Q3 2017 Market Review & Outlook

Morgan Creek Capital Management

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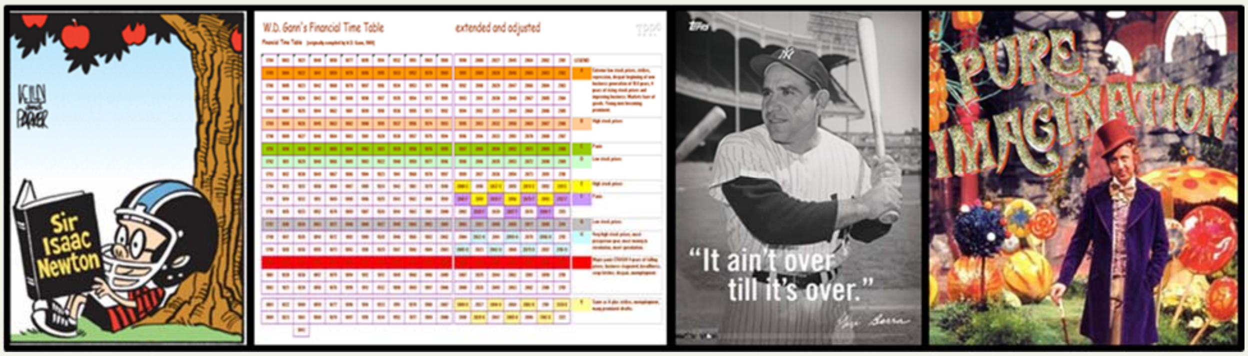
Letter to Fellow Investors

It's Déjà Vu All Over Again and #PureImagination



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When we released the Q2 Letter in August, we knew with absolute certainty that a week later on August 21st at 10:15 AM PDT darkness would fall on America and millions of people during the total solar eclipse. On Sunday night, we packed up the car and headed west to Tennessee (the forecast was for clouds in South Carolina and we didn't want to take any chances) to find a spot in the Path of Totality so we could witness the magic of Black Monday (the trip with Will was a blast and the experience was indeed pretty magical). What we didn't know for sure was how the eclipse might impact the capital markets (we shared a few theories in the letter), but we had posited a thesis in January that equity markets might be following a path similar to the 1929 Bubble and that perhaps the eclipse might usher in a #SeptemberToRemember similar to the Babson Break that catalyzed the Great Crash. We had laid out details of how the scenario might play out in our #WelcomeToHooverville Letter and we did see a large number of similarities between the events of 1929 and the events of 2017. That letter was the first of a three-part serial (now four-part) that tied together some observations about why we believed U.S. equities were overvalued and how the wisdom of Roger Babson's warning in September of 1929 might be critical again today. In the first installment, we discussed #BabsonsBrilliance, and learned of Roger Babson's obsession with Sir Isaac Newton and his Universal Law of Gravity (so obsessed was Babson that he spent his later years, unsuccessfully, searching for a way to defeat gravity). We learned in the second installment about how, in the end, #GravityRules and how Sir Isaac (despite being one of the most intelligent humans to ever walk the planet) shared the fate of being a *Not So Intelligent Investor* along with Ben Graham, as they both lost their fortunes by chasing stock market Bubbles (Newton in the 1720 South Sea Bubble and Graham in the 1929 DJIA Bubble). We learned in the third installment about how Newton discovered the Law of Gravity and reflected on some other Newtonian wisdom that we thought might apply to investing. We also discussed how eclipses played an interesting role in Newton's work (movement of heavenly bodies Newton studied to create his great theories), changed his legacy (Einstein's theory of Relativity that expanded Newton's static theories was proven using an eclipse) and brought us right up to the point at which darkness was to fall on August 21st. While we believed that markets did bear a striking similarity to the 1929 Bubble period and we wrote *"For now, we think it is wise to prepare and be ready for when #DarknessFalls"* we did leave ourselves the flexibility (like all good scientists, economists and investors) that *"Should the data change, we will change our minds and formulate a new hypothesis."* We believe in the wisdom of Lord Keynes (that we have related in Letters past) who, when confronted by an audience member in one of his lectures who challenged him for saying something different from a similar lecture a few weeks earlier very matter-of-factly replied, *"When the facts change, I change my mind. What do you do, sir?"* Newton would say that the data speaks and that the outcome (not your belief) is the truth. *"A man may imagine things that are false, but he can only understand things that are true, for if the things be false, the apprehension of them is not* *understanding."* We expounded on the point, saying *"The data is what it is and you cannot make it what you wish it to be. In investing, the outcomes are what they are (the company executes or it doesn't) and we can't understand an opportunity to be good (imagining the falsity of a negative outcome to make it positive), but human beings are prone to this behavior in investing and we must guard vigilantly against those urges."* As we stand here today in November examining the data, Darkness did not Fall and Gravity did not Rule on the equity markets, so what do we make of these results? Has the Universal Law of Gravity (valuation) been repealed? Have the global Central Banks finally discovered Babson's anti-gravity machine, or is QE the symbol for the new element Upsidasium?

Let's look back over the past year and see if we can call on a few heavyweights to help us with these questions and then we'll introduce a couple of new characters to our serial to help us solve the puzzle. As the first picture at the top of the Letter connotes, *"As the story goes, young Isaac (the Sir comes later) was having tea under an apple tree when and apple struck him on the head and he had the epiphany "what goes up, must come down" which led to his formulation of his notion of gravity."* We also wrote how *"Newton's eureka moment was in his deduction that there must be some "force" acting on the apple to bring it toward the earth and his hypothesis that this force must act on the apple no matter how high the tree."* The key point was that the force worked no matter how high the object moved from the ground and therefore the essence of equal and opposite took shape. Newton's Laws of Motion III stated specifically that, *"to every action there is always opposed an equal reaction; or, the mutual actions of two bodies upon each other are always equal, and directed to contrary parts."* This construct was Roger Babson's favorite and forms the foundation on our thesis on Bubbles and Crashes and so we would add a corollary, the bigger the speculative Bubble, the worse the Crash on the other side. We went on to apply this framework to equity markets in discussing how in every Bubble in history (defined as a movement of two standard deviations above Fair Value) whenever the markets arrived at some extreme level above that threshold, they came back down again Earth (no exceptions, it's never different this time). In the Letter last quarter, we discussed how the eclipse might be related to the Newtonian Laws and that we might finally see the equal and opposite reaction to the action that had inflated the equity bubble to this point. We discussed how in Ancient China eclipses had great life impact, saying *"eclipses were believed to be heavenly signs that foretold the future of the Emperor (important to him). The story is told that Chinese Emperor Chung K'ang (2159 – 2146 BCE) learned of an eclipse from the noise in the streets (his subjects trying to drive the dragon away) and was so displeased that his two court astronomers, Hsi and Ho, did not predict the event that he had them beheaded. Their tombstone reads "Here lie the bodies of Ho and Hi, whose fate, though sad, is risible; Being slain because they could not spy, the eclipse which was invisible," (clearly some serious life impact here).* We noted that *"Prior to Ptolemy's work, eclipses were events of great mystery and were considered to be bad omens or messages from angry gods or supernatural forces, but after his work they became recognized for what they were, the simple regularity of the orbits of the Moon and Earth about the Sun."* The key point here is that ultimately, the understanding of the movements of the heavenly bodies came down to an understanding of science and math and that understanding led to a demystification of the events and the subsequent outcomes (or lack thereof) of those events. Samuel Taylor Coleridge made a case that *"being able to accurately predict a future event that follows from hard, mathematical calculations, determines the veracity of science and that this power of prophecy should be the determinant factor in judging scientific progress."* We took a little bit of an issue with the idea that prophecy was simply forecasting something that we know will occur (like an eclipse). We wrote that *"To us, prophecy connotes something more, insofar as it conjures up thoughts of the ability to forecast indeterminate events (like market Crashes perhaps) and speaks to the aspects beyond the physical event (particularly when heavenly bodies are involved)."*

We discussed last time how Newton believed that in order to make a meaningful impact you had to be willing to venture into uncharted territory, in other words, take a risk, and said emphatically, *"No great discovery was ever made without a bold guess."* We believe it is the same in investing, *"To make a truly great investment requires an investor to venture away from the warmth of the consensus and make a guess (we prefer to call it a Variant Perception) about how a company will perform in a manner differently (can be better or worse) than most believe and take a position contrary to the masses."* There are those in the investing world who spend great deals of time trying to determine the outcomes of markets in the future and Wall Street is replete with individuals who get paid huge sums of money (despite very suspect track records) to prognosticate, predict and prophesize on where markets are headed in the future. Based on Coleridge's standard, the "science" coming out of Wall Street would not stand up to scrutiny (would definitely lack veracity) despite plenty of mathematical calculations, quantitative models and supposedly hard data being utilized by Analysts, Managers and Strategists. Many would fall into the branch of investment science called Technical Analysis (drawing patterns on price charts) and while the average investor might decry its use (and disavow any knowledge of this voodoo), we know that many, many, people do look at charts (why William O'Neill is rich) and that *"The human mind is prone to looking for patterns and cycles in data, so they are using Technical Analysis techniques nonetheless."* Another branch of investment science (a rather distant branch perhaps) is Astrological Analysis and while many would say that Technical Analysis is for the tin-foil hat wearing people, they might say that Astrological Analysis is the realm of crazy people. As we wrote last time, we would disagree given that *"The vast majority of people do pay attention to cycles (business cycles, liquidity cycles, interest rate cycles) and while they may not think of where those cycles originate (and would clearly dismiss the idea that they are caused by the motion of heavenly bodies), there is a great deal of evidence that the Newtonian movement of the Planets and Moon around the Sun has an impact on the markets."* We find support for this view given the knowledge that some of the greatest investors of our generation (Paul Tudor Jones, George Soros, Louis Bacon and Stan Druckenmiller) are avid users of this type of data to help them make better investment decisions.

We wrote last time about one of the Fathers of Financial Astrology, William Delbert (W.D.) Gann and discussed how he built a very successful track record in investing and a highly acclaimed business of making market prophecies (many of which came true like his prediction of the Great Crash of 1929 that he made in November of 1928). Born in 1878 in Lufkin, Texas into a poor cotton farming family, Gann never finished grammar school so his primary education came from the Bible, but his life education came in the cotton warehouses where he learned about commodities trading. We wrote last time that *"In 1903 (after only one year of trading experience), he moved to New York City to work for a Wall Street brokerage firm, but left soon thereafter to open his own firm, W.D. Gann & Company."* Part of Gann's life story that was particularly interesting was how his trading philosophy evolved from observing the mistakes made by his clients and, given how poorly the average ones fares over time (buy what they wish they would have bought and sell what they are about to need), this insight is very compelling. We noted that *"The core of Gann's philosophy, however, came from his study of the Bible and he often quoted from the Book of Ecclesiastes 1:9 which said "That which has been is what will be, that which is done is what will be done, and there is nothing new, under the Sun."* Gann believed that all market occurrences had historical reference points and every event had a historical precedent and would eventually repeat itself again and again over time (the theory of Cycles). Gann believed that "*to make a success you must continue to study past records, because the market in the future will be a repetition of the past. If I have the data, I can tell by the study of cycles when a certain event will occur in the future. The limit of future predictions based on exact mathematical law is only restricted by lack of knowledge of correct data on past history to work from."* In 1909, Gann published the W.D. Gann Financial Timetable (second picture above) that laid out his predictions of capital markets for the next

100 years (ending with the 2008 Crash, quite prophetic) and that Timetable has been updated and extended by the good people at Time-Price-Research. As we wrote last time, *"Gann believed in the 90-year cycle, which also predicted the 1929 Crash, which occurred roughly 90 years after the Panic of 1837 (and calls for the next crisis in 2019). It is interesting that 90 years is equivalent to five Saros Cycles (18 year) and that there would be a linkage between the eclipse periodicity and market panics."* It was quite interesting that the August eclipse was part of the same Saros Series as the eclipses in the summers of 1927, 1945, 1963, 1981 and 1999 given that they were almost all (only 1945 broke the pattern, perhaps due to WW II) followed within two years by a significant economic downturn and equity market correction (1929, 1966, 1983 and 2001). When looking closely at the Financial Timetable it tells us that contrary to our original hypotheses that 2017 was like 2001 or 1929 (on the verge of a big correction), it is more likely to be 1999 or 1927. When confronted with new information, we have to go back to the Scientific Method and consider alternative hypotheses (or maybe find another source to provide some wisdom).

The challenge of having Variant Perceptions is that they will not always turn out exactly the way we anticipate and Newton had some wisdom for us on that, saying *"Trials are medicines which our gracious and wise Physician prescribes because we need them; and he proportions the frequency and weight of them to what the case requires. Let us trust his skill and thank him for his prescription."* Translation: making mistakes and, most importantly, learning from them, is how we become better investors. One of our favorite managers says it best, *"With each investment we get richer or wiser, never both."* The Scientific Method is a series of sequential steps; 1) identification of a problem (equity markets appear overvalued, #GravityRules), 2) accumulation of data (Price/Earnings, Price/Sales, Market Cap/GDP, etc. all indicate extreme valuations), 3) hypothesis formation (U.S. equity market will follow 2000-2002 or 1929-1930 correction path by fall of 2017, #DarknessFalls), 4) empirical experiments to test hypothesis (observe SPX and DJIA nearing target highs of 2,600 and 24,000), 5) objective interpretation of the data (Gravity still being defied…) and 6) repeat steps until acceptable solution is discovered (modify hypothesis, #Pure Imagination, to be explained below). Investing (like scientific discovery) require a rigorous, systematic approach designed to eliminate subjective biases that allows the identification, quantification and validation of facts from which investment opportunities (scientific laws) can be discovered. We discussed the critical nature of keeping the analysis and interpretation of data free from bias last quarter when we wrote *"One of the most important points is not to begin the process with inherent bias or beliefs about your subject matter and to this point, Newton says "We are certainly not to relinquish the evidence of experiments for the sake of dreams and vain fictions of our own devising; nor are we to recede from the analogy of Nature, which is wont to be simple and always consonant to itself."* Newton says very directly that we must focus on the actual hard data from the experiment and that we cannot substitute our own fictions and desires (no matter how much we want to do so) as the data is the data. In other words, investors must be sure not to begin with a conclusion and find data to fit that conclusion (and reject data that refutes that conclusion). Having this discipline is truly one of the hardest things to do in investing (and science). "*Newton essentially believed that in science (and in investing) the simplest solution (or investment idea) is the best and we should not create a more complex explanation that is antithetical to the simple outcomes we record."* Simplicity was the hallmark of our protagonist for this installment of the serial. Yogi Berra was well known for his off-the-cuff pithy comments, most often malapropisms (the use of an incorrect word in place of a word with a similar sound, resulting in a nonsensical, sometimes humorous utterance) that became known as "Yogi-isms." Berra's seemingly random sayings took the form of a tautology or paradoxical contradiction but often delivered a powerful message and real wisdom. Sports journalist Allen Barra described them as *"distilled bits of wisdom which, like good country songs and old John Wayne movies, get to the truth in a hurry."* Yogi described them (as only he could) saying ***"A lot of guys go, 'Hey, Yogi, say a Yogi-ism.' I tell 'em, 'I don't know any.' They want me to make one up. I don't make 'em up. I don't even know when I say it.***

They're the truth and it's the truth I don't know." Wisdom and Truth are two assets that can help us be better investors and Yogi has some real wisdom for investors, at least we think so, since Yogi was quick to point out that ***"I never said most of the things I said."***

Yogi Berra was born Lorenzo Pietro Berra to immigrants Pietro and Paolina Berra in the Italian neighborhood of St. Louis, Missouri called "The Hill" on May 12, 1925. His father had arrived at Ellis Island on October 18, 1909 at the age of 23 and made his way to St. Louis to find work. Berra's parents originally gave him the nickname "Lawdie" as Paolina had difficulty pronouncing Lawrence and Larry. Berra grew up on Elizabeth Avenue across the street from friend (and later competitor) Joe Garagiola and nearby the legendary Cardinals announcer Jack Buck. Given the baseball success of that trio, the street was later renamed "Hall of Fame Place." Berra began playing baseball in the American Legion league where he received his famous nickname from teammate Jack Maguire. At the movies together one afternoon, they saw a newsreel about India and Maguire commented that Berra resembled the Hindu Yogi in the clip (because of how he sat around with arms and legs crossed waiting to bat) and the nickname stuck. In 1942, a sixteen-year-old Berra tried out for the St. Louis Cardinals, but when he was offered a smaller signing bonus ($250 instead of $500, about $3,600 today) than his best friend, Joe Garagiola, he refused to sign. As the story goes, the Cardinals team president secretly wanted to select Berra, but knew he was leaving St. Louis to take over the Brooklyn Dodgers and wanted to sign him there. As fate would have it, the New York Yankees offered Berra the same bonus as Garagiola and Yogi became a Yankee (and the rest, as they say, is history). World War II interrupted Berra's baseball career when he enlisted in the U.S. Navy as a gunner's mate on the attack transport USS Bayfield. During the D-Day invasion of France (Omaha Beach), a nineteen-year-old Berra manned the machine gun on an LCS (Landing Craft Support Boat), was fired upon, but not hit. Historians recounted that *"only the steel walls of the boat and the grace of God stood between a sailor and death."* Berra received some grace and survived the assaults, later receiving several commendations for his bravery. Following his Navy service, Berra returned home and finally got his chance to play minor-league baseball with the Newark Bears.

Berra was not an imposing physical specimen (like many of his peers), yet he had a work ethic and baseball IQ that surprised his manager who was very impressed with his talent despite his "short stature." Berra was mentored by Hall of Famer Bill Dickey and he was quoted as saying that ***"I owe everything I did in baseball to Bill Dickey. He is learning me his experience."*** Yet another example of the critical importance of mentorship and coaching (in baseball, investing and life) and why we like to say that Mentorship = #Edge. We wrote last quarter that *"Newton had a similar line when asked about the enormity of his achievements, in acknowledging others' impact on his work, saying "If I have seen further than others, it is by standing upon the shoulders of giants." (we should all be so humble, a very important trait in investing)."* He was so fond of Dickey that he wore his number (8) on his uniform the rest of his career. Berra was called up to the Yankees and played his first Major League game on September 22, 1946 (interestingly, a Gann Date). Berra was a work horse of a baseball player and saw action in more than a hundred games in each of the following fourteen years. Over the course of his career, Berra appeared in record fourteen World Series, including 10 World Series championships (also a record). Given his tenure with the Yankees during one of their most dominant stretches, Berra set World Series records for the most games played (75), At Bats (259), Hits (71), Singles (49), Doubles (10), Games Caught (63), and Catcher Putouts (457). An interesting aside, in Game 3 of the '47 World Series, Berra hit the first pinch-hit home run in World Series history off Brooklyn Dodgers (the team that originally wanted him) pitcher Ralph Branca (who also gave up Bobby Thompson's famous Shot Heard 'Round the World in the '51 World Series). Incredibly, Berra was an MLB All-Star for 15 seasons, but played in 18 All-Star Games as MLB had two All-Star Games in 1959-62. Berra won the

American League MVP Award in 1951, 1954, and 1955 and amazingly never finished lower than 4th in MVP voting from 1950-57. Berra received MVP votes in fifteen consecutive seasons (tied by Barry Bonds and second only to Hank Aaron's nineteen). Even with all his accolades, perhaps the most impressive statistic (from an investment perspective) is that from 1949-55, playing on a team filled with superstars such as Mickey Mantle and Joe DiMaggio, Berra led the Yankees in RBIs for all seven consecutive seasons.

Berra was an incredible hitter and he always seemed to deliver the needed hit at the perfect time to help his team win. What made Berra truly outstanding as a hitter was that he was excellent at covering all areas of the strike zone, as well as significantly beyond the strike zone. An opposing Manager called Berra *"the toughest man in the league in the last three innings"* and one of the greatest pitchers of the era said he would rather face the legendary Mickey Mantle than Berra with the game on the line as he was *"the real toughest clutch hitter."* Berra was (statistically) one of the toughest outs in baseball and, just like in investing, if you take care of the losses (outs), the gains (hits, runs, wins) will take care of themselves. Further to this point, five times in his career Berra had more HRs than strikeouts in a season. The pinnacle was in 1950 when he struck out only 12 times in 597 plate appearances (an astonishing 2%, versus the MLP average in the teens); for perspective, Ted Williams (considered the greatest hitter ever) averaged 37 strike outs over his career. In addition to his uniquely wide plate coverage, what Berra was really known for was his incredible bat control. Unlike most hitters who have a particular swing style, Berra could just as easily swing the bat like a golf club to hit low pitches out of the park as he could chop at high pitches for line drives to advance a runner or keep a rally alive. The lethal combination of bat control and plate coverage made Berra the last person any pitcher wanted to see striding toward the batter's box. On the defensive side, Berra is considered one of the greatest catchers of all-time. He was quick, agile, smart and a great manager of pitchers (so good that Berra caught a record 173 shutouts during his career, ranking him first all-time). Casey Stengel once praised Berra saying *"Why has our pitching been so great? Our catcher that's why. He looks cumbersome but he's quick as a cat"* (looks can be deceiving). Berra commented on his non-traditional looks once, saying ***"So, I'm ugly. I never saw anyone hit with his face."*** Berra led American League catchers eight times in Games, Chances Accepted (MLB record 9,520) and Putouts (MLB record 8,723), six times in Double Plays (an MLB record), three times in Assists, and once in Fielding Percentage. In the 1958 season, he played an astonishing 88 errorless games and became one of only four catchers ever to field 1.000 in a season. Two other interesting asides, in 1962 Berra caught an entire twenty-two inning game (amazing physical endurance) and he was the first catcher to leave his index finger outside the finger hole in his glove, a style now emulated by most other catchers. Baseball legend, Mel Ott, perhaps summed up Berra best saying *"He seemed to be doing everything wrong, yet everything came out right. He stopped everything behind the plate and hit everything in front of it".* In a classic Yogi-ism, Berra once quipped, ***"If I didn't make it in baseball, I wouldn't have made it workin'. I didn't like to work."*** The irony here is his performance on the field was a direct result of his strong work ethic, but perhaps the greater takeaway (and we can relate to this one) is that if you do something you love, you never work a day in your life.

Berra retired as an active player after the 1963 World Series, and the Yankees immediately named him to succeed Ralph Houk as Manager. In a strange turnaround, despite a World Series run (lost to the Cardinals in seven games) Berra was fired at the end of the season. Some speculate that it was because of the infamous Harmonica Incident (Berra slapped a harmonica out of a player's hands on a bus ride after a misunderstanding), but others say it was because the Yankees organization didn't think Berra was ready to manage. Berra was immediately picked up by the crosstown Mets as a coach. Berra played in four early games the next season and his last MLB game was on May 9, 1965 (interestingly Ben Graham's and this writer's birthday) just three days shy of his 40th birthday. Berra coached with the Mets under legendary managers Casey Stengel, Wes Westrum, and Gil Hodges for the next seven seasons (including the 1969 World Series Championship) and was named Manager in 1972 (after Hodges unexpectedly died in spring training). That year (1972), Berra was inducted to the Baseball Hall of Fame and his No. 8 was retired by the Yankees (honoring both Berra and Dickey). The 1973 season was challenging as injuries plagued the team in the first half and, at the All-Star break, the Mets found themselves in last place, nine and a half games back in their Division. In July, a reporter asked Berra if the season was "over," to which Yogi uttered one of his most iconic lines (and the theme of this Letter) ***"It ain't over till it's over."*** As the Mets' stars got healthy and returned to the lineup, the team had an unlikely, but impressive, surge and captured the NL East title (despite an 82–79 record). The Mets' "reward" for the amazing comeback was a showdown with the 99-win Cincinnati Reds (*The Big Red Machine*) in the NLCS. Sparky Anderson's club was loaded with superstars and future Hall of Famers including Johnny Bench, Pete Rose, Joe Morgan, Ken Griffey, Dave Concepcion and Tony Perez and most baseball fans would have predicted that the series would be "over before it's over." Berra had other ideas, and with his own group of superstars and future Hall of Famers, Tom Seaver, Willie Mays and Rusty Staub, the Mets beat the Reds in five games to capture the NL Pennant. The Mets eventually fell to the Oakland A's in the World Series in a hard fought seven-game series against another amazing group of future Hall of Famers including Rollie Fingers, Reggie Jackson and Catfish Hunter. Berra's tenure as the Mets' manager ended just two short years later in August 1975, and in 1976, he rejoined the Yankees as a Coach. Berra's timing was very good and his coaching must have been good too as the Yankees won three consecutive AL titles and back-to-back World Series in 1977 and 1978. As had been the case throughout his playing career, Berra's reputation as a lucky charm continued to grow. Casey Stengel commented on Berra's luck once, saying *"He'd fall in a sewer and come up with a gold watch."* It has been said that luck is where preparation meets opportunity and Yogi recognized this in speaking about his teammate Joe DiMaggio once, saying ***"I wish everybody had the drive he had. He never did anything wrong on the field. I'd never seen him dive for a ball, everything was a chest-high catch, and he never walked off the field."*** What can appear to be luck (in life and in investing) is usually the result of hard work, experience and anticipation that puts you in the right place at the right time. We would say Preparation = #Edge.

Berra was named Manager of the Yankees before the 1984 season and he agreed to return for the 1985 season after receiving assurances that he would not be terminated by the notoriously volatile owner of the Yankees, George Steinbrenner. Unfortunately for the Yankees faithful, the impetuous Steinbrenner did not honor his promise and fired Berra after only 16 games (adding insult to injury, Steinbrenner had a junior staff member deliver the news) which caused a rift in Berra's relationship with the Yankee organization that would stand for 15 years. Berra joined the Houston Astros as a Coach in 1985 and again made it to the NLCS in 1986 (the lucky charm strikes again), but the Astros lost to the Mets in six games. Berra remained a coach for the Astros for three more years and finally retired after the 1989 season. Berra's managerial career was mixed overall as his regular-season record was only slightly above .500 (484 wins and 444 losses) as was his Playoff record of 9 wins and 10 losses. The pedestrian winning percentage might make the uniformed think that Berra had a mediocre career, but given that he needs all ten fingers and three toes to wear all his World Series' rings, perhaps George Soros' wisdom applies here *"It's not whether you're right or wrong (win or lose), it's about how much money you make when you're right and how much money you lose when you're wrong."* On August 22, 1988, Berra and Dickey were honored as "Legendary Yankees" and were awarded plaques that were to be hung in Monument Park at Yankee Stadium. However, even the honor was not enough to convince Berra to come back to the stadium since he still believed that Steinbrenner had broken his promise. Finally, Steinbrenner traveled to Berra's home in NJ to apologize and convinced him to return to Yankee Stadium on July 18, 1999 for a celebration of "Yogi Berra Day." Don Larsen threw out the ceremonial first pitch to Berra in honor of the Perfect Game that the duo produced in the 1956 World Series. In his comments that evening, Berra was pure Yogi, saying ***"I'm a lucky guy and I'm happy to be with the Yankees. And I want to thank everyone for making this night necessary."*** Berra died at age 90 at his home in West Caldwell, New Jersey on September 22, 2015, exactly 69 years to the day after his MLB debut (there is that Gann Date again). The next day, the Yankees wore a No. 8 patch on their uniforms, the Empire State Building was lit with vertical blue and white Yankee pinstripes, New York City lowered all flags in the city to half-mast and a moment of silence was observed by the Yankees, Dodgers, Astros, Mets, Nationals, Tigers, Pirates, and his hometown St. Louis Cardinals. On November 24, 2015, Berra was awarded the Presidential Medal of Freedom posthumously by President Barack Obama who honored Berra with one of his famous Yogi-isms, *"Today we celebrate some extraordinary people. Innovators, artists and leaders who contribute to America's strength as a nation. We celebrate Yogi Berra's military service and remarkable baseball career. One thing we know for sure;* ***If you can't imitate him, don't copy him."***

We look to Yogi for some assistance in understanding the disconnect between what the fundamentals are telling us about how the markets should be reacting and how the markets actually are reacting. As he liked to say, ***"You can observe a lot by just watching."*** This harkens back to the Newtonian idea that we have to observe the data as it is and not as we wish it to be. Here we can make the simple observation that U.S. equity markets continue their steady march higher. As prices move higher, all the valuation metrics move higher along with them (since EPS are not growing very quickly) and as we breached the 1929 valuation levels and rapidly head toward the 2000 levels there is growing cognitive dissonance for Value investors like ourselves. Yogi had some wisdom on this point too, saying ***"If the world were perfect, it wouldn't be."*** There will be times when things don't seem to make sense and where the markets behave contrary to expectations, particularly when those expectations come from models that make assumptions based on logic and rationality. Lord Keynes once expressed a similar view, saying *"Equity markets can behave irrationally longer than the rational investor can remain solvent."* Richard Thaler from the University of Chicago (I was lucky to have him for Organizational Behavior class) just won the Nobel Prize in Economics for his work on Behavioral Finance that helps us understand the point that even if the models can show us the Fair Value of the markets, the actual price of the Index itself is determined by human beings, who are prone to bouts of greed and fear, so the Index will spend very little time near Fair Value (will be much lower or much higher). So, when the equity markets appear to be at head scratching levels that call to mind Berra's comment that ***"You better cut the pizza in four pieces because I'm not hungry enough to eat six,"*** we have to step back and contemplate what we are missing (if anything) and consider how far away from our rational expectations the markets can (will) move.

One of Yogi's more iconic lines was that ***"Baseball is 90% mental and the other half is physical."*** The ratio applies perhaps more to Investing in that it is a purely mental exercise, but there is an element of implementation of ideas that is physical (research reports are written, trades are executed, etc.). In investing, there are lots of baseball terms that are applied to the success (or lack thereof) of investors. Good investments are referred to as hits, really good investments are called home runs, batting average refers to the number of ideas you get right and slugging percentage refers to the amount you make off each idea and when investors are having a rough patch they are often said to be in a hitting slump. The interesting point, though, is that it is not necessarily how hard you think, but rather, how effectively you think, how you can maintain your focus (particularly when things are going against you). We wrote last quarter how Newton always came back to focus, *"but not the intense "pressing" (which leads to hitting slumps), but the inner focus of meditation and deep thought that taps into what Michael Steinhardt called "the internal supercomputer that is the subconscious."* There is a Yogi-ism for this, too.

