# Interest Rate Derivatives

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- … but heading into year-end, a cyclical drop in depth and HFT-provided liquidity are a risk to short gamma positions
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- Limited scope for Taiwanese insurers to add foreign assets next year, higher FX hedging costs and a lack of trading gains to window dress earnings suggest downside risk to callable supply in 2019; replace short gamma/long vega positions with outright longs in 5Yx30Y volatility
- We review the performance of the Treasury futures rolls since the publication of our Z8/H9 Rollover Outlook

**US Fixed Income Strategy**

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**See page 13 for analyst certification and important disclosures.**

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## Vega is the new gamma

US rates bull-flattened this week amidst volatility in equity markets, as the 2s/5s curve dipped into inverted territory. Despite these risk-off dynamics, by several metrics rates mostly kept their composure. **First**, day-on-day price moves are actually more muted now than at this point a month ago. **Second**, implied vol—particularly in the vega sector—remains near its recent lows, seemingly insulated from elevated implieds in riskier assets (**Exhibit 1**). **Third**, market microstructure continues to support orderly price action, as both market depth and price impact remain near the lows of the cycle (**Exhibit 2**). **Finally**, for all the fireworks in risky assets, the data flow has remained mostly devoid of sharp objects, and a mild disappointment in headline employment data notwithstanding, we continue to look for quarterly hikes from the Fed against the backdrop of a robust labor market and above-trend growth heading into 2019 (albeit in an increasing data-dependent fashion; see *Milquetoast jobs report doesn't settle any debates*, M. Feroli, 12/7/18).

**Thus while rates vol appears optically cheap, it's not obvious fundamentals suggest a catalyst for an imminent, wholesale repricing. Instead it's worthwhile to consider which sectors are perhaps poised for outperformance, and under what circumstances.**

For starters, while microstructure has been consistently supportive of lower volatility, year-end cyclicals present a chink in the armor. Heading into the December holiday period, **market depth drops substantially each year—by on average 50% over the past 10 years** (**Exhibit 3**). **This thinning out of the order book comes amidst a simultaneous drop in the share of trading undertaken by principal trading firms via high-frequency activity** (HFTs), which we've recently shown may help contribute to orderly price action in the Treasury interdealer market (see *Fast and Furious*, M. Salem et al., 11/20/18). Both developments would

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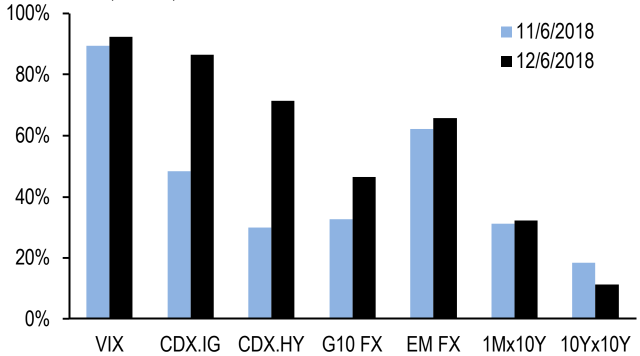
suggest markets are primed for choppier price action heading into year-end. **In practice however, the period is marked by a dramatic slowdown in trade volume**, which slows by nearly 75%, on average, into the holiday closure (Exhibit 3). **On net, we find this leads to no consistent cyclical in either price impact or resultant implied volatility (Exhibit 4), making the "December effect" a poor trading signal.**

**Exhibit 1: US rates vol remains modestly priced, despite elevated levels in risky assets in general and equities in particular ...**

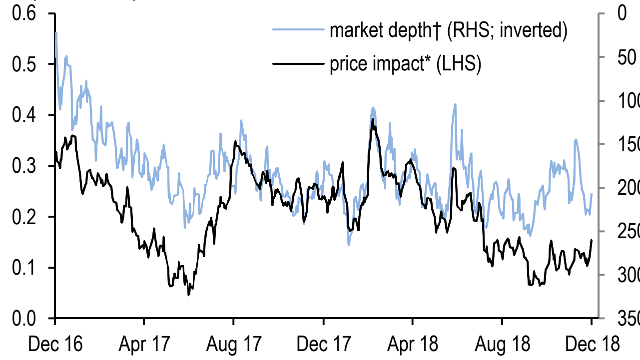
5-year percentile of various ATM implied volatilities as of current (12/6/18) and one month earlier (11/6/18); %




