Private Bank

CIO | Insights

December 2018 & the Case of the Missing "Black Swan"

Thriving Through Market Uncertainties

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Good investment results cannot buy you happiness, but down markets can surely make you miserable.

NOTE: This is a revision to the note dated 7 January 2019. Charts and data in the "Daily Data: A Surprising Number of Surprising Events" and "Yearly Data: The Hidden Value of Taking A Longer View" sections have been updated using data sourced from Global Financial Data.

Summary

- December 2018 was an unusually bad month in the US markets, one that saw massive selling by investors fearful of an imminent recession, one not foreseen in the macroeconomic data.
- There is a relevant historical precedent for recent events. In 1961, then President Kennedy meddled in the steel markets creating uncertainties that led to a precipitous drop in markets in 1962. The "unintended consequences" of Presidential policies can be quite large and unsettling, stoking fears of a "Black Swan" event.
- What is happening in markets today is not a Black Swan, but the series of political and economic events we are experiencing is unprecedented, unanticipated and collectively an outlier that could foretell one.
- How do you invest under these circumstances? This CIO Insight contains extensive analysis that demonstrates why market timing is virtually impossible, but also *surprising* data that illustrates the nature and frequency of unexpected positive returns for longer-term investors.
- Maintaining a "Core" portfolio through cycles is highly advantageous and moving capital from complementary "Opportunistic" portfolios into distressed markets can add meaningful, incremental value for disciplined investors.
- Citi Private Bank's base case is that earnings and equity prices will move up in 2019, volatility will be high and that an economic slowdown is more likely than a significant recession at this time. Thus, we advise clients to improve portfolio quality while maintaining their equity exposures.

The Case of the Missing "Black Swan": Thriving Through Market Uncertainties

By now, you have read many articles trumpeting data to demonstrate just how bad US Stock performance was in December 2018.

> *The worst December in 87 years.*
>
> *The worst month since February 2009, the heart of the last financial crisis.*
>
> *The S&P 500 fell 9.2% during a month that has historically shown an increase 73% of the time.*

This is what fear in the financial markets feels like; rapid drops in markets that defy expectations and rationality. In the press, December 2018 was most often compared with super-scary 1987 and 2008. At one point in December, nearly 40 percent of equities on the Nasdaq and New York Stock Exchange were trading at their 52 week lows. There have been only eight days since 1984 when that was true, two of which were Black Monday and the day after Lehman Brothers collapsed, bad days indeed.

Looking at recent US economic news, there has hardly been data to panic about. The University Michigan Consumer Sentiment index rose by nearly 1% in December, close to a record high. Revised, final US Q3 GDP was 3.4%, just slightly below expectations. Unemployment stats are exceptional with both weekly jobless claims and the 3.7% unemployment rate at 49-year lows. Last month, 314 thousand new jobs were added in the U. Inflation is under control and consumers spent well for Christmas. In fact, the Fed still expects to raise short-term interest rates two more times in 2019 as it sees the US economy rising at an "above trend" pace.

Outside the US, things look comparatively less rosy, but not panic worthy. China is countering its sputtering manufacturing sector, poor car sales, falling share prices and low GDP figures with stimulus to drive higher consumption and programs to increase infrastructure spending. An Asian slowdown and OPECs inability to set production levels when accounting for the large US production increase are largely responsible for a decline of 25% in oil prices. The International Monetary Fund (IMF) expects that global growth will be 3.7% in 2019 and a similar rate beyond, but calls its Outlook "Challenges to Steady Growth."

Understanding December 2018

Many market watchers are projecting the imminent end of a ten-year global recovery from the Great Recession. With the US at peak employment and US companies at peak earnings after a massive tax package, there is simply less economic fuel available to sustain, let alone accelerate, growth. This has to mean a decelerating economy in the US. Combine that with slower growth in China and an anemic European economy facing several macroeconomic challenges and it seems likely that there will be slower growth globally. Ultimately, perhaps in 2020, there will be a recession in the US and perhaps elsewhere; a "normal recession" that exhibits widespread and persistent declines in economic activity across many industries.

So what was the "fear" catalyst? The trade war with China is most commonly cited. But that is not new news. More likely, it was a tipping point moment, a sense that there were many additional small uncertainties that cumulatively created "Sell now!" anxiety. The government shutdown; the departure of General Mattis; Fed Chairman Powell's failure to acknowledge cracks in the US growth rate and a commitment to shrink its bond portfolio on "automatic pilot."

In fact, there is an historical precedent for an unexpected, sharp market decline due initially to trade…

A "Tariff-Man" Precedent?

During President Kennedy's first year in office in 1961, markets performed enthusiastically. US equity returns were +22% that year. Kennedy saw inflation as a villain and was public about his views. During his first year in office, Kennedy was pleased when Steelworkers in the US accepted a 2.5-3.0% increase in benefits and no increase in wages. The President assumed that steel prices would be stable as a result, supporting his desire to tame inflation. US Steel proceeded to raise prices anyway based, in part, on the robust demand the company was experiencing. Kennedy then went on the attack against "Big Steel" enlisting the Justice Department, run by his brother Bobby, to investigate price collusion in the steel industry and threatening the US Steel CEO Roger Blough publically, sans tweets.

