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Interest Rate Derivatives

Zen and the art of gamma maintenance

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- … but rates have become increasingly insulated from the performance of labor markets, preferring to focus on inflation data, which was more mixed
- A partial return of programmatic sellers has helped supply more gamma to the market; fair value suggests calendar spreads look cheap
- The distribution of daily changes over the past few months shows declining tail risk, after which short gamma/long vega exposures tend to outperform when actively hedged; buy 2Yx10Y versus 3Mx10Y delta-neutral straddles
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- We review the second ARRC report, including greater detail on a paced transition plan and new fallback provisions for Libor-linked derivatives

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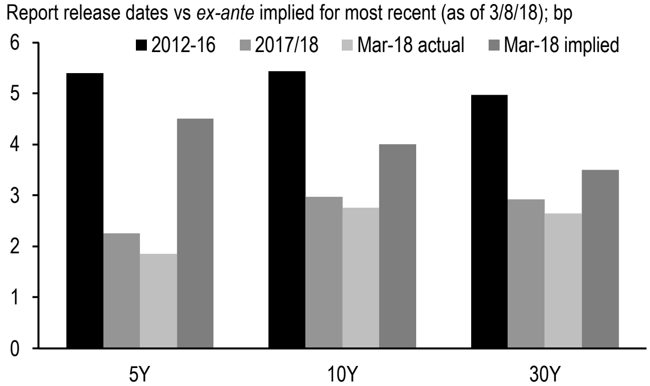
Zen and the art of gamma maintenance

U.S. rates were biased modestly higher this week as the curve bear steepened, though at 2.89% as of Friday, 10s were still below the YTD high set in late-February. Aside from the Employment Report—which we discuss below—**the data flow was light but modestly supportive this week**; for example, upward revisions to 4Q spending and wholesale trade data revisions prompted us to raise 4Q growth tracking estimates to 3.0%, albeit with downside risk to our 1Q forecast (see *US: Wholesale trade revisions nudge 4Q GDP tracking up to 3.0%*, D. Silver, 3/9/18). On trade, the details of tariffs announced Thursday were less punitive than feared by allowing exemptions for NAFTA partners and other military allies. **Though the immediate growth and inflation impacts are likely to be small, the potential for further escalation is a key macroeconomic risk going forward** (see *Metal tariffs a negligible drag, but broader risks loom*, M. Feroli, 3/8/18).

Exhibit 1: Once again, moves in U.S. rates following payrolls were much more modest than prior years and *ex-ante* expectations …

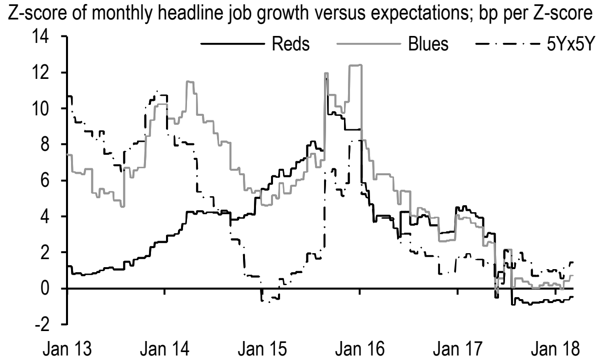
Absolute value of change on day for 5-, 10-, and 30-year swaps on Employment Report release dates vs *ex-ante* implied for most recent (as of 3/8/18); bp



Source: J.P. Morgan, BLS

Exhibit 2: … which is consistent with much less sensitivity among a range of U.S. interest rates to surprises on headline job growth

Rolling 1-year beta of change on day as of Employment Report release versus the Z-score of monthly headline job growth versus expectations; bp per Z-score



Note: Based on two years rolling history of prints and Bloomberg consensus estimates.
Source: J.P. Morgan, BLS, Bloomberg

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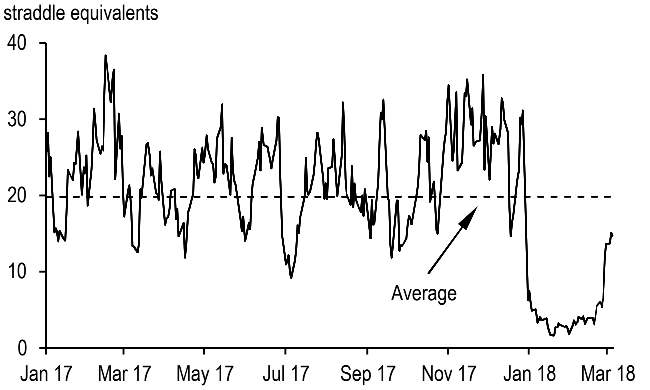
The Employment Report was as always a key market focus. And headline job growth of more than 300k in February was notably better than expectations in the low 200k range. This was offset by an unchanged unemployment rate at 4.1% (Bloomberg consensus had a 0.1% decline) and most importantly disappointing hourly earnings both in the February reading and downward revisions to January—though other details arguably provide an offset (see *Yellen's labor market wager looking smart*, M. Feroli, 3/9/18). In keeping with this mostly constructive report rates cheapened and steepened on the day, once again underperforming relative to the *ex-ante* 1-day options breakevens (**Exhibit 1**). These moves were mostly in line with the average of recent payrolls day price action and well below the average of prior years. **Another way to look at it: markets have become considerably less sensitive to labor market surprises across the curve (Exhibit 2)**. Reds are particularly striking, with empirical data suggesting little reactivity in the medium-term Fed outlook as the market has focused on other factors (e.g., consumer prices, wage growth, etc.).

