

GFG CAPITAL | 2018 INVESTMENT OUTLOOK



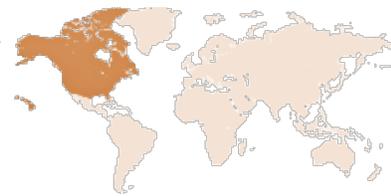
On December 31, 2017 the Earth will complete its 4,600,000,000 trip around the sun. Give or take. Since the dawn of capital markets, it seems this usually triggers a flood of annual forecasts predicting where markets will end up by the end of the next cosmic road trip. Usually, this entails highly educated individuals making what should be perceived as an educated guess as to what price different assets will finish the coming year at. Quite frankly, the +/- 251 trading days that happen every year almost always never pan out as expected. To none of these individuals' fault of course. But that's not how the world, and markets, work. Each day we show up for the opening bell, we are presented with new information and evidence that we didn't have the day before. So we'll leave the only bold

prediction this commentary has right here and then we'll move onto the good stuff. Ready? *The Earth will make it around the sun by the end of the year.* There it is. What we will get into during our time together here, are themes and events developing as we head into 2018 that we as investors should be mindful of as we navigate the investment process.

First, a quick recap on markets in the last couple hundred sessions.

HOW'D WE GET HERE?

U.S. equities as measured by the S&P 500 posted a very strong year, in fact stronger than what most investors had anticipated coming into the year. The 'risk on' mantra held up. Low interest rates and positive earnings growth helped investors rationalize the 19x forward P/E price tag on the index. In a world where we're still seeing negative interest rates on some \$11T in debt, the U.S. bond market also was an attractive destination for investors.



S&P 500: 20.75%
US AGG: 3.41%

However, as strong as these campaigns were, the U.S. wasn't the best performing market in the year. As we discussed coming into the year, getting global with a portfolio appeared to be an idea that carried some weight. When looking outside the U.S. borders, markets across the globe came into 2017 a bit more attractively valued with strong catalysts to support them. This evidence ended up being the perceived driving force in 2017. Markets from Mexico to China and everywhere in between appeared to outpace the U.S. market. An investor who followed the evidence stood to benefit. Emerging markets posted their second consecutive year of outperformance relative to their developed market peers. For anyone who was concerned about inflation running rampant in the U.S. could have turned to the EM debt markets as well. As measured by the J.P. Morgan Local Currency Index, these bonds posted returns above 11.5% before December was up.



MSCI EM: 32.61%
MSCI FRONTIER: 29.41%
JPM EM LOCAL: 11.60%

Asia continues to lead the global economy with strong growth projected at 5.6% in 2017 and 5.5% in 2018. Within Asia, China was a bright spot. This year saw President Xi Jinping reappointed for another five-year term as leader of the Communist Party in November. China's growth expectations for 2017 stand at 6.8% and 6.5% in 2018.



MSCI APAC: 29.32%
MSCI CHINA: 49.68%
MSCI JAPAN: 22.99%

If emerging markets were a bit too far out of your comfort zone, then non-U.S. developed nations provided plenty of opportunities in 2017 as well. Japan enjoyed growth sustained above-potential for six consecutive quarters through the first half of 2017. The country is expected to grow to 1.5% in 2017 driven by a pickup in external demand, as well as consumption supported by fiscal transfers. European equities within the Eurozone posted strong performance numbers which outpaced the U.S. as well.



MSCI EUROZONE: 27.38%
MSCI U.K.: 16.46%

If you didn't heed the warnings coming into 2017 to knock down the borders of your portfolio, then you might have left some performance on the table. The good news is, the themes we're about to dive into point to some of these trends continuing, so it may not be too late.



MSCI ACWI: 22.85%

ASSET POSITIONING

◀ Negative shift in sentiment QOQ — No shift in sentiment QOQ ▶ Positive shift in sentiment QOQ

Asset Class		Rationale
IG Debt	 ▶	Overall prefer credit to duration in a bond allocation in today's environment. We believe longer dated IG paper will act as a hedge/tail protection in today's portfolio.
TIPS	 —	We see inflation moving modestly higher and topping out in the low 2% range. We see inflation as a core component of several risks facing the market today, but it lies in the volatility in which it reemerges, and to what extent.
US High Yield	 —	There remains a great deal of cash and interest coverage on debt, so weakness can be contained within the space. Defaults continue to churn lower (~1%). The relative yield the space carries, coupled with the need for income, supports HY moving forward.
Senior Loans	 —	We remain that the move up the structure from some HY exposure is appropriate today, particularly with inflation and rising rates becoming more influential factors to the environment.
EM Debt	  —	Corporate balance sheets within EM countries continue to improve. Similar to HY, the sheer demand for yield and income that remains in the world will continue to support these spaces. This remains one of the most attractive debt segments in our eyes.
US Large Cap Value	  ▶	Sector rotation is likely to remain in the driver seat. With fiscal policy becoming more of a reality today, we see a case building for value to start to hold its own verse growth.
US Large Cap Growth	  —	We remain constructive on the LCG space today, but note the above median valuations we are seeing on a forward looking basis. Emphasis will be placed on execution on the company level moving forward given elevated valuations.
US Small Caps	 ◀	There is likely to be catalysts for the space in the coming months, but we also believe there are more compelling growth catalysts present today. We remain constructive.
Asian-ex Japan Equities	  —	Positive growth foundations for several of the economies in the region, even with a "settling" Chinese economy. Valuations broadly remain attractive on a relative basis compared to U.S. and developed markets.
Emerging Market Equities	  —	Valuations and momentum within the EM space continues to be a bright spot. Earnings revisions also build a strong case for global EM equities. The potential for continued conversion between emerging and developed markets in 2018 remains intact.
EAFE Equities	  —	European and Japanese markets were bright spots in 2017. Europe continues to carry above trend growth potential and remains attractive valued on a relative basis.
Infrastructure	 —	Long-term we see the value of having an infrastructure play within our portfolio. We continue to source direct/private investment opportunities. Infrastructure as an asset class is still very immature which creates a hurdle for access in the secondary market.
Alternatives	  —	With valuations not cheap, we remain focused on allocating portions of assets to lower correlated, yet interesting alternative investment ideas. In order for an investor to achieve desirable returns over the long-term today, we see increased value in private investments.
Real Estate	 —	We believe on a residential level, the health of the consumer continues to strengthen which bodes well for the housing market. With signs of increased millennial homeowner rates, the space stands to benefit immensely.

