarter that "Q2 was a return to the 'risk on' feeding frenzy of the past couple of years and the Bulls were back, trying to run the Bears out of town again" and in Q3 the frenzy reached manic levels that we would describe as panic buying. The #FOMO (Fear of Missing Out) was tangible, the media coverage of the markets was eBULLient and the Tweeter in Chief was working overtime, taking credit for every new All-Time-High ("ATH") in the equity indices. We have written many times about the formula created by Larry Jeddeloh at TIS Group outlining the relationship of QE purchase liquidity and S&P 500 price increases. The TIS model showed that every "$100 billion of QE has translated into 40 S&P 500 points." We noted last time that with the Fed switching from QE to QT and committing (for now) to remove liquidity from the financial system, "it will be very interesting to see if this relationship holds in reverse." The Fed sold around $120 billion of Treasuries and Mortgages in 3Q18 (and will increase to $150 billion in Q4 if all continues to go well…), so there should have been (48) S&P points of equity headwind (negative return) during the quarter.

One question is whether Stealth QE is as effective as central bank QE, and if so, then there should have been around 80 S&P points of tailwind for the incremental $200 billion of purchases (estimating Q3 buybacks). The S&P 500 Index jumped 196 points during Q3, so if we attribute (48) points to QT, (8) points to multiple contraction (beginning level of 2,718 times (0.3%) decrease in P/E) and 80 points to Buybacks, that would leave 172 points for earnings growth, which is a fraction of what would be expected given the monster 25.7% surge in EPS during Q3 (would be closer to 700 points). We realize that the numbers do not foot and perhaps it speaks to the fact that the massive buybacks are polluting the EPS data and maybe investors are paying attention to the fact that the financial engineering does not benefit them (corporate kleptocracy). We have written in the last few quarters that "perhaps investors are realizing that the #TaxDeform induced, non-GAAP, 'earnings-before-bad-stuff' numbers are not sustainable." If that were the case, it would be a welcome change from the Pavlovian Buy-the-Dip stupor that has gripped investors during the QE Era. We highlighted in the last letter that during Q2, SPX had "made a series of higher highs and higher lows and the upturn has accelerated since the Bradley Turn Date on June 1 and the Gann Date on June 22." That pattern continued throughout Q3 and the market surged to a high of 2,930 on September 20 (amazingly, almost precisely on the Bradley Turn Date again) before turning down to finish the quarter at 2,914. The world's greatest indicator, the $OEXA200R, rebounded from the Red Zone (46) at the end of June back to the Yellow Zone (63) at the end of July, it moved quickly into the Green Zone (above 65) and had surged all the way back to 81 by the third week of September before settling back to 72 to end Q3 (still firmly green). We wrote last time "It will be very interesting to watch the tug-o-war between the Fed and the corporations in the great liquidity battle over the balance of the year" and clearly the companies had the upper hand in Q3. However, they lost their grip on the rope in October and the rope burn drew blood as equity markets collapsed during Red October. In addition, the SPX was off (6.8%) and the $OEXA200R plunged back through the Yellow Zone, hitting a low of 41 (nearly a 50% decline in a month) before rebounding back above 50 during early November. It now sits precariously on the upper bound of the Red Zone, signaling a half-hedged position, but looking like it wants to signal 100% cash sometime very soon.

Taking a closer look at the U.S. Style Index returns during Q3 once again confirms the "impact of buybacks and investor crowding behavior in the large-cap tech winners. Growth has thumped Value during the QE Era (as is logical since passive, cap-weighted strategies are favored)..." Value had tried to get up off the mat in Q1 and was beginning to make a comeback when the buyback and short squeezes delivered another one-two punch in Q2,and the barrage intensified in Q3 (as the old pirate saying goes, the beatings will continue until morale improves…). The RTop200G jumped a stunning 9.6%, while the RTop200V was up a less exciting (but still strong) 6.9%. The RMidG was up a solid 7.6% while the RMidV was up a less robust (but still solid) 3.3%. The momentum began to fade fairly quickly down the capitalization spectrum, as the R2000G was up a solid 5.5%, but the R2000V managed only a 1.6% gain. We noted last time how "The spread between Large Growth and Small Value of (1.7%) was the smallest in many quarters and likely portends a reversal in the Growth/Value momentum in coming quarters." Early is often called the euphemism for wrong, and as the spread blew out to 8% in favor of Large Growth in Q3, we were clearly one of the two in that view. At present, we see signs of stress that tell us we were just a little early, but we will be quick to acknowledge that we were simply wrong should the gap not close and reverse in the coming months. The TTM Growth/Value spread had reached a near record-high level in 2017 at an astonishing 24.1% but had declined rapidly to a still elevated 10.8% (indication that passive capital flows continue to be the primary drivers of short-term returns) before widening again to 18.6% in Q3. We wrote last time that we had been "watching this trend change very closely this year and we have labeled this period The Great Separation (similar to the 2000 to 2010 period) where there is finally differentiation between good and bad companies again and we would expect to continue to see Value and Small outperform

Growth and Large." That clearly had not been the case in 2018 through September, but Red October was a different story (on the Growth/Value front at least). Value outperformed dramatically during the pre-Halloween sell off, but Small actually got punished harder than Large, which we guess makes some sense when you step back for a moment and recall that one of every three companies in the R2000 doesn't make any money (read that again…). With that said, the Large Growth/Small Value spread did narrow back to 12.7% in October and looks to be falling more in November. We noted last quarter that "The big disconnect that investors face today is that if rates really are going to rise (and liquidity is indeed declining) then it is illogical to think that P/E ratios can continue to rise (which would be bad for equity prices)." However, rates ticked up in Q3, but the P/E of the S&P 500 (using actual reported earnings) somehow stayed flat, moving from 23.7X to 23.6X. At the risk of sounding like a broken record (vinyl disk that OGs use to play music) there appears to be a disconnect in that if EPS actually rose 25.7% in Q3 then the P/E of the SPX should have fallen precipitously (absent a massive increase in price, which did not occur). As we said last time, "We will chalk this one up to 'new math' in the #NewAbnormal."

When thinking about equity markets trading at near record valuations over the past year, we cannot help but to continually come back to the idea we discussed last quarter that "hedge funds were poised to break the seven-year cycle of underperformance relative to the S&P 500…" While we were "early" last year predicting that hedge funds (and active management) would end their drought against index funds, the first half of 2018 looked pretty good. Then Q3 came along and U.S. equites surged to double digit CYTD gains (SPX up 10.5%) and even dragged the MSCI World Index and the ACWI Index into solid positive territory through the nine months period, up 5.4% and up 3.8%, respectively. The HFRI Equity Hedge Index was again nicely positive in Q3, up 1.2%, but the 2.4% return for the CYTD that would have looked pretty solid against the equity index returns at mid-year, was looking less robust, and the threat of extending the losing streak looked like a real possibility. However, recalling what we wrote last time (paraphrasing Roger Babson) "We will repeat what we said last year, and the year before, that buying strategies that others are selling (Hedge"d" Funds) is likely to deliver meaningful returns for investors going forward (and they could be terrific)." Perhaps by serendipity (or fate), there were many statements in September about how equities could only go up from here because earnings were so strong (sugar high that is already fading). The big technology stocks had changed the game and would stay highly profitable indefinitely (capitalism, innovation and competition have somehow been eradicated), and it actually was feeling much like when Irving Fisher tried to correct Babson by saying that stocks had reached a "permanently higher plateau" in October of 1929. What a difference a month makes. The equity markets cracked hard in October (and are still cracking in November) and the MSCI World Index and ACWI Index ended the month at (2.3%) and (4%) for the ten months, respectively. The HFRI Equity Hedge Index fell much less than the equity markets and is down only (1.7%) for the ten months. There is still a lot of ground to make up for hedge funds, but the journey of a thousand miles begins with the first step. An important point to make here is that these are the average hedge fund returns and we believe there is significant alpha to be had by superior manager selection and through the hybrid model of supersizing the best idea of those top-quality managers.

Surprise #3: #NotDeadJustResting

The potent combination of abundant liquidity provided by global central banks, an avalanche of capital pouring into Passive Investment strategies like Index Funds and ETFs, and widespread adoption of Volatility selling strategies pushes the VIX Index to record lows. Stock market volatility vanishes during 2017, as the equity Bull Market

rages on and the S&P 500 experiences its lowest intra-year drawdown and highest Sharpe ratio in history. Investors declare VIX dead and pile into the riskiest assets right as Volatility awakens in 2018.

This Surprise seemed way more "out there" when we released the Surprises in the third week of January as the idea that Volatility could ever come back was considered heresy thanks to the advent of algorithmic trading, a super-active Fed and everyone and their sister selling volatility and compressing the VIX index to the lowest levels ever recorded. The opening cartoon of our Around the World webinar showing an R.I.P. VIX tombstone was the broad consensus and our variant perception that VIX was just resting received a ton of trolling on Twitter (which we have found is perfectly negatively correlated to the quality of the idea). In the U.S. equity markets, forget ever talking about crashes as corrections had been outlawed. There had not been a (10%) correction in nearly two years, there had not been a (5%) correction in over eighteen months and there had not been so much as a (3%) correction in 2017. In fact, forget about corrections of any kind as 2017 was the lowest volatility year in the history of the S&P 500 and it had been nearly three months since the last 1% move (either way) in the SPX. The Index had been above its 200dma for nearly 400 days (second only to the 474-day streak in 2013 and 2014, also during the QE Era), and the Index had also been up for fifteen consecutive months (on a total return basis), breaking the previous record from the 1950s. The lack of equity volatility was astounding as the standard deviation of SPX fell to its lowest level ever for the year, at 3.9% (less than one-quarter of the normal level of 16%), and the Sharpe Ratio hit a new all-time high of 4.4 (60% higher than the previous record in the 1960s) and nearly 9X the normal level of 0.53. The VIX Index itself spent 52 days in 2017 under 10, after never having a year with more than four ever before and then VIX hit an all-time low on the first trading day of the New Year. Short VIX was the new get-rich-quick strategy and many billions of dollars were piling into leveraged ETN strategies (like XIV and SVXY) to try and replicate the success of the former Target manager turned day-trading millionaire. We pointed out that history was replete with examples of alligator jaw formation similar to the recent movements of the S&P 500 and the VIX and it was likely that these jaws could snap shut sometime soon (even we didn't think soon meant three weeks later…).

In January, we summarized the primary theme of central bank largesse was the creation of an endless string of bubbles, saying "abundant CB liquidity was causing an avalanche of capital into Passive strategies and widespread adoption of volatility selling products that pushed VIX to record lows just in time for the Bear Market to come out of hibernation and catch investors napping." Within weeks, volatility returned with a vengeance and triggered the first (10%) correction in three years. However, just as investors have been conditioned to Buy-the-Dip in stocks, they have been trained to Sell-the-Rip in Vol (they have been told it is free money…) and from a high of 37 in February, the VIX was back to 16 to start Q3. We asked the question to begin the year, "Will this tightly coiled spring unleash again in the coming months?" Now we find ourselves asking a similar question of whether investors (more likely buybacks) will just keep winding that VIX spring tighter and tighter. It turns out that Q3 was all about winding tighter as VIX bounced between 16 and 11 all quarter and finally settled at 12 on September 29. The Great Unwind looked to have begun in October as VIX troughed at 11.6 on October 3 (higher low, for those keeping score at home…) and then sprung violently up to 25 a week later on October 11. But the force is strong with the BTDers and they pushed stocks back up over the next week and wound VIX back down to 17 (another higher low) only to have more bad economic data, more earnings disappointments and more sabre rattling (and a real murder in Saudi) drive equites down again and VIX sprung back to 25.2 (higher high). A flurry of tweets from the Tweeter-in-Chief about how great things were in advance of the election rallied the BTDers one more time and they wound VIX back down to 16.4 on November 7 (my granddaughter's arrival day!) only to have the reality set in again. Stocks continued to fall and VIX sprung back to 22 by mid-November. We all know how springs work, the tighter the tension, the worse the release; as it appears that vol has finally awoken from its slumber, the damage could be significant. We wrote last time, "Volatility tends to move in 'regimes' of roughly six years and we believe that after an abnormally low regime during the QE Era, we have shifted back to a more normal regime for the next few years during the QT Era of interest rate normalization." We believe that the regime has indeed shifted and the fact that the average VIX level in 2018 of 16 is higher than the absolute highest level in the VIX during 2017 lends some support to that contention. As we said last quarter, we think this trend is just warming up and we "would expect that average to trend higher in the second half of the year" (as it has). We do appreciate that the Pavlovian vol sellers are not going to go away quietly (as they have proven repeatedly), but it is precisely their unwillingness to believe that market risks have reached extreme levels that actually creates the asymmetry within this Surprise. We used the FB earnings release to show how ingrained the disbelief in volatility risks are in the markets today when the stock dropped (20%) overnight in reaction to management finally acknowledging that perhaps they have a little "trust" problem with users today after all the missteps with abuse of client data. There were more examples in Q3, as the rest of the FANGs disappointed investors with slowing growth and tempered forward guidance and as we say often, #RiskHappensFast, and the Tech Wreck 2.0 began in earnest.

As these stories unfolded and investors began to sell, a very insidious thing began to happen. We have argued that perhaps the worst ETF creations ever conceived were the Low Volatility ETFs, since the basic construct of buying an asset simply because the volatility of its price is low is patently absurd (and highly dangerous). As money flooded into passive strategies, these became self-perpetuating, reflexive, virtuous cycles and no strategy is worse in this regard than the LowVol ETFs. When you buy more of a stock, the price rises and the volatility falls triggering the Algo to buy more, lather, rinse, repeat. The problem is when the trend changes that reflexivity becomes a vicious cycle and selling causes vol to rise, which begets more selling, lather, rinse, repeat. That is precisely where we are at this point as the rapidly escalating volatility is causing a cascade of selling from passive strategies and things could get really bad, really fast, but we will have to wait until next time to see just how vicious this cycle turns. We discussed last time that "We believe one way to capitalize on the expectation of higher volatility is to utilize options on the VIX index or traffic in some of the VIX ETFs that take the contrarian position of Long Vol instead of the herd in the Short Vol trade." We noted that VXX tracks the VIX Index well and is one of the simplest ways to gain exposure to volatility. We said that for more convexity (higher risk, potentially higher return) there is the 1.5X UVXY and 2X TVIX that provide some leverage on the long volatility trade. The caveat with these vehicles is to remember that when utilizing the leveraged ETFs, they are not intended to be long-term holding vehicles, but rather short-term trading and hedging vehicles, so paying attention to entry points (at exhaustion points) and holding periods (short) is critical. Last quarter we wrote, "While it does appear that the summer doldrums have lulled the VIX back to sleep, we expect that the alarm is set for some time after Labor Day and that this Surprise will be a highly profitable one for investors as the year progresses." Investors hit the snooze button for a month and UVXY and TVIX fell (15%) and (20%), respectively, from Labor Day to October 3, but when the alarm went off, risk did indeed happen fast and over the next 26 days UVXY jumped 87% and TVIX surged 120%. The BTDers came out to trick-or-treat and pushed UVXY down (28%) and TVIX down (36%) into election day, but in the two weeks postelection, UVXY jumped 33% and TVIX surged 45% to put the returns over the whole period at up 50% for UVXY and up 65% for TVIX (had to hold through some serious volatility) while SPX shed (10%). What do you know? Hedges actually work!

