Q2 2018 Market Review & Outlook

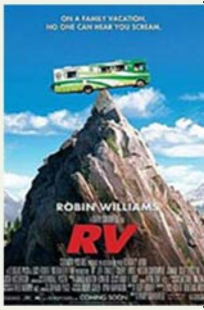
Morgan Creek Capital Management

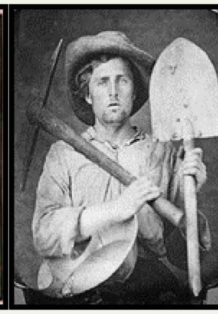
MORGAN CREEK CAPITAL MANAGEMENT

Table of Contents

Letter to Fellow Investors

Eureka! The Digital Gold Rush





Source(s): IMDB.com, bnhspine.com, investingdaily.com, Pinterest.com, usacoinbook.com, CBinsights.com

Spending eight days in an RV with your family touring the California National Parks (most of the time without mobile service) was an amazing experience, and also gives you some time to think. We drove 2,100 miles during the excursion, roughly forty-five hours of time behind the wheel, so there was plenty of time to think big thoughts, contemplate ideas for this letter and to have an actual Eureka! moment (hence the title). The trip started at home in Chapel Hill, NC with us packing up the camping gear in two giant suitcases and flying with our seven-year old to San Francisco to begin the adventure. After taking a Lyft (our preferred ride sharing company, coincidently headquartered in SF) to our hotel across the Bay, conveniently right around the corner from the Cruise America site where we would pick up the Big Rig the next morning, we settled down into the last cushy beds we would see for a week. The Cruise America experience was actually surprisingly efficient. There were families from all over the world descending on a warehouse full of RVs ready to tackle the twists and turns of Highway One and we all rolled out of the parking lot after just a twenty-minute overview of the features of the vehicle (generator, fridge, toilet, shower, etc.), quick demos on how to hook up the power and sewer connections and, interestingly, with no driving test and no real driving instructions other than "make sure you turn wide" (how wide is wide?). We had made a last-minute call to upsize to the twenty-five-footer (good decision; in fact, we'll probably go with the thirty -footer next time), so with a little trepidation, we left the safety of the Cruise America parking lot for the streets of San Francisco to pick up our middle son at his apartment in Cow Hollow. Let's just say that one of us was more convinced than the other (just like guys being overconfident about their acumen in trading markets) that navigating the neighborhoods of San Fran would be no problem. It was like when Bill Murray says to Harald Ramis in the movie *Stripes,* as they are taking the Urban Assault Vehicle (heavily armored RV) for a spin, "C'mon, it's Czechoslovakia. We zip in, we pick 'em up, we zip right out again. We're not going to Moscow. It's Czechoslovakia. It's like going into Wisconsin." The good news is that the Ford Truck chassis that the RV is built on was surprisingly easy to drive and all it takes is hitting one curb (no harm, no foul) with your back wheel to make you understand just how wide is wide. Traffic was light (thankfully) on Saturday morning and other than one small moment of panic in a construction zone (four lanes down to one), we accomplished the urban assault and we zipped in, we picked him up and we zipped out. No problem. We drove through the Golden Gate National Recreation Area, crossed the iconic Bridge, drove through the Robin Williams Tunnel and headed north for Redwood National Park. We didn't know before the trip that Robin Williams had grown up in Marin County and had begun his comedy career doing stand-up in San Francisco in the 1970s but driving through the tunnel at the beginning of the trip was the first of many coincidences that helped form the theme of this letter. The really good news as we headed north was that we were well west of the big wild fires (the Carr Fire in Redding was the largest in CA history) that were raging all over central CA, so there was nothing but blue skies (no smoke) overhead as we began our adventure.

We should back up here a half step to explain why there was some real trepidation about the idea of doing a family RV vacation. As the movie poster for RV above says right at the top, “on a family vacation, no one can hear you scream.” Some friends (using the term loosely here) suggested we watch the Robin Williams classic in advance of our adventure to get a sense of the “fun” we were in for over the course of the week. Robin Williams was one of our generation’s greatest comedic actors and his ability to tease every ounce of discomfort from seemingly normal situations is legendary. Let’s just say that his performance in RV created a great deal of discomfort for us in anticipation of replicating the Munro family ordeal. In point of fact, there were actually a few too many similarities for comfort. In the movie, Williams plays a successful California beverage company executive (Bob Munro) who has planned a big Hawaiian vacation with the family (our original plan was for a trip the UK islands) when his boss mandates that he scrap his plans so that he can pitch a deal to a potential acquisition candidate in Colorado. Williams decides to tell his family that he has changed the vacation plans (conveniently leaving out the part about him having to do some work) and they are going to see America by taking an RV trip. Let’s just say that there was a similar amount of family enthusiasm (or lack thereof) when I suggested we rent an RV and see California. While there was enthusiasm for the part about getting to see our older kids (one in SF and one in Santa Monica), the tradeoffs between Edinburgh and Eureka were not immediately apparent (perhaps like how the benefits of blockchain technology don’t seem readily apparent to some today). The movie is actually really funny and the mishaps that Clan Munro faced along their journey to the Rockies were not only comedic, but quite prophetic, in that we shared a number of those experiences during our own sojourn. While our experience with the sewage tank clean out was not quite as dramatic as theirs and we didn’t lose our RV into a lake, we did encounter some colorful characters in the RV parks and the scenes of Bob teetering on toilets, sheds and giant rocks to try and find cell coverage turned out to be quite prescient, since it turns out that there was basically no mobile coverage in the National Parks and along the bulk of Highway One. While at the time there was clearly some frustration in having to really work to make contact with the outside world, being forced to spend the bulk of the week truly off the grid was a great gift. In the movie, Bob survives all the challenges, makes it to Boulder to pitch the Alpine Soda company, confronts his self-absorbed boss, quits his job, gets recruited to join Alpine to take them national and the Munro family binds together, discovers true happiness from the experience and lives happily ever after. On our RV adventure, we survived all the challenges of RV life (nothing major), we hit a good number of our targeted National Parks (although we were disappointed to miss Yosemite and Lassen Volcanic because of the fires) and we rediscovered the simple pleasures of s’mores, Go Fish, Old Maid, actual conversation, life before smart phones and the beauty and grandeur of Mother Nature (I highly recommend the experience to all).

So, let’s explore how we came to our Eureka! moment and the real point of this letter. On the way to Redwood National Park you drive through the town of Eureka on Highway 101 and you immediately realize that a whole lot has changed since the boom times of the California Gold Rush when the town got its iconic name. The Eureka of 2018 is a far cry from the vibrant hub of activity, positive energy and optimism of 1850 when the “49ers” (term for those who came to CA in search of gold starting in 1849) flooded in from all over the country and the population of California swelled from a few thousand to nearly 100,000. The geographic region of the California territory was under Spanish control until 1821 when Mexico gained independence and it wasn’t until the end of the Mexican-American War in 1848 that the territory was annexed by the United States (more on why in a moment). As the map above shows, the territory was quite large and was quickly subdivided into the State of CA and the territories of AZ, UT, NV and CO. California was immediately granted statehood (a rarity at the time) due to the recent discovery of some interesting resources and the city of Eureka was founded two years later in 1850. Further tying Eureka and California together are that both the state and the city share the Great Seal of California as their official seal. Interestingly, the seal depicts the Roman goddess Minerva (goddess of wisdom and war) seated in the foreground in full battle armor holding a shield and spear. Roman mythology says she was spawned from Jupiter’s head as a full-grown adult and her inclusion represents how California was immediately granted statehood and was never made to suffer probation as a territory (funny what a little yellow metal can do to standard waiting times). Other elements include a grizzly bear (the official state animal, more on bear symbolism in the Market Overview section) feeding on grape vines (representing the prodigious wine production of the region), a sheaf of grain (representing abundant agricultural land), a miner at work with pick and pan (representing the Gold Rush), sailing ships (representing economic power) and the state motto, *Eureka* (*εὑρηκα* in Greek meaning "I have found it") above Minerva's spear tip, all circled by thirty-one stars representing the States of the Union. As an aside, the imagery for economic power may have seemed premature for the fledgling state in the 1850s but was quite prescient given that today California has a population of 40 million people and a GDP of $2.8 trillion that would make it the fifth largest economy in the world (if a separate country, behind only the U.S., China, Japan and Germany). In distinct contrast to the economic vitality of CA as a whole, Highway 101 in Eureka today is lined with fast food restaurants, pawn shops, fish markets, Dollar stores, gas stations and assorted other industrial businesses. The feeling was not vibrant, but rather tired and almost desperate. In the 168 years since its founding, Eureka has gone from a Boom Town to a couple notches above a Ghost Town, and while it is the largest of the dozen remaining Eureka's in the U.S. (down from the 40 so named in the late 1880s), this town is emblematic of the hollowing out of the middle class in America (courtesy of the antithesis of gold, fiat currency).

A Eureka! 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. Oftentimes the seemingly spontaneous transition from confusion to comprehension is accompanied by an exclamation of joy (e.g., Eureka!). The Aha! moment has four defining elements of the experience: sudden onset, smooth processing, positive affect and conviction in the truth of the solution. Insight is said to be a two-stage process that begins with the problem solver reaching an impasse (becoming "stuck") after seemingly exploring all the possibilities to find a solution, followed by a break in mental fixation that leads to a sudden discovery of the solution or answer. Some 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." Other research indicates that the subconscious is involved in solving the problem, while the conscious mind has abandoned the task (often why the epiphany occurs in the morning shower after sleeping on the problem overnight). The actual exclamation of Eureka! derives from the story about the ancient Greek scholar Archimedes, who reportedly proclaimed "Eureka! Eureka!" after he observed that the water level in his bath rose when he submerged, and he had the sudden insight that the volume of water displaced must equal the volume of the body parts submerged (Principle of Displacement). This was a critical discovery, since Archimedes had been tasked by King Hiero of Syracuse to determine the purity of a gold crown (everything always comes back to gold in this story) that the King had commissioned a local goldsmith to create. The King was certain that he had been cheated by the craftsman and believed the craftsman had substituted silver into the interior of the crown so the King tasked Archimedes to determine a way (short of melting the crown) to determine the purity of the gold. When Archimedes realized that he could now measure the volume of an irregular object with precision (gold was denser than silver and would have greater weight at the same volume), he supposedly leapt from the bath shouting excitedly, "I have found it" (Eureka in Greek) and then ran naked through the streets of Syracuse in celebration of his discovery.

Our Eureka! moment occurred as we drove through the California town of the same name and, while we didn't run from the RV naked in celebration (there are laws against that now), we did experience the sudden clarity of thought, conviction in the answer and positive affect that we expect Archimedes felt in the tub. Our Aha! moment had less to do with a profound scientific breakthrough or a solution to an intractable problem or unsolvable riddle, but rather a sudden moment of clarity on why we had gone from spending no time thinking about blockchain technology and cryptocurrency five years ago to more than half our time today. In some ways we can borrow from Archimedes in terms of his Principle of Displacement insofar as the experience we have had over time with respect to blockchain technology resembles that property. 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 the word "revolution" as this technology builds on prior computer technology) is likely to have over time. We have spoken about the computing power technology cycle many times in the past that began with the Mainframe Era in 1954 where we first began to harness the power of computing machines. With the invention of the microchip in 1968, we ushered in the Information Age and brought computing to the masses in 1982 with the PC Era. Another fourteen years later in 1996 we had the biggest evolution yet, the Internet, and despite the assurances by Paul Krugman that it would never be more important than the fax machine, our lives were changed forever as we entered the Electronic Age. With the advent of mobile computing systems in 2010, the MobileNet enabled a connected world (except in the National Parks) and those advances in communication and commerce enabled the largest number of global citizens to escape poverty in the history of the world. 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 and that blockchain technology (and the applications of the technology like cryptocurrencies) will help reverse the massive income inequality gap that has been created by the abuse of fiat currencies over the past century (big statements, we understand, but stick with us…). Along a similar vein (gold mining pun intended), the serendipity of having this Aha! moment in Eureka also strengthened our belief that we are at the beginning of the Digital Gold Rush and that just like during the great California Gold Rush, the best way to make your fortune is to invest in the infrastructure that will be necessary to enable the technology over time, to own the picks and shovels and sell/rent them to the prospectors and speculators.