After the 1961 market boom and the ultimate failure of the President's policy to rein in steel prices, financial markets were especially sensitive to bad news. With whispers of an economic slowdown circulating, in the second quarter of 1962 the S&P 500 fell 22%, wiping out all of the market gains achieved during the Kennedy administration's first year. Investors hit the "Sell now!" button.

There are several parallels here. 2017 was a banner year for markets, like 1961. Trump and fellow Republicans passed a huge tax package that should have made 2018 strong for markets, but in 2018 P/E multiples collapsed and markets reversed sharply (as they did in 1962).

What Steel was for Kennedy, China is for Trump

While inflation control was politically popular in Kennedy's era, the attempt to control it was a failure. Perhaps the US/China trade war and the uncertainties associated with it are similar. Both were popular policies, but the presidential meddling in markets had unintended and underestimated impacts. In Q2 1962 and December 2018, there was an "emotional" reason that the markets sold off violently. Investors did not know how to price the increased uncertainty.

Of course, things could get worse for the US as regards China. Looking ahead, there is more for the markets to give back if President Trump proceeds to implement the full tariffs. In fact, the S&P 500 could fall back to the 2200 level where it was when he took office, a further 9% decline. Why? Because there could be two additional impacts. Large price increases would lower demand, change manufacturer's country profitability and logistical costs and reduce earnings, perhaps precipitating an earlier recession. But the second are further "hidden" risks associated with China's potential response. They could retaliate via markets as the largest holder of US Treasuries, (as Russia did in 2018), by placing tariffs on services (where the US dominates) or more likely, by buying fewer "US-labeled" products produced and sold in China.

It seems that when Presidents meddle in markets, things can get awfully messy, awfully fast.

"This" is Not A Black Swan in Markets

When markets get very volatile and "unexpected" events occur, there is talk of a "Black Swan" event. For most users of the phrase, they are referring to a scary, negative financial event that defies easy explanation. Yet, that's not what Nassim Taleb wrote about (The Black Swan*: The Impact of the Highly Improbable*, 2007).

In Taleb's work, one lives in a white swan world where the only swans that exist are white. You didn't know a black swan existed and you've never seen one. Hence, a "Black Swan" event is one that is so improbable as to be impossible based on known data and statistics, as well as one's own experience. Taleb notes three criteria for a "Black Swan" event:

1. It is an outlier beyond the normal range of expectations because nothing in the past could point to it being likely to happen
2. It has a massive impact
3. Despite #1, we create explanations for it after the fact, making it seem "explainable and predictable"

Reading this list, the financial market activities of December 2018 are not a Black Swan. They live within a normal range of experience and they have not yet had a massive tangible impact.

Further Future Fears

Looking at economic precedent, it is unusual for markets to be so reactive to events that are 12-24 months away. The current earnings data are simply not suggesting a major near-term global contraction. In fact, Citi Private Bank is expecting global corporate earnings and financial markets to be up 7-8% in 2019. What else could be going on?

Perhaps financial markets are telling us that the geopolitical risks are much greater than we appreciate and that the collective impact of the numerous military, political and trade negotiations are more negative for the global economy than we might expect. If so, financial market tremors are signaling that a recession could be both sooner and deeper than one might think possible. In that case, the financial market turmoil in December is the first in a series of shocks associated with future unintended consequences based on enormous political uncertainties. What unprecedented events could explain this?

What Could Precipitate A True Black Swan?

Under President Trump, the prior role of the United States as a global power, its historical relationship with other countries and its commitment to past alliances are being dismantled. "America First" is a chaotic, almost weekly rewrite of America's relationship with NATO, the WTO, the UN, multinational treaties governing the potential use of nuclear weapons and multi-party trade relationships. The administration demonstrates a provocative negotiating strategy that uses threatening tariffs, sanctions and judicial actions at the outset of negotiations. And the President uses social media to attack foes, US and domestic, and recast facts and events with a frequency that soaks up the news cycle almost every day. All this while, the White House is experiencing severe senior advisor turnover, Federal agencies are severely understaffed and the Administration itself is under investigation by numerous Federal and State judicial and regulatory agencies.

The world and its leaders are trying to respond rationally, to understand what America wants and to see if a "deal" is possible. A lot of economic commentary centers on why America's China policy "makes sense" and "is long overdue" given China's history of poor intellectual property rights and its policies that limit open markets. Other rational political analysis justifies why America's relationship with NATO needs revision because the US carries a disproportionate and unfair financial and military burden. And so on.

This series of political events is unprecedented, collectively an outlier and can be experienced as "unlikely to be happening". Thus, one can imagine that if, or when, this unprecedented geopolitical shift results in a massive shock to the political, military and/or financial world, there will be many explanations that make it seem predictable or even inevitable, and thus – in the rear view mirror – a true Black Swan.

