

December 20, 2013

Looking for the best bear steepeners in USD

Using midcurves to outperform

We expand our search for conditional curve trades by looking at midcurves. Based on some simple metrics we identify USD 6m2y1y – 6m5y5y zero cost conditional bear steepeners (buying payers on 6m5y5y and selling payers on 6m2y1y) as having a far greater likelihood of making money than the standard USD 6m 2s10s or 6m 5s10s bear steepeners. Some houses recommend 6m3y1y – 6m5y5y bear steepeners, but we show that it does not adequately capture slope and instead 6m2y1y – 6m5y5y is a far more preferable expression of slope with considerable upside to more common alternatives.

The trade—a conditional bear steepener with better upside than alternatives

We are looking for bear steepeners which, unlike the conditional bear flies we previously recommended (see [The buzz about bear flies](#), 30 Nov 2013), are short the 7yr to 10yr part of the curve, or will effectively benefit from a tapering-related sell-off. The reason for emphasising the 7yr to 10yr part of the curve is entirely backward looking, owing to the response of the curve to Fed Chairman Bernanke's tapering talk in June, during which the sell-off was led by that sector of the curve.

Fig. 1: Conditional bear steepener 6m2y1y vs 6m5y5y, \$10000/bp (18-Dec-13)

Almost flat to forwards with decent expected gain

USD Bear Steepener 6m2y1y vs 6m5y5y, \$10k/bp			
	Short Payer Midcurve 6m2y1y	Long Payer Midcurve 6m5y5y	Spread (bp)
Spot	1.37%	4.50%	312.9
Forward	1.94%	4.61%	266.3
Strike	1.94%	4.64%	269.3
	ATMF	ATMF+3	ATMF+3
Pickup (bp)			
Fwd-Spot	-57	-10	47
Vol	0	-3	-3
Total	-57	-13	44
Z-Scores: Spot Vol-Normalized Pickup (no units)			
Fwd-Spot	-0.99	-0.15	
Vol	0.00	-0.04	
Total	-0.99	-0.19	
Prob(Fwd(T)>Strike)	16.0%	42.5%	
Conditional Valuation and Premia (USD)			
PV	280,699	280,699	0
Expected Value	228,422	266,960	38,538
Premium	-18.6%	-4.9%	

Source: Nomura Research

The emphasis on bear steepeners is reasonable enough. Under normal conditions (i.e., before the crisis) the 2s10s part of the yield curve will bull-steepen and bear-flatten. We believe this is primarily driven by demand shocks. Since the crisis, however, the primary

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

move has been quite the opposite, with curves bull-flattening and bear-steepening, owing especially to Fed interventions, and a very front-end pegged close to zero. Even with tapering forward guidance may keep the very front-ends from being particularly volatile.

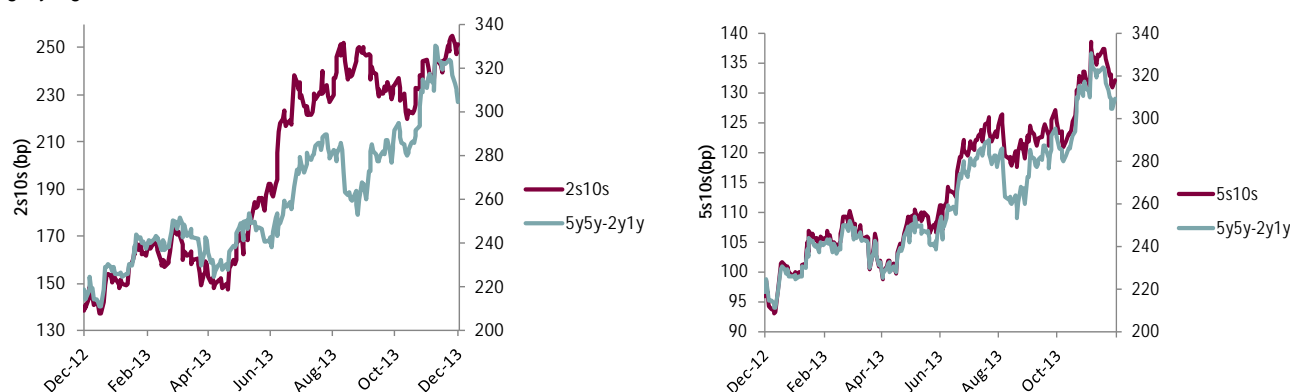
As a means of benefitting from any bearish steepening, **we recommend buying \$24.4mn 4.64% 6m5y5y payers and selling \$102.0mn ATMF (1.94%) 6m2y1y payers, for zero cost.** The trade is dv01 neutral, initiated at \$10,000 per basis point and entry can be done close to flat to forwards (see Figure 1).