Source: J.P. Morgan

**Exhibit 2: ... and rates market liquidity remains near its most constructive levels of the current cycle**

Price impact* (LHS; ticks/$100mn) and market depth† (RHS; $mn) in the hot-run 10-year Treasury interdealer market



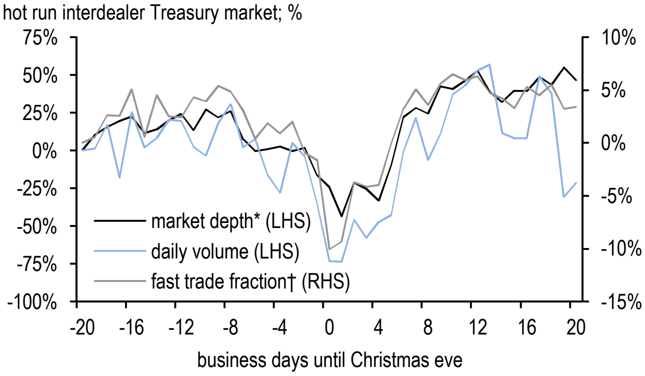

* Defined as fraction of $5mn multi-trade flows in current 10s that occurs in under a hundredth of a second, computed on a daily basis across all hours in the interdealer market.

† Market depth is the average size of the top 3 bids/offers in on-the-run Treasuries; we take a snapshot of depth at the onset of every $100mn in notional traded, and thus form a moving volume-weighted average

Source: J.P. Morgan, Brokertec

**Exhibit 3: Market depth pulls back into the December holiday, and HFT strategies also dip as a fraction of total activity; but trade volume likewise drops substantially ...**

Percent change in market depth*, daily trade volume and fast trade flows (a measure of HFT activity) heading into the December holiday break for the 10-year hot run interdealer Treasury market; %

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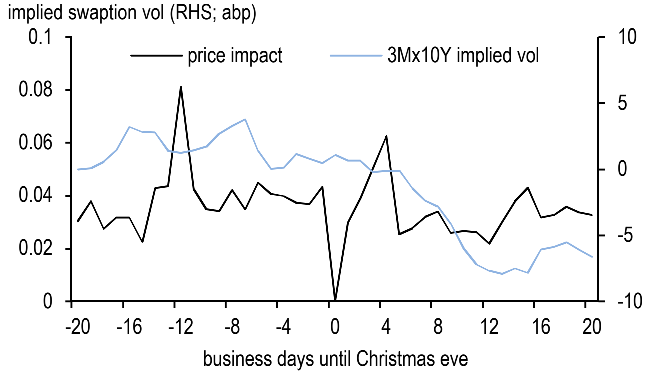
† Defined as fraction of $5mn multi-trade flows in current 10s that occurs in under a hundredth of a second, computed on a daily basis across all hours in the interdealer market.

Source: J.P. Morgan, Brokertec

**Exhibit 4: ... and on net—in a normal year—neither price impact nor short-dated implieds tend to rise into the holiday period**

Price impact in hot-run 10-year Treasuries (LHS; ticks/$100mn) and 3Mx10Y implied swaption vol (RHS; abp)




Note: price impact defined as the observed average price move per $100mn of traded volume. The sign of the move is corrected for flow imbalance (positive for a price increase when buys outnumber sells, and negative when sells outnumber buys). For details, see Drivers of price impact and the role of hidden liquidity, J. Younger et al., 1/13/17.

Source: J.P. Morgan, Brokertec

That said, a shallow order book coupled with a falloff in algo activity suggests the market becomes rather vulnerable to re-pricing into year-end. **And should recent tremors in the stock market metastasize into a more meaningful repricing of**

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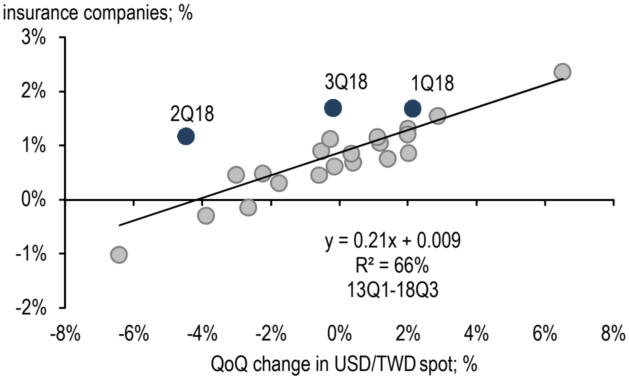
**risk and expectations, these cyclicals suggests the market will be in poor shape to digest such large flows without deterioration in orderly price action.** In other words, though owning gamma around year-end is not profitable on average, seasonals do point to increased vulnerability to external shocks.