Exhibit 3: More rangebound markets as well as the partial return of programmatic sales have led to modest but noticeable gamma supply to the market …

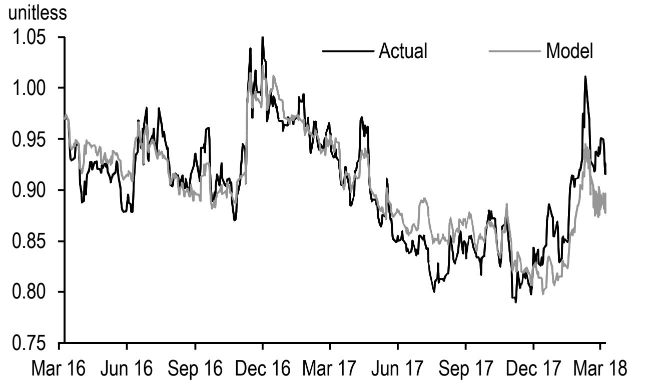
Estimated* net gamma exposure of programmatic shorts in swaptions; $bn 1Mx10Y straddle equivalents



* Assumes daily sales of $500mn 1Mx10Y ATMF straddles, held to expiry. For January and February of this year we assume 25% of this flow, and 50% for March.
Source: J.P. Morgan

Exhibit 4: … and the expiry curve still looks too flat adjusted for the level of volatility and gamma supply, particularly if programmatic sales pick up further

3Mx10Y versus 2Yx10Y ATMF implied volatility ratio, market level and fair value†; unitless



† Based on a 2-year regression of 3M versus 2Yx10Y ATMF implied volatility ratio against the average of the two implied volatilities, an estimate of gamma supply from programmatic sales* and the level of the VIX index.
Source: J.P. Morgan

Against this backdrop, we note some increased activity by programmatic sellers in recent weeks. Though certainly not anywhere close to its previous peak magnitude, this combined with relatively rangebound markets and moderating demand from mortgage hedgers (who remain well past max negative convexity; see discussion below) has likely led to some accumulation of long gamma risk on dealer books. Focusing on exposures related specifically to programmatic supply, we estimate current levels are still a bit below average but clearly above the lows of earlier this year (**Exhibit 3**). **This has helped offset the supply/demand imbalance (this time in favor of buyers) that prevailed in short-dated options markets for most of this year**.

As this has unfolded, the expiry curve has been slow to react. Though shorter-dated vols are no longer trading rich to intermediates in many sectors, they are still arguably rich. An empirical analysis, for example, suggests 3Mx10Y should be trading well below 90% of 2Yx10Y given current overall levels of volatility, adjusted for other factors (**Exhibit 4**). A further recovery in supply would be worth an additional 5% to this volatility ratio. **This argues in favor of holding implied volatility surface steepeners including equi-notional shorts in shorter versus intermediate expiries**.

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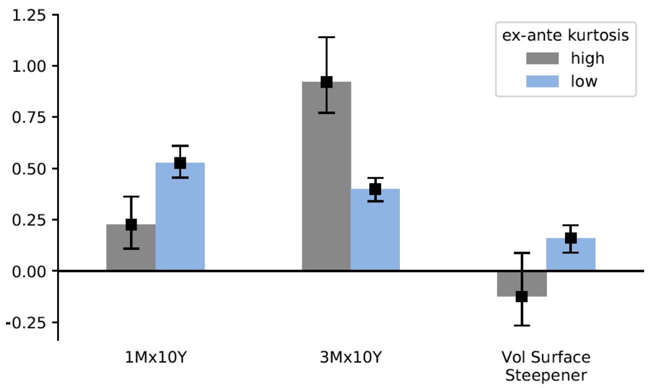
Exhibit 5: Short gamma and/long vega exposure have robustly outperformed over the past five years following periods of elevated kurtosis in rates moves …

Systematic trade performance*† for daily hedged, short-vol positions in 1Mx10Y and 3Mx10Y and 1M/3Mx10Y vol surface steepeners from 2013-present, broken out into periods of low and high *ex-ante* excess kurtosis**; unitless



* Trade performance measured with a non-parametric ratio built from the average of 1) Non-parametric Sharpe: the average of median versus inter-quartile range; 2) Sterling ratio: median returns versus median losses; and 3) drawdown ratio: returns versus 5th percentile as expected returns versus downside risk.