The benchmark slopes

The standard steepeners are 2s10s and 5s10s and we will make comparisons with these benchmark conditional trades throughout. We will have to make sure that our recommended trade captures a spread that has many of the same features of the benchmark. In fact, in Figure 2 we see 2y1y – 5y5y is in many ways more similar to 5s10s than to 2s10s. The correlation in levels corroborates this. Irrespective, it should be clear that 2y1y – 5y5y is a valid expression of 2s10s or 5s10s slope and it should in general steepen when the curve steepens. We revisit this correlation together with those of other spreads, when we look at the scan itself. It should be clear though that this trade captures most relevant features of the slope.

Fig. 2: 2y1y – 5y5y and benchmark slopes

Slightly higher correlation to 5s10s than to 2s10s



Source: Nomura Research

We note that 2y1y – 5y5y is relatively highly correlated with 2s10s (correlation of 88%), although it is more an expression of the 5s10s slope. While 5s10s has steepened quite a lot in the recent past, it is off its highs. The prospect of (data-dependent) forward guidance continuing to keep rates low for some time makes 2s10s the most natural steepening candidate for conditional curve trades. But the Fed's relatively modest moves and inability to commit to even a schedule for tapering will make it all the more likely that any steepening trend is not going to be concentrated on 2s5s. Consequently, a 5s10s steepener may still offer decent value and a 2y1y – 5y5y conditional bear steepener may offer even greater value.

Scanning bear steepeners - why is this one better?

Our justification of the trade is based on scanning a range of similar trades. The method is an extension of the method outlined in [Conditional curve trades: Eyeballing relative value](#). We adjust all notionals by the respective dv01s and, let the 6m10y be ATMF, finding the relative strike of every other swaption and midcurve to have the same PV. As we noted in the previous paper, the resulting "moneyness" or vol pickup can be added or subtracted to create zero-cost conditional spread trades and butterflies, etc (where the strikes may all be slightly OTM or ITM depending, with only 6m10y guaranteed to be ATMF). In Figure 3, we expand our table to include liquid midcurves, with spot swaptions in the top row.

Fig. 3: USD 6m conditional curve trades, payers and receivers (bp)

On payer side 3y1y,3y2y, etc amongst richest, while spot 1y, 2y, 3y amongst cheapest

Currency: USD Expiry: 6m																		
Payers									Receivers									
Fwd Pickup (Spot-Fwd, bp)									Fwd Pickup (Fwd-Spot, bp)									
Fwd/Tenor	1y	2y	3y	5y	7y	10y	20y	30y	Fwd/Tenor	1y	2y	3y	5y	7y	10y	20y	30y	
Spot	-8	-21	-33	-36	-30	-23	-13	-10	Spot	8	21	33	36	30	23	13	10	
1y	-34	-45						-10	1y	34	45						10	
2y	-57	-54	-47	-35				-9	2y	57	54	47	35				9	
3y	-52	-42		-25				-6	3y	52	42		25				6	
4y	-32								4y	32								
5y				-10			-2	-1	5y				10			2	1	
7y							0		7y							0		
10y				1		2	2		10y				-1		-2	-2		
20y						2			20y						-2			
Vol Pickup (Fwd-Strike, bp)									Vol Pickup (Strike-Fwd, bp)									
Fwd/Tenor	1y	2y	3y	5y	7y	10y	20y	30y	Fwd/Tenor	1y	2y	3y	5y	7y	10y	20y	30y	
Spot	24	23	21	3	1	0	5	7	Spot	22	18	14	2	1	0	5	7	
1y	16	3						5	1y	11	3						5	
2y	-7	-20	-24	-17				3	2y	-7	-16	-18	-14				3	
3y	-32	-35		-16				3	3y	-24	-26		-14				3	
4y	-26								4y	-21								
5y				-8			4	5	5y				-8			4	5	
7y							3		7y							3		
10y				3		3	4		10y				3		3	4		
20y						-2			20y						-2			
Total Pickup (Spot-Strike, bp)									Total Pickup (Strike-Spot, bp)									
Fwd/Tenor	1y	2y	3y	5y	7y	10y	20y	30y	Fwd/Tenor	1y	2y	3y	5y	7y	10y	20y	30y	
Spot	17	2	-12	-33	-29	-23	-8	-3	Spot	30	39	46	38	30	23	18	16	
1y	-19	-42						-5	1y	45	48						15	
2y	-64	-74	-70	-51				-6	2y	49	38	28	21				12	
3y	-84	-77		-42				-4	3y	28	16		12				9	
4y	-58								4y	11								
5y				-19			2	3	5y				2			7	6	
7y							3		7y							3		
10y				5		5	5		10y				2		1	2		
20y						-1			20y						-4			