Berra would say, ***"How can you think and hit at the same time?"*** What he was referring to was once you are in the batter's box, you have to rely on solid preparation and good instincts (muscle memory in the subconscious) in order to hit a baseball being hurled at you at 90 mph from sixty-feet-six-inches away. Maverick says the same thing to Charlie in Top Gun when she asks him what was he thinking up there when he performed a move she thought was ill-advised and he responds, *"You don't have time to think up there; if you think, you're dead."* Clearly the stakes are not as high in baseball or investing as in fighter jet dog fighting, but the construct is the same, great hitters, pilots and investors have great instincts (good judgement) that they rely on to make good decisions. One of the interesting points here is the answer to the question, how does one attain good instinct/judgment? The answer is that they come from experience and experience comes from making bad decisions that result from bad instincts and poor judgment.

One of the nice things about baseball is that it doesn't matter how badly you were fooled (how bad your judgment was) on the first two strikes - until the pitcher gets that third strike past you (either fools you again for a called third strike or you swing and miss), you're not out. In investing, it is even better because there are no called third strikes, you can be patient and wait with the bat on your shoulder for the perfect pitch. We wrote last time that Newton also believed in this construct and we wrote how he *"understood that the most valuable things take time and said that "If I have ever made any valuable discoveries, it has been due more to patient attention, than to any other talent." Again, with amazing modesty and humility, Newton hits one of the most critical elements of the most successful investors is that they are content to sit and wait for the right opportunity, the right environment, the right structure and the right timing to deploy their ideas."* The good news is that you don't actually have to be a Newtonian genius (thankfully) to be a great investor and you don't even have to consistently discover new ideas and make quantum leaps in strategy to deliver superior returns. What you <u>do</u> need is the patience and discipline (two more personality traits on the #Edge list) *"to remain focused on identifying and executing a small handful of truly extraordinary ideas that come your way."* Jeremy Grantham has said that all you need is one or two truly great ideas to consistently outperform over time and we would concur that it is much more about quality and timing than volume. Yogi sums it up saying, ***"You don't have to swing hard to hit a home run. If you got the timing, it'll go."*** You need to have the trained eye to see that the right pitch is leaving the pitcher's hand (one you think you can hit) and you have approximately 0.4 seconds to react and swing. But you actually don't have that much time, since the eye and brain need about 0.25 seconds to receive the image and process, that leaves around 0.15 seconds to react, which is technically impossible because the signal has to get to our muscles. So how does anyone hit a 90mph fastball? The brain makes a series of complex calculations and your body reacts without complete information and relies on all of the wisdom stored in the muscles from previous hits and misses. We discussed last time how *"Oftentimes we have to make decisions in investing when we don't have perfect information, or all the facts that we would like to have before we move forward with an idea."* The key to success in that situation is to be patient, wait for the right pitch, swing smoothly and, like Yogi says, it'll go.

We have often said that in investing it is critical to start with a Beginner's Mind, a perspective free from preconceived views about whether an investment opportunity is attractive, or unattractive, follow your analytical process and then make a decision to invest or pass. The most important character trait that allows this type of analysis possible is humility. We wrote last time how Newton had this characteristic and that *"despite his incredible intellect and sizeable accomplishments, brought a constant humility to his work, saying "what we know is a drop, what we don't know is an ocean.""* Mark Twain made the same point from the opposite perspective saying, *"It's not what we don't know that hurts us, it's what we know for sure, that just ain't so…"* Yogi would concur, and was fond of saying, ***"In baseball, you don't know nothing."*** In baseball, like in investing, there are so many variables that are ever changing you have to approach the game from the perspective of humility, primarily because you have so little control over the elements of the game that can influence the outcome. A bad hop on a routine grounder (an unexpected geopolitical event), a .200 hitter that goes 4-4 because all your pitchers that day were southpaws (a company that unexpectedly blows away earnings estimates), a pitcher with a losing record who suddenly throws a no-hitter against you (the PBoC puts $1 trillion of stimulus in the markets and you are short), or any number of other examples of things that go unexpectedly right/wrong that are unknowable in advance. Yogi also had a great line that would probably be helpful for most investors when he said, ***"If you ask me anything I don't know, I'm not going to answer."*** It is okay to not know (and even better to say you don't know), but the hubris of the investment industry is such that most often people feel compelled to give an answer (or make one up) when asked a question. Julian Robertson was a task master in this area and he implored his Analysts never to respond if they didn't know, or hadn't done the work, by saying *"never fudge the numbers."*

So, how do you move forward if you don't know? We discussed Newton's solution last time saying his *"approach to this dilemma was incrementalism, start small and look for confirming information before making a sizeable commitment, "tis much better to do a little with certainty & leave the rest for others that come after than to explain all things by conjecture without making sure of anything.""* We also discussed how another of the greatest investors of all time, George Soros, would apply the same reasoning and *"would try ideas in small amounts and look for the market to confirm whether he was right in his original assertion. He also was adamant about never being certain of anything and having the discipline to admit when you were wrong and step to the sidelines (the opposite of the average investor who needs to prove they are right so they keep averaging down). Soros has said, "I am only rich because I admit my mistakes faster than everybody else."* Being able to admit when you are wrong is critical to long-term success in investing and doing it sooner, rather than later, is even more profitable over the long run. Another key to long-term success in investing is having a solid investment plan, an investment policy statement or set of rules and a discipline that you follow religiously to keep the emotion out of investing that leads to sub-optimal returns. Yogi says it very simply, ***"If you don't know where you're going, you'll end up someplace else."*** You need to have explicit goals with respect to types of returns you are looking to achieve, the kinds of risks you are willing to take (and can tolerate) to get those returns and an outline of the assets and strategies that you will utilize in that plan. Yogi had another line about traveling that we can apply to investing when he said, ***"You've got to be very careful if you don't know where you are going, because you might not get there."*** If you don't have very clear objective and goals, it may be very difficult to determine where you are along the path and you might not find your way to the destination at all. The brilliant writer Lewis Carroll made a similar comment that *"If you don't know where you are going any road will get you there"* and perhaps it is not a coincidence that his story *Alice in Wonderland* was all about what happens when you go down a rabbit hole. There are endless investment opportunities that can be considered, and if you aren't discerning in which ones you take a swing at, you can find yourself striking out far more often than Yogi did and not achieving the investment results you desire.

Another quip from Yogi that gets us to the primary topic of the Letter, to talk about the Bubble (or lack thereof) that resulted from someone asking him why he never went to Rigazzi's restaurant in St. Louis anymore, he replied ***"No one goes there nowadays, it's too crowded."*** The same thing can be said about the stock market today as the conventional wisdom is that this is the Most Hated Bull Market and that investors aren't overly exposed to equities and there is a lot of cash on the sidelines waiting to invest so the market will push higher. Let's look at the box score. The facts are that cash in mutual funds is at the lowest point since the Tech Bubble and the ratio of cash in money markets versus assets in the stock market is at the lowest level ever (it is possible that there has been some substitution effect away from money markets as a vehicle). The ratio of financial assets to income has never been higher, exceeding the previous highs from the Tech Bubble in 2000 and the Housing Bubble in 2008, prompting the NY Times and Jesse Felder (@JesseFelder) to christen this the Everything Bubble. So, it appears that everybody is actually still going to the restaurant, hence why it is so crowded, and perhaps why Yogi also quipped, ***"It was impossible to get a conversation going, everybody was talking too much."*** There is indeed a lot of talking going on about the equity markets today as the airwaves are filled up seventeen hours a day with Talking Heads extoling the virtues if investing in stocks and the hardly a day goes by without the Tweeter-in-Chief sending out another tweet about the new all-time high in the stock market (which he takes full credit for despite the #NoFecta). It is actually nearly impossible to have a conversation about the equity markets because people are so busy buying ETFs and Index Funds so they don't miss out of this epic bull market (only a few months away from being the longest bull market in history). The FOMO (Fear of Missing Out) is incredibly strong right now and while it does feel very much like the Bubble leading up to 2000, it is hard to pinpoint specifically whether we are in 1999 or 2000 (since we clearly aren't in 2001 as we originally hypothesized).

That feeling like we have seen this somewhere before is the title of the Letter, ***"It's like déjà vu all over again."*** Yogi said this in referring to watching Mickey Mantle and Roger Maris hit back-to-back dingers in multiple games over a number of seasons with the Yankees in the 1960s. We have discussed over the past year how the S&P 500 is overvalued on every possible measure and how some of the measures (like Price/Sales) had reached levels we have never seen before. Yogi said, ***"It gets late early out here"*** and when we look at the quantitative data we would have to agree (and have made the case all year) that it is indeed getting to be late in cycle and that now as we are very close to the 2,800 and 24,000 targets for the SPX and DJIA it "should" be time for a normal correction." That said, the toughest thing about Bubbles is that they go on longer than most investors would think and, in fact, usually rise at an exponentially faster rate as we get close to the crescendo. Jeremy Grantham quantified this for us a couple weeks ago at his annual meeting in Boston when he said that the last twenty-one months of a Bubble usually rise 50% (seems impossible, but that is what the data says). By this calculation, the final leg of the Bubble began in March of this year when the Indexes broke through two standard deviations above Fair Value (2,400 and 21,000), so we could see a continued inflation of the Bubble until the end of 2018 that would take the SPX to 3,600 and the DJIA to 31,500 (seemingly stunning numbers). Berra has a Yogi-ism for this too, saying, ***"Congratulations. I knew the record would stand until it was broken"*** and these levels would eclipse the Bubble peaks of 2000. At first glance (and many people's first reaction, including our own to this point) would be that this is impossible because valuations would be far too extreme and that the markets would have to collapse under their own wait before that point. But Yogi has an explanation for why it could be different this time, saying ***"The future ain't what it used to be."*** In other words, with near zero interest rates, ever expanding Central Bank balance sheets and record levels of financial engineering (abundant leverage and stock buybacks), the present (and near future) are clearly not like the past periods (1929 and 2000) when valuations reached similar extreme levels. As the caption in Yogi's picture above says, when it comes to Bubbles, ***"It ain't over till it's over."***

But hold on you say, how can we go from dire warnings of Darkness Falling to projections of new record valuations and nearly two more years of a Bull Market? We have told the story in past letters of how Sir Isaac Newton invested in the South Sea Company that turned into the first stock Bubble (actually term was coined writing about the event) and "*lost nearly his entire life savings and prompting him to famously quip "I can calculate the movement of stars, but not the madness of men." It is said that for the rest of his days he forbade anyone to utter the words South Sea in his presence."* Bubble are curious things and greed (FOMO) clouds investors' judgment causing them to do things that seem like madness. We aren't saying that the melt-up will happen, we are saying it could happen (even Jeremy said it was only a little better than 50% chance) based on looking at the current data free from the bias that 2017 was most similar to 1929 or 2000. In truth, it requires some serious willing suspension of disbelief to get to the extremes that would be required for the Ultimate Bubble to occur and that is where our second protagonist enters the story. Willy Wonka (pictured on the far right above) is a fictional character based on the 1964 novel *Charlie and the Chocolate Factory* by Roald Dahl that was later adapted in 1971 as a musical fantasy film *Willy Wonka & the Chocolate Factory*. Wonka is the proprietor of a large global chocolate company who comes to the realization that with no heirs and an appreciation that he *"can't go on forever"* organizes a contest to find an honest child that he can secretly bequeath the Chocolate Factory. Wonka hides five Golden Tickets (gold always seems to figure into these types of movies) in chocolate bars and invites the five children who find the tickets to come tour the factory and win a lifetime supply of chocolate (not giving away his true intention of finding an heir). Wonka says that he couldn't trust the company to an adult who might *"ruin the wonder"* of his life's work and he needs to find someone who will carry on Wonka's candy making secrets and protect his beloved Oompa Loompas (the workers in the factory). A poor paper boy, Charlie Bucket, finds the last Golden Ticket and goes on the factory tour with his Grandpa Joe, along with four incredibly spoiled and rotten kids who represent the problems of gluttony (Augustus Gloop), addiction (Mike Teavee), privilege (Violet Beauregarde) and greed (Veruca Salt), who all end up being disqualified from the contest by violating Wonka's rules during the tour. In the end, Charlie proves his honesty and is chosen by Wonka to inherit the Chocolate Factory and bring his whole family to live happily ever after. So, what does Willy Wonka have to do with investing and Bubbles? My good friend Grant Williams (who writes the amazing Things That Make You Go Hmmm…, found at @TTMYGH) gave a presentation at a conference recently titled Pure Imagination and used a number of Willy Wonka's quotes to make the point that equity valuations have reached a place so outside of normal that they can only be rationalized by pure imagination. The music in the presentation has been stuck in my head for the last week and there was a particular slide in the presentation that made me realize that perhaps our warnings about #GravityRules and #Darkness Falls were a little "Early."

In the movie, Willy Wonka (played by the amazing Gene Wilder), resplendent in his purple top coat, orange top hat and cane, croons the following lines ***"Hold your breath. Make a wish. Count to three. Come with me, and you'll be, in a world of Pure Imagination."*** As the same music plays during Grant's presentation, he shows slides that take us to this world, 1) U.S. GDP has been falling steadily since 1947, 2) the past decade of GDP growth has been 1.4%, less than half the previous five decades, 3) how corporations have been the only net buyers of stock since 2009 (financial engineering). The song continues ***"Take a look, and you'll see, into your imagination. We'll begin, with a spin, traveling in, the world of my creation. What we'll see, will defy, explanation."*** We see some additional slides about how bankers have created a debt Bubble of Pure Imagination, 4) that global debt has grown from $86T in 2002 to $217T today and is now at close to 4X GDP, an all-time record, 5) how total Central Bank assets have grown from $1T in 2009 to $6T today, 6) how Student Loans have soared from $200B in 2009 to $1.1T today, 7) how the velocity of money peaked in 2000, was cut by one-third by 2008 and is now down (80%) from the peak, 8) how the M2/SPX ratio has gone from 800 in both 2000 and 2008 to 1,800 today. The next verse continues ***"If you want to view paradise, simply look around and view it. Anything you want to, do it. Want to change the world? There's nothing to it."*** More slides that show paradise, 9) the S&P 500 at levels far in excess of the 2000 and 2008 Bubble peaks, 10) a slide that shows that Elon Musk can do anything he wants as Tesla continues to raise debt and equity despite having a valuation per car sold 125X greater than Ford despite only having 5% as many sales, 11) European High Yield Bond yields below U.S. Treasury yields, 12) Canadian home prices 2X the U.S. average and Australian home prices 2X Canada, 13) Argentina being oversubscribed for newly issues 100-year bonds (despite 6 defaults in the last 100 years) and the USD falling (95%) in purchasing power over the past 100 years. And the final verse, ***"There is no, life I know, to compare with, Pure Imagination. Living there, you'll be free, if you truly wish to be."*** 15) U.S. Market Cap/GDP at 133% versus an ATH of 141% in 2000, 16) the Median Price/Sales of the S&P 500 50% higher than the previous peaks in 2000 and 2008, 17) U.S. Net Worth to Median Disposable Income at the highest level ever, 18) M2 to Savings Ration at 2X the highest level ever in 1987 and 3X the levels in 2000 and 2008, 19) Margin Debt balances at the highest levels ever. Clearly investors feel free to live the way they truly wish to be and risk is an archaic concept that has been erased in the world of Pure Imagination.

Many of these numbers look so extreme they bring to mind another Wonka quote, ***"For some moments in life, there are no words"*** *because a rational investor would be struck speechless looking at all of the data pointing to such incredible extremes and would (justifiably) conclude* that an imminent correction is just around the corner. But Wonka says, ***"A little nonsense now and then is relished by the wisest men"*** and continues that ***"Where is fancy bred? In the heart or in the head?"*** These comments harken back to Sir Isaac lamenting he could not calculate the madness of men and lead us to perhaps the most important Wonka quote of them all, ***"Oh, you should never, never doubt what nobody is sure about."*** We know that consensus is most frequently wrong in investing and the antithesis of consensus would be *"what nobody is sure about"* as it is always the thing that no one is thinking about that is most likely to occur (and cause the most stress in the system). There is almost nobody who believes that the U.S. equity bull market has a long way to run (there are a few) and perhaps this is now the Variant Perception (all the "smart money" has moved to the correction camp) and Yogi will turn out to be right about things not being over. Wonka has a line that conjures up global Central Bankers today when he says, ***"We are the music makers and we are the dreamers of dreams"*** and so long as they keep handing out Everlasting Gobstoppers (special Wonka candy that you can suck forever and they never lose their flavor) and Fizzy Lifting Drinks (soda pop that fills you with bubbles so you can actually fly) the equity markets will continue to look like the test chamber where Charlie and Grandpa Joe found themselves flying around within (recall the top of the chamber had a giant fan that threatened to cut them to bits…). Wonka sums it up saying, ***"Bubbles, bubbles everywhere, and not a drop to drink… yet."*** The key word being yet.

So, when does the fun end and the bubbles begin to burst? Wonka has a great line as all of the guests watch poor Augustus Gloop stuck in the vacuum tube that purifies the chocolate river (which he has fallen into by being gluttonous trying to drink the chocolate) waiting to be shot like a bullet up the tube when the pressure builds up, saying, ***"The suspense is terrible. I hope it will last."*** Investors are enjoying the ride and don't want the fun of rising equity prices to end and they are willing to ignore the potential perils of the downside, for now. There is a scene in the movie where the entire group boards an odd-looking boat for a journey to another part of the factory. As the boat enters a tunnel, suddenly the walls are filled with disturbing images and if feels like the boat is accelerating at a rapid pace (the last parabolic move of the Bubble). Wonka starts reciting the following lines as the as suspense grows, ***"There's no earthly way of knowing which direction we are going. There's no knowing where we're rowing or which way the river's flowing. Is it raining? Is it snowing? Is a hurricane a-blowing? Not a speck of light is showing so the danger must be growing. Are the fires of hell a-glowing? Is the grisly reaper mowing? Yes, the danger must be growing because the rowers keep on rowing and they're certainly not showing any signs that they are slowing!"*** Then, just as suddenly, the boat emerges from the tunnel and you can see that the entire "journey" was only a few meters. It was all an illusion. So, when will this journey end? We did think the end was nigh but there was one slide at the end of Grant's presentation that got us thinking that Jeremy may be right and there could be one last cathartic move up in the coming quarters. The slide showed the S&P 500 divided by the price of gold and what it shows is that the current level is about (60%) below the 2000 peak and about equivalent to the levels in 1997. Perhaps the illusion is what Yogi Berra referred to when he said, ***"A nickel ain't worth a dime anymore."*** Perhaps the devaluation of the Dollar (reflected in the dramatic rise in the price of gold since 2000) has created a nominal rise in equity values and there is significantly more upside to go to get to a Bubble in real terms. Nominal increases have a funny way of playing with the mind, consider that both Venezuelan and Zimbabwean stocks are up a lot this year and you wouldn't want to be invested in either place. Is it possible that the explosive increase in price of Bitcoin is signaling a stealthy hyperinflation in the dollar? Or maybe the Fed has turned the equity markets into a Wonkavator. What's a Wonkavator? Willy describes it to Charlie in the final scene, saying, ***"It's a Wonkavator. An elevator can only go up and down, but the Wonkavator can go sideways, and slantways, and longways, and backways, and squareways, and frontways, and any other ways that you can think of. It can take you to any room in the whole factory just by pressing one of these buttons. Any of these buttons. Just press a button, and zing! You're off. And up until now, I've pressed them all, except one…This one. Go ahead, Charlie."*** Charlie presses the button and the Wonkavator surges upwards and crashes through the glass roof of the Chocolate Factory and magically flies over the town. Are the SPX and the DJIA about to crash through our ceilings of 2,800 and 24,000 and head for the magical peaks that Jeremy calculated would be the Bubble for the ages? Should we never doubt what nobody is sure about? Something tells me we will be revisiting these questions frequently in the next couple of quarters.

Turning back to Yogi, he has some additional wisdom that helps us think about the contentious issue of active versus passive investing and the purported death of hedge funds. Since 2009, the simple strategy of buying a capitalization weighted index fund or ETF has beaten the majority of active managers and hedge funds, prompting the media and many investors to declare the death of active management and hedge funds (for the fourth time in my career). We believe firmly that it's not different this time and that this cycle shall pass (just as all the others before) and Active Management and Hedge Funds will outperform again (as they have done for half the time over the last forty years). Yogi had a couple of equally pithy quips that describe the current environment for Active Managers and Hedge Funds when he said, ***"Always go to other people's funerals, otherwise they won't come to yours"*** and ***"I'm lucky. Usually you're dead to get your own museum, but I'm still alive to see mine."*** The reality is that there is no such thing as Passive (despite all the claims of its superiority), but every strategy is active on some level, the only thing that changes is the speed of the changes. For example, one of the members of the S&P 500 Committee (the group that decides which companies go into the S&P 500 Index) spoke at a conference right before me last week and said that during his twenty years on the committee 400 of the 500 names turned over (Slow Active). ETFs that follow rules are actually active as well (many trade very frequently), they call themselves passive because they are "Rules Based" (free from human decisions, although a human did create the rules and tweaks the rules when they aren't working…). Capitalization and Price weighting are simply a form of a momentum strategy (you buy more of things as they go up in price) and momentum strategies do better (versus Value strategies that buy more as prices go down, buy what is on sale) when Central Bank liquidity is plentiful and that has clearly been the case since 2009 in the QE Era. The flip side is that when CB liquidity is ebbing, Value strategies outperform and we can have decades like 2000 to 2010 where Active Management and Hedge Funds outperformed Index Funds and Passive dramatically (but that is clearly ancient history and forgotten). But Yogi provides us with some insight as to why this particular cycle has been even more contentious than normal.

When you lose a baseball game (or any other game or contest for that matter) there is a right way and a wrong way to talk about the experience. Yogi once quipped ***"You wouldn't have won if we'd beaten you"*** and it turns out that this tact is likely to spur negativity and confrontational attitudes. When Yogi was a player he was sometimes, how should we say it, overconfident, and was prone to comments such as ***"Slump? I ain't in no slump… I just***

ain't hitting" or ***"I never blame myself when I'm not hitting. I just blame the bat and if it keeps up, I change bats. After all, if I know it isn't my fault that I'm not hitting, how can I get mad at myself?"*** Not taking responsibility for your performance is a sure way to engender negative feelings and the Active Management and Hedge Fund industry has, unfortunately, uttered a few Yogi-isms like these in recent years as the gap between Active and Passive has grown wider. Making excuses is a tough way to win friends and influence people and it tends to lead to feelings of resentment, kind of how Yogi referred to pitchers, saying ***"All pitchers are liars or crybabies."*** When you aren't hitting, it is pretty clear to everyone that you aren't hitting (the box scores don't lie), and when a manager or a strategy is out of favor, it is pretty clear to everyone (the performance numbers don't lie). There are a couple of options, you can blame the bat (Central Bank largesse, Algorithms, Leverage and stock buybacks, etc.) or you can take responsibility for your actions. When Yogi became a manager, he matured and discovered the wisdom of how to say the right thing (like Kevin Costner giving tips to Nuke LaLoosh on how to talk to the press in Bull Durham) and was more likely to say ***"I tell the kids, somebody's gotta win, somebody's gotta lose. Just don't fight about it. Just try to get better"*** or ***"We made too many wrong mistakes."*** Taking responsibility defuses the argument and changes the tone of the debate. As Yogi said ***"It ain't the heat, it's the humility."*** People don't like arrogance and they respect humility. A baseball season is very long, 162 games, and it turns out no team has ever won them all (the 1906 Cubs and 2001 Mariners won 116). Every team goes through tough patches where their game plan isn't working, the individual players aren't sharp, or sometimes the opponent just simply plays better than you on a particular day (or over a series). The good news is that you don't have to win them all to get to the World Series. Investing is the same as no strategy wins in every environment and there will be times when a manager or strategy goes into a slump. You have two options, you can complain about the environment (blame the bat) or you can put your head down and work harder to get better. We favor the latter and believe wholeheartedly that Humility = #Edge.

Everyone, not matter how talented they are, will go through tough times. As Yogi pointed out, ***"Even Napoleon had his Watergate."*** The greatest players in every sport (and legendary investment managers) will have untoward outcomes along the way. Yogi spoke about Sandy Koufax (one of greatest pitchers ever) in this regard saying, ***"I can see how he won twenty-five games. What I don't understand is how he lost five."*** Koufax was an astonishing talent. His career was cut short by arthritis, but in his six years he won three Cy Young awards and was the first MLB player to throw four no-hitters. When Koufax was "on," he was nearly unhittable (keyword "nearly") and what Yogi was referring to is that despite his enormous talent, some combination of events led to him actually losing games from time to time. Even the most legendary investment managers have had their losses, times when people said the world had passed them by (Robertson and Buffett in 2000) or that their strategy was no longer viable (Klarman and Dye in 2000), but in every case the cycles turn and talent wins. The real problem is that just when a strategy is about to have its best performance there will be the fewest number of investors in that strategy. Investors have a terribly bad habit of buying what they would have bought (chasing hot performance) and selling what they are going to need (fleeing the out of favor strategy). Yogi talked about this with respect to fans' reactions to losing streaks saying, ***"If the people don't want to come out to the ballpark, nobody's going to stop them."*** The same applies to investors in specific strategies, they will shun the strategies that have recently done poorly and only show up when their team is winning. Rewind to 2009, where were all the investment dollars flowing, into Index Funds and Passive? No, on the contrary, into Hedge Funds and Active because they had outperformed in the downturn. When everyone counts you out, that is right about when things are going to turn (so long as the talent is there and the strategy hasn't changed). When the 1973 Mets were 9 ½ games back toward the end of the season Yogi described his team, saying ***"We were overwhelming underdogs,"*** but despite everyone giving up on them (including the fans) he was confident in his team because, as he said, ***"We have deep depth."***

He had confidence that they could (and would) come back and win the title, which they did.

Shifting to Hedge Funds specifically for a moment, Yogi had some thoughts on what makes certain baseball players superior hitters, saying ***"He hits from both sides of the plate. He's amphibious."*** The ability to go long and short, to take advantage of both undervalued and overvalued securities is a superior way to manager capital (just like switch hitting is a superior way to be a great hitter, and make big money in the major leagues). We wrote last time that *"colloquially, "to a carpenter with a hammer, everything looks like a nail," but if that carpenter is placed in a situation bereft of nails, he comes to a standstill and cannot act. An Index Fund, or a SmartBeta Fund, or an ETF, where there is no judgment, but rather just a mechanistic predisposition to act in a certain way (how they have been programmed) are limited to having success in only one environment and should the environment change they will challenged. Active Managers and Hedge Funds have the ability to use judgment and reason to nimbly maneuver"* so they really can hit from both sides of the plate. We expect that after an extended period of underperformance (a serious hitting slump), forward returns (both absolute, but particularly relative to traditional strategies) over the next decade will be much more favorable for hedged strategies. Putting it in quantitative terms, if we strip things down to the most basic level (stocks, bonds, Long/Short Equity, Absolute Return) and utilize the GMO forecast returns (using a 2.2% Inflation/T-Bill rate) for traditional assets (could use First Quadrant of AQR too as they are all nearly the same) and the long-term historical returns for hedged strategies (which is likely conservative given they have just had a seven-year period of below average returns), we get the following expected returns. Long-only equity strategies are expected to produce essentially no nominal return (T-Bills – 2%) in the Developed Markets and T-Bills + 3% in the Emerging markets and Fixed Income strategies are expected to produce T-Bills - 1% (expectation that yields will rise) in the Developed Markets and around T-Bills + 1% in the Emerging Markets. Long/Short Equity Hedge Funds should generate T-Bills + 5% in that type of environment (similar to 2000 to 2010) and while we think the returns could actually be higher, better to under promise and over deliver. Absolute Return Hedge Funds should generate around T-Bills + 3%, which is nothing super exciting, but superior to all of the traditional asset expected returns. Many today are solely focused on reducing fees and believe that paying up for the talent in Hedge Funds is a bad idea. Yogi quipped similarly that ***"Why buy good luggage, you only use it when you travel?"*** We will take the other side of this argument saying you place your valuable possessions in your luggage so paying up for safety and security makes sense, the same is true with your most valuable possession (your wealth), doesn't it make sense to have it managed by the most talented people (just like in baseball, the best people are compensated the highest)? If it was the bottom of the ninth with two outs and the bases loaded, wouldn't you (as the manager) send up your star (highly paid) hitter rather than the rookie (lowest paid player)? When the game is one the line, we will go with talent every time. We wrote last time that *"the vitriol against Hedge Funds is as extreme as it was back in 2000 and one thing we know from having been involved in the Hedge Fund business for twenty-five years is that the lean periods of returns are followed by strong periods of returns, usually on about a seven-year cycle."* We also wrote how vividly we remember how no one perceived a need for hedging back in 2000 (every month set a new record for funds flowing into Index funds). So let's go to the scoreboard, we know that the next decade was a disaster for investors who piled into those Index Funds and Passive strategies while investors who chose to put the bat in the hands of Hedge Funds made double-digit compound returns (they knocked it out of the park).

We wrote last quarter how Newton said, *"Plato is my friend, Aristotle is my friend, but my greatest friend is truth." We might say that Gravity is truth and that no matter how hard people try to escape it, or rationalize it away, it is constant and unrelenting. In investing, there are many who attempt to rationalize valuations when they escape the normal orbit around fair value, coming up with complex explanations for why we are in a New Paradigm or why it* *is different this time (Sir John rolls over again)."* Newton understood a couple things very well related to the challenge of dealing with a Bubble, 1) no matter how much force you exert on an object (not matter how high you drop the apple from the tree) it will return to earth as the truth of gravity takes over and 2) every Action has and equal and opposite Reaction. For every Bubble, there is a Crash. Predicting the timing is hard, but the outcome is always the same. We also noted how Newton shared some wisdom on communication, saying that *"Tact is the art of making a point without making an enemy."* We understand that it is our job *"to deliver our views based on the weight of the facts, not on the hopes and dreams of what we wish might happen. The challenge of calling a Bubble is that you run the risk of losing your credibility, your clients and your job, or as Jeremy Grantham calls it, Career Risk."* Willy Wonka would add that ***"So, shines a good deed in a weary world."*** It has been challenging to hear about the reasons to be cautious and watch the markets continue to grind higher. We have spent the last few months examining the weight of the evidence and have reviewed the reasons in this letter why it might be 1927 or 1999 rather than 1929 or 2001 and believe that a balanced approach to the markets remains warranted. Yogi is right on when he says, ***"Its déjà vu all over again"*** and ***"it ain't over 'til it's over,"*** but we still maintain that Roger Babson's prophetic words (particularly the second half) are important for investors to heed today. ***"I repeat what I said at this time last year and the year before, that sooner or later a crash is coming which will take down the leading stocks and cause a decline of 60 to 80 points in the Dow Jones Barometer (it was 381 at the time). Fair weather cannot always continue. The Economic Cycle is in progress today as it was in the past. The Federal Reserve System has put the banks in a strong position, but it has not changed human nature. More people are borrowing and speculating today than ever in our history. Sooner or later a crash is coming and it may be terrific. Wise are those investors who now get out of debt and reef their sails. This does not mean selling all you have, but it does mean paying up your loans and avoiding margin speculation. Sooner or later the stock market boom will collapse like the Florida boom. Someday the time is coming when the market will begin to slide off, sellers will exceed buyers, and paper profits will begin to disappear. Then there will immediately be a stampede to save what paper profits then exist."*** It is not the time to sell everything and retreat to cash, but avoiding speculative fever, shifting toward Active and Hedged Strategies will prove to be a winning line-up and just may get us all to the World Series of investing in the years ahead.