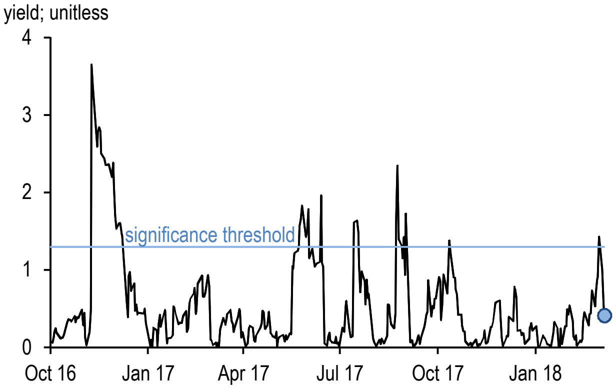
† To judge how robust this result was, we computed trade performance on a randomly selected subset of 50% of days from both the high- and low-kurtosis samples, repeating the exercise 1000 times. Bars in the above plot show the average performance metric from these 1000 trials, whereas error bars denote the 5th and 9th percentile performance.

** High *ex-ante* excess kurtosis denotes periods where the trailing, 1-month daily moves in the underlying led to a p-value below 5% from a test for statistically significant excess kurtosis.

Source: J.P. Morgan

Exhibit 6: … and as ex-ante kurtosis has fallen substantially, this argues in favor of vol surface steepeners

Rolling 1-month significance of excess kurtosis* in daily moves of 1Mx10Y swap yield; unitless



* Significance of excess kurtosis is the negated log-base-10 of the p-value from a test for non-normal kurtosis (in practice, almost always excess kurtosis). A value of 1.3 denotes the threshold at which kurtosis is inconsistent with normally distributed moves to 95% confidence.

Source: J.P. Morgan

Another factor supporting short gamma/long vega positioning is a relative dearth of outsized moves in recent weeks. Over the past five years, we've found the statistical significance of *ex-ante* excess kurtosis (a measure of the prevalence of fat-tails in the distribution of realized daily rate moves) provides a meaningful trading signal for the gamma sector in 10Y tails. In particular, **selling 3Mx10Y, daily delta-hedged ATMF held for 1-month, performed substantially *better*, in aggregate, following periods with strong excess kurtosis**. In contrast, selling 1Mx10Y daily delta-hedged ATMF straddles and holding to expiry performed substantially *worse*, in aggregate, when executed on days when *ex-ante* excess kurtosis was statistically significant **(Exhibit 5)**. **This suggests that, as an example, in a falling volatility environment, implieds drop faster than realized as fat tailed periods recede, leading to relative outperformance of short positions that monetize vega P/L compared to sales of shorter-dated structures that are more driven by gamma returns**.

While realized vol has remained elevated in recent weeks, our kurtosis metric has fallen substantially (and indeed has rarely spent much time above the "significant" threshold this year; **Exhibit 6**). **This suggests the opposite of the above dynamic is likely to take hold: in a rising volatility environment following a period of low kurtosis, implied should outpace realized, leading to long vega gains and gamma losses (assuming active delta management).** Along these lines, the above provides meaningful evidence that implied volatility surface steepeners (a.k.a. "forward vol", a.k.a. equi-notional calendar spreads) enjoy a statistically significant advantage.

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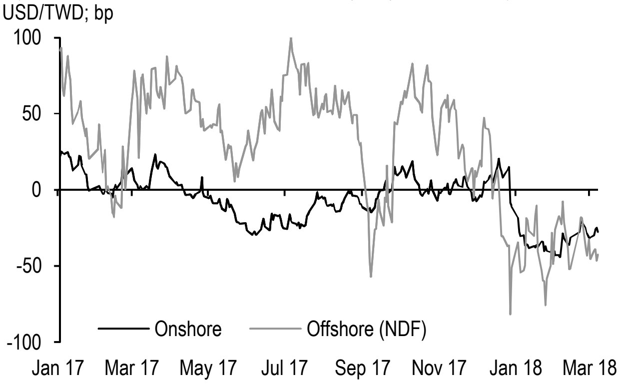
Considering the return—cautious though it may be—of programmatic sales, fair value considerations, and a statistical advantage from a roughly normally distributed recent realized distribution, we favor delta-neutral and equi-notional calendar spreads in 10-year tails that are short gamma and long vega. **We therefore recommend unwinding unhedged shorts in 3Mx30Y straddles versus 1Yx30Y strangles, and replacing them with shorts in delta-neutral 3Mx10Y versus 2Yx10Y straddles** (see Trade recommendations).