Surprise #4: #FANGsBite

After a grueling eighteen year climb back from the abyss following the 2000 Tech Bubble Crash, NASDAQ finally regained the March 2000 peak and continued to surge into the New Year on the back of the infamous #FANG stocks (FB, AMZN, NFLX, GOOGL plus AAPL and MSFT). Investors have determined that it is safe to buy these stocks at any price (similar to CSCO, INTC, MSFT and QCOM in 2000) and have pushed valuations to stratospheric levels. With less QE liquidity to inflate the equity Bubble further, it turns out that #FANGs Bite in 2018.

Over the past century the U.S. economy and capital markets have been dominated by a small number of monster sized companies. In 1917 it was U.S. Steel, AT&T and Standard Oil; by 1967 it was IBM, AT&T, Eastman Kodak and GM; and today, in 2017, it was the Tech Fab Five of Apple, Google, Microsoft, Amazon and Facebook. #FAAMG rules. We showed how a year ago, things in the markets (aside from #FANG) didn't look that bubbly and when compared to the 2000 valuation craziness, the big tech names could double without being in the same rarified air. However, if you changed the perspective a bit (looked at a decade instead of a year) AMZN and NFLX looked very bubbly and extremely bubbly, respectively, and when the covers of magazines are adorned with sci-fi looking pictures of the #FANG stocks, it was likely that we were closer to the top than the bottom. We also showed how when every fast-growing company eventually slows down (capitalism works), valuations must follow, and while FB and GOOGL were only crazy priced around 35X earnings, AMZN and NFLX were in silly town at 336X and 196X respectively. Finally, there is a saying that "lack of breadth is death" to Bull Markets and the large majority of recent returns were concentrated in a small number of tech stocks and we felt that like in 2000 there is no company good enough that you can't mess up by paying too high a price.

We began this section in the Q4 2017 letter by saying the elephant in the room concerning the #FANG (FB, AMZN, NFLX, GOOGL, and the broader #FANGMAN group, MSFT, AAPL, NVDA) stocks, was that "Any way you look at it, this is a very narrow group of companies exhibiting a dominance of the Indexes that we haven't seen since the glory (or horror depending on your perspective…) days of 2000." The FANGs injected a little venom into investors' wallets in the middle of Q1, but the anti-venom cocktail of Trade War Rhetoric (flight to U.S. safety), monster earnings surprises (Tax Deform sugar high) and even more monstrous buyback announcements (Stealth QE) made everyone better. It also appeared that this Surprise was in serious danger of not only being wrong but being wrong in a spectacular way. After the miraculous recovery in Q1, Q2 was dazzling. The FANGMAN stocks entered Q3 up 10%, 45%, 104%, 8%, 10%, 15% and 22%, respectively, versus the SPX which was only up 2%. Looking back over the previous year, those numbers were even more incredible, up 30%, 76%, 163%, 20%, 30%, 43% and 65%, respectively. We reminded readers last time "to truly examine those TTM returns and internalize that the five largest companies in the world had somehow managed to double, triple or even octuple the return of the S&P 500 over the past year (which was a robust 14% btw…)." Our view then (and now) that "we believe these stocks have entered that 'buy at any price' realm like the tech darlings of 2000 and we are convinced (more than ever) that the result over the long-term will be similar for investors who buy these stocks at current prices." We have discussed in the past how Cisco ("CSCO") was the poster child for the Tech Bubble 1.0 back in 2000. It was predicted to be the first $1 trillion market cap company by the media and every analyst on Wall Street rated it a buy, as it was purportedly 'safe' to buy at any price because the rapid growth of the Internet was ensured (we know all growth rates mean revert), and they were the dominant equipment seller." The key here is there is a huge difference between a great company (Cisco was that, as were many other tech companies) and a great stock (CSCO was not that, nor were most of the other tech darlings). Ultimately (although timing is indeed tricky), valuation matters, math actually is important and the force of gravity rules. There is a reason that the old saw "if something seems too good to be true, it usually is…" is an old saw. It's because it's true. The result of buying stocks at triple digit multiples in 2000 was a portfolio of "dead money" for nearly two decades (basket of Fab Four - CSCO, MSFT, INTC, QCOM- is still underwater today). The result of buying stocks at triple digit multiples today will have the same result. The basic problem is that capitalism works, innovation continues, and competition erodes even the best businesses' edge over time, so growth rates fall, multiples compress, and stratospherically-priced stocks return to earth. We have reiterated our thesis from the last few quarters that "we see increasing signs of a growth slow down and with higher discount rates, these stocks should live up to their name and we will see that #FANGsBite."

Thankfully, we also reiterated that "the mania could last another quarter, or even a few quarters, before investors shook off the FOMO haze and acknowledged that trees don't grow to the sky." They say a good economist says what or when, but never together. As such, the idea of leaving some wiggle room on the precise date had some value. We have learned from many a painful experience what Lord Keynes said nearly a century ago that "the market can remain irrational longer than you can remain solvent," so while we had been judiciously trimming exposure to the FANGMAN group, we weren't ready to say that everyone should sell immediately (or better yet, go short). We did have a growing conviction (as discussed above in the Vol Surprise) that the probability of markets beginning to normalize increased ratably after Labor Day. While that timing turned out to be a little early (30 days), we recall the wisdom of Shakespeare (we actually wrote a whole letter on his investment savvy a couple years ago) that in matters of great importance (like your wealth) it is "better three hours too soon than a minute too late." We discussed one of the developing risks coming into Q3 last time, saying, "The #FANG momentum had reached an amazing extreme coming into the Q2 earnings season and the euphoria around the positive impact of tax cuts and cash repatriation had reached a fevered pitch." There is something called Sand Pile Theory that describes the natural phenomenon of how a single grain of sand will collapse the pile that has been building for a long time (interestingly, always falls 40%, about same as an average Bear Market) and the application to investing has been discussed by some of the greatest investors over time. That grain of sand happened in Q3. Last time, we described it as "something funny…and by funny we mean that investors suddenly listened to the details of the earnings calls at NFLX and FB rather than the hyperbolic narrative of 'Everything is Awesome.'" The NFLX earnings call was the grain of sand for the FANGpile as subscriber growth (while still robust) was slightly lower than expected and suddenly the grains of sand began to tumble. FB was up next, and they triggered another mini-landslide with more details on the Cambridge Analytica scandal. Now, to be fair, not everyone tumbled in Q3 and some of the group actually kept rolling along, but it did appear that the sand pile was beginning to slump. For the quarter, the FANGMAN group was not bad, with FB down (16.5%) and NFLX down (6%), while the rest of the group was up 17%, 6%, 20%, 14% and 16%, respectively, but for the first time in a long time, the group did not outperform SPX as both were up 7% during Q3.

As we wrote last time, "We are clearly not declaring victory on the #FANGsBite call (mostly because the group is still way up for the year), these two events do show that there is no margin of safety in these stocks, the penalty for missing growth targets is severe and risk does indeed happen fast in the new world of high frequency trading ('HFT') dominated markets." The real problem for investors was that in this incredibly fast-moving market environment, where most of the moves occur after hours (all of the gains for 2018 occurred when markets were closed through September), and Algos can react far faster than humans, it is more critical than ever before to prepare in advance of the news or the change in trend. We had written that as investors return from summer vacations, it might turn out that they actually looked at the deterioration in market fundamentals and it was likely going to be important to be more hedged. What it really took to get investors to pay attention was the Q3 earnings season, and as all four of the FANGs disappointed in October, the grains of sand began to really tumble. We were invited on CNBC Power Lunch on October 11 and the hosts asked me what I thought about the markets. I said that the SPX had been wildly overvalued for a long time and that there were an increasing number of signs that economic growth was slowing, corporate profits were less robust than anticipated (the sugar high was turning into the carbo crash) and there was a toxic combination of Administration gaffs on trade and taxes coupled with the potential for the Fed to make a policy mistake (raising rates into a deceleration of growth). To me, these signs could take the markets back to fair value, which meant they could fall 40% to 50% (there is that sand pile number again). One host literally dropped her jaw, and another said, "Those are fighting words," and as they closed the segment, she commented, "He's headed back to his bunker." Markets volatility increased, and they invited us back on CNBC Halftime Report a couple weeks later. This time rather than the normal six-minute hit, we joined a panel of four other contributors and guests and we debated (vigorously, props to the host Scott Wapner for keeping the conversation civil and on point) why the group thought it was essentially impossible (or maybe just inconceivable) that these beloved stocks could fall 40% to 50%. One of the best things in investing is active dialogue and debate (most are too afraid of disagreement) and the best investors actively seek differing views to test their hypotheses and convictions. We thoroughly enjoyed the hour and we got many notes, email and tweets (all greatly appreciated) saying how that was the best hour of CNBC they had seen in years (very nice). That said, there is always a scoreboard in investing and we always eventually find out which side of the debate scored the most points. Our key point was the same as what we warned about last time that "One thing to remember about fangs is that they always eventually bite (it is their nature) so rotating away from the #FANG stocks will likely prove to have been a wise move with the benefit of hindsight in the coming years." Looking at the score board today, the FANGMAN group has declined precipitously since the end of Q3, falling (18%), (25%), (30%), (15%), (22%), (12%) and (48%), respectively, versus the SPX down (10%), erasing nearly a trillion dollars of market -cap in a few weeks. Those FANGs are indeed biting and our mantra that #RiskHappensFast appears to be playing out in real time once again.

Surprise #5: #LookOutBelow

The New Administration has woken up and realized that China has been playing Go while they have been arguing about how to set up the Checker board and joined the Race to the Bottom in the Developed Market currency markets. King Dollar was dethroned last year when the RMB was admitted to the IMF SDR, and there is increasing evidence that more central banks around the world are headed toward a Multi-Polar currency regime. The days of U.S. Dollar Hegemony are numbered and DXY breaks lower, heading toward 80 by year-end.

Consensus believes that when the Fed raises rates, the Dollar rises. The problem with that narrative is that the data tells a completely different story. The markets anticipate the Fed move and the Dollar peaks right before the second Fed hike, so

we expect that the Dollar has peaked for this cycle and is back into a cyclical decline (within its long-term secular decline). The DXY looks to have peaked late last year about a month after the Election (sooner on the trade-weighted basis) and looks to be firmly locked into a downward trend. As #KingDollar has been dethroned, the RMB has become ascendant and after posting very strong gains in 2017 (contrary to the consensus that China would have to devalue), the Yuan is setting up to maintain a very stable level versus the broad basket of global currencies that the PBoC considers its target basket (not just the Dollar). Once DXY crossed below the 200dma of 90, there was little support below and it could be a rapid trip toward 80. When looking at data from GMI and the TIS Group, we see that the G7 Inflation levels give us a target for DXY of the low-80s and the DXY Coppock Curve targets the mid-70s. As the world moves to a more multi-polar leadership model, the days of U.S. Dollar hegemony are numbered, and we will see the rise of other currencies like the RMB appear in other central bank portfolios (Germany just announced) and there will also be a rise in other electronic currencies and payment systems that will create a more global currency union over time.

We have written over the past couple of years that the dollar is perhaps the most important economic variable affecting investor returns and "getting the dollar right might be the most important investment decision an investor could make during the year. The reason for the hyperbole on the Greenback (beyond our normal hyperbolic style) was that so many of the other market opportunities had become so tightly correlated to the dollar that if you got the dollar call right you could make better returns in equities, bonds, commodities and (obviously) currencies." Having a negative view on the dollar was looking pretty good in Q1 as DXY fell (2.3%) and the momentum to the downside was accelerating in the first part of April as DXY plumbed 89.42 on April 16. We wrote last quarter, "Then a funny thing happened, funny in that fundamentals were suddenly trumped (pun intended) by the Trade War rhetoric coming out of Washington." Then the dollar turned on a dime and started strengthening (or so it appeared), but perhaps it was the fact that other countries began weakening their FX to fight back in the Trade War. We wrote in May that "there is another issue that investors have to pay close attention to today given how currencies have become political weapons of mass destruction in a world where global trade is shrinking, and all of the major developed nations have realized it is a Race to the Bottom in competitive devaluations (to try and inflate the gargantuan government debt away)." As Team Trump began to talk tough about tariffs and protectionism, other countries began to talk down (or actually intervene in FX markets) to weaken their currencies to try to grab a larger portion of the shrinking global trade pie. The DXY (mostly euro and yen) began to rise in Q2 and finished the quarter up 5% at 94.6 on June 29. As you might expect, the Dollar Bulls, who had been trampled over the past two years, began to moo about how King Dollar had recaptured its rightful (American exceptionalism at its finest) throne. We did remind readers last time that "DXY is at the same level that is was on January 23, 2015 and is down (5.2%) since we penned the original #KingDollarDethroned Surprise in January 2016 (pesky details)." The beginning of Q3 was very quiet for the Greenback as DXY actually fell a little bit down to 94 right after July 4 and then began to surge again over the coming weeks as anticipation grew for a very hawkish speech from Powell at Jackson Hole and DXY rose 2.9% to 96.7 by the middle of August. Then a funny thing happened, the momentum turned back down, and the dollar gave back nearly all the gains for the quarter to settle at 95.1, up 0.5% for the period.