*No bull or bear icon indicated a neutral stance on the asset class

2018 INVESTMENT THEMES

WHAT TO WATCH FOR

Curb Your Enthusiasm in a Low Return Environment Page 6
Low return environment has been the headline for as long as investors can remember. What does it mean when you are achieving above-trend returns with strained expectations for the future?

Global Equity Correlations: Diversification Now Page 7
Global equities have moved in lockstep coming out of the GFC. Today, we are seeing more evidence that divergence among global markets could be a thing of the future; why should you care?

Fed Musical Chairs Page 8
The Federal Reserve has been in the spotlight for longer than they would like. But what is coming in 2018 is a new risk investors haven't had to deal with since interest rates were effectively removed from the equation.

What a Flattening Yield Curve Means, and Doesn't Page 9
It's tough to find an economic recession that was not preceded with an inverted yield curve. So what does it mean if the yield curve continues to flatten?

Tail Risks: Rocket Man To Mueller Page 10
Tail risks dominated the airwaves between investor's ears in 2017. Let's take a look at some of these tail risk concerns and maybe some that weren't so present in the conversation in 2017.

Where's the VIX? Page 11-12
Like a puppy at the door, investors have been wondering if the VIX is ever coming back. We look into what type of environment has been brewing with an unprecedented global short volatility trade, and why it might be coming to an end.

Sustainability: What it Could Mean For Your Portfolio Page 13-14
The conversation surrounding sustainability and the opportunities it brings was thrust into the limelight in 2017, and we're excited to continue the conversations this has started.

Tales From The Crypt Page 15-16
Don't be shy, it's alright to ask. We have you covered on why you've been hearing about currencies that essentially don't exist, and why this is only beginning.

Earmuffs Page 17
Investors have no shortage of media and content thrust our way. A lot of it is noise that only distracts us from what we're trying to accomplish.



IF WE'RE REALLY IN A LOW RETURN ENVIRONMENT, CURB YOUR ENTHUSIASM

2017 turned out to be pretty good year in the markets. Pretty, pretty, pretty good. Comb through any outlook coming into the year and you were almost certain to find wording that cited a low return environment. In fact, this has been the story for the last few (10?) years. The 20+% return the S&P 500 is on track for in 2017, which lags most of the globe like we cited earlier, is following up a 10.9% return in 2016¹. Low return environment? We don't disagree with the premise of this thesis. In fact, we think it might make more sense now than it did few years ago. So if we're really in, or about to head towards, a low return environment, don't extrapolate these performances into the year to come. In fact, if the evidence points to below-average returns (i.e. not 10 or 20%), these two performances did nothing but potentially add strain to the near term. It's not too late to revisit your allocations to try to identify which risks you might be overexposed to today.

STOCKS

Looking at the U.S., we have a market priced at a relatively high forward valuation at ~19.5x expected earnings. Mind you, these earnings are expected to grow at a pace from 7-12% on a consensus basis. History would show us that third-party estimates on S&P 500 earnings growth tends to overestimate this year-end projection by ~9%². The recipe for a low return environment is exacerbated by ascending valuations because this means we are priced to perfection, to a certain degree. The return component we can expect from the asset's multiple expansion (increase in price tag) is limited and is more likely to compress. We would anticipate price multiples to regress, more so than to continue to expand. This is one of the pillars behind broadening the geographical exposures within the portfolio. Finding ways to gain exposure to more attractively priced assets within a portfolio is increasingly vital in our eyes today.

BONDS

When you look at the other side of the coin, it isn't much easier to find valuations that are attractive in fixed income. While this has been the story for a few years, spreads have continued to become tighter and tighter. In a fixed income environment like this, we believe the value of carrying these assets will be in their defensive nature. As spreads continue to tighten across virtually every segment of the universe, we don't see the value in taking on excessive risks in search for yield. Reducing some excess equity market beta might better suit investors today than to reach for yield. Opportunities are still to be had within the U.S. high yield and emerging market sectors. But not a ton of them are out there; growing increasingly selective with these riskier bond exposures is our preferred move today.