Source: Nomura Research

Explaining Figure 3

Carry Pickup: The first set of tables in Figure 4 is carry (or negative carry for payers, where going long the payer typically involves negative carry) for each forward swap and for spot swaps (e.g., noting that 5y+6m = 66m, the figure for 5y5y is the 5y5y – 66m5y spread, and the figure for 1y spot is the spot 1y – 6m1y forward spread).

Vol Pickup: The second set of tables is the relative strike with payers benefiting from strikes below forwards and receivers from strikes above forwards (hence the choice of sign, and thus 5y5y at -8bp indicates that we can put on a dv01 weighted pair, going long ATMF+8bp 6m5y5y and short ATMF 6m10y payer for zero cost, or long ATMF-24bp 1y and short ATMF10y again for zero cost).

Total Pickup: The third set of tables is the moneyness of the strike relative to forwards (e.g., the dv01 weighted 6m5y5y is struck at Spot+19bp to have the same cost as the 6m10y which is struck at Spot+23bp). The moneyness with respect to spot of course indicates how far rates have to move from the current levels for the trade to start making money, and is a measure of the negative carry of each of the payer swaptions. This will figure into our estimates of probability of a payoff.

As we note a zero cost 6m2y1y – 6m5y5y bear steepener involves buying the 6m5y5y for -8bp and selling the 6m2y1y for -7bp, for a total loss to forwards of -8bp - (-7bp) = -1bp, which compares favourably with a 2s10s bear steepener at -23bp - 0bp = -23bp. It is more debatable whether 6m2y1y – 6m5y5y benefits compared with a conditional 5s10s bear steepener, which has a +3bp pickup to forwards. While these figures help to identify trades, we construct individual trades more carefully, and put the short leg ATMF always.

In Figure 3, we approximate pickup, but we note that pickup alone is insufficient for judging the worth of trades, as many similar trades (e.g., 6m3y1y– 6m5y5y where we sell -32bp, and buy -8bp for a pickup of 24bp to forwards) may appear to have much better pickup but are not particularly good steepener trades. We will look at correlations with 2s10s slopes below for more information.

More generically speaking, Figure 3 shows that 6m3y2y is the richest payer vol and we could benefit from being short it and its neighbours, while spot 6m1y, 6m2y, etc are among the cheapest relative to 10yr. This is generally in line with the ATMF normal vol, which we have given in Figure 4.

Fig. 4: ATMF normal vol of spot and midcurves combined

The highest vols are for forwards which often (but not always) experienced the largest moves

ATMF Normal Vol (bp)									
Fwd/Tenor	1y	2y	3y	5y	7y	10y	20y	30y	
Spot	25	39	57	83	86	86	78	75	
1y	59	81						78	
2y	100	115	119	111				81	
3y	129	133		111				82	
4y	123								
5y				102			79	78	
7y							81		
10y				81		82	80		
20y						91			

Source: Nomura Research

In Figure 5, we show the correlation of each of our trades with the 2s10s slope in levels over the past year of trading history, noting that 6m2y1y – 6m5y5y at 88% (boxed in red) is relatively high for those with a decent pickup. We have boxed the benchmark 5s10s and 2s30s (with 2s10s identically 1) in black.