A brief comment on the #BuffettBet. Ten years ago, Warren Buffett made a $1 million bet (the winner's charity would receive $1 million) with Hedge Fund-of-Funds manager Ted Seides that the S&P 500 would outperform a basket of five FOFs. As we near the end of the wager in December, Mr. Buffett will indeed win the bet and a charity of his choosing will get the proceeds (which are actually closer to $2 million because Buffett and Seides put the money in BRK.A during the Financial Crisis). With all the hoopla about another victory of Passive over Active/Hedge Funds, people forget that the S&P 500 was behind (way behind) for the first five years of the bet. Some might say that had it not been for QE taking the volatility out of markets over the past few years the outcome might have been different. But the outcome is the outcome and a passive index fund beat the basket of hedge funds over the past decade, but not for the reason that everyone thinks. It wasn't the fees that sank the Active Managers, it was the style bias toward value that has been trounced by momentum since 2009 (remember the S&P 500 is a momentum strategy because of the capitalization weighting it buys more of what is working and less of what is not, the anti-value strategy in fact). The other drag on Hedge Fund performance was the change in short selling as interest rates fell over the decade. When the wager began, interest rates were nicely positive and managers were paid a "short interest rebate" when they borrowed stock to go short and as cash rates fell to zero, that rebate turned into a "cost of borrow" and turned from a tailwind to a headwind. These are explanations, not excuses, Mr. Buffett and team S&P 500 beat Ted and team Hedge Funds fair and square.

So, as the end of the bet drew near, I decided to try and challenge Mr. Buffett to the #BuffetBet2.0 and tweeted that I challenged him to the same bet for the next decade. Becky Quick showed my tweet to Warren during an interview she did with him at the Berkshire Annual Meeting and he said to her that he would make the bet again. The next day, October 3rd, the top headline on CNBC.com was ***"After winning bet against hedge funds, Warren Buffett says he'd wager again on index funds."*** The article went on to say that Warren believed that passive investing works in any market environment, therefore he'd be willing to wager again against active investing for the next 10 years. He was quoted as saying, *"The S&P 500 will absolutely kill every one of the fund of funds. Passive investment in aggregate is going to beat active investment because of fees."* It seemed very clear to me that he was willing to accept the wager so I called Warren to try and seal the deal. One of the most amazing things (among many) is that Warren Buffett answers his own phone after 5:00 (when his assistant goes home) so when I called, he answered. We had a very nice discussion about the wager and he commented that he thought ten years might be a little long given that he was 87 years old. I commented that I fully expected he would best Roy Neuberger who went into the office every day until 94 and managed his own money until 101 (finally passed at 105) and Warren added that his friend Irv Kahn managed money until he was 107. He asked me what I had in mind, I said to replicate the terms of the last bet (with one change that I would pick a basket of ten Hedge Funds) and he said to send him something in writing and that *"he would entertain my proposal."*

Not gonna lie, I interpreted that comment (mistakenly) as we had a deal and I was pretty excited. I think this is a critical issue right now and I believe it is a very dangerous time for investors to be putting money into index funds (particularly the S&P 500) and that the #BuffettBet would continue to keep the conversation about Active/Passive, Value/Growth, Hedged/Long at tip of mind in the coming years. Unfortunately, a few days later, I received a letter from Warren saying that because of his age, he didn't think he could make a wager of ten years and since he believed this was the proper measurement period he was going to decline my proposal. That made sense and I was disappointed, but understood that perspective. Then I read the rest of the letter and he said two things that left me a little bewildered, *"I think the Protégé bet proved the point and has stimulated a re-evaluation of professional management,"* and *"There's no doubt in my mind, however, that the S&P 500 will do better that the great majority of professional managers achieve for their clients after fees."* Here we beg to differ. The Protégé bet proved the point that active management underperformed during a period of excessive central bank liquidity (as it has done cyclically for decades), but we weren't talking about the past, we were talking about the next ten years, starting from the current valuations. Historically Active has won about half the time (Value bias) and Passive has won half the time (Momentum bias), so winning the last bet has nothing to do with the next bet (just like winning a baseball game yesterday doesn't get you a W today). The second comment was the more troubling one, though, as if you don't want to accept the bet because of your age, fine, understood, but you can't then make the claim that had you made the bet, you have no doubt that you would have won, that is why bets exist (and why they play the games). Don't get me wrong, I have nothing but the utmost respect and admiration for Warren Buffett as an investor, all I am saying is he made the challenge, I accepted the challenge and I wish he would have made the bet. Time will tell who wins and we will go ahead and pick our basket of Hedge Funds and we will track the wager as if there was real money on it starting on 1/1/18. Who knows, maybe Jack Bogle will take Warren's position, he is a very young 91 and no one loves Index Funds more that Jack.

Third Quarter Market Review and Outlook

We are making a slight modification to the Letter format going forward in that we are combining the Quarterly Review and the Market Outlook as it seems to flow more naturally to discuss what has gone on in each asset class and sector and then discuss our outlook than to have two separate sections. We hope this change makes our views a bit easier to follow.

Taking a quick look back at our #2000Redux thesis, we hypothesized that the period from 2016 to 2018 was likely to resemble the period of 2000 to 2002 in the U.S. economy and equity markets. As we wrote last time, *"Interestingly, the slowdown in economic growth in 2016 followed a very similar pattern to 2000 (albeit from much higher starting levels in 2000), but equity investors looked through the negative economic data and focused squarely on the promise of the Trump Trifecta trade, believing the new Administration's promises of decreased regulation, decreased taxes and increased fiscal spending,"* and by the end of the year, the 2016 results in the markets didn't look much like 2000 at all (up 12% versus down (9%)). Like Lord Keynes, when the facts change, we change our minds. The surprise Trump victory last November triggered the development of a new hypothesis and we discussed the potential that, *"Trump turns out to be more like Herbert Hoover than Ronald Reagan or George W. Bush, and that rather than a 2000 to 2002 replay, we get a 1929 to 1932 replay and #2000Redux gets replaced by #WelcomeToHooverville."* Looking at economic growth as a backdrop for the market's activity, we wrote last time that, *"Hope sprang eternal in the land of economic forecasters as Q2 began and the consensus was that GDP would somehow breach 4% and the GDPNow initial estimate was 4.3% back in April."* The final data for Q2 came in significantly lower (but not low) and GDP growth was a solid 3.1% in the second quarter of 2017 (up from 1.2% in Q1). The eternal hopers were out in force again as the Q3 estimates began to be released and the Atlanta Fed GDPNow initial guesstimate (given how much they move during the quarter, guesstimate seems appropriate) was 4% at the end of July before crashing all the way to 2.1% by the end of September and then recovering to 2.5% in late October. The Advance Estimate for Q3 came in at 3%, but we will have to wait and see if that holds up or if it fades to the GDPNow estimate. There continues to be a great deal of anecdotal evidence, from falling bank loan growth to rising credit card delinquencies, pointing to a meaningful cooling in the economy, but while the U.S. economy is clearly stuck in stall-speed, it has not actually stalled. Forecasting GDP data has become even more challenging given the ridiculous promises emanating from the White House and the truly dazzling inaccuracy of the Fed prognosticators. We noted in Q1 that full year GDP estimates were hovering just over 2%, which was far below the promises made by the Trump Administration for 4%-plus growth and well below Fed estimates. However, a slowdown in GDP growth is not a recession. Therefore comparisons to 2001 are moot and the question becomes how does the current GDP trend compare to 1929? As we discussed last quarter, *"The Fed began to raise rates in the Spring of 1928 and kept increasing them through the summer of 1929, which actually does correlate well with the Fed actions over the past year."* We know that in August of 1929, a shallow recession began, and we also know that the DJIA reached its infamous peak in the first week of September. Summer has now come and gone and the economy is still expanding (albeit at a slower rate than anticipated just a few months ago), and as far as markets go, it was not a September to Remember in that we didn't have a precise repeat of the 1929 post Labor Day peak. We wrote last time that *"Mark Twain famously quipped that "history doesn't repeat, but it rhymes," so we are unlikely to see a precise repeat of the events of 1929, but there are enough similarities to make the next few months very interesting for students of market history."* Our analysis showed that a repeat of the 1929 peak would take the S&P 500 to 2,800 and the DJIA to 24,000, and we finished September a little short of those levels at

2,519 and 22,405, respectively (there was some additional melt-up in October taking the indexes to 2,575 and 23,377, respectively). One of the interesting trends to watch is how the DJIA begins to accelerate faster in the final stages of a Euphoria due to the price weighting of the index. Recall that the DJIA was created by a newspaper publisher and he decided (in a quite non-mathematical way) to have more weight placed on higher priced stocks, which becomes circular and self-reinforcing as prices rise (and conversely, self-defeating when prices fall). So, with the Q3 results now in the books, let's dive into the data and see if we're headed for Bushburgh, Hooverville or Trumptown.

It appears that we could permanently affix the following line from last quarter's Letter into the Market Review section so long as Central Bank liquidity continues to flow:

> "Similar to most prior periods during the QE Era, the equity markets didn't really care much about what was going on in the real economy, didn't really pay attention to whether earnings were coming in above or below expectations, and pretty much ignored all the political and geopolitical noise during Q2 and just went up, registering another solid quarter of gains."

Q3 was more of the same as the S&P 500 rallied a very strong 4.5%, the NASDAQ was up an even stronger 5.8% (mostly thanks to #FAANG mania) and even the Russell 2000 small-cap index (which had lagged all year) agreed with their larger cousins that all news was good news and surged 5.7%. The International equity markets party continued to rage, as the MSCI ACWI ex-USA jumped 6.2% and the MSCI EM Index soared a stunning 7.9%. We'll discuss the specifics of the moves within the various markets below, but let's update the data on the topic of volatility that we highlighted last quarter. We wrote that, *"One thing to discuss here is how the most recent advance in U.S. equities has occurred in an environment nearly devoid of any volatility whatsoever. The lack of volatility in the S&P 500 is unprecedented as there are a handful of periods where a particular measure of volatility was very low, but some other measure was more normal, but never has there been a period where every measure of market movement is registering extreme lows."* Starting with the most basic measure (and moving to more complex), the standard deviation of the S&P 500 Index has fallen (again) to the second lowest level ever at the end of Q3 (moving Q2 to the third lowest ever), falling to a stunning 5.4% (the lowest ever was 5% in 1965 during the Nifty Fifty mania). To keep this craziness in perspective, the average standard deviation over the past 10 years has been 15.2% and the average over the entire period that data is available (since 1871) is 18.6%. If we utilize standard deviation to calculate the Sharpe Ratio (measure of return per unit of risk), the Q3 reading of 2.7 is now the highest ever (read that again and let it sink in), surpassing the previous peak of 2.6 in 1954. Again, for perspective, compare these levels to a 10-year average of 0.38 and the long-term (since 1928) average of 0.4 and you begin to get a sense of just how anomalous this period has been. Looking at some other data, the abnormally low volatility is further reflected in the absence of any normal level of correction in the index over the past year. The current streak of 332 days without a (5%) correction is the fourth longest since 1950 while the intra-year correction (so far) in 2017 of (2.8%) would be the second smallest since 1950 (only 1996 pullback of (2.5%) smaller). Reiterating a statistic from last time, *"The biggest outlier statistic is the lack of intra-day volatility in 2017 as in an average year there are 114 days where the S&P 500 has greater than a 1% trading range and the lowest number since 1980 has been 40 (in 1993)"*, but in the first three quarters of 2017 there have been a truly astonishingly low total of only nine days.

We wrote last time about the craziness that was going on in small-cap stocks, saying *"Investors continue to believe the benefits of the Trump Trifecta (remember it is August and we're still zero for three) will accrue to a greater extent to the smaller companies that have* *reportedly been overly burdened by regulation and who can't afford lobbyists to get their effective tax rates lowered."* It is now November and we still have the #NoFecta (although we hear nearly every day that huge tax cuts are coming any day now), but the lack of any actual accomplishments with regard to any the elements of the Trifecta has not deterred small-cap equity investors. While we can appreciate the presumed logic in believing that small-caps would benefit disproportionately from tax reform (although it is no longer called "reform" now - just "cuts"), logic flies completely out the window when we look at the base level of valuation from which the recent move is occurring. As we have discussed over the past year, in Q4 of 2016 there were so many companies with negative earnings in the R2000 Index that the WSJ couldn't calculate a P/E ratio (that's right, they actually printed "Nil" where the P/E was supposed to be in the Market Data Center). We wrote in the Q2 Letter that, *"wasn't even the strangest part of the story (amazingly), and when the WSJ actually did find a way to calculate the P/E in February is was an astonishing 295X (we did not forget a decimal point)."* When we were penning the Q1 Letter in April, things got seriously strange when the Market Data Center section of the WSJ website was inaccessible for a period of weeks (it just vanished). One of the most important lessons from the 2000 Tech Bubble was that when P/E ratios hit triple digits, future returns tend to be very poor. The poster child for that period was CSCO where the P/E hit 286X in March of 2000 and then the stock fell (88%) over the ensuing two years (and is still down (58%) seventeen years from the peak today). We are not the only people concerned about the R2000 P/E issue, and we have reviewed a number of analyses that include all companies (rather than ignoring those with negative earnings) which result in a true P/E for the index as high as 693X (we're not sure anyone could make a case that this is not overvalued). The WSJ website is functioning again and the current P/E is back to triple digits at 115X (they may want to turn it off again). The most frightening part is that this published number is calculated using pro-forma EPS (#EarningsBeforeBadStuff) and still excludes companies with negative EPS (of which there are many).

We realize that since we entered the world of the New Abnormal, no one actually looks at trailing earnings anymore (despite the fact that these are the only earnings that have actually been reported). Today, everyone calculates the P/E ratio using Forward Earnings based on next year's (fantasy) numbers (still excluding negative earnings of course), and by that calculation the R2000 is apparently cheap at 20.4X. To understand the implications of this, let's do the math together. For the P/E to drop from 115 to 20, the E (earnings) would have to rise nearly 500%! Can anyone actually say with a straight face that the R2000 EPS can grow from $12.98 to $73.17 in the next year? As we noted last time, *"Just for fun, let's look at the last decade of R2000 EPS. Earnings were negative for the entire index (2000 companies) in two of the years, actually declined year over year in three of the years and the highest year over year growth of the remaining five years was 51% (in 2011 when they went from negative to positive), but hey a 500% increase in earnings should be no problem over the next twelve months."* The most comical thing about this index is that the implied EPS growth in the forward multiple has been around 300% in each of the past three years while the best growth during that period was only 12%! Repeating the conclusion from last time, *"We're not sure what is worse, that people who get paid millions of dollars to generate EPS forecasts for companies can be so brazenly wrong year after year (with no remorse), or that investors ignore the horrific dispersion between the forecasts and the actual results and continue to pile into the R2000 Index funds and ETFs?"* Karl Marx quipped that, "History repeats itself, first as tragedy, second as farce," and while the 2000 correction was indeed tragic, this segment of the market has reached levels that can now only be described as farcical. The bubble in small-caps seems to be at extremes that would presage a correction and return to more normal levels of overvaluation (more in line with the large-caps), but we are also cognizant that should some real form of tax cuts (we have stopped calling it reform, because it isn't) is passed there could be one last cathartic move higher in the Russell 2000.

Taking a peek at the U.S. style index returns in Q3, we see a continuation of the trends that began in Q1 and have accelerated all year. We have repeatedly noted our skepticism that the style rotation from Growth to Value would be a durable trend, as rotating into cyclical stocks and away from defensive stocks didn't jive with a slowing economy and rising stress in the financial system. Like clockwork, Growth has surged back into control in 2017 and the trend accelerated in Q3. Russell returns by style and market cap for Q3 were as follows:

Russell Index	Growth	Value
Top 200	6.1%	3.6%
Midcap	5.3%	2.1%
2000	6.2%	5.1%

These returns followed strong 1H17 returns of an amazing 14.9% for the RTop200G and 11.4% for the RMidG. The spread between Large Growth and Small Value disappeared in Q3, but the spread of 16.2% for the CYTD is as large a gap as we can ever remember. Looking at the trailing year, Growth has overtaken Value across all of the sub-indices:

Russell Index	Growth	Value
Top 200	23.4%	16.0%
Midcap	17.8%	13.4%
2000	21.0%	20.6%

The dominance of Growth in 2017 has triggered a wave of headlines that are once again trumpeting the Death of Value Investing. Even famed Value hedge fund manager David Einhorn wrote in his Q3 letter (referring to the FANG stocks) that *"given the performance of certain stocks, we wonder if the market has adopted an alternative paradigm for calculating equity value."* This type of commentary really does take us back to Q1 2000 when Julian Robertson penned his famous Farewell Letter saying:

> "As you have heard me say on many occasions, the key to Tiger's success over the years has been a steady commitment to buying the best stocks and shorting the worst. In a rational environment, this strategy functions well. But in an irrational market, where earnings and price considerations take a back seat to mouse clicks and momentum, such logic, as we have learned, does not count for much. The current technology, Internet and telecom craze, fueled by the performance desires of investors, money managers and even financial buyers, is unwittingly creating a Ponzi pyramid destined for collapse. The tragedy is, however, that the only way to generate short-term performance in the current environment is to buy these stocks. That makes the process self-perpetuating until the pyramid eventually collapses under its own excess. I have great faith though that, "this, too, will pass." We have seen manic periods like this before and I remain confident that despite the current disfavor in which it is held, Value Investing remains the best course."

These words could have easily been written last week (instead of seventeen years ago), and we have heard the current refrain that Value investing is dead, there is a New Paradigm in which the old models of valuation no longer apply and there is a group of Growth stocks that investors can buy at any price and be rewarded many times in our careers. In 2000, the buy at any price stocks were CSCO, MSFT, INTC and ORCL and the Fab Four had a combined market cap of \$1.6T. Fast forward seventeen years and the combined market cap is \$1.2T (why yes \$1.2T is less than \$1.6T, and would be worse if adjusted for inflation). Three of the four are still below their peak valuations (and MSFT only breached its previous high last year). This time, it is FAANG (FB, AMZN, AAPL, NFLX and GOOGL) that get all the attention and are deemed stocks that investors can buy at any price. Their performance in 2017 would indicate that investors completely believe these stocks cannot fall as the Fab Five have soared 53%, 46%, 40%, 57% and 28%, respectively, through the end of October and their combined market cap is an astonishing $2.5T ($3.2T if we add in MSFT, also up 34% CYTD). History has proven again and again that gravity always rules, there are no new paradigms of valuation and that Howard Marks was right when he said, ***"no asset is so good that it can't become a bad investment if bought at too high a price.."*** We can make a compelling case why these companies will suffer the same fate as the Fab Four from 2000 and their combined market cap a decade from now will be lower than today, but we will save that for another time. Suffice it to say that we believe the rotation back toward Value is coming and when it occurs, it will be terrific, meaning it will be long-lived and material and all of the Value investors who are perceived to be so dumb today will seem smart again. Like Mark Twain said about his Father, *"When I was a boy of 14, my Father was so ignorant I could hardly stand to have the old man around. But when I got to be 21, I was astonished at how much the old man had learned in seven years."* Amazingly, Twain's wisdom even includes the perfect seven-year cycle.

Looking at sector returns within the S&P 500 during Q3, Technology continued to dominate (courtesy of the increasing FAANG concentration), but the laggards of the first half of the year, Energy and Materials suddenly spiked in September (thanks to massive short squeezes). Financials rallied again on hopes for a tax bill, while the Consumer Discretionary, Consumer Staples and Telecom sectors trailed. After sprinting fast in Q1 (up an amazing 12.7%), Technology had slowed down to a brisk jog pace in Q2 (up "only" 4.1%), but accelerated back to a sprint in Q3, surging 8.6% (a good year for most sectors), to be up a dramatic 27.4% for the first three quarters of 2017. Pretty much everything in technology was up (and up a lot) during Q3, with the FAANGs, Semiconductors and Payments companies leading the way and only a couple of "old guard" names like QCOM and IBM falling (6%) during the quarter. The technology SPDR, XLK, has the most challenging concentration issue of all the sector ETFs given the huge weighting in Apple (AAPL), which accounts for 14.3% of the fund, followed by GOOGL and MSFT at 10.5% each (3 names equal one-third of the ETF) and FB at 7%. As we noted last time, *"AMG may be the tricked-out version of a BMW, but it is also the primary driver of the Technology sector in the S&P 500,"* and Q3 was full speed ahead as AAPL, MSFT and GOOGL were up 7%, 8% and 5%, respectively. That said, there were plenty of other strong performers in technology in Q3 as FB surged 13%, NFLX jumped 22% and NVDA soared 24% (on top of an astonishing 33% in Q2). As we noted last quarter, *"NVDA has become the dominant player in GPUs (Graphics Processing Units) which have become increasingly important as Algorithms, AI and Big Data have become an ever-larger component of everyday technology. To give a sense of how big a deal GPUs are, NVDA which had been left for dead as a washed-up video board manufacturer a few years ago is up 58% CYTD, up 190% over the past year and up an amazing 1,100% (yes, 11X) over the past five years."* Through October, NVDA is up just shy of 100% CYTD. NVDA's GPUs are displacing some of the demand for traditional semiconductors and we discussed last quarter how two of the old guard in technology, INTC and AMD, had been battling it out over the past year. We wrote, *"To update the race, INTC had another rocky quarter falling (6%), but regained a little of its lead over AMD (which fell more during the quarter), but AMD has come surging back in July, jumping 9%, while INTC is up "only" 5% (on the back of surprisingly strong earnings) and all of this jockeying puts INTC up 50% over the trailing decade to AMD's gain of 10% (jaws keep closing)."*

AMD's surge was halted in late July when they missed Q2 earnings and fell from up 18% to only up 2% for Q3, while INTC's surprisingly strong earnings propelled them up 13% for the quarter. Q3 earnings were even worse for AMD, and even better for INTC, so the gap widened dramatically in October, with INTC up 32% and AMD down (6%) for the four months. So just when AMD was closing the gap, the alligator jaws widened back up with INTC now up 70% and AMD back to down (10%) for the trailing decade. We summarized our view on tech last quarter saying, *"Technology is likely to continue to be a great place to invest, but the challenge will be to pick your spots as valuations have gotten very frothy in some areas (#FANG springs to mind), while other sectors like semiconductors have decades of amazing growth ahead as technology becomes more ubiquitous."* We remind readers that Technology was the darling of investors (and the best performing sector) in the late 1990s right up through the bubble peak in 2000 and subsequent crash and it took the Technology index seventeen years to regain the previous high (let that sink in). Valuation does matter, gravity rules and darkness could (and likely will) fall on many of the most egregiously overvalued companies, like the FAANGs. It is not inconceivable (in fact, it is mathematically quite likely) that these stocks could be at the same price a decade (or more) from today (like the Fab Four from 2000 to 2017).

Having the Energy sector up 6.8% and near the top of the Leaderboard was a surprise in Q3, particularly given how poorly the energy stocks had been performing all year (right up through the third week of August). Then (quite unexpectedly) the only place it turned out to be a September to Remember was in the oil patch, as many of the most beaten down names in the sector surged massively in what could only be described as a significant short squeeze (there were no material changes in fundamentals). Perhaps Hurricane Harvey and his potential damage to the drilling complex (particularly impacting the offshore drillers) could have prompted some ebullience on the prospects for a spike in oil prices that would flow through to the energy stocks. While the damage to the platforms turned out to be much less than anticipated, oil prices did indeed spike 10% (from $47 to $52) over the course of September and there appears to be the beginnings of a sentiment shift in the energy sector, as investors finally realized that many of the stocks were down (20%) to (30%) or more, while oil prices were basically flat. For perspective on the ferocity of the move, we can look at some examples from three of the sub-sectors, Drillers, E&P and Services. The offshore Drillers had been left for dead in 2017 as RIG, RDC and ESV were down (52%), (55%) and (60%) through August 21st, but then rallied 48%, 43% and 43% over the next five weeks to finish the quarter up 30% 25% and 16%, respectively. There are plenty of very smart people in the energy business make a strong case that thanks to the shale revolution there is no need for deep water offshore production, therefore the bond owners of these companies will become the new equity owners, but it appears that transition will have to wait. Speaking of the shale producers, there are plenty of investors who believe that $50 oil does not provide enough cash flow for this highly leveraged industry, and the bears were clearly in control through mid-August with RSPP, FANG, PE and PXD down (33%), (16%), (32%) and (32%). But these stocks also rallied hard over the last five weeks of the quarter, jumping 13%, 12%, 7% and 15%, respectively, to finish Q3 mixed, up 7%, up 10%, down (5%) and down (7%), respectively. Oil Services companies have taken the brunt of the fall in oil prices during this cycle and OIH, SLB and SLCA were crushed (pun intended on the sand name) through the first eight months of the year, falling (36%), (25%) and (55%), respectively. Where there are dramatic losses, there is always room for a good short squeeze and the services companies surged along with all the other energy names, jumping 20%, 10% and 23% to finish Q3 up 5%, up 6% and down (14%), respectively. SLCA reminds us of the problems of the mathematics of loss as it was down (29%) in the first half of the quarter and up 23% in the second half, which seems pretty even at first glance, but the result of the compounding is a loss of (14%). Like Roy Neuberger used to say, *"There are three rules to investing, Rule #1, don't lose money, Rule #2, don't lose money and Rule #3, don't forget the first two rules."* If you take care of the losses, the gains will take care of themselves. One interesting thing to watch over the next couple of quarters will be to see if Oil Services can continue to recover if oil prices continue to rise. A good friend from Dallas made the point that \$60's in 2018 and the profits from that move should accrue to the Services companies since they suffered disproportionately on the way down.

Materials had an excellent quarter, surging 6%, on renewed hopes for progress in Washington that might (someday) lead to an infrastructure bill and increased fiscal spending. Perhaps the most impressive thing about the move in Materials was that it occurred despite rather mediocre returns (up only 3%) from the largest component, DowDupont (DWDP) which has a 23% weight in the XLB ETF. There were some explosive moves in the Mining sub-sector, as base metals prices (particularly copper) continued to rise on better than expected growth numbers out of China and in the Agribusiness sub-sector where fertilizer companies finally found some buyers after an extended decline. Freeport-McMoRan (FCX) and Newmont (NEM) were a couple of the leaders in Mining as they jumped 17% and 16%, respectively, for the quarter. Fertilizer companies had been falling sharply after a January rally and CF, POT, AGU and MOS were down (15%), (10%), (10%) and (25%), respectively, through mid-year (reversing on the June 22nd Gann Turn Date). The first three surged 26%, 18% and 18% in Q3, while MOS continued to struggle, down another (6%). Given that there is still not even a bill (let alone a new law) that would lead to any new infrastructure products, we view the bullishness on the overall materials sector skeptically, but we do have a positive outlook on copper (and to a lesser extent, gold) and Agribusiness so we would expect some follow through in these sub-sectors in the coming quarters.

Financials were up smartly in Q3, rising 5.2%, bringing CYTD returns to 12.5%, only slightly underperforming the S&P 500 return of 14.2%. We wrote last quarter that, *"Some managers we respect who have very high hopes for Financials and see a clear path to double digit gains in years ahead, but we can't make the math work as our view is that interest rates don't surge higher so net interest margins don't explode upwards and the actual data in lending shows a very rapid contraction that should hurt profit margins in the second half of the year."* For the bulk of the quarter, those words were looking pretty prescient as interest rates had fallen from 2.3% on the 10-year Treasury to 2.06% by the first week of September, there were rumblings that bank trading profits were falling and lending activity was declining even more rapidly than during the summer. Then suddenly a single tweet from the Tweeter-in-Chief on September 8th that the GOP needed to push the tax reform plan faster was all it took to turn rates and Financials on a dime. From 6/30 to 9/8 the bank stocks fell (along with interest rates), and then surged over the last three weeks of the quarter, with C, JPM, BAC, MS and GS up 9%, 5%, 5%, 8% and 7%, respectively, for the period and while WFC surged 11% over the last three weeks, more bad news on their lending shenanigans had pulled them down (10%) for the first two-thirds of the quarter, so they finished flat. Rates continued to rise in October as the 10-Year hit 2.43% on 10/27, but the Financials have moved in line with the SPX (up 2.7% versus 2%) as the Bank returns have been mixed since Q3 Bank earnings have been very uneven, with BAC, JPM and MS up 8%, 5% and 4%, respectively, while C, GS and WFC are all flat. We think there is a lot of hope built into the Financials about tax reform and a stronger economy (both of which are still quite uncertain), so we see more risk than reward in this sector should either of them disappoint.

We discussed last time how Industrials was the other sector that was enjoying a boost from the Trump Pump as investors were willing to buy the rumor that the Trifecta would get approved as soon as the new president took office (we just passed day 300 and still nada). We wrote that *"Investors believed (we are not sure why) that the $1 trillion of fiscal spending that Trump promised on the campaign trail was going to miraculously materialize as soon as he took office (or even more crazy, before)."* Industrials were up 4.2% during Q3 (right in line with the S&P 500), but what is interesting about that performance is something we highlighted last quarter - the sector continues to rally strongly despite very poor performance from its largest constituent in the index, GE. General Electric is no longer bringing good things (or at least its stock price) to life and after being down (15%) in 1H17, tacked on another (10%) drop in Q3 to bring the YTD loss through September to (23.5%). But the story didn't get any better for GE in October as another poor earnings report (and weak forward guidance) slammed the stock and pushed the price down another (16%), bringing CYTD losses to (35.7%). Given GE's sizable 8% weighting in the XLI ETF, the rest of the Industrials had to work hard to keep performance in line with the markets. Since that is what Industrial companies do (pun intended), a number of the other sub-sectors stepped up and generated solid returns. Boeing (BA), up a stunning 29%, was the biggest contributor, but Industrial workhorses including Honeywell (HON), up 6%, Union Pacific (UNP), up 7%, UPS, up 9% and (one of the surprises of the year) Caterpillar (CAT), surging 16%, all helped the index. CAT smashed EPS forecasts in Q3 and jumped another 10% in October to bring CYTD returns to 47%, but despite the ebullience about the CAT report, there is a troubling undercurrent in the Caterpillar data that has been a recurring theme this year. CAT reported earnings adjusted for restructuring charges that they claim are non-recurring and should be ignored when evaluating their results. Excluding one-time items is not the most egregious thing that management teams do to adjust EPS data, but the issue becomes troubling when non-recurring items occur every quarter, and we have heard this story from CAT for the last few quarters. The idea of reporting Earnings Before Bad Stuff, meaning you exclude anything that makes your EPS look bad, is dodgy at best. We will keep CAT in the dodgy camp for now, but we are not as convinced that there won't be continual pressure on labor and headcount in all companies thanks to technological innovation (rise of the robots), so these restructuring costs could be with us for a while.