LOW EXPECTED RETURN CHECKLIST

Elevated Valuations



Rising Rates



Late Stage Cycle



Above Trend Returns



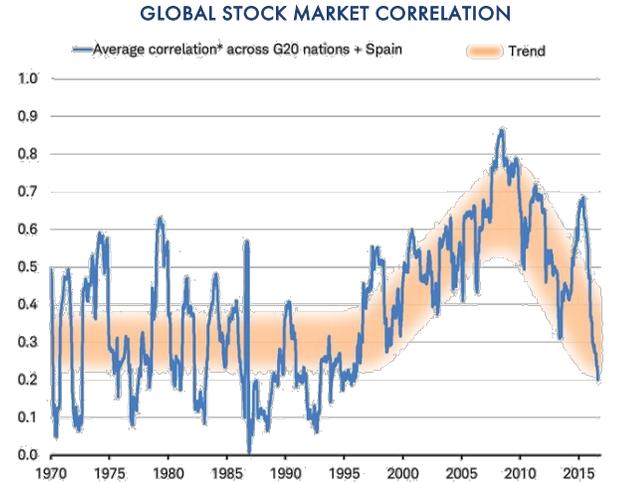
GLOBAL EQUITY CORRELATIONS: DIVERSIFICATION NOW

As we noted at the beginning of our conversation, the evidence was undeniably pointing towards a more globally diversified allocation headed into 2017. If you weren't convinced then, but have since come to the light, it's not too late.

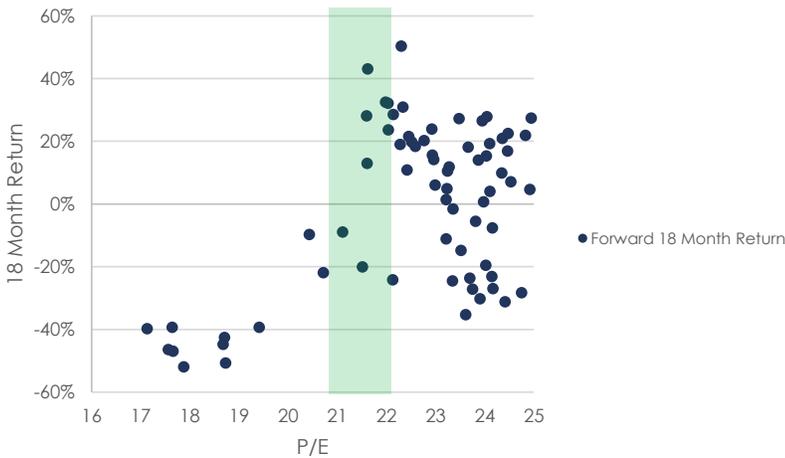
The evidence isn't mounting strictly on an economic level, but an asset level as well. We cited economic growth outside of the U.S. as a large catalyst for our expectations 12 months ago. Since then, the evidence continues to mount for an acceleration in global economic growth with the U.S. losing a step. The IMF expects a 3.7% Global GDP growth rate, while placing a downward revision on the U.S.

As we take this backdrop into consideration, we start to lay asset pricing and behavior over it. One of the more compelling signals for global diversification is highlighted above. We are seeing 20-year lows in correlations among the G20 (19 countries, and the EU). What this says to us is, a market that moves in unison is becoming more and more a thing of the past. This uptick in individualized behavior on the country level can create a greater opportunity set for potential outperformance.

This also supports the case that diversification among geographic exposures is even more necessary for risk mitigation purposes. As risks begin to boil over within one market or economy, a portfolio would be better prepared to weather any turbulence with the support of other stronger components.



*Daily one-year rolling correlation of one-month percent change in MSCI indexes for countries in G20 and Spain. Source: Charles Schwab, Factset data as of 11/20/2017.



Source: GFG Capital, MSCI World Index data from Bloomberg as of 12/11/17.

If your concerns are “we just experienced a tremendous year for equities on a global scale, valuations must be far too extended..” your thought process isn't wrong. But we aren't exactly priced to the moon. The left highlights the trailing 12-month P/E ratio for the MSCI ACWI along with the following 18-month total returns. Since 1995, the median P/E for the index has been about 21.5x. Today, it sits at 21.13 (green shaded area). On a forward-looking basis, the index is priced closed to 18.5x earnings today. This is a discount relative to the S&P 500, which carries a price tag of expected earnings of 19.4x¹.

Source: ¹Data using Bloomberg data. Charles Schwab research. Each return stream is derived using MSCI Indices. This presentation is solely for informational purposes and should not be taken as investment advice. For further information, please contact one of our investment adviser representatives.

FED MUSICAL CHAIRS

The Fed has consumed more time and energy from investors over the last few years than they would like. At this point, anybody who has had to pay attention to markets could be a certified expert in facial expression interpretation and decoding the dot plot cypher. In fact, we're pretty sure we've solved the Zodiac case. But the reasons why Chairwoman Yellen and the rest of the gang have dominated airwaves until now has been largely centered around the question "Is the Fed going to start raising rates?" Now that the majority of us are comfortable with the rate normalization process that has been going on for a little over two years, there are some new questions that we think will reign prominent moving forward.

Janet Yellen will be not reappointed as the Chair of the Federal Reserve next year. In fact, it's all but been confirmed that Jerome Powell will assume the seat next. But this isn't the only seat set to change. There are currently vacancies for three DC-based governors, and an additional

position will open after Yellen steps down as governor once the new chair is sworn in. If these changes were coming in a time where rates were at 0 and expected to remain there, then perhaps we all shrug this shuffle off. But the reality of the situation is: we're looking at potentially a drastically different collection of personalities and opinions assuming control of the central bank, at a time where rate normalization is expected to flirt with restrictive policy measures. Oh, and the largest balance sheet on record is currently being, well, being re-balanced. If the nomination of Randal Quarles earlier in the year is any indication, there is a good chance the incoming policymakers will be conventional Republicans. In which case the Board's collective policy preferences may skew a little more hawkish than in recent years.

