



It is a widely-held belief amongst analysts that market volatility increases at tops and bottoms, which makes sense, as such directional changes take place at a time when the strength of a consensus opinion is weakening, bulls and bears are increasingly evenly matched, and each camp is waging a back and forth battle for control of the market's primary trend.



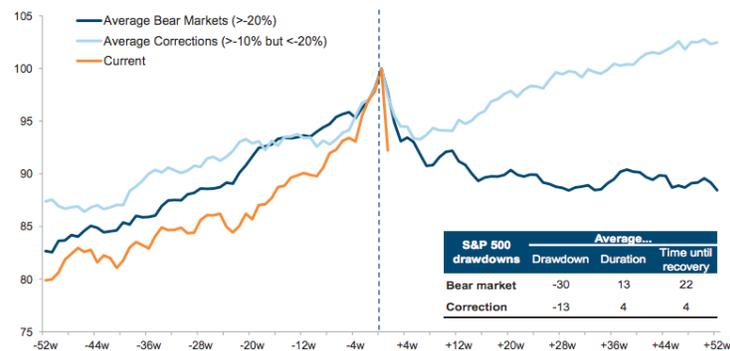
There is no doubt that volatility has increased dramatically since the turn of the year, with investors already experiencing more 1% daily stock market swings in 2018 than they did in all of 2017, and January seeing some of the biggest inflows of new cash in the history of the equity markets and, as a result, a virtually unprecedented monthly gain in stock prices.

It was this environment that motivated us to spend the majority of last month's report on the need for a euphoria-dampening sell-off that would restore a healthy level of caution to the markets, which we believe to be a requisite for a continued equity market advance.

Volatility continued in February, which produced one of the sharpest sell-offs in US market history. In fact, it was the fastest 10% decline from an all-time high ever experienced. The S&P 500 declined by 10% in just 13 days. In contrast, during the average correction (i.e. a 10% to 20% decline), it has historically taken 64 days for the market to fall by 10%.

Ironically, while the decline took place right on cue, the anticipated dampening of bullish sentiment has not been, at least thus far, as cathartic as we would have hoped (and as the markets ideally needed). After all, the American Association of Individual Investor (AAII) sentiment survey taken at the market lows showed that there were still more bullish investors (37%) than bearish ones (35%).

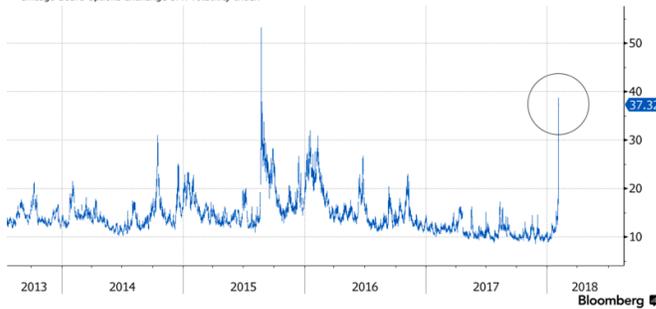
**Exhibit 4: The current correction is sharper than the historical average**  
Based on 22 corrections and 14 bear markets for the S&P 500 since WW2



In addition, research from TD Ameritrade, which is a favorite custodian of self-directed individual investors, showed that, rather than being shaken out of the stock market by such a rapid fall, individual investors actually bought the bottom, and bought it aggressively. This was confirmed by Apex Clearing (a custodian for 7.6 million direct-to-investor accounts), which reported an 88% increase in buying volume from self-directed investors near the lows of the decline. We believe that such resilience is an encouraging sign for the equity markets.

It is noteworthy that the most recent AAI poll shows 49% bullishness. As such, it's pretty clear that the correction did not generate much sustainable fear, which is a shame, as a significant surge in bearish sentiment would have done wonders for the longer-term sustainability of the bull market in equities. Even so, the sharp decline in prices, in conjunction with a sharp acceleration in earnings, has shifted equity valuations from being very high to being close to average levels, which is also encouraging.