Life insurers in Taiwan are extending FX hedges

In longer dated vols, reporting[1] by Bloomberg this week indicated that Taiwanese life insurance companies were actively extending the maturity of their FX hedges. Whereas in the past they had focused primarily on 3-month swaps—the vast majority of which are executed onshore—anecdotal evidence from the region indicated a growing preference for 1-year and potentially longer tenors. We can see evidence of this in FX forward pricing, where the term structure of both onshore and NDF cross-currency basis recently inverted (**Exhibit 7**).

Exhibit 7: The migration of FX hedges held by Taiwanese life insurance companies is clear in the inverted term structure of both onshore and NDF TWD cross-currency basis…

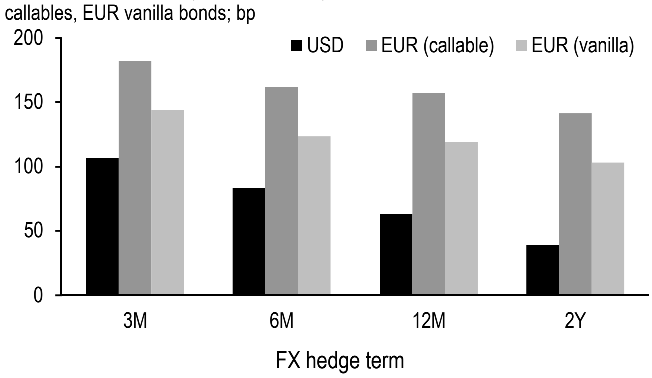
1-year minus 3-month onshore and offshore (NDF) cross-currency basis in USD/TWD; bp



Source: J.P. Morgan

Exhibit 8: …but extending the term of these FX swaps makes holding USD assets even less attractive versus local yields, both in absolute terms and relative to EUR financials

Yield pick-up versus 30-year TWD swap yield for USD callable financials, EUR callables, EUR vanilla bonds; bp



Note: Callables are modeled as par 30nc5 European cancelable swaps, USD credit spreads from JULI 10+ maturity financials and EUR spreads from 10-year iTraxx Senior Financials.
Source: J.P. Morgan

Though not a regime shift by any means, such a change in hedging strategy is likely intended to mitigate the potential impact of Fed hikes on FX hedging costs. It is important to note, however, that with nearly 75% of our forecast for four hikes over the next year priced into the curve, barring a significant acceleration in Fed tightening we think 1-year maturities are unlikely to offer meaningful savings over rolling shorter-dated hedges. Further, given more limited onshore liquidity in these points, they are exposed to the noticeably higher volatility exhibited by NDFs. **In the meantime, given the relative slopes of the USD and TWD swap curves, carry on hedged foreign assets is likely to deteriorate as a greater fraction of their hedge book is pushed into longer tenors (Exhibit 8)**. In fact, such a shift will likely make EUR-denominated assets—which already offer better relative value—look that more attractive by comparison.

[1] See "Taiwanese Life Insurance Firms Are Said to Extend FX Swap Contracts," by C. Sung, 3/6/18 on Bloomberg First Word.

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ARRC report, part deux

Following on last week's news regarding publication and futures referencing the Secured Overnight Financing Rate (SOFR) (see discussion in Interest Rate Derivatives, *US Fixed Income Markets Weekly*, 3/2/18), **this week the ARRC has released its second report on the transition from Libor**. In addition to reviewing and providing further details on the rationale behind replacing Libor with SOFR, the new report outlines a paced transition through year-end 2021 (**Exhibit 9**). They also discuss a methodology for constructing term SOFR rates, which we discuss in more detail in another section of this publication (see Short-Term).

Exhibit 9: Key targets in the paced transition plan proposed by the ARRC

3-Apr-18	Federal Reserve Bank of New York begins publishing SOFR
2H 2018	Infrastructure for futures and/or OIS trading in SOFR is put in place by ARRC members.
End of 2018	Trading begins in futures and/or bilateral, uncleared OIS that reference SOFR.
Q1 2019	Trading begins in cleared OIS that reference SOFR in the current (EFFR) PAI and discounting environment.
Q1 2020	CCPs begin accepting new or modified swap contracts (swaps paying floating legs benchmarked to EFFR, LIBOR, or SOFR) that pay SOFR as PAI and are discounted with a SOFR curve. In this stage, market participants are allowed a choice at the time of execution of each trade between clearing contracts that calculate PAI and discounting using either EFFR or SOFR, with both types of contracts cleared within the same clearing guarantee fund. CCPs would gradually lengthen the maturity of contracts accepted for clearing in the new SOFR PAI/discounting environment to ensure that liquidity was adequate to support the new discount curve.
Q2 2021	CCPs no longer accept new swap contracts for clearing with EFFR as PAI and discounting except for the purpose of closing out or reducing outstanding risk in legacy contracts that use EFFR as PAI and discount rate. Existing contracts using EFFR as PAI and discount rate and new contracts using SOFR as PAI and discount rate continue to exist in the same pool. Existing contracts roll off over time as they mature or are closed out. Methods for accelerating this close out, and the potential to pre-announce the closure of the CCPs' EFFR-based PAI and discount rate capability, may play a part.
End of 2021	Creation of a term reference rate based on SOFR derivatives.

