April 2021

Multi-asset Market Update

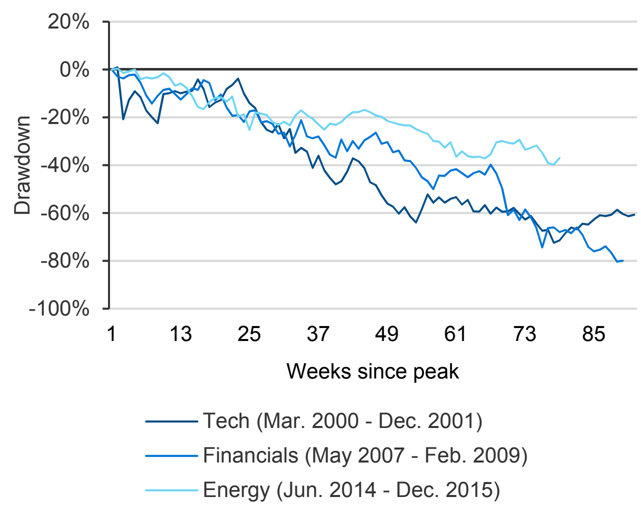
Equity market

Our neutral stance carries over this month with myriad competing forces at play in risk markets. Sentiment is bullish but institutional positioning is reasonably conservative. Retail positioning and fund flows are bullish but the call option buying frenzy is subsiding. Valuations are extreme, but policy is supportive. Problems at Chinese asset manager Huarong raise greater concerns of systemic risk but China grasps the potential severity of the situation.

We had our global macro strategy and US credit strategy meetings today. We touched briefly on the aforementioned dynamics, but the primary take-away for the short-term is the (fairly consensus) view that rates and inflation are the key factors to watch. Generally, though, there was a tone of heightened apprehension for the medium- and long-term, decorated with colorful commentary revealing each participant's bias ("I'm just a lowly value investor but…"). This particular lowly value investor argued that broad measures of equity implied volatility, although still elevated, dropping meaningfully over the last month did not resonate with the high realized volatility across many individual companies they are following and particularly in some sectors like electric vehicles. Their interpretation was that this is a sign of complacency, leaving the market vulnerable to a serious correction. We disagreed, yet we can also use this argument to highlight certain other market dynamics worth monitoring. We'll contrast three examples of broad-based drawdowns to illustrate our point.

In all cases, the drawdown started in a certain sector that then spilled over to broad markets in a confluence of events both preceding and succeeding the sector peak. (We will acknowledge that spill-over from the energy sector decline in 2015 was limited by its already low sector weight in broad indices.) Narratives of these events tend to ascribe a very limited set of catalysts to each correction: Fed tightening in 2000, Lehman Brothers default in 2008 and OPEC decision at its November 2014 meeting. These stories are succinct and convenient for a general recollection of the events, but they obfuscate the complexity

Figure 1: Market Drawdowns



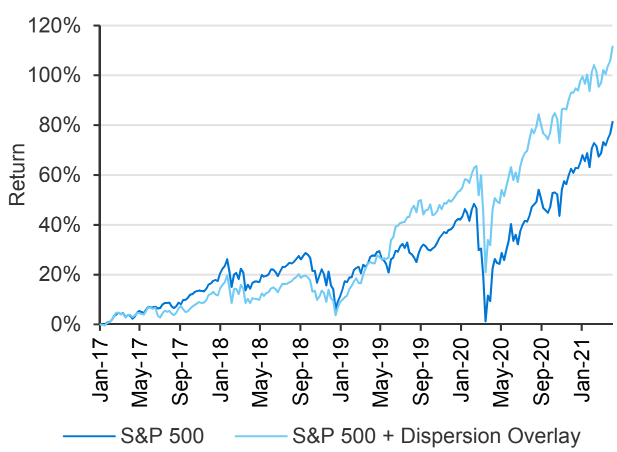
of all the conspiring factors at that moment and the trends leading to it. Further, we recall the high implied and realized volatilities of those events but not the steadily declining implied volatility levels that led up to them.