**VIX Event**  
Volatility rocketed to levels not seen since August 2015



Even so, the sharp decline in prices, in conjunction with a sharp acceleration in earnings, has shifted equity valuations from being very high to being close to average levels, which is also encouraging.

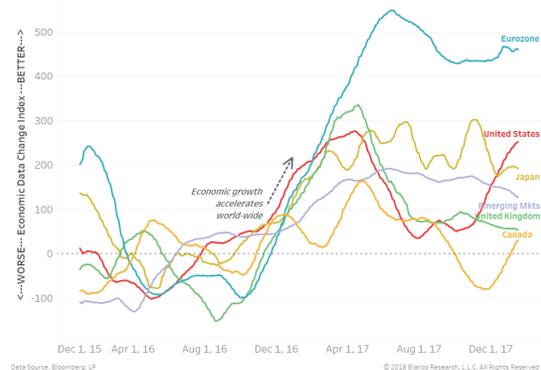
We believe that the aforementioned lack of fear is due to the fact that the decline was largely mechanically driven, and catalyzed by the forced

unwinding of a heavily leveraged defensive hedge that blew up when rising interest rates caused a surge in equity volatility (based on the VIX “fear index”) that forced banks to sell equity futures to help limit the losses that they were experiencing in their leveraged short volatility positions. That is also largely why prices rebounded so sharply once the leverage associated with that trade gone awry was unwound.

We believe that the mechanical nature of the correction is further confirmed by the fact that the decline stopped almost exactly at the market’s 200-day moving average, where computers would likely have been programmed to issue buy signals, and has stalled almost exactly at the market’s 50-day moving average, where it is quite likely that computer algorithms would have been programmed to take profits.

While we suspect that the unwinding of most of the leverage in this trade has already taken place, which at least temporarily puts this specific risk on the back burner, we believe that it is important not to miss the more macro-economic message of this recent event, which is that the impact of higher rates is pervasive, and that changes in rates can have far-reaching implications, even to asset classes that, on the surface, have no direct connection to interest rates themselves.

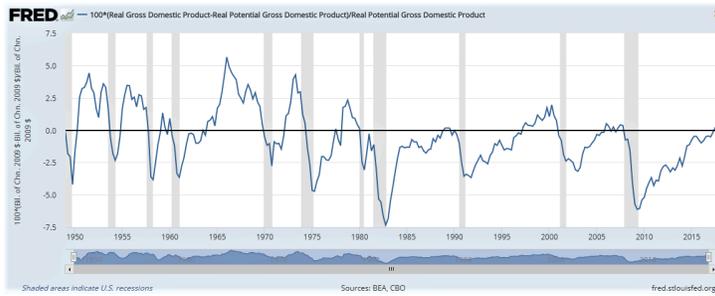
**Eurozone and U.S. Economies Firing on All Cylinders**  
Citigroup Economic Data Change Indices (20-day moving average)



As was noted in last month’s report, equities can normally deal with interest rates meandering higher. It is instead sharp accelerations in interest rates, like we witnessed in early February, that weigh so heavily on the risk markets. It is with this in mind that we will concentrate the remainder of this writing on the “Great Rate Debate”, and the economic and capital markets backdrop against which it is taking place.

At the heart of this backdrop is the impressive, albeit still ongoing, global economic recovery from the financial crisis. This is reflected in the above rate-of-change chart, which illustrates that, while Japan and particularly Europe have seen a huge nominal economic rebound, it is actually the U.S. and Canada whose economies are currently exploding to the upside.