While we overwhelmingly anticipate the normalization process that has been put in motion to continue without interruption, the risk we are identifying is this: a potentially more hawkish Fed, coupled with an economy that stands to see unemployment dip below 4% are two ingredients that could see a more restrictive policy brought to the

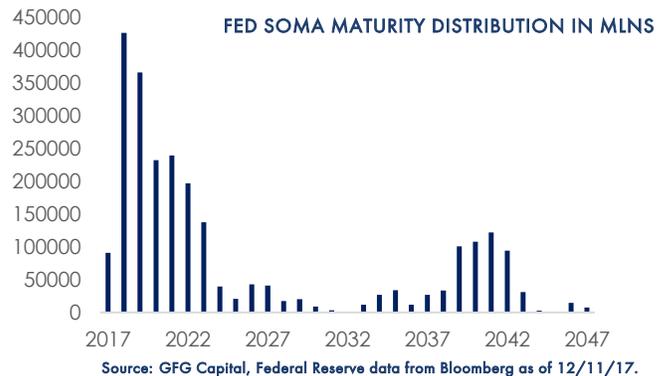
table more quickly than anticipated. Throw in the *potential for inflation to finally reemerge*, and we're handing a not-so-simple task over to a virtually brand new regime. It is in our view that the next economic contraction will come by way of central bank manifestation. We don't see any evidence of a slowdown here in the U.S. in 2018, but that is about as far as the current game plan we expect the Fed to follow brings us. After that, we could be playing with a whole new set of rules.

Moving Pieces: The Fed Board of Governors in Transition

Current Members and Status



Source: AllianceBernstein.



Source: GFG Capital, Federal Reserve data from Bloomberg as of 12/11/17.

WHAT A FLATTENING YIELD CURVE MEANS, AND DOESN'T.

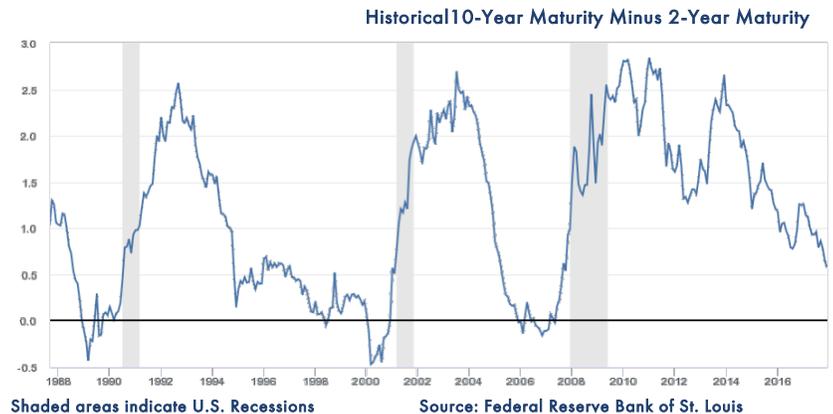
Here's one that has garnered a bit more attention as the year wound down, and we expect it to be a whipping boy for the foreseeable future. Instead of predicting whether or not we think the yield curve will become inverted in 2018, we'd rather tell you that you can expect to hear about this quite a bit. Frankly, the arguments that this flattening of the yield curve is a bearish leading indicator do carry some weight. But only some. For us, the argument that the flattening of the yield curve precedes a recession is only partially true. In reality, recessions have historically been led by an *inverted* yield curve. What we mean by this is the yield on the 2-year treasury supersedes the yield on the 10-year treasury. In other words, the short end of the yield curve is higher than the long end. See the below illustration:



What this behavior signals is investors' economic long-term outlook is poor, and that the yields offered by long-term fixed income will continue to fall. We concede that a yield curve must first flatten before it becomes inverted. But a flattening yield curve does not mean an inversion is right around the corner. The spread between the 2 and 10 year T-Bills can remain narrow for extended periods of time. (See the chart below.) While the spread today sits in the neighborhood of 60 basis points, there's nothing guaranteeing (or indicating) that this relationship turns negative in the next 12 months.

BUT WHAT IF?

What can we expect as investors if the curve does in fact become inverted? The brunt of the impact will be felt by fixed income investors. The risk premium for long-term bond investors would see this premium eroded away. The shorter dated debt would become a more attractive



space to be. Equity investors might see companies whose practices involve borrowing money at short-term rates and lend at longer-term rates have added pressure on profit margins (i.e. banks).

The simplest way to avoid this inversion in the immediate future is for policymakers to raise rates at a measured pace. However, we just touched on the risks of that potentially not being the case on the previous page.