Source: J.P. Morgan, ARRC

A key development for derivatives markets we have highlighted in the past is the introduction of SOFR-linked price alignment interest (PAI) by mid-2020. This shift is intended to deliver term risk in the new benchmark by gradually shifting the discount rate for such exposures from Fed funds to SOFR for margin posted against derivatives exposures facing centralized counterparties. Based on data provided by ISDA[2] and the BIS[3], this covers the majority of both gross notional outstanding (71% as of H2 2016) and market value (52% as of H1 2017) for interest rate swaps in particular[4]. The sheer size of the market makes this a powerful lever arm for the transition; though clearly market values vary with the market, since the BIS started publishing data the total MTM of USD-denominated OTC derivatives facing centralized counterparties has been as high as $2.25bn, dominated by swaps (**Exhibit 10**). **Taking the average duration of the swaps market to be around 7 years, if this were all to transition to SOFR-linked discounting this translates into more than $1000-1500 $mn/bp in term FF/SOFR basis risk to the market.**

[2] See *Derivatives Market Analysis: Interest Rate Derivatives*, December 2016.
[3] See H1 2017 Derivatives Statistics from the BIS.
[4] Options in particular are generally not cleared, but represent a much smaller fraction of the overall derivatives market.

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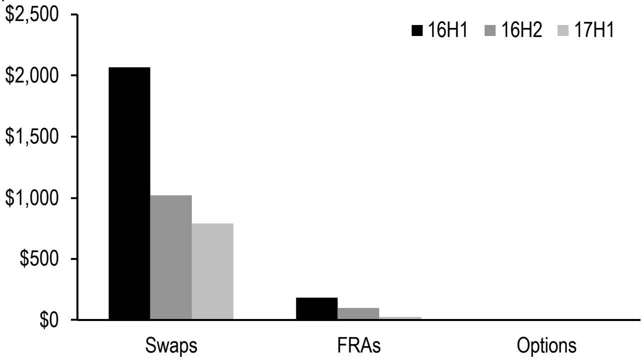
Exhibit 10: The sheet magnitude of exposure in margin posted against derivatives trades facing centralized counterparties suggests moving PAI to SOFR will deliver significant term risk to the market

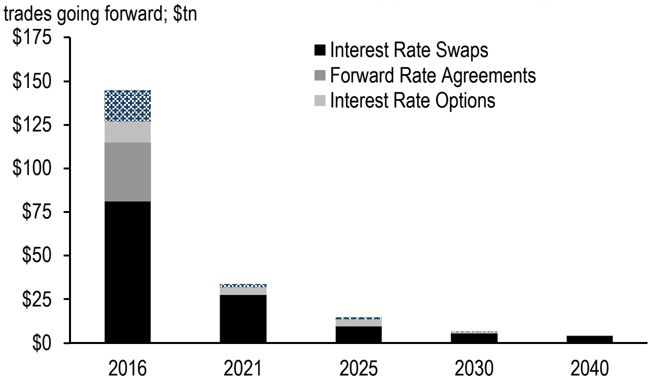
Market value of OTC derivatives facing a centralized counterparty by reporting period and instrument; $bn



Source: J.P. Morgan, BIS

Exhibit 11: A sizable amount of OTC interest rate derivatives referencing Libor will remain with us into 2021

Gross notional balance outstanding of USD-denominated OTC interest rate derivatives split into swaps, options, and FRAs by year ends assuming no new trades going forward; $tn



Note: As of year-end 2016.
Source: FRB (G-19 and Y-14), BIS, Bloomberg, CME, DTCC, Shared National Credit, J.P. Morgan, and the ARRC

Another major item addressed in the second report is potential revisions to fallback provisions in the event Libor is permanently discontinued. This is a key risk for the market: the ARRC estimates that, even if the population of Libor-indexed products is frozen as of year-end 2016, a decent fraction (~23%) will remain in 2021, with a rather long tail out to later years—the vast majority of which by gross notional is comprised of interest rate swaps (**Exhibit 11**). As we discuss in a previous publication, existing fallback provisions in derivatives covered by the ISDA Definitions are likely insufficient, premised on a temporary rather than permanent lack of Libor fixings (see *Loyal to the nightmare of our choice*, J. Younger et al., 8/25/17).

ISDA has formed several working groups separated by jurisdiction to consider potential risks to financial stability. To date, the ISDA working group covering Libor has identified appropriate conditions that should trigger a fallback and has identified SOFR as the appropriate primary fallback rate. **However, the mechanism by which the fallback spread is set and calculated is not yet finalized; though we believe ISDA will eventually introduce a protocol to amend fallback provisions, this remains a key unresolved prerequisite to move forward**.