Simply stated, these bubbles didn't suddenly appear and just as suddenly pop. It took time for a sufficient number of investors to concentrate their capital in what would ultimately become vulnerable positions due to multiple integrated economic and market forces that acted on those positions in both expected and unexpected ways. We think that this contrasts with the build-ups and vulnerabilities today in a couple of important respects, and we think this likely explains some of the realized versus implied volatility dynamics noted by our colleague.

First, there are segments of the market in bubble territory – the ghastly valuations of electric vehicle makers are probably the most cited example. However, even with the inclusion of Tesla in the S&P 500, that industry does not have an index weight anywhere near even energy in 2014. Second, we don't see evidence of highly consensus and concentrated positioning. For example, while we are captivated by stories of mismanaged risk and leverage like with Archegos, the lack of follow-through from that episode (or Greensill, Wirecard and the like) to broader markets reinforces the notion that, for now, these episodes are idiosyncratic. Third, with the recent pause in rates, the market and the Fed are, for now, both indicating a similar path for the economy and commensurate policy. This limits the probability of a surprise tightening or other shift that could throw the economic recovery off-course.

Now, our rationale for why markets are not set to implode as in past crises also reads a bit like a checklist of what to watch for, and there are ways to position for a variety of outcomes. The dynamics of rotation and positioning alongside observed behavior in realized and implied volatility are attributes of dispersion. Dispersion can also be described by relatively low correlation across stocks, or, simply, that there is more volatility in single names than there is in the market as a whole, and this can be true whether we are in an overall elevated volatility regime or not. This is a dynamic that can be captured as a risk premia systematically, and we are currently reviewing with clients mechanisms by which this strategy could be used defensively. Below is an illustration of holding S&P 500 with a 50% notional exposure to dispersion.

Figure 2: Dispersion overlay strategy comparison



Source: Bloomberg, data as of April 13, 2021.

The strategy had its best relative performance at the height of trade war rhetoric in 2019 and in the beginning of the COVID-19 drawdown, both episodes of heightened volatility that acutely affected certain sectors (e.g., manufacturing, travel and leisure) disproportionately. Interestingly, the strategy held its own during more systematic volatility market events such as in February and December 2018. And the decline in retail options activity weighing on single name implied volatilities is evident in the last few weeks' flat to slightly negative relative performance.

An investor who shares a supportive view of equities based on the macroeconomic and policy backdrop and also shares concerns about pockets of irrationality can therefore express that view using a dispersion strategy, and we think this may give the exposure a slightly defensive bias. In a more traditional sense, we think certain equity structures or long interest rate volatility positions may also be utilized to maintain a pro-risk stance with a defensive bias. For example, equity put spread collars still offer reasonably attractive asymmetry with market levels and implied volatilities both elevated. And while certain short interest rate volatility positions are frequently strategically aligned with pension objectives, we have been using and advocating long volatility positions tactically as the recovery and policy race ahead through an environment unlike any previously seen. Our colleagues elaborate on implied volatility and other markets in the following sections as usual.

Equity volatility

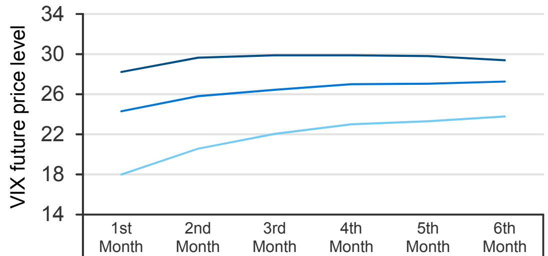
Last month, we highlighted the possibility of volatility markets softening with additional market calm and economic progress. We have seen just this and more, with material capitulation in the option space across a variety of measures as US equities have broken well through previous highs. Nonetheless, despite all the favorable post-pandemic normalization, the option market still remains firmly in an elevated volatility regime.

At-the-money implied volatility is solidly below 20%, even through the December 2023 maturity. Term structure has steepened as well, as short-dated maturities fell the most. For example, the equivalent three-month level is approximately 15%. This prices short-dated protection right at breakeven against recent realized volatility.[1]

Despite these points, however, we are still not out of the pandemic risk pricing era. VIX futures and their term structure are an excellent barometer for capturing the full spectrum of information for the option market. Although the six-month VIX futures contract has significantly declined from approximately 30 as recently as in February (implying nearly a +/- 2% per day move in the S&P 500 spot price over that whole period), the current level of 24 has still only been seen near the peaks of stress since the GFC.[1]

With the headline index skyrocketing and a new quarter, we've had a much higher interest from clients to engage in structuring a broader menu of topics including hedges, leveraged upside and systematic strategy outsourcing. Due to the sustained elevated long-term volatility, relative value strategies across each of these goals still offer unique, historically attractive ways to address strategic plan objectives.

