PCA | PENSION CONSULTING ALLIANCE

MEMORANDUM

Date: December 12, 2018

To: PCA Clients

From: Pension Consulting Alliance, LLC (PCA)

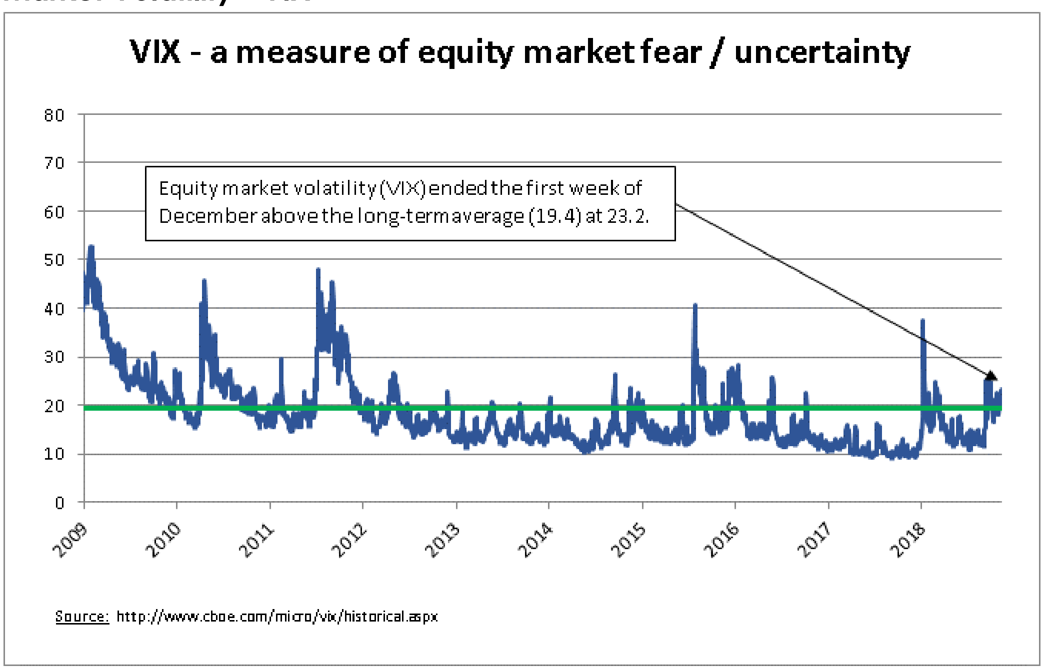
RE: **Yield Curve Inversion and Market Volatility**

"When the weather changes, nobody believes the laws of physics have changed. Similarly, I don't believe that when the stock market goes into terrible gyrations its rules have changed."