The California Gold Rush began on January 24, 1848 (shockingly, just months before CA was admitted as a state) when James Marshall, a contractor employed by John Sutter to build a saw mill at his American River settlement (modern day Sacramento), noticed some small gold nuggets in the stream he had created to drive the mill wheel. After hiking through the towering Redwood forests, it is easy to understand why Sutter was so successful in creating a thriving timber business and why he demanded that Marshall keep the discovery a secret so as not to disrupt his plans to continue building his logging empire. Sutter knew that should their secret about the gold leak out, every able-bodied man in the region would be lured into the quest for the yellow metal (how right he was). Given that Sutter and Marshall made the initial discovery, one would logically assume they became fabulously wealthy, but the irony was that while they found the first gold and attempted to secure title to much of the surrounding land near the original site, they tried to hold on too tightly and they were not prepared for the series of extraordinary events that were about to unfold. Sam Brannan had established the general store in Sutter's settlement as an extension of his business affairs in Yerba Buena (modern day San Francisco). Brannan was an astute businessman who had come to California via an extraordinary voyage from New York around Cape Horn (tip of South America) where he led an outcast group of 200 Mormons seeking to establish a colony in the Mexican Territory. During the course of their journey, the territory had become part of the United States and despite their disappointment at seeing the American flag flying when they arrived, they decided to settle in Yerba Buena (tripling the population at the time). Brannan quickly took control of many businesses including the general store and, most importantly for this story, the newspaper. Brannan was at his outpost store near Sutter's Fort around the time that Marshall found the gold and while Sutter and Marshall conspired on how to keep their discovery a secret, Brannan had a Eureka! moment and quickly came up with an outside the box idea. He gathered a few nuggets from the stream, put them in a bottle, rode back to Yerba Buena and methodically bought up every pot, pan, pick and shovel in the entire town and walked the streets of the town with the bottle in his hand yelling, "Gold! Gold! Gold! In the American River." He followed up with stories about the discovery in his newspaper to further spread Gold Fever to the masses and the Gold Rush was on. Within weeks the pots and pans that Brannan had bought for twenty cents ($6.40 in 2018 dollars) were all sold for $15 a piece ($480 today) and Brannan reportedly made $36,000 ($1.15 million today) in nine weeks. As Brannan also had the only general store between Yerba Buena and the gold fields, his store at Sutter's Fort would sell $150,000 in goods each month in 1949 ($4.8 million today), and he became the first millionaire in California (without ever digging one hole or panning for gold).

While Brannan enjoyed incredible success during the Gold Rush, others were far less fortunate. As Sutter tried to maintain his timber business, gold fever struck his employees and they quickly left to seek their fortune along

Highway 49. Worse still, the crush of people who flooded into CA in search of gold, destroyed his agricultural land and the lawlessness of the time (squatters, theft, and vandalism) led to Sutter losing everything. He spent the rest of his life unsuccessfully trying to win compensation from the government for his losses. Marshall was unsuccessful in securing valid title for his claims and was not able to profit from his discovery. Hordes of others chose the life of a 49er (speculator) and while there are some stories of great success by early prospectors making fortunes in gold, there are many more stories of despair and loss. The advantage for those who were early to the game was that the complexity of finding the gold was not very high, as nuggets were literally just lying around waiting to be found. As an example, the first gold discovered in the U.S. was not in California, but rather in North Carolina (just a couple hours from Morgan Creek) where a very lucky individual found a seventeen-pound nugget in Cabarrus County (outside Charlotte) fifty years earlier in 1799. The price of gold was fixed at $19.75 at the time so that nugget was worth approximately $5,400, the equivalent of 45 times the average farm laborer wage of $120/year (at today's prices, $326,400). As an aside, the Cabarrus discovery triggered the first Gold Rush in Little Meadow Creek and North Carolina supplied all the gold to the U.S. Mint for making gold coins for the next twenty-five years. As an increasing number of gold hunters moved to California, the "easy" gold was quickly found and prospectors had to employ more complex techniques (digging, blasting, etc.) as well as utilize more expensive tools (dredges, sluices, metal detectors, etc.) to unearth the precious metal and separate it from the worthless rock and soil. The natural result for most 49ers was that their profits fell as they had to reinvest more capital from their gold discoveries into new tools and equipment, and the merchants like Sam Brannan continued to become increasingly wealthy, happily selling more picks and shovels (and everything else) to those inflicted with Gold Fever.

Fevers result from viruses and we used the theme of The Virus Is Spreading in our last letter to describe how blockchain technology and cryptocurrencies were spreading virally (as networks are prone to do). We discussed last time how Satoshi Nakamoto had taken the core elements of blockchain technology and created Digital Gold in the form of Bitcoin ("BTC"). There are many similarities between the California Gold Rush and the emergence of the Bitcoin blockchain all the way down to the fact that the incentive system created by Satoshi to reward participants in the network for contributing computing power to secure the protocol is called mining (despite the fact that there is no digging involved). In a very similar way, the early participants in the initial days of the Bitcoin Boom only needed very simple equipment (a laptop or desktop computer) to mine BTC and they were rewarded handsomely in terms of output as the difficulty level of the system was low since the security needs of the network were low. It was equivalent to walking around picking up gold nuggets off the ground in the early Sutter's Mill settlement. The key was that you just had to be one of the lucky few who stumbled into the remote town, comparable to being a graduate student in cryptography, a participant in the Silk Road experiment, a Libertarian Anarchist or a techie that happened to pick up the right trade journal and read about the obscure science experiment that was Bitcoin in the late 2000s. The primary difference was that the early gold miners only had to find a one-ounce nugget to earn two month's salary, while the early Bitcoin miners were accumulating lots of nuggets, but the prices were so low that they didn't have much value. In the most famous example of this lack of understanding of the potential for price appreciation, an early Bitcoin miner used 10,000 BTC to buy two pizzas in 2010 (around $30 at the time) and those same coins would be worth $65 million today. This very meaningful price appreciation of Bitcoin is one place where the direct comparison to the Gold Rush breaks down as the price of gold was essentially fixed around $20 for most of the period in which the 49ers were searching for the yellow metal. There was some experimentation with a variable gold price in the 1860s (prices were fixed as high at $47 in 1864), but prices returned to the $20.67 level in 1879 and remained there until FDR made it illegal for citizens to own gold in 1933 and devalued the dollar overnight by raising the gold price to $32.32 (more on government devaluations later). The fact that Bitcoin prices have risen (in fits and starts) from $0.003 in 2010 to around $6,500 today reflects the growth of the network and the impact of the network effect. As more participants enter the Bitcoin network, more fiat currency (unlimited supply) is converted to sound currency (limited supply) and the value of the entire system rises. One challenge of the significant price appreciation of Bitcoin (and other cryptocurrencies and utility tokens) is that rapid price movement attracts speculative activity and that increase in activity puts additional upward pressure on prices (classic Soros Reflexivity virtuous cycle). As such, periodic manias are likely to ensue.

As in every mania, the lure of quick riches attract all kinds of unseemly individuals. During the California Gold Rush everything from fraudulent claims being sold to unsophisticated miners to claim jumpers who stole the gold once it was mined (because they had a bigger gun) to every type of “service provider” were all too eager to separate the few fortunate 49ers (who avoided the other pitfalls) from their newfound riches. 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 - 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. Take for example the dichotomy between the “investors” (using term loosely, actually speculators) who chased the skyrocketing crypto and ICO prices at the end of last year and who have now seen prices plunge up to (90%+) in some cases, versus a company like Coinbase which had over $1 billion of revenue within the past year. The beauty of the Coinbase (exchange) model is that they make money regardless of which direction the price of cryptocurrencies move day to day. There are myriad examples of companies focused on building the protocols, the software and the systems and tools to create, trade, store and own cryptoassets and these companies focused on providing the picks, shovels, pots and pans of the Digital Gold Rush will produce the future Sam Brannans of the Digital Age. It is precisely for this reason that we have focused our initial digital asset fund at Morgan Creek to focus on investing in the companies that provide the infrastructure that will enable the adoption of blockchain technology and facilitate the growth of use cases for cryptoassets in the future. There are critics of cryptocurrencies that point to the fact that there have been fraudulent ICOs and scammers who have preyed upon unsophisticated investors (same as during the Gold Rush), but what they fail to acknowledge is that in every financial system ever created there have been unscrupulous participants who have preyed on the unsophisticated (penny stocks, pump and dumps and Ponzi schemes). Those critics also point to the fact that some cryptocurrency exchanges and wallets have been hacked and investors have lost money, but again fail to acknowledge that this is no different than early banks being robbed (or stage coaches or trains) and that if you keep too much of your gold in your tent (like too much money in your wallet or too much crypto on your smart phone) you could be robbed. What the critics are missing is that every new technology, store of value or medium of exchange has to go through a period of innovation, testing and improvement as the bugs in the system get worked out. It is unreasonable to expect any new technology or system to function as efficiently and effectively as a mature system. Think about the Potential to Capability (“P/C”) ratio. When a child is young, say eight or nine, they have limited capabilities (in relation to their capabilities as an adult), but their potential is enormous, so the P/C ratio is very high. As they grow and mature, their capabilities rise as their potential is realized and the P/C ratio falls. As blockchain technology and cryptoassets mature, their capabilities (use cases, speed and efficiency) will improve dramatically as the vast potential is realized.

Gold has been money for four millennia and has been used as a store of value and medium of exchange in many formats throughout the course of history. One of the most interesting statistics is that an ounce of gold has bought a fine men’s suit for about 4,000 years (dating back to ancient Egypt) and the $20 price in 1849 would have fit the bill, as would the current price given that a Canali suit (we could debate the definition of fine) at Nordstrom would cost right about $1,700 (the fact that a suit cost 85 times more over the past 170 years is something we will discuss shortly). The Egyptians used gold items as a medium of exchange in 1500 BC and the Chinese had a form of gold money as early as 1091 BC. The first gold coins were struck by King Croesus of Lydia (modern day Turkey, which is incredibly ironic given the turmoil in the Lira today) in 550 BC. In 1066, the UK added a wrinkle to the precious metals debate by creating the Pound Sterling (their unit of currency would now be measured by a pound of physical silver), but the gold coin remained the most popular throughout Europe for the next five centuries as the UK Florin and the Italian Ducat were the most popular. China began to experiment with other forms of coinage and created a copper coin (kai-yuans) with a square hole in the middle and that coin became the origin of the word “cash” to refer to money. An MCCM letter would not be complete over the past couple of years without some reference to Sir Isaac Newton (original star from #GravityRules) and it was Sir Isaac who created the first paper currency exchangeable into gold in 1720 when he was appointed Warden of the Royal Mint. Newton set the gold/

silver ratio at 16:1 and sowed the seeds of the gold standard that was to develop over the coming centuries. In the fledgling country that was America in 1792, Congress passed the Coinage Act that established the U.S. Mint and tweaked the gold/silver ratio to 15:1. In the first of what would be many moves by the U.S. government (and many other governments around the globe over time) to expropriate wealth from the citizenry, Congress passed the Coinage Act of 1873 that demonetized silver (removed it from coinage) and confirmed gold dollars as the standard unit of account, effectively creating the gold standard. This law was commonly referred to as the "Crime of 1873," as it precipitated a significant deflation and commodity crash and concentrated wealth in the hands of the elites (who coincidently voted for the bill). As we have seen for many centuries, when governments overspend (as they always do) and incur huge debt burdens they will ultimately resort to devaluation of the currency (inflate their way out of the debt), which has the added benefit of concentrating wealth in the hands of those at the top (those in government and their cronies) that own all the real assets before the devaluation. Income inequality surges as the rich suddenly get richer (their assets appreciate), the poor get poorer (their money buys less and they own fewer assets) and the middle class vanishes. We have seen myriad examples of this in recent years from Zimbabwe to Venezuela and it is actually happening right here in America ever so slowly (like our letter, *The Year of The Frog,* described) as could be seen on the streets of Eureka during our trip.

In a belt and suspenders kind of move, Congress passed the Gold Standard Act in 1900 to officially put the U.S. on the gold standard and fixed the price at $20.67, where it would stay until the unfortunate series of events that precipitated the Great Depression. During the Roaring Twenties, the U.S. government spent liberally on programs promised by a series of Republican presidents including Harding, Wilson and Hoover. The monetary spigots were open wide as well and in the early part of 1920s economic growth surged and government debt actually fell. Things turned for the worse in 1929 when the stock market crashed, and Congress made a series of ill-advised attempts to prop up growth by deregulating financial institutions, clamping down on immigration and passing the Smoot-Hawley Tariff Bill. This series of policy errors turned a garden variety recession into the Great Depression. The Fed piled on with their own policy error by tightening liquidity; trade collapsed, GDP collapsed, unemployment soared, and prices began to freefall into significant deflation. President Hoover then tried desperately (and ill-advisedly, sound familiar? #WelcomeToHooverville) to spend his way out of the growing depression and government debt doubled in 1933 from under 20% of GDP to nearly 40% of GDP, putting further pressure on government finances and the dollar. FDR had defeated Hoover handily in the 1932 election and did not waste time in issuing Executive Order 6102 that mandated "All persons are hereby required to deliver on or before May 1, 1933, to a Federal Reserve Bank or a branch or agency thereof or to any member bank of the Federal Reserve System all gold coin, gold bullion and gold certificates now owned by them or coming into their ownership on or before April 28, 1933" and "Upon receipt of gold coin, gold bullion or gold certificates delivered to it…the Federal Reserve Bank or member bank will pay therefore an equivalent amount of any other form of coin or currency coined or issued under the laws of the United States." The stated reason for the executive order was that hard times during the economic downturn had caused hoarding of gold, which was stalling economic growth and making the depression worse, but the real reason was that deflating asset prices and rising debts are a toxic combination that can only be solved in one way: currency devaluation. As an indication of just how serious the situation had become, violation of the order was punishable by fine up to $10,000 (equivalent to nearly $200,000 today) or up to ten years in prison, or both. A few months later Congress passed the Gold Reserve Act of 1934 and changed the price of gold overnight to $35, effectively devaluing the dollar (remember it was backed by gold at the time) by some 40% (once again a government steals wealth from the citizenry). Devaluation of currency to pay for profligate spending of corrupt governments has been going on for millennia. For example, in first century Rome, the denarius was 94% pure silver and as Nero looked for ways to pay off bills more easily he reduced the silver content to 85%. A century later the silver content had dropped to 50% and by 244 AD Emperor Phillip the Arab had devalued the denarius all the way down to silver content of 0.05%. The Roman Empire finally collapsed at an astonishing 0.02% level. For perspective, the value of a dollar had been fairly consistent (with some volatility) from the inception of the U.S. until the creation of the Fed in 1913 at a value of $1.00, but today, some 105 years later, the currency has been devalued down to a level of $0.04 (precisely why that fine men's suit cost 85x what it did a century ago).