We have written often over the past couple of years about our theme of #PlayDefenseWithDefense as these stocks continue to relentlessly rise. Defense contributed greatly to the Industrials strength as Lockheed Martin (LMT), General Dynamics (GD), Raytheon (RTN) and Northrop Grumman (NOC), were all up during Q3, rising 12%, 4%, 16% and 12%, respectively. We have often noted that, *"Defense wins championships,"* and over the past two years we would have to agree. Even with a little turbulence in October (geopolitical tensions dissipated), the Defense names are all up strongly CYTD as LMT jumped 22%, GD rose 17%, RTN surged 24% and NOC soared 27%. If we throw in Boeing for its defense contracts for good measure, things get even better, as BA is up a stunning 64% CYTD (all handily beating a strong showing of 15% for the SPX).

We discussed last quarter that, When we sat down in January to pen the Ten Surprises, we were convinced that, *"Healthcare would get discharged from the sick bay (worst performing sector in 2016) in 2017,"* and we believed that, *"Healthcare and Biotech were a couple of the last places left to look for value in a very overvalued market.* We expected that there would be plenty to write about in coming quarters about strong returns in the Healthcare sector and it has been a great year for both Healthcare and Biotech. Q3 returns were more normal compared to the first half of the year, up 3.7%, but that brings returns through September to a very strong 20.3%, second only to Technology's 27.4%. Performance has been strong across all sub-sectors and while there is some dispersion in the returns, generally speaking suffice it to say that last year's Intensive Care patient is feeling pretty chipper in 2017. It also appears that the malaise that had fallen in the Pharma sub-sector has substantially cleared and despite the fact that there is still no healthcare legislation, the constant refrain of politicians crying foul about drug pricing has subsided, so it shouldn't really be a surprise to investors that Pharma and Biotech would recover strongly this year. It turns out pandering to voters during an election makes for good campaign politics, but actually trying to get legislation passed that would impact drug companies is just about impossible. We have discussed on many occasions how a problem with ETFs is that they generally tend to be quite top-heavy due to capitalization weighting rules, so a very small number of names really determine the performance of the ETF (or index). The Healthcare ETF, XLV is no exception as Johnson & Johnson (JNJ) is a 12% position, while Pfizer (PFE) and United Healthcare (UNH) are each 6% positions, so three names make up a quarter of the portfolio. As we noted last time, *"With that kind of concentration, the performance of the ETF will usually resemble the performance of those large positions"*, but in Q3, poor performance of JNJ, down (2%), cancelled out strong performance from PFE and UNH, both up 6%, so it was the other 75% of the portfolio that drove returns. We noted last quarter that very strong performance in some segments of Healthcare had made some of the constituents of XLV significantly less cheap, writing that, *"There are still a number of companies with P/E ratios that are well below the overall market including Express Scripts (ESRX), Gilead (GILD), Bristol-Myers (BMY) and Amgen (AMGN) that appear attractive."* Those names did pretty well during Q3, as although ESRX was flat, GILD and BMY both jumped 14% and AMGN rose 8% (it turns out buying low works). Even though AMGN trailed some of the other names, Biotech overall was the big winner in Q3 as IBB (the Biotech ETF) was up 8%, but a number of companies surged, Celgene (CELG) was up 12%, Gilead (GILD) was up 14%, Biogen (BIIB) was up 15%, Vertex (VRTX) was up another 18% and AbbVie (ABBV) was up a stunning 23%. Vertex has been an amazing story this year as the big move this quarter is on top of a 40% surge last quarter and VRTX is now up over 100% CYTD. Another sub-sector that wasn't supposed to do well in 2017 was Insurance and Services companies (since ACA was going to be repealed) but processing Healthcare claims isn't going away anytime soon, so Anthem (ANTM) was up 1%, Aetna (AET) was up 5% and Cigna (CI) was up 12%, to bring CYTD returns for the insurers to 53%, 42% and 54%, respectively. The strategy of buying the worst performing sector in the new year has been a profitable one over the years and 2017 has been no exception. We continue to see truly amazing scientific breakthroughs in the Healthcare and Biotech sectors and believe this is one of the sectors we can count on for strong returns in an equity market that we are less enamored of (being kind) today. Throw in the fact that every day 10,000 people turn 65 in the U.S. (and as many Europe), and the tidbit that 65 year olds visit the doctor ten more times per year than 55 year olds, and you get a powerful demographic tailwind that should bolster future returns.

The fading U.S. consumer was evident again in Q3, as both Consumer Discretionary and Consumer Staples were challenging places to be. After surging up 8.5% out of the gates in Q1, Discretionary was up a less robust 2.4% in Q2 and was basically flat, up 0.8%, in Q3, bringing YTD returns to a respectable (but still lagging) 11.9%. Staples were even uglier, as a respectable 1H17 of up 8% was followed by a down (1.3%) in Q3 to bring YTD returns to a second worst 6.6%. We wrote in Q1 that it seemed odd to hear how the consumer was doing well, saying it, *"may sound a little funny given all the negative headlines about how bad retail has been and how AMZN is turning the big box retail business into roadkill."* Q3 was very interesting in that AMZN was flat (stuck around $1,000) and the performance of the Retailers was mixed. GPS surged 35%, KSS jumped 18% and TGT rose 13%, while JWN slipped just (1%), DDS was wildly volatile (on rumors that the family might take it private) and was off just (2%), M dropped another (5%) despite lots of activist rumblings about the value of their real estate and JCP just kept sinking like a stone, down another (18%). We also explained in Q1 how, *"one would think with the horrible numbers [in Retail], that the Consumer sector would have been* *down, but when you dive in a little deeper into the makeup of the ETF you find that it has a lot of technology exposure,*" and how names like AMZN, CHTR, CMCSA and PCLN trade more like tech stocks than consumer companies. Those stocks were mixed in Q3, with only CHTR managing a gain, up 8%, while CMCSA was down (1%) and PCLN was down (2%). Other big names in the Discretionary ETF include DIS, HD and MCD which were mixed as well, down (7%), up 7% and up 2%, respectively. XLY is another very concentrated ETF and has 16% in AMZN, 7% in CMCSA, 7% in HD and 6% in DIS (more than one-third of the portfolio in just four names) and those core holdings were down about (1.3%) collectively during the period, so it would be tough for the sector to do very well with that drag on performance.

We want to repeat two warnings from last time about one of the dangers of ETF investing that continue to be manifested in these segments. First, beware the differences between the names of the ETFs and the impact of that capitalization weighting on the actual underlying exposures. You can easily think you are getting exposure to something and find out there is actually very little concentration in that sub-sector, or conversely, you might find exposure to things that you weren't expecting like a monster allocation to technology in a consumer ETF. Second, always be wary of what we wrote last time when we said, *"Capitalization weighting is one of the most insidious problems with so-called passive investing as the built-in momentum of the strategy means that you will have the maximum exposure to the most overvalued assets precisely at the peak if you are long, or conversely you will always be fighting against positions that have a systematic upward bias if you try and short them to use them as a hedge."* Rules-based systems have no judgment. They must keep buying the names on the list that is spit out by the algorithm regardless of valuation and in direct opposition to a value strategy that seeks to buy undervalued assets and sell overvalued assets. Momentum strategies work great during liquidity expansions, but work much less well (read, they are a disaster) during liquidity contractions (which Dr. Yellen keeps telling us we are about to enter). Given how late we are in the economic cycle, how over-extended the U.S. consumer is today and how high valuations are in these sectors, we would expect to see mediocre (at best, poor at worst) returns from the Consumer segment going forward.

At the bottom of the barrel this year is the Telecom sector, down (4.7%). The challenges of finding ways to entice mobile subscribers to switch services inevitably leads to price cutting and an eventual race to the bottom, while fixed wireline companies continue to hemorrhage. Verizon (VZ) was the winner in Q3, rising 11%, and AT&T (T) and T-Mobile (TMUS) gained slightly, up 4% and 2%, respectively, while Sprint (S) was the loser in the mobile wars, falling (5%). Century-Tel (CTL) was crushed during the quarter, falling (21%) as more and more people cut the land-line cord. There could be an element of the weakening Consumer in these sectors too as people look for ways to save money, so we will keep an eye on developments in these areas in the coming quarters.

Looking at the other sectors, Utilities have been a ho-hum segment of the markets all year and underperformed slightly again in Q3 as fears of rising rated began to creep back into investors' collective conscience. Utilities managed a 2.7% gain, and are up 11.9% for the first three quarters of the year, but they are such an insignificant portion of the overall index, there is not much to write about here. The key to Utilities for investors today is the direction of interest rates and since everyone is sure they are going to rise there will probably be some short–term headwinds for these stocks. But should the consensus be wrong yet again (as we expect) and rates continue their Lacy Hunt inspired downward trajectory, Utilities and Telecom (not to mention other yield assets) could find their natural buyers return.

We want to touch on the topic of the market P/E ratio again here as there continues to be a disconnect between the consensus that interest rates are now set to rise and that P/E ratios can continue to expand. As we have outlined in our #MCCMSurprises, we have a Variant Perception on the long-term direction of global interest rates (we expect them to be lower for longer) thanks to the impact of the Killer Ds of demographics, debt and deflation. We posited a question and a conundrum last quarter saying, *"Let's assume for the sake of argument that the consensus is right and the long bull market in bonds is over and rates are headed higher. Why is it that the P/E ratio for stocks keeps rising? Mathematically, if rates rise, discount rates rise and a dollar of earnings in the future is worth less today, so an investor should want to pay less (not more) for each dollar of E (thus P/E ratios should fall)."* With that said, interest rates did rise a scant bit in Q3, as the 10-Year Treasury yield moved from 2.13% to 2.3%. Nonetheless, the P/E of the S&P 500 (using actual reported earnings) once again increased from 24.2X to 25.1X (a 3.7% rise). Interestingly, given the 4.2% return for the index, multiple expansion accounted for the majority of the increase in stocks during the quarter. Time will tell if the bears are right about interest rates, but if 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.

We also wrote last quarter about another risk to rising equity prices, which is the potential for EPS estimates to get revised downward in the late innings of the expansion (this was a big problem in 2001 and 2002), and we have begun to see some evidence of these revisions in the energy sector this quarter. We also noted that, *"If a deceleration in the earnings recovery becomes a slight headwind, the continued injection of liquidity into the markets by the Fed (through their Treasury repurchase activities) will continue to be a modest tailwind."* So long as the global Central Banks (and the Fed in particular) keep buying government bonds to inject liquidity into the system, there will be some support for equities.

We have written many times about the formula created by Larry Jeddeloh at TIS Group outlining the conversion of QE purchases into S&P 500 points. Larry's model *"showed every $100 Billion of QE has translated into 40 S&P 500 points."* The Fed was scheduled to buy just shy of $200B of Treasurys and Mortgages in 2017, so assuming fairly even purchases of $50B per quarter, there would be approximately 20 S&P points of equity tailwind each quarter during the year. The S&P 500 Index rose 95 points during Q3. If we attribute 20 points to QE and 90 points to multiple expansion (beginning level of 2,425 times 3.7% increase in P/E), that would leave negative (15) points for earnings impact. We could understand zero (but not negative) so perhaps the QE boost can't be fine-tuned to a quarterly impact, so perhaps we should expect to see the 80 points of impact over the course of the full year. Over the first nine months of 2017, there should have been 60 points of QE impact and 150 points of P/E expansion impact (2,258 times 6.6%), leaving 115 points for earnings growth, which calculates out to about 5% (not too far off from actual EPS growth).

In addition to its QE activities, the Fed has made its presence known to the equity markets on multiple occasions in 2017 with decisions to raise the Fed Funds rate. We discussed last quarter how the decision to hike in March had put a damper on the big equity rally that had begun in January, so, *"Suddenly, an army of Fed talking heads came back from vacation to make speeches, saying perhaps rates didn't need to rise much more and that it was highly unlikely that the Fed would raise rates in July (they didn't) and with the another all clear signal from the Fed, investors went right back into risk-on mode."* Right after those speeches, as if on cue, the probabilities for another rate move plummeted with the September probability hitting 5% (no hike) and the December probability hitting 35%. Much of the economic data that the Fed has used in the past to determine when to hike rates continues to point to an environment where doing so would be ill-advised (at best and a policy error at worst). There has been a very rapid decline in Core PCE Inflation to 1.29% and a concurrent collapse in inflation expectations back to 1.68% on the 5-Year Breakeven Inflation Rate (a level similar to where the Fed was beginning QE II and III, rather than raising rates). Inflation has been so persistently below the Fed's stated 2% Target that Dr. Yellen recently stated in her testimony to Congress that the low rates of inflation were "a mystery." Let that sink in for a moment, the PhD economist who leads our Central Bank (made up of a team of hundreds of PhD economists) basically has said that she has "no idea" why inflation remains low despite her best efforts to reflate the economy by injecting trillions of dollars of thin-air-money into the system (not the most assuring posture). The explanation is actually quite simple (perhaps why PhDs can's see it), older people (demographics) don't spend as much (slowing economic growth) and excess debt further slows growth, which leads to deflation (the Killer Ds strike again). Last quarter we discussed one more way in which the Fed might impact markets, describing, *"the decision to begin to normalize the balance sheet (sell bonds back into the marketplace), which most pundits believe would cause significant turbulence for stocks."* QEeen Janet outlined her "plan" for balance sheet normalization at the last Fed meeting and said that they would begin to reduce purchases (not really selling) by $10B a month, which doesn't really seem to us to amount to much in the context of a $4T balance sheet.

We discussed our alternative view of the issue last quarter saying, *"The biggest problem we see here is that the Central Banks have been called the "Buyer of Last Resort" for a reason."* A decade ago in 2007 (remember the U.S. lags Japan Demographically by 10.5 years) the BOJ owned JGBs equal to 26% of GDP on their balance sheet and they decided to reduce those holdings. As one might expect, the equity markets did not approve and proceeded to drop sharply (down 56%) over a period of two years. When Abe-san was reelected four years later in 2012 (partially because of dissatisfaction with the bungling by the BOJ), he immediately reversed course and now he and Kuroda-san have bought every bond they can find (and a whole bunch of equities too, owning 70% of all ETFs today). The strategy has paid off in terms of elevating the equity markets from the bottom (but still only 20% higher than the 2007 level), but at a very substantial cost in terms of taking the BOJ balance sheet from 20% of GDP all the way up to 90% of GDP. So, when the Fed talks about shrinking the balance sheet, we will take the under.

One of the most widely held ideas coming into 2017 was that the U.S. dollar would be strong because the Fed was going to raise interest rates, GDP growth was going to be strong and foreign currencies were going to crash, making the dollar appear stronger by comparison. People were so convinced that the dollar would strengthen, that 85% of investors surveyed by Strategas were bullish USD. As is always (well nearly always) the case, when everyone is absolutely sure of something, the opposite happens. As Mark Twain says, *"It's not we don't know that hurts us, it's we know for sure, that just ain't so."* As we wrote last quarter, *"We were a very lonely wolf on our #MCCMSurprise #7 that King Dollar had made its last stand and the cover of the Economist magazine in December with George Washington all jacked-up on steroids would turn out to be the top for the greenback (the DXY was 103 at the time)."* So, we thought the Fed would back down on their rate hike threats (as they had in the previous two years), but QEeen Janet did pull the trigger twice (and appears certain to hike again in December), so we got that one wrong. GDP growth did indeed disappoint (quite dramatically in Q1, but a little less so in Q2 and Q3), so we got that one right. Foreign currencies have actually been quite strong across the board (from developed to emerging), so we got that one right too. The dollar has actually been incredibly weak all year and Q3 was no exception as the DXY crashed (4.5%) from 95.6 on 6/30 to low of 91.3 on 9/8, before rebounding slightly to 93.1 on 9/30 to finish the quarter down (2.6%) and was down (8.9%) for the first three quarters.

We have spent a lot of time talking about the dollar in these Letters over the last couple of years and summarized why in the Q4 Letter saying, *"Getting the dollar right might be the most important investment decision we could make during the year. The reason for the hyperbole on the greenback (beyond my 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."* Global investors have to think about currency risk when they deploy capital beyond their home markets as the fluctuations in FX can sometimes swamp the impact of the changes in asset values (think about Brazil and the real a couple years ago for an extreme example), but the good news is that there are many tools for hedging currency risk. As U.S. domiciled investors who believe that there are greater growth and return opportunities outside the U.S., we have to be very active in our hedging decisions. If we believe the dollar will be secularly weak (as we do) we are more prone to invest in foreign markets on an unhedged basis to take advantage of the additional returns that will accrue as the dollar weakens against the currencies of the markets into which we deploy capital. The euro has been a great example this year, as nearly half of the return for U.S. investors in European equities has come from the strengthening of the euro against the dollar. We wrote last time that, *"One of the funny things over the past two years has been the perception in the marketplace that the dollar was so strong, yet the facts paint a very different picture than the narrative., After hitting 100 the first week of March 2015 the DXY had been locked in a channel between 95 and 100 right up until the election last year."* In the Trump-mania right after the election, when the Hopium was running wild, the DXY did spike (ever so briefly) to 103 right as King Dollar graced the cover of the Economist, but that was the peak and it had been falling all year through the first week of September.

We noticed something interesting about the dollar as we were writing the last Letter in July, saying, *"Curiously, the world is suddenly piling on the short dollar trade today and there has been a dramatic reversal from a very net long position to begin the year to a net short position in the non-commercial traders' overall positioning, so it is highly likely that there could be a short-lived relief rally in the dollar in Q3, before resuming the downward trend (which we expect to run for many years)."* As is our modus operandi, we were a little early (about eight weeks), but the DXY did get increasingly oversold in August and the net short positions in the dollar reached a very high level that indeed triggered the relief rally that began on 9/8 (and continued through October, up another 1.6% to 94.6). There is usually a seasonal tailwind for the dollar in Q4, so we are not surprised to see this type of move. That said, we believe this is just a counter-trend rally and the greenback will continue its downward trajectory in 2018 as King Dollar has been dethroned and we see increasing evidence that the world is moving to a multi-polar currency regime. We wrote in the Q1 Letter how U.S. based investors have been conditioned to think about the dollar only in relation to the DXY Index, saying, *"An important thing to keep in mind about DXY is how the index is dominated by the yen and the euro (even more euro than yen) and that there are other more diversified currency indices as well (e.g., trade-weighted) which have different return profiles."* Our view on the yen has been consistent since November 2012 (when Abe was elected). We believe that the Japanese government has only one way out of their demographic and debt crisis - weaken the yen consistently (and dramatically) to ease the burden of the sheer volume of nominal debt. Hence, we have been very active in hedging USDJPY exposure and we would expect to see continued yen weakness in the quarters and years ahead.

We have a different view toward the EURUSD relationship that the Yen, wherein we were convinced that since everyone was so sure that the EU was disintegrating and that the euro would be weak, we should take a more positive view of the euro and stay unhedged. That contrarian positioning has served us well in 2017, but we have now seen a flip in sentiment and the long euro trade seems a bit crowded, and we wouldn't be surprised to see a pause that refreshes in the euro's ascent against the dollar. The other factor in thinking about the euro is that a super strong euro is bad for all of the export businesses in the EU (particularly in Germany and France) and we might expect the politicians in those countries to start making noises about the need for some euro weakness in the near term.

We noted last time that *"Given our predilection toward Emerging Markets, we have had to be vigilant in thinking about the impact of FX on those investments and creative in thinking about hedging given the very high FX trading costs in many of the markets."* Generally speaking, the cost of hedging in the EM markets is quite high, so you have to have a significant expectation of material moves in the FX to justify the costs, but there are times (like when oil prices were collapsing in 2014) where the costs are worth paying to protect your equity gains. Generally speaking, EM currencies are slightly cheap (about 0.2 standard deviations) relative to their long-term history and given their higher rates of economic growth it makes sense that they would be stronger in the near-term. Looking at the Trade Weighted Dollar basket is an effective way to track the broad trend in the FX markets and that basket strengthened 2.9% versus the dollar in Q3, but with the dollar's recent rally has weakened 1.5% in October. We continue to believe that investors who want to play the currency markets or hedge their currency exposures, would be better served to utilize the Trade Weighted basket rather than DXY given the broader representation of currencies.

If we take a quick look at a few of the key currencies in Q3 we see that most of them took a pause that refreshes in their ascent against the dollar, but the euro kept surging. The yen continued to be stuck between safe haven demand pushing it higher and Kuroda-san trying to pull it lower and after moving just a single point in Q2, the USDJPY didn't move at all in Q3 and was dead flat at 112.5. We summarized the BOJ's strategy last quarter saying, *"Kuroda-san ramped up his game recently by saying he would buy "unlimited" amounts of 10-year JGBs as part of his Kurve it Like Kuroda strategy to "pin" the yield curve (fix the short end and try to increase the long end to steepen the curve) to try and help the banks with their net interest margins, while simultaneously weakening the yen to help exporters (why yes, he does appear to think he can do it all)."* We warned about the risks of a rising yen should an equity market correction trigger a flight to quality, but global stock markets continued to move steadily and there was no need for any safe havens. We also wrote last time that investors should position themselves for the outcome we anticipated in our Ten Surprises, saying, *"We continue to see a higher USDJPY (target 130), so keep hedging those investments in Japanese equities."* While the yen has marked time for the last six months, the euro has been very busy and surged from 114 to 118, up another 3.5% in Q3 (after a dramatic 7.3% jump in Q2). The euro actually hit a peak of 120.5 on 9/8 and began a meaningful correction for the last few weeks of the quarter (that has continued in October). We wrote last quarter that, *"Germany cannot be liking this sudden strength in the euro as the world's greatest mercantilists (they need a weak currency to sell lots of cars and machine tools around the world), so perhaps there will be a change in this trend sometime in the coming quarters (likely after the German elections in September).* The euro didn't wait for the elections to begin the decline and there was a collective sigh of relief coming from Deutschland as the EURUSD eased back to 117, down (2.9%) from the September high. There is nothing like a strong currency to mess up the earnings (and then stock prices) of an export dependent economy and since the while EU and euro plan is to create a weak currency as a weapon for global trade domination, the recent advance was most unwelcome.

If the dollar was the most surprising currency of 2017 on the downside, the RMB has to be the most surprising on the upside, given the extreme consensus view coming into the year that the yuan had to devalue and that event would precipitate an economic hard landing in China. We wrote last quarter that, *"We had it on good authority from a number of our best contacts in China that there was no chance that Premier Xi would allow a currency event in 2017 given this was the year of the 19th Party Congress and he wanted stability above all else as he sought to consolidate power."* Stability was what the Chinese ordered and stability is what the Chinese got. While the USDCNY was not absolutely flat (as it was during the first five months of 2017) the currency moved only slightly in Q3, strengthening 1.9% from 6.77 to 6.64. For the year, the RMB is up (remember everyone was absolutely sure it was going down big) 4.3% and now with the Party Congress behind them, we would not be surprised to see a little bit of the move given back in coming months. Xi accomplished some amazing things at this Congress that provide him with a greater than normal ability to do some of the "hard" things that need to be done to keep the development of China on track. First, he wrote himself into the Constitution alongside Mao Zedong and Deng Xiaoping (effectively elevating himself to emperor status). Second, he appointed five new Party Officials who are all over 62, which insures that none of them can replace him (age limits). Finally, he changed the language for the overall China goal from "Harmonious Rise" to "Becoming a Global Super Power by 2050." As we have said before, *"The Chinese Leadership is very skilled and they continue to play Go while the rest of the world (particularly the U.S.) argue about how to set up the checker board."* We closed this section in January saying, *"Currencies matter, and in a world of political uncertainty and volatility in which we seemingly have plunged into, they will continue to matter even more, so being sure to have a sound hedging plan will be critical to investment success,"* and while hedging was not quite as critical in Q3 in a few markets, we continue to believe that they will be words to live by for many quarters to come.

Europe has been a challenging place to make money in the last year as tensions surrounding knock-on effects from Brexit and stress about a gauntlet of elections in 2017 had investors on edge. Given the uncertain political and economic environment in Europe we noted last time that, *"Coming into 2017, there was a sense that all it would take to unleash some strong returns in Europe was a few of the big elections to go as expected and not lean too far toward the populist candidates."* European markets followed this script perfectly in the first half of the year as all of the elections (punctuated by the French election in May) went decidedly more in favor of mainstream candidates than feared and the MSCI Europe Index screamed higher, jumping 7.4% in both Q1 and Q2, to be up 15.4% through June. We did highlight last quarter that *"The vast majority of the returns were currency related (local currency returns were only 1.8%), but the ebullience toward the European equity markets was palpable and there was a tenor of panic buying as global portfolio managers who had been underweight Europe for that past few years scrambled to rebalance."* That ebullience continued in Q3 as MSCI Europe was up another 6.5%, bringing CYTD returns to a very impressive 22.8%.

The top performing markets during the quarter were led by a couple of the PIIGS, as Italy and Portugal surged, up a very strong 13.7% and 13.2%, respectively. The Netherlands and Belgium were neck and neck for third place with the Netherlands eking out a slim victory, up 9.3% to Belgium's 9.2%. Performance across industries was strong with financials and cyclicals leading the way as the belief that rising interest rates would help bank net interest margins spread from the U.S. across the Pond. Just like last quarter, with no negative returns on the Continent, it is hard to say that any country was a laggard in Q3, but there actually were a few countries that only managed to post single digit returns (slackers). Spain was up "only" 4.3% (a good half-year during normal times) as the Catalonia Separatist movement heated up and markets became a little jittery. The volatility continued into October as clashes with police turned violent and it may make sense to heed Lord Rothschild's advice to "Buy when the blood is running in the streets." Finland was also only able to manage a 3.3% gain and at the bottom of the Leaderboard (but still breaking par) was Switzerland, up 2%. For the CYTD, the leaders in Europe were Austria (relief rally post-election), up an astonishing 49.6%, Denmark (monetary policy changes), up a robust 31.8% and Italy (bank recovery), up an equally robust 31.5%. All of these gains are more than double the S&P 500 returns and were equivalent to some of the best performers in Asia. The least fortunate EU countries (which sounds odd to say since every country is up double digits) CYTD were Belgium (nothing negative to say) up a very strong 20.4%, the U.K. (FX problems & Brexit fears), up a strong 15.7% and Ireland (Brexit fallout), up "still pretty darn good" 14.2%.

We noted last time that Mr. Draghi had been noticeably absent in Q1 and Q2 and we believed he was keeping his head down due to the *"growing chorus of people making the case that Europe is recovering rapidly and that inflation is surging to the point that not only will Draghi have to Taper, but he may have to raise rates soon and even Super Mario would not be immune to the bullets that would be fired by global investors if he were to take away the ECB punchbowl just as the party was starting to get good again."* Super Mario poked his head up just long enough in Q3 to assure everyone that there was no imminent end to QE from the ECB (they extended the extension), and while he acknowledged that a taper could happen next year, investors basically heard *"Party On, Garth."*

For a number of quarters, we have puzzled over why the transmission mechanism for QE in Europe has had the direct impact on equity prices that it had in the U.S.. We summarized our thesis last quarter, saying, *"We have hypothesized that there should be a similar correlation between QE and Equities between Europe and the U.S. and we have fashioned a version of the TIS Group model to link Euro Stoxx 50 moves to ECB bond purchases."* We had arrived at a TIS-like formula (after a great deal of trial and error) that for every €100 billion of purchases you get 20 Euro Stoxx 50 points. Our model failed miserably in 2016, as the ECB bought nearly $1 trillion and the index was dead flat, but it went into severe catch-up mode in Q1 and the Euro Stoxx 50 hit our 3,500 year-end target on March 31, 2017. With new data, we hypothesized that *"perhaps there was some lag in Europe and that the bond purchases in one quarter would be reflected in index performance in the next quarter."* Given $210 billion of QE purchases in each quarter of 2017, there should have been 42 Euro Stoxx 50 points in Q2, but equities actually fell during the quarter in local currency terms (all the big gains came from the euro strength), so we were back at 3,442 and needed to play catch up again. We had mentioned in Q1 that there was a risk Mr. Draghi might take away the punch bowl (or, perhaps that he had run out of bonds to buy) and wrote last quarter that *"the rumors started flying again about ECB tapering and the euro began to strengthen more rapidly while stocks began to leak downward in local currency terms over the [last two months of Q2]."* So, the model was looking a little stretched again to start the quarter and adding another 42 points for Q3 ECB asset purchases, the 9/30 Euro Stoxx 50 target moved out to 3,584. That target acted almost like a magnet during Q3, pulling the index almost precisely to the mark, finishing the quarter at 3,595 (so maybe we have gotten the model dialed in after all).

We discussed last time that *"If QE isn't going to drive equity returns, then we need a good old-fashioned economic recovery to drive stocks higher."* We warned in Q1 that, *"If the hard data continues to come in less positive there is potential for the fundamentals to swamp the sentiment and technical momentum that emerged in Q1."* We said that we needed to watch closely how the economic data fared during the balance of 2017, and cautioned *"We are becoming less convinced that European equities will* *turn out to be the sure thing that the consensus began to assert after the French elections."* It appears that our caution was unwarranted as a real economic recovery seems to be taking place in Europe. Q3 GDP came in at 2.5% (well above expectations of 2.1%) up smartly from 2% in Q1 (and up quite smartly from the 2Q16 trough of 1.6%). The only fly in the ointment has been that inflation remains persistently below the 2% target (just like in the U.S.), at 1.4%, but the upshot of the fly might be that Mr. Draghi will have to remain accommodative longer than expected (if he can find any bonds to buy - maybe they will include Greek bonds?) so there will be more bubble fuel for stocks.