Figure 3: VIX futures term structure (CBOE Volatility Index)



	1st Month	2nd Month	3rd Month	4th Month	5th Month	6th Month
02/25/2021	28.2	29.7	29.9	29.9	29.8	29.4
03/18/2021	24.3	25.8	26.4	27.0	27.1	27.3
04/12/2021	18.0	20.6	22.1	23.0	23.3	23.8

Source: Bloomberg, data as of April 13, 2021.

Rates market

The past few weeks have proved to be the least volatile for rates thus far in 2021. While the curve has bull flattened over the month, the 30-year Treasury rate stayed in a 15-basis point range. The 30-year yield hit a post COVID-19 high and the yield curve hit its steepest level in years. This occurred right after the March FOMC meeting, which had an improved economic forecast; however, the median dots still showed no rate hikes in 2022 or 2023.[1]

Figure 4: US rate environment

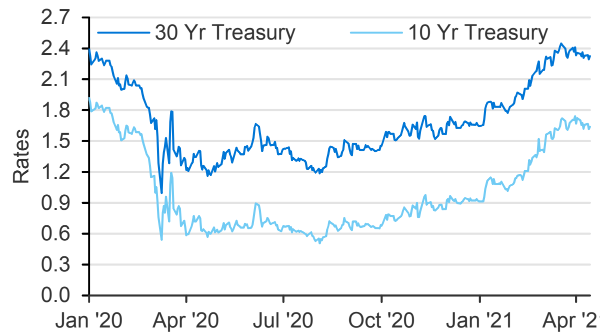
Index (%)	4/13/2021	One month ago	Three months ago	One year ago
Fed Funds Rate	0.25	0.25	0.25	0.25
2-year	0.16	0.15	0.14	0.22
5-year	0.84	0.84	0.47	0.42
10-year	1.61	1.62	1.08	0.75
30-year	2.29	2.38	1.82	1.40

Source: Bloomberg, data as of April 13, 2021.

Treasury Secretary Yellen and Fed Chair Powell gave testimony before Congress on the COVID-19 economic recovery. They stayed the course, emphasizing that the economy is recovering and a worst-case scenario has been avoided. Powell continued to stress that he expects to see higher inflation as we recover from the lows of 2020, but these increases in inflation are transitory and would not warrant hiking rates at this time. The expected official announcement that supplemental changes to the SLR would expire at the end of March led to some Treasury buying from global accounts. This small rally took a pause as the 2-year auction came on the screws, the 5-year auction tailed 0.25 basis point, and the 7-year auction (which had a historically bad 4.5 basis point tail the previous month) tailed 2.6 basis points, despite the entirely average bid-to-cover and dealer awards.[1]

The last few days of March saw a belly-led selloff as the vaccine rollout in the US continued to move ahead of schedule. President Biden revised his 100-day target of 100 million doses administered up to 200 million and unveiled his $2.3 trillion infrastructure plan. Green and blue Eurodollars (representing LIBOR 2 and 3 years out) sold off ~15 basis points and the 10-year Treasury rate closed at a post-COVID-19 high of 1.74 at March month-end. The 30-year rate ended the month at 2.41, as month-end extension and LDI demand gave a bid to the long-end.

Figure 5: Treasury rates



Source: Bloomberg, data as of April 13, 2021.