The price of gold in the U.S. was held constant at $35 for the next 37 years (remember that it was actually illegal for a citizen to own gold until 1974) until President Nixon unilaterally instituted “The Nixon Shock,” a series of economic measures (using term loosely since backroom deals would be better description) undertaken resulting in the cancellation of the direct international convertibility of the U.S. dollar into gold. This remarkable move (not a compliment) would forever change the nature of the U.S. currency and converted the dollar from a commodity currency (backed by gold) into a fiat currency (backed by nothing). Fiat money is a currency without intrinsic value that has been established as money by government regulation (by decree, from the Latin word fiat “let it be done”). Fiat currency has no use value, but has value only because governments maintain its value or parties to an exchange agree on its value. Voltaire had a very strong view on fiat currency, saying “Paper money eventually returns to its intrinsic value -- zero.” To that end, there have been approximately 775 paper currencies in the history of the world and over three-quarters of those no longer exist. The first paper currency was created by the Chinese during the Tang Dynasty around 618 A.D. (see picture above) and was utilized for about three centuries before disappearing. China had another experiment with paper currency in the eleventh century under Kublai Khan which was called “Flying Money” and the Emperor ordered that each year an equivalent amount of currency be printed “equal to all the treasure in the world.” His plan was that the creation of “wealth” would allow China to increase in economic and political power and his plan actually did work for a period of time until the massive volume of paper swamped the economy and plunged China into ruin (if creating wealth was as easy as printing money, wouldn’t everyone just print it?). France has nearly collapsed three times in history from abuse of fiat currency. The first time under Louis XV in the early 1700s who tried to pay off livre debt by creating a new currency called assignats, only to have inflation spike to 13,000% and the economy collapse. Napoleon tried his hand at fiat currency in 1795 by issuing the Franc, only to have it lose 99% of its value within a decade due to government spending and debt problems (which allowed the U.S. to get a great deal on the Louisiana Purchase). Finally, the French tried one more time with fiat in the 1900s but when they abandoned the gold standard after WWI, they watched helplessly as their currency declined 97.5% by the mid-1930s. The essential problem with fiat currency is that governments control the valuation of the currency and have no incentive (in fact, just the opposite incentive) to maintain soundness of the money (they can bail themselves out of their mistakes by printing more).

Someone who clearly understood the misalignment of incentives of governments was the protagonist from our letter #HackedMarkets, John Maynard Keynes, who realized a very long time ago that governments were unlikely to be good stewards of economic systems and currencies. Keynes wrote that “the political problem of mankind is to combine three things: economic efficiency, social justice and individual liberty.” Lord Keynes’ conclusion was similar to many political commentators over the course of history, that capitalism as a solution to this problem was the worst possible solution, except for all the others. Keynes was quite specific in his disdain, saying “Capitalism is the astounding belief that the most wickedest of men will do the most wickedest of things for the greatest good of everyone.” We commented last time that the real problem facing the general populace was that politicians will always abuse the system in the name of the greater good and that “the most insidious issue we as a people face is the persistent Kleptocracy that those in power embrace through the path of inflation of assets (which they control) through the devaluation of the currency.” We repeat here something Keynes wrote about Lenin’s views on this topic, saying:

“Lenin is said to have declared that the best way to destroy the capitalist system was to debauch the currency. By a continuing process of inflation, governments can confiscate, secretly and unobserved, an important part of the wealth of their citizens. By this method they not only confiscate, but they confiscate arbitrarily; and, while the process impoverishes many, it actually enriches some. The sight of this arbitrary rearrangement of riches strikes not only at security, but also at confidence in the equity of the existing distribution of wealth.

Those to whom the system brings windfalls, beyond their deserts and even beyond their expectations or desires, become ‘profiteers’ who are the object of the hatred of the bourgeoisie, whom the inflationism has impoverished, not less than of the proletariat. As the inflation proceeds and the real value of the currency fluctuates wildly from month to month, all permanent relations between debtors and creditors, which form the ultimate foundation of capitalism, become so utterly disordered as to be almost meaningless; and the process of wealth-getting degenerates into a gamble and a lottery.

Lenin was certainly right. There is no subtler or surer means of overturning the existing basis of society than to debauch the currency. The process engages all the hidden forces of economic law on the side of destruction and does it in a manner which not one man in a million is able to diagnose."

When we read these words closely it appears that they could have easily been written last week, rather than a century ago in his classic book *The Economic Consequences of the Peace,* as the steady debauching of the dollar since 1913 has indeed impoverished many (half the people in the U.S. could not raise $500 for an emergency and the bottom 30% have negative net worth) and enriched some (the top 1% own 36% of all the wealth). The most frightening point is that as the relationship between debtors and creditors breaks down (debtors steal wealth from savers) the process of making money turns into a "gamble and a lottery" (precisely how the equity markets are functioning today).

We also wrote last time that as bad as it is when governments become corrupted by wealth and power, there is an even more insidious problem for the masses which Thomas Jefferson is often quoted as saying in 1809, "If the American people ever allow private banks to control the issue of their currency, first by inflation, then by deflation, the banks and corporations that will grow up around them will deprive the people of all property until their children wake up homeless on the continent their fathers conquered…The issuing power should be taken from the banks and restored to the people, to whom it properly belongs." The root problem for the average American is that Jefferson's advice was not heeded and John D. Rockefeller's father-in-law (Senator Nelson W. Aldrich) was able to craft legislation that created the Fed. The essential problem with having banks involved with currency is that they become the trusted third party that, like all rent-seeking middlemen, will extract a very high price for providing that service. When Satoshi decided to create an alternative currency system (Bitcoin), he addressed this precise issue when he wrote "the root problem with conventional currency is all the trust that's required to make it work. The central bank must be trusted not to debase the currency, but the history of fiat currencies is full of breaches of that trust. Banks must be trusted to hold our money and transfer it electronically, but they lend it out in waves of credit bubbles with barely a fraction in reserve." In fact, Satoshi's dislike of the banking system was so strong that when he created the Genesis Block of the Bitcoin Blockchain, the first entry was a poke at the inherent misalignment of interests between banks and citizens. The entry was very simple (but very pointed), "01/03/2009. Chancellor on brink of second bailout for banks." Satoshi believed (and the weight of the evidence supports that belief) that the systematic and persistent failure of the banking system over time requires debasement of the currency through money printing and bailouts (robbing from the masses) and thus a new system of sound money was needed.

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 wrote last time that "The loudest opponents of Bitcoin are the Kleptocrats at the top of the pyramid (Dimon, Buffett, Munger, etc.) who have the most to lose should a truly free market currency exist that would level the playing field and remove the ability of central banks to funnel wealth into the hands of the 0.1% by devaluing the currency." On the flip side, the most ardent supporters of Bitcoin (us included) are those who appreciate the profound implications of taking back control of the creation (and preservation) of wealth through the control of the currency. We showed a picture of the original cover of *Bitcoin Magazine* last time that sums up the essence of Bitcoin perfectly, "The corrupt fear us, the honest support us and the heroic join us." We have written in the past that the natural response to the debasement of a nation's currency would be the creation of an alternative currency (a true store of value) that would allow citizens to fight back against the theft of their wealth. That is precisely why Satoshi created Bitcoin with all of the elements of sound currency (fixed supply and decentralized system). Keynes believed that "the great events of history are often due to secular changes in the growth of population and other fundamental economic causes, which, escaping by their gradual character the notice of contemporary observers, are attributed to the follies of statesmen or the fanaticism of atheists." Tim May (author of *The Crypto Anarchists Manifesto*) and his cypherpunk friends were clearly viewed as fanatics and Satoshi himself (by the nature of his portrayal in the mask on the magazine cover) is viewed in a similar manner. However, not liking those who fight back is an insufficient condition for them not to be successful and as 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 to get some, just in case it catches on." 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." He further described how the value creation mechanism would function, saying "It's more typical of a precious metal. Instead of the supply changing to keep the value the same, the supply is predetermined and the value changes. As the number of users grows, the value per coin increases." That comparison to precious metals was a critical insight and points to the genius of the construct to emulate the one asset that has consistently acted as sound money for the millennia. We have said many times in presentations (and wrote in our last letter) that the miracle of Bitcoin is 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. We have also made the case that "Indeed, 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 investment view on crypto is that it is prudent (and wise) to allocate a portion of your portfolio (1% to 5%) to Bitcoin (and other cryptocurrencies) as they offer a powerful combination of the ability to generate significant long-term returns and strong diversification benefits within a portfolio given their low correlation to traditional assets.

So, now we have discussed how we reached our Eureka! moment and why we see so clearly now the absolute need for a sound money solution and a true global currency that will power the transition into the Digital Age and facilitate the reversal of the income and wealth inequality that has occurred under the fiat currency system. The transition from the Analog Age to the Digital Age is the next construct we want to spend some time on and discuss how we see the investment opportunities unfolding. We wrote last time that "The evolution of the crypto economy and the development of these technologies over the past three decades has set the stage for a truly transformational period of broad adoption of blockchain-enabled technology and rapid development of related products and services. The confluence of events has created the most compelling investment opportunity we have seen in many decades as we transition from the Analog Age of securities to the Digital Age of securities." We discussed how the emergence of open-source systems has more fully unlocked the power of intellectual property and has actually "altered forever the constructs of boundaries and ownership and unleashed the power of innovation that will create a wave of wealth creation the likes of which the world has never seen" (what Tim May described as tearing down the barbed wire fences). Frequent readers of this letter (and actually anyone who knows us) understand that we are at times (perhaps) a little prone to hyperbole, but with that said, we actually don't believe we are being hyperbolic in this particular instance given the incredible confluence of events that is occurring. We wrote in January how Lord Keynes was a big believer in pursuing radical ideas and he was fond of saying that "Words ought to be a little wild for they are the assault of thoughts on the unthinking" (one of our favorite quotes). We also discussed how Keynes understood that it was the inherent power of new ideas that ultimately initiated change (regardless of the response of those who resist that change) and he said, "I am sure that the power of vested interests is vastly exaggerated compared with the gradual encroachment of ideas." Keynes believed that in the axiom that "Ideas shape the course of history" and, like the wave of settlers heading west during the Gold Rush to pursue the big idea of Manifest Destiny changed the course of American history, those intrepid explorers willing to engage in the Digital Gold Rush will forever change the course of global history (another big statement, we know).

The best part of the story, though, is that that the story is just beginning. We are at the equivalent of the 1850 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 Digital Gold Rush represents all of the opportunities that will be created as we shift from the Analog Age to the Digital Age across every industry and business model. In the Analog Age, markets are very localized, tightly controlled by a small group of investors, have limited liquidity, high transaction costs and slow settlement. In the Digital Age, markets will be fully global, loosely controlled by a large group of investors, have significant liquidity, very low transaction costs and instantaneous settlement. Blockchain technology will enable a digital future where all assets of value will be freely tradeable on a global basis and that value can be exchanged without the need for a trusted third party. In order to achieve that digital future, there is a massive need for the creation of infrastructure to enable these transactions to occur and the last picture at the top of the letter highlights just some of the myriad companies that are currently being developed to create that future. The best news for investors is that this huge wave of innovation will spur an exponentially larger wave of wealth creation opportunity for investors who channel Sam Brannan and provide the picks and shovels, pots and pans to those searching for digital gold. There are opportunities across mining (providing computing power to secure the networks), money services such as wallets and storage, exchanges for transacting the digital securities as they emerge, merchant services and payments systems, peer-2-peer marketplaces and lending, identity and content management services, security services, capital markets activities (advisory and underwriting), financial services, social media and the cryptocurrencies themselves. We could spend the next ten pages discussing individual companies within each of these categories, but we will save that for another letter and suffice it to say that we have actively evaluated hundreds of opportunities across all of these segments and have been blown away by the quality of innovation and (more importantly) the quality of talent that is leading these organizations. We wrote last time about how “the flood of talent into the crypto and blockchain space in the past few years has been nothing short of breathtaking. We have only seen this type of mass migration of talent from the traditional investment world into a new area once in our career and that was in the late 1990s when the internet was finally reaching maturity after twenty years of development.” In our investing career we have found that it always pays to follow the talent and we have experienced over and over again that great teams produce truly incredible results. Philosopher Arthur Schopenhauer made a critical point that “Talent hits a target no one else can hit; Genius hits a target no one else can see” and our experience in these early stages of technological innovation is that the true geniuses (those of true vision) migrate toward areas that might seem foolish, and even dangerous (like the early gold miners in CA) to some observers, but it is precisely in those places with little competition (and lots of open space) where the truly extraordinary returns are earned. It is said that in investing, you can be comfortable or profitable, never both. We have always implored investors to #LiveOutsideTheComfortZone.