**We therefore like adding long volatility exposure, but prefer doing so in longer expiries where endogenous structural factors are also supportive**. This principally revolves around the dimming supply outlook for callable bonds as demand from Taiwanese life insurance continues to ebb. In our 2019 Outlook, we highlighted rising FX hedging costs as motivated regulatory shifts to limit potential acquisitions of foreign assets by these investors. Based on these and other considerations, we expect long-dated volatility supply to decline a further ~30% or so next year, which would be a more than 60% decline relative to the peak in 2016.

**More recent quarterly disclosure from these investors reinforces this view, and potentially points to downside risk relative to our forecast**. **First, FX hedging costs in 3Q 2018 were significantly elevated relative to expectations given moves in spot, consistent with prior reporting periods (Exhibit 5)**. This reflects both a wider front-end yield differential as well as greater scarcity of onshore U.S. dollar funding, both of which have only worsened since late September and as the Fed is likely to hike once more in December and the USD/TWD cross-currency basis has widened.

**Exhibit 5: A widening front-end yield differential has caused FX hedging costs to rise relative to expectations given moves in TWD spot exchange rates …**

Average quarterly FX hedging costs across the four largest public Taiwanese life insurance companies; %

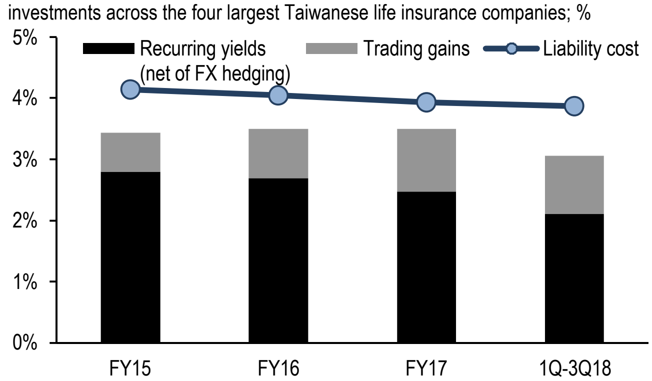



Note: Includes Cathay, Fubon, China Life and Shin Kong.

Source: J.P. Morgan, company filings

**Exhibit 6: … while further declines in recurring yields relative to liability cost point to a worsening ALM mismatch, particularly in light of recent equity market losses**

Investment income split into recurring yields (net of FX hedging costs) and trading gains (equities and fixed income) versus liability cost, weighted average by total investments across the four largest Taiwanese life insurance companies; %




Note: Includes Cathay, Fubon, China Life and Shin Kong.

Source: J.P. Morgan, company filings

**Second, local equity market underperformance has likely reduced risk appetite among Taiwanese life insurance companies**. Over the past few years, realized trading gains—driven primarily by equities—have played a significant and increasing role in bridging the ALM gap, making up nearly a third of reported investment returns YTD even as recurring yields have declined amidst relatively stable liability cost (**Exhibit 6**). Since the end of the third quarter, however, the TAIEX is down ~12% and yields on high-grade long-end financials are 23 bp higher. This first and foremost suggests more limited opportunities to window dress earnings with realizing gains. Given that callables have significantly underperformed corporates in this move—an indicative 30nc5 financial accreter issued in January this year has cheapened nearly $19 versus losses YTD versus closer to $6 on a

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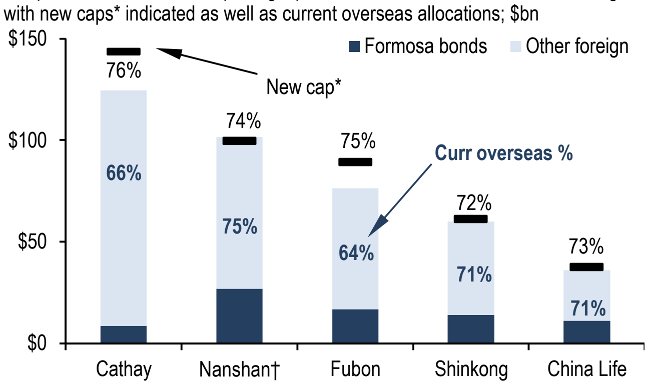
comparable regular-way bond—one could see investors second guessing such structures going forward.