We reiterated last quarter that "we remain highly convinced that the dollar is in a secular decline and that the cyclical peak was in Q1 2016 when the Fed began the latest tightening cycle. Further, we can (and will) make the case that rather than dollar strength over the past few months, what we are really seeing is other FX weakness as countries around the world continue to devalue their currencies to win the race to the bottom." We have commented repeatedly that Xi is far ahead of Trump in the trade gambit and that, in fact, Team Trump is being completely outmaneuvered by a very formidable Team China and that China is using the RMB as a weapon (despite protestations to the contrary) to reverse the effects of any potential trade tariffs on Chinese exports. We actually wrote about this perspective in May saying, "With the threats of Trade Wars being bandied about by Trump nearly every day, it appears that perhaps China is Playing Go again (while Trump searches for the checkerboard) and they may be weakening the RMB (it troughed precisely on the March Gann Date at 6.273) to make it difficult for the Trump Administration to gain any advantage in trade negotiations." While the Administration loves to spout rhetoric and bluster to assert their dominance, we would rather look at the data to determine who has the upper hand in the negotiation. We have argued that the Chinese have a very deliberate plan to weaken the RMB (strengthen the dollar) at precisely the same rate as the combined impact of the Trump tariffs, which will essentially negate their intended impact (#ChinaPlayingGo). As we wrote last time, "The USDCNY troughed precisely on the date of the first Trade War salvo, April 11 at 6.27 and has steadily climbed ever since..." We originally didn't believe that the strength in the dollar would persist for very long, but we also believed that other countries around the world had more incentive to devalue their currencies (none had more incentive than the Chinese did), so the tug-o-war that we have seen in recent months is probably just about right. To this point, we wrote in May that "This move in the dollar has all the makings of a dead cat bounce, and we would expect to see lower lows in the quarters ahead, but we could see a scenario play out where China continues to allow some RMB weakness and the DXY bounce lasts a little longer." That little longer continued in Q3 as the USDCNY began the period at 6.62 (up 5.6% from April) and rose steadily during the summer to a peak of 6.94 on August 15 (right before Jackson Hole). The Western media frenzy was buzzing with how China would crash when USDCNY broke through 7 (as if there is some material difference between 6.94 and the round number 7), once again proving that they didn't understand which player held the better cards. We wrote last time how "Team Trump keeps trying to bluff their way out of a bad hand, but China holds all the cards (and $1.2 trillion of Treasuries)" and Team Xi continues to call the bluff time after time. The newest Administration tactic has been to try and use the Trade War as a mechanism to manipulate the stock market and with every plunge during Red October some official (or Trump) would leak a rumor that "China wants a deal" or "China is ready to comply with our terms." Unfortunately, each and every time, after a brief short-squeeze induced rally, some Chinese official would deny the rumor and the markets would head back down. We continue to maintain that the whole concept of trying to use tariffs as a weapon is completely flawed. As we wrote last time, it is a horrible idea because of "(two words: Smoot and Hawley), and that Trade Wars (like all wars) have no winners (everyone loses, some just lose less…). An interesting point is that over the past three months as the market turmoil has intensified, one would think that King Dollar would be the safe haven and would have rallied, but actually the DXY is unchanged at 96.7 between August 15 and today and the USDCNY moved only from 6.94 to 6.95, so perhaps global investors are seeing the writing on the walls about the bad policies in the U.S. We wrote last time, "The Administration is heading down the road to ruin and (importantly) these actions could be the spark that ignites the dumpster fire that will be equity markets when valuations finally revert to the mean." We had no idea how close to home those words might strike. However, CA was recently battling the deadliest wild fires in their history and equity markets are torching trillions of market-cap. It will be very interesting to discuss next time whether the policy makers can contain the blaze or whether it will have to burn itself out.

Looking at the other major currencies (euro and yen) that most impact the DXY, we continue to see more evidence of global FX weakness than dollar strength (kind of the same thing, but not exactly). We summarized our Bearish view on the USD in May saying, “We felt very good about the fundamental case for the dollar to weaken based on the erosion of the petrodollar system and the commitment of Mnuchin and Trump to use the dollar as a bargaining chip in trade negotiations” and that remains our primary thesis. There is a broad movement around the world to become more independent of dollar hegemony and to create a more multi-polar currency system. It is clear to us that the global balance on power is shifting dramatically, and systematically, the Chinese are asserting their power in all aspects of global financial markets. The Europeans are happy to play along as they see the massive markets in Asia for their export-oriented economies and have been supportive of the regime shift. In Europe, we cautioned in May that, “the rapid move in the euro in January was likely to be perceived as too far, too fast” and there would be swift moves to stem that euro strength. As we have discussed many times, “The key to understanding the euro is understanding that the creators of the EU and euro experiment (Germany and France) are highly incented to have a weak euro relative to other global currencies given their reliance on export-led growth.” We noted in February that Germany in particular could not be happy with the surge in the euro at the end of 2017 because it would severely hamper their ability to sell cheap cars and machine tools around the globe (world’s greatest Mercantilists). German GDP growth fell sharply in 2018 (turning negative (0.2%) in Q3) and that move has bolstered our high degree of conviction that the EURUSD would weaken. Super Mario hit his cue to jawbone down the euro by promising more accommodation from the ECB. The euro reversed precisely on the March 21 Gann Date and fell quickly from 1.24 to 1.17 at the end of Q2. We thought that perhaps the 1.17 level was low enough, but the EU officials clearly wanted a little more and pushed the EURUSD down to 1.135 by the middle of August (coincidently the same day as the USDCNY peaked). That drop of (8.5%) in the euro since March fully explains the entire movement upwards in the DXY (not surprising given the high weighting to the euro). Interestingly, the euro has been flat for the last three months (again like the RMB) so perhaps we have seen the top for the dollar bounce (more on that next time).

When it comes to manipulated currencies, while the Americans like to point fingers at Shanghai (new Cold War play), it is the Japanese who have the most experience and most dedication to the craft. Kuroda-san has been diligently trying to weaken the yen since the adoption of Abenomics in 2012 and he has been quite successful overall, despite a couple of well-publicized gaffs like his experiment with negative rates. The yen’s race to the bottom has not been a straight line, however, and we commented in May that the strength of the yen in Q1 was quite puzzling, saying “The conundrum of a stronger yen in a country with interest rates pegged at zero and declining GDP growth continued to puzzle investors for the bulk of Q1 as the USDJPY fell from 112.7 to 104.7 (despite Kuroda-san pledging to buy 10-year bonds indefinitely).” Kuroda-san got back to work in Q2 and dropped the USDJPY (4.1%) to settle at 110.8 on June 29 and he continued that work in Q3 taking the yen down another (2.6%) to 113.7. It is very well known that Abenomics is absolutely dependent on a weaker yen and only through a relentless devaluation of their currency (or a debt jubilee) can they manage the crushing debt load that has resulted from decades of “fiscal mismanagement and demographic nightmare in the island nation.” To restate our central theme on the Big 3 currencies (U.S., Japan, Europe), it will be interesting to see who eventually wins the race to the bottom in devaluing their currencies, but as we said last time “one thing is certain, the overall direction for the group is inexorably down.”

Surprise #6: #OilsNotWell

After their Thanksgiving Turkey move in 2014 (not cutting production in an attempt to bankrupt over-leveraged U.S. Shale producers) Saudi Arabia

finally came to their senses and convinced other OPEC members to cut production to stabilize oil prices. Oil prices followed our 2017 Surprise perfectly bouncing off $42 in June to rally back to $60 in December, but while the Saudis celebrated their "victory," U.S. production exploded higher setting up a very interesting battle in 2018. Oil reverts back to a normal cyclical pattern, rising toward $70 in 1Q18 and falling back to $50 by year -end.

There were some interesting conflicting signals about the oil markets coming into the New Year. The world's largest pension fund was divesting from oil and gas stocks (would normally be a contrarian buy signal, but they are so big that there could be a little self-fulfilling prophecy here) and there was the largest net long position in oil futures in history (would normally be a raging sell signal). The funny thing about oil speculators is they have a long history of being precisely on the wrong side (short or long) at precisely the wrong time (prices turning up or turning down), and we saw large net short positions last summer (when oil hit bottom at $42) and a gradually increasing net long position as oil rose back to $60 to end the year. Right as oil peaked at $66, the net long position hit its crescendo and oil prices have fallen ever since. There is one wrinkle in the data in that given the large leverage ratios in many of the U.S. shale producers, the banks are forcing them to sell forward production and thus the speculators on the other side are reactive rather than proactive so perhaps the true net long position is lower (but still really high). There are also some technical indicators that show how oil is prone to make peaks/troughs in January and June, there was a Bradley Turn Date on January 29 and there was a cathartic buying panic around the same time, which all pointed to lower prices ahead. The biggest risk to the oil Bull thesis, however, was the ability of the U.S. shale producers to crank up the volumes at these higher prices and should they get up over 10mm bpd that would push the supply/demand balance back into over-supplied and put downward pressure on prices. Like clockwork, the end of January data showed a new record for U.S. production of 10.25mm bpd and the Saudis may have started celebrating too soon. Finally, the last three times that oil was this overbought (RSI over 85) was in 1991, 2000 and 2007, and a Recession ensued within the next year.

Oil began the year following the normal seasonal pattern of prices, but the move was much stronger than normal (like all financial markets) and the commodity buying surged right into the Bradley Turn Date. In a normal year, oil prices are strong in the first couple of weeks in January as they continue their advance that begins in mid-December where prices rise about 2% on average. In the Steroids Market of 2018, that move was 10%, as prices jumped from $60.42 to $66.14 on January 26. As noted above, prices turned downward as they normally do during the Shoulder Season (mid-Jan to end of Feb) and fell hard over the next couple of weeks to trough at $59.12 on February 9, then bounced around that level and hit $60.19 on March 1, which is the normal seasonal turn date for oil. As if bouncing off a force field, oil prices began a steady climb that the seasonal pattern says should last through the middle of May and, on average, should move 7%. WTI Crude followed the script perfectly (steroid adjusted) and jumped 22% to $72.31 on May 21. So now we had our $70 oil (albeit a few weeks later than anticipated) and we would have expected to see the impact of the production increases begin to put some pressure on prices. The normal seasonal pattern shows that summertime is very volatile for oil as prices usually fluctuate actively within a 2% band from mid-May until the end of July (July in particular is historically extremely volatile), but by the end of the ten weeks, prices end up right back where they started. Sure enough, oil prices fluctuated wildly within a range (again steroid adjusted) from mid-May until the end of July, but that range was 14% wide. From the end of July to the first week of October, the normal seasonal pattern for oil is a 7% jump (the largest part of the move for the year), but in 2018 there was some political maneuvering that led to a temporary disruption of that trend.

We discussed last time that, "It appears that there have clearly been some 'back room' deals being made between the Trump Administration and Saudi Arabia, as right after Mohammad bin Salman and his entourage met with Trump at the White House there were announcements of reversing the Iran deal and a commitment to a Saudi production increase." $70 Oil is simply not a good thing for the average American and particularly not a good thing for the Trump base, as gas prices are a meaningful portion of the family budget; therefore, any relief on that front would have been welcomed coming into the Election. We wrote last time that it was clear to us that "These two events appear ostensibly to be an agreement that Saudi will help push oil prices down in advance of the mid-term elections in exchange for the U.S. punishing Saudi's sworn enemy. Even if that seems a little too conspiracy theorist for you, the timing is at least a little suspicious." The problem during the early part of the summer was that the plan wasn't working. Saudi ramped production by 500k bpd, which normally would have been plenty to move prices down, but China chose to ignore the ban on Iranian imports and the strong economic growth narrative was eclipsing) the Trump/Saudi collaboration. Oil had hit a new peak for the year on July 10 at $74.01 when the Tweeter-in-Chief had had enough and started baiting the Saudis to increase production. Prices did actually respond and started dropping (in defiance of the seasonal pattern), hitting a low of $65.01 on August 15 (a meaningful (12%) decline). The devil is always in the details, and while Saudi did comply (a little) and boost production by 200k bpd, the other OPEC members (Kuwait, Nigeria, UAE) didn't get the Trump call and actually boosted production so there was a net gain in OPEC production when numbers were released in August, and prices bounced back sharply. Oil surged back to $73.25 to end Q3 essentially unchanged and that momentum carried into the first week of October as prices hit a new 2018 high at $76.41 on October 3, right back to the normal seasonal pattern (albeit steroid adjusted). WTI ended up hitting that normal 7% gain in August/September, but the steroids were in full bloom for the full March to October surge period as prices were up 25% over the period rather than the normal 11% seasonal move. Oil prices weren't just defying Trump and the Saudis, though. They were ignoring a rising dollar (normally bad for commodity prices) as well as total supply data that continued to show a coming glut.

We discussed in August that "We had insight from our private investments in both oil and gas that extraction volumes were exploding and there was a likelihood that total U.S. supply could surge to record levels (surpassing Saudi and Russia for the number one position). What we didn't anticipate was how quickly that milestone would be achieved (January), how fast the trend would accelerate (hit 11mm bpd in July) and, most importantly, that no one in the oil markets would seem to care (prices just kept going up)." Even as bullish as we were on U.S. production, it turns out we were conservative in projecting just how huge the increase would be this year. Coming into 2018, U.S. production began the year at a previously unthinkable 9.8 million bpd (10 million bpd was reserved for Saudi and Russia) and has surged an astonishing 1.9 million bpd through November (single -handedly exceeding the 1.5 million bpd increase in global demand). The really problematic part for oil prices was that despite the jawboning and posturing by the Administration and the Saudis about supply cuts, Saudi production actually increased 500k bpd in 2018 and OPEC production grew700k bpd from 32.2million bpd to 32.9 million bpd through October. We wrote last time that "Curiously, the U.S. Energy Information Administration ("EIA") showed a net build in inventories in Q2 and is forecasting a net build (supply > demand) in every quarter over the next two years, but the spot price markets don't seem to care at this point." That net build accelerated in Q3 and it became increasingly clear that something had to give. We also wrote last time that "History shows that we are entering the seasonally-challenging period for oil prices so there are now a number of tailwinds for this Surprise to turn out positively in the second half of the year" and it did not take much time to pass in Q4 for something to give. Oil prices turned down sharply on October 3 (coincidently, the day after the killing of journalist Jamal Khashoggi by the Saudis in Turkey…) and started falling precipitously over the next month, hitting $63.14 by November 2 when a really strange thing happened. The Administration announced that the eight largest importers of Iranian oil would receive a waiver from compliance with the new sanctions promising penalties on countries that continued to import oil from Iran. In what was clearly a ploy to manipulate prices in advance of the mid-term election, one theory is that Team Trump decided to make a deal with the Saudis and announce that they would continue to support the Kingdom and MBS (despite the CIA finding that MBS personally ordered the Khashoggi murder) in exchange for Saudi to remain silent on the Iran waivers. Sometimes you need to be careful what you ask for, as the oil markets went into freefall and plunged over the past few weeks hitting our target of $50 on Black Friday (when prices collapsed (7%) in one day) to settle at $50.43. For perspective, the drop from $76.41 is a (34%) decline in less than two months. As a reminder, the last two times we have seen this kind of linear drop in prices was in June 2008 when prices fell (69%) over seven months and June 2014 when prices fell (68%) over the next nineteen months. That said, we are also reminded of the time before those two, when back in November 2000 prices fell (44%) over the next year and were the leading indicator of the impending Recession in 2001. We have written extensively about the similarities between the 2000 Tech Bubble and current environment, and oil is just one more signal that we are likely in the early stages of Tech Wreck 2.0 (what we have dubbed #2000Redux). It will be very interesting to watch which scenario plays out in the coming months and we will posit that the Saudis will make a large cut at the OPEC meeting in December to try to arrest the descent of oil prices given the massive budget problems they have in a sub-$50 oil world.