As a reminder, 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 years yet (plenty of easy nuggets to find). Over that period, however, we do expect to see continued progress in the adoption of blockchain-enabled technology in cryptocurrencies, utility tokens and security tokens. We have discussed cryptocurrencies at length above, so we will not belabor the point more here. We wrote last time about our aversion to the majority of utility tokens and ICOs, as we believe that they are essentially an alternative to early-stage capital raising for companies and are now competing with traditional Venture Capital (better investment). In fact, more money was raised by early stage companies in ICOs than VC in the past three quarters. We do believe that the ICO market will continue to develop in a positive direction and we do see real opportunities for investors with significant technical knowledge (or access to resources to understand the emerging technology) who can pan through the silt and separate the fools’ gold from the real gold. We wrote last time to remember “that VC has a very high (80% to 90%) loss ratio and you should have the same expectations for ICOs. Yes, there will be some huge winners (10X, 20X or more), but there will be far more losers (in fact, the majority will actually go to zero). You will need a broadly diversified portfolio (and some luck, or a great manager/advisor) to generate superior returns in this area.” Conversely, we believe that security tokens are the Mother Lode (the western slope of the Sierra Nevada mountains in the map above) of the digital security opportunity as “we believe that every asset of value (real assets, real estate, private equity, debt, stocks and bonds, etc.) can be, and will be, tokenized (converted to digital ownership) in the coming decade.” There are roughly $700 trillion of global assets that have the potential to be (and we believe are going to be) tokenized over time and this conversion process from analog to digital can create incredible opportunities to generate strong returns for investors over the coming decades.

As we mentioned last quarter, we are so compelled by the huge opportunity to participate in the Digital Gold Rush that we recruited some talent to join the team at Morgan Creek to create a business unit to specialize in investing in the space, Morgan Creek Digital Assets. The team from Full Tilt Capital ("FTC") had significant experience in cryptocurrency mining, asset tokenization, blockchain technology and had built (and sold) a number of successful businesses in the technology and business services area before forming FTC. As we wrote last time, we believe that the new talent combined with the investment team at MCCM "will position MCCM as one of the leaders in the blockchain investment landscape and enable us to fully capitalize on this tremendous investment opportunity in the coming years." 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, so we understand and appreciate that we don't have the territory all to ourselves. That said, 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, battle-tested operations personnel and an investment team with a history of being on the frontiers of new technologies, then the list does narrow and Morgan Creek Digital looks more like Brannan's General Store. As we wrote last time, when it comes to institutional experience and technological savvy, "The intersection of these two worlds contains a very small number of organizations and we are excited to be positioned to become a thought leader in the marketplace as well as continue to invest in accordance with our tagline of Alternative Thinking About Investments." We have begun investing in infrastructure investments (picks and shovels) with our new private investment strategy and have plans for a number of additional strategies to provide investors with options for gaining exposure to the multiple areas across cryptoassets, including cryptoequities, cryptodebt, cryptocurrencies and cryptocommodities. While all of these areas are in the very early stages of development today, we discussed last time how the development of these technologies will be faster than the historical norm "as the cumulative effect of the evolution of computing technology and rapid innovation has created an exponential pace of development that was not possible before today." Every business model will be materially impacted by blockchain technology and the integration of the technology will provide outstanding opportunities to capitalize on the disruptive power of the new business models (and as an added benefit the opportunity to go short those being disrupted). Early investors in this disruption will earn outsized returns in the same way that early investors in internet companies like Google and Amazon, and MobileNet companies like Facebook and Apple, benefitted from the network effect as these disruptive models capitalized on the previous technology innovations.

Speaking of the #FAANGs, we would be remiss if we didn't comment (at least briefly) on one of the greatest risks facing investors in the current environment. Keynes observed this same problem a century ago during the Roaring 20's bubble saying, "The actual, private object of the most skilled investment today is to 'beat the gun', as the Americans so well express it, to outwit the crowd, and to pass the bad, or depreciating, half-crown to the other fellow." The issue at hand is that when asset valuations (of any kind) reach extreme levels (like developed equity markets today), there is heightened risk that a small shift in sentiment can trigger a rapid (and meaningful) adjustment in price. Keynes said, "A conventional valuation which is established as the outcome of the mass psychology of a large number of ignorant individuals is liable to change violently as the result of a sudden fluctuation of opinion due to factors which do not really make much difference to the prospective yield; since there will be no strong roots of conviction to hold it steady," and also "Once doubt begins it spreads rapidly." What gets lost in the late stages of market cycles (the advance in U.S. equities without a Bear Market just became the longest in history) is the very important distinction between price (what a market participate agrees to at a point in time) and value (the intrinsic worth of the asset). When speculators overwhelm investors in a market and make purchases simply because prices are rising, and they don't want to be left behind (Fear of Missing Out or "FOMO"), the overall market fragility rises exponentially, and we have seen time and time again in the course of history that #RiskHappensFast. As we discussed in January, Keynes believed in the power of changing your mind (when the facts change) and he was also a believer (like Mark Twain) that when you find yourself on the side of the majority, it is time to reform, saying "Investing is the one sphere of life and activity where victory, security and success is always to the minority and never to the majority. When you find anyone agreeing with you, change your mind. When I can persuade the Board of my Insurance Company to buy a share, that, I am learning from experience, is the right moment for selling it…The central principle of investment is to go contrary to the general opinion, on the grounds that if everyone agreed about its merits, the investment is inevitably too dear and therefore unattractive." When everyone is willing to buy something regardless of price (like the #FAANG stocks today), it is always best to sit tight (or even better to sell to those speculators) and look for places where people are giving away assets without regard to value. If you told people you were selling all your U.S. stocks to invest in companies related to blockchain technology, you would likely get more than your share of queer looks (and probably even a few colorful expletives) and that is a great inverse indicator of the quality of the idea. We imagine Sam Brannan would have said, there's gold in them thar (digital) hills, and the best way to profit is to make sure you own lots of picks and shovels (and protocols, exchanges and wallets).

Second 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 second 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 his 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.

After a very rocky start (yield spike) in January, we wrote last quarter that this Surprise view was looking pretty good "as rates peaked a few weeks later at 2.9% on Feb. 21 and then rolled over and fell all the way back to 2.7% at quarter end, and it appeared that this was another false alarm on the RIP Bond Bull Market Narrative." However, after another Fed rate hike and some euphoria about Q2 GDP growth (early estimates were closing in on 5% ...), the 10-year Treasury began a steady climb to 2.9% on April 30 and peaked at 3.1% on May 17. As mentioned above, the trouble for the long-term downtrend in interest rates begins when the weekly rate crosses above 3.1% (the Taper Tantrum high) and 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%. It then meandered around that level to end Q2 at the same 2.9% level (the same level as when we penned the Surprise). Curiously, the 10-year has attempted to break the 2.98% level four times in the past two months (on June 6, June 13, July 26 and July 27) only to be turned back each time by the chart of truth trend line. We pointed out last quarter (and a few other times over the past few years) that "in the past year it ha(s) 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 fear the Fed is making a policy error raising rates so late in the economic cycle. We also discussed "how the continually flattening yield curve was causing stress in the "Everything Is Awesome" crowd who were sure that the YC would steepen (and who had pushed financial stocks higher in anticipation)." While the 30-Year bond yield did actually rise a bit during the first six weeks of the quarter along with the 10-year, jumping from 3% on March 31 to a peak of 3.3% on May 17, all of that increase was erased in the second half of Q2 as the Trade War rhetoric heated up, market volatility rose, and investors began to seek safe haven trades again. The 30-year yield returned back to 3% on June 29. Importantly, the 10-30 spread continued to collapse (flattening, not steepening…) dropping from 23 bps at the end of Q1 to a scant 13 bps at the end of Q2. We noted last time that "with the Fed promising more rate hikes soon, we are getting very close to Inversion Day" and Chairman Powell did not back down from his commitment to keep nudging short rates higher, threatening two more bumps in coming months, which would likely lead to the dreaded YC inversion.

Bond investors avoided the pain of Q1 as the Barclay's Aggregate Index was basically flat, down (0.2%) in Q2 and the Barclay's Long Treasury Index was actually up a fraction at 0.3%. 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. After the meaningful losses in the long bond Index last quarter, we wrote how "some are trying to blame the Risk Parity funds (when in doubt, blame the Quants) on the thesis that they are being forced to unwind some very levered long bond positions, and while we have some sympathy for this perspective, we think the extent of the leverage in the system (and the amount of capital short volatility) far exceeds the Risk Parity players." There were crickets about the Risk Parity crowd in Q2, instead attention turned to Russia and China selling their Treasuries as part of the Trade War, but it appears that some investors (somewhere) are actually accumulating long bonds and it can't only be our friends at Hoisington in Austin. 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. The trailing twelve months ("TTM") return for the Aggregate Index is down (0.4%) and the Long Treasury Index is down (0.1%) and while these are not big losses, 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. Most importantly, we repeat what we wrote in January, that should this Surprise turn out to be wrong and "rates do actually begin to creep higher, it will be increasingly challenging for equity multiples to expand and as the earnings recovery continues to fade, there could be double trouble for the equity Bulls." To that point, recall that on April 2, TLT was slightly ahead of SPX as long bonds were down (3%), but stocks were down (4%). Four months later, TLT has shed another 2.5% to be down (5.5%), yet SPX has managed to surge back to up 5.5%, making the SPX/TLT spread the widest of 2018. 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.

The one area where there continues to be some support for higher interest rates (and therefore for this Surprise to be wrong) is in the U.S. Inflation data. There has been a consistent upward bias in the inflation statistics since last summer (right about the time when oil prices began to recover). In fact, we wrote last time 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 hit some serious resistance at $70 and spent most of Q2 around that level before having a mini-spike to $74 on June 29, but then retreated back to $69 by the end of July (more on this below in the oil Surprise). The Core PCE Inflation (Fed's favorite indicator) has continued to slowly rise, hitting 2% in June, up from 1.9% in March, and up from 1.3% last summer, and while still below the Fed's 2% target, the Headline PCE has jumped over the Mendoza Line (.200 batting average level that separates good and bad hitters in baseball) to 2.3%. Core CPI has run from 1.6% a year ago June, to 1.8% in January, 2.1% in April and now 2.3% in June, and the headline number is raising a lot of inflationist eyebrows at 2.9%. We said last quarter 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." PPI remained around the 1.9% level in Q2 and even the headline number there dropped below 4% to 3.9% in June. Remembering that these inflation figures are lagging indicators, it is important to continue to consider the forward-looking data like the 5-Year/5-Year Inflation Rate and the 10-Year Breakeven Inflation Rate ("BE"). These indices appear to have peaked in February and were both fairly stable in Q2 with the 5-year/5-year moving from 2.18% to 2.16% from March 31 to June 29 and the 10-year BE moving from 2.05% to 2.11% during the period. We noted last time that "these numbers seem to be goal-seeking the Fed Target." One final point here is that we continue to remind readers 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, so it will be very interesting to see if the commitment to QT can remain intact should the inflation data fade with falling commodity prices.