TAIL RISKS: ROCKET MAN TO MUELLER

There's a word that was used to describe the sentiment of the market in 2017 that rightfully spooked a lot of investors: *complacent*. A year with multi-decade low readings in "fear," as measured by the VIX, left investors asking themselves, "what am I missing?" This low level of volatility expectations didn't sit well with many, which led to a heightened attention on geopolitical risks, and just how real they were. Now that we're entering a new year with some more immediate areas of caution (some we've touched on, others we'll get to), we don't expect investors to drop the tail risk conversation so quickly. Nor do we think the media will. Here is a quick take on four that we did our best to squeeze onto one page:

- ① One of the most covered geopolitical situations in 2017 was the tensions between the U.S. and North Korea. Perhaps investors had literally nothing else to worry about that they grew assured a nuclear winter was on its way. Not to blame them, we saw an antagonizing Tweet come from the White House what seemed like every other morning. We don't expect these interactions to cool overnight. We also don't think the chance of military action with Trump in The Oval is zero. But here are some tidbits that might ease any fears of an apocalypse coming: North Korea has been testing nuclear weapons biannually for 12 years now. Seoul and Japan have had to spend almost an entire generation with missiles pointed at their doorstep, everyday. This military push coming from Pyongyang is not new, and has hardly ever been about military action. Kim Jong-un, like his father and his father's father, is likely flexing muscle to cement their position of power.
- ② Middle East tensions once exclusively meant cross-border conflict. For us, coming into 2018 there is still some cross-border conflict risk; most recently added to with the U.S. recognition of Jerusalem as the capital city of Israel. You also carry the traditional risks on commodity prices shooting higher due to OPEC tensions. But when we say Middle East tensions are a tail risk today, one of the biggest swans in the region could be sitting within the borders of Saudi Arabia. As technology continues to revolutionize the entire region, transparency is being brought to its 218 million population. In 2017, we saw 11 Saudi princes arrested for suspected corruption. As the region's largest economy continues to revolutionize itself, political flare-ups stand the potential to be very disruptive, led by technological emancipation. Transparency brought to the Saudi people by way of technology could potentially lead to more explosive revelations with unknown repercussions.
- ③ The Chinese debt situation was seldom mentioned in 2017, which was a bit puzzling. This was likely due to the lack of action expected to be taken prior to the elections in November. But now that those are behind us, how the Chinese handle current debt levels will be imperative to execution of their growth as a country. If defaults start to rise, global volatility is likely to move with them.
- ④ This last event has been on a slow burn for awhile now and is starting to heat up. The Robert Mueller investigation hasn't made its way into many financial circles just yet, and we'd expect it to still take awhile to dominate conversations. Which is what a tail risk is. There are two outcomes to this process that carry unknown and potentially very disruptive implications: 1) The investigation leads to charges being brought against the President and Vice President. 2) President Trump fires Robert Mueller. Either scenario would produce complete mayhem. Which could be worse? A take down of essentially the entire administration? Or the abrupt ending to an investigation that got too close for comfort?

WHERE'S THE VIX?

We were firmly in the camp that volatility would creep back into the picture in 2017. We predicated this with inflation rearing its head. Since inflation didn't join the party, we made it through 2017 with levels last seen (to the downside) in the VIX 24 years ago. Outside of the spike in August of 2015, we've been in an environment with muted volatility, both to the downside and upside, since 2012. This seems to have spooked investors, but not enough to purchase short-term protection. To be clear, low volatility isn't a guarantee for an increase in volatility to be around the corner. Take a look at the '90s. There were three stretches where the VIX closed below its long-term average on a daily basis between '91-'92, '92-'94, '94-'96. Collectively, these stretches totaled 1,054 days of below-average VIX readings¹. It just so happens this was a period much like this one: accommodative central banks and a pro-business environment. Sound familiar?



Source: Zephyr

IMPLICATIONS OF (MASSIVE) A SHORT VOL TRADE

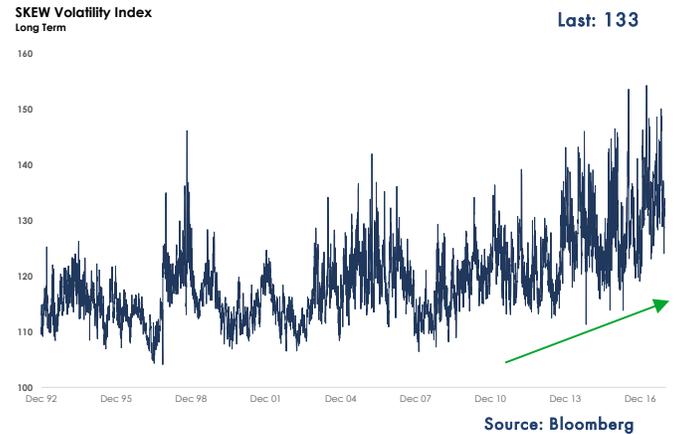
Exceptionally accommodative central banks, record share buybacks, an avalanche of new strategies brought to market and traditional options action have all helped contribute to a global short volatility trade that is estimated at \$1.5T in assets². The short volatility trade is measured by any strategy that generates incremental gains on the assumption of stable levels of volatility, both implicitly and explicitly. This has proven to be a successful trade over the course of this smooth-sailing time frame. But as the trade has continued to build in popularity it begins to grow increasingly one sided. A shift in environment could leave these traders hanging out to dry, in a very bad way. To be short volatility (implicit or explicit) means you're carrying a short gamma profile (an option's gamma is a measure of the rate of change of its delta³). The gamma risk carried with this trade means in the event price moves in the opposite direction anticipated, traders must overcompensate (sell) in order to re-hedge expected fluctuations. In and of itself, generating more volatility. With such extreme levels of capital carrying a short gamma profile in volatility, any sizeable shock or sustained period of rising volatility (triggered by any single or combination of elements we've outlined to this point) would force potentially *several* deleveraging events. While a shock to the system of course is almost never something one can anticipate, we've spent the last couple thousand words together outlining the premise for a change in environment.