A rising dollar is normally not good for oil prices and given the strength of the Greenback in 2018, it was even more odd that oil prices had remained so strong. "We have discussed on a number of occasions that historically, there has been a strong correlation between oil prices and the dollar and also (interestingly) between oil prices and the USDEUR exchange rate." DXY has been a strong coincident indicator and the USDEUR historically had a very strong correlation with oil on a six-week leading basis. Over the long term, a DXY reading in the 90s had been correlated to oil prices in the $50s and a DXY reading in the 80s had been correlated to oil prices in the $60s. We discussed last time how the DXY/oil relationship had been suspended temporarily and wrote that "with the DXY rallying back toward 95, there was no way that oil should have run to the mid-$70s to end Q2 (but it did) and we were left to scratch our heads as to what was holding prices up." Most interestingly in Q3 was that the DXY/oil relationship held up in the sense that both were dead flat during the quarter, the problem was that oil prices were pinned nearly $20 too high based on the historical relationship between levels. With more hawkish rhetoric from Powell, more negative GDP data from the EU and Japan, and the equity weakness during Red October, the dollar became a safe haven again. DXY has now surged toward 97 in the first half of Q4 and oil has finally started adjusting downward toward $50; the problem is now that we approach the 100 level, oil should have a four-handle. More evidence that the Saudis have a lot of heavy lifting to do at the OPEC meeting in order to halt the slide in prices. Looking at the USDEUR relationship, we wrote in May that based on the most recent moves in the euro, oil prices should have turned lower, saying "here is where the data breaks down again - the euro has been crashing for the past seven weeks, falling all the way to 1.18, which would imply oil prices should decline to around $55 by the end of June. There is another Bradley Turn Date on June 1 so we will be watching oil very closely." Oil did turn around the Bradley Date, it just went the wrong way, and turned back up. We wrote last time (and reiterated above) that "given all the geopolitical gamesmanship, we can give this indicator a pass for the current period, but we will have to watch closely in the future to see if the correlation returns." The correlation made an attempt at returning in July as prices started to head down over the first half of Q3, but markets were suddenly overwhelmed by bullish narratives and prices defied the EURUSD relationship over the back half of the quarter. We reiterated over the last two quarters that "as you might expect, with the big move in oil from $42 last summer to $71 today, all the pundits have become super bullish and $100 price targets have become common (like the $20 targets when prices were $42…). Pierre Andurand even said in an interview that there was risk of a geopolitically-induced spike to $300..." We repeat what we have written many times over the years that Pierre has forgotten more about oil that we will ever know, but we thought it was highly likely he was talking his book (they were leveraged long) and we continued to maintain that the data supported lower prices. The Euro was basically flat during Q3, albeit at an even slightly lower level of 1.16, and so we should not have expected to see much movement in oil prices until the middle of November if the relationship was intact. What we had observed, however, was that the relationship was not intact and prices should have been well into the low $50s (rather than the low $70s), and we wrote last time that "we remain biased to the downside in our forecast given the positive supply surprises and the potential for an even larger political move by Saudi as the election draws closer (and is only a couple weeks before the big annual OPEC meeting)." EURUSD has continued to slowly grind lower (just what Germany and France wants), hitting 1.13 in November, and oil prices have finally "caught down" in recent weeks to bring the relationship back into balance. All eyes will now be on two big meetings in early December, the Fed and OPEC, and it will be interesting to see if both groups can toe the line on their tough talk, or whether they will have to back down given the increasing turmoil in the markets. The last thing to remember is that the normal seasonal pattern favors a strong Santa Claus rally in the last two weeks of December that continues into the first couple of weeks of the New Year, so we would expect that pattern to hold this year. We continue to believe there are some compelling values in the oil and gas sectors (getting more compelling every day, euphemism for falling prices) and that high-quality Permian oil producers and Marcellus/Utica gas producers should deliver strong returns from these levels. Oil services companies, which we had thought might finally have some pricing power, have been pummeled despite rapidly rising activity levels (I guess if you lose money on every rig you don't make it up on volume). We also thought offshore drillers, which had been left for dead, could be interesting in a higher price environment, but that thesis is off the table should prices keep declining.

We have been making the case that MLPs were an appealing investment in an environment where oil and gas production has been skyrocketing since these companies make money not based on the prices of the commodities, but rather on the volume of hydrocarbons they transport. While those statements are indeed true, MLP investors clearly have not appreciated the difference between price and volume at this point in 2018. There is an added nuance in MLP investing in that the marginal investor has been a yield investor and with the threat of rising rates on more traditional yield instruments (read bonds) there has been some siphoning off of capital back toward those traditional markets (which we can't understand given MLP yields are double bond yields). We have made significant investments in private companies that operate pipelines for decades and we wrote last time, "Given all the positive news we were hearing from our private investment management teams, particularly with respect to the massive volume production increases, we were *puzzled* by the (11.1%) washout in MLPs in Q1. We discussed the problems of the fears of lower dividends (no longer double digit, still really high by comparison), fears about tax exemptions being reneged (they weren't) and fears that Mr. Buffett was manipulating the system around Federal Energy Regulatory Commissions ("FERC") regulations for the benefit of his railroad holdings (perhaps true, but in the end the FERC changes were negligible for the vast majority of MLPs)." We also discussed how MLPs surged 11.8% in Q2 (nearly erasing the Q1 losses) and how we expected investors to "rediscover" the fact that cash flows were accelerating, distributions were likely to be increased and that relative yields should continue to fall (read prices will rise). The good times did continue as expected in Q3, as AMLP jumped another 6.6% to bring CYTD returns to a very robust 5.9%, which was not only a solid return relative to other global equity markets but was 750 basis points ahead of the bond market losses of (1.6%) for the first nine months of the year. We wrote last time how "investors suddenly discovered (again) that companies making real cash flows should be valued at least as highly (we would argue more highly) than companies that incinerate cash. By way of comparison, there is still a long, long way to go to get equivalent valuation between these profitable businesses and many of the so-called growth stories in the tech and consumer sectors that may never make any money. In other words, we expected there to be a huge "catch down" in growth equities (like the #FANGs) and we thought that the impressive yield in MLPs would provide a nice margin of safety should things turn really ugly in the equity markets. All that said, we failed to anticipate two things that would develop in October and create a challenging environment for MLPs: the breadth of the decline in equities and the speed of the decline in oil. When markets turn ugly quickly, investors panic and sell everything (not just the things they should have sold before the turn), and for some reason that we just cannot understand, investors still shoot MLPs first and ask questions later when oil prices tank. Red October was particularly red for MLPs as AMLP slumped (8%) and has continued down another (5%) in the first few weeks of November to wipe out all the gains for the year (still have some cushion from the yield). We wrote last time that "We continue to like the prospects for MLPs and would anticipate that they will recover all of the relative underperformance of the past year in the coming quarters. As an added incentive, should management teams get comfortable with the prospects for continued positive cash flows and begin to raise dividends again, the returns here could be explosive." Recovering relative performance will obviously have to wait a quarter as Q4 promises not to be pretty for anything related to energy. That said, we have heard from multiple management teams that they anticipate raising distributions ahead of schedule in Q1 2019 and that may be the stimulus that shocks MLP investors back to their senses to focus on cash flow and earnings. We reiterate here our closing line from last quarter, "Investing in companies that actually generate cash (rather than incinerate cash like TSLA) has been a time-tested strategy for generating wealth and we expect MLPs to enhance investors' wealth for many quarters and years ahead."

Surprise #7: #LongArmOfAbenomics

Continuing to defy the skeptics, the dynamic duo of Abe-San and Kuroda-San keep firing the arrows of Abenomics at their targets of Monetary Easing, Fiscal Expansion and Regulatory Reform and the Bull Market in Japanese Equities accelerates into 2018. Surprisingly, the Yen temporarily halts its decline, as the USD continues its descent, but the equity market separates from the currency as economic and earnings growth accelerates, and foreign investors finally return to the Land of the Rising Stocks. he Nikkei hits 27,000 by year-end.

When Abe-san came to power in 2012, he laid out a plan for a Tokowaka Renewal in the moribund Japanese economy and his three-arrow plan of aggressive monetary easing (to weaken the Yen), fiscal expansion to drive economic recovery and reduced regulation to encourage innovation and revive domestic investment, was subsequently dubbed Abenomics. After two years, the Yen was materially weaker, the Nikkei had nearly doubled, and an observer might have thought Abe and Kuroda (BOJ Governor) would have been heroes. Instead, the economy had fallen into a slight Recession after the VAT Tax changes and the

media (and just about everyone else) deemed Abenomics a failure. Fast forward to today, Japanese GDP has been expanding for more than two years, business sentiment is the highest since 2006, animal spirits have been revived and Topic earnings growth is the highest in the developed world (and actually higher than most emerging markets as well). Kuroda-san has put his foot to the floor and grown M2 money supply at a staggering rate and bought nearly every JGB and ETF he can get his hands on in an attempt (successful) to pin the yield curve at zero out to ten years and keep the recovery going. Everyone is buying Japanese stocks, from the BOJ, to large Japanese Pension Funds, to corporations that are buying back stock for the first time and even foreign investors are returning to the Land of the Rising Stocks. Interestingly, and most positively, despite the big moves in prices over the past few years, Japanese equities remain very cheap (EPS are growing faster than prices are rising) and the MSCI Japan Index has the fourth lowest P/E ratio relative to its long-term average in the world (only Taiwan, Columbia and Korea are lower).

We summarized the problem for the Japanese markets in early 2018 saying that "the yen had begun to strengthen again (safe haven bid), inflation had begun to plummet (hit a low of 0.3%) and GDP inexplicably contracted by (0.2%), breaking a string of eleven consecutive expansionary quarters. This perfect storm of bad news was enough to prompt foreign holders of Japanese equities to sell and the Nikkei Index crashed (14.5%) from the January peak to a trough of 20,618 on March 23." The power of Bradley and Gann Turn Dates is pretty amazing, setting off the alarm that woke Kuroda-san from his inactive slumber and urged him to get back to work on the Abenomics plan of weakening the yen. The USDJPY had troughed at 104.7 in March and Kuroda had pushed it back to 110.7 to begin Q3. The yen had dragged the Nikkei back up from the trough of 20,618 on March 23 to begin the quarter at 22,304 (up 8.1%). The primary tenant of Abenomics is that a weaker yen can drive higher equity prices and economic activity and the plan was working again over the summer. In addition to the currency "management" (no one seems to call it manipulation when Japan, Europe or the U.S. does it, only when China does), we wrote last time about how "The BOJ and the Japanese government are doing their part to boost stock prices by buying anything that isn't nailed down and the BOJ now owns close to 75% of all the ETFs in the market, but foreigners have not been impressed and remain net sellers." Foreigners did return a bit in Q3 and along with Japanese government and the pension funds pushed the Nikkei up 8.1% (in yen) during the period to end September at 24,120 (up an impressive 17% off the March nadir). For global investors who did not hedge the yen, the MSCI Japan return (in dollars) was a less exciting 3.8%. We commented last time that we were puzzled as to why global investors were not more attracted to the market with the highest earnings growth in the developed world (particularly given it is more organic that the tax reform juiced U.S. earnings). We joked that "the appetite for Japanese equities today remains like that for blowfish sashimi, the idea sounds good, but when it comes time to actually take a bite, the thought of your tongue swelling up and choking you to death makes most diners pass on this delicacy." Very (perhaps we should even add an extra "very" here) curiously, the yen and the Nikkei both peaked the day before the Khashoggi assassination, as the USDJPY hit 114.5 and the Nikkei hit 24,246 on October 1 and then turned quickly in the other direction, getting caught up in the Red October trend across global equity markets. The yen (for reasons we still don't understand given the high debt levels) becomes a safe haven currency in times of stress and the USDJPY quickly fell back to 112.9 (now unchanged over the past four months) and the Nikkei retreated (9.1%) in October to push the CYTD return back into the red at (3.5%). To make matters worse, the Q3 GDP turned negative again at (0.3%) after moving back to a positive 0.8% in Q2 and the annualized growth rate plunged to 0.3%, down from 2% a year ago. The only positive news coming out of Japan economic data today is that inflation has recovered from 0.6% in April back to 1.4% in October where it was to begin the year. Given that the global economy seems to be slowing and global equities look vulnerable to more volatility it is highly unlikely that Japan actually does return to the "land of the rising stocks" in 2018.

Even when the overall markets are challenging, there are always sectors and industries that are either transitioning to being more attractive (Value) or that have developed such a significant technological advantage over competitors to command a greater multiple (Growth). In Japan, we have looked for opportunities in both areas, but most recently, the best place to hide from the market volatility had been in the four Big Dogs in Japanese technology, Sony (SNE), Softbank (SFTBY), Trend Micro (TMICY) and Nintendo (NTDOY). We discussed these companies last time saying, "They have been powerful money makers since the beginning of the Bull Market in 2013." The performance of the Fantastic Four was super in Q3 with SNE up 19%, SFTBY up 37%, TMICY up 16% and NTDOY up 13%, nicely ahead of both the Nikkei and the currency hedged ETF DXJ. We had hinted at this outcome in the last letter saying that the "Bulls were running again in Japan tech in July…" as earnings continued to surprise dramatically to the upside across the board over the summer and into the early fall. We had noted how there were some really smart investors taking big stakes in Japanese tech companies in 2018, saying "Interestingly, one of our favorite managers is wildly bullish on SNE and sees 100% upside from here. Tiger Global made a big splash in the media by taking a major stake in SFTBY a few weeks ago so the momentum here is likely to continue." Tiger Global also took a significant position in Softbank and that momentum was clearly in place in Q3. Unfortunately, October and November have been a different story as the spillover from Tech Wreck 2.0 in the U.S. reached across the Pacific and the selling was just as relentless taking these stocks down (18%), (24%), (15%) and (23%), respectively, over the past seven weeks (eliminating all the gains for the year except for SNE which is still up 10%). The biggest problem in the global equity markets right now is the crowding phenomenon that has resulted from the avalanche of money into passive strategies. When markets are rising, the constant rules-based buying pushes prices above fair value, but the flip side is that once the selling begins ETFs are not allowed to think (they must follow the rules) and the selling pressure becomes exaggerated. The old adage that markets take the escalator up and the elevator down may need an update to reflect just how much faster the downside happens in a market dominated by high-frequency traders and algorithms. On the Value side of the ledger, we wrote last time that "We have been patiently waiting for the value in the big Japanese banks to be unlocked, but that patience has been wearing thin. While these stocks continue to be extremely cheap, the inability for the BOJ to engineer a steeper yield curve has continued to drag down earnings growth and these stocks have languished." In Q3, the megabanks lagged again with Sumitomo Mitsui (SMFG) up 5%, Mitsubishi UFJ (MUFG) up 12% and Mizhuo (MFG) up 6% (basically just reversing their losses from Q2). Readers are probably tired of hearing about the Japanese banks (and we actually are becoming tired of writing about them) as they have essentially been dead money over the past five years while the Nikkei is up 70%. We are reminded that, in investing, it is often when everyone is ready to walk away from the idea that things begin to turn, but until the BOJ can get the yield curve to steepen, we just can't see how these banks really rally (but they are agonizingly cheap and really unloved…). We wrote last time that "Given the rapid growth in the tech sector, the value in the banking sector and the overall attractiveness of the Nikkei from an earnings growth and valuation perspective, we continue to believe that Japan is the most attractive of the developed markets. With that said, it appears that global investors do not share our enthusiasm and it is highly unlikely that the Nikkei achieves 27,000 in 2018, the level needed for this Surprise to be right.