Shifting to global bond markets, the Barclay's Global Aggregate Ex-US Bond Index gave back nearly all of the 3.6% gain from Q1, falling (2.8%). Whereas the bulk of the gains in Q1 came from currency gains (dollar weakened), the inverse was true in Q2 as more than all of the losses were attributable to currency losses, as the Dollar (DXY) surged 5% during the period. Buried in that sentence is 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. In Japan, 10-Year JGBs began Q2 at 0.05% and ended at 0.04%, primarily as a result of Kuroda-san's efforts to pin the yield at 0% and also buoyed by the surprise slipping of Japanese GDP into negative territory in Q1. While there has been a "spike" (hard to call 5 bps a spike, but percentage change is large…) up to 0.1% in July, but there has been little economic data of substance to make the case that this move is anything more than noise in a long-term trend. 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?). One issue no one talks about is that there are nearly $7 trillion of government bonds with negative yields globally, most of them in Japan, which still has over $5 trillion (with a T) of government bonds with negative yields, a truly stunning statistic. German 10-year Bunds started Q2 at 0.5%, shot up to 0.6% along with the UST surge through May 17 and then crashed down to 0.3% to end the quarter (again a very large move on a percentage basis). Importantly, even with a slight uptick to 0.4% in July, we remain a very long way away from the 0.9% peak from 2015 that defines the changeover point for the long-term downward trend. We highlighted last time that "Perhaps the more persistent lows in international yields reflects the fact that EU and Japanese GDP growth and inflation remain more muted than in the U.S. economy." EU GDP had been recovering over the past few years and looked fairly strong in the first half of 2017, hitting a high of 2.8% in Q3, but had begun to fall again in Q4 and was down to 2.5% at the end of Q1. The deterioration of growth continued in Q2, particularly in Germany, as euro strength and slowing global growth dragged down exports and GDP rose only 2.1% for the trailing twelve months (0.3% for Q2). On the inflation front, we noted last quarter how "The strange thing was that despite the rapid rise in oil prices, EU CPI has now fallen steadily for the past four quarters, dropping from 1.3% at the beginning of the year to 1.2% in April." That trend did reverse in Q2 as EU Inflation ticked back up to 2% in June (perhaps there were some strange seasonal issues with the Q1 data), but the patient continues to not be strong enough for Dr. Draghi to pull out the main line of QE morphine just quite yet. Even more troublesome is that in Japan inflation has crashed from 1.4% in January to 0.7% in June and as we wrote last time "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 find it challenging to see how interest rates will rise meaningfully in this economic environment, but we acknowledge the Fed has maintained a bias toward continued tightening (rate hikes) in the U.S. and 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.

A quick word on Absolute Return ("A/R") strategies where 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 struggle during periods of Financial Repression and zero interest-rate policy ("ZIRP") because cash has historically been a meaningful component of returns (money from short side of transaction sits in cash) so when cash rates are close to zero it is tough for A/R returns to flourish.

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. In fact, it is hard to make an argument for holding traditional fixed income given where we are in the economic and credit cycle. We wrote at the beginning of the year, and again last quarter, 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 Q1 (and far superior to the losses in bonds) and the slow and steady gains continued in Q2 shown in the table below:

HFRI Index	Q2 2018	YTD Q2 2018
Market Neutral	0.1%	0.8%
Relative Value	0.7%	1.5%
Merger Arbitrage	2.1%	2.8%

We reiterate what we said last time, that while "these are not world beating returns," they are materially better than the negative returns suffered by holders of Fixed Income. The one place that continues to struggle in A/R is the macro/quant space where the HFRI Macro and HFRI Systematic Indexes were both down and have returned (1.8%) and (4.1%), respectively, CYTD. The return of volatility is causing stress in the trend following models and the vast quantities of capital that have poured into quant strategies has put pressure on alpha generation. While we clearly don't believe rates will explode higher (hence our bias toward the Surprise coming true), we do expect that Absolute Return strategies will continue to have a slight tailwind in the years ahead, 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 began this section in each of the last two quarters saying, "it really does appear that we can (and should) permanently include the line from the opening of the Market Review section of the Q2 2017 Letter that described how markets are behaving in a manner very differently than historical norms courtesy of global central bank liquidity continuing to flow." 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. We wrote last time that "a funny (funny because it hadn't happened in multiple years) thing happened on the Jan 29 Bradley Turn Date, equity markets started to go down, hard (the Bears were back in town…). So, for the first time since the first six weeks of 2016, global equity markets actually had a correction (fell > 10%) …" As such, it appeared (at least for a few weeks) that maybe we wouldn't need to start the Q2 letter with the same line. 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. As we mentioned last time, even Jerome Powell stunned the world by saying, "it wasn't his (Fed's) job to keep stock prices rising (he clearly didn't read the transition letter from QEeen Janet about job number one…)" and it appeared that the massive liquidity tailwind story was coming to an end. 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 might even have a name for the deal, Stealth QE. U.S. buybacks hit an all-time record in Q1 at nearly $200 billion (a $50 billion increase over Q4) and Q2 numbers will set another new record when they are released. So, despite all the bad news that normally would have triggered a down turn in stock prices and despite the fact that the *smart money* (institutional capital that trades from 3:30 to 4:00 each day) has been massive net sellers since late January, there has been a constant bid under the equity markets over the past few months, causing the indices to steadily rise over the course of Q2. The S&P 500 was up a robust 3.4%, the DJIA was up a little less robust 1.3% (value bias still hurts in momentum market) and NASDAQ surged 6.3% on the back of massive buyback activities of the #FAANG companies. Not to be outdone by their large-cap brethren, the Russell 2000 Index was up a very strong 7.8% and the Russell Microcap Index soared a stunning 10%, as they benefitted from the Trade War rhetoric that promised challenges to overseas competition. 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.

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 has committed (for now) to remove liquidity from the financial system that "it will be very interesting to see if this relationship holds in reverse." The Fed sold around $90 billion of Treasuries and Mortgages in 2Q18 (and will increase theoretically to $120 billion in Q3 and $150 billion in Q4 if all goes well…), so there should have been (36) S&P points of equity headwind (negative return) during the quarter. What will be interesting is to see if the buybacks have a similar impact, if so, then there should have been around 20 S&P points of tailwind for the incremental $50 billion of purchases. The S&P 500 Index jumped 140 points during Q2, so if we attribute (36) points to QT, 80 points to multiple expansion (beginning level of 2,580 times 3.1% increase in P/E) and 20 points to buybacks, that would leave 76 points for earnings growth, which is a tiny fraction of what should have been expected given the monster 21.3% surge in earnings per share ("EPS") during Q2 (would be closer to 580 points). We wrote last time that "Perhaps investors are realizing that the #TaxDeform induced, non-GAAP, "earnings-before-bad-stuff" numbers are not sustainable." Clearly that realization would be a welcome change from the euphoric daze that has gripped investors during the QE Era. When we wrote the letter last quarter there were an increasing number of signs that the Bears were indeed back in town, as the SPX had made a series of lower highs since the Bradley Turn Date on Jan 26, market breadth was collapsing (usually happens at market tops), hedge fund returns were rising (as it was finally possible to make money on the short side again) and the $OEXA200R was in the 50% Cash Zone (< 65) (after briefly plunging below the 50 level (go to 100% Cash) at the end of Q1 and Q2). In the past four months, the SPX has made a series of higher highs and higher lows and the upturn has accelerated since the Bradley Turn Date on June 1 and the Gann Date on June 22. The world's greatest indicator ($OEXA200R), in our opinion, has rebounded from the Red Zone (46) in June back to Yellow Zone (63) today, right below the Green Zone line of 65 and 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.

Looking at the U.S. Style Index returns during Q2 also 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), but that trend began to reverse in Q1and Value was making a comeback. Interestingly, in the Large and Mega-caps, Growth was back on top in Q2, but down the capital spectrum, Value continued to outperform as relative valuations had simply moved to such extreme levels that some mean reversion was warranted. The RTop200G jumped 6.6%, while the RTop200V managed only a scant 0.6% gain. The RMidG was up 3.2% while the RMidV was up a slightly less robust 2.4%, while the R2000G was up a strong 7.2%, but the R2000V was up an even stronger 8.3%. 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. The spread for the TTM is down from an astonishing 24.1% level in 2017 to a still very high 10.8%, indicating that passive capital flows continue to be the primary drivers of short-term moves. We have 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. We have warned in the last few quarters that since interest rates have been rising, "it seems like an important time to revisit our discussion of valuation and the SPX P/E ratio given the disconnect between the consensus that interest rates are now set to rise and that P/E ratios can continue to expand." 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). That said, despite a slight increase in rates in Q2, the P/E of the S&P 500 (using actual reported earnings) somehow rose another 3.1% from 23X to 23.7X. We point out one more time that there appears to be some disconnect in that if EPS actually rose 23.1% in Q2 then the P/E of the SPX should have fallen precipitously (absent a huge increase in price, which didn't occur), but instead rose. We will chalk this one up to "new math" in the #NewAbnormal.

We wrote a year ago in the 2017 Surprises that hedge funds were poised to break the seven-year cycle of underperformance relative to the S&P 500, but while Long/Short equity hedge funds posted double-digit returns in 2017, they lost again to the QE Era Bull Market in the S&P 500. We are used to being "early" (often called the euphemism for wrong), but there are growing signs that 2018 will be the year where hedge funds (and active management) retake the podium (nod to the Tour De France fans). We like to paraphrase Roger Babson on this point, saying, "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)." A critical part of investing is recognizing a point that we made in the original Surprises in January, saying, "just because we were early (some would say wrong) in predicting when the mean reversion in performance of long/short strategies would begin, does not impact whether we would be correct (or not) when making a similar forecast today because they are independent events (based on new and different information)." Q1 was very strong for hedge funds relative to long-only equities as most indices were negative to begin the year while hedged strategies put up respectable positive returns. Q2 was a little more challenging for the broad hedge fund indices as the HFRI Equity Hedge Index was up a scant 0.5% and is up 1.2% for the CYTD. The broad manager group did unfortunately break a string of four quarters of alpha over the Index, but as we wrote last time, "short alpha was very strong as there continue to be increasing signs that bad companies will not continue to be bailed out by zero rates and excessive liquidity."

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 creating the latest in an endless string of bubbles, saying "that 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." VIX actually recorded an all-time low on the second trading day of 2018, hitting 9.2, but then there were some serious fireworks around the Bradley Turn Date on January 26 as VIX exploded higher to 37.3 on February 5, triggering the first equity market correction of more than 10% in three years. Operant conditioning took over and the Pavlovian "Sell the Rip" reaction was strong, and the Vol Sellers have once again driven VIX relentlessly downward in the past few months. VIX began Q2 at 20, methodically contracted to 15.9 on April 30 and 15.4 on May 31 and then had a slight hiccup in the closing days of the quarter to finish at 16.1 on June 29, a compression of nearly (20%). We had asked the question last time, "Will this tightly coiled spring unleash again in the coming months? We will have to wait until next quarter for the answer, but the Bradley Turn Date on June 1 and the Gann Date on June 22 would indicate that the next few weeks could have some excitement." Interestingly, since we penned those words in May, there actually <u>has</u> been some excitement in the markets as Trade War tensions escalated and VIX did jump 32% from the June 1 low of 13.5 to 17.9 on June 27. Equities were volatile as well, moving from up 3% to down (1%) in the second half of June, while long bonds surged 4% over the period. Then the Ghost of Gann struck again, and the trend turned on a dime in the final few days of June and the fireworks (appropriately) continued in July. Despite anemic trading volumes (seems that Americans take as much vacation as the Europeans these days), the Buy the Dippers were back and working hand in hand with the Vol Sellers; the VIX had ground down to 12.1 on July 26 (the exact mid-point of the Surprises year).

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. To this point, the average VIX level in 2018 of 16 has been higher than the highest VIX daily reading in 2017 and we would expect that average to trend higher in the second half of the year. While we fully expect that the Vol Sellers are not going to go quietly into the night, their reticence to believe that the market risks are reaching extreme levels actually creates the opportunity within this Surprise. Perhaps the best example of this type of disbelief happened recently with the Facebook EPS call (will talk more about #FANG in a moment) and subsequent (20%) drop in FB overnight. There was nothing on the call that was new information (slowing user growth, fallout from Cambridge Analytica scandal), but hearing FB management acknowledge the problems caused investors to dump FB shares hand over fist. We say often that #RiskHappensFast, and we expect there will be more of these types of stories in the coming months. 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. VXX provides good tracking of the VIX Index and is one of the simplest ways to gain exposure to volatility. For more convexity there is the 1.5X UVXY and 2X TVIX that provide some leverage on the long volatility trade. Remember when utilizing 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. 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.

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 last time by discussing the elephant in the room about the #FANG (and #FANGMAN) stocks, saying 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." In Q1 it looked like there were the beginnings of a bite taking hold as three of the Spectacular Seven (FANGMAN) actually had negative returns during the period (FB, GOOGL and AAPL), but as we wrote last time, the mania came back in April "as it appears that we may have to wait a while longer for the biting to commence as the Spectacular Seven returned 11%, 14%, 11%, 1%, 6%, (1%) and 2%, respectively, for the month to bring the trailing year returns to some truly astonishing numbers, 24%, 65%, 108%, 12%, 42%, 22% and 81%, respectively." We reminded readers 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 these prices." Recall that back in 2000, Cisco was supposed to be the first $1 trillion market cap company and 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. As has always been the case over the course of investing history, valuation does matter, it turns out that you can't pay triple digit P/E multiples for companies and make money as an investor over the long term. The end of the story is that CSCO today is 40% lower than where it was eighteen years ago (two decades of dead money). Our thesis then (and now) was 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 said 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. Caveating timing of the mean reversion turned out to be smart in Q2, as the #FANGMAN crew looked more like a hangman to the doubting Thomases. Not only was there no biting going on, the mania got more manic and these stocks soared 22%, 18%, 33%, 9%, 10%, 8% and 3%, respectively (versus the SPX up 3.5%). Those moves took the returns for the group to some truly dizzying heights at up 8%, 43%, 95%, 6%, 8%, 15% and 20%, respectively, for the first half of 2018 and this small group of stocks was responsible for more than 100% of the 2.7% return on the S&P 500 over the period (doesn't get much narrower than that). 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. It was clearly looking like this Surprise had no shot at happening after all when suddenly something funny happened, 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." Netflix was first up and new subscriber growth was lighter than expected and while it was still strong, there was a recognition that perhaps discounting every man, woman and child on Planet Earth being a customer might be a tad aggressive. NFLX dropped (15%) over a few days and trimmed the 95% YTD return to 77% (and has kept falling in recent weeks to now be behind AMZN in 2018). FB earnings were up next and there was a massive reaction to a series of disclosures about slowing user growth (all of which had already been leaked…) and the stock dropped (20%) in seconds during the after-hours session and did not recover at all the following day. That drop actually pushed the FB CYTD return to a negative number, down (3%), through the end of July. While 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. You don't get to react to news (computers are way faster than humans and the real problem is that most of the moves happen when markets are closed), you have to anticipate the news and be positioned in advance of the announcements, which is a very challenging environment for the average investor. To complete the #FANG story, while the AMZN and GOOGL earnings reports were still strong, even in these cases where the headline numbers were solid, there were indications of slowing growth and challenges to margins (and subsequent stock volatility). Narrow markets are always dangerous and 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.