Trade recommendations

- **Buy 2Yx10Y versus 3Mx10Y equi-notional ATMF straddles**
  The return of program sellers—cautious though they may be, fair value arguments, and historical experience all favor equi-notional calendar spreads in 10-year tails with active delta management.
  – Sell $50mn 3Mx10Y ATMF straddles (notification date 6/11/18, maturity date 6/13/28, ATMF and strike @ 2.946%, premium 231c) versus buying $50mn 2Yx10Y ATMF straddles (notification date 3/9/20, maturity date 3/11/30, ATMF and strike @ 3.048%, premium 688c). This trade requires frequent delta hedging.

- **Take profits on long 1Yx30Y 25-delta strangle versus 3Mx30Y ATMF straddles**
  We unwind this unhedged position to reposition in the above, delta-hedged structure.

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– Unwind long $100mn 1Yx30Y 25-delta strangles (notification date 1/28/2019, maturity date 1/30/2049, strikes receiver @ 2.33% and payer @ 3.14%, premium 461c) versus shorts in $100mn 3Mx30Y ATMF straddles (notification date 4/26/2018, maturity date 4/30/2048, ATMF and strike @ 2.78%, premium 536c; US Fixed Income Markets Weekly, 1/26/2018). P/L since inception: +1.1bp.

Closed trades over the past 12 months

P/L reported in bp of yield for swap spread, yield curve and misc. trades, and in annualized bp of volatility for option trades, unless otherwise specified

Duration and curve	Entry	Exit	P/L
3M Whites/Reds bear steep'rs vs 6M bear flat'rs	01/20/17	04/20/17	0.7
3M 10/20/30 high strike cond'tl belly cheapeners	01/27/17	04/27/17	0.0
Buy 3Mx10Y 1x2 payer spreads	06/02/17	08/04/17	4.9
Initiate 3Mx10Y 1x2 payer spreads	08/18/17	09/08/17	1.0
Initiate Z7/U8 FRA/OIS steepeners	09/06/17	09/29/17	2.0
1Yx1Y/1Y USD swap steepeners v NZD flatteners	10/13/17	10/27/17	8.1
Buy 3Mx2Y 1x2 receiver spreads	07/28/17	10/27/17	0.0
1Y/3Yx1Y USD swap steepeners v NZD flatteners	10/27/17	02/02/18	7.4
25-delta 3Mx5Y rec swptns v OTM 3Mx30Y recs	12/08/17	02/09/18	0.0
Options relative value	**Entry**	**Exit**	**P/L**
Sell 3Mx10Y versus 3Mx3Y swaption straddles	01/06/17	03/03/17	2.5
Buy 3Mx5Y versus 3Mx(10Yx10Y) straddles	03/10/17	03/31/17	0.6
Buy 3Mx5Y versus 3Mx30Y swaption straddles	03/03/17	05/12/17	1.6
Buy 3Mx5Y swaption straddles	05/12/17	05/19/17	2.4
Buy 10Yx1Y versus 3Yx1Y volatility	06/23/17	08/25/17	2.6
Buy 2Yx5Yx30Y FVAs	02/24/17	09/08/17	0.6
Buy 3Mx10Y 25-delta swaption strangles	07/28/17	10/27/17	(20.0)
25-delta strangles v wtd straddles in 3Mx10Y	01/19/18	02/02/18	2.5
1Yx30Y 25-d strangle vs 3Mx30Y ATM straddles	01/26/18	03/09/18	1.1
Total number of trades			**48**
Number of winners			**35**
Hit rate			**78%**

Source: J.P. Morgan

- **Stay in EDZ9 vs EDU9 and EDH0**

– Stay in 6000 contracts of the belly of an equal-weighted U9/Z9/H0 fly @ a spread of +2.5 bp of yield. This butterfly is typically listed as a package (US Fixed Income Markets Weekly 3/2/18). P/L since inception: +0.0bp.

- **Continue paying 3Yx1Y swap vs receiving 50% duration risk in 3Mx1Y and 5Yx5Y**

– Continue paying in $1bn notional of a 3Yx1Y forward-starting swap (start date 2/27/21, maturity 2/27/22, coupon 2.90%) versus receiving in $466mn of a 3Mx1Y forward-starting swap (start date 5/27/18, maturity 5/27/19, coupon 2.42%) and $110mn of a 5Yx5Y forward-starting swap (start date 2/27/23, maturity 2/27/28, coupon 3.05%) at an initial spread of 17.0 bp. Slide is

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approximately 7.3 bp over 3 months (Fixed Income Markets Weekly, 2/23/18). P/L since inception: +1.0bp.