Surprise #8: #NoOpenAirMuseum

Byron Wein once wrote Europe was on the way to becoming an open-air museum and for years pundits piled on saying that the Eurozone was crumbling and would disintegrate. A punishing Recession after the Global Financial Crisis followed by a wave of Populist threats to unity within the EU and Europe reached a fevered pitch with fears of Grexit 2.0 and possible backlash from Brexit. Consensus was that the EU's days were numbered. However, the ECB stimulus program has rekindled animal spirits and a real recovery has taken hold. These events lead to Europe being one of the best performing regions in 2018.

The ECB finally came to the rescue in Europe (better late than never) and they went all-in on the QE, exploding their balance sheet from 20% of EU GDP to 43% in just over two years. The result has been a rekindling of animal spirits in Europe, a rapid decline in unemployment (although still high) and a slight instigation of inflation (although still too low). Confidence has returned to the region and that confidence may even be running a little hotter than the actual economic recovery. The stimulus taps are stuck wide open and with many trillions of euros of negative yielding government bonds, there has been a solid recovery in corporate profits as debt is cheap and operating leverage is high at this point in the cycle. The one thing that doesn't seem to make sense is Italy with rates below U.S. Treasuries, but so long as the ECB has a continually low bid that anomaly is likely to persist. The one wrinkle in the plot is the continued strength of the euro itself may begin to bite into the export dominated markets like Germany and France and there are signs that profit growth is not growing as fast in those markets (relative to the PIIGS). The problem with the equity story to this point is that there seems to be a cap on the Euro Stoxx 50 Index in that each time it moves toward a break out level either threats of tapering by Super Mario or higher oil prices causing consumers to slow down have derailed the bull market. We think that Greece is the word in Europe in 2018 as the debt crisis seems to have passed (Greek 2-year yields are below Treasuries) and there is a large amount of offshore capital that is coming back home that could mitigate some of the bank capital needs to deal with the NPL issues. With confidence rising and economic growth rebounding strongly, business confidence is the highest ever recorded and with equity prices so low, it could be one of the best performing markets, in a region where there could be a lot of winners in 2018.

Sometimes the consensus is right (translation, the Surprise is wrong) and the negativity toward Europe seems to have been well placed in 2018. We actually closed this section last time making this point, "We thought it would be a Surprise for the European markets to be strong performers this year and it appears that, unfortunately, we were right about that (meaning unlikely the Surprise comes true)." We had identified one of the primary risks to the thesis that Europe would perform well was that the ECB was making noises about ending the "bank welfare program" (ECB Expanded Asset Purchase Program, never call it QE) in December and "We often repeat the phrase that #LiquidityDrivesMarkets and the lack of a permanent safety bid under risk assets in Europe will certainly convert a brisk tailwind for equity markets into a headwind over the coming quarters." That said, we had hypothesized that stocks were cheap enough coming into the year to attract foreign buyers. Those buyers never materialized and with the ECB cutting the monthly purchases back from $60 billion last year to $30 billion this year (and a final cut to $15 billion during Q4), there just has not been enough demand to support equity prices. The $30 billion of purchases a month during Q3 should have been worth about 18 Euro Stoxx 50 Index points based on our formula derived from the work of Larry Jeddeloh at TIS Group. Unfortunately, the Euro Stoxx 50 Index rose only three points during Q3 as a 3.8% rally in July was erased by a (3.7%) decline in August on heightened concerns about the Italian banking situation. Therefore, after two quarters of flat performance, there were theoretically 36 points of future upside from the ECB stimulus that should have worked its way into the markets. By now readers know all about Red October and the nightmare that occurred in global equity markets in the weeks leading up to Halloween. Europe was not spared. The Euro Stoxx 50 Index fell another (5.9%) in October and has continued to slide down in November (to bring CYTD losses to (10.5%) through Thanksgiving). One of the major problems for Europe right now is how to stabilize their government bond market in the absence of central bank largesse. It does not appear that there is a long line of investors willing to lend money to the Italian or Greek governments for ten years at sub-3% rates and the Italian 10-year yield surged from 2.9% at the end of September to 3.4% at the end of November while GGBs ran from 3.8% in July to 4.6% at the end of November. Higher interest rates are the last thing that overleveraged companies and countries can manage today, so there does seem to be more risk to the downside than we observed coming into the year.

We have written over the past few quarters that "What Europe needed in order to break out of the trading range was some solid domestic GDP growth to overcome the headwind of the stronger euro that was hampering exports in the near term." After the growth spurt in 2017 where EU GDP hit 2.8% in Q3, European economic growth has sputtered over the past year falling all the way back to 1.7% after sequential quarterly rates of 0.4%, 0.4% and 0.2% in 2018. As we said last time (stating the obvious), "There are some signs that the strong recovery remains elusive." We have discussed at length over the past year how the surprisingly strong euro in 2017 was likely to really hurt the EU growth story, particularly in Germany and France, and that theory became reality this year as German growth stumbled to 0.4% in Q1, 0.5% in Q2 and turned negative in Q3 at (0.2%). Mario "Whatever it Takes" Draghi was on the case over the past few months and has jawboned the euro lower, which should arrest the decline in exports and perhaps can forestall what appeared to be an assured return trip into recession. Like in Japan, the one bright (kind of) spot for the ECB is that inflation has stopped falling and from a very deflationary sounding 1.1% in February, EU CPI has recovered back to 2.2% in October. Not to be a complete wet blanket, but it is highly possible that much of that gain in inflation was merely the oil price recovery over the March to October period. With the meaningful correction in the past couple of months, CPI will head right back down and the central bank will be staring at a lethal combination of declining inflation and economic growth and may have to fire back up the printing presses almost as soon as they had planned to shut them down in December. In summary, EU equity markets have actually underperformed other developed markets in 2018, as the MSCI Europe Index is down (9.9%) through the end of October, while Japan is "only" down (7%) and the U.S. was clinging to a scant 2.5% gain (these numbers are all worse in November). We thought that Greece might finally "be the word" in 2018 and we discussed last time how "continued concerns about the debt deal with the Troika continue to cast a shadow over what has been a very robust economic recovery." In Q3, heightened concerns about bank solvency arose and the Athens equity markets were clobbered, crashing (17.6%), and fell another (8.2%) during October to bring CYTD returns to a sobering (31%). It turns out that the only word for Greece from an investment perspective in recent years is "miserable" as the equity market has now compounded for a decade at an astonishing rate of (23.5%), which turns $1 into 6.8 cents (read that a second time). The only reason to waste any more ink on the Greek equity market is that it is now nearing the "down 95%" zone where historically it has been tough not to make money buying assets at completely washed out levels (unfortunately, this also brings to mind the old joke - do you know the difference between down 90% and down 95%? You have lost half your money…). That is a topic for another day. One of our favorite hedge fund managers has a great saying, "With every investment, we get richer or wiser, never both" and we feel like we have gotten a Ph.D. this year in Europe.

Surprise #9: #DecadeOfDominance

A year ago, consensus was that China was on the verge of a hard landing, the RMB (and other EM FX) was going to collapse as the Fed raised rates, and that the dominance of U.S. equities over the ROW would last indefinitely. Instead, Emerging Markets trounced developed markets (both stocks & bonds) as it turned out that Willie Sutton was right after all (that's where the money/growth was). Consensus now believes investors have "missed it" and that the inevitable EM Crash is just around the corner. We will take the other side and say the 'Decade of Dominance' is just getting started.

Emerging Markets were the star performers in 2017 and the most miserable markets at the beginning of the year performed best of all (nod again to Sir John Templeton to always invest where it is the most miserable), with Argentina, Nigeria and Turkey being right at the top of the Leader Board. EM equities have broken out of a multi-year consolidation and wedge pattern and look to be at the beginning of a multi-year move relative to the Developed Markets. DM had dominated from 2011 until 2016 and when we watch the ratio of EEM/SPY we see that there are clearly defined periods of time where either DM or EM dominates and extremely clear signals for when those periods begin and end (just had a new signal for EM). Economic data is very supportive of continued strength in EM as Leading Economic Indicators are rising and the Citi Economic Surprises Index is at a trough and turning higher. The term 'Decade of Dominance' comes from a chart that shows the long-term rising channel of the EM Index and, unlike the U.S. where the current price is at the very top of the channel (two standard deviations expensive), EM is at the bottom of the channel (two standard deviations cheap). EM countries are responsible for 40% of all global GDP, yet only have an 11% weight in the global equity index, so there is plenty of room for increased allocation (like the inclusion of China A-Shares beginning in June). EM lending is accelerating which should provide strong liquidity to the region and earnings growth has exploded upwards to nearly double the rate of the Developed Markets (and you get to buy that higher growth at a 22% discount in P/E). While there will no doubt be some volatility in these markets should the DM struggle (there always is despite the superior fundamentals), the EM markets are still very much a place where investors should buy the dips as opposed to the DM markets where it is more advisable to sell the rips (and redeploy into EM).

Repeating that we had no idea how prophetic (and painful) our statement would be from February when we wrote "Just when you thought it couldn't get any better for EM, it did, as during the global equity market melt-up in January the MSCI EM Index surged 8.3%, outpacing an audaciously strong 5.7% return from the SPX Index. We understand that these types of monthly moves are not normal (almost panic buying) and we would expect to see increased volatility (read some downside volatility) in the coming months." In light of this, we certainly did not expect to see the type of carnage that has occurred across Emerging Markets in 2018. Despite the fact that "we had warned that global investors are still conditioned to shoot first and ask questions later when it comes to the Emerging Markets" there didn't appear to be enough deterioration in economic or profits growth to warrant the kind of sell-off that we witnessed over the course of the first half of 2018. What we clearly missed was that the relative growth in both profits and GDP was temporarily skewed significantly in favor of the U.S. by the tax reform changes. We also discussed last time how one of the significant challenges for long-term investors is the heightened short-term volatility because "in the New Abnormal, the piling on effect (thanks to HFT) is more problematic than it has ever been." We also discussed last time how, in Q2, the biggest contributor to the losses was "the negative momentum accelerated courtesy of a rising dollar (DXY up 5%)" coupled with Team Trump declaring a Trade War (bordering on another Cold War) and "doing their best to smash global trade, global growth and global profits." The relentless selling tapered off a little bit in Q3, but the MSCI EM Index still fell (1.1%) during the quarter, which in and of itself is not bad, but compared to the SPX jumping 7.7% is a terrible performance. However, while the Index pain was limited, a number of countries continued to be sold unmercifully, as South Africa fell (7.4%), Greece was smashed down (17.6%) and Turkey plunged (20.5%). Like in Q2, the cellar-dwellers were mostly impacted by "their currencies getting smashed by the rising dollar (and rising U.S. rates) as the boo-birds were out in force calling for yet another EM Crisis." We continue to try and keep this dollar move in perspective, pointing out that while it did bounce smartly off the bottom in March, DXY is still down materially from the peak of 103 when the Fed began raising rates two years ago (dollar anticipates Fed moves). In 2018, investors have fled EM and flocked to the U.S. (reversing the 2017 trend of flows and performance). The dramatic outperformance at the end of Q3 last year by EM over SPX (up 37.3% versus up 21.8%) has been reversed (equally dramatically) with CYTD returns of (7.7%) and 10.6%, respectively, and TTM returns of (0.8%) and 17.9% for the MSCI EM Index and the S&P 500, respectively. Recall that at the end of 2017, the gap between EM and SPX was 15.5% in favor of EM and today that gap stands at 18.7% in favor of SPX.

While there was not much to cheer about in Q3 in the broad Emerging Markets, there were a few markets that actually performed quite well (there always are) as Thailand, Qatar and Poland posted strong returns of 13.6%, 12.8% and 10.6%, respectively. Countries with solid current account balances have been more immune to the FX contagion that has smashed the Fragile Five (Brazil, Turkey, South Africa, Indonesia and India) in 2018. There have also been some country specific developments across EM that have enabled a few countries like Columbia, Qatar and Russia (beneficiaries of higher oil prices) to outperform the Developed Markets for the CYTD. If we look at the BRIC countries in Q3, performance was quite mixed, as Brazil (EWZ) led the way, up 6%, and Russia (RSX) was also positive, up 2%, while India (INDA) fell (2%) and China (MCHI) brought up the rear, down (6%) as a number of the leading Chinese ecommerce companies (Tencent, Alibaba, Baidu) fell sharply. The losses got worse in October as the forced selling by the ETFs began to really put pressure on many of the large ADRs that comprise large portions of the EM ETFs. While EEM was off (7%) in October, MCHI fell (8%) and RSX fell (6%), but INDA looked to have perhaps turned a corner and fell only (1%). EWZ surged 15% on the election results that saw a far -right, but allegedly pro-business, candidate win the presidency. As we discussed last time, the wide dispersion across EM markets showed that it is very challenging to try and classify all of the developing markets around the world into one uniform group. We wrote "There are many elements that impact performance of equity markets from GDP and profits growth to economic and political stability to fiscal and monetary policy that create very divergent outcomes around the world. Investors are far better served to invest a la carte from the EM menu and recognize that there are many stages of economic and market development in countries around the world, and further, that sometimes a developed economy may still have an undeveloped market (and vice versa)." There are times (like during Q3) when investors are well served to choose a selection of less well-developed markets that are a little bit off the radar screen of most investors because of the risks of herd behavior in the more well-trafficked markets (that are prone to boom and bust based on ETF flows). Alternatively, there are times (like last year) where simply gaining exposure to the largest, most liquid, developing markets is a superior strategy because the tsunami of capital flooding into the market (again ETF flows) raises all boats. We believe we will be in the former type of market environment for the near future, so investors will be well-served to focus on niche markets where they can gain an analytical or informational advantage due to relationships, knowledge or expertise. Despite the unexpected negative performance in EM in 2018, we reiterate what we wrote the last few quarters, “Given the relative valuations and earnings growth, we don’t believe this type of relative performance is warranted, but the home market myopia bias continues to be strong in domestic investors who are quick to sell first and ask questions later in EM.” As we have said in the past, investing is the only business we know where when things go on sale people run out of the store (in direct contrast to the craziness we all just witnessed on Black Friday), so the key for long-term investment success is to stay in the store and buy what is on sale.

