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Derivative Focus

CROSS-ASSET

USD Short-term front-end turbo carry

USD 1m1y2y trades. Short horizon for sizeable carry

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Research analysts

Quantitative Strategies

Nick Firoozye - NIplc
nick.firoozye@nomura.com
+44 20 7102 1660

Qilong Zhang - NIHK
qilong.zhang@nomura.com
+852 2252 6191

We recommend turbo-carry (midcurve calendar spread) trades focusing on the high pickups of the upper left corner of the USD vol surface. After recent moves in the curve, we think it is now time to reinitiate carry trades, but we keep the expiry short to avoid further large curve shifts (which we think are far more likely to happen much later in the year). We recommend a 1m1y2y ATMF-5bp midcurve calendar spread package (sell $100mn 1m1y2y ATMF-5bp, buy $100mn 13m2y ATMF-5bp) for its superior carry (annualised at 229%) and its wide breakevens, chosen in part to give more protection to upside scenarios.

Optimising carry for upside protection

While most investors seem to think that tapering is going to continue at a modest pace, given the recent large front-end moves and the relatively sanguine statements from Federal Reserve Chairman Ben Bernanke in December, and the relatively poor economic releases since then, we expect the impact on the front end to be limited in the short run. Although the front end will likely bear the brunt of any bond market repricing in the months to come, we expect the moves to be relatively modest over the next one to two months.

It is because of this that we recommend the following trade:

> **Sell $100mn USD 1m1y2y ATMF-5bp, Buy $100mn USD 13m2y ATMF-5bp for a package price of 48.5cts (offer side).**

The package has an annualised carry of 228%.

We ranked trades by annualised carry and by breakevens, considering the width of the breakeven range, scaled by the vol. This is reported as the Adjusted Annualised Carry:

> **Adj Ann Carry = Ann Carry % * (B/E Width)/(Midcurve Vol)**

Those trades with a higher Adjusted Annualised Carry are more likely to mature in the money. The USD 1m1y2y stood out among (several hundred) rival 1m turbo carry trades (see Turbo carry in USD and EUR forward vol and Turbo carry zooms ahead for more detailed analysis of turbo carry trades).

Fig. 1: USD 1m1y2y packages by strike (spot 1y2y =1.21%, forward 13m2y =1.30%)

ATMF-5bp offers more upside protection

Strike	Upfront Premium (ct)	Rolldown (ct)	Premium (bp)	Rolldown (bp)	Ann Carry %	Implied Vol (bp)	Low B/E	High B/E	Adjusted Ann Carry
-25	38.3	2.9	19.3	1.4	90%	65.2	0.93	1.26	157%
-20	41.7	4.9	21.1	2.5	140%	67.6	0.99	1.30	218%
-15	44.6	7.7	22.5	3.9	206%	70.0	1.05	1.34	298%
-10	47.0	11.3	23.7	5.7	289%	72.4	1.09	1.39	410%
-5	48.5	9.2	24.5	4.6	228%	74.8	1.14	1.46	339%
0	49.0	5.3	24.8	2.7	130%	77.2	1.17	1.54	221%
5	50.0	1.2	25.3	0.6	29%	79.7	1.20	1.62	53%
10	49.9	-1.6	25.2	-0.8	-38%	82.1	1.21	1.72	-81%
15	49.3	-3.7	24.9	-1.9	-90%	84.5	1.21	1.84	-229%
20	48.3	-5.3	24.4	-2.7	-131%	86.9	1.21	1.96	-389%
25	47.1	-6.4	23.8	-3.3	-164%	89.2	1.21	2.09	-560%

Source: Nomura Research

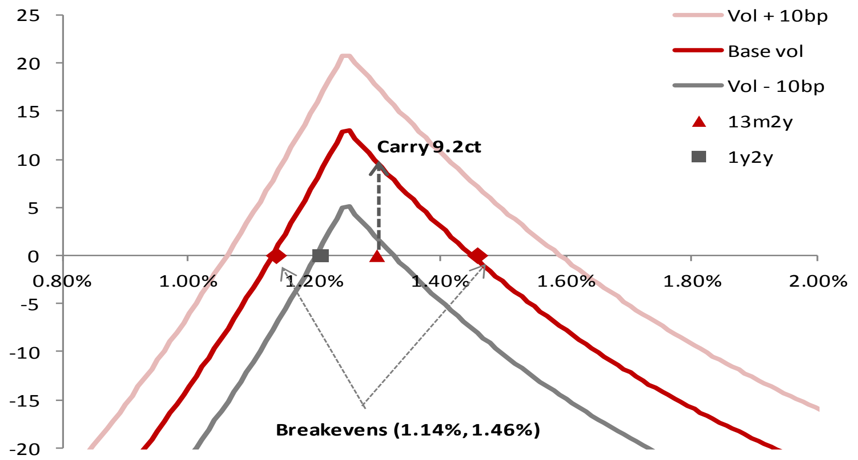
As we see in Figure 1, the Annualised Carry and the Adjusted Annualised Carry are both at their maximum for the ATMF-10bp. But eyeing the breakevens, we believe that the

See Appendix A-1 for analyst certification, important disclosures and the status of non-US analysts.

higher breakeven of 1.46% (compared with 1.39%) gives more comfort to upside rates moves and we opt for the ATMF-5bp package. The running trade cost is 24.5bp and the carry/rolldown gain is 4.6bp. Figure 1 also gives a comparison of expected performance of other options should investor views differ from our own.

Fig. 2: (Net) payoff profile in 1m time

Constant vol B/Es are narrower than vol-adjusted (upper B/E 1.46%, lower B/E 1.14%)



Source: Nomura Research

In Figure 2, we plot the payoff profiles for current vol and up and down vol scenarios, noting that the long vega position means that the payoff profile shifts up in a rising vol environment and correspondingly shifts down in a falling vol environment. We calculate the (vol adjusted) breakevens as being 1.14%-1.46%, giving some protection against selloffs while maintaining a decent margin for a rally. We note that forwards in a +/-1 vol band leave them at 1.09%-1.50%, a range just marginally larger than our breakeven range (i.e., the trade should pay off just slightly less than 66% of the time).

Fig. 3: USD 1y2y vs breakevens

Modestly bearish breakevens should protect to the upside

Source: Nomura Research

In Figure 3, we show the recent performance of the 1y2y forward for the past two years together with the breakevens. We note that our breakeven band is slightly bearish but should give decent protection. Although MTMs may vary based on a number of factors, payoffs are simple and we should have decent positive P&L if forwards expire within these bands in one month's time. Backtested for the past year (entering into the 1m1y2y ATMF-5bp package daily), the trade made on average 4.7cts when held to term.

Finally, in Figure 4, we note the risks to the trade, where we highlight in particular the risk to vega, where a 10bp increase in vol (which roughly corresponds to a 12bp increase in 1y2y rates given the lock-step relationship between vol and rates) will increase the package price by 5.3cts. The trade gains approximately 0.27cts per day in terms of theta alone.

Fig. 4: USD 1m1y2y ATMF-5bp risks

Package Name	Relative Strike (bp)	Fwd (%)	Spot (%)	Delta (ct/bp)	Gamma (ct/bp^2)	Vega (ct/bp)	Theta (ct/day)
1m1y2y	-5	1.30	1.21	-0.27	-0.25	0.53	0.27

Source: Nomura Research

Trade Idea: Sell $100mn USD 1m1y2y ATMF-5bp, Buy $100mn USD 13m2y ATMF-5bp for a package price of 48.5cts (offer side) for an annualised carry of 228%.

Appendix A-1

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