PLACID MARKETS, UNCERTAIN TIMES

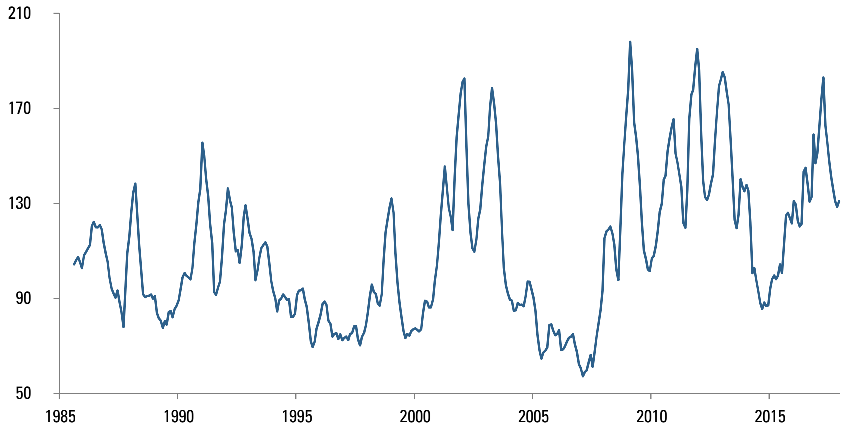
JANUARY 2018

- 2017 witnessed an exceptional contrast between high levels of uncertainty over government policy and historically low market volatility.
- While the market's calm may be explainable in light of the seemingly sanguine macroeconomic environment, the market may be neglecting unlikely but severe outcomes.
- In the current climate, we believe that investors should avoid inadvertent over-allocation to crash risk via private markets and alternatives, avoid unintended exposures via simplistic factor implementations, and extend rather than abandon diversification. For investors concerned that markets might suddenly "gap" down, opportunistic hedging with options may look attractive.

2017 witnessed a remarkable contrast between the political and market realms. It saw extraordinary uncertainty about policy—Brexit's aftermath, the first year of an unconventional U.S. presidency, French elections, drama over U.S. healthcare and tax reform, selection of a new Fed chair, and more. The heightened uncertainty extended to the institutional environment, with questions about the independence of the Federal Reserve and America's commitment to intergovernmental organizations that have defined the postwar economic and geopolitical order. As evidence of uncertainty's extraordinary degree, in late June the IMF cited unusual two-sided risk to its U.S. GDP forecast associated with ambiguity over tax, fiscal, and trade policy. As a quantification, news-based uncertainty indexes spiked with the U.S. election and remained at unusually elevated levels particularly during the first half of 2017. (Figure 1)

FIGURE 1

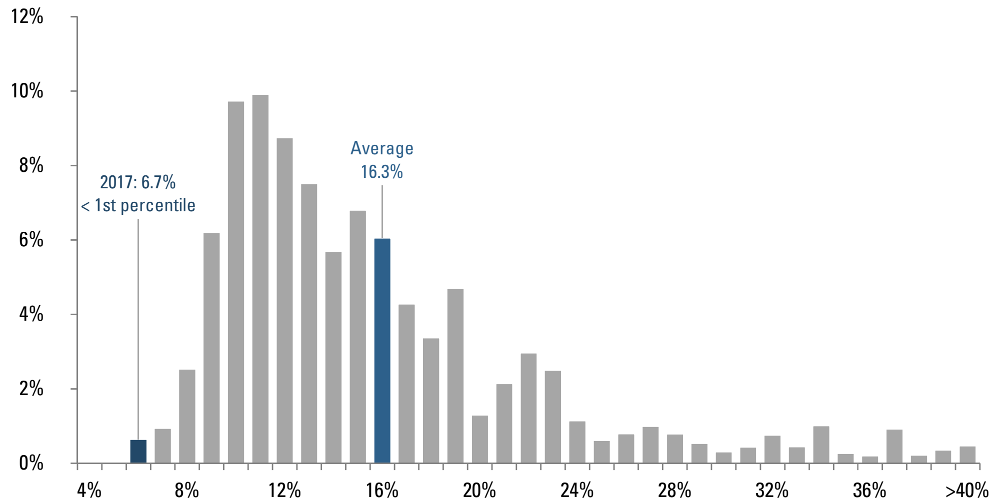
U.S. News-Based Economic Policy Uncertainty Index (6M moving avg.)