Given All This Uncertainty And Fear, How Should One Invest?

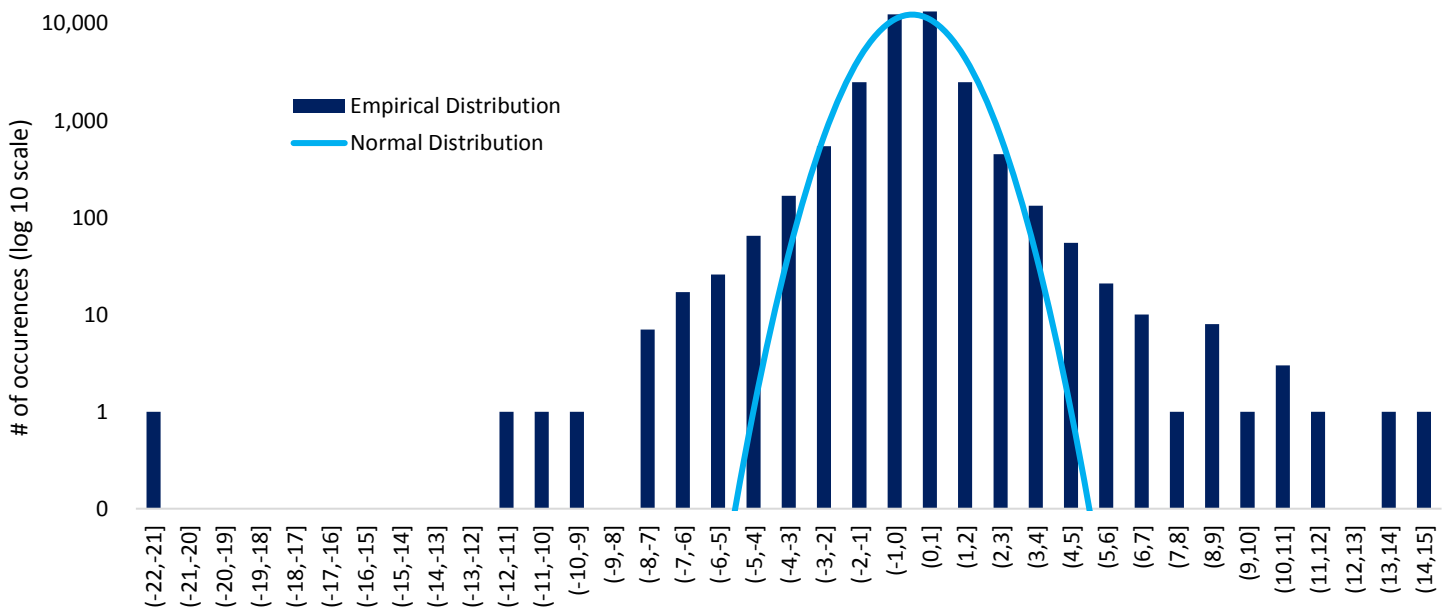
The idea that one could anticipate a Black Swan should itself contraindicate the possibility. However, we can look back and model all the market events of the last 110 years. This includes many unexpected events and at least 4 Black Swans. What does the data teach us?

Daily Data: A Surprising Number of Surprising Events

Looking back from 1900 through until December of last year, using empirical daily price movements and comparing them to an expected normal distribution of daily price action, the "actual" data contain an unusual frequency of very extreme results. There are 258 outliers out of more than 30,000 daily events (positive and negative price movements breaching the normal distribution curve on both the left and right of the bell curve). A normal distribution would suggest that one "five standard deviation event" (representing a daily price movement of around 7.5% up or down in our data) should occur once every thousand years. Over the past 118 years, we have experienced 23 days when share prices moved between five and six standard deviations. Of these outliers, 17 were negative days and 6 were positive days. There are even two days that should have been "impossible", one in 1914 and Black Monday in 1987) that fall between the negative sixteen to seventeen standard deviation bracket. On the positive side, no daily events exceeding eleven standard deviations have occurred. This makes sense since markets sell-off faster than they go up.

After all, fear is a stronger emotion than greed.