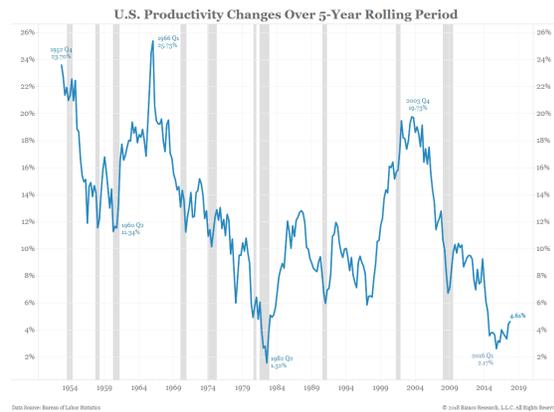
Indeed, the nominal level and pace of the U.S. recovery is so impressive that it is putting upwards pressure on inflation which, while still incipient, has several noteworthy pressure points. First of all, the nominal level of recovery has been so significant that the U.S. economy is running into capacity constraints where the demand for goods and services now



exceeds the U.S. economy's ability to meet that demand. This is inherently inflationary, because out-sized demand will push prices higher, as consumers compete over insufficient supply.

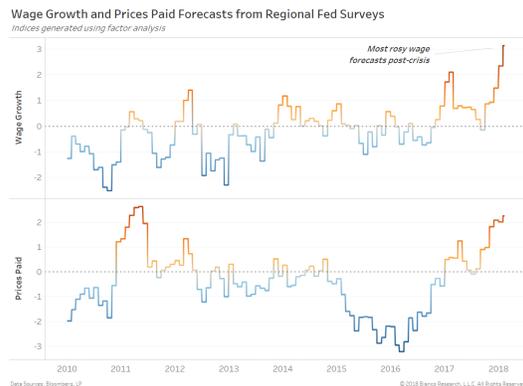
Initially, this normally continues until higher prices reduce demand to the point where it can be satisfied by current productive capacity. However, it ultimately leads to broad-based inflation, which the Fed responds to with higher interest rates, and which normally results in recession.

This is illustrated in the above chart from the Federal Reserve that shows what is called the "output gap". When the chart is below "0" (the solid black line), it means that there is excess productive capacity, and the Fed is likely to be lowering rates to stimulate the economy. When the chart moves above the "0" line, which has just taken place, it means that there is too much demand relative to supply which, as noted above, results in inflation, and normally precipitates the Fed to raise rates, which is why most moves above the "0" line are soon followed by recessions (the grey, shaded areas).



Of note, one of the reasons why demand seems to have swamped productive capacity so quickly is that growth in productivity (output per hour worked) has declined sharply since the end of 2003, which really limits the growth of capacity. This is due at least partially to an

unwillingness of companies to invest in productivity-enhancing capital equipment in the wake of the financial crisis, but this may change significantly now, due to the accelerated expensing of capital investments provided in the tax reform package. Of note, many believe that the new blockchain technologies may, over time, improve productivity in ways similar to the impact of the internet in the 1990s.



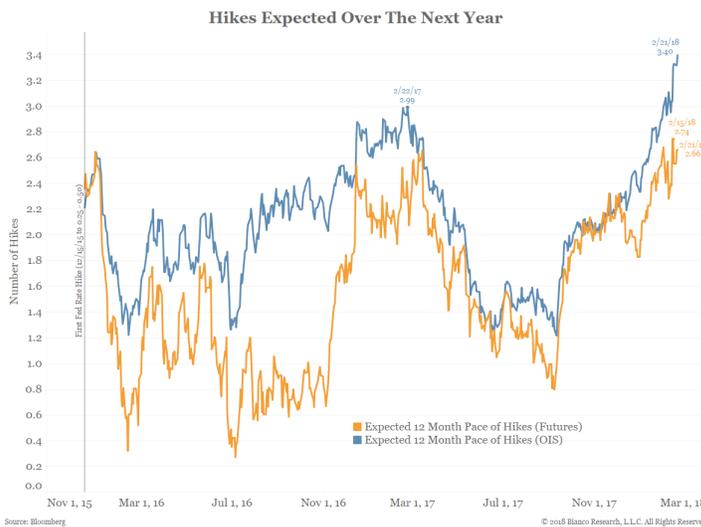
In the meantime, as is illustrated in the "Wage Growth and Prices Paid" chart, which compiles the expectations of the Regional Banks in the Federal Reserve System, the Fed is clearly expecting a fairly dramatic jump in both wages and the prices paid for raw materials and unfinished goods. Both are key components of generalized inflation, and both help confirm the outlook for higher interest rates over time.