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.

At the risk of beating the proverbial dead horse, we reiterate (yet again) our view that the dollar is one of the most important economic variables impacting 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 and if you got the dollar call right you could make better returns in equities, bonds, commodities and (obviously) currencies." This Surprise was looking really strong out of the gates in Q1 as the dollar weakened (2.3%), leaving the DXY to begin Q2 just under the 90 level at 89.97. DXY kept heading for the hard deck over the next couple of weeks, hitting 89.42 on April 16 and looked to be in serious trouble of a really nasty break downwards. Then a funny thing happened, funny in that fundamentals were suddenly trumped (pun intended) by the Trade War rhetoric coming out of Washington. We had warned about this risk last quarter, saying "However, 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 the talk of tariffs and protectionism heated up, the dollar began to strengthen (or so it appeared, more on that in a minute) and DXY reversed course and began to steadily climb, hitting 91.84 on April 30, 93.98 on May 31 and finishing the quarter at 94.47 on June 29, up a solid 5% for Q2. While the Dollar Bulls (who have been pummeled over the past two years) began to crow about the reemergence of King Dollar and the pending crisis due to a global Eurodollar shortage, we remind readers 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).

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. Most notably, we believe that China is ten steps ahead of Team Trump (actually, we believe the Chinese are playing Go while the U.S. is playing Go Fish…) and they are using the RMB as a weapon to reverse the effects of any potential trade tariffs on Chinese exports. We actually wrote about this perspective last quarter 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 Bradley Turn Date at 6.273) to make it difficult for the Trump Administration to gain any advantage in trade negotiations." Back then, Trump supporters kept trying to make the case that the Administration was winning the trade negotiations with his bravado and threats, but the data told a very different story. We wrote back in May how "The USDCNY has surged back to 6.38 in recent weeks, right about at the levels it was on the last Bradley Turn Date in January when all the volatility began in global equity markets" and we made the point that the Chinese had a plan to continue to weaken the RMB (strengthen the dollar) at precisely the same rate as the threatened tariffs. The USDCNY troughed precisely on the date of the first Trade War salvo, April 11 at 6.27 and has steadily climbed ever since, hitting 6.33 on April 30, 6.41 on May 31 and 6.62 on June 29, up 5.5% for the period (not so coincidentally exactly equal to the calculation of total tariffs on Chinese imports…). We wrote last time 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 continues to play out in July as 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 the RMB has inched down to 6.81 this month as Team Xi is calling the bluff (show us your cards Donald). We still maintain that the idea of tariffs is completely idiotic (two words: Smoot and Hawley) and that Trade Wars (like all wars) have no winners (everyone loses, some just lose less…) so 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.

When looking at the other major markets (Europe and Japan) that most impact the DXY, we see more evidence that there is very little dollar strength, but rather other FX weakness. We wrote last time that "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, but we cautioned that the rapid move in the euro in January was likely to be perceived as too far, too fast." 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 January that Germany could not be happy about the rapid rise in the euro at the end of 2017 as their ability to sell cheap cars and machine tools around the globe would be severely hampered. We saw German GDP growth take a header in 2018 and we had a high degree of conviction that the euro would weaken versus the dollar. We wrote last time that "We expected the EU to act (or at least talk) and Super Mario committed (again) to lower for longer and the Euro reversed on a dime on March 23 and has fallen sharply, down (5.4%), in the past few weeks from 1.244 to 1.177 on the EUR/USD." It appears that the 1.17 level was low enough for the Europeans as it has hovered there ever since finishing May 31, June 29 and July 31 at precisely that level. From the 1.23 start on March 31, that (4.9%) drop nearly fully explains the DXY strength given the very large weighting of the euro in DXY. On the other side of the globe, we discussed last time how the strength of the yen in Q1 was 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)." There was a small decline in the yen in the last days of Q1 and USDJPY finished at 106.4, still down materially, (5.6%), from the beginning of the year. Along with the euro, the yen went back to weakening in Q2 as the USDJPY hit 109.3 on April 30, paused briefly in May at 108.8 on May 31 and finished the quarter at 110.8 on June29, down (4.1%). Abenomics is dependent on a lower yen and the debt burden in Japan requires a relentless devaluation of their currency (or a debt jubilee) to try and escape the fiscal mismanagement and demographic nightmare in the island nation. It will be very interesting to watch which of the Big 3 (U.S., Japan and Europe) wins the race to the bottom in devaluing their currencies, but 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 Jan. 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.

We summarized our view on the oil markets for this year last time saying, “The issue for us coming into 2018 was that the data in the oil markets was not adding up in that the world had the largest net long position in history (net futures positions are always a great contrarian indicator) yet the supply data for U.S. production kept setting new records, which should have put some pressure on prices.” 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). Oil prices started Q2 at $64.94 and finished the quarter at $74.15, a dramatic 14.2% increase and while prices have retreated back (7.4%) to $68.76 in July, the speed and consistency of the upward move has been impressive. There are two other things that occurred in Q2 that make the move all that more interesting: OPEC continued to ramp production and the dollar rose (normally not good for oil prices). 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. 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 only problem is that it hasn’t worked so far, as China decided to ignore the ban on buying Iranian oil (actually committed to buy more) and despite Saudi ramping production, oil prices moved stubbornly higher. Saudi ramped production by 500k bpd in Q2 and OPEC jumped from 31.9mm bpd in April to 32.2mm bpd in June (yes, Saudi was more than 100% of the increase). We wrote last time that despite the supply/demand dynamic changes, prices were not responding in the usual way, saying “The strange thing is that despite this net change of a positive 600k bpd (up 1mm bpd by U.S. less 400k less by OPEC), prices had risen from the high 50s back to the high 60s by the end of April (and have continued above $70 in May). The fact that supply has now exceeded demand for the past few months indicates that there should be some downward pressure on oil prices, but the rise over the past six weeks has been fairly linear.” 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. 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.

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.” Investors could use the DXY as a coincident indicator of oil prices and the USDEUR seemed to have a very strong correlation on a six-week leading basis (oil followed euro up and down). DXY in the 90s had been correlated to oil prices in the $50s, so we wrote last time that “as DXY slipped back below 90 in January oil should have rallied toward the mid-$60s (and it did). The issue now is that with the abrupt turn in DXY on the Bradley Turn Date of March 23, running from 89.03 all the way back to the low 90s, oil prices should actually be falling back toward the lower $50s, but instead they have curiously surged back $70.” 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. A related conundrum was that we understood from our private holdings that many of the still highly leveraged oil producers were being forced by the banks to hedge production at current prices, which should have put pressure on spot prices, but that impact was overwhelmed by the massive speculative buying on the long side as well. Turning to the USDEUR, we wrote last quarter 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." Instead of falling, oil prices have been stubbornly rising from the mid-$60s to a peak of $74.15 on June 29 and while the past six weeks have essentially been flattish around $68 from point to point, the "right" level according to the EURUSD would have been $55. 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. Based on the return stability in the euro, oil prices should probably hover around current levels, but 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). We wrote last time 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, which was worth a few bucks when the headline broke with no context of his statement being that it would be a couple day event." We have stated many times that Pierre has forgotten more about oil that we will ever know, but we still think he might be talking his book and continue to believe that the data supports lower prices from here. The best oil and gas investments continue to be in high-quality Permian oil producers and Marcellus/Utica producers, Oil Services companies (which finally have some pricing power) and (maybe) the offshore drillers (which have been left for dead).

A quick check on MLPs. As we said last quarter, "We have been active investors in both the public and private energy markets, and we have had the good fortune to invest directly in the private markets into many of the pipelines that make up the core holdings of most of the premier MLPs today." 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 the Federal Energy Regulatory Commission ("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 further said "that sounded great until you lost more than the 8% yield in one quarter, and we were actually on the verge of throwing in the towel on our positive view on MLPs when suddenly there was clarification that the FERC changes would not apply to most companies, the historical tax exemptions would definitely be continued and oil and gas production volumes exploded higher." MLPs surged 11.8% in Q2, nearly erasing the Q1 losses and the gains have continued in July with AMLP up another 5.4%, as 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. 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. 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. The 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 discussed last quarter how three not-so-funny things had happened along the way to an Abenomics victory celebration in 2018, as 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. Despite a small recovery to 21,454 to end the quarter, the damage was done and the target of 27,000 for this Surprise seemed a long way away (25.9% away to be precise). We wrote about one more thing, saying "then another funny thing happened on the combination Bradley Turn Date and Gann Date on Mar. 21 and the USDJPY and the Nikkei both did an about face and both have been rising steadily for the past couple of months." It is pretty amazing how these dates tend to synch with major market events and the Nikkei rose steadily during Q2 to finish at 22,305 on June 29, up 4%. The problem for U.S. investors is that the yen also reversed course and shed (4.1%), so an unhedged investor didn't make any money (and DXJ actually fell (2%) because of different sector weights). On the currency side of the Surprise, the yen is indeed essentially unchanged over the period and while there have been two large moves, higher during Q1 and lower during Q2, the pause in the weakening that we anticipated has come to pass. Unfortunately, the equity markets have not been able to decouple from the currency markets and the return to the Land of the Rising Stocks has been deferred. 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. We find it hard to understand why global investors are not more attracted to the highest earnings growth in the developed world. Suffice it to say 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.

We have long favored the four Big Dogs in Japanese technology, Sony (SNE), Softbank (SFTBY), Trend Micro (TMICY) and Nintendo (NTDOY), as they have been powerful money makers since the beginning of the Bull Market in 2013. The performance of the first three was mixed in Q2 with SNE up 7% and SFTBY and TMICY both down (2%), but NTDOY struggled badly with slowing console sales and the fading of the Pokémon Go craze and plunged (26%). The Bulls were running again in Japan tech in July with the first three up another 5%, 3% and 6%, respectively, and Nintendo was back in favor again after better than expected earnings, jumping 16%. 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. 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 Q2, Sumitomo Mitsui (SMFG) was down (6%), Mitsubishi UFJ (MUFG) was down (13%) and Mizhuo (MFG) was down (6%). Curiously, these numbers exactly reversed in July as Kuroda-san made some noise trying to rekindle animal spirits and the banks were up 6%, 13% and 6%, respectively (almost, but not quite, making back what they lost). For perspective, these mega-banks have tread water since the beginning of the Japan Bull Market and while MUFG is flat over the past five years, both MFG and SMFG are down (15%) over the period, while the Nikkei is up nearly 70%. 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. That said, we do realize that there is real work to be done to achieve the 27,000 level for this Surprise to turn out to be right. With the yen moving in the downward direction again, perhaps it will take the first half of the Surprise to turn out wrong for the equity portion to come to fruition.

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.