Meanwhile, we note that 6m3y1y – 6m5y5y is a particularly poor steepener, with a correlation of only 9% with 2s10s (and 43% to 5s10s). It should be clear that without further investigation of individual spreads, it is impossible to know which ones are worth doing.

Fig. 5: Correlations of spreads to 2s10s

2y1y – 5y5y as a decent expression, and many possible alternative steepeners exist

Correlations to 2s10s (1y)		Short Leg																																	
	1y	2y	3y	5y	7y	10y	20y	30y	1y1y	2y1y	3y1y	4y1y	1y2y	2y2y	3y2y	2y3y	2y5y	3y5y	5y5y	10y5y	10y10y	20y10y	5y20y	7y20y	10y20y	1y30y	2y30y	3y30y	5y30y						
Long Leg	1y																																		
	2y	0.93																																	
	3y	0.96	0.95																																
	5y	0.98	0.99	1.00																															
	7y	0.99	1.00	1.00	0.98																														
	10y	1.00	1.00	0.99	0.94	0.73																													
	20y	1.00	1.00	0.97	0.72	-0.12	-0.66																												
	30y	0.99	0.99	0.95	0.55	-0.31	-0.69	-0.74																											
	1y1y	0.92	0.84	-0.98	-1.00	-1.00	-1.00	-0.98	-0.97																										
	2y1y	0.96	0.95	0.95	0.20	-0.71	-0.72	-0.46	-0.33	0.97																									
	3y1y	0.99	0.99	0.99	0.99	0.94	0.87	0.84	0.83	0.99	0.99																								
	4y1y	1.00	1.00	1.00	1.00	1.00	0.99	0.97	0.96	1.00	0.98	0.90																							
	1y2y	0.95	0.94	0.92	-0.98	-0.98	-0.97	-0.90	-0.85	0.97	-0.97	-1.00	-1.00																						
	2y2y	0.98	0.98	0.98	0.94	0.57	0.22	0.40	0.46	0.99	0.99	-0.99	-0.97	0.99																					
	3y2y	0.99	0.99	1.00	1.00	0.98	0.95	0.92	0.91	1.00	0.99	0.86	-0.93	1.00	0.98																				
	2y3y	0.99	0.99	0.99	0.99	0.93	0.80	0.77	0.77	1.00	0.99	-0.96	-0.97	1.00	0.97	-0.99	1.00																		
	2y5y	1.00	1.00	1.00	1.00	1.00	0.97	0.93	0.91	1.00	0.97	-0.17	-0.99	1.00	0.91	-0.89	0.80	1.00																	
	3y5y	1.00	1.00	1.00	0.99	1.00	1.00	0.98	0.97	1.00	0.96	0.51	-0.88	0.99	0.91	0.01	0.85	0.89	1.00																
	5y5y	1.00	1.00	0.99	0.95	0.94	0.96	0.99	0.99	0.99	0.88	0.09	-0.77	0.97	0.74	-0.32	0.51	0.25	-0.58	1.00															
	10y5y	0.99	0.98	0.94	0.67	0.19	-0.07	0.53	0.83	0.96	0.49	-0.70	-0.92	0.86	-0.16	-0.83	-0.57	-0.80	-0.92	-0.97	1.00														
10y10y	0.99	0.97	0.92	0.54	-0.01	-0.27	0.10	0.49	0.94	0.37	-0.71	-0.91	0.81	-0.26	-0.83	-0.60	-0.80	-0.91	-0.96	-0.72	1.00														
20y10y	0.97	0.94	0.84	0.22	-0.34	-0.53	-0.46	-0.35	0.89	0.12	-0.75	-0.91	0.67	-0.43	-0.84	-0.68	-0.82	-0.91	-0.94	-0.80	-0.82	1.00													
5y20y	0.99	0.98	0.95	0.76	0.45	0.32	0.81	0.94	0.96	0.60	-0.61	-0.89	0.88	0.04	-0.78	-0.42	-0.71	-0.89	-0.96	0.92	0.96	0.92	1.00												
7y20y	0.99	0.97	0.93	0.62	0.15	-0.08	0.40	0.72	0.95	0.45	-0.67	-0.90	0.83	-0.16	-0.81	-0.54	-0.76	-0.90	-0.95	-0.09	0.95	0.91	-0.93	1.00											
10y20y	0.98	0.96	0.89	0.43	-0.14	-0.39	-0.16	0.13	0.92	0.28	-0.73	-0.91	0.76	-0.32	-0.83	-0.63	-0.81	-0.91	-0.95	-0.76	-0.77	0.85	-0.94	-0.94	1.00										
1y30y	0.99	0.99	0.96	0.69	0.04	-0.36	0.48	0.99	0.97	0.47	-0.78	-0.95	0.88	-0.29	-0.89	-0.69	-0.88	-0.96	-0.99	-0.50	0.12	0.64	-0.88	-0.35	0.41	1.00									
2y30y	0.99	0.99	0.96	0.76	0.33	0.07	0.83	0.99	0.97	0.57	-0.72	-0.93	0.90	-0.11	-0.85	-0.58	-0.83	-0.94	-0.98	0.37	0.67	0.80	-0.74	0.33	0.74	0.98	1.00								
3y30y	0.99	0.99	0.96	0.77	0.42	0.24	0.83	0.97	0.97	0.59	-0.67	-0.92	0.89	-0.02	-0.82	-0.50	-0.78	-0.92	-0.97	0.76	0.86	0.87	-0.62	0.70	0.86	0.94	0.82	1.00							
5y30y	0.99	0.98	0.94	0.68	0.25	0.03	0.59	0.85	0.96	0.51	-0.67	-0.90	0.86	-0.10	-0.81	-0.52	-0.76	-0.90	-0.96	0.40	0.92	0.90	-0.95	0.71	0.91	0.64	-0.06	-0.66	1.00						