Coming into 2018, we believed that China A-Shares “would be one of the biggest stories in global equity markets in 2018 courtesy of the MSCI Committee decision to include A-Shares in their Indices beginning in June.” The MSCI decision meant that every global equity manager in the world had to begin buying these stocks in order to minimize benchmark risk. While the initial allocation was relatively small (around 2.4%), given that the Chinese A-Share market is the second largest equity market in the world, there was going to be a tailwind behind this segment for many years to come (as the Index weight will rise to 20%+ over a number of years). Our conviction to the idea was so strong that we dedicated our April Around the World Webinar to the opportunity in Chinese local market shares and made the case for why the Great Wall of Money was headed for Shanghai. As we pointed out last time, “Sometimes theories don’t play out exactly as expected in practice and the past few months since April have been brutal for Chinese stocks, and A-Shares in particular, as the Trade War rhetoric has triggered a strong response by the Chinese leadership to weaken the RMB, has global investors in full-on panic mode and dumping Chinese stocks.” After a fairly brutal Q2, the selling abated somewhat in Q3 (but there was little buying like elsewhere around the world), and while the MSCI China Index down (7.5%), the MSCI China A50 Index was down only (1.1%) and the MSCI Hong Kong Index was down only (1%) as well. As we discussed last time, most of the China-related markets (aside from HK which saw some strong IPO activity) had moved into Bear Markets (down > 20%) since the global equity peak on January26, but there were beginning to be some signs that the Chinese government was ready to intervene and stem the slide in asset prices. We wrote last time that “The downward momentum ebbed a little in July and we believe that the worst of the panic selling is likely behind us.” That sentiment looked relatively intelligent through the first week of October, but when the global equity markets began to sell off, China was not spared and the SHCOMP fell (5%), EWH dropped (6%), MCHI shed (8%) and ASHR dipped (10%). Adding on the first few weeks of November, the Chinese equity markets leader board resembles the Chinese Flag (a sea of red) with these markets down (23%), (14%), (21%) and (27%), respectively. What we misjudged was the speed at which the PBoC would drain liquidity from the system to battle rising property prices and inflation as well as the global over-reaction to the Trade War rhetoric coming out of Washington. We still contend that China is winning the trade game as they use the RMB as a weapon (despite saying they wouldn’t) to neutralize the impact of tariffs. We also misjudged the extent of that RMB weakness as a headwind for stock prices.

With all that said, we will reiterate our primary thesis that “the economic momentum of China as they convert to a consumer and services led economy is a powerful trend. Investors should continue to accumulate exposure to these markets in their portfolios.” The best Black Friday deals we see around the world are in China, so we are intent on staying in the store, taking advantage of the sale prices and loading up on quality goods there.

There is a compelling case for staying the course in China when looking at how attractive valuations have become in recent months (both relative and absolute). The MSCI China P/E is now 11.9X and the forward P/E is extremely low at 9.9X, the MSCI HK Index P/E is 11.2X and the forward P/E is 12.6X and the MSCI China A50 (A-Shares) Index remains the cheapest of all with a P/E of 11X and a forward P/E of just 9.5X (when P/Es are < 10X they have historically produced very strong returns over the next year). Compared to other global equity markets overall, China valuations are in line with the MSCI EM Index P/E at 12.3X and the forward P/E at 10.2X, but they remain compellingly attractive relative to the broader global benchmarks. The ACWI Index P/E is high at 17.1X and the forward P/E is 13.8X with the MSCI USA Index being truly egregious with a P/E of 20.9X and a forward P/E of 15.8X (50% higher than the China valuations). We asked the question in May, "So, with valuations so compelling, why do investors remain underweight China?" In a word, fear. Last time we discussed how Team Trump and the media (despite his protestations of fake news) have done yeoman's work in recent quarters of "making China out as an enemy and reinvigorating a New Cold War mentality that has kept investors on the sidelines when it comes to Chinese equity exposure." We steadfastly believe that the MSCI inclusion decision will create a Great Wall of Money that must enter the Chinese equity markets over the coming years and sitting on the sidelines is going to become an increasingly expensive decision for global portfolio managers in the years ahead. We believe investors should focus on maximizing exposure to the highest growth sectors of the Chinese economy; consumer, technology and healthcare in particular. While we believe that opportunities in the public markets will be robust, we encourage investors to also explore opportunities to participate in the transformational growth in the private markets. We are so compelled by the opportunities for investing in the economic transformation in China that we have just closed a private investment fund to capitalize on these tremendous growth sectors (we will be back with another fund in the New Year). As we said in our past three quarterly letters, "as China transitions from a manufacturing powerhouse to a consumption-driven economy, there will be outstanding opportunities for intrepid investors to make outsized returns."

Historically, one of the best indicators of the attractiveness of the opportunity to invest in Emerging Markets has been the level of Producer Price Inflation ("PPI") in China (an indicator of growing global aggregate demand). During periods of deflation in China (negative PPI) EM equity market returns have been below average and oftentimes have even been associated with periods of financial crisis in China and the broader global capital markets. The PBoC (like all central banks) periodically injects a significant amount of economic stimulus into the economy to enhance economic growth (funny how the timing coincides with political elections, just like in the U.S.). The last big injection was a huge package of over a $1 trillion early in 2016 to counter the effects of the growing global growth slowdown. Because of that stimulus, PPI had spiked sharply to 7.6% in March of 2017 and was beginning to cause strain in the property markets. That big jump in PPI was also a leading indicator of excess returns in the Chinese equity markets (and broader EM equity markets) and we saw the impact of that stimulus in the very strong returns in EM equities in 2017. We have observed in the U.S. presidential cycle that there is excess stimulus in year three (presidents like to get re-elected) and then there is a withdrawal of stimulus in year one (and oftentimes a recession), as the impact of the future demand that was pulled forward by the policies of year three plays out. The same pattern is observed in China as soon after the Party Congress (Elections) is completed, the PBoC begins to reverse the stimulus in order to control inflation and to mitigate the damage that could be caused if asset bubbles were allowed to fully inflate. Like clockwork, the PBoC began reducing excess stimulus in Q4 of last year and PPI began to fall. We wrote in February that "With the new efforts to pull some of the excess liquidity out of the system, PPI fell back to 4.9% in December, still a positive level, but a meaningful enough decline to prompt close monitoring in the coming months." Unfortunately, PPI fell consistently during Q1 to a trough of 3.1% in March and actually served as a leading indicator pointing to weakness in the Chinese markets (and more than likely broader EM). When EM equity markets began to decline, we discussed last time that "there was a growing sense that perhaps the PBoC had jammed on the brakes a little too hard" and there was some PBoC jawboning about how they would continue to stimulate the economy. PPI did actually reverse back up to 4.7% in June and we noted last quarter that "We would expect to see a leveling off of pressure from the liquidity perspective in China and global emerging markets where investors can focus on strong growth, good earnings and cheap valuations, which is a recipe for solid returns." That all sounded good and perhaps there was some relief in Q3 from that slower withdrawal of stimulus, but the problem is that PPI has now fallen for the last four months back to 3.3% in October, which would correlate well with the continued weakness we have seen in Chinese equities in recent months. We have heard from some very well-connected people in China that the government has planned a number of extremely beneficial tax law changes that would go into effect in January 2019 including deduction of mortgage interest and/or rent payments and a more than doubling of the individual exemption (taking play right out of U.S. book circa 1980s). As such, we would expect to see PPI shift back up in the New Year and that should presage better returns from Chinese (and perhaps broader EM) equities next year.

We mentioned last time how one of the most unexpected result in Q1 was the resilience of the Frontier Markets, which were up 5.1%. We also discussed that as is the nature of these markets, what leads in one quarter very often lags in the next quarter and the MSCI FM Index crashed (15.2%) in Q2 to end up down (10.9%) for the first half of the year, "once again showing how #RiskHappensFast." Q3 was far less dramatic as the Frontier Markets fell in line with the broader Emerging Markets and declined (2%) to bring CYTD returns to (12.6%) for the first three quarters of the year. In one of the most interesting developments in October, FM actually did fall less (as it should have given low valuations and stable growth in many markets) than other global equity markets, declining only (3.5%). While that leaves the CYTD return at a not so inspiring (15.7%), there does seem to be some bargains emerging in some of the most developed FM countries. We like to quote Sir John Templeton in the pages of these letters, and we wrote last time that Sir John "always told investors to steer clear of opportunities where everyone is crowding around (the consensus) and seek opportunities where no one seems to be (the variant perceptions). He says the right question is, 'Where is the outlook the most miserable?'" We went on to say that history is replete with great examples of how the discipline of selling after markets have run really hard (Argentina, best market in 2017) and buying when markets have lagged badly (Saudi, worst market in 2017) have been a recipe for strong profits over time. Sir John was right again (not surprising) in 2018 as through October, Argentina fell (51.1%) while Saudi surged (20.6%). We remain bullish on Saudi (MSCI inclusion) and we think we have reached maximum pessimism in Argentina once again, so it is time to start rebuilding positions (YPF, GGAL, BMA, PAM are a few we like). We wrote this before the horrific events in the Saudi Embassy in Turkey on October 2, so we will retract our support for that market as we would expect that the global fallout from the murder is far from over. We remain very bullish on Argentina as the plunge related to the peso devaluation seems to be overdone and the support of the IMF should provide a floor to equity valuations at this point. Since the last letter, the group of four Argentinian stocks above have performed quite well and while YPF is basically flat (oil volatility), GGAL is up 18%, BMA is up 5% and PAM (our favorite) is up 10%. As we pointed out last time, "In FM (even more than other markets), an active management strategy of rotating capital away from recent winners toward recent losers has produced superior results..." The pendulum of human emotion (with help from the HFT bots) always swings too far toward both extremes, but mean reversion is a force that is as powerful as gravity. We have said it many times before (and even penned a whole letter on it) that Newton was right, and for every action there is an equal and opposite reaction. Translated to the investment markets, for every bubble there is a crash, so always be attentive to selling into the former and buying into the latter.

Surprise #10: #GetReal

After nearly four decades of falling Inflation, global developed markets are at an inflection point where the excessive liquidity created by central banks is finding its way into the economy. In addition to the monetary pressures, the massive urbanization of Chindia (and other EM) has created huge demand for scarce resources and commodity prices have reversed their downward spiral that began in 2011. This perfect storm of events, coupled with the cheapest relative valuation of Real Assets to paper assets in history, creates a tremendous opportunity for commodity investors in 2018.

There are a number of tailwinds developing for real assets, not the least of which is the One Belt, One Road project (recently renamed the Belt and Road Initiative), which will be a powerful driver for rising demand for commodities as the largest infrastructure in the history of the world unfolds in the coming years. China overall continues to grow at a pace that is very favorable for commodities and real assets and with PMI as 5-year highs, LEI turning higher and GDP growth close to 7%, there is little doubt that China's growth will support the next commodity super cycle. Interestingly, there is evidence from some of the economic variables tracked by the Bloomberg Li Keqiang Index that China might actually be growing faster than the reported government figures (theory is they don't want to cause an inflation panic with the higher numbers). China pumped $1 trillion into their economy in 2015 to save the world from an impending slowdown (and to get Xi re-elected), but as that liquidity is sucked back out of the system by the PBoC there is some risk that global growth (and commodity demand) falls off a bit. All that said, there has never been a better time to sell paper assets and buy real assets as relative valuations between financial assets and hard assets has never been more extreme (thanks to central bank money currency devaluations). The good news is that despite a big move in the commodity indices in the past six months (including a recent record string of fifteen consecutive up days), the relative valuation of the CRB and GSCI Indices versus the S&P 500 is still near record levels (and we know that alligator jaws like this always close). Dr. Copper and Iron Ore prices are in solid uptrends and are pointing to better growth ahead, which bodes well for real asset prices. Gold and Gold Miners are as cheap as they were at the peak of the last Tech Bubble in 2000 and it could be an opportune time to add some precious metal protection to your portfolio at these attractive levels.

We believe (concurring with 13D Research) that a new commodity super cycle began in Q1 2016, as the outcome of a crushing Bear Market that began in 2011 finally forcing discipline into the markets and forcing the withdrawal of global excess production capacity across the commodity complex. Incrementum AG has a great chart that shows that the relative valuations of commodities versus financial assets has reached an historic extreme and with commodity prices still 60% below their peak in April 2011, it appears that it may be a good time to swap paper assets for real assets. Commodity prices languished in Q3 as GSCI was up just 2% and the CRB Index was actually down 1% (unintended consequence of Ags getting killed by the Trump Trade War) and both lagged global equities (MSCI World up 5%) for the period after besting the equity indices in Q1 and Q2. We discussed last year that "over the last six years the S&P 500 and the GSCI make a giant Alligator Jaws pattern with SPX up 105% and GSCI down (60%) and you know what we say about Alligator Jaws (they always close, the tricky part is the timing…).” Those alligator jaws widened some more during the period, as the S&P 500 cumulative return (since the 2011 commodity peak) moved to 113% while the GSCI cumulative return improved to “only” down (53%) and the gap widened marginally from 163% to 166%, so there are still plenty of returns to capture when those jaws close (they always do…). If we extend the analysis into November, the SPX cumulative gain slips all the way to 95% (power of negative compounding on large accumulated gains) while the GSCI cumulative gain slipped lower to (60%), but the spread between the two actually shrunk to 155%.

We did discuss last time that some nascent signs of slowing global growth (exacerbated by the Trump Trade War rhetoric) were tempering our enthusiasm for commodities (when facts change, change your mind). In the last few quarterly letters, we wrote “As we entered 2018 there was some concern as to whether that strong growth could continue (particularly in China) and while the GDP growth numbers have come in strong, copper and iron ore prices fell slightly in Q1… copper markets could get quite volatile in the balance of Q1 should China continue to pull liquidity from the system.” China did drain liquidity from the system and copper prices were wildly volatile in Q2, punctuated by a surge to $3.30 on June 8 followed by a (10%) plunge to finish the quarter at $2.96. The downside volatility continued in early Q3 as Dr. Copper fell quite ill and collapsed down to $2.56 on August 15 (down (22%) in seven weeks), but the central bank jawboners came out in force around the Jackson Hole meeting promising more of “whatever it takes” to keep markets levitating. On cue, copper jumped 9.8% back to $2.81 by the end of the quarter and has stabilized around that level during October and November as well. The copper stocks got smashed by the collapse in copper prices as Southern Copper (SCCO) and Glencore (GLEN.L) were down (5%), Freeport-McMoRan (FCX) and First Quantum (CA:FM) were down (19%), and only Anglo American (UK:AAL) was able to buck the trend, rising 5%. The problem is that these stocks are now down massively for the year after falling further in October and November and with losses of (45%), (28%), (35%), (35%) and (2%), respectively, it appears that Dr. Copper is once again trying to warn us of an impending slowdown in global growth (and likely recession). Curiously, iron ore prices went the exact opposite direction in Q3 starting at $65 in June, rising to $68.44 by September and continuing upwards to $73.41 in October. Despite the stability in prices, the iron ore stocks were mixed so far in 2018, and continued that trend in Q3, as VALE was up 19%, BHP was up 3% and CLF surged a massive 50%, while AU:FMG was down (10%) and RIO was down (5%). As we noted last time, “These companies are rebounding from very depressed levels and once again point to the Value of Value in buying things that go on sale.” Value investors always prefer to shop in places where fundamentals actually matter and there have been opportunities to find in the commodity complex this year. We did warn last time, however, that should China really start to crack down on liquidity, there could be increased volatility and that scenario played out in October and November as the iron ore names gave back much of the earlier gains returning (12%), (12%), (31%), 2% and (6%), respectively. If the rumors we hear about the changes to the Chinese tax law are right, the signal from iron ore prices is likely to trump the signal from copper and we could see a very powerful rally in the metals stocks in the New Year.