Mario "Whatever It Takes" Draghi has had to deal with the cold reality that there are essentially no more bonds left for the ECB to buy so he started tapering the central bank bond purchases (don't call it QE…) in 2018 and now it appears that the ECB will end the bank welfare program in December. 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. While the $30 billion of purchases a month are still occurring, there should be about 18 Euro Stoxx 50 points each quarter based on our formula derived from the work of Larry Jeddeloh at TIS Group. The roller coaster ride in the European equity markets continued in Q2 as the Euro Stoxx 50 surged 5.2% in April, plunged (3.7%) in May and coasted down (0.3%) in June to finish the quarter up about 1% in euro terms, but when you factor in the weakness of the euro, U.S. investors faced a (1.3%) loss for Q2 in the MSCI Europe Index. The Euro Stoxx 50 rose 33 points during Q2 and if 18 of those came from ECB stimulus, the balance could be attributed to earnings growth, which has recovered nicely in recent quarters. 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 a spurt in growth to 2.8% in Q3 of last year, GDP has crept lower in the past couple of quarters to 2.4% in Q1 (Q2 data not released yet) and there are some signs that the strong recovery remains elusive. We noted last time how the unexpected euro strength in the second half of 2017 was not helping matters, saying "As we expected (and noted about in the Dollar Surprise) the euro strength did indeed play a spoiler role, so much so that it appears that there has been some coordinated effort to reverse that strength and the euro has gone into free fall since late March. Should that weakness persist, it should provide some relief for earnings, and European equities could stage a healthy recovery." Unfortunately, there were few signs of that recovery in Q2 as European equities were generally weak and only Norway, Finland and Portugal were able to post positive returns, rising 2.3%, 1.3% and 1.1%, respectively. On the flip side, there was some broad-based weakness in Euroland in Q2 with the laggards Spain, Belgium and Denmark falling (4.4%), (6%) and (7%), respectively. Overall, the EU equity markets have not outperformed other developed markets in the first half of 2018, as the MSCI Europe Index is down (3.2%) and the bottom of the leader board for international markets is packed with EU members with Germany down (7.4%), Denmark down (8.4%) and Austria down (8.7%). In Emerging Europe, Greece has clearly not been the word in 2018 as Greek equities were down (2.2%) in Q2 and are down (8.8%) for the CYTD, as continued concerns about the debt deal with the Troika continue to cast a shadow over what has been a very robust economic recovery. 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).

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).

We had no idea how prophetic (and painful) our opening statement in this section would be from January 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." Markets don't go straight up forever, and fast upward thrusts are always followed by volatility. As we discussed last quarter, the balance of Q1 was not very hospitable for equities, particularly EM equities, and we had warned that global investors are still conditioned to shoot first and ask questions later when it comes to the Emerging Markets. Q2 was even worse, as the negative momentum accelerated courtesy of a rising dollar (DXY up 5%) and Team Trump doing their best to smash global trade, global growth and global profits. The old investment saw of markets taking the escalator up and the elevator down (or our version, #RiskHappensFast) was abundantly clear as the MSCI EM Index fell (8%) during the quarter. While the headline number was bad, some of the component numbers were really bad, as Brazil was crushed for political concerns, down (26.4%), Turkey was punished for continued presidential malfeasance, down (25.9%) and Pakistan was welcomed to the EM Index with a rousing Bronx cheer and fell (20.8%). The common thread in these three cellar-dwellers during Q2 was the huge impact of their currencies getting smashed by the rising dollar (and rising U.S. rates) and the boo-birds were out in force calling for yet another EM Crisis. To keep things in perspective, the dollar did bounce off the bottom, but is still down materially over the past couple of years, but in the New Abnormal, the piling on effect (thanks to HFT) is more problematic than it has ever been. Investors fled to perceived safe havens (like the U.S.) and as the SPX rose 3.4%, the big outperformance gap from 2017 reversed, leaving SPX up 2.7% CYTD and 14.4% over the TTM while MSCI EM is now down (6.7%) CYTD and up only 8.2% for the past year (one quarter ago that TTM return was 21%). Despite the unexpected downward moves, we repeat what we wrote last time, "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." Historically, there has been a very cyclical pattern of returns in EM, as the losers of one period become the winners of the following period (and vice versa). That periodicity used to be annual, but with computers driving so much trading that periodicity keeps shrinking. We gave an example of this phenomenon last quarter, saying "Right on cue, two of the top performers in Q1 were at the bottom of the leader board in 2017 and some of the rebounds have sharp (the modus operandi of markets in the Algorithm Era). The best performing countries in EM during the first quarter of 2018 were Brazil, Pakistan and Russia, which rose 12.4%, 11.4% and 9.4%, respectively." Roll forward 90 days and two of those three markets were back at the bottom of the leader board and the mass migration from investing to trading continues.

There was not much to cheer about in Q2 in the Emerging Markets, as only Columbia and Qatar managed to eke out positive returns, rising 6.7% and 3.5%, respectively. India managed third place but was still down (0.6%) and is still down (7.5%) CYTD after having one of the worst performances of Q1. The good news though is that India appears to have turned a corner and has been one of the strongest performers in recent months. When we look at other first half of the year returns, the small Latin America markets continue to diverge from other markets (solid current accounts due to rising oil prices) so Columbia and Peru lead the pack, up 11.9% and 6.8%, respectively, and Qatar took the third spot, up 6.1%. The other interesting aspect of performance in EM in Q2 was that the seeds of the decline were sown around the Gann Date on March 21 when the largest cohort of markets turned down sharply and since that date to the end of July it has been tough for EM with the EEM down (9.3%), MCHI down (11.8%), RSX down (6.2%), EWZ down (20%) with only INDA managing a positive return, up 4.1% (with the SPX up 3.9% and DXY up 5.1%). The wide divergence of performance across the various geographies in EM points to the fact that trying to classify all of the global developing markets into one uniform whole is folly. 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). For example, try to compare markets like Korea, Taiwan and Russia, which are highly developed (some might say that the first two stay in EM because the asset managers lobby MSCI because they would have to return a big chunk of AUM), versus Indonesia, Peru and Egypt which are clearly less developed and less mature. Another great example of this type of challenge is the treatment of Greece, which had graduated up to the Developed Markets indices years ago only to be demoted back to the EM Index after the Debt Crisis. We came into the year thinking "Greece would be the word in 2018," but more political infighting within the Greek parties, continued grandstanding by the Troika and the overall EM woes took Greece down another (2.2%) in Q2, taking the CYTD loss to (8.8%). We wrote last time that it appeared that things were looking up for Greece in the early part of the year, but had turned down after the Gann Date; however, one place we thought there might be value in were the banks. The basket of banks actually did have a solid Q2 with GR:ALPHA up 10%, GR:ETE flat, GR:EUROB up 17% and GR:TPEIR up 13% and while they gave back a little bit of those gains in July, we continue to see strong upside potential in this segment of the Greek markets.

At the beginning of the year, we contended 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. As we noted last quarter, "every global equity manager in the world now has to figure out how to own these stocks in the coming months. While the initial Index weighting is small (2.4%), the fact remains that the domestic China equity markets (A-Shares) are the second largest in the world (behind the U.S.), and we believe the weight will rise to 20% (using traditional market-cap methodology)." We were so convinced that this Great Wall of Money would boost Chinese stocks that we dedicated our April Around the World Webinar to the opportunity in Chinese local market shares. We showed all kinds of data supporting the thesis that China GDP would power along, equities were cheap and strong demographic trends would drive local investors to equitize and now global investors were being dragged along by mandate of MSCI. Well, 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, which has global investors in full-on panic mode and dumping Chinese stocks. While the MSCI China Index was only down (3.5%) in Q2, the MSCI China A50 Index was down (13.1%). If we look at the past four months (since the beginning of the Tariff Threats), the SHCOMP is down (9%), Hong Kong (EWH) is down (2%), FXI (big caps) is off (7.5%) and ASHR has been the laggard, plunging (15%). If we back up a little to the peak of global equity markets on January 26, most of the China markets have touched Bear Market territory (down > 20%), with the exception of Hong Kong (been some big winners in new listings), as EWH is down (8%), FXI and SHCOMP are down (19%) and ASHR is down (24%). The downward momentum ebbed a little in July and we believe that the worst of the panic selling is likely behind us. With 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. Investing continues to be the only place we know that when things go on sale people run out of the store (and the lower the prices go, the further they run…), so we are staying in the store and loading up on the sale prices on quality goods in China.

Adding to our case for staying the course in China is that valuations have become extremely attractive again (both relative and absolute) as the MSCI China P/E is now 14.8X and the forward P/E is very low at 11.9X. The MSCI HK Index P/E is 12.3X and the forward P/E is 14.7X 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 A-Share 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 13.8X and the forward P/E at 11.3X, but they remain compellingly attractive relative to the broader global benchmarks. The ACWI Index P/E is high at 18.5X and the forward P/E is 14.7X and the MSCI USA Index is truly egregious with a P/E of 22.6X and a forward P/E of 16.5X (50% higher than the China valuations). We asked the question last time, "So, with valuations so compelling, why do investors remain underweight China?" In a word - fear. The Administration and the media have done a great job 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 continue to believe that the MSCI Inclusion decision will create a "Great Wall of Money that is about to enter the Chinese equity markets and sitting on the sidelines is going to get increasingly expensive in the years ahead." We reiterate that investors should increase exposure to the highest growth sectors of the China economy - Consumer, Technology and Healthcare in the public markets - and also explore opportunities to participate in the transformational growth in the private markets. We are so excited about the prospects for investing in this growth in China that we are currently raising a private investment fund to capitalize on the tremendous opportunities in the private markets across these growth sectors. As we said in January, "As China transitions from a manufacturing powerhouse to a consumption-driven economy, we believe there will be outstanding opportunities for intrepid investors to make outsized returns."

One of the simplest indicators of the health of the Emerging Markets (and the attractiveness of the investment environment) is the level of Producer Price Inflation ("PPI") in China. History shows us that during periods of deflation in China (negative PPI), equity market returns are sub-par and, in some cases, have even been associated with periods of crisis in China and the global capital markets. The PBoC created a huge stimulus package of over $1 trillion early in 2016 to stave off a growing global growth slowdown and PPI had risen sharply to 7.6% in March of 2017. That spike in PPI was a strong leading indicator of outstanding returns in China and the broader EM and, sure enough, equity markets obliged; the 2017 returns were outstanding. History also shows us that right after the Party Congress (Elections), the PBoC will reverse that stimulus to control inflation and try to avoid the creation of asset bubbles and we wrote in January that those efforts began in Q4 last year, saying "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." PPI fell consistently over the next four months down to a trough of 3.1% in March and 3.4% in April and that was a great coincident indicator that pointed to weakness in the Chinese markets (and likely in EM overall). On cue, the EM equity markets began to decline and there was a growing sense that perhaps the PBoC had jammed on the brakes a little too hard. The good news is that the PPI has reversed again and has recovered back to 4.7% in June, so 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.

On the other side of the Balance Sheet, the other primary indicator of the health of the Emerging Markets is EM Debt markets. While we came into the year relatively favorable on EMD (the best of a bad sector, comparing to DM debt and HY) we did caveat that view, saying, "Should the Bond Bear Market Narrative actually turn into a real Bond Bear Market, bond holders will likely revert back to traditional views of the world and EMD is likely to sell off harder during the initial downward adjustment." Not that we wanted that caveat to become a reality, but that is precisely what happened in the past few months as after falling slightly in Q1, the JPM EMBI Debt Index was down (3.5%) in Q2 and is now down (5.2%) for the CYTD. As bad as those numbers are, the real problem is that the liquidity in global bond markets has disappeared and the EMB ETF and the EMD CEF were down (5.3%) and (8.8%), respectively. Further to the point, the JPM Local Currency Index is down (6.4%) CYTD. We discussed last time how "This divergence is an example of the risks inherent in the overly Passivized world in which we live and shows how things are great when the flows are positive, but things can get really ugly when the flows turn negative." The results of the past few months are a good reminder of how quickly correlations move back to one when fear rises.

One final point is that we discussed how the most unexpected result in Q1 was the resilience of the Frontier Markets which were up 5.1%. As is prone to happen in these markets, Q2 was a first-to-worst event and the MSCI FM Index crashed (15.2%) to be down (10.9%) for the first half of the year, once again showing how #RiskHappensFast. In EM and FM, we tend to quote Sir John Templeton all the time who 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?" History has shown us that the best way to approach these markets over time has been to take profits when markets run hard (Argentina, best market in 2017) and buy when markets have lagged (Saudi, worst market in 2017). Once again, Sir John was right, and in 2018 Argentina has fallen (45.2%), while Saudi has surged (23.6%). We remain bullish in Saudi (MSCI Inclusion) and we think we have reached maximum pessimism in Argentina once again, so it is time to start rebuilding positions (PAM, YPF, GGAL and BMA are a few we like). 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 given the tendency of human emotion (and bot enhancement) to swing too far toward both extremes and mean reversion is a force as powerful as gravity. In the end, Newton was right, for every action there is an equal and opposite reaction and for every bubble there is a crash (and vice versa).