Source: Nomura Research

In Figure 6 we merely subtract two numbers from the payers vol pickup tables (the middle table on the left) from Figure 3, for ease of use. We then grey out all spreads with low correlation. We note that most trades with positive pickup are not particularly good bear steepeners, having low correlation. We have boxed the benchmark 2s10s, 5s10s, and 2s30s below together with the approximate vol pickup of the 2y1y – 5y5y.

Fig. 6: Bear Steeper (approximate) vol pickup to forwards (bp)

Greyed numbers correspond to correlations to 2s10s below 80%

Vol Pickup to										Short Leg																				
Forwards	1y	2y	3y	5y	7y	10y	20y	30y	1y1y	2y1y	3y1y	4y1y	1y2y	2y2y	3y2y	2y3y	2y5y	3y5y	5y5y	10y5y	10y10y	20y10y	5y20y	7y20y	10y20y	1y30y	2y30y	3y30y	5y30y	
Long Leg	1y																													
	2y	-2																												
	3y	-4	-2																											
	5y	-22	-20	-18																										
	7y	-24	-22	-20	-2																									
	10y	-24	-23	-21	-3	-1																								
	20y	-19	-18	-16	2	4	5																							
	30y	-18	-16	-14	4	6	7	2																						
	1y1y	-9	-7	-5	13	15	16	11	9																					
	2y1y	-32	-30	-28	-10	-8	-7	-12	-14	-23																				
	3y1y	-56	-55	-52	-35	-32	-32	-37	-39	-48	-24																			
	4y1y	-51	-49	-47	-29	-27	-26	-31	-33	-42	-19	6																		
	1y2y	-21	-20	-18	0	2	3	-2	-4	-13	10	35	29																	
	2y2y	-45	-43	-41	-23	-21	-20	-26	-27	-36	-13	11	6	-24																
	3y2y	-59	-58	-55	-37	-35	-35	-40	-42	-50	-27	-3	-8	-38	-14															
	2y3y	-48	-47	-44	-27	-24	-24	-29	-31	-40	-16	8	3	-27	-3	11														
	2y5y	-41	-40	-38	-20	-17	-17	-22	-24	-33	-10	15	9	-20	4	18	7													
	3y5y	-41	-39	-37	-19	-17	-16	-22	-23	-32	-9	15	10	-20	4	18	7	0												
	5y5y	-33	-31	-29	-11	-9	-8	-14	-15	-24	-1	23	18	-12	12	26	15	8	8											
	10y5y	-21	-19	-17	1	3	3	-2	-3	-12	11	35	30	0	24	38	27	20	20	12										
10y10y	-22	-20	-18	0	2	3	-2	-4	-13	10	35	29	0	23	38	27	20	19	11	-1										
20y10y	-27	-25	-23	-5	-3	-2	-7	-9	-18	5	29	24	-5	18	32	21	14	14	6	-6	-5									
5y20y	-20	-19	-17	1	4	4	-1	-3	-12	12	36	30	1	25	39	28	21	21	13	1	1	7								
7y20y	-21	-19	-17	1	3	3	-2	-3	-12	11	35	30	0	24	38	27	20	20	12	0	1	6	-1							
10y20y	-21	-19	-17	1	3	4	-1	-3	-12	11	35	30	1	24	38	27	20	20	12	0	1	6	-1	0						
1y30y	-20	-18	-16	2	4	5	0	-2	-11	12	37	31	2	25	40	29	22	21	13	1	2	7	1	1	1					
2y30y	-21	-20	-18	0	2	3	-2	-4	-13	10	35	29	0	24	38	27	20	20	12	0	0	5	-1	0	-1	-2				
3y30y	-22	-20	-18	0	2	3	-3	-4	-13	10	34	29	-1	23	37	26	19	19	11	-1	0	5	-2	-1	-1	-2	-1			
5y30y	-20	-18	-16	2	4	5	-1	-2	-11	12	36	31	1	25	39	28	21	21	13	1	2	7	0	1	1	0	1	2		