Source: U.S. News-Based Policy Uncertainty Index from "Measuring Economic Policy Uncertainty" by Scott Baker, Nicholas Bloom and Steven J. Davis at the Policy Uncertainty website. For illustrative purposes only.

FIGURE 2

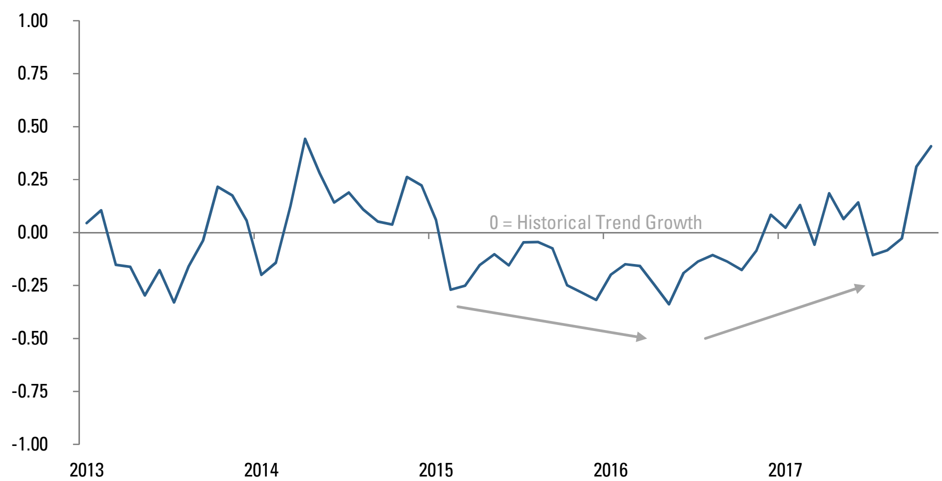
Distribution of S&P 500 1-year realized volatility: 1929-2017



Source: Acadian estimates and calculations. Frequency diagram based on rolling one-year volatilities of daily S&P 500 returns (overlapping windows) from Jan. 1928 - Dec. 2017. Calculated using trading-day returns and a 252-day annualization factor. For illustrative purposes only. Past results are not indicative of future results. Every investment program has an opportunity for loss as well as profits.

FIGURE 3

Chicago Fed National Activity Index (3M moving avg.)



Source: Federal Reserve Bank of Chicago. For illustrative purposes only.

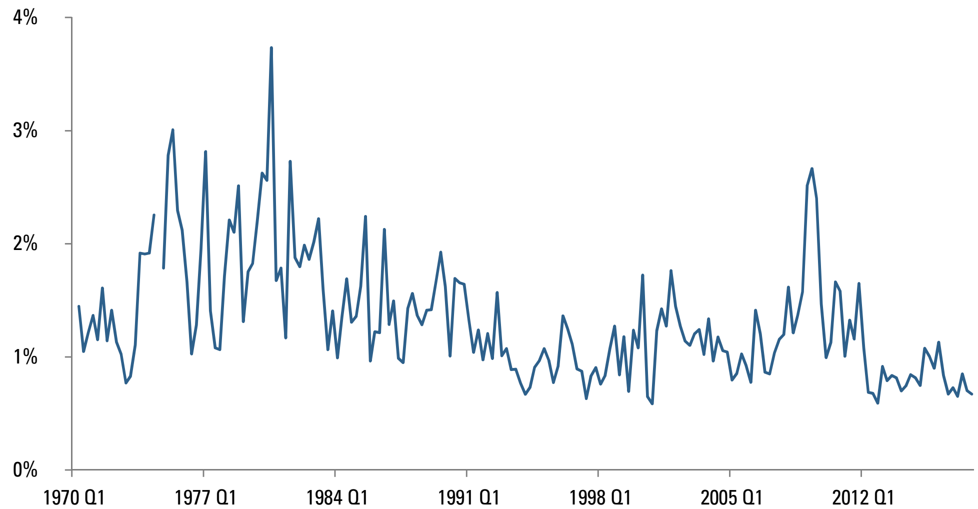
Yet against this policy backdrop, the U.S. equity market was historically calm. During 2017, the S&P 500 Index had realized volatility of 6.7%, a first percentile outcome relative to history dating all the way back to 1929 and less than half the long-run average. (Figure 2)