WHERE'S THE VIX?

WHERE IS THE CONCERN?

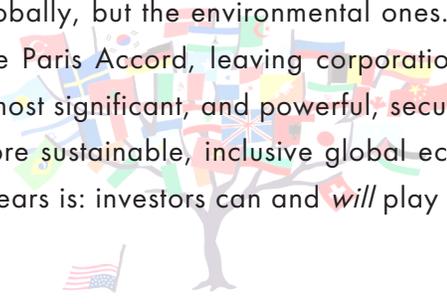
Contrary to mainstream wisdom, the VIX is not the only mechanism used to gauge concerns in the market. Coupled with the ingredients we outlined on the previous page, there has been an uptick in options being written on the VIX itself, as opposed to the S&P 500. So for those who believe the VIX is broken, it's not. It's measuring what it is designed to measure (put options on the S&P 500), there's just been less to measure. But for those who are concerned with the extreme events (the shock to the system we mentioned), you're probably not buying short-term protection. You're likely to look further out into the tails (see page 8) and seek protection for that more distant (unknown) time frame. Enter the SKEW index (shown above). This index measures SPX tail risk, or moves that are outside two standard deviations. When SKEW increases, it shows there is more demand for very out-of-the-money options and better reflects the market's perception of tail risk. This index bottoms out at 100 and peaks at a reading of 160. As we have seen increased complacency within the market on its current known conditions, we've seen increased protection purchased for the unknown variables that lie out in the tails of probability.

TAIL RISK PROTECTION



SUSTAINABILITY: WHAT IT COULD MEAN FOR YOUR PORTFOLIO

With all of the talk around fiscal policy entering the year in the U.S., it seemed that it wasn't the fiscal or monetary decisions that sent the biggest shockwaves globally, but the environmental ones. Early on into the year, the new administration walked away from the Paris Accord, leaving corporations and world leaders a bit perplexed, but not flat footed. One of the most significant, and powerful, secular trends that is present in the market today is the push towards a more sustainable, inclusive global economy. What has been made more apparent in 2017 than in recent years is: investors can and *will* play an even more significant role in this push forward than most thought.



With initiatives like the Paris Accord, the United Nations Sustainable Development Goals and the United Nations Principles for Responsible Investment; the path forward has been laid out for corporations, governments and investors to identify opportunities and track their progress.

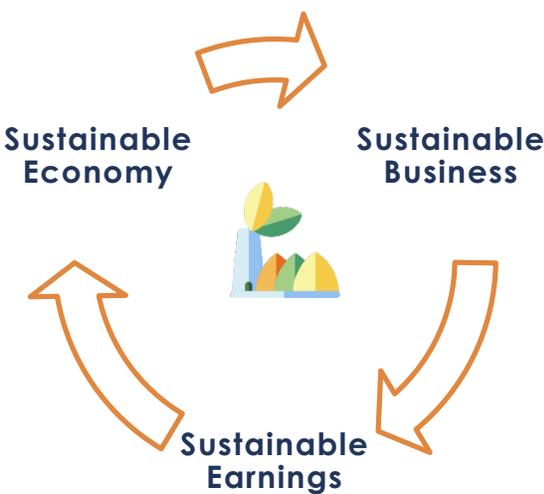
This awakening has led investors to the realization that their portfolio can carry a larger impact than the IRR on their monthly statement. With issues across the globe including access to clean water, financial inclusion, sustainable agriculture, infrastructure needs; solutions can be found in both the public and private investment markets.