Figure 1: Empirical and normal distribution: Daily Dow Performance



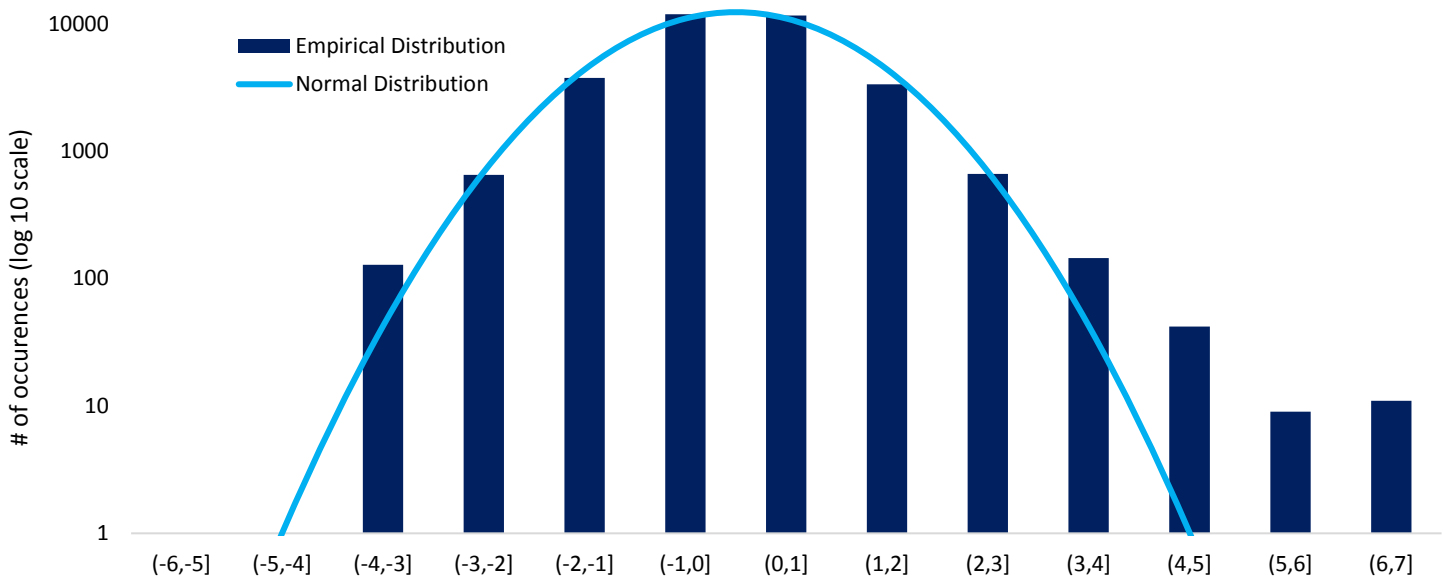
Source: Global Financial Data, January 2019

Looking at daily data does not suggest any rational strategy for investors. By definition unusual daily movements are unexpected and cannot be anticipated. So, let's look a little deeper.

Yearly Data: The Hidden Value of Taking A Longer View

Most investors have a longer-term horizon and are thinking about investing over years and decades. Those same investors are also influenced by a bad month or quarter. So what happens when we plot the same data set to show the distribution of market returns on a rolling annual basis (rather than daily)? It turns out that positive outlier events outweigh negative ones – an observation you cannot see looking at daily data alone. Using rolling annual data there are 33 positive years that fall between 3 and 5 standard deviations occurrences, while there are none on the negative side.

Figure 2: Empirical and normal distribution: Rolling Annual Dow Performance



Source: Global Financial Data, January 2019

The annual data suggests that if one remains invested, there are likely to be more positive outlier years. In other words, the cumulative value of positive daily outliers offsets the cumulative impact of negative daily outliers. This leads to a "right skew", a significant, positive benefit for investors who do not miss critical positive days. This also explains why traders or market timers who attempt to avoid bad days are far more likely to miss the positive periods that generate outperformance in US equity portfolios.

Thus, we can say that the risk of "getting out of the market" due to normal fear or to anticipate a Black Swan carries significant risks for investment portfolios. Even if an investor could avoid a 35% decline in their portfolios – one that may not even reach true "Black Swan" levels – they may also miss a significant percentage of the strongest days in the markets. This proves the value of maintaining a long-term view and investing through cycles.

An Even Better Strategy Than Buy and Hold?

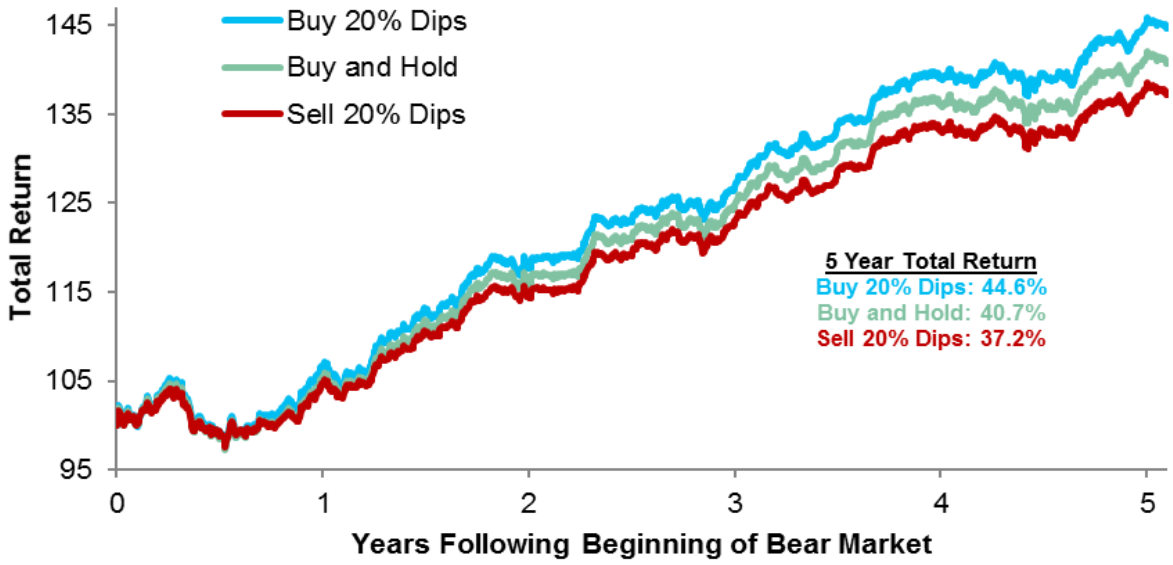
Given December 2018 and the idea that a Black Swan may be lurking (as they always are), what is an even better strategy than to "stay invested"?

