Global Rates & FX Watch

Rates volatility and the zero lower bound

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Rates and FX Research
Global

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Policy measures support normalization in volatility

In recent weeks we have seen the introduction of a series of monetary policy, balance sheet, regulatory and fiscal easing measures. Their objective is to help normalize volatility and liquidity conditions and allow for a more efficient intermediation of risk, as well as to cushion the economic & social implications of coronavirus outbreak. On the former, while some of the measure are expected to have a transitory impact on liquidity and volatility (especially facilities introduced to address acute stresses in the CP market, MMFs, and funding), others like zero rates are expected to be more structural.

Lower volatility at the lower bound

Indeed, in general one expects short term rates around the zero lower bound (ZLB) to be a volatility dampener. That is clearly the case at the frontend of the curve, but the flattening pressure that lower neutral rate expectations put on the curve (Chart 1) should serve as an amplifier and propagate its impact out the curve. This view is illustrated by the dynamic of the European volatility grid between 2011 and 2014 when the ECB cut rates down to zero as European growth and inflation expectations faltered (Chart 2).

But effect is yet to percolate further out the curve

To some extent volatility and liquidity conditions seem to have responded to these measures, but implied volatility out the curve continues to be somewhat elevated. It is interesting to note, however, that even as bid/ask spreads have started to normalize materially measures of market depth seem to be lagging (see Chart 3). This is consistent with a large player in the market (to some extent non-economic, like the Fed) that pressures the normalization of bid/ask spreads, but has limited impact in market depth, and may help explain why frontend rates around the ZLB have had only a limited impact as a volatility dampener out the curve.

As this happens, we look for Europeanization of US grid

A context of improving market conditions (funding, liquidity and market depth), macro fundamentals that are likely to continue to be under pressure reflecting the coronavirus induced slowdown and a Fed at the ZLB all suggest lower delivereds from the levels we seen recently. Medium term, a shallow recovery under a historically flat curve and the Fed at the ZLB likely leads to an Europeanization of the US implied volatility grid.

Trade: 2y10y vs. 10y10y volatility

We recommend shorting 2y10y vs. 10y10y volatility vega neutral, receiving 9bp of vega and positive carry by 14bp of vega over the first year, to position for a process of Europeanization of the US vol grid. The trade also expresses a near term normalization of volatility conditions. Beside sustained high volatility (for example on another liquidity event), the position also faces the risk of the erosion of the ZLB floor for US rates. In what follows, we explore this risk in more details and argue that the European experience is reassuring.

For a list of our open and closed trades please see Global Rates Weekly

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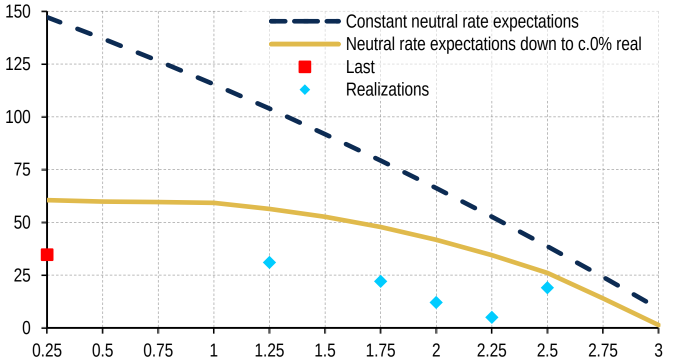
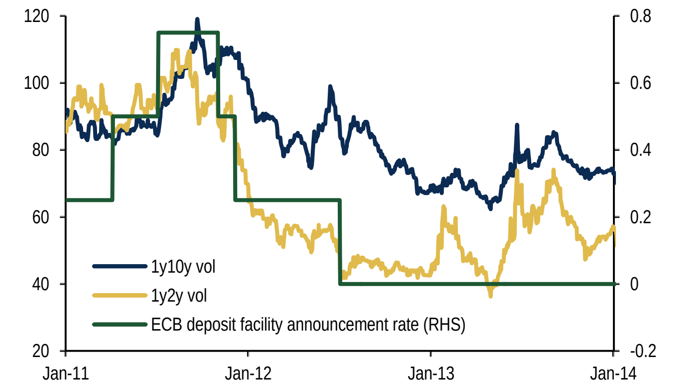
Chart 1: Expected bull steepening of the 2s10s curve (y-axis - bp) in Fed easing periods (x-axis - %) is contingent on neutral rate expectations