Relative value - better than benchmark trades

In terms of relative valuation, it is more complex. Of course all conditional bear steepeners effectively have negative carry. We put them on at zero value, but if spot is realised, they expire once again with zero value for both legs. As we mentioned above, we are interested in the likelihood of receiving a positive payoff. Our interest is in making sure that a steepener trade has more value than the benchmark 2s10s or 5s10s steepener and we measure this using a very rudimentary physical (real-world as opposed to risk-neutral) probability, showing as well that our suggested trade does far better than the benchmarks. Although there are many ways of estimating expected payoff at maturity, we concentrate on the most straightforward.¹

Based on the proximity of spot to the strike of the long-leg in particular and relative volatility, the zero-cost 6m2y1y – 6m5y5y conditional bear steepener has a significant relative gain to benchmark 2s10s and 5s10s steepeners, while its payoff is based on a spread that is a reasonably close to both front-end slopes, making this a particularly attractive expression of a bull-steepening view.

An intuitive way of valuing this is the Z-score for each of the strikes, relative to spot, i.e.

$$Z - \text{score} = (\text{Strike} - \text{Spot}) / \sigma_{\text{spot}} \sqrt{T}$$

We report these under the header Z-score: *Spot Vol-normalized Pickup (no units)* in Figures 1 and 7. We note in Figure 1 that the short payer 6m2y1y is struck at a Z-score of -0.99, making it expire ITM with a probability of 16.0%, while the 6m5y5y has a Z-score of -0.19, making it expire ITM with a probability of 42.5%.

To benchmark we consider a zero-cost 2s10s bear steepener and a zero-cost 5s10s bear steepener in Figure 7. Our expected valuation show 2s10s is expected to lose money (which is in line with the fact that the short leg has a lower Z-score and is thus more likely to lose money than the long leg is likely to make money). Meanwhile, the 5s10s is likely to expire with a positive value on the 6m10y side, but the 6m5y is also very likely to lose money.