We have been bullish on Japan since November of 2012, right before Abe was elected in a landslide victory, ushering in the era of Abenomics. We have been believers that Abe and Kuroda's one-two punch could weaken the yen, stimulate stronger economic growth, free Japan from the death grip of deflation and, ultimately, push equity prices higher. The past five years have seen some amazing progress on those objectives as the USDJPY exchange rate is higher by 40% (weaker yen), economic growth has now been positive for nine consecutive quarters (back to a 1.4% annualized rate), inflation has been positive for twelve consecutive quarters (back to a 0.7% level) and the Nikkei Index has rallied 155% (compared to the a 90% S&P 500 gain over same period). Even more impressive have been the moves of the major Japanese tech companies, Sony (SNE) and Nintendo (NTDOY) which are up a stunning 340% and 220% over the period, respectively. While it appears that Kuroda-san took an extended vacation in Q3 (the yen was up only fractionally to 112.5), equity markets were able to manage meaningful returns. The path was bumpy for sure as the Nikkei started the quarter at 20,033 and fell (3.8%) to 19,275 through the first week of September, before rebounding sharply on 9/8 after Trump cut his deal with the Democrats on taxes to finish the quarter at 20,356 (up 1.5%). As concerns mounted about yet another policy failure in Washington, the yen strengthened 4% during the first part of Q3, and was acting as a brisk headwind for equities. The USDJPY reversed that entire move over the last three weeks of the quarter and catalyzed a sharp recovery in stocks. That move in equities really accelerated in October, as the Nikkei surged 8.5% (actually enjoying the longest consecutive streak of up days, sixteen, in its history) on the anticipation (and realization) of Abe winning another landslide victory and consolidating his power base (virtually assuring that he will remain PM for five more years). We wrote in Q1 that *"It should not go unappreciated how powerful a move from the Trump Election Day panic low this rise has been in the Japanese Index."* To update the numbers through Q3, the Nikkei has surged 35% over the past twelve months, nearly doubling the advance of the S&P 500, which is up about 19%. The hedged Japan ETF (DXJ) is up 30% (somewhat different allocation than the Nikkei), the Japanese Financials ETF (DXJF) is up 28%, and the big winners we discussed above just kept on winning as Sony (SNE) and Nintendo (NTDOY) surged 44% and 70%, respectively.

We may have to stop talking about the Japanese Mega -Banks for a while as they have just not been able to find any natural buyers despite continuing to be exceedingly cheap. The big three, SMFG, MTU and MFG were down a bit in Q3 (giving back the slight gains in Q2), falling (2%), (5%) and (3%), respectively. Foreign buyers had been notably absent all year, but that began to change a bit in October as the banks jumped 5%, 6% and 4%, respectively, besting both the Nikkei and S&P 500 indices. Digging a little deeper into the index returns, Japan has had the same leadership as the U.S.: Technology. The four bellwethers in Japanese tech, Sony (SNE), Softbank (SFTBY), Trend Micro (TMICY) and Nintendo (NTDOY) exploded higher in Q2, jumping 14%, 15%, 15% and an astonishing 44%, respectively, so it was not unexpected that they might take a little break to catch their breath in Q3. SNE, SFTBY and TMICY did pause in Q3, as they were down (2%), flat and down (4%), respectively, but NTDOY just kept powering along (as gaming activity continues to beat even the most aggressive forecasts) and jumped another 10%. We wrote last quarter that *"Unlike Q1 where not much happened in the Nikkei as a whole, despite seeing some bifurcation between "Old Japan" (losing) and "New Japan" (winning), Q2 had a marked feeling of growing momentum as investors around the world are beginning to return and are finding rapidly growing earnings across a broad swath of companies as prices that are substantially lower than the U.S. and Europe."* That return of global investors remained a trickle for the first two months of Q3, but turned into a torrent in September and October, and Japanese equities exploded higher, rising more than twice as fast as U.S. and European equities (which were up a strong 4.5% and 6.5% respectively), up a very strong 14% in eight weeks. With Japan Inc. earnings set to explode higher by more than 20% (some estimates are as high as 25%), there is some chance that our Ten Surprises target of 24,000 for the Nikkei might be in reach by year end.

In a bit of a déjà vu moment, we wrote last quarter that *"Certainly, lightning couldn't strike twice and clearly the second increase in the Fed Funds rate would have to put pressure on EM currencies and equities, so EM stocks couldn't possibly be the best performing asset again in Q2? As is usually the case, when everybody believes something is going to happen (or not happen) the opposite happened,"* and EM was the best performing equity asset class in Q2. Lighting struck a third time and Emerging Market equities delivered extremely strong returns again in Q3, rising 7.9%, beating very strong returns from the S&P 500, the MSCI World Index, the MSCI ACWI Index, the MSCI ACWI-ex U.S. Index and the MSCI EAFE Index, as these indices rose 4.5%, 4.8%, 5.2%, 6.2% and 5.4%, respectively. Adding a spectacular Q3 to the 1H17 gain of 18.4%, the MSCI EM Index is now up a stunning 27.8% through the first three quarters of 2017. To put this move into perspective, think about all of the ink spilled about how great the returns of the S&P 500 and NASDAQ have been this year (and they have been impressive, up 14.2% and 20.7%) and they have risen 50% and 25% less, than EM in 2017. Emerging Markets were not supposed to be strong performers in 2017 (or in 2016 for that matter) because the narrative was that the Fed was going to raise interest rates, the dollar was going to rally, EM currencies were going to crash, China was going to have a banking crisis and hard landing, and EM equities were going to give back all their gains from 2016. At least they got the first part right. The Fed did raise rates a couple times (likely one more coming in December), but the dollar was the one doing the crashing in the currency markets, China GDP growth actually accelerated and EM equities have bested their 2016 returns almost three times over.

While overall index performance was strong, the third quarter was slightly different from the first two quarters in that there was actually some dispersion of performance across countries and regions (and a few reversals of fortune), but amazingly, for the third quarter in a row there were only a few countries with negative returns during Q3 (four out of twenty-five). At the bottom of the Leaderboard was Pakistan, which fell from third worst (ahead of only Russia and Brazil) in Q2 to worst in Q3. We discussed last quarter how Pakistan had been *"a market darling in 2016 (surging 40% in off the bottom last February) on the expectation of being upgraded from Frontier Market status to the EM Index, but suffered a bit from the 'buy the rumor, sell the news' phenomenon and fell (6.2%) in Q2."* Selling sometimes begets more selling, and the Pakistan liquidations came fast and furious in Q3 as the market plunged (16.5%) with the selling continued in October as well. One thing we think gets overlooked is how beneficial the Belt and Road Initiative (the project formerly known as OBOR, One Belt, One Road, now nicknamed BARI) will be to Pakistan over the long term, and we expect to see Pakistani equities back atop the Leaderboard sometime soon. The second worst laggard in Q3 was Greece, down (12.2%), which was a surprise to us given how well the negotiations with the EU and the Troika seemed to be going. We wrote last time, *"In April, the IMF made noises that they were on board with the proposed plan and the Tsipras-led government seemed to have made all the concessions* *needed to get the third bailout."* In response, Greek equities were up a stunning 27% in Q2 and were up another 6% through the last week of August before a surprise announcement that the EU might require another Asset Quality Review for the Greek Banks caused the markets (and particularly the banks) to tank (15%) over the next five weeks. As we said last quarter, *"We have often written often that in EM the banks represent the best way to play a recovery and Greece was a textbook example. We noted that we favored Alpha Bank, National Bank of Greece, Eurobank & Piraeus, in that order of riskiness."* The banks were up 29%, 38%, 70% and 27%, respectively, in Q2 and Alpha, NBG and Piraeus were up another 17%, 10% and 6% through 8/26 (Eurobank fell (5%) ahead of the others), but then collapsed on the announcement, crashing (28%), (21%), (25%) and a stunning (48%), respectively, in September.

We wrote last time that *"With the recent return to the debt markets to sell new bonds (remember two years ago yields on Greek bonds were over 30%) at sub-5% yields, perhaps Greece is not so bad after all."* We will hazard a guess that the Greek Banks (and other Greek equities) will be back on the top of the Leaderboard very soon. The third worst performer during Q3 was Qatar which had some troubles on the political and diplomatic front (seem to be caught in the middle of some other countries' spat) and fell (6.9%). Lower oil prices and the entrance of the U.S. into the LNG market have also caused some stress in Qatar. Performance has been so strong and - broad-based over the past year that there are only two markets with negative returns in 2017, Pakistan and Qatar, which fell (20.1%) and (15.4%), respectively. Russia came in third worst, but managed to eke out a positive 0.9% for the CYTD. These countries with poor performance share one thing in common (of perhaps many similarities), poor leadership. We will repeat what we wrote last time that *"Developed Markets' leaders (and citizens) should take notice and heed the warning of the paths of these dysfunctional markets as it would not take much for some of the very poor leadership we are witnessing in the U.S. and other developed markets to plunge us into a similar downward spiral."* As we have seen over and over again in the developing world, leadership can elevate a country to higher and higher levels (China, Argentina) or plunge the country into crisis (Venezuela, Turkey).

At the end of the laggards section last quarter, we noted, "*EM markets tend toward extremes in both directions, so don't be surprised to see these cellar dwellers back at the top of the leaderboard in coming quarters."* Sure enough, two of the three countries climbed right back to the top of the charts in Q3 (honestly, we didn't expect such a dramatic turnaround so quickly). The best performing EM countries during Q3 were Brazil, Russia and Chile, which surged 23%, 17.6% and 16.9%, respectively. In Q2, Brazil was still reeling from the political scandal that had taken down President Rousseff, and we commented *"The corruption scandal just won't seem to die and President Temer seems to have few friends and plenty of enemies who would like to see him implicated in the sweeping dragnet,"* but investors' attention seemed to shift away from politics and back toward improvement in the economy and (perhaps more importantly) a series of rate cuts by the Central Bank that was likely to further stimulate growth. As we noted last quarter, *"There have been some very strong signals of an economic bottom forming in Brazil and it appears that with the indictment of former President Lula, perhaps the headhunters have a big enough trophy to leave Temer alone (or maybe they realized they didn't really have a viable alternative),"* and with a second quarter of positive GDP growth (following eight consecutive quarters of decline), the Brazilian equity market soared in Q3. Unfortunately, the volatility was back in October as EWZ dropped (3.8%), so it appears we may not be completely out of the woods. But there is incredible headroom (the index is still down a lot from the peak) in the Brazilian market and we would expect to see continued strong returns from the Canarinho Market in the quarters to come.

Russia's Q3 surge brought CYTD returns back into the black and it was interesting how on June 22nd Gann Turn Date global investors seemed ready to ignore, *"Mounting tensions with the U.S. on Syria, the heightened scrutiny on the reports of Russian meddling in the election and falling oil prices which all helped keep Russia in the gulag,"* and RSX jumped 20% over the balance of the quarter. As we discussed last quarter, *"The vitriol toward Russia is reaching levels we have not seen in decades and there are even some who believe Russia is not investable. Conspiracy theories abound about how Russia and Putin interfered with the U.S. election (to put Trump in power) and not a day goes by lately without another story about some illicit meeting between Trump Administration personnel and some Russian official."* While the cloak and dagger stuff makes good headlines, the real issue for Russian equities since 2014 has been the decline in oil prices (impacts the Russian government budget) as many of the largest listed companies in Russia (51% of the MSCI Russia Index) are Energy companies. Russian stocks were down (14.2%) in 1H17 and in usual MCCM fashion, we were early on our call that Russia was a buy, saying in Q1, *"We have a variant perception on Russia, as we believe the assets there are very cheap, the markets are quite liquid and the economy has been recovering well since the trough in oil prices last February."* We backed up our belief with data that shows how Russia truly was the cheapest market in the world. With a CAPE ratio of 5.6 (second place is Czech Republic at 9.3), a TTM P/E of 8, a P/B of 0.8, a P/S of 0.8 and a yield of 4.8% (nearly as good as HY bonds), Russia screams "Cheap." Comparing those statistics to the S&P 500 today where CAPE is 29, TTM P/E is 22.4, P/B is 3.1, P/S is 2.1 (highest ever) and the yield is a paltry 1.9% (less than Treasurys), the scream becomes a roar. We talked about how there are other bonuses for investors, *"With inflation having fallen back close to 4% and the Ruble stabilizing with oil prices, there is a lot of room for the Central Bank of Russia to cut interest rates which are very high at 9%. That increased liquidity could provide a nice tailwind for equities."* We highlighted how it just didn't seem to make sense that *"the entire market capitalization of all the listed companies in Russia ($600B) was less than the market cap of GOOGL ($620B), particularly when GOOGL has $89B of revenue compared to the top twenty listed Russian companies' revenues of $505B."* We had the feeling that long Russia, short #FANG could be a winning trade in the coming years and it produced 6% gains in Q3 (but gave it all back in October), and we reiterate here that it will be a great long-term trade.

We ended the section on Russia saying, *"We would expect to be writing about some outsized returns from investing in Russia for many years to come,"* and only ninety days later here we are writing about high teens returns. We anticipate that there will be higher than average volatility in this market, but with a solid economic recovery in Europe, enhanced relations with China and a tailwind of rising oil prices, the Russian equity market is poised to be a great place for investors for a long time. We say frequently, *"Investing is the only business we know that when things go on sale, everyone runs out of the store (and the cheaper the price gets the further they run)".* As value investors, we endeavor to stay in the store and buy the marked down merchandise. You can't find many better bargains that those in Russia today. Sberbank (SBRCY) is one example of the bargains to be found in Russia. The largest bank in Russia with 68% market share, SBRCY sports a 20% ROE and a 3% yield and still sells at 7.5X P/E (for comparison, in the U.S., BAC, has a 7.5% ROE and 1.8% yield, yet trades at 15X P/E).

China came in fourth place in Q3, rising 14.7%, and while Chile did slightly better at 16.9%, we have very little to add about Chile other than the rally in copper (and lithium) has helped this index in the past year, so we will write about China instead. To set the stage, we repeat what we wrote last quarter, that *"We have been amazed in recent years at the incredible negativity toward the country and the complete dismissal of the investment potential there by Western investors… Home Market Myopia (people believe the only great* *opportunities are in the markets where they live)… is exacerbated by the cultural divide between the West and the East, fomented over the past few decades by Western media as the economic, political and military power of China has expanded."* Clearly, when China was a Communist basket case, global investors were not harmed by ignoring the Chinese markets, but as China has developed into a modern, powerful, economic powerhouse, investors who choose to ignore the Chinese markets are now missing some of the best investment opportunities of our lifetime. The one thing that makes it a challenge to be bullish on China is the meaningful number of very smart investors (who also happen to be some of the most boisterous) who are wildly bearish on China, and truly believe an imminent collapse is coming any day now. The voracity of their arguments borders on religious fervor and it can make even the most confident China supporters (like us) consider what it is that these people know that we must be missing. We described the severity of the negative view in the Q1 Letter, saying, *"If one were to simply listen to the press and Western social media it would appear that China was on the verge of total societal collapse as excess debt, poor financial institutions and corrupt leadership drag the country into the abyss."* We have learned over many years of experience that rather than arguing with zealots, you are better off simply using them to challenge your own perspective and thesis and to test your conviction in that view. As we noted last quarter, *"The true Chinaphobes will say that the China numbers are wrong (offering no evidence of how they are wrong or what the "right" numbers might be) and will assure you that the hard landing in imminent (has been for as long as we can remember)."* While we certainly respect contrary perspectives (particularly from smart investors), we will continue to focus on actual data rather than the hyperbolic conjecture. We continue to deploy capital into a market that we believe holds some of the very best investment opportunities in the world today (both public and private markets). In this space, we are currently focused on the tremendous opportunities in Technology, Healthcare and the Consumer markets as China transitions from a manufacturing led economy to a consumption led economy (similar to the transition in the U.S. from the 1960s to today).

Let's dig deeper into the Q3 macro data for China. GDP grew a little faster than expectations at 6.8%, down fractionally from 6.9% in Q1 and Q2, but a little above the 2017 target of 6.5%. Retail sales growth continued to be strong in September, clocking in at 10.3%, a slight downtick from the 11% growth in June. The Manufacturing PMI continued to move slowly upwards, hitting 52.4, which is above expectations of 51 and well above 50 which signals expansion. The Non-Manufacturing PMI was stronger, at 54.3 (perhaps the more important number as China transitions to a consumer-driven economy), again down a fraction from the 54.5 level in June. Industrial production continues to expand, albeit at a slightly slower pace than earlier in the year, but still up a robust 6.6% (down from 7.6% in Q1 and Q2). One of the challenges of maintaining high levels of economic growth is the required demand for continual expansion of the money supply and overall credit. The PBoC has kept the M2 money supply spigot wide open (above 10%) for many years, but has been dialing back the expansion slightly (to tap the brakes on an overheated real estate market) so M2 grew "only" at 9.2% in September (amazingly, the lowest rate since the data began being collected in 1996). Total loan growth continued to be very strong, clocking in at 13.1% (one of the few numbers to rise in Q3), but some economists are calling for higher levels of loan growth to support the economic expansion. Plenty of ink is spilled every month when these data points are released. The media loves to portray every little wiggle in the data as the beginning/end of some long-term trend (and they are consistently disappointed). What we think global investors are missing is *"the leadership in China is many moves ahead of China observers and is managing the growth rate very effectively. The Chinese know when to hit the brakes and when to hit the accelerator (like they did in 2009 when everyone thought the world was* *ending and they grew loans 34% despite widespread fear that the sky was falling)."* We have described the phenomenon as China is playing Go, while the rest of the world argues about how to set up the checker board. As China transitions toward consumption-driven growth, both exports and imports become critically important and must continue to expand rapidly. They grew again in Q3, albeit at a slower than breakneck pace, with exports jumping 8% (versus 11.3% last quarter) and imports surging 16.8% (right in line with the 17.2% rate of Q2). We repeat here what we said in January, that *"the relationship between these growth rates shows the transition from "Made in China" to "Made for China" that is underway as the Chinese economy transitions and also shows why it will be very challenging for Mr. Trump to wage a trade war with China now that U.S. companies will benefit more from open borders than closed."*

Perhaps the most widely followed indicator of health in the overall Emerging Markets is Producer Price Inflation (PPI) in China, as historically periods of deflation have resulted in equity market returns being muted, and have led to stressful periods in the capital markets. China's infusion of $1 trillion of monetary stimulus into the markets in late 2015 and early 2016 has seemingly fixed the problem of persistently negative PPI that had plagued China for the previous couple of years. PPI was up smartly to 6.9% in September, calming the nerves of investors who were concerned that it had dropped to 5.5% in June from the 7.6% high in March. We closed the China section in Q1 with the statement, *"Chinese equity markets struggle when the PPI is negative and do well when PPI is positive, so the current surge in PPI likely foretells positive returns in Chinese equities in 2017,"* and Chinese equities have followed that script perfectly in Q3 (and for the whole year) as MSCI China was up 14.7%, MSCI Hong Kong was up 5.1% and the MSCI China A50 was up 13.9%, bringing CYTD numbers to some of the highest levels in the world, up 43.2%, 27.8% and 41.9%, respectively.

Transitioning from the macro to the micro data, one of the core elements of the bullish case for Chinese equities is that they are still cheap (even after the 2017 rally). As we wrote last time, *"valuations in China continue to be extremely attractive. History has shown that investors with patient capital have been amply rewarded when buying Chinese equities at these levels."* History rhymed again in Q3 and investors who bought into the China weakness created by the Trump rhetoric following the election have been amply rewarded in 2017. But even after some truly outstanding performance within the China equity markets in Q3, valuations continue to be attractive by P/E measures:

MSCI Index	P/E	Fwd. P/E
China	16.9x	13.6x
Hong Kong	14.2x	15.9x
China A-50 (A-shares)	13.3x	11.4x
EM	12.7x	12.7x
ACWI	16.3x	16.3x
World	21.3x	16.9x
USA	23.4x	18.9x

Compared to other global equity markets, we see that China valuations are now at a slight premium to the MSCI EM, but they remain compelling relative to the broader global benchmarks. We appreciate that many investors are sitting on the sidelines fearing an RMB devaluation that might erase the gains captured by investing in the Chinese equity markets. That said, we reiterate here that we continue to believe that these fears are misguided and that investors are missing out on a tremendous investment opportunity in China today by listening to the growling of the China bears. Sitting on the sidelines had very little opportunity cost in 2016 as the MSCI China Index was flat, but the opportunity cost has risen dramatically in 2017 as markets have surged and are up over 40%. Adding insult to injury, the RMB has actually risen versus the dollar, rather than devalue as the consensus believed coming into the year. Further, the decision by MSCI to include China A-Shares in its indexes starting in 2018 will drive significant capital flows into the Chinese equity markets over the coming years. As we wrote last quarter, *"We really can't overstate the importance of this decision as there is no going back for MSCI now and given that the China markets are the second largest equity markets in the world (behind the U.S.) and the starter weighting just under 3% and a long-term normalized weighting closer to 20%, this tailwind will blow for many years to come."* When it came to the RMB not devaluing in 2017, even if you believed that the banking system NPL issue wasn't manageable (we believe it is), that the Chinese current account surplus would decline (we didn't think so) it would have been tough to make the argument that President Xi was going to allow a devaluation leading up to the 19th Party Congress this month (stability was job one in 2017) and it turns out that he didn't. We were invited to speak on a panel for the CAIA meeting in Dallas a few weeks ago and the other members of the panel were Kyle Bass and Jim Chanos (notorious China Bears). We were supposed to talk about the role of alternatives in portfolios. As you might expect, the conversation turned to China and there was plenty of verbal sparring about the certainty of a China collapse. Suffice it to say that Jim and Kyle remain unified in their bearish view and we were the lone bullish voice on China (similar to when we were the only bullish voice on Japan at another debate with KB at Jim Grant's conference in 2013).

In terms of portfolio implementation, our Big Three sectors, e-Commerce, Healthcare and Retail, have been somewhat volatile over the years, but the returns from these sectors have been nothing short of spectacular in 2017. As we summarized last quarter, *"The consumer story in China is a growth story that will unfold over the next couple of decades and will dwarf the emergence of the Baby Boomers in the U.S. and Europe over the past few decades. The opportunities for wealth creation in both the public and private markets are profound."* With all that said, given the extremely strong performance of Chinese equities in 2017, we would not be surprised to see a pause that refreshes, particularly in the local shares as investors take some profits to capture the pre-Party Congress gains. In the U.S.-listed ADRs there was some selling pressure in October (ahead of the 10/31 fiscal year), but we could see some buying pressure toward the end of the year as institutions do some window dressing. Retail investors (and hedge funds) are likely to push sales into the next year (for tax reasons) and Q1 could be a tough period, but we would buy the dips in advance of the MSCI inclusion changes coming next June.

We described Frontier Markets last quarter as follows, saying they *"tend to run very hot, or very cold, it is either feast or famine. After famine in 2016, it has been all feast in 2017."* The MSCI FM Index surged another 8% in Q3 to add another course to the feast that had pushed the index up 15.6% in 1H17 and brought CYTD returns to a very filling 24.9%. After an extremely broad-based move up in Q2, there was a little more dispersion in Q3 as there were six countries up more than 10% (versus ten last quarter), but there also nine countries with negative returns during the period. We wrote last quarter about the timeless wisdom of Sir John Templeton and our construct around his belief that you should always be looking for distressed assets (or countries), saying, *"We have discussed the power of the Templeton Misery Index many times (Sir John would say people always asked him where was the best place to invest and he would tell them that was the wrong question; instead they should ask where is the most miserable?). The strategy of investing where things look the darkest seems to work particularly well within the Frontier Markets."* There was a little bit of misery in FM during Q3 as a handful of countries delivered negative returns. Ukraine was down (4.7%), Bahrain was down (3.5%), Botswana was off (3%), Jordan fell (2.9%) and Nigeria was down much less than previous quarters, falling only (2.1%). These markets may be places to begin looking for bargains as they seem to have reached maximum misery and perhaps are even beginning to become less miserable.

Volatility is more extreme in Frontier Markets for many reasons, not least of which is that they encompass the least developed and diversified economies, have much lower levels of market liquidity, have far less useful (or even available) investment research, usually have far fewer investable companies, suffer from poor governmental systems (as well as some really bad leaders), have inadequate infrastructure, and host of other challenges for investors. These factors are what drive these markets to more frequent periods of feast and famine (figuratively and, tragically, often literally). We discussed another challenge last time as well, writing that these markets are prone to bubble behavior because *"When things are booming, investors tend to overwhelm the markets with demand (pushing prices to bubble extremes), and when things turn down, investors sell first and ask questions later (pushing prices to bargain basement levels)."* We channel Sir John all the time and try to help investors to steer clear of opportunities where everyone is crowding around (the consensus) and rather seek out opportunities where no one seems to be (the variant perceptions). Frontier Markets also unfortunately have a tendency to be prone to armed conflict, and we wrote in Q1 that *"Buying what is on sale has always been a good money-making strategy and Lord Rothschild told us that the best time to buy is when 'the blood is running in the streets,' but that said, there are very few investors (including ourselves) with the courage to consistently run towards markets where real bullets are flying and real blood is flowing."* Still, fortune indeed favors the bold and those who do have the courage to run toward the sounds of cannons have been able to make very strong returns over the millennia (with the one caveat that history is written by the winners and you almost never read about the ones who actually got hit by a cannon ball or bullet). One of our favorite managers (Miles Moreland, founder of Blakeney Capital) over the years had a similar (if slightly less dangerous) strategy that generated 30% compound returns for two decades, he would buy only stocks of banks, cement companies, telephone companies and breweries in African countries where he wouldn't drink the water.

In Q3 (as in Q2), the top two markets in FM were in African countries where real bullets have been flying and there are not many people (perhaps none) who would have put Zimbabwe and Ghana on the top of their list as countries to make strong returns in 2017. On paper, the gains in Zimbabwe look incredible, up 123.5% for Q3 and up 250.5% YTD through September, but things that appear to be too good to be true usually are. Zimbabwe has officially become the 58th example of recorded hyperinflation (greater than 50% inflation) as prices surged 50% higher in August and annualized CPI soared to 348%. Zimbabwe is no stranger to hyperinflation, having experienced one of the most incredible bouts in history during 2008 when inflation peaked at 89.7 sextillion (that is 8.97 x 10^22) percent and essentially made money worthless (I have a 100 trillion Zimbabwe dollar bill in my office that wouldn't buy a loaf of bread). During periods of hyperinflation, assets appear to rise dramatically, but the gains are not real because of the devaluation of the base currency. In Venezuela for example, the equity market appears to be up 2,400% CYTD, but with inflation running at 700% (or higher because the government stopped releasing data in February), those gains are clearly a mirage. Interestingly, there are a couple companies in Zimbabwe that are worth owning as they dominate their markets, but the risks today are simply too high to play in Uncle Bob's (the locals' not so affectionate nickname for President Mugabe) neighborhood. Ghana was up 67% in Q3 and the story there is more interesting (if not still a little dicey) as new leadership has pushed economic growth higher to 9% and dragged inflation down from 15% to 12%. So while it is a small, illiquid market, the progress is worth watching for signals on a model that might help other African countries. Kuwait and Estonia came in tied for third place, up 17.4%, as rising oil prices helped Kuwait and another story of strong leadership leading to better economic performance is driving equity markets higher in Estonia. Coming in close to the top of the FM Leaderboard in Q3 was Argentina which rose another

14.2% and continues to be one of the best performing markets (not just Frontier Markets) in the world in 2017.

Argentina has been one of our favorite markets over the last three years as the transition away from the Peronista regime has been incredibly stabilizing and energizing to a country that has suffered from mismanagement and government looting for decades. We wrote in Q1 how the past few years have been transformative in Argentina, saying, *"Argentina has been an amazing story over the past few years as they have transitioned from a country trapped in the past being exploited by a despot, to a rising star in the international community trying to recapture their position of prominence from a century ago."* We also wrote that concerns about past government malfeasance were the reason for investor skittishness and that *"fears about past defaults, currency devaluations and corruption have made global investors skittish about re-engaging with Argentina. However, there was a silver lining in the reluctance of global investors to come back quickly to Argentina as it has extended the investment opportunity (so far, so good) and we expect to see meaningful opportunities to make excess returns in this market for many years to come."* We can see just how meaningful in the solid returns in Q3, which bring CYTD returns to an eye-popping 61.6%, the direct result of global investors beginning to allocate increasing amounts to Argentina in recognition of the massive potential of a country that has been effectively locked out of global capital markets since the government defaulted in 2001. That changing institutional investor interest toward Argentina is one of the most important drivers of growth of the magnitude of the investment opportunity. The MSCI inclusion decision in June had the potential to really accelerate this change in sentiment toward the Argentinian market, but then, *"the MSCI Inclusion Committee left Argentina standing at the altar and didn't promote them from FM to EM."* We wrote last time that there was some indecision on the impact of the MSCI, saying, *"It appears that it will take a little bit for investors to decide if they believe the decision was a change in timing (one more year) or a change in direction (no inclusion). We will take the former and would be buyers of Argentinian equities every time they go on sale."* We also discussed last time how the Merval Index had curiously fallen (8%) in the three weeks before the announcement (seems a little leaky to us), but then surged back to flat in the weeks following the news. Markets continued to be quite choppy during the summer until the first week of August when it finally became clear the Cristina was not going to do well in the primary elections and a collective sigh of relief from Argentinians gave the all-clear sign to global investors. The Merval has rocketed higher, up 34% over the past three months (through the end of October). Buying the dips in Argentina has been a winning strategy over the past three years and should continue to be a great strategy for some time. While Merval Index returns have been quite strong, there are some individual companies that have been true superstar performers. Pampa Energia (PAM), the electric utility, Macro Bank (BMA), Grupo Galicia (GGAL), another large banking group, and YPF (oil) make up a Fab Four that been, dare I say, en fuego (nod to my Dopplegänger, Dan Patrick) over the past few years. All four were up again in Q3, rising 11%, 28% and 21% and 2%, respectively (YPF held back by lower oil prices). As a fun update, we have written many times that PAM (in addition to being the best executive assistant in the world) was *"our favorite stock (in fact, I tweeted in July of 2015 if forced to own one stock for the next five years this would be it)"* and since then PAM has soared 385% while the SPX is up 22% and ARGT (the Argentina ETF) is up 60%. Viva Argentina!