Dashed blue curve corresponds to 2.5-2.75%, orange curve to 1.75-2%



Source: BofA Global Research; Bloomberg

Chart 2: Euro swaptions 1y10y and 1y2y normal volatility (bp) versus the ECB deposit facility announcement rate (%)



Source: BofA Global Research; Bloomberg

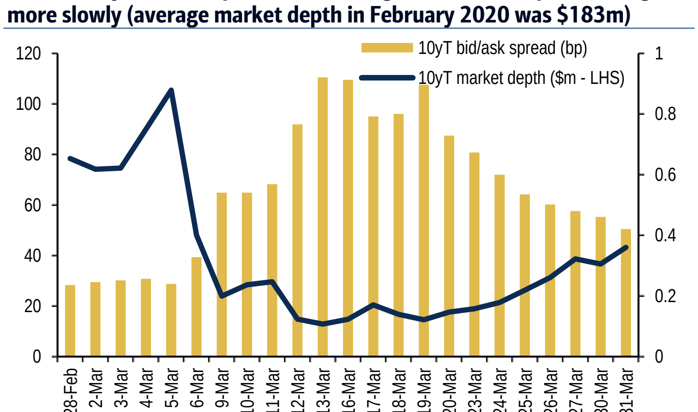
Erosion of the ZLB and negative rates

We have seen a pickup in questions around negative rates recently. Topics of interest have included evidence from flows and pricing, likelihood of adopting the policy in US, convexity hedging around the zero lower bound (ZLB) and the role of Treasuries (and more broadly DM safe havens) in portfolios when yields are at or below zero under extremely flat curves, etc.

We discussed some of these questions in a recent publication, Despite the fact that NIRP has been around for more than ten years (first adopted by the Riksbank in 2009, and in earnest since 2014 when the ECB cut rates in to negative territory to jumpstart the economy and avoid a deflationary spiral) our view remains that it remains a last resort for the Fed after other easing options have been exhausted. This view is also supported by a context where the main driver for the slowdown is pandemic fears, which likely imply a lower economic beta to monetary policy.

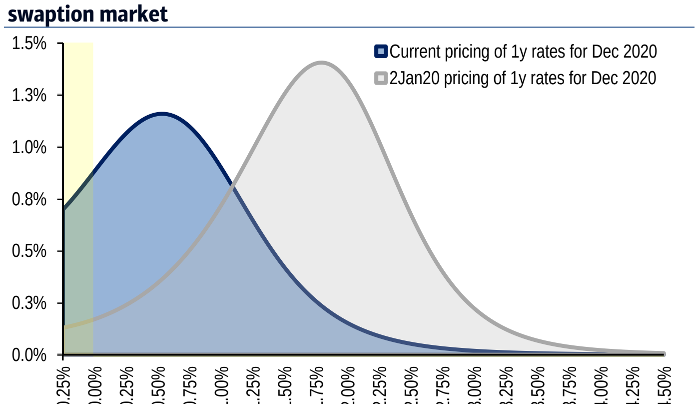
On the other hand, the uncertain nature of the crisis and the slowdown ahead necessarily create questions around what is left in the Fed toolkit, and it is unlikely that the Fed would forcefully and explicitly take one of the few remaining levers in its toolkit completely out of the picture. It's a free option for the Fed to keep NIRP it the toolkit, and this is perhaps why the swaption market continues to price a meaningful likelihood of negative rates by end-2020 (35% currently vs. 5% in January - see Chart 4). Significantly also, the distributions did not seem to shift towards lognormal as rates collapsed down to zero.

Chart 3: 10yT bid/ask spread normalizing, but market depth reacting more slowly (average market depth in February 2020 was $183m)



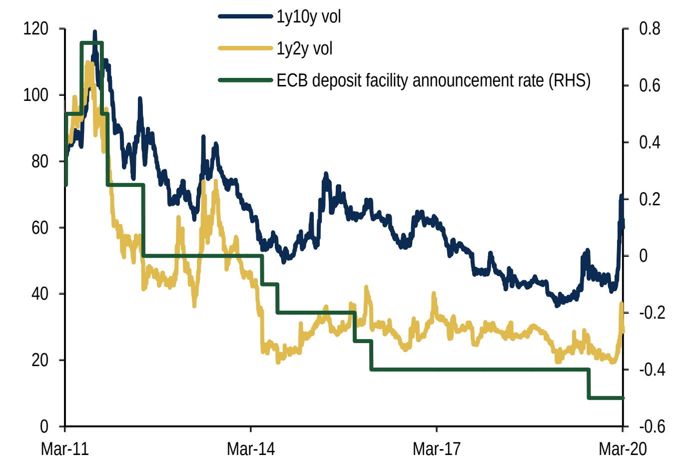
Source: BofA Data & Innovation Group (DIG)