**Finally, we have the impact of the new regulations themselves**. The new caps imposed by the FSC limit holdings of foreign securities to 145% of prior limits (typically 45%) with an adjustment for FX policies written (for details, see *Taiwan financials*, J. Huang, 8/2/18). Based on 3Q disclosure, several large insurers are already very close to that cap (**Exhibit 7**). In fact, one firm recently commented in its recent quarterly earnings announcement that these limits will cause them to step back from the Formosa market in general for the time being. It's also worth noting that though Cathay and Fubon have more breathing room, they have also historically been less active in the Formosa bond market. If we assume insurers will look to maintain a modest buffer (~3-5%) relative to the cap going forward, we estimate the industry has ~$30bn of room to add foreign currency assets in their current portfolio, not all of which would go into callables. This suggests some downside risk to our forecast of $20bn gross issuance of Formosa-style callables next year (~$14bn new acquisitions, ~$6bn reinvestment demand).

**Exhibit 7: Regulatory limits are closer to binding for some larger insurers, particularly those who have historically been more active in the Formosa bond market**

Foreign currency assets held by the five largest Taiwanese life insurance companies as of 3Q 2018 reporting, split** into Formosa bonds and other foreign, with new caps* indicated as well as current overseas allocations; $bn




* For details on calculation methodology see discussion in *Taiwan financials*, J. Huang, 8/2/18.

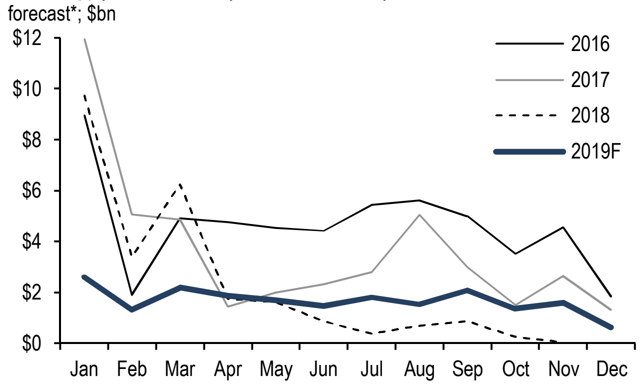
† Nanshan FX policy exposure based on J.P. Morgan estimates and informed by China Times news coverage from April 2018.

** Based on reporting by China Times, April 2018.

Source: J.P. Morgan, company filings, UDN, China Times, Bloomberg, company filings

**Exhibit 8: The seasonal pattern of callable issuance next year should resemble 2015-16 with a noticeable but far less pronounced January effect and much lower overall supply**

Gross supply for Formosa-style callable bonds by month, 2016-18 actual and 2019 forecast*; $bn




* We assume 2019 follows the average of 2015 and 2016 monthly issuance patterns. Includes both new acquisitions and reinvestment demand. For details on our forecast methodology see Interest Rate Derivatives, *US Fixed Income Markets 2019 Outlook*, 11/20/18.

Source: J.P. Morgan

**In the meantime, if anything long-dated vols are down since we last published**. We believe this likely reflects a combination of dealer hedging flows, painful memories of this time last year, and, in particular, some set-up for issuance in January. On the latter point, we believe markets are likely to be disappointed: though issuance is likely to pick up in the New Year, it is unlikely to be as concentrated as was the case in 2017 and 2018, and notionals should be materially lower as well (**Exhibit 8**). This should make for a much slower January than we have grown used to in recent years—a bullish setup for vega. **Combined with dVega/dRate effects we highlight in our 2019 Outlook, we like owning the bottom right of the grid.**

**To date we have expressed this with short gamma, long vega positions such as FVAs and calendar spreads. Given the risks to gamma highlighted above, we**

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**recommend unwinding these positions, and replacing them with outright long delta-neutral straddles in 5Yx30Y** (see Trade recommendations).

## Z8/H9 Treasury futures rollover post-mortem

In general, our bearish bias on weighted calendar spreads across the futures complex performed well over the Z8H9 rollover period, with all but one calendar spread cheapening in the month following our *Z8/H9 Treasury Futures Rollover Outlook*. **Exhibit 9** summarizes roll performance along with our main views heading into the roll.