Coming into 2018 the consensus was absolutely sure that Natural Gas (“NatGas”) was headed straight for $4.00 and, conversely, no one was sure it would plunge back under $3.00 (which meant that was exactly what would happen). NatGas did shoot up parabolically for a few hours in January and hit a high of $3.63, before falling off and plunging right back down to $3.00 by the end the month. Gas prices then drifted upwards over the next few months and rose 7% during Q2, but with no extreme weather events the NatGas markets were relatively quiet by historical standards. So much of the speculation around Gas revolves around trying to estimate demand, which we believe is far too difficult to decipher given the extreme unpredictability of the weather. We have written on many occasions that "The consensus is too focused on the demand side (weather) in NatGas, while the real story is on the supply side (production technology)" where massive technological advances in fracking have unleashed unprecedented supply onto the markets in recent years which has kept a lid on prices. We wrote in this section last quarter that "we expect NatGas to remain range-bound (with a slight downward bias) so long as the E&P companies keep trouncing their production targets." It turns out that Q3 could not have been much more range-bound if it tried as NatGas fluctuated in a very narrow band between $2.72 and $3.01 over the course of the three months. From a base of $2.92 in June, prices slipped lower in the early part of each month over the summer, recovered in the back half of the month, made a final low at $2.77 on September 14 and ended up at $3.01 at the end of September. Gann Dates are said to usher in periods of trend reversal or trend acceleration and on September 21, the NatGas market suddenly gained some serious upward momentum and surged to $3.26 by the end of October (one place to hide from the carnage in equity markets). The fun really got started in November, though, as NatGas went ballistic in the first two weeks of the month, shooting up to a peak of $4.84 (the consensus wasn't wrong, they were early…) before settling back down to $4.63. We will go into more depth of what happened to cause this giant spike in prices next quarter, but there appears to have been some dueling traders (perhaps similar to the John Arnold, Brian Hunter, death match when Amaranth went under) that we are sure will come to light in the coming weeks. NatGas stocks had bifurcated over the past year into higher quality operators (EQT, COG) and lower quality operators (SWN, RRC, AR, GPOR) and we posited last in February that it might make sense to buy the high-quality names in this environment. That strategy has produced very mixed results during 2018, as all the NatGas stocks were down sharply in Q1, bounced nicely in Q2, but then slumped again in Q3, returning (19%), (4%), (2%), 2%, (16%) and (16%), respectively. The strangest thing has been the reaction of the NatGas stocks during the parabolic spike in NatGas prices as the returns have been (25%), 15%, 0%, (7%), (23%) and (19%), respectively to bring CYTD returns to a very unsatisfactory (43%), (13%), (13%), (13%), (30%) and (35%), respectively. We forecast last time that "The NatGas stocks have been range-bound (along with NatGas prices), but there is significant upside potential should prices firm in the back half of the year." It appears that we got the price part right, but there is something else happening at the company level that is causing investors to shy away from these names. We have never like falling knives, so we will watch closely for signs of hitting the floor so we can safely pick up these names by their handles (save the fingers).

In thinking about gold and the other precious metals ("PM"), we have wanted to get excited about them all year, but while they are in many cases excruciatingly cheap, there just didn't appear to be any catalyst to bring investors back to this sector. We actually wrote in May, "for the time being, we will stay on the sidelines in the Precious Metals markets but do believe that sometime soon investors will realize, in the upside-down world of the #NewAbnormal, rock will beat paper, real assets will beat paper assets." We have been waiting a long time and Q3 was not the time (again), in fact things got worse (or better, if you believe in buying things below fair value) as precious metals were down across the board during the period. Paper continued to beat rocks (and other metals) as gold was down (4%), silver was down (8%), platinum was flat, and palladium actually did manage to rally, jumping 14% (on supply concerns). Finally, metals got their opportunity as Red October unfolded, and general equity markets began to accelerate downward, investors did finally seek safe haven assets and precious metals (with the exception of silver) were in favor (kind of…) again. GLD was up 2.5%, SLV was off (1.5%), PPLT was up 2% and PALL was up 2.5%. November saw similar trends as MTD returns have been 3%, (1.5%), 2% and 6.5%, respectively, but there is no luster in precious metals for the CYTD as returns for the group are (8%), (17%), (12%) and 2%, respectively. The miners were even more challenging in Q3 as GDX, GDXJ and SIL were all down (16%) while SILJ was down (19%). The losses kept mounting for silver in October, as SIL and SILJ were down (4%) and (10%), respectively, but the gold miners managed to eke out small gains with GDX and GDXJ up 2% and 0.1%, respectively. We noted last time that "The PM complex has been in free fall since the dollar did an about face in mid-April amidst the Trade War escalation" and, unfortunately, nothing has changed on that front to help get the group out of the penalty box. However, we still expect that these trends are not permanent developments. That said, given our expectations for continued weakness in global equity markets and the seasonally strong period for gold and the miners in December, we would suggest making an allocation to the sector at these depressed prices as a hedge against other equity exposure. We reiterate what we said last quarter that "we believe that this period will prove to be an historic opportunity to swap fools' gold for real gold with the benefit of a little hindsight a few quarters hence."

Bonus Surprise: #BitcoinHitsTheBigtime

Truly disruptive technologies cause great angst in the capital markets as they move along the S-Curve from Innovation to Adoption, particularly from incumbents who are most impacted by the change. In our view, blockchain is a truly revolutionary technology that will disrupt the entire Chain of Value in the same way that the Internet disrupted communication and commerce. Financial Services executives call it a fraud, governments call it a threat to national security and the consensus is that bitcoin and other cryptocurrencies are a Bubble and a Fad, or even a Ponzi scheme. In our view, the reality is that blockchain and bitcoin are BIG, Really BIG…

Back in 1988, *The Economist* magazine predicted there would be a world currency in 2018 (they called it the Phoenix and it was a golden coin); Satoshi obliged in 2008 and created bitcoin (also depicted as a golden coin, although there are no coins, just electrons and ledger entries). It seems that everywhere you go people are talking about bitcoin, the older generation calling it a scam and a Bubble and the younger generation calling it #DigitalGold and asking for it in their Christmas stocking. Last fall everyone was calling bitcoin a Bubble (at $4,000) and Jamie Dimon was calling it a fraud, but the traditional Bubble model doesn't apply to bitcoin as it is a network that is undergoing an S-Curve adoption and we showed how the upward trajectory of the bitcoin price will be a series of parabolic moves that look like Bubbles, but will turn out to be barely observable wiggles on a long-term chart as cryptocurrencies replace fiat currencies over the coming decades. We believe money as we know it is going away and it will be replaced by the Internet of Money (or Internet of Value) and Value over IP will have the same impact to our traditional view of money that Information over IP had on our conception of the value of the Internet. There are plenty of Bit-haters, the largest group being governments and large financial institutions (incumbents who have the most to lose), but the more they try and fight bitcoin, the stronger it becomes. Bitcoin prices are following a 2014 Logarithmic Non-Linear Regression model (most humans only think linearly) and that model predicted the $10,000 price this past November and shows how bitcoin will move the next 10X to $100k over the next three years (we see a $400k price, gold equivalence over a decade). Q1s have historically been rough for bitcoin (particularly following years with big up moves like 2017) as the Chinese get set for Lunar New Year and there is some tax selling related to the huge gains from the previous year. It is likely that bitcoin will stabilize over the next three to nine months and head back for the parabolic pricing channel that mirrors the development of the network over time. Bitcoin is all about the growth of the network, people taking

money out of the fiat system and increasing the user base of bitcoin. That process is still in the early days and we have just entered the Frenzy portion of the Installation Phase of a new technology along an S-Curve. There will be a crash at some point in the future (like the Dot.Com crash), but we are likely a few years away. That crash will cleanse the system and lead to the Deployment Phase of bitcoin where widespread adoption and use cases will flourish and the investment opportunities will become even more robust. One of the best things about bitcoin is that it has strong portfolio diversification benefits (low correlation to traditional assets), so it doesn't take much (1% to 5%) in a diversified portfolio to make a significant positive impact. We believe bitcoin (and other cryptocurrencies) are here to stay and they are just getting warmed up.

Repeating the most critical point from this section last time, we wrote that "Perhaps the most important issue relating to cryptocurrencies (and bitcoin in particular) is that these assets are networks and therefore they have unique properties that are very different from traditional securities." Most investors have the bulk of their assets exposed to securities (stocks and bonds) that derive their value and returns from a combination of corporate profits, economic growth, interest rates and productivity. Because these sources of return are highly correlated with one another, it is not surprising that traditional investments have high levels of correlation (particularly in difficult periods). Networks, on the other hand, derive their value and returns from a combination of technological innovation, user adoption, growth and regulatory changes. Because these sources of return are uncorrelated with the traditional sources of returns, adding exposure to networks provides not only an opportunity to benefit from the increase in value of the networks, but also from the diversification benefits of owning an asset that is truly uncorrelated from the traditional core assets. We also discussed last time how the mathematics of networks can cause stress because networks evolve along a non-linear, parabolic curve, and when it comes to doing exponential math, most investors are simply not up the task (perhaps it is because U.S. students rank dead last globally in combined scores on math and science). But the most important issue to understand (and the thing that befuddles casual crypto watchers) is what we discussed in May when we wrote "The other important issue is to always distinguish between the network value and the current price as they are not one and the same; the current price is simply the price at which marginal buyers/sellers agree to a transaction. One of the reasons for the high volatility of bitcoin is that those willing to transact (not "Hold on for Dear Life") make up a very small percentage of the overall network ownership today and tend toward emotional extremes of panic buying (surges) and panic selling (crashes)." We were adamant in making the point about the difference between price and value last December when we warned investors that the current price (nearly $20,000 on December 18) had diverged widely from the underlying network value (closer to $10,000 based on a Metcalfe's Law model). We were concerned that the combination of the introduction of Bitcoin Futures on December 18 and the impending Gann Turn Date (where trends tend to reverse) on December 22 could cause some serious stress in the markets. We thought that prices could easily fall to the $10,000 network value in Q1 (and maybe even lower if the weakest hands folded), but we did not foresee the correction decreasing to $6,000, which was hit in February and again in April).

Bitcoin prices were extremely volatile in Q2 as they ran from $6,805 on March 31 to a peak of $9,818 on May 4, only to plunge back to $6,348 on June 30. The volatility continued in Q3 as prices leapt to $8,251 on July 24, collapsed back down to $6,060 on August 13 (the third touch of the $6k mark and the fifth lower low), jumped back to $7,318 by September 3 and then fell back down to $6,581 to end the quarter. If you closed your eyes and didn't look at the price during Q3, you might think it was a pretty boring quarter with a slight decline of (3.3%), but the roller coaster ride along the way was enough to test the strongest stomachs. With this type of gut-wrenching volatility being the norm in bitcoin, we repeat what we wrote in February (and have tweeted very often) that "the most important thing to remember about bitcoin is that the daily price is not really important, what is important is gaining ownership of the network as it develops. Think of it like an iPhone, when there was only one, the network had no value, two phones, still no value, a million phones, meaningful value, ten billion phones, huge value. The same applies to the network value of bitcoin."

On August 18, 2008, the domain name Bitcoin.org was registered and later that year on October 31 a link to a whitepaper authored by Satoshi Nakamoto was posted on a cryptography mailing list and the rest (as they say) is history. The first transaction occurred on January 3, 2009 when Satoshi Nakamoto mined the Genesis Block of the Bitcoin Network (the first phone). Over the course of 2009, the daily transaction volume grew to 150, hit 600 by the end of 2010, jumped to 5,500 by the end of 2011 and then made a quantum leap in 2012 to average close to 35,000 transactions per day and hit one million transactions per month in June of that year. Over the course of the past five years, that transaction volume has continued to climb to the current level of nearly ten million transactions per month (the virus is spreading). When Satoshi was the sole participant in the network, there was little value, but Metcalfe's Law states that the value of the network increases by the square of the number of participants. Today, there are approximately (firm data is tough to find) 30 million global users of the bitcoin network (total wallet count) and estimates are that about half of those are in the U.S. and somewhere between three million and five million are deemed active users (as opposed to HODLers, those who simply hold for store of value). Coinbase (the largest U.S. exchange) now has over thirteen million users and has more accounts than Charles Schwab. As we described last time, "As millions of global users continue to buy into the bitcoin network over time (remember, the U.S. is only 10% of the activity), the network value will continue to grow toward the logarithmic non-linear regression model target." Overall market statistics are that there have been 17,395,429 bitcoin mined to this point and at current prices the network value is $66 billion with a daily average volume of close to $4 billion.

We wrote last time, "The Parabolic Growth Model points to network values of "$22k by the end of 2018, $41k by the end of 2019, $75k by the end of 2020 and $100k by the middle of 2021." Further, last fall we said that we could see bitcoin reach "Gold Equivalence" (market cap of $7.4 trillion) within a decade and that would take the BTC price to approximately $400k per bitcoin (which caused quite a commotion among the Bithaters). We reminded readers last time that "One thing to be very clear on here is that we are not making any absolute predictions about bitcoin and we are definitely not making any promises to do something rash like Mr. McAfee has done (saying he will eat a sensitive body part live on the internet if BTC doesn't hit $1 million by a certain date), but rather pointing out some very sound mathematics for how a network grows and how the value of that network could rise as user adoption increases." There had been a number of big events related to custody and exchanges (Northern Trust and Bakkt) last quarter that pointed to continued rapid expansion of the network in the coming quarters and years, so we were feeling good about the model and the development of the network. We were also emboldened by the fact that "some really, really, smart people are getting really, really excited about cryptocurrencies and we are beginning to feel less strange about writing about them, which is a trend that we expect to continue." We have only seen this type of migration of talent once in our careers (in the early 1990s during the Internet Gold Rush) and that migration of talent created massive opportunities for wealth creation around the development of the Internet. So, if everything is so great, what happened over the past few weeks that caused bitcoin prices to crash from $6,300 on Halloween (the 10th anniversary of the Satoshi white paper) to $4,000 at the end of November. Some observers have said that the contentious Bitcoin Cash Fork was a catalyst for the drop, some have posited that Institutions are trying to manipulate the price lower (so they can buy in) and some think that the delay in the Bitcoin ETF approval and the slower than expected of other use cases has created a supply/demand imbalance in the short-term. Regardless of which narrative you prefer, the fact is that the bitcoin market became very speculative last year (a normal feature of the Frenzy Phase of S-Curve adoption), a bubble formed and now those marginal buyers (who came chasing the price and not understanding the value story) are fleeing as the losses mount. We have seen this movie before (five times) over the life of bitcoin as each parabolic advance is met with speculation that is then washed out in a subsequent crash (Newton was right). The good news is that we are likely reaching the tail end of this correction based on the history of the last two bitcoin Bear Markets and we would expect to see a meaningful recovery over the coming months. We clearly had too low a decay factor in our growth model, so our year-end forecast from April will not pan out, but we would expect the bitcoin price to head back toward the network value in 2019 and beyond.