Fig. 7: Conditional bear steepeners, 2s10s (LHS) and 5s10s (RHS) at \$10000/bp (18 Dec 13)

2s10s significantly worse than forwards while 5s10s almost flat. Both have small to negative expected payoffs

USD Bear Steepener 6m2y vs 6m10y, \$10k/bp			
	Short Payer 6m2y	Long Payer 6m10y	Spread (bp)
Spot	0.40%	2.94%	253.7
Forward	0.61%	3.17%	256.1
Strike	0.61%	3.62%	301.1
	ATMF	ATMF+45	ATMF+45
Pickup (bp)			
Fwd-Spot	-21	-23	-2
Vol	0	-45	-45
Total	-21	-68	-47
Z-Scores: Spot Vol-Normalized Pickup (no units)			
Fwd-Spot	-0.95	-0.40	
Vol	0.00	-0.78	
Total	-0.95	-1.18	
Prob(Fwd(T)>Strike)	17.2%	12.0%	
Conditional Valuation and Premia (USD)			
PV	111,111	111,111	0
Expected Value	87,881	72,748	-15,132
Premium	-20.9%	-34.5%	

USD Bear Steepener 6m5y vs 6m10y, \$10k/bp			
	Short Payer 6m5y	Long Payer 6m10y	Spread (bp)
Spot	1.61%	2.94%	133.5
Forward	1.96%	3.17%	121.0
Strike	1.96%	3.22%	126.0
	ATMF	ATMF+5	ATMF+5
Pickup (bp)			
Fwd-Spot	-36	-23	12
Vol	0	-5	-5
Total	-36	-28	7
Z-Scores: Spot Vol-Normalized Pickup (no units)			
Fwd-Spot	-0.69	-0.40	
Vol	0.00	-0.09	
Total	-0.69	-0.49	
Prob(Fwd(T)>Strike)	24.5%	31.4%	
Conditional Valuation and Premia (USD)			
PV	232,634	232,634	0
Expected Value	205,769	207,263	1,494
Premium	-11.5%	-10.9%	

Source: Nomura Research

Although our expected value is not purely based on Z-scores of the strikes relative to spot, the intuition is relatively similar. We summarise the Z-scores for each leg, and the trade valuations in Figure 8, referencing the information from Figures 1 and 7.

¹ Our method is to assume that rates are normally distributed at option expiry, centred at spot (which is in line with our emphasis on carry for those trades that do have positive carry). We infer the standard deviation from implied at-the-money-spot volatility, scaled by \sqrt{t} , and then we derive the expected payoff ignoring pv01 (i.e., for payers we have $E[(r-K)^+]$, which is found in closed form via the (Normal) Black-Scholes formula). This is in many ways similar to a Z-score (spot-strike)/vol, but can be summed for multiple trades.

Fig. 8: 6m2y1y – 6m5y5y and the benchmark bear steepeners

Significant upside for the midcurve trade due to likelihood of profitable scenarios

	6m 2s10s		6m 5s10s		6m2y1y-6m5y5y	
	Short	Long	Short	Long	Short	Long
	6m2y	6m10y	6m5y	6m10y	6m2y1y	6m5y5y
Spot (%)	0.40%	2.94%	1.61%	2.94%	1.37%	4.50%
Strike (%)	0.61%	3.62%	1.96%	3.22%	1.94%	4.64%
Spot Vol (bp)	31	82	73	82	81	100
Z-Score (Strike-Spot)/(Spot-vol* \sqrt{T})	-0.95	-1.18	-0.69	-0.49	-0.99	-0.19
Prob{Expiring ITM}	17.2%	12.0%	24.5%	31.4%	16.0%	42.5%
Trade Expected Value (USD)	-15,132		1,494		38,538	

Source: Nomura Research

Finally, we summarise the risks of the 6m2y1y – 6m5y5y conditional bear steepener in Figure 9, noting that it carries almost no gamma risk, very little vega risk and is almost only a view on the underlying spread.

Fig. 9: Trade Risks

Relatively low risk to other than spread

Trade	Notional \$	Spot %	Fwd %	Strike	Premium	Delta \$/bp	Vega \$/bp	Gamma \$/bp2
Payer Midcurve 6m2y1y	-102MM	1.37	1.94	ATMF	-280,699	-4,004	-3,325	-62
Payer Midcurve 6m5y5y	24MM	4.50	4.61	ATMF+3	280,699	4,687	3,223	64
		3.13	2.66	ATMF+3	0	683	-102	2

Source: Nomura Research

Trade Recommendation:

We recommend buying \$24.4m 4.62% 6m5y5y payers and selling \$102.0mn ATMF (1.94%) 6m2y1y payers, for zero cost.

Appendix A-1

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