Market and Volatility Commentary

Powerful quant rotations, risk of rising volatility, and near-term outlook

- In this note we discuss changes in the market, powerful quant rotations, risk of rising volatility, and the near-term market outlook

Global Quantitative and Derivatives Strategy

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Changes in the Market Structure

Stocks are increasingly caught in powerful cross-currents of passive and quantitative investors. To understand this market transformation, note that **Passive and Quantitative investors** now account for ~60% of equity assets (vs. less than 30% a decade ago). We estimate that only ~10% of trading volumes originates from fundamental discretionary traders. While fundamental narratives explaining the price action abound, the majority of equity investors today don't buy or sell stocks based on stock-specific fundamentals. Another important driver is **Central Banks**. With ~$2T asset inflows per year (here) central bank liquidity creates strong interest rate and policy sensitivity for sectors and styles. Low rates also invite investors to sell volatility. **Market Correlations** are increasingly volatile, and their interpretation has changed. Historically, low correlation meant that stocks were driven by company-specific fundamentals – an environment in which fundamental investors thrive. Currently, correlations are low, but for different reasons – large sector and style rotation driven by quant flows, monetary policy and political developments (e.g. growth-value, low volatility-high volatility, 'Trump trade' and its unwind). **Low Volatility is not a new normal** or fundamentally justified – it is result of macro de-correlation and massive supply of volatility through yield generation products and strategies. Finally, **Big Data strategies** are increasingly challenging traditional fundamental investing and will be a catalyst for changes in the years to come (see our work on Big Data and Machine Learning).

Quant rotations, and FANG crash

While the overall market (S&P 500) hasn't done much since March, quantitative strategies produced significant fund flows and exerted pressure on styles and sectors. These flows accelerated after May 17th. For instance, Energy and Financials were down, and Tech and Low volatility stocks were up by nearly ~5% in May. Low Volatility, Growth and Momentum styles were up and Value and High Beta were down. A quick reversal of this trade contributed to the FANG sell-off over the past few days. We have written about this pattern of rebalances putting pressure in the first few days of month, and then violently snapping back as liquidity gets exhausted. Most prominently these occurred with the momentum/value divergence in Feb-Apr last year.

What set in motion the recent price action were a decline in bond yields and high pace of passive inflows in March and April. Specifically, March and April witnessed large speculative buying as macro and CTA funds closed shorts and entered long bond positions (Figure 1). Declining yields sent bond proxy stocks such as low volatility, large growth stocks (e.g. FANGs) higher. At the same time, Value, High Beta and Smaller stocks started selling off. A fundamental narrative given to this rotation was an unwind of the 'Trump reflation' trade. This trend accelerated in the May 17th selloff – during which the reflation trade was further put into question. At this point, the Value / Growth divergence was large enough to pull more quant funds in the rebalance. A sharp decline in equity market-neutral HF benchmarks (Figure 2), and performance of specific factors indicates that de-risking of some investors started. It at first involved low frequency quant strategies with a Value tilt, and has spread to short-term mean reversion (stat arb) strategies both in the US and overseas. The contagion from low frequency to high frequency funds emerged as Value exposure is more volatile, and stocks that are more volatile tend to exhibit short-term mean reversion. If these stocks drop in succession (e.g. sold during multi-day deleveraging), the lack of mean reversion can impact some stat arb strategies. Upward pressure on Low Vol and Growth, and downward pressure on Value and High Vol peaked in the first days of June (monthly rebalances), and then quickly

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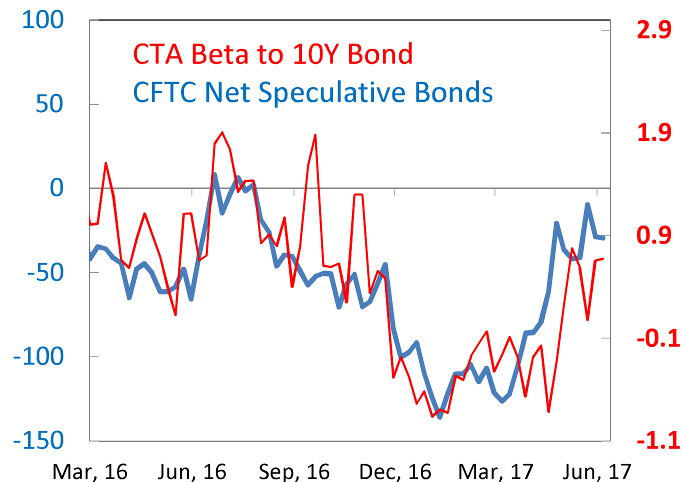
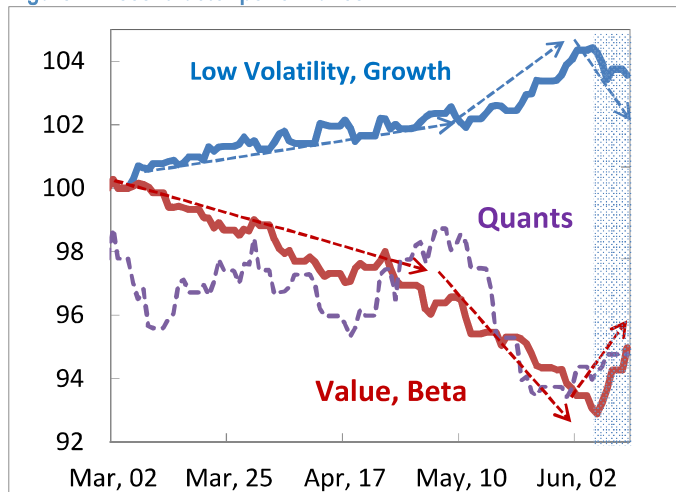
snapped back, pulling down FANG stocks. The contribution coming from quant rebalances to this snapback is now likely over.