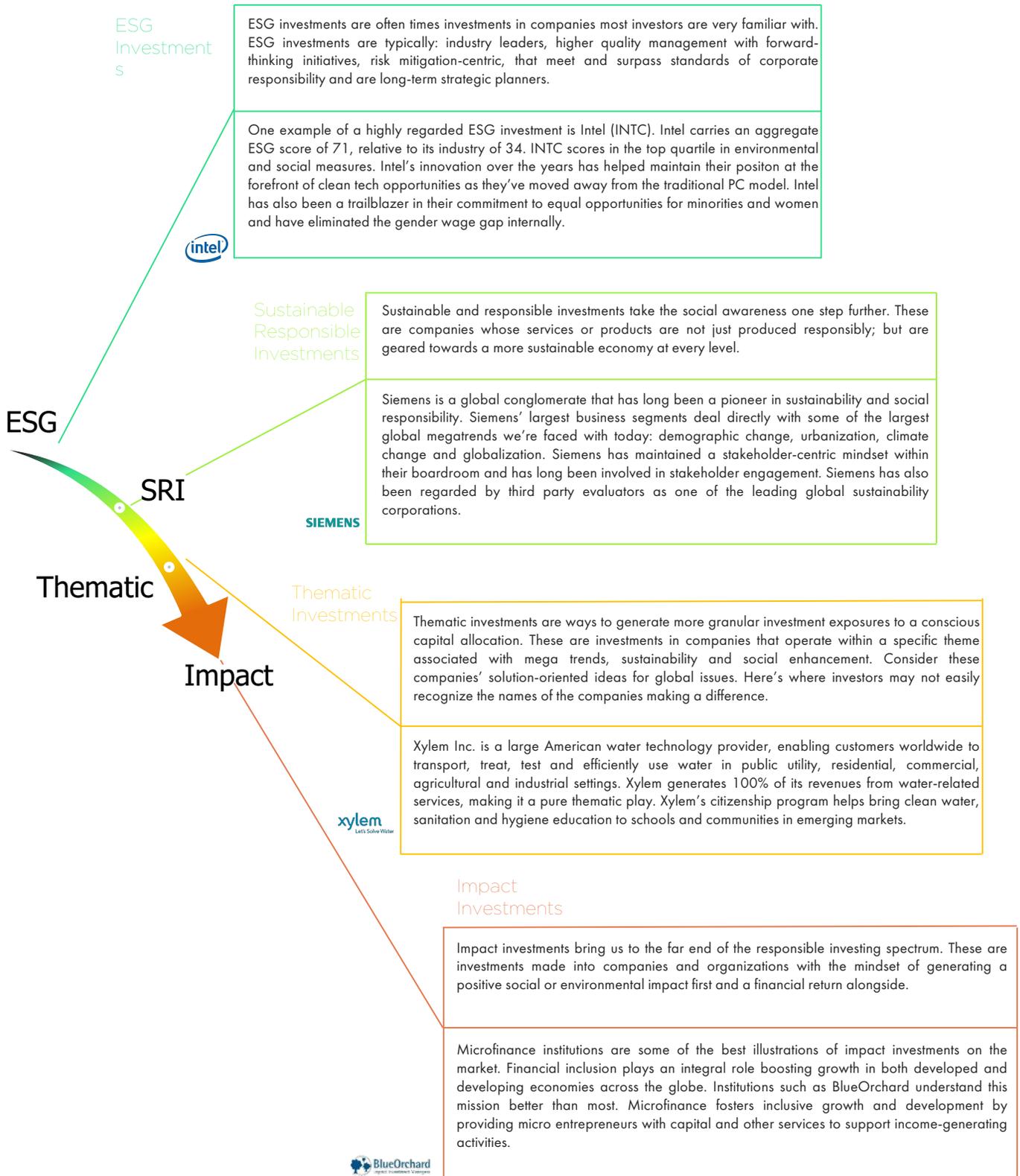
RISK MITIGATION

At the core of financial analysis we are on the hunt for one common denominator: *sustainable earnings*. Investing in companies that are key players in the pursuit of a sustainable global economy exposes us to an investible universe of high-quality companies with sustainable business models. These business models, by consequence, breed sustainable earnings.

These sustainable earnings are the result, we would argue, of a high-quality, well-managed company. These better business practices help avoid a shareholder's (and stakeholder's) exposure to mispriced externalities. While we acknowledge that risk and return are not mutually exclusive; the focus on removing unnecessary non-rewarding risks (much like an NPL) from a portfolio can help increase potential risk adjusted returns.



SUSTAINABILITY: WHAT IT COULD MEAN FOR YOUR PORTFOLIO



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TALES FROM THE CRYPT

A meteoric rise in a digital currency that was developed by one man (Satoshi Nakamoto, allegedly) less than 10 years ago became one of the most polarizing stories of 2017. Bitcoin's coming out party for the mainstream investing world seems to feel a lot like dot com mania part II. What was once scoffed at by investors who've compiled impressive investing track records, refused to go away and ultimately would not be denied. Should you be in or out? What is it used for? Is this the new gold? What's a blockchain? Is this in a literal mine? Before you took the time to have a half-baked answer for any or all of these questions the price tripled and you weren't any closer to figuring this out. So here's what you might want to familiarize yourself with and where we think the long-term value comes in.

CRYPTOCURRENCY

Cryptocurrencies are virtual tokens, a medium of exchange, that use encryption techniques to oversee the creation of monetary units. These tokens have most notably been used as storage of value thus far, but they can be used for the transfer of ownership of assets, contract settlement and much more.



BITCOIN (BTC)

Bitcoin is the best known, and most widely traded, cryptocurrency today. It was created in the ashes of the financial crisis by an individual who goes by the internet pseudonym Satoshi Nakamoto. Bitcoin allegedly took a year's worth of writing code (C++) by Mr. Nakamoto to bring to life¹.

Bitcoin is the first (of many) scarce digital asset that is able to be stored on blockchain. This is debatably the driving force

behind the hordes of cash being thrown into the currency today.

WHAT IS BTC WORTH?

The mind-bending price action in BTC has left many wondering, what is this cryptocurrency worth? This is a speculator's dream: no tangible assets, no cash flow, no earnings. Throw in there is a finite amount of token. One pragmatic way to *attempt* to value this asset is like a traditional currency. This involves a bit of monetarism: $MV=PQ$. Rational train of thought would have one try to estimate the money supply (M) and velocity (V) at which this supply moves. We aren't going to go down that rabbit hole due to several caveats involved in the world of Bitcoin.

So then we resort to the more simple answer. The only way we can attempt to rationalize

this irrational price behavior is supply and demand. We are working with an asset that has a finite number in existence (preset supply) and a tidal wave of demand. Naturally this will skyrocket price. But there is another detail that is contributing to this frenzy, that might be the downfall in price.

The limited number of tradeable cryptocurrencies today drives the demand for BTC even further. Think of it as a short live monopoly. As more tokens come to tradable platforms, demand for BTC stands to be recued as traders find a new token to speculate on.