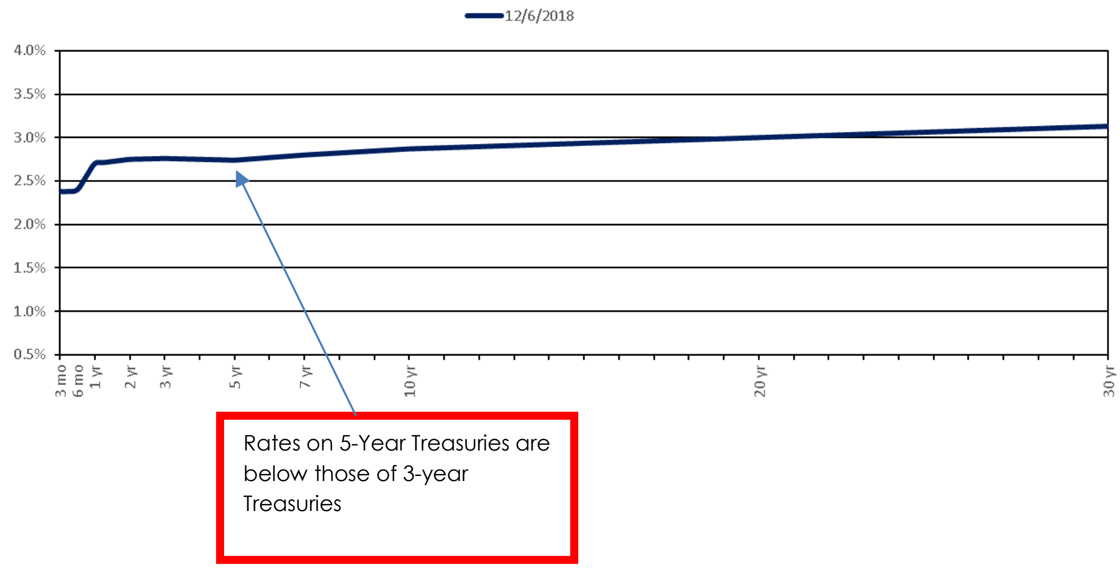
Benoit Mandelbrot

Since the 2008 Global Financial Crisis (GFC), low levels of volatility in the equity and debt markets has been a dominant theme. Recent market results and evidence indicate we may have now left that regime behind (see charts below and on the following page).

Market Volatility - VIX



December 6th, 2018 Treasury Rates:



S&P 500 Returns (thru Dec. 7, 2018):

	Week (Dec. 3-7, 2018)	YTD
S&P 500	-4.55%	0.32%

During the first week of December 2018, U.S. equity markets experienced increased volatility above long-term averages following the 2008 GFC (see chart on page 1). The rates markets also exhibited a small inversion of the yield curve when rates on 5-year Treasuries fell below the rates of 3-year Treasuries (second chart). We view this as the first portion of a yield curve inversion but have not yet reached the point that is typically referenced as a traditional yield curve inversion (some view a traditional inversion as the drop in 10-year rates relative to the 2-year). In addition, an inverted yield is generally interpreted as an indicator that investors are more confident in the shorter term economic environment than they are about the economic outlook in the long-term.

At the same time, increased geopolitical uncertainties: tariffs, Brexit, riots in France, military flexing by China and Russia, populist (anti-globalization activists) activity, etc. have increased. Reflecting these recent events, the market's reaction of late has been to penalize risky assets. In light of this recent environment, PCA recommends that plan sponsors focus on two key areas to help navigate this and similar future market disruptions:

1. **Review rebalancing bands, and**
2. **Reexamine diversifying strategies**

Review rebalancing bands

Market disruptions such as the current one has the potential to cause unexpectedly rapid asset allocation changes due to the extreme stock market volatility and potential illiquidity in other asset classes. Such market events can shift the class weightings in an investment portfolio so that several classes may end up outside of their pre-established target policy ranges. In such times, it can be prudent to avoid rapidly rebalancing the portfolio back to within the policy range. During such times, the cost curve for rebalancing can be greater than the benefit of remaining at the strategic policy allocation. What this implies is that rebalancing ranges should potentially be reviewed during periods when volatility rises above its normal level assumed under the existing rebalancing bands.

Reexamine diversifying strategies

In markets that vacillate dramatically between risk-on and risk-off, sound diversification strategies are of key importance as they can help smooth portfolio returns during such periods. PCA has long been a proponent of looking at portfolios through the lens of risk diversification. Using such a paradigm, we often see that economic growth risk dominates all other risks within the portfolio, often accounting for 80+% of the portfolio's risk. As such, we believe strategic allocations must be able to diversify and seek to diversify against this risk to a reasonable degree, and only a few strategies can accomplish this task. Simply relying on strategies with low correlations to one another in a normal market environment will not provide protection when the market encounters disruptions, which cause broad-based risk-off reactions. To diversify the whole portfolio from broad-based risk-off market disruptions, an effective diversifying strategy(ies) must offset economic growth risk and have a large enough allocation to be impactful. Since these topics/reviews can be client specific, PCA consultants are available to discuss further.

Pension Consulting Alliance, LLC

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