Chart 4: Probability distribution for 1y rates at end 2020 implied by the swaption market



Source: BofA Global Research; Bloomberg

Chart 5: European volatility was supported by the move towards negative rates in 2014, but eventually decayed back



Source: : BofA Global Research; Bloomberg

Table 1: Changes in the US swaption grid YTD (bp)

	1y	2y	3y	5y	7y	10y	30y
1m	15.1	3.0	1.5	9.9	22.4	38.1	52.6
3m	2.9	-6.3	-5.5	4.7	14.4	25.2	36.6
6m	-8.3	-9.2	-11.1	1.7	8.1	18.6	25.1
1y	-16.4	-15.1	-12.7	-3.1	2.1	10.1	17.5
2y	-12.0	-11.7	-9.8	-3.5	1.0	5.9	10.5
3y	-9.4	-8.2	-5.8	-2.6	0.8	4.0	6.9
4y	-5.5	-4.4	-3.8	-4.3	0.1	2.7	6.3
5y	-2.6	-2.6	-1.3	-0.8	-0.1	1.3	5.2
10y	0.1	1.7	-1.0	-0.7	-2.1	0.9	4.5
15y	-0.3	-0.1	0.2	-0.5	-3.0	1.4	-0.6
30y	0.4	0.0	-0.9	-1.5	-2.1	-2.9	-3.4

Source: BofA Global Research; Bloomberg

Extreme times may call for extreme measures and such a scenario would support higher short and intermediate volatility as negative rates get priced in, similarly to what happened to in the European vol grid as the ECB moved in to negative territory in 2014 (see Chart 5, as a signal, negative rates are not a great message for the market also). Eventually, however, it would likely lead to the same process of Europeanization of the US grid. Indeed, we saw this dynamic at play in the European process, with a stepwise reanchoring of expectations around the new low, which suggests trades with staying power (positive carry). In Table 1 we show the changes in the US swaption grid YTD, with a clear underperformance of the left side of the grid vs. the right side as the frontend rates converged to zero. Table 2 and Table 3 show the spread between the US and European swaption grids on 2 Jan 2020 and 31 Mar 2020, and show a rotation from the left side towards the right side over the last three months.

Table 2: Spread between US and European swaption grids (bp)

2 January 2020

	1y	2y	3y	5y	7y	10y	30y
1m	16.9	29.5	31.9	25.8	22.5	19.1	8.0
3m	22.0	32.4	33.2	28.8	23.2	19.4	8.7
6m	29.2	35.5	34.3	29.0	23.7	19.0	8.8
1y	36.2	37.1	34.8	28.1	23.1	18.5	7.4
2y	36.7	35.0	30.5	24.6	20.2	16.0	5.9
3y	31.1	27.9	24.9	20.7	17.2	13.6	4.8
4y	25.3	22.9	20.8	18.0	15.0	11.6	4.1
5y	21.2	19.2	17.9	15.2	12.4	9.3	3.3
10y	7.9	6.0	5.9	4.8	3.9	2.2	1.7
15y	3.5	3.1	2.4	1.7	1.5	-0.1	3.3
30y	-0.3	-0.5	-0.5	-0.3	0.4	2.0	12.2

Source: BofA Global Research; Bloomberg

Table 3: Spread between US and European swaption grids (bp)

31 March 2020

	1y	2y	3y	5y	7y	10y	30y
1m	9.7	8.3	10.2	18.2	23.8	23.8	2.4
3m	11.0	11.8	14.0	21.1	22.6	22.1	1.9
6m	9.7	15.4	12.8	21.0	20.0	19.6	-3.2
1y	11.7	14.8	14.8	16.6	14.6	13.4	0.0
2y	19.5	18.2	15.1	13.9	12.0	9.0	-2.5
3y	17.0	14.9	14.1	11.9	10.6	7.1	-2.9
4y	14.5	13.4	11.8	7.6	8.1	6.0	-1.2
5y	12.9	11.1	11.1	8.4	6.2	4.1	-0.2
10y	7.2	7.0	3.9	2.3	-0.4	0.9	4.0
15y	2.9	2.9	2.1	-0.4	-3.2	0.2	1.7
30y	-1.3	-1.6	-2.8	-4.1	-3.7	-1.8	6.2

Source: BofA Global Research; Bloomberg

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