How can we reconcile this disparity between the policy and market environments? Macroeconomic conditions likely played an important role. Well prior to the November election, the U.S. economy was improving. Figure 3 shows that while the Chicago Fed's National Activity Index had been trending lower heading into Brexit, it rose steadily from the second half of 2016 to levels indicating above-trend growth.[1] And there has been something of a consensus regarding the outlook, as evidenced in Figure 4, which shows low levels of disagreement in views on future GDP among professional forecasters.

[1] The index is constructed such that levels above zero indicate above-trend growth in economic activity.

FIGURE 4

Dispersion in nominal GDP forecasts (four quarters ahead)



Cross-sectional forecast dispersion, U.S. nominal GDP four quarters ahead, as measured by the difference of log levels, 75th percentile and 25th percentile. Source: Federal Reserve Bank of Philadelphia, Survey of Professional Forecasters. For illustrative purposes only.

To a great extent, the market seems to have focused on the strength, stability, and apparent trajectory of the economy in largely discounting a noisy, sometimes hyperbolic discussion about policy. That would be logical – dividend discount models suggest that equity holders should only care about future earnings, the discount rates used to value them today, and investor rights to the payout streams. So until uncertainty becomes palpable enough to materially threaten one of these three elements of valuation, it's hardly surprising that equity investors would instead focus on well-established macroeconomic and fundamental indicators.[2]

The macro environment may also have influenced the market's perception and pricing of uncertainty over policy. During benign economic times, policy makers have little incentive to rock the boat; the political costs and risks of changing course are relatively high. Knowing this, when economic conditions appear healthy, the market may become increasingly skeptical of talk about major policy change.[3] Perhaps we can interpret the choice of Fed chair in that light. Rather than a hawk or Taylor-rule adherent, Powell's selection suggested continuity, i.e., recognition of the importance of perceived Fed policy stability to investors.

WHAT COULD GO WRONG?

Although the market's calm may be explainable in light of the macroeconomic context,[4] it may also reflect underestimation of current vulnerabilities—policy-related, economic, and market-driven. In assessing the potential range of outcomes associated with geopolitical tensions over North Korea, for example, investors may underweight the risk of nuclear conflict because the world hasn't experienced it since 1945. Cognitive biases suggest that investors' expectations may be overly influenced by the outcomes they've witnessed, particularly recently. Under benign economic conditions, in particular, they may underweight unlikely, but severe outcomes, perhaps all the more so if there is ambiguity over triggers or paths. This tendency seems particularly relevant in a policy-making climate in which overthrowing the established order has been, at least, a prominent rhetorical device.

Black Monday 1987 might offer an example of such market myopia; the option market didn't start pricing a "fat left tail" into equity index returns until it had freshly experienced crash.[5] The GFC offers numerous other examples, including the unexpected speed and severity of housing price declines as well as the associated

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2 We see supportive evidence that this is indeed investors' main focus in our research on geopolitical events; social and market impacts don't necessarily correlate well. "Geopolitical Shocks: What to Expect from the Unexpected," Acadian Asset Management, July 2017.

3 As economists would put it, policy uncertainty is an "endogenous variable." See Lubos Pastor and Veronesi, Pietro, "Political Uncertainty and Risk Premia," NBER Working Paper 17464, September 2011.