Despite a 64.7 print in ISM on April 1 – the highest print since 1983 – rates rallied to start April, most likely due to short coverings ahead of the holiday weekend. Employment numbers surprised to the upside with +916k new jobs added in February (compared to +600k expectations) and a +90k upward revision was added to the prior month. In the first full week of April, the 5-year Treasury rallied 5 basis points and the greens and blues rallied ~15 basis points. Inflation numbers came in above expectations in both PPI and CPI this month, but the market may have hit its limit on how far forward it will pull rate hike expectations.[1]

The Fed's Lorie Logan gave a speech stating the Fed is "making technical adjustments to purchase sectors" in their bond buying program "in coming months." The market interpreted this as a move towards more 20-year buying, a sector that had underperformed during the selloff, causing 20-year bonds to richen 3-4 basis points on the curve. These gains were short lived as the buyback schedule for the next month was released with no noticeable changes on to the normal sector selection. Logan speaks later this week and will hopefully shed more light on the Fed's plans. Data for March showed a high amount of coupon bond stripping, highlighting the continued demand for long-end duration

Rates volatility

Rate volatility has been fairly quiet over the past month, as rate movements have been less volatile and the selloff has lost some momentum for the time being. Systematic gamma sellers have been out in force, driving down shorter dated expiries. Tail rotation continues to be a theme as there is still strong interest to buy intermediate expiries on

Figure 6: Current implied volatility levels and change over one-month

P/Tail	1Y	Change	2Y	Change	5Y	Change	10Y	Change	30Y	Change
1M	11.9	*-5.9*	20.7	*-6.1*	63.2	*-11.4*	77.3	*-11.6*	76.5	*-8.3*
3M	10.6	*-6.8*	23.1	*-5.2*	67.3	*-2.8*	79.5	*-5.2*	78.2	*-2.2*
6M	16.3	*-5.6*	31.0	*-3.8*	71.1	*-0.7*	80.6	*-1.7*	79.1	*1.1*
1Y	31.4	*3.0*	47.6	*3.9*	74.2	*2.5*	80.4	*1.6*	77.2	*2.5*
2Y	62.0	*7.1*	71.8	*7.3*	79.4	*3.4*	79.2	*2.2*	73.3	*1.8*
3Y	77.8	*4.3*	81.5	*3.6*	80.9	*3.8*	77.7	*1.5*	70.8	*1.1*
4Y	83.3	*3.8*	82.3	*2.4*	80.4	*3.6*	76.0	*1.7*	68.5	*0.9*
5Y	82.2	*3.2*	81.5	*3.2*	79.0	*3.2*	74.0	*1.9*	66.1	*0.9*
7Y	78.0	*-0.4*	78.4	*2.2*	76.2	*2.8*	70.6	*1.8*	62.9	*1.4*
10Y	72.5	*1.0*	71.5	*1.5*	69.4	*2.3*	64.9	*1.7*	57.8	*1.0*

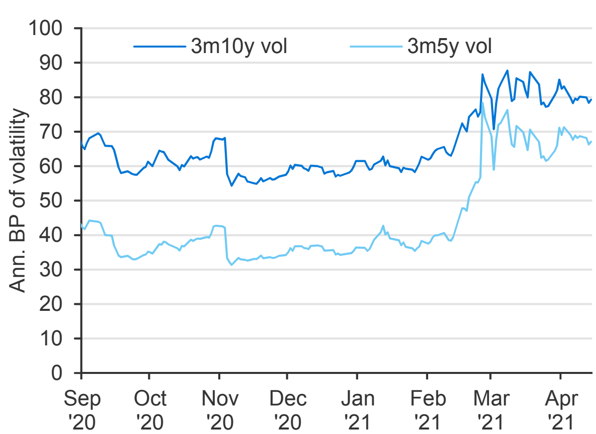
Source: Citibank, data as of April 13, 2021.

the left-hand side versus the right-hand side, positioning for the Fed to raise rates sooner than the dot plots imply. Buying 30-year tails versus 10-year tails has been a popular way to fade the richness in 10-year tails.

There has also been some interest in buying low strikes on shorter tails given the steep rolldown of the curve, but ATM and high strike payers seem to be the most common trades on the left-hand side. While some fast money accounts have been fading the richness in payer skew (by selling outright or on a spread trade), demand for high strike structures persist and risk reversals (buying high strike payers versus selling low strike receivers) remain at their recent highs, particularly in 5-year tails.