We discussed on a few occasions over the years the prospect for Saudi Arabia to be included in the EM Index in 2017, and we wrote in Q1 that *"we believed this was one of a number of tailwinds that was creating tremendous opportunity for investors in the Saudi market in the coming year."* The challenge for investors was that there was radio silence from the MSCI group on the status of the decision coming into the announcement date in June (countries traditionally go from Watch List to Consideration for Inclusion to Included Status over a series of June meetings). This lack of normal communication made handicapping the inclusion decision frustrating, but the team at one of our favorite managers that had been working tirelessly on the Saudi opportunity, *was "convinced that the MSCI Committee was going to make a favorable decision."* The thesis was that an inclusion decision would begin a cascade of global capital rushing into Saudi Arabia (a market devoid of foreign capital) and the resulting returns could be quite strong. As we wrote last time, *"With no advance warning (and very little fanfare) MSCI did indeed put Saudi on the watch list and began the countdown for inclusion in June and the markets rallied sharply to finish Q2 up 10.6%."* We anticipated that the returns would continue to be strong (as is normally the case for countries that are put on the inclusion track), but the Tadawul Index was actually down (1.6%) in Q3 and was up only 7% YTD through September (before surprisingly giving back almost all of those gains in October). The trailing one year return is still a very robust 36%, which is another example of the feast (Q4 2016) or famine (Q3 2017) of the Frontier Markets. We specifically wrote last quarter that *"These returns are likely to be the tip of what could be a meaningfully sized iceberg, as there are a number of very attractively valued assets in the Saudi markets (remember the bulk of listed companies have nothing to do with oil). Markets rise on growing confidence and we expect to be writing about positive returns from the Kingdom for many years to come."* However, it appears that similar to the inclusion decision, the returns will be delayed and investors will have to be patient. In many ways, this story reminds us of the events related to the China inclusion decision in June 2016, as MSCI agreed to include 19 ADRs in the indexes starting in June 2017, but surprisingly China stocks slumped badly in 2H16 before catching a huge bid in the new year and being some of the best performing assets in 2017. Perhaps we will see a repeat of this story play out in 2018 in the Saudi equity markets (with a bonus tailwind of rising oil prices).

The battle in the Bond Markets continued to rage in Q3 and we believe the eventual outcome will have far-reaching implications for investors over the coming years. We described the combatants last quarter, saying, *"The warring factions are the active managers who contend that the Bond Bull Market is alive and well versus the academic talking heads (like Alan Greenspan) who are calling a Bond Bubble and an imminent crash."* We identified the big burning question as follows; *"if GDP growth is going to remain extremely low and demographics will be a headwind for many decades to come, why do all the bond bears point to every little blip up in global interest rates and declare the end of the great bond bull market?"* (Again; implying we have heard this boo-bird chorus before)? The reflation bulls (bond bears) continue to cling to the Trump Trifecta (as a reminder, we are still at the NoFecta stage) and think that the combination of 1) reducing regulation, 2) reforming (lowering) taxes and 3) increasing fiscal spending will drive some great growth recovery. As we highlighted last time, *"All of these make great narratives, but there are some "pesky facts" that get in the way of actually getting much benefit from them toward the stated goals of increasing growth."* Simply summarized, reduced regulation could actually reduce overall profits and tax receipts (less M&A cost savings and lower monopoly profits), a simple tax cut for the wealthy has been shown not to result in additional growth (many middle-class tax bills would rise under current plan), and we know that fiscal spending has a negative multiplier effect and crowds out private spending (actually reduces growth).

As we highlighted last quarter, *"One thing we know for sure is that Nominal GDP growth is a math exercise where the inputs are working age population growth (WAPG) and productivity gains. The simplicity of the inputs makes determining the output quite simple as well (with a high degree of precision)."* The challenge for the growth bulls (and the Administration making heroic proclamations of 4% to

5% growth) is that we know (with certainty) that both elements are in secular decline (through the mid 2020's). We like to say, it's #JustMath. The math is really not high-level stuff, WAPG at less than 1% plus productivity around 1% equals less than 2% (no arguments and no creative accounting allowed). It is actually hard to understand where the impetus for higher rates comes from if growth is going to be stuck sub-2% for a decade (or more). In point of fact, *The End of the Great Bond Bull Market* narrative clearly doesn't seem to be having its intended impact on U.S. interest rates which spent most of Q3 falling, as the 10-year Treasury yield slumped from 2.3% to begin the quarter (peaking a week later at 2.38%) to a trough threatening a one-handle of 2.04% on 9/7. The theater of Trump cutting a "Deal" with the Democrats on taxes was gobbled up hook, line and sinker by investors and yields did rise back to 2.33% (virtually unchanged) to end the quarter. The 30-year Treasury yield had a similar path during Q3, starting at 2.84% on 6.30, slumping all the way to 2.66% on 9/7, only to round trip back to 2.86% by 9/30. Yields have continued to slip downward in October, as the tax plan continued to be delayed (a bill proposal has been released) and the Advance Estimate of Q3 GDP underwhelmed (again), coming in at 3% (with the potential for revisions downward based on recent data). So, in direct defiance of the bond bears (and the Administration), the Barclay's Aggregate Index rose another 0.9% for the quarter and the Barclay's Long Treasury Index rallied 0.6% as well (not big, but not negative), bringing CYTD returns to respectable levels of 3.1% and 6% respectively. We wrote last time about how, *"Raoul Pal of the Global Macro Investor Letter writes about the "Chart of Truth" on the 10-yr Treasury bond, which says that the primary trend is down until the yield passes the previous cycle high, which was 3.01%. We reiterate what we have written many times "we continue to side with Van Hoisington and Lacy Hunt who believe that the secular low in rates is ahead of us, rather than behind us."*

Examining the behavior of the long end of the Treasury curve relative to the S&P 500 this year provides insight on the fragility of the capital markets. There has been a very strong flight to quality whenever there is the slightest bit of negative news (or turbulence in the equity markets), and contrary to the bond bears, the 30-year Treasury continues to act more like a safe haven asset than a bubble asset. So, let's look at how TLT and SPX have performed relative to one another this year. In February, the Administration proclaimed loudly that a tax bill (which actually did not exist) was imminent, stocks surged and bonds took a beating and the SPX:TLT spread hit 7.5% (TLT down (2.5%) and SPX up 5%) by the Ides of March. The Fed spoiled the party a bit and raised interest rates. Surprising to most (not to us), Treasury yields began to fall (along with stocks) and the spread dissipated to zero by Tax Day. With some good tech earnings and more empty promises of pending tax legislation (still nada), SPX rallied through mid-May and the spread widened back to 5% (SPX up 6% and TLT up 1%). A huge debacle on the Healthcare bill (not even part of the Trifecta, by the way, but still can't get it passed) and bonds surged over the next month and the spread closed back to zero again by the end of June (TLT and SPX were both up 7%). The Fed started jawboning about reducing the balance sheet, which rekindled reflation fears, bonds sold off and stocks rallied, so a month later the spread was back to 6.5% (TLT only up 3% and SPX up 9.5%). As an aside, we wrote last quarter that, *"we will continue to take the over on any date that the Fed throws out for selling bonds back to the market as there is a reason the Central Banks are called the "Buyer of Last Resort." We expect this game of promising bond sales will go on for many years (as it has in Japan)."* Another Fed rate hike and more disappointment about the #NoFecta through August and rates started falling and the spread closed back to almost zero, hitting 1% on 9/7 (SPX up 9% and TLT up 8%). Trump's "deal" was all stocks needed to hear (and the last thing bonds needed to hear was more deficits) and the spread blew out to the widest level of the year hitting 11% (SPX up 13.5% and TLT up 2.5%) on 10/25. Perhaps another example of buy the rumor, sell the news, rates have turned back down after the announcement of the GOP House Bill (or maybe a recognition that it is likely DOA in the Senate in its current form), but the spread has eased back to 9.5%. Despite the recent spread levels, we stand by our call that TLT will beat SPX for 2017 (although admittedly looking like a tough bet with only two months to go). We stated our primary thesis for this position in January, saying *"if the economy really does slow and markets begin to really struggle, long bonds will once again become the safe haven trade and protect investors if we end up headed down the road to Hooverville."* A lot can happen (or not happen) in the last weeks of the year, but we continue to see increasing evidence of economic stress, slowing earnings growth and perhaps most disturbing is the widening of the spread not between stocks and bonds, but between GAAP and non-GAAP earnings reporting by companies that harkens back to the bubble trouble times of 2000 (that was followed by two years of record restatements of "earnings").

Central Banks have become media stars in the New Abnormal (market environment since 2000) and every move they make (actually seems like every word they utter) is analyzed, parsed and broadcast endlessly by talking heads proclaiming their infinite wisdom and expounding how their endless money printing experiment is going to generate economic growth, inflation and higher interest rates (any day now). The trouble with the story is that the hard evidence doesn't back up the narratives and we continue to see economic growth below potential (although admittedly there is global synchronized positive growth), no signs of inflation (we have noted Dr. Yellen has actually said that the lack of inflation in the U.S. is a "mystery") and rates are stubbornly stuck in a descending channel (although there are some global markets where rates are no longer negative). The big risk is that these downward trends could really accelerate should there be any sort of turmoil or turbulence in the global capital markets. Global bond markets have been most noticeably locked in that declining trend (yields down, prices up) caused by the glamour bankers from central casting (well actually, mostly from Goldman) providing an endless bid for government bonds and the resulting mad scramble for yield by global savers being victimized by financial repression (where CBs artificially hold interest rates down in order to encourage speculative investment activity and hopefully trigger a wealth effect). As with many things Central Banker-ish, this is fine theory, but it doesn't translate well into practice (as Yogi would remind us) in the real world. As we highlighted last quarter, *"the biggest issue is that the normal transmission mechanism in the real economy seems to be broken (or perhaps temporarily disabled) due to the explosion of debt having choked off the demand for additional credit (except in China), as evidenced by the rapid decline in bank lending activity."* The proverbial pushing on a string is occurring all around the world as velocity of money declines and the theory is definitely not translating into practice. Simply stated, artificially low interest rates transfer wealth from savers to borrowers (does it not seem odd to anyone else that prudent behavior is punished and speculative behavior is rewarded?) and incentivize improper risk seeking behavior by investors.

The Barclay's Global Aggregate Bond Index was up a solid 2.3% in Q2. Clearly, some of these returns for U.S. investors during the quarter was actually dollar weakness, but there is definitely a tug-of-war going on between the deflation and reflation camps around the globe and ever so slightly declining rates are providing positive returns for bond investors. For the first three -quarters of 2017, the Global Agg has defied the bond bears and is up a very solid 8.7% (with the impact of the dollar resulting in a little more than half of the returns). Looking around the world at global bond markets the picture is certainly not one of a runaway bull market. 10-Year JGBs crept back into negative yields again in August and nothing says deflation like negative bond yields (remember there are $7.4 trillion of government bonds with negative yields globally today) and European 10-year bond yields have been trapped in a trading range for most of the year (having just turned down again in October). As we noted last quarter, *"the reflation trade may actually be just another Hope Trade (you know how we feel about those) and as we like to say, hope is not an investment strategy."* It is hard to believe actually that is was only a few short months ago that the nonsense that bonds are the "short of a lifetime" was being spewed by the same "Bond Kings" (in quoted because they are self-proclaimed), who, incidentally were spewing the same nonsense the previous July (only to have rates fall back to new lows). We will reiterate what we wrote in Q1, *"we continue to hear about how this recent move in rates in the "End of the 35-year Bond Bull Market" and we even wrote in Q3 that "there is a rising cacophony that this time is the big one" and everyone says that foreign government bonds are the short of a lifetime, but we contend that until we surpass the 0.92% 2015 high on the Bund, the downward trend remains intact."* The yield on Bunds was incredibly volatile during Q3, but the volatility was slightly downward sloping (not upward) as yields started at 0.466% in June and rose to a peak of 0.603% by mid-July, fell sharply back to 0.307% on 9/7. They then rose along with other global yields after the Trump tax promise back to 0.464% to end the quarter (almost exactly where they began) before falling again in October to 0.363% (materially lower than the summer when the bond bull market was declared dead, again). We will restate an observation we made last quarter, saying *"it will be interesting to see if Bunds take out the series of lower lows (at 0.15%) and head back toward negative territory, which would be another indicator that deflation is still in control and the primary trend in yields is still down."* Bunds at 0.363% are not negative, but they are within striking distance of zero should growth disappoint or inflation continue to falter.

Let's review our checklist of criteria to evaluate the likely path for European rates, in particular looking for evidence things have changed in a positive direction indicating that rates must now rise. First, is European and German GDP growth better? Overall EU GDP has clearly improved over the past year, as Q3 came in at a 2.5% annualized rate (up slightly from the 2.2% in Q2 and up nicely from the 1.6% bottom last July), but German GDP has been stuck around 2% annualized for a year and while Q3 edged up slightly to 2.1%, that level of growth will not help profits accelerate. Second, has European inflation reemerged? EU CPI did recover from the 0.2% low in June of 2016 back to 2% in February (almost entirely because of the recovery in oil prices), but those gains have proved transitory (as expected) and CPI has now fallen back to 1.4% in September (with forward estimates of 1% by December). Third, are European politics stable and supportive of better growth? With the European elections not going as far right as predicted last year, the talk of EU dissolution had nearly vanished, until the recent minor victories in Germany and Austria of the far-right parties reinvigorated the discussion (and took a few points off the euro). We wrote about one of the most interesting developments of the summer last quarter, saying, *"there has been an interesting phenomenon occurring in which the leaders of the EU countries seem to be banding together against a common foe, President Trump. The tension at the recent G20 meeting was palpable and the decision by President Trump to start the process of the U.S. leaving the Paris Accord on Climate Change had a galvanizing effect on the balance of the group."* It will be interesting to see if this accord continues to build and how that will impact U.S./EU relations. It is still too early to say that populism, nationalism and protectionism are dead, but there continue to be encouraging signs that the political landscape in the EU is supportive of better capital markets outcomes. Fourth, have European demographic trends improved? Quite simply, no, and thanks to the continuing populist rhetoric on immigration (that spikes after every terror event), we don't see this getting better any time soon. Fifth, are European banks extremely healthy and rapidly growing new loans? European banks have made significant strides in the past year and are much healthier. They have successfully recapitalized their balance sheets, passed the summer stress tests with flying colors and should be in great shape to start expanding lending activity. However, loan growth has remained a consistent struggle, not from lack of effort, but from lack of demand (it appears that many corporations and individuals already have too much debt).

While we may not have an abundance of Yeses here, there are enough Yeses and enough encouraging signs pointing to a solid EU recovery which could support somewhat higher global bond yields. That said, we continue to come down on the side of paraphrasing the Hoisington yield thesis for the U.S., *"the final trough in global bond yields lies ahead of us."* The difference between global bonds and U.S. bonds is that the yields are so low outside the U.S. that the risk/reward of being long those bonds is inferior to owning long-duration Treasurys as a deflation hedge.

As we described last quarter, *"Credit markets continue to demand the use of superlatives as the global reach for yields has reached epic proportions and "investors" (we use quotes because intentionally buying an asset above fair value is not investing, it is speculating) are seemingly willing to pay any price (no matter how high) for pieces of paper that pay some yield (no matter how low quality)."* Financial repression has caused such outrageous behavior in the bond markets that now when discussing High Yield Bonds, we refer to them as Not So High Yield (NSHY) bonds. As we described in January, *"one of the conundrums in the high yield space is that the adjective high doesn't seem appropriate any more as junk bond yields have collapsed from 6.2% to end last year to 5.65% today."* That said, NSHY has become oblivious to fundamentals and spreads just keep on tightening (courtesy of the global mad dash for yield). Option Adjusted Spreads (OAS) collapsed even further (which we would have bet was not possible) from 3.77% at the end of Q2 to 3.51% on 9/30 (this is the spread to risk-free Treasurys). If we dig down into the even more dodgy part of the NSHY market, we find that the really (we mean really) risky stuff, the CCC rated bonds (they are rated CCC because 50% default within four years) for some inexplicable reason continue to be prized the most but investors. I guess what we wrote last time sums it up best, *"in a world where market participants believe there is no risk why not buy the bonds with the largest yields?"* Call us old fashioned, but buying bonds where you have only a 50/50 chance of being of being paid back seems like a rather risky undertaking and one that would require a serious amount of compensation about the Risk-Free rate, but in a Financial Repression world, being a prudent investor is frowned upon and investors continued to pour into money into CCC's, pushing the yield down from 8.76% to 8.3% during the quarter. Let's do a little simple math here, as your bonds default you lose about 12.5% on average a year and recover fifty cents on the dollar (probably high, but we will be conservative), you are netting about 2.05% (8.3% minus 6.25%) from a portfolio of CCC NSHY bonds (10-Year Treasurys yield 2.33%, what are we missing?). We wrote last time that *"one possible explanation for the conundrum is that there was a stealth Recession (not called by NBER) in late 2015, early 2016, and that the economy is not in the late stages of an expansion, but rather in the early stages of a recovery"* so there won't be many defaults and these low rated securities will magically defy the long-term default averages (we guess anything is theoretically possible).

We always have to keep in mind that the companies supporting these bonds are called non-investment grade for a reason (they default with a clear regularity) and that lending money to companies with poor track records of always paying it back at yields that do not compensate you for the risk of losses from defaults seems like an ill-advised idea. Apparently, the majority of investors believe since there have been fewer defaults, there must not be much risk in NSHY Bonds any more. We beg to differ, simply because the Fed is repressing market participants and pushing them into risky assets and banks (as well as private lenders) are willing to make low (or worse, no) covenant loans (a loan with no covenants is just "future equity") doesn't mean that their collective errors of judgment have actually eliminated the risks from the companies' underlying business activities (that support these loans). Bottom line, they were wrong. Further, buying assets above fair value is wrong as well and as the saying goes *"two wrongs don't make a right."* Moody's recently declared that the overall quality of NSHY bonds issued, as measured by strength of covenants protecting investors, hit the lowest level ever (may, with benefit of hindsight, turn out to be the point at which the craziness ends). That said, we have been warning about the potential for trouble in the NSHY space for a few quarters now and we have clearly been Early (the euphemism for Wrong) and that caution has been somewhat costly, as the BofAML High Yield Index was up another 2% in Q3 and is now up 7% CYTD (we do find some solace that our view on EMD being a better place to invest has been proven correct). We will continue to side with Ben Graham on the construct of simply buying assets because the price is rising (yields falling) and we wrote about his views in the Q1 Letter, saying *"just for the record, there is a reason they are called junk bonds, many of them finance really bad businesses and don't actually pay the money back. The idea of lending money to companies that may not have the capacity (or willingness) to pay it back and only extracting mid-single digit returns compensation seems suspect at best, and unintelligent at worst."* In *#TheValueOfValue* Letter we also pounded home the point that when market participants (use that term intentionally) pile into any asset class with no Margin of Safety (pay a price above fair value simply because the price is rising) those market participants leave the realm of investors and become speculators. One of the challenges of periods of speculative excess is the creation of paper gains (similar to liquid courage). We wrote in the letter that *"paper gains are a very dangerous thing, as they tend to cloud your judgment and give you a false sense of security that you are playing with house money (this phrase has never made sense to us because if you take the money off the table it is your money, but in a casino invariably if you leave it on the table it returns to the house)."* When people buy assets that then rise in price they become overconfident, they become complacent and they ignore warning signs that they would normally heed if they were more fully engaged in the thinking about the investment process. When markets get really seriously overvalued, they are prone to speeding too fast, ignoring the stop sign and they hit the wall with #NoSkidMarks. We will quote Bernard Baruch (again) here who frequently said, *"I made all my money by selling too soon."*

Our goal of an investor (and our job as Advisors) is to actively survey the global landscape for investment opportunities where the return potential compensates you for bearing the risks required to achieve those returns. Lots of places around the world are considered risky for lots of reasons (political, growth, demographic, market structure, etc.), but risk alone is not a reason not to pursue an opportunity (in fact, our job as investors is to seek out, and take, intelligent risks). When an investor is compensated properly for taking any particular set of risks, then (and only then) would it be prudent to deploy capital into those opportunities. We believe there is one market in the fixed income and credit markets that fits this profile (returns properly compensate investors for risks taken), is Emerging Markets Debt. We wrote in Q1 that, *"We have discussed on many occasions how there has been very significant development in the quality and depth of the markets for EMD and that there had been evidence over the past few years of the asset class even taking on some of the role of Safe Haven during crises."* Our Variant Perception about EMD is not widely shared by global investors (although EMD is becoming more popular) and the Western media would have you believe that EMD is still dominated by Banana Republics (derogatory term for countries with excess debt and little growth potential). The ironic thing is the Banana Republics might be a better descriptor of Developed Markets rather than the Developing Markets. We have written in the past that contrary to those popular perceptions, *"today, the vast majority of EMD issuers are very high -quality companies and the governments, in most cases, are in meaningfully better financial condition than their DM counterparts, so the risk in EMD has* *fallen dramatically over the years."* In fact, if one were to have a head-to-head comparison between EMD and DM HY, EMD would win a knockout, as quality in EMD in superior and yields are actually higher as well.

EMD did come out swinging in 2017, jumping 3.9% in Q1 and rising another 2.2% in Q2, finishing a very strong 1H17, up 6.2% (nicely ahead of NSHY). EMD was strong again in Q3 as the Barclay's EM Bond Index was up 2.3%, bringing CYTD returns to 7.5%. EM Corporate bonds continued to perform well and the JPMorgan CEMBI rose another 2.1% in Q3, but once again, local currency sovereign debt was the big winner (EM FX smacked down King Dollar one more time) as the JPMorgan GBI-EM surged 3.6%. We believe strongly in the Ben Graham differentiation between investing and speculating saying, *"the problem with any investment decision is when you shift from buying an asset that you feel is undervalued or has substantial investment income to generate return to a decision to buy an overvalued asset because you expect some "greater fool" will pay an even higher price in the future, you move from the realm of investment to speculation."* Unfortunately (or fortunately if you are in need of an irrational buyer), there are plenty of greater fools roaming the capital markets today willing to pay prices well above fair value for assets of all types. We continue to believe (and history has confirmed) that buying assets below fair value (buying what is on sale) is a far superior investment strategy over the long-term. In the public debt markets, we believe success today requires investors to focus on EMD over NSHY (and perhaps include some long bonds in traditional fixed income as a deflation hedge). Given the relative unattractiveness of many fixed income investments today, other forms of income producing asset (BDCs and MLPs) have become more attractive, as they have more consistent cash flows and there is reduced risk of capital loss in the event that interest rates do actually rise. We still believe rates rising is unlikely anytime soon, but when you get a free hedge, take it (like Yogi said, ***"when you come to a fork in the road, take it"***).

In a world of Financial Repression yield is in short supply, so yield oriented assets (REITs, MLPs, BDCs, etc.) were viewed very favorably by investors during the QE Era. The mantra was "yield is yield" and there weren't many questions asked about how that yield was generated, how much leverage was needed to produce said yield and what were the risks endemic to each asset class and investment strategy. All was well for the period from 2009 to 2014, but then a funny (or not so funny if you owned some of these assets) thing happened in 2015 as oil prices collapsed and certain types of real estate assets (retail) proved to be quite different than other types of real estate assets (multi-family). We discussed the surprise (or chagrin) that yield chasing investors experienced last year, saying, *"Not all yield assets are created equal; different structures, different leverage levels, and different underlying asset quality "should" produce different return streams. The problem lies in those times when investors ignore all the differences and simply buy the yield of what they consider to be comparable assets (REITs and MLPs)."* Those differences were on display again in Q3, as REITs were up slightly on the reflation Hope Trade while MLPs got inexplicably punished (despite rising volumes and rising oil prices). The S&P U.S. REIT Index was up a modest 0.8%, while the Alerian MLP Index was smacked down (3.1%), compounding the reversal of fortunes in Q2 (MLPs beat REITs in Q1) and brought CYTD returns to 2.9% and (5.6%) respectively. After a strong recovery by the MLPs in 2016, the recent weakness, coupled with the pain of the 2015 crash, makes the "yield is yield" argument moot as the longer-term comparison numbers are not pretty for the MLPs. Comparing REITs and MLPs over trailing periods looks like this; one year, a not so bad (0.1%) vs. (3.7%), two-year, a pretty bad 9.3% vs. 4.2%, three-year, a really, really bad 9.4% vs. (12.9%), five-year, a really bad 9.4% vs. (0.6%) and ten-year, finally an okay 5.6% vs. 6.5% (one out of five isn't bad…). We said last time that *"reversing the warning this quarter, don't assume from these trailing period numbers that*

REITs are far superior to MLPs and we will go further to say that fundamentally things look increasingly less robust for RE and we are quite constructive on the prospects for the MLPs (particularly the mid-stream focused companies), so we would expect the next five years to look very different than the last five years" (likely more like the last ten, maybe even better).

We wrote a few quarters ago that *"the most impressive thing about REITs is that, interestingly, they have outperformed equities over nearly all trailing periods during the past twenty years, so perhaps there is something to this yield construct after all."* One thing we can be sure of is that over long periods of time yield makes up 40% of equity returns and while the impact can be swamped in the short term by earnings growth and valuation fluctuations, in the end equities are a discounted stream of future cash flows. One caveat to this point is that since the changes in the mid-1990's to allow share buybacks (they were considered insider trading up to that point) the analysis gets a little trickier because it turns out that investors don't adjust EPS for declining share counts (even though they should). With that said, the past year has changed the scoreboard (think of the Ohio State, Penn State game where the outcome changed dramatically in the closing minutes) and proves how quickly things can change in the equity markets. The S&P 500 has absolutely crushed REITs over the past year, surging 18.6% versus a decline of (0.1%) and has reclaimed the lead over REITs in every trailing period over the past decade (18.7% spread out over a decade is almost 200 bps of excess return per year). As we might expect, REITs dominate the majority of the trailing periods out to twenty years. Over the full twenty years, the gap reverses back to what we would have anticipated (higher yield wins) with REITs compounding at 9.25% while the S&P 500 compounded at only 7% (2.25% doesn't sound like a lot but of return, but $1MM turns into $5.87MM in REITs and only $3.87MM in Stocks, 52% more wealth from the extra yield). So, Einstein was right, compounding really is the Eighth Wonder of the World. One might ask why should we look at these trailing periods and compare the two vehicles? The answer is that valuation matters and that there are times when a dynamic approach (active management) can generate far superior returns than a static approach (buy and hold) because the forward expected returns are so different because of extreme valuations in one of the assets. As we discussed last quarter *"in 2000 the S&P was so egregiously overvalued (and REITs were so cheap) that it was a slam dunk to buy REITs and sell the S&P 500, but no one was doing that, as the REIT yield hit 9% (inversely related to demand, so sub-4% today is not so good…) and record amounts of money poured into passive Index Funds (sounds eerily familiar)."* We know how things turned out, the S&P 500 returns have been a sub-standard 5.4% (half the long-term average), while REITs compounded at 10.8% over the same period (double stocks with a huge chunk in cash yield). For perspective, REITs compounded $1MM to $5.72MM while Stock compounded $1MM to only $2.44MM over the seventeen years. Worse, is that if REITs were to revert downward to their 20-year average return of 9.3% for the next decade, the S&P 500 would have to compound at 18.9% to catch up (let's just say that is highly unlikely…). Getting a meaningful portion of your return in cash yield is beneficial in two ways, it helps increase compound returns and it provides some margin of safety against short-term fluctuations in prices. One key point we highlighted in Q1 was *"the one requirement is that yields actually have to be high when you buy (this concept seemingly lost on market participants in REITs, NSHY and other forms of debt today)."* We also posited an interesting thesis in the Q1 Letter, that perhaps *"yield assets really have been overrun with refugee bond investors which have pushed prices up too high (and hence yields too low)",* as over the decade REITs returned 5.6%, which has been pulled down toward the Barclays AGG return of 4.2% rather than tracking the 7.4% of the S&P 500 (MLPs coincidently were 6.5%). When thinking about the poor yields in REITs today, we feel like it is déjà vu all over again back to 2007 (when we went short REITs and Sub-Prime) and we have many of the same concerns and repeat our warning that returns in this sector may be below normal for the foreseeable future. In January, we jumped on a particular sub-sector of REITs that seemed extremely vulnerable, the Malls (linked to being short retail stocks based on the #AMZNRoadKill thesis), and wrote *"we will keep it short and sweet and say that the risk/reward is unattractive and there are plenty of better places to deploy capital (although we can't help but think shorting mall REITs like SPG, GGP and MAC is a really good idea)."* Since we penned those words nine months ago, the REIT Index actually managed a 4% gain (versus 13% for SPX), but SPG, GGP and MAC got slammed, plunging (15%), (22%) and (20%) respectively (#AMZNRoadKill indeed, AMZN was up 35% over the period).