4 Other factors that may help to explain the apparent discrepancy between the policy and market environments include: 1) that much of the "uncertainty" over policy was biased to the upside, i.e., not whether, but to what extent, policy change would benefit owners of capital, 2) deterioration of the signal to noise ratio in political discourse itself as well as media coverage, 3) simple and transparent construction of extant news-based policy uncertainty indexes.

5 The folk wisdom that S&P 500 index implied volatilities were largely flat across strike prices, reflective of a roughly normal distribution of returns, is, in fact, supported by pricing data from the time. A materially downward-sloping implied vol strike structure or "skew" appeared almost immediately after the crash and persists to this day.

vulnerability of AAA-mortgage backed securities and money market funds, which caught many investors off-guard.[6]

And significant uncertainty remains. In the U.S. policy arena alone, the broad range of issues still in play includes sorting out fiscal and monetary implications of the recent tax legislation, monetary policy in an era of unprecedented low interest rates and central bank balance sheets, North Korea, NAFTA renegotiations, and potential infrastructure legislation, to name a few. Beyond specific agenda items and issues, there is considerable uncertainty regarding the status of the policy-making apparatus itself, including the unprecedented degree of partisan conflict,[7] approaching midterm elections with both houses of congress perhaps up for grabs, the ongoing Russia investigation, and tensions with traditional allies. How much confidence should we have in the policy formation process if there is a crisis?

What's more, several investing trends may lend to market fragility that isn't evident under "normal" conditions. These include popularization of index ETFs, which have democratized access to the means to rapidly de-lever an equity portfolio in times of uncertainty;[8] increased prevalence of a spectrum of mechanically-driven defensive investing strategies that may create feedback loops in the event of a market shock, similar to portfolio insurance in the crash of '87;[9] regulatory changes that have raised questions regarding who can and might serve as a liquidity provider of last resort.

WHAT TO DO?

If the subdued volatility of the past year isn't what we ought to expect going forward, how should investors prepare for renewed expression of risk?

In a low-volatility environment with latent vulnerabilities, opportunistic hedging with options may hold greater appeal than usual. The persistent low volatility and a collapse of stock correlations have pulled down the prices of index put options over the past two years.[10] Further, options can help to avoid the need to rapidly reallocate if there is a shock; one of their special sources of value is that they can help to protect against market "gaps"—the risk that prices fall sharply, before assets can be rebalanced.

More broadly, placid markets bring risk that unintended and undesirable exposures may slip into a portfolio, unnoticed until risk re-expresses itself. With that in mind, we'd highlight three suggestions for investors that seem particularly relevant within the context of recent investing trends and the current market environment:

- **Avoid inadvertent over-allocation to crash risk via private equity and alternatives:** Alternatives and private equity are sought in large part because they appear to have less market exposure than traditional public equity investments. But as we've discussed in prior research, alternatives, in aggregate, derive a substantial portion of their returns from a crash risk premium, i.e., they have non-linear exposure to deep downside market risk.[11] For private equity, discretionary marking practices may mask the true economic risk of portfolios (as well as drivers of their returns);[12] a protracted decline eventually could force substantial writedowns of asset values, exacerbated by leverage. Allocations to these asset classes based on a presumption that there is less market risk may have a hidden vulnerability: they may deliver less sensitivity to day-to-day market noise but with less-than-expected reduction in exposure to a severe drawdown.
- **Avoid unintended exposures in simplistic factor implementations:** The constrained investment processes inherent in increasingly popular, but simple and transparent "smart beta" or "alternative risk premium" (ARP) versions of factor investing strategies often come with unintended and unnecessary risks. Typical momentum signals derived from stocks' past total returns, for example, are susceptible to episodic exposures to market beta and other risk factors.[13] As a result, they may be prone to return swings associated with changes in investor sentiment.