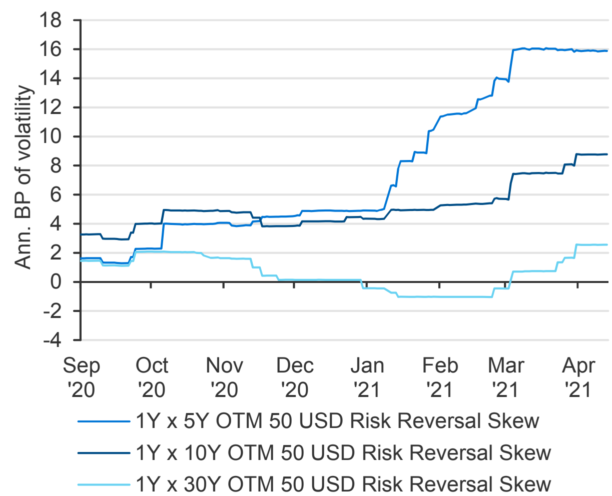
Longer dated volatility on the lower right continued its march higher, partially fueled by inflation worries. A decent supply of Formosa issuance and some profit taking have helped keep implied volatility in check, but forward volatility trades (selling 10-year expires versus 2-year expiries) remain a popular way to take advantage of the inversion of the volatility surface.

Figure 7: Implied volatility



Source: Citibank, data as of April 13, 2021.

Figure 8: Risk reversal skew

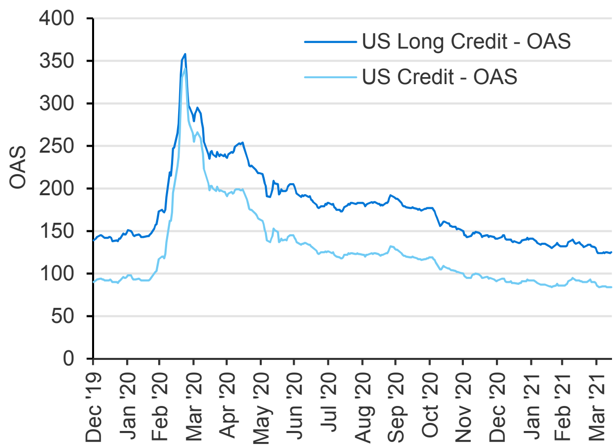


Source: Citibank, data as of April 13, 2021.

Credit market

In terms of spread movements, the US IG Credit market narrative has remained relatively consistent over the past month. Credit spreads have continued to grind tighter as the US economic backdrop improves. The US is now consistently administering more than 3 million doses per day, and recently surpassed 190 million doses administered in total. Seemingly related, the Long Credit index is currently hovering at 125 basis points, 1 tighter on the month. However, total returns to date are a different story. The first quarter saw one of the worst years on record for IG credit, primarily due to rising Treasury yields and heavy supply. At the end of March, a flurry of buying, likely driven by overnight demand, resulted in a significant 2-day rally. The market has since softened, but Long Credit and US Credit have still had a strong start to the month, as both indices are up 1.35% and 0.72% since quarter end, respectively.[1]

Figure 9: US credit spreads



Source: Bloomberg, data as of April 13, 2021.

As for supply, a touch over $20 billion has come to market in April. Expectations for the full month range from $85 to $95 billion, significantly lower than the issuance figures from this time last year. IG bond funds and ETF Inflows remain consistently positive but have slowed this past week as issuance has pulled back. Overall, it seems that there is a relatively consistent balance between supply and cash at the moment. As we move into earnings season, expectations have increased substantially over the course of the quarter. Estimates are now calling for a ~20% increase in earnings, which is 8% higher than initial expectations. The heightened optimism is due to the strong economic data produced over the course of the quarter, combined with the most recent stimulus bill and the upward trend in vaccine distribution.

Fed Chair Powell has repeatedly stressed the lessons learned from the last cycle to imply that structural disinflation should allow the Fed to be extremely accommodative and incorporate societal goals, such as making sure the labor market rebound reaches all demographics. As a result of an accommodating Fed, an extremely supportive fiscal policy, and a seemingly successful vaccine rollout, GDP forecasts continue to be revised higher. Growth expectations now range between 6% and 8%. Although this sounds ideal, the risk is that so much fiscal and monetary stimulus ends up compressing the cycle. Further, if there are continued surprises in employment and inflation, then the ensuing higher rates could challenge the Fed's guidance and credibility. Given these concerns, as well as the extremely lofty valuations, our views are slightly bearish for Investment Grade Credit for the foreseeable future. ■

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1 Bloomberg