- **Stay in 3Mx5Y 25-delta receiver versus selling pvbp-weighted amount of 3Mx30Y**
  – Stay in $100mm notional of a 3Mx5Y 25-delta receiver swaption (premium 24c, notification date 5/9/18, maturity 5/11/23, 25-delta strike 2.45%, ATMF strike 2.67%) versus $22.5mm notional of OTM 3Mx30Y receiver swaption (premium 108c, notification date 5/9/18, maturity 5/11/48, strike 2.70%, ATMF strike 2.96%), premium neutral at inception (US Fixed Income Markets Weekly, 2/9/18). P/L since inception: -5.2bp.

- **Continue receiving U8 starting 3-month fixed versus 1s and paying in a 6-month Libor FRA out of the same date**
  – Pay in $100k/bp risk of a 9/19/18 starting 6-month Libor FRA versus receiving fixed in $100k/bp risk of a 9/19/18 starting 3-month swap versus 1-month Libor @ a spread of 30 bp (US Fixed Income Markets Weekly, 2/9/18). P/L since inception: +4.1bp.

Closed trades over the past 12 months (continued)

P/L reported in bp of yield for swap spread, yield curve and misc. trades, and in annualized bp of volatility for option trades, unless otherwise specified

Duration and curve	Entry	Exit	P/L
Initiate Feb expiry FV/TY/US belly richening fly	01/06/17	02/24/17	(2.2)
3M Whites/Reds bear steep'rs vs 6M bear flat'rs	01/20/17	04/20/17	0.7
3M 10/20/30 high strike cond'tl belly cheapeners	01/27/17	04/27/17	0.0
Buy 3Mx10Y 1x2 payer spreads	06/02/17	08/04/17	4.9
Initiate 3Mx10Y 1x2 payer spreads	08/18/17	09/08/17	1.0
Initiate Z7/U8 FRA/OIS steepeners	09/06/17	09/29/17	2.0
1Yx1Y/1Y USD swap steepeners v NZD flatteners	10/13/17	10/27/17	8.1
Buy 3Mx2Y 1x2 receiver spreads	07/28/17	10/27/17	0.0
1Y/3Yx1Y USD swap steepeners v NZD flatteners	10/27/17	02/02/18	7.4
25-delta 3Mx5Y rec swptns v OTM 3Mx30Y recs	12/08/17	02/09/18	0.0
Options relative value	**Entry**	**Exit**	**P/L**
Sell 3Mx10Y versus 3Mx3Y swaption straddles	01/06/17	03/03/17	2.5
Buy 3Mx5Y versus 3Mx(10Yx10Y) straddles	03/10/17	03/31/17	0.6
Buy 3Mx5Y versus 3Mx30Y swaption straddles	03/03/17	05/12/17	1.6
Buy 3Mx5Y swaption straddles	05/12/17	05/19/17	2.4
Buy 10Yx1Y versus 3Yx1Y volatility	06/23/17	08/25/17	2.6
Buy 2Yx5Yx30Y FVAs	02/24/17	09/08/17	0.6
Buy 3Mx10Y 25-delta swaption strangles	07/28/17	10/27/17	(20.0)
25-delta strangles v wtd straddles in 3Mx10Y	01/19/18	02/02/18	2.5
Total number of trades			**51**
Number of winners			**37**
Hit rate			**77%**

Source: J.P. Morgan

- **Maintain 30-year Treasuries vs paying in 20-year swaps**

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- Continue holding $50mm of the 2.75% of Nov-47 versus paying fixed in $61.3mm of a 1/23/38 maturity swap at a coupon of 2.79%. Three month carry on this trade is 0.1bp (Fixed Income Markets Weekly 1/19/18). P/L since inception: --0.1bp.