As the #Trustnet (our term, please use liberally) takes shape over the coming years, we are convinced (as the Surprise name implies) that it will be Big, Really Big. Not only because we believe that #Cryptoassets will engulf the entire $700 trillion global asset base as all assets become digital (tokenize the world), but also because of the power of developing the Trustnet atop the Internet and the Mobilenet, which allows the new operating system to leverage the capabilities of the previous operating systems to grow faster and become exponentially more powerful. One thing to keep in mind, which we wrote about last quarter, is that "the bitcoin blockchain is already the most powerful computer network that has ever existed, one that has never been hacked, never had a fraudulent transaction (think how many new credit card numbers you have had to get) and has never had one second of downtime (think how many times you have seen the 'website experiencing technical difficulties' messages)." That power will continue to grow exponentially and create the next computing power paradigm upon which future companies and systems will be built and operate. We fully expect that the most important (and most valuable) companies in the future will run on blockchain technology and will work in concert with the bitcoin blockchain as the primary currency of the Digital Age. As we have begun to invest our latest venture capital fund raised specifically to capitalize on the tremendous opportunities in this transformation, we repeat what we said last time, "We are excited about having the opportunity to invest alongside these incredible entrepreneurs who are building the future of money and value as they deploy blockchain technology focused on opportunities in the blockchain space." We are primarily focused on investing in companies that are building out the infrastructure to enable the tokenization of assets and enable the Internet of Value to develop and grow in the coming years. We have a simple goal, to build Morgan Creek Digital into one of the preferred providers of investment solutions in the Digital Age.

Summary

To summarize our Asset Allocation view, we have maintained all year that the environment for risk taking was sub-optimal and that the best overall investment strategy was to "continue to harvest gains and reduce exposure to long-only equities, increase the quality of portfolios (sell the junk) and increase exposure to hedged strategies and other lower volatility assets like private investments and real assets." Our perspective has been that #CashIsKing and given that cash had pulled ahead of 90% of global assets through the middle of November, that hashtag does not sound nearly as crazy as it did when we first typed it in January. While Q3 returns were very robust across the equity markets, Red October was as equally nasty to the downside and erased all of those gains and then some. It appears to us that after a very long QE-induced slumber, some rationality is returning to the markets and the wild ebullience driven by the solid earnings induced by the steroid shot from Tax Reform is tempering, while the bite of the Fed's higher rates, which has been felt all around the globe, is finally causing a "catch down" here at home. We continue to see increasing evidence that the negative trends related to the Killer Ds (bad demographics, too much debt and persistent deflation) are accelerating again within the Developed Markets; therefore, investors should be prepared for a decade of below average returns (likely 3% for bonds and closer to 0% for equities). The real problem for investors today is that path to a long-term return of zero for equities is highly likely to consist of a steep drop over the first five years (we think on the order of magnitude between 40% and 50%) and a subsequent recovery over the following five years. We have maintained since last year that the next decade is very likely to resemble the 2000 to 2010 period (or worse, the 1930 to 1940 period, #WelcomeToHooverville) and while we do not expect a repeat of the global financial crisis (not as much leverage in banking system), we do see the potential for 2018-2020 to look very much like 2000-2002. Readers will recall that even though 2000 is when most remember the Tech Bubble bursting, the S&P 500 was only down (9%) that year, the recession hit in 2001 and SPX fell another (12%) but it wasn't until the Credit Bubble burst in 2002 that the big market drop occurred with SPX down (22%). In that type of environment, margin of safety will be the key, value investing will dominate (like it did for the entire decade after 2000) and investors who are disciplined about rotating capital from the overvalued assets toward undervalued assets will be richly rewarded. Now is the time to be wise and break from the comfort of the herd (to do what is uncomfortable) and sell what has been working (technology, #FAANG, small-caps and leverage) and buy what has been lagging (energy, healthcare, quality, emerging markets and long treasuries/cash) in order to preserve capital and to also accumulate cash to buy the discounted assets after they go on sale.

For those investors who just cannot stand the thought of not owning public stocks (just to beat the dead horse, we recommend as low an exposure as you can stand), we would weight global equity portfolios in the following order Emerging Markets > Japan > Europe > U.S., reversing the current capitalization-weighted profile in the MSCI ACWI Index (U.S. dominated and very little EM exposure). While it clearly has been a tough year for Emerging Markets (courtesy of falling liquidity), we have even more conviction that growth in the Developing Markets will continue outpace Developed Markets and that the economic power of EM will continue to grow in the New World Order (actually the Old World Order dominated by Chindia for most of the last 2,000 years). As we noted in February, we believe that "MSCI will eventually have to change the market capitalization weightings in their indices to reflect the actual relative contributions to global GDP (Emerging Markets contribute 40% of global output and have only 9% of the allocation of the ACWI Index)." History has been kind to investors who have had the discipline to invest in the reverse of capitalization weighting (skate to where the puck is going, not to where it is). To put it in perspective, when Irving Kahn was born, the U.S. was still an Emerging Market and the UK weight was the largest in the world (nearly double the U.S.), so investors who went with the index of the era greatly underperformed those that over weighted the upstart Americans. When allocating risk capital in the capital markets today, given above average valuations in the public markets (actually extreme in the U.S.) we continue to recommend that the best place for investors to earn outsized returns will be in the private markets (small LBOs, China Growth Capital, Venture Capital, Energy & Natural Resources, Real Estate and Direct Debt). We have said for the past couple of years that "Whatever weight an investor has been comfortable with historically for private investments, double it (that is, if you liked 20%, raise to 40%)." When it comes to other diversification moves within portfolios, the data says that this is the best time in history to move capital from financial assets toward real assets and we see very compelling opportunities across the commodity complex today. Stating it differently, it is time to #GetReal (assets that is). Finally, as you might infer from the theme of this letter, we also believe that continuing to build an allocation to crypto assets and digital securities (particularly bitcoin) will add value to portfolios (both in terms of return enhancement and correlation benefits) and we will be writing much more about these assets in the coming years as the new financial system emerges. Our mission at Morgan Creek has remained consistent since our inception (and our tagline reaffirms our commitment), to help our clients be disciplined in their investment process and proactive in managing their wealth, always focusing on Alternative Thinking About Investments.

Update on Morgan Creek

We hope you have been able to join us for our Global Market Outlook Webinar Series entitled "***Around the World with Yusko***." We have had many interesting discussions in the last few months including: *Passive Aggressive: Why Alpha Beats Beta In The Great Separation* and *#GetOffZero: Why Investors Can't Afford Not To Have Exposure to Cryptoassets.* If you missed one and would like to receive a recording, please contact a member of our Investor Relations team at IR@morgancreekcap.com or visit our website www.morgancreekcap.com.

We are also a proud sponsor of The Investment Institute, an Educational Membership Association for Institutional & Private Investors and Managers in the Southeast. The date of the next program will be **May 20–21, 2019** at **The St. Regis, Atlanta, GA**. For more information on how to become a member please visit www.theinvestmentinstitute.org.

As always, it is a great privilege to manage capital on your behalf and we are appreciative of your long-term partnership and confidence.

With warmest regards,

Mark W. Yusko

Mark W. Yusko
Chief Executive Officer & Chief Investment Officer

General

This is neither an offer to sell nor a solicitation of an offer to buy interests in any investment fund managed by Morgan Creek Capital Management, LLC or its affiliates, nor shall there be any sale of securities in any state or jurisdiction in which such offer or solicitation or sale would be unlawful prior to registration or qualification under the laws of such state or jurisdiction. Any such offering can be made only at the time a qualified offeree receives a Confidential Private Offering Memorandum and other operative documents which contain significant details with respect to risks and should be carefully read. Neither the Securities and Exchange Commission nor any State securities administrator has passed on or endorsed the merits of any such offerings of these securities, nor is it intended that they will. This document is for informational purposes only and should not be distributed. Securities distributed through Morgan Creek Capital Distributors, LLC, Member FINRA/SIPC

Performance Disclosures

There can be no assurance that the investment objectives of any fund managed by Morgan Creek Capital Management, LLC will be achieved or that its historical performance is indicative of the performance it will achieve in the future.

Forward-Looking Statements

This presentation contains certain statements that may include "forward-looking statements" within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934. All statements, other than statements of historical fact, included herein are "forward-looking statements." Included among "forward-looking statements" are, among other things, statements about our future outlook on opportunities based upon current market conditions. Although the company believes that the expectations reflected in these forward-looking statements are reasonable, they do involve assumptions, risks and uncertainties, and these expectations may prove to be incorrect. Actual results could differ materially from those anticipated in these forward-looking statements as a result of a variety of factors. One should not place undue reliance on these forward-looking statements, which speak only as of the date of this discussion. Other than as required by law, the company does not assume a duty to update these forward-looking statements.

No Warranty

Morgan Creek Capital Management, LLC does not warrant the accuracy, adequacy, completeness, timeliness or availability of any information provided by non-Morgan Creek sources.

Risk Summary

Investment objectives are not projections of expected performance or guarantees of anticipated investment results. Actual performance and results may vary substantially from the stated objectives with respect to risks. Investments are speculative and are meant for sophisticated investors only. An investor may lose all or a substantial part of its investment in funds managed by Morgan Creek Capital Management, LLC. There are also substantial restrictions on transfers. Certain of the underlying investment managers in which the funds managed by Morgan Creek Capital Management, LLC invest may employ leverage (certain Morgan Creek funds also employ leverage) or short selling, may purchase or sell options or derivatives and may invest in speculative or illiquid securities. Funds of funds have a number of layers of fees and expenses which may offset profits. This is a brief summary of investment risks. Prospective investors should carefully review the risk disclosures contained in the funds' Confidential Private Offering Memoranda.

Indices

The index information is included merely to show the general trends in certain markets in the periods indicated and is not intended to imply that the portfolio of any fund managed by Morgan Creek Capital Management, LLC was similar to the indices in composition or element of risk. The indices are unmanaged, not investable, have no expenses and reflect reinvestment of dividends and distributions. Index data is provided for comparative purposes only. A variety of factors may cause an index to be an inaccurate benchmark for a particular portfolio and the index does not necessarily reflect the actual investment strategy of the portfolio.

Russell Top 200 Value Index — this measures the performance of the mega-cap value segment of the U.S. equity universe. It includes those Russell Top 200 Index companies with lower price-to-book ratios and lower expected growth values. Definition is from the Russell Investment Group.

Russell Top 200 Growth Index — this measures the performance of the mega-cap growth segment of the U.S. equity universe. It includes those Russell Top 200 Index companies with higher price-to-book ratios and higher forecasted growth values. Definition is from the Russell Investment Group.

Russell 2000 Value Index — this measures the performance of small-cap value segment of the U.S. equity universe. It includes those Russell 2000 Index companies with lower price-to-book ratios and lower forecasted growth values. Definition is from the Russell Investment Group.

Russell 2000 Growth Index — this measures the performance of the small-cap growth segment of the U.S. equity universe. It includes those Russell 2000 Index companies with higher price-to-value ratios and higher forecasted growth value. Definition is from the Russell Investment Group.

Russell Midcap Value — this measures the performance of the mid-cap value segment of the U.S. equity universe. It includes those Russell Midcap Index companies with lower price-to-book ratios and lower forecasted growth values. Definition is from the Russell Investment Group.

Russell Midcap Growth — this measures the performance of the mid-cap growth segment of the U.S. equity universe. It includes those Russell Midcap Index companies with higher price-to-book ratios and higher forecasted growth values. Definition is from the Russell Investment Group.

Russell 3000 Index (DRI) — this index measures the performance of the 3,000 largest U.S. companies based on total market capitalization, which represents approximately 98% of the investable U.S. equity market. Definition is from the Russell Investment Group.

MSCI EAFE Index — this is a free float-adjusted market capitalization index that is designed to measure developed market equity performance, excluding the US & Canada. Morgan Stanley Capital International definition is from Morgan Stanley.

MSCI World Index — this is a free float-adjusted market capitalization index that is designed to measure global developed market equity performance. Morgan Stanley Capital International definition is from Morgan Stanley.

91-Day US T-Bill — short-term U.S. Treasury securities with minimum denominations of $10,000 and a maturity of three months. They are issued at a discount to face value. Definition is from the Department of Treasury.

HFRX Absolute Return Index — provides investors with exposure to hedge funds that seek stable performance regardless of market conditions. Absolute return funds tend to be considerably less volatile and correlate less to major market benchmarks than directional funds. Definition is from Hedge Fund Research, Inc.

JP Morgan Global Bond Index — this is a capitalization-weighted index of the total return of the global government bond markets (including the U.S.) including the effect of currency. Countries and issues are included in the index based on size and liquidity. Definition is from JP Morgan.

Barclays High Yield Bond Index — this index consists of all non-investment grade U.S. and Yankee bonds with a minimum outstanding amount of $100 million and maturing over one year. Definition is from Barclays.

Barclays Aggregate Bond Index — this is a composite index made up of the Barclays Government/Corporate Bond Index, Mortgage-Backed Securities Index and Asset-Backed Securities Index, which includes securities that are of investment-grade quality or better, have at least one year to maturity and have an outstanding par value of at least $100 million. Definition is from Barclays.

S&P 500 Index — this is an index consisting of 500 stocks chosen for market size, liquidity and industry grouping, among other factors. The index is a market-value weighted index – each stock's weight in the index is proportionate to its market value. Definition is from Standard and Poor's.

Barclays Government Credit Bond Index — includes securities in the Government and Corporate Indices. Specifically, the Government Index includes treasuries and agencies. The Corporate Index includes publicly issued U.S. corporate and Yankee debentures and secured notes that meet specific maturity, liquidity and quality requirements.

HFRI Emerging Markets Index — this is an Emerging Markets index with a regional investment focus in the following geographic areas: Asia ex-Japan, Russia/ Eastern Europe, Latin America, Africa or the Middle East.

HFRI FOF: Diversified Index — invests in a variety of strategies among multiple managers; historical annual return and/or a standard deviation generally similar to the HFRI Fund of Fund Composite index; demonstrates generally close performance and returns distribution correlation to the HFRI Fund of Fund Composite Index. A fund in the HFRI FOF Diversified Index tends to show minimal loss in down markets while achieving superior returns in up markets. Definition is from Hedge Fund Research, Inc.

HFRI Emerging Markets Index — this is an Emerging Markets index with a regional investment focus in the following geographic areas: Asia ex-Japan, Russia/ Eastern Europe, Latin America, Africa or the Middle East.

HFRI FOF: Diversified Index — invests in a variety of strategies among multiple managers; historical annual return and/or a standard deviation generally similar to the HFRI Fund of Fund Composite index; demonstrates generally close performance and returns distribution correlation to the HFRI Fund of Fund Composite Index. A fund in the HFRI FOF Diversified Index tends to show minimal loss in down markets while achieving superior returns in up markets. Definition is from Hedge Fund Research, Inc.

MSCI Emerging Markets Index — this is a free float-adjusted market capitalization index that is designed to measure equity market performance in the global emerging markets. The MSCI Emerging Markets Index consisted of the following 23 emerging market country indices: Brazil, Chile, China, Colombia, Czech Republic, Egypt, Greece, Hungary, India, Indonesia, Korea, Malaysia, Mexico, Peru, Philippines, Poland, Qatar, Russia, South Africa, Taiwan, Thailand, Turkey, and United Arab Emirates.

MORGANCREEKCAP.COM

MORGAN CREEK CAPITAL MANAGEMENT