MLPs were one of the top performing assets in 2016 after being absolutely crushed in the 2H15 (down (50%) from 6/30/15 to the 2/11/16 low) surging 28.3% for the year (up 60% from their nadir in February). We discussed last quarter how *"with some great insights gleaned from our private exposure in the oil patch and some manager friends in Texas (and surprisingly Kansas City), we were able to buy some very nice bargains during the Q1 2016 Sale"* after making the case that buying core mid-stream assets at "baby with the bathwater" fire sale prices would produce (pun intended) strong returns from that point. For perspective, ETE, PAGP and WMB were up an impressive 250%, 135% and 130% from that point. One of the great things about being generalist Value Investors is we have the flexibility to move capital from places where asset prices are too high to places where asset prices are too low and we discussed that benefit last time saying *"as investors that have deployed capital across all asset classes and utilized myriad investment strategies over many decades, we believe we have a significant #Edge in that we have a very broad and deep global network of experts in every asset class that we can turn to for ideas, research, diligence and insights."* We have been very fortunate over the decades to have been very active investors in the energy space in both the public and private markets and we have unique knowledge of many of the pipelines that make up the core holdings of these MLPs as we have been investors in those assets in many different forms over a long period of time. For example, we invested in the pipelines that became ETE and WMB when they were being sold by Mirant Energy in 2002 and participated in the purchase of the PAA and PAGP assets from Paul Allen's Vulcan Group in 2011. We also had great insight from private E&P investments in the Permian basin that production volumes were exploding higher as completion techniques were improving and oil prices were recovering from the $26 trough lows in February of last year. We reiterate what we wrote in January that *"going forward we see a confluence of events that could stimulate further MLP gains, from a less environmentally sensitive (maybe just less sensitive overall…) President who is likely to accelerate drilling and pipeline projects (would be huge win for ETE) to better technology that continues to defy pundits claims that depletion of existing wells must reduce volumes and a rapid recovery in rig counts in the Permian as E&P companies are extremely profitable at $50 oil (much to OPEC's chagrin)."*

So, if things look so great in the energy markets and production of hydrocarbons is accelerating, then why were MLPs down (3.1%) in Q3 and why are they down (5.6%) CYTD (and down another (5.1)% in October). Clearly, we would have to admit to being a little surprised by the weakness in the sector as we continue to get reports of fundamental improvements across the five core basins and we continue to see rapidly expanding levels of oil and gas production. We wrote last time that *"the data is very supportive here, more rigs are being stood up, more wells are being drilled and, therefore, more hydrocarbons will need to be transported, so we should see continued upside from the MLPs"*, but we didn't, so what went wrong? Over the summer and early fall, there were a number of developments that created what we believe are short-term headwinds for MLPs. First, the Bond Boo Birds were back this summer (like the swallows to

Capistrano) making the case (and talking their books) that the Great Bond Bull Market was over and that rates were about to spiral upwards. All the talk about rising rates (and a little bit of actual movement upwards) spooked investors in yield assets and MLPs and REITs (and a few other assets) suffered some selling pressure. Second, one of the challenges of yield assets is the marginal buyer/seller (hence short-term price setter) is retail investors and when they hear Cramer (or any other talking head) on CNBC screaming about how rates are about to surge, they sell first and ask questions later. Second, there was some speculation (remember all it is so far is speculation…) that the tax benefits of MLPs might be attacked in the Tax Bill, so there was additional selling pressure. Third, some of the over-leveraged MLPs actually did cut their dividend payouts and the fear that there were more to come also spooked investors who only paid attention to the headline of the cut and didn't look at the fundamental improvement in many of the balance sheets or the rising production volumes that were discussed in the balance of the earnings calls. Fourth, as oil and gas prices fell in the second quarter, investors sold everything related to energy and for some inexplicable reason treated MLPs like E&P companies, but then ignored the reversal in prices in Q3, go figure. Fifth, there was a reasonable amount of institutional window un-dressing (selling what is down, opposite of window dressing where you buy what is up) that occurred in the final weeks coming into the October 31st fiscal year-end for mutual funds and ETFs that created a cathartic trough (and great buying opportunity). MLPs suffered some serious mark downs (read went on sale) over the past three months as AMLP, PAGP and WMB fell (10%), (25%) and (10%) respectively (ETE was flat), and regular readers know how we feel about assets that go on sale. As we wrote last quarter, we are always *"willing to buy assets we like when the prices fall below fair value (and we get a nice dividend while we are waiting), so we will continue to do so here."* With current yields of 7.6%, 5.5%, 4.2% and 6.6% respectively, it is not that painful (earning double the corporate bond or other equity yields) to wait for the markets to normalize and for these assets to move back toward fair value. The added bonus is that if oil and gas prices actually rise further, there could be a really meaningful explosion in production and that means more revenue for the pipelines and higher prices for MLPs.

Commodities are cyclical assets, the result of reflexive behavior of the producers and users of commodities, and that means that investors really need to be active in managing commodity price risk. As we outlined last quarter, *"when prices are high (or rising) producers ramp production (sometimes a lot), causing prices to fall (supply exceeds demand). As prices fall, user demand increases and prices begin to rise again (in a reflexive circle). Similarly, when user demand falls, prices slump (supply exceeds demand again) and producers must curtail production (sometimes a lot), eventually triggering the reflexive user demand to increase and prices rise. With prices rising, the cycle starts again."* Investors can capitalize on this cyclicality by buying when prices are low and selling when prices are high because we can have confidence, that like the tides, the cure for low prices, is low prices and the cure for high prices is high prices. There is emerging evidence that we have begun a new Commodity Super Cycle that started last year when the bruising bear market that began in 2011 seemingly came to an end of extremely low commodity prices across the board. The challenging thing about these transition periods is they don't exhibit the smooth upward/downward movement of the mature phase of the cyclical move, but rather are punctuated by a series of sharp reversals of the emerging trend in what we described last quarter as the Sokoloff Test pattern. We wrote that *"behavior in the early days of a primary trend change described by Kiril Sokoloff in his weekly publication, What I Learned This Week (simply the best research service we have seen and if you aren't already a subscriber, you should be…), where he says that when a long-term theme is in the process of changing (in this case Disinflation turning to Inflation) the related markets will experience rapid movement in the direction* *opposite the old primary trend (in this case the big move up in commodities last year after a brutal five-year bear market from 2011 to 2016), but will then experience a rapid reversal that shakes the faith of the early investors in the new trend."* Commodities followed this pattern to a tee in the first half of 2017, with the GSCI falling (10.2%) after surging 60% from the January bottom to the end of 2016. We discussed in the last two Letters how the GSCI was testing investors' resolve and it seemed that the volatility was shaking out weak hands every other week. Something very interesting occurred in June, however, as the GSCI hit a CYTD low of 2055 by 6/21 before turning on a dime the next day are surging 5.6% over the last week of the quarter. What was so interesting was that 6/22 was both a Bradley Turn Date and a Gann Day (dates that usually trigger changes in trend) and we were emboldened by the timing of the turn that the primary upward trend in commodities was still in place. We wrote that *"the volatility continued in July, but the direction was notably upwards and from the 6/21 bottom, GSCI has made three higher highs and three higher lows, so if the Index can break through 2434 the primary upward trend will resume."* The upward momentum did continue in Q3 and the GSCI rallied 7% reaching 2340 by 9/30 (and has continued higher in October, hitting 2420 and headed for 2434). When you look at the move in commodities since the bottom last year (up 33%) it looks like there has been a nice recovery, but when you change the perspective and look at the long term it is important to remember that since the beginning of the Commodity Bear Market in August 2011 GSCI is still down (58%), so there is a huge amount of headroom for commodities to recover. We also discussed last time that *"over the last six years the S&P 500 and the GSCI make a giant Alligator Jaws pattern with SPX up 105% and GSCI down (60%) and you know what we say about Alligator Jaws (they always close, the tricky part is the timing…)."* Those jaws began to close just a tiny bit in Q3 and now the gap is 105% to (58%). We closed this section last time saying, *"We recently saw a great chart that Incrementum AG included in their most recent white paper (sourced from BofAML) that shows how Real Assets are the cheapest relative to Financial Assets they have been since 1925."* As Value Investors, we love the words "cheapest in a century", and we get very exciting about buying what is on sale, so excited in fact that our new mantra is #GetReal (buy Real Assets).

We outlined our view on oil in our Ten Surprises in January and we haven't had to change the view as oil prices have pretty much followed the exact path we outlined, falling toward $40 in the first half (hit $42.53 on 6/21, there is that Gann Date again) and rising back toward $60 in the second half (hit $54.38 on 10/31). We have acknowledged we were a little bit "out there" with our view on oil and wrote in January that *"there are a lot of very smart oil traders, oil industry analysts and oil company executives who are jumping on the bullish oil bandwagon, calling for $65 to $70 oil in 2017 and $85 or more in 2018. We even saw someone make the dreaded $100 call for 2018."* We are also careful to consistently reiterate that *"we are by no means oil experts and many of the people we talk to, and invest with, have forgotten more about oil than we will ever know, but we do have an ability (like any good analyst) to look at the data (facts) and make a determination of the supply/demand balance in the oil markets."* We also make a point to try and avoid consensus views (focus on Variant Perceptions), which tend to emanate from those in the oil and gas business (or securities business) who we believe have different incentives for their views. When looking at the data for 2017, it didn't add up that oil markets could come back into balance in the first half (and perhaps not even until 2018). We summarized this perspective in Q1, saying *"with huge oil surpluses in the U.S. (highest ever), stubbornly high global crude stocks (highest ever) and now reports of slowing in storage construction in China, we can't see how a small OPEC supply cut can bring the market back into balance. It seems to us that without a dramatic increase in oil demand the data seems to indicate that oil markets won't balance before late 2017, early 2018."* The cherry on top for us coming into the year was the Commitment of Traders (COT) data and we wrote, *"another troubling factor for the uber-bullish camp is that traders are already at their highest net long exposure to oil futures since the 2014 peak (so where will the buyers come from?), we know from history that the COT futures data is a tremendous contrarian indicator for oil prices."* The COT indicator worked like a charm in the 1H17 (prices fell) and as we wrote last quarter *"interestingly, the COT data now shows speculative long positions have collapsed, which could bode well for the second half of our Surprise, that oil prices begin to recover over the back half of the year toward the top end of our range."* After six months of ups and downs (but mostly downs) to begin the year, oil was *"headed right for the $40 hard deck in June and then like being pulled by some anti-gravitational force bounced right off the 6/21 Bradley Turn date (interesting how many things turned on this date) and jumped back to $46 to end the quarter."* Q3 was much better (but no less volatile, maybe this is where all the S&P 500 volatility has disappeared to…) for oil prices as after a quick dip back to $44.23 the first week of July, we were right back to $50.17 by the end of the month, then spent all of August falling back to $45.96 before surging back to $51.67 by 9/30, finishing the quarter up 12.2%.

The name of our oil related Surprise was *When OPEC Freezes Over*, a nod to the basic premise that "Cartels cheat" and we wrote *"one of the core elements of the construct was that the likelihood of the OPEC members sticking to the agreed upon production cuts was, let's just say, not high."* One of the most interesting things about the OPEC "Cuts" was that they had ramped production in the last part of 2016 from 32mm bpd to 33.4mm bdp right before announcing a cut of 1.2mm to 1.4mm bpd. By our math that still left them producing at the historically highest level they had ever consistently produced. We also hypothesized that there was likely to be cheating as maintenance season ended and we wrote last time that *"the "un-cutting" continued apace in Q2, as OPEC production rose to 32.2mm bpd in May, 32.7mm bpd in June and 32.8mm bpd in July (so much for the 32mm cap). The other thing to remember is that these figures are the self-reported numbers (not actually verified numbers) so it is likely that the actual total production figures are higher (as they have historically been).* The production numbers stabilized in Q3 as OPEC production slipped to 32.7mm bpd in August, but recovered back to 32.8mm bpd in September and October. Since 2014, Saudi Arabia has made a series of ill-advised moves to try and "Kill U.S. Shale" and the near record oil production levels in the U.S. would argue that they have not been very successful in their endeavors. We discussed last quarter the latest attempt by Saudi to *"announce the cuts in such a manner as to flatten the futures curve as much as possible to try and make it more difficult for U.S. Shale producers to hedge."* The most levered E&P companies in the U.S. must be able to hedge production (to stabilize cash flow for the banks), so it seems like an ingenious plan by the Saudis to harm U.S. producers. However, you know what they say about "best laid plans" in that *"the Saudis did not anticipate was that many of these companies would be able to go back to the capital markets are raise debt (and even in some inexplicable cases equity), as investors who were desperate for yield would buy seemingly anything regardless of quality."* Just one more unintended consequence of QE and Financial Repression. The other development that Saudi did not anticipate (or owners of oil service companies either for that matter) was that oil services costs would absolutely collapse and breakeven prices for the best U.S. basins would reach unthinkable levels (numbers in the $20's). We noted last time that *"with oil prices staying in the mid-50s throughout Q1, it wasn't surprising to see U.S. production ramp to 9.3mm bpd. What has been surprising, however, was that with oil slipping well below $50 for most of Q2, production continued to rise to more than 9.4mm bpd."* With oil being nicely above $50 today, it has not been surprising to see U.S. production ramp to 9.6mm bpd in Q3 (even more impressive when consider had to shutter Gulf production twice for hurricanes).

Because global oil transactions have historically been transacted in dollars (for now, but that could be changing if China has their way…) there has been a strong relationship between oil prices and the dollar and also (interestingly) between oil prices and the USDEUR exchange rate. We wrote in our Ten Surprised in January that *"for many years the dollar and oil prices were highly inversely correlated (dollar up, oil down; dollar down, oil up) and you could get a good sense of where oil prices were headed by the primary trend of the dollar. Looking at the long-term correlation charts, with the DXY around 100, oil should be in the $30's (rather than $52)."* Given that our Surprise #7 made the case that the dollar was headed lower, we didn't see much additional downside below $40 (hence the low end of our range) and, in fact, we expected oil to eventually turn back up as the dollar fell. With the DXY at 94.55 to end October, the dollar would say that oil should be in the low $50's, right about where it settled at $54.38. We also discussed the correlation with the Euro saying, *"The other indicator that has tracked oil prices very well has been the USDEUR with a six-week lag and with the Euro at 1.07, oil should be somewhere around $40"* (more support for the lower bound). The USDEUR exploded higher after the Macron victory in France (surging all the way to 1.20 on 9/8) and we wrote last quarter *"that should presage higher oil prices as we head into the fall and winter and we would not be surprised (clearly not since it is the second half of the Surprise itself) to see oil head back towards $60 toward year end."* We love it when a plan comes together (or an indicator works well) and given that the USDEUR has now settled at 1.16, we would expect oil to peak around $60 in the second week of November (six weeks after the 1.20 peak in September) and then settle to around the mid-$50's following the Euro's six-week lead as it eased back to 1.16 at the end of October.

We discussed in the last Letter that *"the stealth bear market claimed two monster trophies in two well-known hedge funds. One was forced to cut risk after suffering large losses on long bets, while another was forced to close his core fund as his bullish thesis on oil prices did not play out."* Given the track record of these two legendary oil traders, these are not small events and may speak to how challenging investing/trading is becoming in the machine age. We often say that these two *"have forgotten more about oil than we will likely ever know"* and as traders, they have produced huge returns for their investors over many years. What these events also show is *"how even with massive research resources, deep industry relationships and large capital bases, commodity markets can be very humbling."* The first manager subsequently published a letter stating that he remains bullish on oil prices (although he has pushed back his original timeline to say prices may stay lower for a little longer), but he expects to see $100 oil again in 2020 (vs. 2018 last year)." We have written on many occasions how the most profitable allocation strategy we have seen over the decades is to allocate capital to a manager who has a strong long-term track record (ten years or more) who has recently experienced a difficult period (one to three years). We believe this description fits this manager perfectly in the current environment.

From an implementation standpoint we have been focused in three areas, E&P companies in the Permian Basin and Oil Services companies focused on Sand and Offshore Drilling. In the Permian, we wrote last quarter that *"as we near $40 we would accumulate the high-quality Permian producers like RSPP, FANG, PXD and PE"* and since we penned the Letter in August these names are up 22%, 27%, 18% and 12% respectively (with Oil up 16% and SPX up 5%). We highlighted in January how investors (and OPEC) had underestimated the creativity of U.S. Shale producers saying, *"One example is that producers found that if they crammed four times more sand down a well they could double production. This is great news for sand companies (which have been on a tear) like SLCA, FSMA, EMES and HCLP, but not such great news for rig owners as producers can get more output with fewer active wells."* Something strange happened, however, in February as the "*Fab Four became the Fearsome Four and fell (30%), (59%), (45%) and*

(35%) respectively through the end of April." We thought that the collapse in prices didn't synch with the reports of the increased usage, "*but with more digging (pun intended) we learned that completion technology had advanced again and the higher volumes of sand were working with lower quality (less crush resistance) sand, which gave an advantage to the local Texas producers.*" We decided not to try to catch these falling knives (or spinning drill bits), which turned out to be a great decision as we wrote last time that *"we missed further wicked declines of (27%), (43%), (43%) and (43%) respectively in the past three months."* We went on to say we were beginning to hear Howard Marks' words in our head that *"there is no company bad enough that you can't fix with a low enough price so it may be time to fill up the sand box again."* While it has been a rocky (read volatile, and pun intended) road over the past three months, the sand companies proved Howard right once again rallying 34%, 85%, 47%, 20% respectively (the lower quality companies benefitted disproportionately from the big short squeeze in September). We have discussed on multiple occasions how the Shale revolution has been really bad news for some companies in the Oil patch, but none have been hurt more than the off-shore drillers (companies like RIG, ESV, RDC and ATW). We had written in Q1 that *"the damage has been so great to these names that some deep value oriented players are beginning to make noise on the long side and there is even some take private risk (might happen at a premium) in staying short, but our favorite manager still sees more downside so will stick with them (until the trend changes)."* We wrote last time that not much had changed to change our view or future prospects, *"so we will continue to wait patiently on the shoreline."* In the category of you can't win them all, the massive energy short squeeze in September dragged RIG and RDC up 25% over the past three months (ESV and ATW were flat), but we still can't see how deep water offshore drilling makes economic sense in the Shale Era, so we will stay away from these names (even though they may continue to catch a bid from grave dancers). Finally, we heard an interesting take in the next few quarters in the Oil patch during one of our many recent trips to TX (from a very experienced public markets energy manager), who said that the move in Oil to $65 in 2018 (his forecast) would accrue disproportionately to the Oil Services companies (not the E&Ps), so OIH, SLB, HAL and a few other specialty names in the space might be interesting buys here.

As and aside, we have found that when public markets become difficult to understand from a valuation perspective (and most would agree that is the case today), we have found that spending more time focused on the private markets is highly profitable. When the public markets seem "easy" (they simply go up every day) investors' attention is drawn away from long-term investing in the private markets because the short-term returns in the public markets have been so attractive. We use the past tense here because, unfortunately, most investors weren't invested in those public markets during the spectacular run, but are lured by the siren song of recent performance and chase whatever strategy has become hot over the recent past. Investors begin to shun the idea of locking up capital to pursue private strategies and that has a tendency to reflexively increase the return potential for deals. Think of the inverse, if there is excess capital bidding up deals (as we would say is the case in large buyouts today), future returns will be lower than average and if no one shows up at the auction (which we would say is the case in small energy deals and China growth capital today), then future returns will be higher than average. Ben Graham said that *"euphoric markets tend to transfer wealth from the active to the patient"* and we find that our best returns come from when we are willing to be long-term, patient capital. To that point, we will repeat something here from previous Letters that illustrates the current opportunity set in the energy space, *"we have been spending a disproportionate amount of time with our private energy manager this year (that is an indication of how attractive we think the opportunities are) and every time we talk to one of the teams in the oil patch we come away even more* *excited about the potential to make outsized returns in the private oil & gas markets."* We continue to see very strong deal flow in the private energy markets (just completed a truly spectacular deal last week in the Permian Basin) and with the lower price environment persisting longer than most anticipated there has been increasing stress in the oil patch. When there is increased stress, there is increased opportunity and we expect to continue to see more attractive opportunities arise from the oil & gas companies that took on too much leverage in the 2014 boom times. Like we articulated in Q1, we have always preferred to traffic in areas *"where returns on new money invested is likely to be measured in multiples of capital, rather than percentages of capital."*

Oil and Gold are the glamour commodities, but the blue-collar commodities (industrial metals) are the ones that really give us insights into the health of the global economy. As we have written before, industrial metals *"are normally associated with global GDP growth (more specifically of late, China GDP growth) and the price trends in these industrial metals are very closely watched for clues as to the state of the global recovery (or lack thereof)."* With evidence emerging about relatively strong global synchronized growth (led by China and India), the predictive power of the blue-collar commodities has been confirmed yet again. We wrote last time about the growing disconnect between Developed Markets and Developing Markets growth, saying *"it is a little curious that U.S. economic activity continues to disappoint, but given the low level of manufacturing activity (relative to services) in the U.S. economy, perhaps there is something more fundamentally wrong with the Developed Markets (we would say the #KillerDs, bad demographics, too much debt and deflation) that the economic growth in the U.S., Europe and Japan will stay muted for longer than people think."* One possible explanation for the divergence between copper and iron ore prices and DM growth is that perhaps Dr. Copper is *"speaking Mandarin now"* and since the marginal user of industrial commodities is more likely to be China and the other Emerging Markets rather than the Big Three (Japan, Europe, U.S.). Another big development in the commodity complex is that the crushing Bear Market that began in 2011 really did appear to end in 2016 and we have seen lots of evidence of a new, self-sustaining, commodity cycle.

Copper prices have been quite strong in 2017 and Q3 was no exception as prices rallied 9.2%. That said, the positive overall trend has masked some serious volatility. We noted last quarter that *"the ups and downs of the Copper markets have been exacerbated even more by the ongoing debate over the health of the Chinese economy, but as the China economic numbers started to roll in very positively, Dr. Copper was feeling perky again."* Copper started Q3 at $2.71 and as more positive economic data began to roll in from China, Dr. Copper decided to go from a light jog to a full sprint and surged 6.6% in July to $2.89, peaking on 9/4 at $3.16, up another 9.3%. Perhaps feeling a little winded from the sudden sprint, Dr. Copper lost a few steps on the following weeks, falling (7.6%) to $2.92, before regaining stride to kick to the finish line at $2.96 on 9/30. Dr. Copper was feeling good in October and sprinted up another 4.7% to $3.10 (perhaps burning off a few extra calories before the Halloween candy arrived). One thing we noticed over the summer was there was some *"very curiously timed activity in the commodity futures markets"* which has become a more frequent occurrence in the past eighteen months. Whether this activity is coming from Chinese pools of capital chasing easy to leverage speculative plays (as equity market volatility has declined) or whether it is the result of "Dark Pools" (pick any conspiracy you like for this one) is uncertain, but the periodic bursts of excess liquidity in these markets is very real. We speculated last time that *"it appears that each time China tries to crack down on speculation in one part of the markets (stocks in 2015 and real estate this year), the money finds another bubble to inflate. Call it a hunch, but we will likely write more about the Chinese activity in the commodity futures markets in coming quarters."*

Sure enough, here we are writing about it, but we can't actually be completely sure it is Chinese money, but given the amount of liquidity the PBoC pumped into the economy last year ($1 Trillion) it does make some sense. The challenge now will be what happens if the PBoC pulls that liquidity back, as they have been prone to do after the Party Congresses end. This will be an important development to monitor over coming quarters. Copper related equities liked the increased activity in Copper prices in Q3 and joined Dr. Copper for a little run (and reversing a bit of the big losses from Q2). Southern Copper (SCCO) was up 15%, First Quantum (FM.TO) was up 28%, Glencore (GLEN.L) was up 19%, Anglo American (UK:AAL) was up 31% and Freeport-McMoRan (FCX) was up 17%. We wrote last quarter (and reviewed above) that *"Kiril Sokoloff of 13D warned us earlier this year, primary trends will be tested (to try and shake out the weak hands) so until the facts change on supply or demand trends, we will aspire to remain strong hands and buy what is offered at a discount."* As usual, Kiril was right as these companies all turned on the Gann Date in June, and surged 26%, 44%, 29%, 45% and 25% respectively over the past few months as Copper prices rose through the end of October.

Iron Ore had a surprisingly rough Q2, falling (35%), and we say surprising because all the negative events that pundits were predicting that might hurt the iron ore markets, slower growth in China (nope, higher), Trump actually acting tough with China and Korea on steel (nope, as usual, just talk) and commodity speculators being tapped out (nope, plenty of money rushing into these markets), never did materialize. We contemplated *"the big question"* in Q1, asking *"whether this drop was a pause the refreshes, or the beginning of a broader trend in the rolling over of the reflation trade"* and concluded then (and again here) that Kiril (Sokoloff) was right and there have been fundamental changes in Supply and Demand across the commodity complex and that prices should continue to rise. Iron Ore prices pushed higher in Q3, up 3.5%, but the average number masks the huge volatility in the commodity intra-quarter as prices surged 26% in July and August and fell (18%) in September. However, the really big question still remains, are we closer to reflation or deflation? Our view is that the Killer D's (demographics, debt and deflation) are still in the driver's seat and while we can see a risk to global economic growth should China remove their monetary stimulus, we can see a path to how supply declines will push commodity prices higher over the intermediate term. Iron Ore related equities rose for the most part in Q3, which wasn't bad considering the high volatility of Iron Ore process. VALE was up 15%, BHP was up 14%, CLF was up only 3%, RIO was up 12% and only AU:FMG fell, down (2%). Similar to the Copper stocks, since the Gann Day/Bradley Turn Date of 6/22, these stocks had been completely on fire, surging 46%, 29%, 32%, 32% and 43% respectively through the first week of September, then suddenly the Iron Ore market went into free fall right after Trump announced the Tax "Deal" (still waiting…). By the end of October, VALE had given back half its gains to be up only 25%, RIO and BHP were relatively flat and were still up 23% and 22% respectively, but AU:FMG and CLF gave back all of their gains, falling back to up 3% and flat over the entire period. We hypothesized last time that perhaps the industrial metals were more susceptible to lunar gravitational forces than other assets (boosted by the eclipse), but it appears that Washington hot air is an even more powerful force than the moon.

As the New Year began, consensus was building that La Nina would lead to weather extremes (colder winter and hotter summer) so $4 Natural Gas was "guaranteed" in 2017 (we all know what happens when everyone is sure of something…). As the old saying goes *"when everyone is thinking the same way, there is not a lot of thinking going on…"* As you might expect, the consensus was indeed wrong and *"the only thing chilly during winter 2017 was NatGas, as it fell (17%)."* Things didn't get much better in Q3 and NatGas prices drifted slightly lower, falling (2%), as milder summer temps continued to limit demand for NatGas. We noted last time that you also had to *"pile on the demand challenges 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."* An interesting thing happened in Q1 (seen this many times in the past couple of quarters), there was increased dispersion between different levels of quality companies (not all stocks being raised by the QE tide any more). We discussed how *"there was a bifurcation between the lower quality (SWN, RRC) and higher quality (COG, RICE) companies (quality based on acreage and leverage) and SWN and RRC continued to fall, down another (16%) and (18%), while COG and RICE rallied 8%. Winners actually winning and rising more than the losers? What's next, overvalued companies actually going down? (I know, asking too much, but a Value guy can dream can't he….)."* Capitalism may be finally making a comeback. So, the highest quality company, RICE, actually got purchased by EQT and other NatGas names like AR, SWN, RRC and GPOR continued to bifurcate in Q3, as high-quality core names EQT and COG rose 11% and 7% respectively, while the non-core names AR, SWN, RRC and GPOR fell (8%), (0.1%), (16%) and (2%) respectively. As we summarized in April *"we want to lean into the bullish thesis in NatGas, but 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. This is an area to watch and a place where there may be some good bargains soon."* We discussed last time how those bargains may have finally arrived and we do think now is an opportune time to buy the higher quality names in the NatGas space.

Precious Metals have been volatile in 2017, which is slightly out of synch with the weakness in the dollar and the heightened geopolitical rhetoric that should have acted as a tailwind for safe-haven assets. We wrote last time that *"in fact, the price activity over the past months and quarters could best be described as erratic and unpredictable, prompting some market observers to hypothesize that there is some kind of intervention (some might go so far as to say manipulation…) in these markets."* In Q3, Gold was up 3%, Silver was flat, Platinum fell (1%), and only Palladium managed a gain, jumping another 11% (lots of demand for catalysts for car exhaust systems). We discussed in the last quarterly that a manager that we respect had done some very interesting research around the construct of using Gold as a hedge against market volatility instead of Cash. We wrote that *"the basic idea is that during times of high market valuations (like today) one normal response (followed by some of the smartest investors we know like Seth Klarman) is to raise Cash as a hedge, so you have liquidity to buy when prices inevitably get correct and get cheap. What this manager proposes (and has a great deal of data to support the conclusion) is that in these times of extreme valuation (1929, 1972, 2000) there is a risk that many ignore, currency devaluation risk, which is solved by owning a superior currency (gold). History shows that Gold actually rises in value in these times when financial assets are falling (particularly equities) and therefore the purchasing power differential grows not linearly, but exponentially, when using Gold as the hedge."* The key to the strategy is the non-linearity of the price reaction of Gold in times of stress and the dramatic increase in purchasing power that can inure to investors who hold physical gold during these transition periods. Investors in Precious Metals have another option that seems intuitively appealing to day as well, to buy the miners, the companies that mine, process and distribute the actual precious metals. As we wrote in April, *"there is a rule of thumb that says when the Miners outperform the Metals it has usually been a Bullish sign, and vice versa when the Metals outperform the Miners, it is a Bearish sign."* The challenge for investors has been that there has been a fundamental disconnect in this sector between valuations (which are incredibly attractive) and sentiment (which is equally incredibly negative). We discussed this in April, saying *"something doesn't feel right in this sector as the Miners are incredibly cheap, capacity has been rationalized, costs have fallen as oil prices have stabilized at much lower levels than 2014 and global demand for precious metals continues to* *rise (individuals and Central Banks), but as we have written in this section before it just doesn't appear that the Miners can find their "natural buyer" and they have been relegated to the momentum trading crowd, which is not great for us long-term investors."* Caution seems to have been the proper stance in the Miners this year as Q3 was another challenging period and while the Metals were slightly positive, the Miners continued to get very little love from investors. GDX managed a gain of 4%, GDXJ was flat and SIL and SILJ both fell (3%). Once again, since Gann Day, those same stocks all outperformed equities right through the first week of September, rising 15%, 14%, 8% and 18% respectively, but gave all of those gains back over the ensuing weeks as expectations grew that the Tax Bill would bring a rally and Safe Haven assets once again were shunned by investors who all decided *"we don't need no stinking hedges."*

As interest in Bitcoin and Blockchain technology exploded over the past few years, we had written about cryptocurrencies in the Letter on a couple of occasions, but after a particularly active Q2, we decided the timing was right to create a dedicated section to review #Crypto as a new asset class on an ongoing basis. Our timing could not have been better. We initiated the new section last quarter saying, *"one wild card in the PM story is the emergence of the crypto currencies (Bitcoin, Ethereum, Ripple, etc.), which are gaining in popularity as Alternative Currencies (long the sole role of Precious Metals) so it will be interesting to watch developments in this area and we may have to start tracking the performance of the cryptos in future letters."* The King of Crypto at this point is Bitcoin (largest market cap, most participants and largest number of haters including Jamie Dimon, Warren Buffett and recently arrested Prince Alwaleed) and let's do a quick look back at the last five years and then do a quick recap of what has been a year that is sure to go down in investment history (one way or the other…). Just five short years ago (11/1/12), the value of a single Bitcoin was $12.43 (decimal point is in the right spot). Four years ago (just twelve months later), the price of Bitcoin was $1,120 (that's a comma, not a decimal point), up a staggering 90X (not 90%...). Three years ago, Bitcoin's price had collapsed to $377, down (66%) in one year (but still up 30X over two years). Two years ago, the price of Bitcoin was still $376, essentially unchanged over the previous twelve months. One year ago, Bitcoin had just doubled over the past year and the price stood at $742 (up 60X over forty-eight months). Quite a run, huge volatility, and, most importantly, almost no one owned any (many had still never heard of it). Now, not a day goes by without a story about or some talking head on TV opining about Bitcoin.