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[6] See Nicola Gennaioli, Shleifer, Andrei, and Vishny, Robert, Neglected Risks: "The Psychology of Financial Crises," American Economic Review: Papers & Proceedings 2015, 105(5): 310-314.

[7] See, for example, the Philadelphia Federal Reserve's Partisan Conflict Index (Marina Azzimonti, "Partisan Conflict," Philadelphia Federal Reserve Working Paper No. 14-19, June 2014).

[8] See "Passive Investing: Reshaping Financial Markets?," Acadian Asset Management, January 2017. Please contact us for further details.

[9] See "Defensive Investing Strategies, Feedback Loops, and Echoes of 1987," Acadian Asset Management, September 2016.

[10] For example, S&P 500 6-month at-the-money implied volatility was around 11.2% as of 8-Jan-18 versus the high teens and low 20s during much of Q1 2016 and a median level of around 18.3% since 1996.

[11] See "Crash Risk: Hedgers versus Harvesters," Acadian Asset Management, November 2015.

[12] See Erik Stafford, "Replicating Private Equity with Value Investing, Homemade Leverage, and Hold-to-Maturity Accounting," Working Paper, December 2015.

[13] e.g. See David Blitz, Huij, Joop, and Martens, Martin (2011), "Residual Momentum," Journal of Empirical Finance, Vol. 18, pp. 506-521.

In the context of low-volatility investing, strategies sought specifically in the hope that they'll be susceptible to smaller drawdowns than cap-weighted indexes during sell-offs, smart beta implementations may be prone to unnecessary interest rate and valuation risk. Yet, we believe, both can be managed by extending the investment universe beyond the cap-weighted benchmark and enriching portfolio construction.[14] Finally, with volatility risk premium harvesting becoming increasingly viewed as a conventional ARP strategy, we stress the importance of thoughtful risk control and portfolio construction. The payoff profiles of different implementations may vary considerably, with some forms even having convex exposure to spikes in market volatility. In this context, sophistication in tail risk management is at a premium.

- **Extend, don't abandon, diversification:** Performance chasing has always been a temptation for investors, whether internet stocks, BRICS, or FANGs. But the past several years have posed a particular challenge for adherents of diversification. Persistently low interest rates intensified pressures to concentrate portfolios in assets and factors believed to offer the highest absolute returns at the time, while, in contrast, a diversified portfolio, by definition, is always guaranteed to trail the strongest performing assets. The strong returns, subdued volatility, and seemingly sanguine economic climate of 2017 may create temptation to load up on the markets, sectors, factors, or even individual names that have outperformed, including technology, growth, and high-momentum stocks.

  But we believe in diversification as an all-season strategy. The most basic tenets of finance theory tell us that idiosyncratic risk is uncompensated, meaning that poor diversification will most likely disappoint. We would advise recommitting to diversification and even extending it beyond the traditional axes such as asset classes, regions, and sectors. For example, we would highlight the benefits of a multifactor stock-selection approach to improve risk-adjusted active performance over the entire the business cycle. Loading up on individual sources of alpha, whether or not via an explicitly systematic approach, may expose investors to protracted periods of underperformance. Based on our research, we'd also advocate maintaining country breadth globally as a means to diversify exposure to political risk and geopolitical events (e.g., civil unrest, coups, natural and industrial disasters, etc.).

CONCLUSION

Although the market calm of the past year could of course continue, it would be imprudent for investors to plan on it. That requires special discipline in the context of the low rate environment of the past few years, in which investors have felt increasing pressure to search for high absolute returns, even at the expense of common sense principles like portfolio diversification. In this climate, we believe that nuance in the evaluation of investment alternatives and sophistication in the investment process have special value. Investors ought to carefully examine their portfolios for latent risks, looking beyond historical asset class performance and reported return streams to the underlying economic risks taken. And they ought to prioritize management of unintended exposures, applying systematic investing approaches to risk modeling and portfolio construction in order to do so.

[14] See "A Bubble in Low-Vol Stocks or Low-Vol Indices?," Acadian Asset Management, September 2016.

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