**Exhibit 9: Summary of Treasury Futures calendar spread performance**

| | Front Price | Calendar Spread | HR* | View | Main drivers | Chg in wtd. cal. sprd.** | Pub Price | Pub Sprd |
|---|---|---|---|---|---|---|---|---|
| WN | 151-05 | -0-26 /32nds | 967 | Bearish | AM positioning, 10s/30s flattener, wildcard, repo | -1.3 | 148-22 | -0-22 /32nds |
| US | 139-30 | 0-20 /32nds | 995 | Bearish | AM positioning, repo | 0.4 | 137-12 | 0-20 /32nds |
| UXY | 126-09 | 0-03+/32nds | 972 | Bearish | AM positioning, wildcard, curve, repo | -0.4 | 124-16+ | 0-05+/32nds |
| TY | 119-12+ | 0-04 /32nds | 978 | Bearish | AM positioning, curve, repo | -2.1 | 117-31+ | 0-07+/32nds |
| FV | 112-30+ | 0-01 /32nds | 943 | Bearish | AM positioning, optionality, curve, repo | -0.6 | 112-01+ | 0-04 /32nds |
| TU | 105-16 | 0-00+/32nds | 820 | Bearish | Other reportable positioning | -0.5 | 105-06+ | 0-03 /32nds |

* HR denotes recommended hedge ratio on back contract with respect to 1,000 front contracts. ** Change in weighted spread taken from the date of the futures outlook up until when more than 80% futures have been rolled on each respective contract.

Source: J.P. Morgan

**The roll progressed slightly faster than recent cycles on the shorter futures contracts, and more slowly at the longer end (Exhibit 10)**. For both TU and FV, ~3% more open interest had transitioned from the front to back contracts within 10 days of the first delivery date, compared to the average of the previous 7 cycles. By contrast, 6% less open interest had migrated on US and WN. In our rollover outlook, we had noted that net positioning by both asset managers, and 'other reportables' were signaling stretched longs on a standardized basis, contributing to our bearish bias across the complex. Over the roll period, net asset manager positioning predominantly remained around stretched longs, with most contracts showing little change over the month of November, with the exception of the "classic" Bond (**Exhibit 11**).

We had also suggested that funding rates could play some role, with the pricing of a less aggressive year-end turn potentially contributing a bearish bias via a steepening term structure. Although the recent sell-off has removed much of the tightening previously priced into 2019, flattening the OIS strip, the term structure of GC/FF steepened over the roll period. We believe this was primarily related to a widening year-end turn driven by G-SIB funding pressures, though as we note in a piece Monday, FX forward markets have recently priced out much of that stress (see *Funding markets diverge in a yellow wood*, Younger et al, 12/3/2018). In light of this dynamic, and the currently elevated implied repo in TYH9, we have recommended buying 10Y swap spreads vs TY invoice swap spreads.

**The WN weighted calendar spread cheapened 1.3 ticks, consistent with wildcard option value.** Long asset manager positioning and a flattening CTD curve also likely contributed to the cheapening calendar spread.

**The US weighted calendar spread richened 0.4 ticks,** contrary to our view for a modest cheapening in this spread. We noted that asset manager net longs, whilst strongly positive at the time we published our outlook, declined significantly over the month of November, consistent with this bullish outcome.

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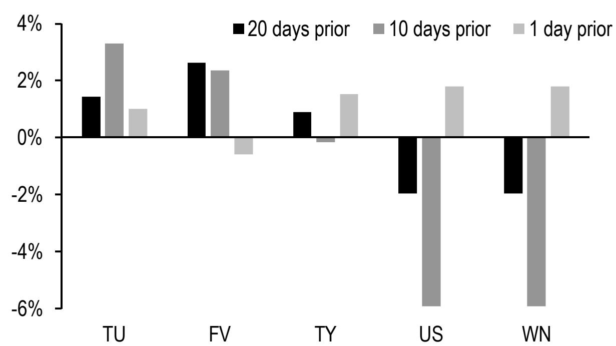
**The UXY weighted calendar spread cheapened 0.4 ticks, consistent with asset manager net positioning and repo term structure**. Wildcard optionality, whilst small in value on UXY, may also have contributed to the cheapening bias, with a noticeable pickup in early delivery relative to recent cycles.