So, what happened in the last year to bring so much attention to Bitcoin? Let's take a look. Bitcoin started 2017 at $966 and was immediately declared a Bubble by the Media (and the Bit-Haters) when it cracked the $1,000 level four days later. All the stories said that BTC would crash any moment (as a reminder, BTC was labeled a Bubble in 2010, 2011, 2012, 2013, 2014, 2015 and 2016…) and the Bit-Haters actually got their wish (so they thought) over the next week as the price dove (30%) to $775 on 1/11 (still higher than a year earlier, but not higher than a week earlier). The Hater celebration only lasted a few weeks, because within sixty days, the price had surged 67% back to $1,291. When the Fed raised rates on 3/15, there was another nearly (20%) drop over two weeks, which had the Bit-Haters cheering again, but when focused on facts instead of emotion you see Bitcoin was up a solid 8.5% for Q1 to finish at $1,052. The fun really began in Q2 as BTC nearly trebled (up 3X, or three-fold or 300%, whichever you prefer...) over the next ten weeks hitting what just had to be "The Top" (according to the Bit-Haters) at $2,954 on 6/10. With another quick (17%) drop to $2,465 to end Q2, the Bit-Haters were seemingly happy again, although with Bitcoin up 134% for Q2, it is hard to see what they were jeering about (that's up 155% for the 1H17 for those keeping score at home). But, Bitcoin was just getting warmed up. With the threat of a "Hard Fork" on 8/1 (a division of the underlying Blockchain) creating huge stress, Bitcoin flash-crashed in the first two weeks of July, falling (22%) to $1,917 before bouncing right back up 42% over the next two weeks to $2,731 to end the month (turns out 8/1/17 was the BTC equivalent of Y2K, no big deal…). With the Hard Fork stress gone, Bitcoin surged big time in the next month, up 80%, to finish August at $4,921. Suddenly, without warning in the first week of February it was reported that China was "Banning Bitcoin" (they weren't, but they were banning Exchanges and ICOs) and BTC flash crashed again dropping (35%) over a week to $3,228 and the Bit-Haters declared victory and they were all sure that Bitcoin would go to zero any moment (not exaggerating here). Had that happened, we probably wouldn't be writing this section (or maybe we would have as it would have been an interesting post-mortem), so you might guess what happened instead, Bitcoin got stronger and more popular. The whole point of the Internet of Money is to have a distributed ledger system for monetary exchange and store of value that exists outside the realm of Government regulation (some might use the word manipulation here) and outside the global fiat currency regime. So far, so good. Every attack that Bitcoin withstands increases the viability and attracts more users, which increases the Network Effect and makes the system stronger. It truly is as the old saw goes, *"that which does not kill you, makes you stronger."* Bitcoin surged in the final weeks of September to close at $4,326 on 9/30, up a surprising 75% in Q3 and up a stunning 348% CYTD (just a wee bit better than stocks and bonds). But the fun didn't stop there. October saw an acceleration of the momentum (which didn't actually seem possible) and closed out Halloween at $6,434, up 49% for the month (a treat indeed for the Bitcoin faithful, and a trick for the Bit-Haters, some of which had gone short…). So, Quo Vadis? Where do we go from here? We have a Variant Perception on Bitcoin and believe it is still in pre-game warm-ups, so not even a question of what inning are we in because real game hasn't started. When the Custody Banks solve the "we can't custody of Bitcoin because we can't take physical custody" (what do they do with oil and gas reserves or patents and other intellectual property?) there will be an explosion of capital into this asset class (then the game will begin). We are focused on Bitcoin as a Store of Value (essentially #DigitalGold) as it is denser, easier to divide (Satoshis) and more portable than real gold. Use cases are likely to come later, as we clearly understand the limitations on transaction times that make it unlikely Bitcoin will disrupt Visa & MasterCard any time soon (but it will over the long term). We understand precisely why the TBTF Banks are scared of Bitcoin. Why do we need big physical buildings and banking institutions when we have the distributed ledger? (short answer, we don't…) The miracle of Bitcoin was that it went from nothing to $100 (or whatever real number you want to pick), going to $400, $4,000, $40,000 or $400,000 is much easier, and is entirely logical as we move toward Gold Equivalence (21mm Bitcoin X $400k = $8.4T, right around Gold's total market value).

There are hundreds of Crypto Coins today and more being issued every week that emerge from a process called an Initial Coin Offering (ICO) that is effectively a disruption of traditional Venture Capital and Crowdfunding (a topic for another time) models. There are a handful of Coins that are interesting and we are likely to discuss at some point in this section going forward (Bitcoin Cash (BTC), Ripple (XRP), Litecoin (LTC), Dash (DASH), Neo (NEO), Monero (XMR), ZCash (ZEC), Ethereum Classic (ETC)) but we want to spend some time on the original Ethereum (ETH). Think of Ethereum as the www of the Internet of Money as it is a protocol that allows users to build other coins, token and applications utilizing Blockchain technology. The most talked about application for Ethereum is Smart Contracts, publically recorded transaction records that execute automatically when an event occurs (no chasing after people who won't honor a deal). Augur is an example of a platform that is built upon Ethereum that began as a betting site and has morphed into a business that has the potential to disrupt the global Exchange business (futures, options contracts etc.). Ethereum is also a cryptocurrency that many people own and trades on exchanges and could have some Use Cases (applications) in Payments and could even be another

Store of Value contender (although we really see BTC as the winner there). ETH has had an amazing run over the past few years. Only two short years ago (11/1/15) Ethereum traded at $0.95 (yes, less than a dollar, it was a Penny Crypto…). One year ago, the ETH price has risen more than eleven-fold (11X) to $10.78 and was just beginning to become recognized outside of the Crypto Community. Ethereum started 2017 at $8.06 and it has been a truly amazing ride over the past ten months. By the end of Q1, ETH has risen to an amazing $50.43, up 526% (up more than 6X) in just 90 days. The next 6X only took around 70 days and ETH hit a peak of $398 on 6/11, up another 689% (now up an astonishing 49X in less than six months). Things settled down a bit over the balance of June and Ethereum crashed a bit into month-end, finishing June at $262, down (34%) from the peak, but still up a tidy 420% for Q2 (now, "only" up 33X for the 1H17). ETH fell in sympathy with Bitcoin in July on the Hard Fork scare, down another (40%) to a low of $156 (these assets are not for the faint of heart at this point in their life cycle), before turning around sharply and surging 147% by the end of August to get nearly back to the June peak at $386. With the China noise in September, Ethereum crashed again, falling (45%) back to $214 and managed to claw back to $300 to end Q3, up a seemingly quiet 14.5% (point to point was quiet, but the ride was harrowing). There have been a few "glitches" in the Ethereum system in October that have people worrying about Forks and other coding issues (above our level of knowledge), so ETH slipped slightly during the month, to $292 and finished up an astonishing 36X over the ten months. As we said last quarter, *"some really, really, smart people are getting really, really excited about crypto currencies and we are beginning to feel less strange about writing about them, which is a trend that we expect to continue."* Some of those really, really smart people (like Dan Morehead and Mike Novogratz) are leaving the world of Hedge Funds to start Crypto Funds (120 new funds at last count) and we would expect to be writing about these funds (and some other new types of funds yet to be created) in the quarters and years ahead.

We believe we are on the eve of a new seven-year cycle of outperformance for Active and Hedged strategies, so let's review how the different hedge fund strategies performed in Q3. The HFRI Equity Hedge Index was up 3.1% during the quarter bringing the CYTD returns to a very solid 9.6% (TTM return was a solid, if unspectacular 11%). By solid, we are commenting on the fact that given average net exposure of 50%, the expected return simply from market Beta (50% of the SPX) should have been 2.2% for the quarter and 7.1% for the CYTD, so there was a solid 90 basis points of Alpha during the quarter and 250 basis points during the first nine months of 2017. It is a wonderful sight to see our old friend Alpha again as they had gone missing in 2016. One of the challenges about talking about Hedge Funds and returns is that the very best managers don't report to HFR (or any other data base) and therefore we find a persistent under-reporting of returns available to investors who do their work and allocate to top managers. Some argue that the Hedge Fund Indices over-report performance due to survivor bias, but those claims don't hold up when you actually do the work and scrub the data. We actually had a PhD student from UNC work with a UNC professor to analyze our internal Hedge Fund data (thousands of Funds over almost two decades) and we found that our perspective on the actual returns versus the index returns was confirmed. We are not intending to criticize HFR (they do an amazing job), but rather to highlight that you can't look at all data in the investment industry equivalently. So, as we said last quarter, *"the even better news was that many of the very best managers (who don't report data to HFR) were up significantly more than the benchmark and the best news was that the Alpha was coming from both the long and the short side."* 2017 has been a welcome year in many ways for investors (beyond the fact that the S&P 500 is up 14%) and it is particularly welcome to Long/Short Equity managers as it has been tough sledding in the QE Era as the rising tide of liquidity has raised all boats (even the really bad ones) and is has been very challenging to stick to the discipline of shorting the bad companies. The strong returns of the equity indices this year has masked some really extreme dispersion between strong sectors (great longs) like Technology and Healthcare and weak sectors (great shorts) like Retail and Energy. In just one more déjà vu experience, the last time we saw this type of inter-sector variability was during the Tech Bubble melt-up of the late 1990's. Just like in 2000, the correlations between equities has begun to fade (actually crashing lately) and this type of mean reversion of the correlations has always been a harbinger of good times ahead for Active Management (and Long/Short Equity). It probably makes sense to repeat again what we wrote in January about how our view on hedged strategies might be comparable to Roger Babson's now famous warning about the perils of the stock markets in 1929, 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)."* With another quarter of data to analyze, we continue to believe the stars are aligning against investors hoping to earn meaningful returns from Beta and aligning for investors who are willing and able to capitalize on Alpha as the dominant source of returns in the coming years. We wrote last fall that, *"we believe that Alpha generation across long/short equity managers has troughed at levels we have witnessed only a few other times in history (most recently in 2000 and 2008)"* and while we were a tad early Alpha returned in Q1, expanded in Q2 and broadened in Q3. To paraphrase Roger Babson, *"we will repeat what we said last year, and the year before, that buying strategies that others are selling (Hedge"d" Funds) is likely to deliver meaningful returns for investors going forward (and they could be terrific)."*

Activist strategies have had a really tough few years as many of the glamour names in the segment have struggled thanks to some high-profile blow-ups in companies like VRX and SUNE. The hits just kept coming in Q3, as companies like Chipotle (CMG) made investors really sick (after making patrons sick last year) and Williams (WMB) showed the New York guys that the Fly Over States had a different way of doing business (relationships matter). While a handful of managers did lose big chunks of money, not all of the Activist Funds struggled and the HFRI Activist Index notched its sixth consecutive positive quarter (barely), rising a scant 0.6% to bring the CYTD return to 4.8% and the trailing twelve-month return a respectable 10.2% (unfortunately, not very strong relative to the TTM return of 18.6% for the SPX). The broader HFRI Event Driven Index was up 1.5% in Q3, which, while better than the Activist sub-sector, was not the type of outcome that investors might expect given the performance of the equity indices and the levels of M&A activity. The CYTD returns of 5.9% are fairly disappointing as well and highlight the challenges of the short side in a market where all securities are rising regardless of quality or seniority in the capital structure. Managers who have maintained discipline and prudence in their approach to hedging have simply been run over in the global scramble for yield. As we reiterated last time, *"we have described the Not So High Yield market in past letters (using Space Balls terminology, no, Elon didn't invent these terms…) as moving into Ludicrous Speed and now bordering on Maximum Plaid."* The argument that the continued disappointment in GDP growth confirms that our concerns about the weakness of the U.S. economy have been well placed seems somewhat logical, but as we said wrote in Q1, *"our concerns about the potential for rising defaults in the credit markets have been completely off base, as after a brief rise in mid-2016, defaults have fallen back and there has been a much lower level of bankruptcies in 2017 versus 2016."* We have simply underestimated the willingness of lenders to extend credit non-investment grade companies (they are called Junk Bonds for a reason) with *"little or no covenant protection at interest rates (spreads above risk-free Treasurys) that only a few years ago would have been unthinkable."* We continue to believe that the construct of lending based off a spread to an artificially low (think QE and ZIRP) Treasury rate will seem (with the benefit of hindsight) like a bad idea.

We wrote last quarter about a counter example to our cautious stance toward credit markets and we need to have another update, as Maverick (not real name, reference to Top Gun) continues to demonstrate some truly fancy flying. This manager has a truly Variant Perception on the credit markets and bold statements over the past year and then backed them up with performance. Maverick has proved once again the wisdom Michael Steinhardt who famously quipped, *"We made all our big money when we have a Variant Perception that turned out to be right."* As a reminder, the investment strategy is elegantly simple. He buys highly leveraged companies (globally) where he believes; 1) he can acquire the shares for less than six times cash flow and 2) the operating cash flows of the business can support debt reduction (effectively practicing an LBO strategy in the public markets). Maverick developed the strategy when he was an Associate at Bain Capital where his summer assignment was to prepare a comprehensive analysis of all the deals Bain had ever done and he discovered that six times cash flow (EBITDA) was the magic number to pay when you bought a business (pay less, make big returns, pay more, make small returns). His Hedge Fund was up a stunning 40% on 2016 (recall that many HF returns were negative) and we discussed his "bold statement" in Q1, saying *"he made a seemingly ill-advised decision to write an annual letter projecting similar returns for 2017."* We commented that *"despite his youth and relative inexperience, the manager made a compelling case for why the oil supply shock has modified the default cycle (extended it like in the mid-1980's) and he has boldly (some might say arrogantly) predicted their portfolio could enjoy similar gains in 2017 should defaults ease from current levels."* We wrote further that his call reminded us of one of our favorite movie scenes in Top Gun when Viper asks if Maverick thinks his name will be on the Top Gun trophy, saying "*Maverick replies "yessir", Viper says "that's pretty arrogant considering the company you're in", Maverick replies "yessir" and Viper says, "I like that in a pilot."* As we have been known to tweet on occasion, Confidence = #Edge and the old saying is that *"it's not arrogance if you can back it up."* Well Maverick backed it up again as was up another stunning 10% in Q3, bringing CYTD to 26% (within missile range of the 40% target). We wrote last time that *"we think there may be a nasty dog fight in the fall"* and quoted Charlie (from another Top Gun scene) saying he will need some *"really fancy flying to achieve his objective should the skies fill up with bogies."* The key was that Maverick did actually leave himself an out when he said, *"should defaults ease from current levels"* and the skies have been free of enemy aircraft (almost no defaults) all year as banks continue to extend and pretend, pushing the quality of debt to all-time record lows (according to Moodys). We believe that Maverick is a very talented manager and his depth of analysis and understanding of portfolio construction is very strong (as evidenced by his prolific writings on these topics), but he has not been involved in a true dog fight yet, so we will repeat our final point from last time *"in the Event Space, like all strategies that involve leverage, the comparison to Top Gun is very appropriate, because as Viper says "remember gentleman, Top Gun is about combat, there are no points for second place."*

We said last time that managers who trafficked in distressed credit in 2016 were like characters in another Tom Cruise movie, Days of Thunder (about NASCAR racing) as managers who bought the dip last February took the checkered flag in the Hedge Fund Cup. We wrote that the environment had changed this year and said, *"The yellow caution flag is out in 2017 and drivers are stuck behind the pace car running at laps at around 60 mph."* The slow pace continued in Q3 as the HFRI Distressed Index was up a rather pedestrian 1.2%, bringing CYTD returns to only 4.4%, which is not going to win any trophies. We noted that *"after the blistering pace of last year, it may feel to many investors in the segment that things are stuck in the pits"* and as the infamous Ricky Bobby (Will Ferrell character in a parody NASCAR movie) likes to say, *"if you ain't first, you're last."* The pace car controlled speed of 2017 returns has dragged down the TTM return to 10.2% (still respectable and near the top of the Leader Board in Hedge Funds). The big issue for Distressed investing is that you actually need distress (hence the name) in order to generate returns (have to be able to buy assets as a big discount) and after the brief scare in early 2016, all the distress vanished and markets were going fast and turning left. We summarized the issue last quarter saying, *"the issue was that there wasn't much true distress last year (other than in the energy complex) and debt prices really didn't follow the normal path going from cheap to fair value, but rather went from over-valued to extremely over-valued."* The problem with trying to practice Distressed investing when there is no distress is that managers can be tempted to venture into other segments of the credit investing realm and we commented in Q1 that the activities of many managers was beginning to remind us of 2001 (déjà vu again) and we were truly concerned that *"some Distressed managers frustrated by the lack of distressed merchandise have ventured into "Other Credit" (new line item on some manager reports) and may be buying assets with no margin of safety (in direct violation of the spirit of value investing)."* As Value Investors, we believe that buying assets without a Margin of Safety is always a bad idea and it is a particularly bad idea in Distressed. We know that the QE Era has created an environment where banks have allowed companies that should have gone bankrupt to survive (but, rest assured they will die another day…) and we can see lots of "future equity" (soon to be bad debt) on over-leveraged corporate balance sheets across many industries and geographies. We repeat the ending from this section in January harkening back to the wisdom of Sir Isaac, *"gravity always wins and there will come a day in the not so distant future where the opportunity set for Distressed will get even better and the returns could be quite substantial."* When that day finally arrives (just like it did in 2002 and 2009), we will be ready, willing, and able to buy what is on sale and we will exchange our Cash (or perhaps Gold) for the good assets at bad prices.

Absolute Return strategies (Market Neutral and Merger Arbitrage) have been brutalized in the QE Era as the Central Banker induced Financial Repression has made it nearly impossible for dollar neutral (equal dollars long and short) strategies to thrive. The problem has been that the Cash return (proceeds from the shorts sitting in Cash) has historically contributed a meaningful percentage of total (zero was really bad). Throw in the higher degree of choppiness in the markets thanks to overactive algorithms and trend following strategies (other than Renaissance) have been sent to the penalty box. As we wrote in Q1, *"one of my friends has a great line about this unusual epoch in our history, "I remember a day when I didn't know the names of the Central Bankers and I long for those days to return."* Central Bankers, it appears, now have one singular function, to elevate equity prices (something about a wealth effect, despite no evidence that there actually is one, since the people who need the help don't own any stocks…) and there is no appreciation that the elimination of volatility and price discovery is destroying businesses (like arbitrage). After one glimmer of hope in Q1, the HFRI Market Neutral Index was back to generating mediocre returns in Q3, up 1.4%, as equity markets simply went up nearly every day with not a hint of volatility (highest Sharpe Ratio ever), effectively eliminating Market Neutral managers' ability to produce Alpha. If the Distressed guys are stuck behind the Pace Car, Absolute Return strategies are stuck in the Pits, with CYTD returns of 2.8% and trailing twelve-month returns of only 4.4%. Market Neutral strategies historically were considered an Equity substitute (when cash had a yield and adding Alpha and leverage could add up to a solid return), but in the ZIRP zone, these strategies are now really Fixed Income substitute. This change is not necessarily a bad thing, as Absolute Return strategies have generated returns similar to Bonds over the past few years, but do not have the interest rate risk that threatens Fixed Income investors (in fact, A/R is positively correlated to rates rather than negatively correlated). As a reminder, we commented in April that *"until short rates normalize, Market Neutral*

Arbitrage will be a very tough way to make a living unless you apply significant leverage (perfected by groups like Citadel, Millennium and Balyasny) to the underlying portfolio." Leverage is just a tool and, in and of itself, is not a bad thing. We summarized the problem with leverage last time *"it can never make a bad investment good (leveraging negative Alpha would be a bad idea, kind of like Tesla borrowing more money to make more cars they lose money on…), but leverage can make a good investment bad (margin call at wrong time forces you to sell good assets at bad prices)"* We will stick to letting the experts manage the leverage in this space, not just because they get better borrowing rates, but because they have the risk management tools and the ability to move quickly, because as we all know, when things turn in this space, #RiskHappensFast.

M&A activity has been interesting in 2017 as the number of deals is down sharply (to levels haven't seen since 2010), but total deal volume may set a new record thanks to some monster deals like Time Warner/AT&T ($85 billion) and Qualcomm/NXP ($38 billion). Perhaps because of the reduction in deal volumes (or perhaps just low spreads caused by low rates), the HFRI Merger Arbitrage Index had another "meh" quarter, rising 0.9% in Q3 to bring CYTD returns to a rather uninspiring 4.3% and trailing one-year returns to an equally uninspiring 5.8%. While these returns are nothing to write home about, they would fit neatly into the category of "Beats Bonds" (Barclay's AGG up 3.1% and 0.1% respectively over same periods) along with M/N. As we have written about in the past, the biggest challenge for Merger Arb is *"the vast amount of liquidity chasing these deals (and the ubiquity of trading models provided by the Prime Brokers to move product) has squashed premiums and made Merger Arb another challenging way to make a living."* One could make an argument that in the investment business (like in all service businesses), success is really all about expectations management. If investors were utilizing Absolute Return Hedge Fund strategies as Equity substitutes (like the good old days when cash yielded 5% to 7%), then their expectations would be dashed by recent returns (and they would fire the managers). If, on the other hand, investors were utilizing A/R strategies as a Bond substitute and were expecting consistent, modest returns with negative correlation to interest rates, then their expectations would have been met (and they would be adding more money to the managers). We described those good old days last time saying that T-Bills + 5% was a number that got people excited because T-Bills were 6%, Alpha was around 3% to 4% and with some modest leverage (maybe a half to a full turn) investors made low double-digit returns and everyone was happy. We made the point last quarter that *"if the perspective is that stocks and bonds will struggle to produce even T-Bills + 1% in the next decade, these results (low single digits) seem downright attractive."* The critical question today is whether investors have the collective patience to accept stable returns from truly hedged strategies or whether they will be lured by the siren song of more directional strategies, which today have higher returns and Sharpe ratios (we believe temporarily thanks to QE). There are two ways to enhance Merge Arb returns, *"one is to make investments in "anticipated deals" (deals you think could happen, but have not been announced, and in some cases, that you may help instigate) and the other is to use more leverage than normal (always perilous)."* Both of these strategies have merit, particularly when practiced by an experienced manager with a large team who can do original research and source ideas and has the necessary risk management resources to handle the higher volatility created by leverage. We said last time that *"we continue to believe that the superior alternative in accept that forward returns will be lower across all assets and modify return expectations (lower)."* Proper expectations are the key to making good decisions about investments (and actually most things in life). We reiterate our belief that until Cash returns return to more normalized levels (equal to Nominal GDP) we believe that the best approach is utilize A/R strategies as Fixed Income substitutes rather than Equity substitutes. As Viper says when dealing with valuable assets (like your wealth or a $70 million F-18), *"better to retire and save your aircraft than push a bad position."*

Trend following strategies have been the most challenged in the QE Era and whether it is the result of the overall decline in Volatility, the rise of the Machines (algorithmic trading) or some other factor (s) is not entirely clear, but what is clear is that things haven't gotten any better in 2017. Macro and CTAs were beaten up again in Q3, with the HFRI Macro/CTA Index down another (0.4%) and the HFRI Systematic CTA Index down another (2.7%). Adding Q3 to the losses from the first two quarters brings CYTD returns to (1.2%) and (3%) respectively and the TTM returns were even more disappointing, as both strategies suffered significant declines (during a strong period for nearly all other asset classes) falling (1.2%) and (5.4%) respectively. One of the interesting things we have observed this year is the disconnect between perception and reality when it came to Quant strategies and we wrote in May that *"these poor returns might seem to run contrary to the headlines about how the Quant Funds are taking over the world and some of the media headlines about how the legendary funds like Renaissance and Two Sigma put up very good numbers."* The idea of the Rise of the Quants is clearly true in terms of AUM as money continues to pour into the Quant firms, but the rise of quant returns is clearly in the realm of "Fake News." Either these firms have really good P.R. firms or there is a systematic (pun intended) bias that Quant strategies always make money (the actual data disproves this contention). Further, the disconnect points to an issue in the Systematic business that are becoming increasingly problematic. There is a growing concentration of AUM in a shrinking number of firms (the Haves and the Have Nots) and *"the "Institutionalization" of the Alternatives business creates a David and Goliath dynamic in the asset management industry."* Hedge Funds were once the domain of HNW individuals (and a few innovative institutions) and, as Stan Druckenmiller points out, there was a return-focused culture of risk-taking targeting returns in the teens. As we wrote last time *"today, the marginal dollar being allocated to Hedge Funds comes from very large institutions (which need to write big checks) and the emphasis is on "risk-adjusted returns" (target returns of T-Bills + some percentage). These allocators are myopically focused on reducing volatility and increasing Sharpe and Information Ratios and have put pressure on managers to be bigger, have more staff, spend lots of money on systems and to "over-engineer" their process."* The net result may be that as more money goes to fewer firms, the days of return-focused management are fading, simply because the objectives have changed (risk-adjusted returns). We will make the argument, however, that this trend is not good for the industry or (more importantly) the investors because this concentration means the number of independent decision makers is reduced and capital will flow within markets less efficiently (fewer checks and balances).

Another issue is that with the rise of High Frequency Trading and Algorithmic Trading (and increasingly AI and Machine Learning) *"has disrupted the traditional smooth flow from valuation extremes that was created by the human factor in securities analysis that could be exploited by the early automation of trend following."* Investors believe that Macro/CTA strategies serve as disaster protection in diversified portfolios (based on their performance in 2002 and 2008). What if these traditionally, "Non-Correlated" have been disrupted by the rise of the machines? Perhaps the markets won't respond to the next market dislocation in the same manner as they have historically and Macro/CTA strategies may not have the same portfolio protection impact as during prior cycles. We discussed one of the biggest examples of this risk in May as well, saying *"there has been a tidal wave of capital that has rushed into Risk Parity strategies (essentially a leveraged 60/40 portfolio of stocks and long bonds) and should those strategies have to de-lever during a correction, the unwinding of this trade (#RiskDisparity) could exacerbate the moves on the long end of the curve and cause the* *historical relationship between stocks and bonds to diminish."* More capital in fewer hands, less liquidity in markets and more strategies using the same models and triggers (all based on the same factors) sounds like a recipe for potential disaster and add the ability to execute with lightning speed thanks to computerization and we could have a scenario where these once protective strategies actually make things worse, not better.

Overall, the third quarter of 2017 again had a little something for everyone, political intrigue and infighting, geopolitical posturing and gamesmanship, economic growth unevenness and Central Bank repositioning. The GOP and the Trump Administration still hasn't been able to get anything accomplished, "Little Rocket Man" actually fired a couple missiles and Saudi Arabia cleaned house by jailing a bunch of corrupt Princes, global growth perked up a little bit in EM and disappointed less in the EU and the U.S. (and actually surged in China), the Fed pushed rate hikes to December, the ECB pushed tapering until 2018 and the BOJ kept the pedal to the QQE-metal, so it wasn't too surprising that capital markets were strong in during the period. While some worried about actual conflicts breaking out, we wrote last time that "*we will stick with the theory that Trump's recent actions are merely an attempt to "Deflect and Redirect" attention away from the ongoing Russia investigation, but we must acknowledge that using threats of thermonuclear war as your redirection strategy is clearly flying too close to the sun. This type of irresponsible rhetoric leaves minimal room for error and any mishap would result in the wrong kind of darkness falling for humanity."* As we wrote about in #GravityRules, many of the market events of Q3 played out very much along the path of 1929 and we did indeed inch ever closer to the upside targets in the U.S. markets that we believed would trigger a correction. The theme of the letter last time was *"what goes up, must indeed come down and as Newton said, "for every action there is an equal and opposite reaction", or as we modify the quote for the equity markets, for every Bubble there is an equal and opposite Crash."* Based on Newtonian calculations, we knew with absolute certainty that on August 21st darkness would fall over the U.S. courtesy of a total solar eclipse, and we commented that *"while we can't know for sure when the inevitable correction in markets will occur, we remain cautiously positioned and defensive, because we know that eventually darkness will fall there as well."* With more data to review and some change in perspective in how we think about valuations relative to history and other assets, we are somewhat compelled by the notion that in macro terms equity markets could actually run further and the Bubble could inflate a bit larger. The Gann Calendar tells us that 2019 is the year when the next crisis will hit, the yield curve and PMIs tell us that we are at least a year away (maybe two) from the next Recession, the global Central Banks have a way to go before they are actually tightening financial conditions and Jeremy Grantham uttered the four most dangerous words in investing and said it truly is different this time (because margins are unnaturally and persistently high) and says that the Bubble could inflate for another fourteen months (insert Yogi-ism here).

All that said, to summarize our world view we reiterate that the current investment climate is not favorable for excessive risk taking and that Cash is a very valuable asset. Cash has a high level of option value as it allows you to preserve capital in the event that the Bubble returns to normal faster than anticipated and it allows you to buy assets at cheaper prices in the future. The Killer D's are still in control in the Developed Markets, as demographics, debt and deflation will continue to suppress economic growth (and eventually lead to lower equity prices). If our view of #Lower4Longer in interest rates turns out to be right (well, if Van Hoisington and Lacy Hunt continue to be right) and the secular low in interest rates is ahead (not behind), then holding a position in long duration Treasurys should also prove to be an effective hedge should economic and market turbulence rise. If an investor has to own equities (we recommend underweight overall) we favor Emerging

Markets > Japan > Europe > the U.S. and would "switch hit" (reverse) on the current capitalization weightings from the MSCI ACWI Index (more EM, loss U.S.). We believe that the Developing Markets will continue to expand their overall market capitalization toward their share of global GDP (currently 9% headed toward 40%). When it comes to equity risk taking, we continue to believe that the best place for investors to make outsized returns is in the Private Markets (Private Equity (small LBOs and China Growth Capital), VC, Private Energy, Private RE and Private Debt) and that whatever weight an investor has been comfortable with historically for private, double it (that is, if you liked 20%, raise to 40%). Finally, we reiterate that now is the time (at the bottom of the slump) to embrace Active Management and to buy Hedge Funds as the next decade will be all about Alpha (not Beta) and the cycle is about to shift away from Index and Passive. We are currently in a world of #PureImagination, where investors believe they can achieve the long-term returns of stocks (10%) and bonds (6%) from current valuations (the math doesn't work). We have seen this movie before and it really is déjà vu all over again, but the good news is we know how the movie ends and as Willy Wonka says to Charlie as he is handing over the keys to the Chocolate Factory ***"don't forget what happened to the man who suddenly got everything he always wanted"*** (insert following a disciplined asset allocation strategy here), Charlie replies "what happened?" ***"He lived happily ever after."***

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: *October: A Peculiarly Dangerous Month to Speculate in Stocks* and *Bubble Trouble: A September to Remember*. 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 new website www.morgancreekcap.com.

We are also a proud sponsor of The Investment Institute, a newly formed Educational Membership Association for Institutional & Private Investors and Managers in the Southeast. The date of the next program will be **May 22nd–23rd, 2018** at **The Umstead Hotel, Cary, 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

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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.

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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.

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