So what is a bitcoin worth? We don't know. We also aren't going to start to try to find out. But we do see value coming from this whole phenomenon, and it's the blockchain.

Source: ¹The New Yorker, "The Crypto Currency". This presentation is solely for informational purposes and should not be taken as investment advice. For further information, please contact one of our investment adviser representatives.

TALES FROM THE CRYPT

BLOCKCHAIN

Blockchain is the database (think, globally shared spreadsheet) for which cryptocurrency is transacted, tracked and accounted for. Blockchain is not exclusive to Bitcoin, but a blockchain is typically associated with a specific cryptocurrency. This account ledger is maintained and distributed across the world in a peer-to-peer framework (P2P). Therefore, no one person or central server is running the blockchain.

Why this is unique is, this decentralized database is built on trust of the contributors to the ledger. This ledger is what allows for someone to claim ownership of these digital assets.

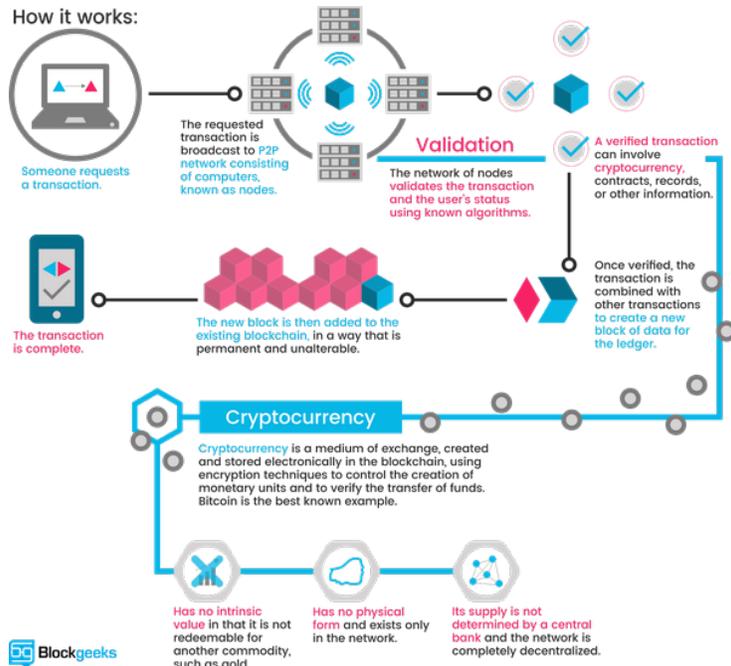
This unique structure is what stops a token from being used in one transaction, and simultaneously in another. The ownership of the digital asset is verified by the global system of users who are incentivized to “mine” these tokens with the chance to be rewarded tokens through lottery.

While the blockchain was created for the purpose of transacting Bitcoin, the opportunities are endless. It was the concept of trading cryptocurrency that exploded onto the scene, blockchain is what we view as the game-changer in the long term.

VALUE IN DISRUPTION

It isn't hard to imagine an industry in the global economy that is susceptible to disruption through blockchain. Take financials for example. Accenture has estimated that the biggest investment banks could save \$10B by using blockchain technology to improve settlement efficiencies.

More broadly speaking, the enhancement of payments, contract agreements and identification verification could be the most disruptive aspects of the global economy by use of blockchain. There is an estimated 2 billion individuals without a bank account in the world. These people stand to see financial inclusion in their lifetime by way of the blockchain that could severely impact the middle and lower class. The UN has already partnered with Microsoft, according Accenture, on a blockchain identity system for individuals with no identification papers. A decentralized mechanism of delivering of assets, ownership or contracts stands to reach depths of the global population that have been all but forgotten.



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EARMUFFS

The amount of information we have at our fingertips is a blessing and a curse. Supercomputers in our pockets would have been Sci-Fi just 30 years ago. Now, you have the answer to almost every question you can think of at all times within reach. But as empowering as this technology revolution can and has been, it brings an unprecedented, unnecessary and undesired amount of noise to our airwaves.

There are real threats to an investor's portfolio out there. Several of which we've covered in this outlook: a changing Fed, unwinding the balance sheet, reemergence of inflation, a potential seismic shift in the investing environment and no shortage of tail risks. Many of these risks to an investment are occurrences and situations you can position yourself for. You can shorten your duration, you can seek out higher coupon debt, an options strategy could help protect yourself in the event of volatility reintroducing itself; but there's one step we think all investors should take regardless of time frame or objective: tune out the noise.

The 24/7 access to news that *could* impact capital markets is one of the biggest threats to any investor and their portfolio than most are willing to acknowledge. This incessant itch to know what is happening can, and does, translate to poor investing habits. Anxiety, overreactions and overconfidence are all human elements that we all have to battle throughout the investment process. So we think in order to control what we can control (ourselves) siphoning out the excess noise that is thrown at us (unsolicited at that) is the first step to risk mitigation.

One thing that can help cancel out this noise is a sound investment process and thesis when constructing your portfolio on day one. With clear objectives outlined for yourself and your family; you'll be invested with a purpose, and each component of your portfolio will be meticulously selected. The noise that is broadcasted over the airwaves is being curated by people who weren't with you on day one. Their objectives aren't yours. With a plan in place, and earmuffs (or headphones) on, reaching your personal end game can be more manageable task.



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