Citi Private Bank believes that investors should hold a "Core" portfolio (one that follows a defined enduring strategic asset allocation) and an "Opportunistic" one (used to take greater "alpha seeking" off-benchmark risks). Let's imagine that a client holding 20% cash set aside for opportunistic investments transferred assets to his or her Core portfolio each and every time the market lost 20% of its value and held that Core "overweight" until a new equity all-time high was reached. In the 5 years following the beginning of bear markets since 1962, the

dip-buying strategy outperformed a simple buy-and-hold by 3% on average.

Now imagine an investor who reduced his or her equity exposure following a 20% decline in the S&P 500, only to buy again later at higher prices. Those who "sold in fear" upon the beginning of a bear market saw their portfolios underperform the opportunistic dip-buying strategy by nearly 5% (See Figure 3). Of course, it is easy to know when markets are down 20% and impossible to know exactly when they peak, but the essential point is that there is significant value in buying when markets have faltered because of the excess value one can capture in future positive years.

Figure 3: Equity Portfolio Total Returns Over 5 Years Following 20% Market Declines



Source: Haver as of December 2018
Indices are unmanaged. An investor cannot invest directly in an index. They are shown for illustrative purposes only. Past performance is no guarantee of future results. Real results may vary.

Conclusions

Fear, not fundamentals, has moved markets in the final quarter of 2018. Investors elevated trade war concerns and fears about a Fed deaf to market concerns completely overshadowed still solid economic fundamentals and robust earnings growth. Citi Private Bank's base case expects solid, single digit earnings growth and equity appreciation for 2019.

That said, late cycle investing brings with it elevated volatility as market participants will, from time to time, attempt to exit in a "rush for the exit" fashion we experienced on Friday 21 December when over 12 billion shares were traded on US exchanges, the highest volume in several years. As we have suggested in our broader analysis, the largest upswings typically closely follow the largest drawdowns. The S&P 500's +5% return on December 26 offering a recent reminder. The closeness of major up and down days reflects the "emotion" of market participants. This illustrates the impossibility of being a successful market timer, a point proven by the daily data analysis.

Figure 4 shows historical forward one and two-year price returns after the S&P 500 reaches "bear market" territory (defined as a correction of 20% or greater) since 1951. While the range of historical forward returns has been wide, and despite the fact that the two most recent bear markets (including subsequent recessions) have seen multiple years of negative performance, the average and median one and two-year forward returns are positive. The average twelve month return following a 20% correction is +10% while the average 24m return is +21% (not annualized). For both forward windows, positive returns have occurred 67% of the time since 1951. The annual data herein suggests that to capture positive outliers, investors need to remain fully invested. To seek excess returns, one can shift more money opportunistically into markets when they are behaving most poorly.

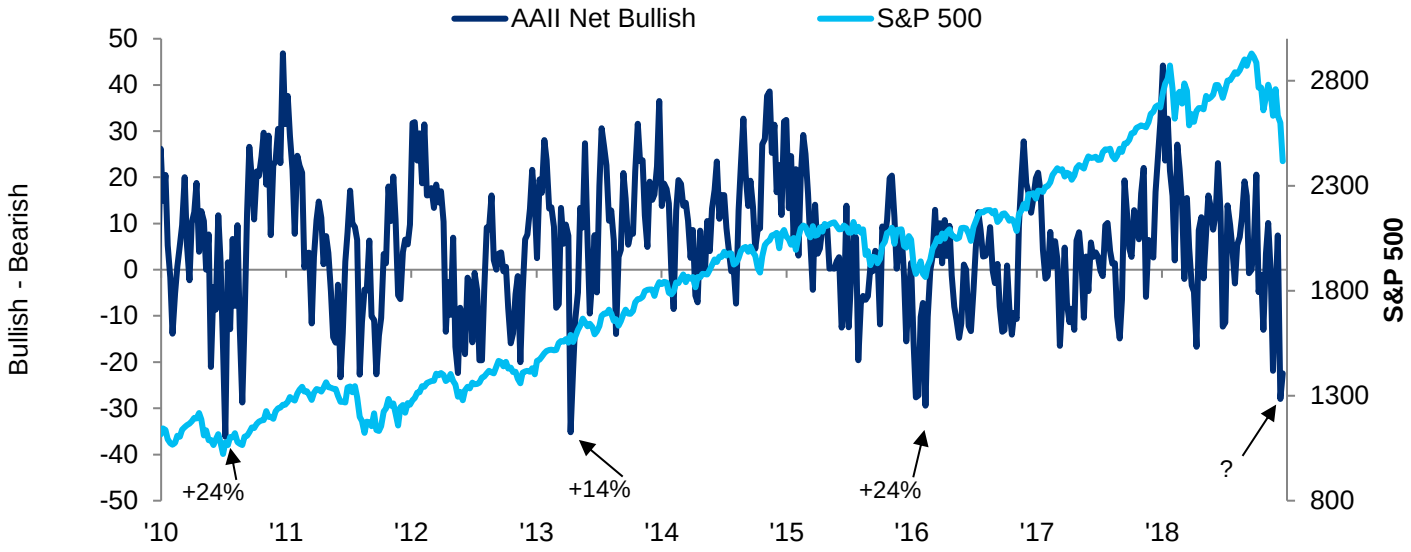
Figure 4: Forward returns following 20% drawdowns