Figure 1: CTA and speculative bond positioning



Source: J.P. Morgan QDS, CFTC.

Figure 2: Recent factor performance



Source: J.P. Morgan QDS.

Low Levels of Volatility, May 17th Selloff

The low levels of volatility puzzle many investors, and an increased number of 'volatility tourists' trade and research volatility. It was certainly very good to be short volatility recently, and narratives justifying this as a 'new normal' abound. One such explanation is that the macro environment is very benign. Let's consider that statement. In the last 20 years the VIX closed lower than 10 on a total of 11 days, and 7 of those days were in the past month. Think about that – over the past 2 decades, was the last month the most benign macro environment? (e.g. last week: Comey testimony, UK elections, ECB, geopolitical uncertainty, Qatar, FANG flash crash, etc.).

What is really driving the low volatility? As we discussed recently low correlations (driven by quant flows, sector and thematic trading) are temporarily reducing volatility by 2-4 points, and a massive supply of volatility pressures implied and by extension realized volatility by another 2-4 points. We estimated that supply from yield seeking risk premia strategies grew by ~$1Bn vega (~30% of the S&P 500 options market). In addition to these, large inflows into passive funds put further pressure on volatility. Keep in mind that passive investors almost never sell. Quant investors don't take large directional bets and don't overreact either (at least not for the same reasons humans do). Regardless of those, we think current low levels of volatility is not a new normal and will not last very long given the amount of leverage, rising rates, and the approaching reduction of central bank balance sheets.

Why there was no follow-on selling on May 17th

As macro quantitative investors (including dynamical hedging programs) are a potential driver for a selloff, it is important to understand what is driving them. Relevant signals are price momentum for trend followers, bond-equity correlation for volatility targeting and parity strategies, and intraday market volatility for a broad range of hedging and dynamic risk management strategies. Our readers will notice that we did not call for the May 17th event to trigger a broader selloff. The reason is

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that none of the triggers for systematic selling were breached. Momentum stayed solidly positive, and the rally in bonds almost entirely offset equity selloff for investors that run high bond allocations. Additionally many volatility targeting strategies have already reached leverage caps at higher levels of volatility (than what was achieved on May 17th).

Option positioning going into May 17th was also benign. Our estimates of market making positions at the start of the day were heavily long gamma (~$35bn C-P) – initially buying into the market weakness. After ~120bps decline, these positions turned short mid-day and drove the market by additional 60bps lower into the close. As it happens most of the time, this 60bp move reverted the following day (Figure 3).

Figure 3: Intraday performance on/after May 17th

Source: J.P. Morgan QDS, Bloomberg.

May 17th and similar events bring substantial risk for short volatility strategies. Given the low starting point of the VIX, these strategies are at risk of catastrophic losses. For some strategies, this would happen if the VIX increases from ~10 to only ~20 (not far from the historical average level for VIX). While historically such an increase never happened, we think that this time may be different and sudden increases of that magnitude are possible. One scenario would be of e.g. VIX increasing from ~10 to ~15, followed by a collapse in liquidity given the market's knowledge that certain structures need to cover short positions.

Near-Term Market Outlook

In our view, it will be difficult for the market to go much higher from these levels (~2,450) unless there is meaningful progress on US fiscal reform (i.e. tax cut). Current positioning of various investors is already quite high and that poses additional risk going into weak seasonals. Low volatility and positive price momentum resulted in high leverage of systematic investors: CTAs are likely at their ~95th percentile of equity exposure, Volatility targeting funds are likely at maximum equity exposure, and other investors (such as equity long-short and risk parity funds) also have above average equity exposure and leverage.

The impact of S&P 500 derivatives has been supporting the market going higher in the first few days of this week (expiry momentum), and will turn into a headwind next and the following week (reversion of expiry effect, and reversion due to monthly/quarterly rebalances). $1.3T of S&P 500 options expire on Friday, and this

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will change dealers' positioning (half of the long gamma positions will expire). This can result in a modest increase of market volatility starting on Friday and into next week.

While we don't know when the next recession will happen, every Fed hike is bringing us closer to it. July options are pricing volatility below ~8%, and September below 10%. Increasing allocation to hedges may be prudent. The options market is also pricing a below average reaction to tomorrow's Fed announcement tomorrow (see below).

Table 1: Implied and realized FOMC announcement day moves across asset classes

Asset Class (ETF)	Opt. Implied Move (Size)	FOMC 3Y Avg Realized Move	Implied % of Realized
S&P 500	0.5%	0.6%	78%
EAFE Equities	0.4%	0.8%	55%
EM Equities	0.6%	1.2%	55%
Gold	0.8%	1.0%	85%
20Y+ Treasuries*	0.6%	0.8%	78%
EUR/USD FX	0.5%	0.7%	67%

Source: J.P. Morgan QDS, Bloomberg. * Equivalent to ~3bps yield change, based on the ETF's effective duration

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