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 growth 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 more 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 wrote in the Q4 2017 and Q1 2018 letters that "We believe that a new Commodity Super Cycle began in Q1 2016 after a severe Bear Market pushed commodity prices to extreme lows that finally forced excess capacity to be shuttered." The really important part of the story was that the relative valuations of commodities versus financial assets had reached an historic extreme and commodity prices remained 54% below their peak in 2011 coming into the quarter. Commodity prices were strong (for the most part) in Q2 as GSCI was up a very solid 9.8% and the CRB Index was up 2.5%, both besting global equities (MSCI World up 1.7%) for the period (just like they did in Q1). While it is clear that a large portion of the move in commodity prices during the quarter was due to the spike in oil, there were a number of other commodities that showed solid gains as well. We had discussed last year that "over the last six years the S&P 500 and the GSCI made 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…)." The interesting thing was that while GSCI returns were more than double the SPX returns, those alligator jaws actually widened during the period (power of compounding large numbers) and the S&P 500 cumulative return (since the 2011 commodity peak) jumped to 117% while the GSCI cumulative return improved to "only" down (46%) and the gap widened marginally from 160% to 163%, so there is still plenty of room for those jaws to close. One thing we had warned about last time was that growth fears were beginning to temper some of the enthusiasm about commodity prices in the near term, saying "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, down (8.1%) and (2.6%), respectively." We had actually warned in January that "copper markets could get quite volatile in the balance of Q1 should China continue to pull liquidity from the system" and we should have been more emphatic on this point coming into Q2. Copper prices were wildly volatile in Q2 as they surged nearly 9% in April and May, hitting a peak of 330 on June 8 and then plunged (10%) to finish the quarter at 297, down (2%) for the period. Trade War rhetoric and increasing signs that the PBoC is indeed siphoning liquidity out of the system led to a wave of selling in the copper markets. The selling continued in July with prices down another (4%). The copper stocks didn't take kindly to the increased volatility and Southern Copper (SCCO) was down (14%), Freeport-McMoRan (FCX) was down (2%), Glencore (GLEN.L) and Anglo American (UK:AAL) were up 2%, but First Quantum (CA:FM) was able to buck the trend and jump 7%. Iron Ore prices were not nearly as volatile as recent periods in Q2, rising a modest 2% (prices jumped 4.8% in July, but we will come back to that next quarter). The iron ore-related equities had been very strong in at the end of 2017, had lost some momentum in Q1 and were mixed in Q2 as VALE and AU:FMG were up 1%, RIO was up 8%, BHP surged 12.5% and CLF was en fuego, soaring 21% during the period. The sector stayed hot in July as iron ore prices surged and VALE was up 14% and CLF surged another 28%. These companies are rebounding from very depressed levels and once again point to the Value of Value in buying things that go on sale. We wrote in January that "we will be tracking what the PBoC does in the next few months and would remain cautiously positive on these names as valuations are not as stretched as many of the other sectors of the markets." As value investors, we always prefer to shop in places where fundamentals actually matter, and it appears that there are value opportunities to be found in the commodity complex.

Willy Wonka was right once again in his wisdom that "you should never, never doubt what no one is sure about"and consensus was absolutely sure that Natural Gas ("NatGas") would hit $4 in 2018 (hence no one was sure it would plunge back under $3). We wrote last time that "it looked like the consensus had a shot of hitting their mark as gas went parabolic for a few days in the last week of January, hitting $3.63 for a few hours before plunging back to $3.00 to end the month, nearly unchanged." La Nina has proved fickle (yet again) and the winter was not as cold as people expected and the summer heat has been extreme in a few places (like in Joshua Tree National Park), but not pervasive. NatGas sniffed the $3.00 level for a few brief moments in Q2, hitting $3.02 on June 15, but spent most of the period in a steady drift upwards from the $2.73 beginning level to the $2.92 ending level, up a solid 7% for the period. However, as we warned last year, the consensus is too focused on the demand side (weather) in NatGas, while the real story is on the supply side (production technology) and we wrote "The fact that NatGas supply was surging as expanded drilling activity in the Permian Basin was generating lots of excess gas and the Marcellus and Utica Basins were producing gas like it was going out of style...The production volumes are so high and the 'free' gas that comes along with the ramp up of oil production in the Permian keeps us from getting too excited in the near term." We expect NatGas to remain range-bound (with a slight downward bias) so long as the E&P companies keep trouncing their production targets. We have noted how the NatGas space had bifurcated into higher quality operators (EQT and COG) and lower quality operators (SWN, RRC, AR and GPOR) and that it might make sense to buy the high-quality names in this environment. That strategy didn't help in Q1 as all NatGas stocks were down sharply and we wrote that "it appears that perhaps the knives stopped falling in March and it might be wise to go grab a few handles." Our timing was solid as these stocks rallied hard in Q2 (other than COG which was flat) and the lower quality names actually outperformed dramatically (as is usually the case when prices hit bargain levels) as AR was up 7.5%, RRC was up 15%, EQT jumped 16%, SWN was up 22.5% and GPOR soared 30%. Things were a little bumpier in July, as summer turned out to be less hot than forecast, and the group gave back some of the Q2 gains falling (1.5%), (4%), (8%), (10%), (3%) and (8.5%), respectively, leaving returns for the four months at down (2%) and up 3%, 6%, 4%, 19% and 19%, respectively. 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.

In thinking about gold and the other precious metals, we wrote in January that "caution seems to be the appropriate stance in the Precious Metals space today, but given how the attitude of investors coming into the New Year was that everything was awesome, the Tax Cuts would cause the markets to surge and there was no need for safe haven assets or hedges, our Contrarian bone starts tingling saying that just as everyone is sure gold has been relegated to Barbarous Relic status it may actually be an interesting time to own some. As for the miners, they are super cheap, but they are in the falling knife category, so we need to let them find a bottom (again) and hopefully some natural buyers will appear to bring these stocks back toward fair value." Nothing changed in Q1 to move us off that position of caution and we actually wrote that "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." Q2 was not that time as rocks (and other metals) continued to get smacked down as gold was down (5.5%), silver was down (1.8%), platinum was down (8.5%) and palladium was flat. Prices kept falling in July as GLD, PALL and PPLT all fell another (2%) and SLV dropped another (3.5%). The miners were a little less challenged in Q2 as GDX, GDXJ and SILJ managed a 1.5% gain, but the larger silver miners in SIL were smacked down (6.5%) during the period. The hits kept coming in July as the miners were down (4.5%), (3%), (4.5%) and (4%), respectively. The PM complex has been in free fall since the dollar did an about face in mid-April amidst the Trade War escalation and the dollar rallying 5% off a much oversold level. While we expect that these trends are not likely to persist, we will respect the fact that the natural buyers for PMs and the miners remain elusive and we will remain on the sidelines for the time being. That said, we do reiterate that the Incrementum AG chart that shows real assets are at their cheapest level relative to paper assets in history has prompted us to promote the concept of #GetReal (buy real assets) and 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.

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. These differences cause the casual observer to try and apply traditional security valuation metrics and methodologies which do not capture the unique characteristics of networks. The most basic problem is how networks grow at an exponential pace following Metcalfe's Law and we have discussed many times how humans are just not very good with exponential math. When you add in logarithmic non-linear regression models and parabolic growth curves most people's eyes glaze over (or their head explodes - figuratively, not literally). That said, the real issue that trips up the casual crypto watchers is what we discussed last quarter 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 BTC 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 discussed this difference between price and value last winter when we warned investors in December 2017 that the price (nearly $20,000) had diverged greatly from the network value (closer to $10,000) and that investors should be prepared for a correction starting on the Gann Turn date on December 22. The correction in Q1 was a doozy as prices fell just below $6,000 in early February, and again in early April (curiously both troughs on the 6th), but prices then stabilized and turned up in the beginning of Q2. Bitcoin had begun the quarter at $6,940, surged 34% by the end of April to $9,303 and was closing in on the $10,000 level again in the first week of May (on the 6th again) when the sellers came back in force and BTC ended the month at $7,550, down (23%) from the week one peak. Prices kept slipping in June as more weak hands folded (those that bought during the panic surge in Q4) and prices hit $6,430 to close out Q2, down (14.8%) for the month. Despite all that volatility, had one gone on vacation during the quarter and not paid any attention to the daily price, the move was only a modest (7.3%) over the whole period. The reward for not paying attention to the daily price and perhaps being goaded into selling was a rapid 26.5% gain in July to bring the price back to $8,132 on July 31 for a 17.1% gain over the four-month period.

With that kind of volatility being the norm in the current Bitcoin environment, we repeat what we wrote in January (and have tweeted very often) that it is important "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." Most importantly, as millions of global users continue to buy into the Bitcoin network over time (remember U.S. is only 10% of the activity), the network value will continue to grow toward the logarithmic non-linear regression model target. New technological advances like the Lightning Network could speed adoption rates and raise the slope of the curve, but 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.” Last year we said that we could see Bitcoin reach “Gold Equivalence” (market cap of $8.4 trillion) within a decade and that would take the BTC price to $400k. Reviewing the network value model, we have since revised the forecast a bit and can see $250k by the middle of 2022 and $500k by the end of 2024. We tweeted this timetable in April and there was a little commotion about the shift, but we recently spoke with a crypto writer for the Street.com and they did an article on the entire model and thesis for the price movements that has gone a little viral and was even translated into many languages around the world (my favorite has been seeing it in Polish and knowing that would have made my Grandma Dombroski proud).

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 have been myriad events in recent weeks that point to rapid expansion of the network in the coming quarters and years, including Northern Trust saying they would provide custody services for crypto assets, Bitmain announcing they made more than $1 billion in profit last quarter and the Intercontinental Exchange (ICE, the owner of NYSE) announcing that they have established an exchange platform for cryptoassets (Bakkt) with major partners like IBM, BCG and Starbucks. As we like to say every time one of these big events occurs, #ProbablyAFad (not).

We will conclude this section the same way as the last few quarters, saying “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.” The reality is that we have only seen this type of migration of talent once in our careers and that was in the early 1990s during the Internet Gold Rush. Back then, talent from all sectors of the business, financial and technology worlds and from all geographies around the globe converged on Silicon Valley and built the core of what we all take for granted every day when we touch our smart phones some 2,600 times a day (amazing stat). The internet, contrary to Paul Krugman’s forecast that it would never be more important that the fax machine (check Wikipedia), was Big, Really Big, back then and is even bigger today. As the Internet of Value takes shape in the coming years, it will be Bigger, Really Bigger, primarily because of the size of the global asset base ($700 trillion), but also because of the ability to build on top of the Internet and the MobileNet and leverage those assets to grow faster and become exponentially more powerful. 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” message). 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. Our team at Morgan Creek Digital Assets (“Morgan Creek Digital”) has developed a reputation for being a value-added partner and we have been able to capitalize on that to strike what we consider very attractive partnerships with some of the leading companies in the blockchain ecosystem. As we mentioned last quarter, we have also partnered with some amazing organizations in the cryptocurrency management and lending segments who were looking for an institutional platform to help bring these new financial services products to a broader group of institutional investors. Our goal is 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 believe that despite the bounce off the February bottom for some assets like small/micro-cap equities, REITs and NASDAQ, the environment for risk taking remains sub-optimal and we recommend that investors continue to harvest gains and reduce exposure to long-only equities, increase the quality of their portfolios (sell the junk) and increase exposure to hedged strategies and other lower volatility assets like private investments and real assets. We acknowledged last quarter that "Keynes was right when he said that markets can be irrational longer than you expect" and we went on to say that at times like this #CashIsKing and "the secret is to avoid excess leverage (looking at you XIV buyers, volatility sellers and margin borrowers) to insure there is no solvency risk and that you don't get carried out of the game right before rationality is restored." We see little evidence that the primary negative trends in the Killer Ds (demographics, debt and deflation) have changed within the Developed Markets and therefore investors should brace 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 zero in equities is highly likely to consist of a steep drop and subsequent recovery that will very likely resemble the 2000 to 2010 period (or worse, the 1930 to 1945 period). In that type of environment, margin of safety is key, Value will dominate and investors who take a disciplined approach to rotating capital from the overvalued assets to the undervalued assets will be amply rewarded. It is at times like these that investors have to break from the comfort of the herd and do what is uncomfortable, 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 (as Julian Robertson was fond of saying) live to fight another day.

For those investors who continue to feel compelled to own public stocks (we recommend well below average exposure overall), we would weight portfolios in the following order Emerging Markets > Japan > Europe > U.S., essentially reversing the current capitalization weighting profile in the MSCI ACWI Index (U.S. dominated and very little EM exposure). We strongly believe that growth in the Developing Markets will continue to be much stronger than in the Developed Markets and that the economic power of EM will continue to rise over time in the New World Order (actually a return to the Old World Order dominated by Chindia for 1,800 of the last 2,000 years). As we noted last time, We believe "MSCI will eventually have to adjust the market capitalization weightings in their indices to reflect the actual contributions to global GDP. It makes little sense that Emerging Markets now contribute 40% of global output yet have only 9% of the allocation of the ACWI Index." History is replete with examples of how this strategy of investing in the reverse of the cap-weighting or skating to where the puck is going to be rather than to where it is, produces superior long-term returns for investors. When allocating risk capital in the capital markets today, given the extreme valuations in the public markets (particularly in the U.S.) we continue to believe 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 diversification, the data says that this is the best time in history to shift capital from financial assets toward real assets (cheapest relative valuation ever) and we see myriad compelling opportunities in the commodities and natural resources sectors today. In other words, 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 cryptoassets and digital securities 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. The mission at Morgan Creek has remained the same since our inception (as our tagline reminds us), to help our clients be disciplined and proactive in managing their wealth and to always focus 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: *The Great Separation: Why Now is the Time to Embrace Long/Short Equity* and *Move Your A$$ets: Why Now is the Time to #GetReal.* 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 **October 22nd–23rd, 2018** at **The Carolina Inn, Chapel Hill, NC**. For more information on how to become a member and join this elite group 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