Exhibit 10: The roll progressed slightly faster than usual for shorter maturity futures, but more gradually at the long end

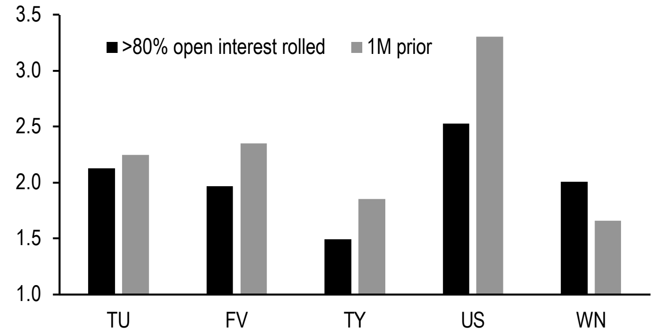
Open interest on back futures contract as a share of total; Z8/H9 roll vs average of previous 8 cycles; %




Source: J.P. Morgan

Exhibit 11: Asset manager net longs were fairly stable over the roll period, with the exception of US

2Y rolling z-score; std devs




Source: J.P. Morgan, CFTC

**The TY weighted calendar spread cheapened 2.1 ticks, consistent with asset manager net positioning and repo term structure**.

**The FV weighted calendar spread cheapened 0.6 ticks, consistent with asset manager net positioning, repo term structure and wildcard optionality.** The CTD curve also flattened modestly on a duration weighted basis, implying a small cheapening bias to the weighted calendar spread.

**The TU weighted calendar spread cheapened 0.5 ticks, consistent with the term structure of repo and 'other reportables' net longs.** The front/back CTD flattening was also more notable at the short end of the curve, contributing a cheapening bias to the weighted calendar spread.

## Trading recommendations

- **Buy delta-neutral straddles in 5Yx30Y**
  Rates volatility has remained quite low, particularly in vega, and markedly lower callable issuance and redemptions in January coupled with vulnerable rates market microstructure into year-end compel us to turn outright long vega.
  - Buy $16mn notional 5Yx30Y ATMF straddles (notification 12/7/23, maturity 12/11/53, ATMF strike @ 3.02%, premium 2087c). This trade requires frequent delta hedging.
- **Take profits on long 5Yx30Y versus a beta-weighted amount of 1Yx30Y volatiltiy**
  Upcoming liquidity cyclicals coupled with tremors in risky assets suggest removing short exposure in the gamma sector, and instead going outright long vega (see above).
  - Stay long $16mn notional 5Yx30Y ATMF straddles (notification 10/18/23, maturity 10/20/53, ATMF strike @ 3.28%, premium 1990c) versus selling $9.9mn notional (31% vega risk) 1Yx30Y ATMF straddles (notification 10/18/19,

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maturity 10/22/49, ATMF strike @ 3.29%, premium 965). This trade requires frequent delta hedging (Fixed Income Markets Weekly 10/19/18). Profit since inception: +2.5abp.

**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

| Trade | Entry | Exit | P/L |
|---|---|---|---|
| **Spreads and basis** | | | |
| 3-month 2s/30s curve caps in EUR versus USD | 09/22/17 | 12/08/17 | 0.6 |
| Buy U9/Z9/H0 fly vs M9/U9/Z9 fly | 05/04/17 | 12/08/17 | 1.0 |
| Sell FV versus OIS | 01/05/18 | 02/02/18 | 1.1 |
| Initiate M8 1s/3s wideners | 01/05/18 | 02/23/18 | 4.9 |
| Short 2.25% Nov-27 vs UXYH8 contract | 01/26/18 | 02/23/18 | (2.0) |
| 5Yx25Y versus 5Yx10Y FF/Libor basis swaps | 03/17/17 | 03/16/18 | 0.4 |
| Buy 6Mx6M versus 4Yx1Y 3s/6s basis | 12/08/17 | 03/23/18 | 0.3 |
| Receive U8x3M v 1s vs pay 6mL FRA | 02/09/18 | 03/23/18 | 8.2 |
| 10Y 1s/3s basis | 03/31/17 | 03/23/18 | 0.2 |
| 5s/30s swap spread curve steepeners | 03/23/18 | 04/20/18 | 3.9 |
| Reds versus 3Mx3M FF/Libor basis | 02/23/18 | 05/11/18 | (7.1) |
| 2s/10s swap spread curve steepeners | 04/20/18 | 05/11/18 | 3.4 |
| Rec Z8x6M v 1s vs pay Z9x1Y v 6s | 03/23/18 | 05/18/18 | 5.3 |
| M8 FRA/OIS | 06/08/18 | 06/20/18 | (1.3) |
| U8 FRA/OIS widener | 05/18/18 | 07/13/18 | 1.5 |
| Sell OTM July TY calls vs matched swaptions | 05/04/18 | 07/27/18 | 0.0 |
| Sell U8x3M 1s/OIS | 07/13/18 | 07/27/18 | 1.2 |
| Sell 30Y spreads hedged for the 10s/30s curve | 08/03/18 | 09/14/18 | 1.0 |
| Position for a widening of the 2Yx1Y 3s/6s basis | 09/23/16 | 09/21/18 | (13.0) |
| Initiate 1s/6s widener in 6Mx1Y | 03/23/18 | 09/21/18 | (10.0) |
| Sell 3Y Treasuries vs OIS | 06/15/18 | 09/28/18 | 0.9 |
| Z8 FRA/OIS widener | 07/13/18 | 09/28/18 | (8.8) |
| Pay November FOMC OIS | 09/28/18 | 10/19/18 | 2.1 |
| Buy 2Yx2Y 1s/3s basis | 06/08/18 | 10/19/18 | 1.5 |
| Buy 30Y maturity matched swap spreads | 10/12/18 | 11/09/18 | 0.6 |
| Buy EDZ8 versus FV invoice spread wideners | 10/19/18 | 11/21/18 | 0.4 |
| Long May-44s/WNZ8 Treasury futures basis | 10/12/18 | 11/21/18 | 0.1 |