- **Continue in 3Mx2Y ATMF receivers**
  - Stay in $400mn notional of 3Mx2Y ATMF swaption receivers (notification 4/5/18, maturity 4/9/20, ATMF strike @ 2.238%, premium 15.75bp; Fixed Income Markets Weekly 1/5/18). P/L since inception -8.0bp.
- **Maintain 6Mx6M versus 4Yx1Y 3s/6s basis**
  - Maintain $100K/bp of 6Mx6M (swap start 6/12/18, swap end 12/12/18) vs 4Yx1Y (swap start 12/12/21, swap end 12/12/22) 3s/6s basis @ a curve differential of 1.8 bp. (Fixed Income Markets Weekly 12/8/17). P/L since inception: -0.1 bp.
- **Maintain 5Y expiry 2s/10s curve straddles**
  - Stay long $1bn notional of 5-year single-look 2s/10s CMS curve straddles (observation date 10/27/22, ATMF strike @ 31.75bp, premium 52c; Fixed Income Markets Weekly 10/27/17). P/L since inception: -3.7 bp.
- **Stay long 2-year forward 3Yx30Y FVAs**
  - Stay long 2-year forward 3Yx30Y FVAs @ a forward premium of 1895bp (forward implied volatility 67.85 abp) (see The future ain't what it used to be, J. Younger et al., 10/20/17). P/L since inception: -5.3 abp.
- **Position for a widening of the 10Y 1s/3s basis**
  - Pay 1s/3s in $500mn notional of a 10-year basis swap @ 9.125 bp. Carry and slide are approximately 0.6 bp over 1 year (US Fixed Income Markets Weekly, 3/31/17). P/L since inception: -0.5 bp.
- **Stay long 1-year expiry A+10 2s/5s curve caps versus A-20 curve floors**
  - Stay long $1bn notional of 1-year single-look A+10 2s/5s CMS curve caps (observation date 3/19/18, strike 0.41%) versus $1bn notional of 1-year single-look A-20 2s/5s CMS curve floors (observation date 3/19/18, strike 0.11%) at a premium of 4.25c (US Fixed Income Markets Weekly, 3/17/17). P/L since inception: -3.3 bp.
- **Continue paying in 5Yx25Y versus 5Yx10Y FF/Libor basis swaps**
  - Continue paying in $29mn notional of 5Yx25Y FF/Libor basis swaps versus receiving in $61mn of a 5Yx10Y FF/Libor basis swap at a spread (defined as 5Yx25Y - 5Yx10Y FF/Libor basis) of 2.5bp. Slide is approximately 0.25bp over 6 months. (US Fixed Income Markets Weekly, 3/17/17). P/L since inception: -0.3 bp.
- **Stay positioned for a widening of the 2Yx1Y 3s/6s basis**
  - Stay in $500mn notional of a 2Yx1Y 3s/6s widener. (US Fixed Income Markets Weekly, 9/23/16). P/L since inception: -8.5 bp of yield.

Note: new trades and unwinds reflect Friday COB levels unless otherwise stated and all others reflect Thursday COB levels

Recent Weeklies	
9-Mar-18	Weekly: Bigger cheaper faster tighter
23-Feb-18	Weekly: What's the deal with FRA/OIS?
9-Feb-18	Weekly: Well that escalated quickly
2-Feb-18	Weekly: Re-pricing term premium in a (relatively) orderly fashion

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26-Jan-18	Weekly: Back in the straddle again
19-Jan-18	Weekly: Sisyphus or Pandora?
5-Jan-18	Weekly: Let's not get ahead of ourselves
15-Dec-17	Weekly: Mr. Libor's wild ride
8-Dec-17	Weekly
10-Nov-17	Weekly: Little Plastic Castle
3-Nov-17	Weekly: Curve ball
27-Oct-17	Weekly: Don't know much about convexity
20-Oct-17	Weekly: America's Next Top Banker
13-Oct-17	Weekly: Taking a breather, but still in the game
29-Sep-17	Weekly: Big Hero 6
22-Sep-17	Weekly: That was easy
15-Sep-17	Weekly: What kind of bear is best?
8-Sep-17	Weekly: Puttering out or gathering steam?
25-Aug-17	Weekly
18-Aug-17	Weekly: Sittin' on the dock of the bay
4-Aug-17	Weekly: When it rains it pours
28-Jul-17	Weekly: Knowing how way leads on to way
14-Jul-17	Weekly: SOMA morghulis
7-Jul-17	Weekly: All together now
Annual Outlooks	
22-Nov-17	Outlook: Plate Tectonics
22-Nov-17	Outlook: Do androids dream of electric bonds?: Machine learning in interest rate markets
22-Nov-17	Outlook: A Q&A on Global Interest Rate Benchmark Reform
22-Nov-17	Outlook: Revisiting Regulation: US Fixed Income Markets 2018 Outlook
22-Nov-17	Outlook: The Fed's Undoing Project: Updated thoughts on a smaller SOMA
Recent Special Topic Pieces	
9-Feb-18	Valuing convexity in the long end of the yield curve
9-Jan-18	Overnight selling and Taiwanese corporate demand
21-Dec-17	Funding markets remain interesting at year-end
14-Dec-17	Making sense of Libor's mysterious rise: It boils down to regulations
20-Oct-17	The future ain't what it used to be: Onshore funding in Taiwan, systematic risk, and USD interest rate volatility
20-Sep-17	The Fed giveth, and the Fed taketh away: The longer-run impact of normalizing monetary policy on funding markets
7-Sep-17	Groundhog Day: What a short-term suspension of the debt ceiling means for USD funding trades
25-Aug-17	Still a dribble, not a flood: The impact (or lack thereof) of repatriation on FX and fixed income markets
25-Aug-17	Loyal to the nightmare of our choice: A quick review of Libor fallbacks
4-Aug-17	Every possible series of events is happening, all at once: Extracting market-implied policy rate outcomes from OIS and vol markets
28-Jul-17	There is no "I" in LIBOR: Benchmark reform gets a deadline
28-Jul-17	Absolutely FASBulous: Reviewing the implications of recent changes to hedge accounting standards

Source: J.P. Morgan

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