In light of this backdrop, we believe that it is virtually a foregone conclusion that interest rates will move higher over time, and that they will likely continue to climb at least until the U.S. finds itself in its next recession. However, that still leaves the interesting and important questions of 1) what will be the impact of higher rates on equities, 2) will higher rates quell inflation before it gets started, 3) what is the shorter-term outlook for interest rates, and the critical 4) how quickly will interest rates move higher over time.

We believe that, at the current time, politics has a much greater than normal influence on monetary policy, and that fiscal and monetary policy are likely to be working at cross-purposes. To explain, Trump’s regulatory and tax policies are very favorable for both the economy and the equity markets. However, his trade and immigration policies are anti-growth, anti-business, and pro-inflation. Moreover, his “love” (his word) of debt and continuing attempts to stimulate the economy through deficit spending will ultimately balloon the deficit and push up interest rates without really stimulating the economy.

The Fed has stated their preference for a policy of slow, methodical increases in interest rates. However, in the ninth year of economic expansion, with the economy at full-employment and inflation showing signs of potentially developing into a problem over time, the Federal Reserve has little choice but to increase its pressure on the economy’s brake,

with higher interest rates and lower money supply, each time that Trump decides to push harder on the accelerator.



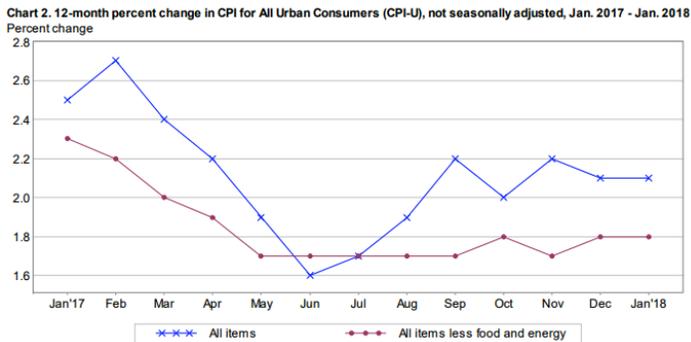
Ironically, it is very conceivable that Trump’s attempts to stimulate the economy may ultimately be what pushes it into recession, as it may force the Fed to move both more quickly and more aggressively than it would otherwise, and higher rates can overwhelm any kind of fiscal stimulus (like the tax cuts or the infrastructure bill). Further,

rapidly rising rates would likely also overwhelm both the stock and bond markets. As Scott Miner, Global Chief Investment Officer of Guggenheim Partners noted in a Feb. 3 article in Barron’s, “Bull markets don’t die from old age. They typically get shot in the head by the central bank, or by an exogenous event.”

Since interest rates on longer-term debt bottomed out in July of 2016, 10-year treasury note yields have increased by about 1.6%, which may not seem like much on an absolute basis, but represents a virtual doubling of rates on a relative basis. So how are the prospects of higher rates likely to impact the equity markets?

According to a study by analyst Ben Carlson that was posted on bloomberg.com on February 23<sup>rd</sup>, there have been 17 instances since 1962 when the yield on the 10-year treasury note surged by at least 1%. While the past is not necessarily prelude, the study found that the average gain in equities following the initial 1% surge in yields was 22%, and that, of the only three instances with negative returns, the worst loss was less than 2%.

That said, higher rates do almost always eventually weigh on equity prices, as can be seen in the run up in rates that took place prior to the 1987 crash, the massive 2000-2002 bear market, and the dramatic declines in 1966 and 1990. In each instance, the Federal Reserve was tightening monetary policy.



The conclusion of the Ben Carlson research piece is that it is not higher rates, but instead higher inflation, that causes equity markets such as angst, as it increases production costs (both labor and raw materials), and will compress profit margins, if they can't pass on the increased costs to the final consumer.