Date Bear Market Reached	Fwd 12m Return	Fwd 24m Return
10/21/1957	31%	46%
5/28/1962	26%	45%
8/29/1966	24%	33%
1/29/1970	11%	21%
11/27/1973	-27%	-5%
2/22/1982	31%	39%
10/19/1987	23%	60%
3/12/2001	-1%	-29%
7/9/2008	-29%	-17%
Average	**10%**	**21%**
Median	**23%**	**33%**
Min	**-29%**	**-29%**
Max	**31%**	**60%**

Source: Haver as of December 2018
For illustrative purposes only. Past performance is no guarantee of future results. Real results may vary.

Fear is a factor even in bull markets. Markets are discounting mechanisms, continuously reflecting the perception of what lies ahead in the next twelve months. Three years ago, with the Chinese devaluation scare still fresh in investors' minds, plummeting oil prices near $30/bbl and some emerging markets contracting, investor sentiment slumped. In fact, we have seen four similar collapses in sentiment since 2009, each turning out to be good buying opportunities.

Figure 5: Investor sentiment



Source: Haver as of January 3, 2019

December 2018 was a very bad month in the US markets, one that demonstrated the extent of investor's fears associated with the China trade war, global political turmoil and the initial release of data suggesting a slowdown in global economic growth. But Citi Private Bank expects that both the economic expansion as well as the equity bull market have further to run. As events in 1962 and 2018 demonstrate, meddling in global markets and trade by Presidents has unintended consequences. Long-term investors, who maintain positions, will ultimately profit through cycles, but market timers are likely to miss the upside when it occurs. This is why maintaining Core and Opportunistic portfolios makes practical sense. Core portfolios are designed to hold through market cycles and Opportunistic ones exist for making incremental investments when others are acting less rationally. We do not know yet how the "trade war" will play out or how the Fed will react. A more dovish Fed, a US-China trade truce, Chinese policy stimulus and another strong US earnings season are all reasonable outcomes in an uncertain world. Separating fears from fact and investing over cycles in a disciplined manner is wisest and the historical data supports this view.

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Asset Allocation Definitions

Asset classes	Benchmarked against
Global equities	MSCI All Country World Index, which represents 48 developed and emerging equity markets. Index components are weighted by market capitalization.
Global bonds	Bloomberg Barclays Capital Multiverse (Hedged) Index, which contains the government -related portion of the Multiverse Index, and accounts for approximately 14% of the larger index.
Hedge funds	HFRX Global Hedge Fund Index, which is designed to be representative of the overall composition of the hedge fund universe. It comprises all eligible hedge fund strategies; including but not limited to convertible arbitrage, distressed securities, equity hedge, equity market neutral, event driven, macro, merger arbitrage and relative value arbitrage. The strategies are asset-weighted based on the distribution of assets in the hedge fund industry.
Commodities	Dow Jones-UBS Commodity Index, which is composed of futures contracts on physical commodities traded on US exchanges, with the exception of aluminum, nickel and zinc, which trade on the London Metal Exchange (LME). The major commodity sectors are represented including energy, petroleum, precious metals, industrial metals, grains, livestock, softs, agriculture and ex-energy. The Thomson Reuters / Core Commodity Index is designed to provide timely and accurate representation of a long-only, broadly diversified investment in commodities through a transparent and disciplined calculation methodology.
Cash	Three-month LIBOR, which is the interest rates that banks charge each other in the international inter-bank market for three-month loans (usually denominated in Eurodollars).
Equities	
Developed market large cap	MSCI World Large Cap Index, which is free-float adjusted and weighted by market capitalization. The index is designed to measure the equity market performance of the large cap stocks in 23 developed markets. Large cap is defined as stocks representing roughly 70% of each market's capitalization.
All Country Ex US	MSCI All Country ex US, which is free-float adjusted and weighted by market capitalization. The index is designed to measure the equity market performance of the large cap stocks in all countries excluding the US.
US	Standard & Poor's 500 Index, which is a capitalization-weighted index that includes a representative sample of 500 leading companies in leading industries of the US economy. Although the S&P 500 focuses on the large cap segment of the market, with over 80% coverage of US equities, it is also an ideal proxy for the total market.
Europe ex UK	MSCI Europe ex UK Large Cap Index, which is free-float adjusted and weighted by market capitalization. The index is designed to measure large cap stock performance in each of Europe's developed markets, except for the UK
UK	MSCI UK Large Cap Index, which is free-float adjusted and weighted by market capitalization. The index is designed to measure large cap stock performance in the UK
Japan	MSCI Japan Large Cap Index, which is free-float adjusted and weighted by market capitalization. The index is designed to measure large cap stock performance in Japan.
Asia Pacific ex Japan	MSCI Asia Pacific ex Japan Large Cap Index, which is free-float adjusted and weighted by market capitalization. The index is designed to measure the performance of large cap stocks in Australia, Hong Kong, New Zealand and Singapore.
Developed market small and mid-cap (SMID)	MSCI World Small Cap Index, which is a capitalization-weighted index that measures small cap stock performance in 23 developed equity markets.
Emerging market	MSCI Emerging Markets Index, which is free-float adjusted and weighted by market capitalization. The index is designed to measure equity market performance of 22 emerging markets.
Bonds	
Developed sovereign	Citi World Government Bond Index (WGBI), which consists of the major global investment grade government bond markets and is composed of sovereign debt, denominated in the domestic currency. To join the WGBI, the market must satisfy size, credit and barriers-to-entry requirements. In order to ensure that the WGBI remains an investment grade benchmark, a minimum credit quality of BBB–/Baa3 by either S&P or Moody's is imposed. The index is rebalanced monthly.
Emerging sovereign	Citi Emerging Market Sovereign Bond Index (ESBI), which includes Brady bonds and US dollar -denominated emerging market sovereign debt issued in the global, Yankee and Eurodollar markets, excluding loans. It is composed of debt in Africa, Asia, Europe and Latin America. We classify an emerging market as a sovereign with a maximum foreign debt rating of BBB+/Baa1 by S&P or Moody's. Defaulted issues are excluded.
Supranationals	Citi World Broad Investment Grade Index (WBIG)—Government Related, which is a subsector of the WBIG. The index includes fixed rate investment grade agency, supranational and regional government debt, denominated in the domestic currency. The index is rebalanced monthly.
Corporate investment grade	Citi World Broad Investment Grade Index (WBIG)—Corporate, which is a subsector of the WBIG. The index includes fixed rate global investment grade corporate debt within the finance, industrial and utility sectors, denominated in the domestic currency. The index is rebalanced monthly.
Corporate high yield	Bloomberg Barclays Global High Yield Corporate Index. Provides a broad-based measure of the global high yield fixed income markets. It is also a component of the Multiverse Index and the Global Aggregate Index.
Securitized	Citi World Broad Investment Grade Index (WBIG)—Securitized, which is a subsector of the WBIG. The index includes global investment grade collateralized debt denominated in the domestic currency, including mortgage -backed securities, covered bonds (Pfandbriefe) and asset-backed securities. The index is rebalanced monthly. Moody's Baa Corporate Bond Index is an investment bond index that tracks the performance of all bonds given a Baa rating by Moody's Investors Service.

	BAML US Corporate index (Bank of America Merrill Lynch) tracks the performance of US dollar denominated investment grade rated corporate debt publically issued in the US domestic market.
Other miscellaneous definitions	
Asset Backed Securities (ABS)	A security whose income payments and hence value are derived from and collateralized (or "backed") by a specified pool of underlying assets such as consumer credit card debt or auto loans.
Commercial Mortgage Backed Securities (CMBS)	Commercial mortgage-backed securities (CMBS) are a type of mortgage-backed security that is secured by mortgages on commercial properties, instead of residential real estate.
High Yield Corporate Bonds (HY)	High yield corporate bonds are bonds with a credit rating less than BBB- (S&P) or Baa3 (Moody's), and are debt securities issued by a corporation and sold to investors. The backing for the bond is usually the payment ability of the company, which is typically money to be earned from future operations.
Investment Grade Corporate Bonds (IG)	Investment grade corporate bonds are bonds with a credit rating equal to or above BBB- (S&P) or Baa3 (Moody's), and are debt securities issued by a corporation and sold to investors. The backing for the bond is usually the payment ability of the company, which is typically money to be earned from future operations.

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http://www.theocc.com/components/docs/riskstoc.pdf or http://www.theocc.com/components/docs/about/publications/november_2012_supplement.pdf

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Bond rating equivalence
Alpha and/or numeric symbols used to give indications of relative credit quality. In the municipal market, these designations are published by the rating services. Internal ratings are also used by other market participants to indicate credit quality.