According to his research, from 1928 to 2017, when inflation is 3% or lower, the domestic equity markets average annual returns of almost 16%, but that when inflation is above 3%, average annual returns in the equity markets drop dramatically to 6.5%. Of note, the current Consumer Price Index measures retail inflation at 2.1%.

An interestingly similar premise was just published by Bianco Research, who produces some of the industry's most insightful commentary. Their premise, which is illustrated below, is that the existence of a strong relationship between interest rates and equity prices is largely a function of whether investors are in an inflationary mindset or a deflationary one. This is shown in the stock/bond correlation chart, with equities illustrated in blue, interest rates in red, and the level of correlation between them in green.

According to the Bianco premise, the timeframes 1954-1966 and 2001 to-date have been periods when deflation was a much greater concern than inflation and, as a result, stocks and bonds moved independently from one another. In contrast, the 1966-2001 period (shown in grey) was a period when inflation was a much bigger concern than was deflation and, as such, the correlation between the two markets was very tight, with stock and bond prices moving in reverse lockstep with one another, depending on the short-term outlook for inflation.



There are two things that we think are particularly notable about this premise. First, as suggested in the report, the correlation between stocks and bonds is not very tight at present, but that it appears to be getting increasingly tight, as inflationary pressures are finally starting to materialize. The second point is that the Bianco Research piece adds further support to the Ben Carlson premise that it is rising inflation rather than rising interest rates that is so problematic for the equity markets.

While interest rates and inflation normally track each other very closely, particularly regarding longer-maturity debt, their tracking is far from perfect, as bond yields move not on the existence of inflation, but instead on the anticipation of inflation. For evidence, you need look no further than the benchmark 10-year treasury yield, which bottomed almost 19 months ago, whereas we are just now seeing the first signs of impending inflation.

In regard to the prospects for interest rates themselves, we expect for them to meander significantly higher over time, as the world finally fully recovers from the financial crisis and inflation starts to have a meaningful impact. However, in the short term, we actually suspect that interest rates have moved higher a little too quickly, and that they are likely to settle back down somewhat over the near term.

There are a few reasons for this opinion. First of all, we are seeing what is at least a credible attempt at a rebound in the so-called “bond proxies” like utility stocks and Real Estate Investment Trusts (REITs). Second, there is now an extremely large “short” position in (bets against) the treasury markets, which has quadrupled since December, and means that there is a large pool of investors who will be forced to buy bonds if rates start to move lower.

There are also some more technical reasons why we believe that we might be seeing a short-term top in interest rates (i.e. a short-term low in bond prices).

First, bonds are technically over-sold,

which is just a fancy way of saying that bond prices fell too far, too fast. In addition, the current yield on the 10 and 30-year government bonds are approaching levels that represented significant highs in the past, and most markets tend to find support and/or resistance at significant previous highs and/or lows. Of note, we would expect that any down-tick in rates would be quite bullish for equity prices.

The economy and markets clearly seem to be entering into a new paradigm of accelerating growth in the economy, corporate profits and wages on the positive side, but increasing protectionism, huge deficits and, most importantly, higher interest rates on the other. Market nirvana is being replaced by two-way risk, as central banks slowly unwind their extraordinary involvement in the capital markets. Accordingly, things like monetary policy and market volatility seem destined to slowly return to more historic norms. To emphasize, we are much more inclined at this point to view this year’s increase in volatility as a return to normalcy after a period of extraordinarily low volatility, rather than anything more ominous.

Most importantly, the U.S. economy seems to be on the verge of its first secular move up in interest rates since the 1940s. This would mark the end of a 36-year secular trend towards lower interest rates, and may be of particular importance when you consider that, as noted by Louise Yamada Technical Research Advisors, “interest rate cycles are long, typically stretching 22 to 37 years. This new rate cycle could last at least two decades and introduce a whole new class of investors to rising rates”. Time will tell if she is right.

#### Line In The Sand

The 30-year yield is right on its peaks of the past three years. A breach would point to a climb to 3.5%, then 4%