Bond credit quality ratings	Rating agencies		
Credit risk	**Moody's[1]**	**Standard and Poor's[2]**	**Fitch Ratings[2]**
Investment Grade			
Highest quality	Aaa	AAA	AAA
High quality (very strong)	Aa	AA	AA
Upper medium grade (Strong)	A	A	A
Medium grade	Baa	BBB	BBB
Not Investment Grade			
Lower medium grade (somewhat speculative)	Ba	BB	BB
Low grade (speculative)	B	B	B
Poor quality (may default)	Caa	CCC	CCC
Most speculative	Ca	CC	CC
No interest being paid or bankruptcy petition filed	C	D	C
In default	C	D	D

1 The ratings from Aa to Ca by Moody's may be modified by the addition of a 1, 2, or 3 to show relative standing within the category.
2 The ratings from AA to CC by Standard and Poor's and Fitch Ratings may be modified by the addition of a plus or a minus to show relative standing within the category.

(MLP's) - Energy Related MLPs May Exhibit High Volatility. While not historically very volatile, in certain market environments Energy Related MLPS may exhibit high volatility.

Changes in Regulatory or Tax Treatment of Energy Related MLPs. If the IRS changes the current tax treatment of the master limited partnerships included in the Basket of Energy Related MLPs thereby subjecting them to higher rates of taxation, or if other regulatory authorities enact regulations which negatively affect the ability of the master limited partnerships to generate income or distribute dividends to holders of common units, the return on the Notes, if any, could be dramatically reduced. Investment in a basket of Energy Related MLPs may expose the investor to concentration risk due to industry, geographical, political, and regulatory concentration.

Mortgage-backed securities ("MBS"), which include collateralized mortgage obligations ("CMOs"), also referred to as real estate mortgage investment conduits ("REMICs"), may not be suitable for all investors. There is the possibility of early return of principal due to mortgage prepayments, which can reduce expected yield and result in reinvestment risk. Conversely, return of principal may be slower than initial prepayment speed assumptions, extending the average life of the security up to its listed maturity date (also referred to as extension risk).

Additionally, the underlying collateral supporting non-Agency MBS may default on principal and interest payments. In certain cases, this could cause the income stream of the security to decline and result in loss of principal. Further, an insufficient level of credit support may result in a downgrade of a mortgage bond's credit rating and lead to a higher probability of principal loss and increased price volatility. Investments in subordinated MBS involve greater credit risk of default than the senior classes of the same issue. Default risk may be pronounced in cases where the MBS security is secured by, or evidencing an interest in, a relatively small or less diverse pool of underlying mortgage loans.

MBS are also sensitive to interest rate changes which can negatively impact the market value of the security. During times of heightened volatility, MBS can experience greater levels of illiquidity and larger price movements. Price volatility may also occur from other factors including, but not limited to, prepayments, future prepayment expectations, credit concerns, underlying collateral performance and technical changes in the market.

Alternative investments referenced in this report are speculative and entail significant risks that can include losses due to leveraging or other speculative investment practices, lack of liquidity, volatility of returns, restrictions on transferring interests in the fund, potential lack of diversification, absence of information regarding valuations and pricing, complex tax structures and delays in tax reporting, less regulation and higher fees than mutual funds and advisor risk.

Asset allocation does not assure a profit or protect against a loss in declining financial markets.

The indexes are unmanaged. An investor cannot invest directly in an index. They are shown for illustrative purposes only and do not represent the performance of any specific investment. Index returns do not include any expenses, fees or sales charges, which would lower performance.

Past performance is no guarantee of future results.

International investing entails greater risk, as well as greater potential rewards compared to US investing. These risks include political and economic uncertainties of foreign countries as well as the risk of currency fluctuations. These risks are magnified in countries with emerging markets, since these countries may have relatively unstable governments and less established markets and economics.

Investing in smaller companies involves greater risks not associated with investing in more established companies, such as business risk, significant stock price fluctuations and illiquidity.

Factors affecting commodities generally, index components composed of futures contracts on nickel or copper, which are industrial metals, may be subject to a number of additional factors specific to industrial metals that might cause price volatility. These include changes in the level of industrial activity using industrial metals (including the availability of substitutes such as manmade or synthetic substitutes); disruptions in the supply chain, from mining to storage to smelting or refining; adjustments to inventory; variations in production costs, including storage, labor and energy costs; costs associated with regulatory compliance, including environmental regulations; and changes in industrial, government and consumer demand, both in individual consuming nations and internationally. Index components concentrated in futures contracts on agricultural products, including grains, may be subject to a number of additional factors specific to agricultural products that might cause price volatility. These include weather conditions, including floods, drought and freezing conditions; changes in government policies; planting decisions; and changes in demand for agricultural products, both with end users and as inputs into various industries.

The information contained herein is not intended to be an exhaustive discussion of the strategies or concepts mentioned herein or tax or legal advice. Readers interested in the strategies or concepts should consult their tax, legal, or other advisors, as appropriate.

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