Source: J.P. Morgan

- **Unwind long 2-year forward 3Yx30Y FVAs**
  Vulnerable microstructure into year-end coupled with tremors in risky assets compel us to unwind short gamma exposures.
  – Unwind 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: -1.6abp.

- **Unwind 3M-expiry 2s/10s/30s conditional receiver flies to montetize a pop in term premium**
  We unwind at expiry of the options.

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– Unwind short $100mn notional of a 3Mx10Y OTM receiver (notification 11/26/18, maturity 11/28/28, strike @ 2.841%, ATMF strike @ 2.910%, premium 72.4c) versus buying $262mn notional of a 3Mx2Y ATMF receiver (notification 11/26/18, maturity 11/30/20, ATMF strike @ 2.8676%, premium 20c) and $9.6mn notional of a 3Mx30Y ATMF receiver (notification 11/26/18, maturity 11/30/48, ATMF strike @ 2.921%, premium 224c). This trade is constructed to be premium neutral at inception with risk weights of 0.577, -1.0 and 0.228 in 2-, 10- and 30-year tails, respectively (Fixed Income Markets Weekly 8/24/18). Profit since inception: -0.2bp.

**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 |
|---|---|---|---|
| 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 |
| 1-year exp A+10 2s/5s curve caps v A-20 floors | 03/17/17 | 03/19/18 | (3.3) |
| 30Y Treasuries vs paying in 20-year swaps | 01/19/18 | 03/23/18 | 2.2 |
| 3Yx1Y swap v rec 50% dur risk in 3Mx1Y,5Yx5Y | 02/23/18 | 04/20/18 | 3.9 |
| 3Mx5Y 25d rec vs pvbp-weighted amt of 3Mx30Y | 02/09/18 | 05/09/18 | 0.0 |
| Sell U9 Eurodollar outright | 05/18/18 | 08/03/18 | 1.5 |
| Buy 3Mx2Y payer on USD vs AUD | 06/15/18 | 08/17/18 | 2.1 |
| 6M-expiry 1x2 2s/10s floor spreads @ zero | 04/20/18 | 08/17/18 | 1.8 |
| EDZ9 vs EDU9 and EDH0 | 03/02/18 | 09/14/18 | 0.2 |
| Buy 3Mx2Y 1x2 receiver spreads | 08/24/18 | 10/12/18 | 0.4 |
| Buy EUR versus USD 3Mx30Y ATMF payers | 07/27/18 | 10/29/18 | (17.8) |
| Buy 6M 5s/30s versus 2s/10s ATMF curve caps | 07/06/18 | 11/02/19 | 4.2 |
| **Options relative value** | **Entry** | **Exit** | **P/L** |
| 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 |
| 2Yx10Y versus 3Mx10Y ATMF straddles | 03/09/18 | 06/01/18 | (7.0) |
| Buy 3Mx2Y vs 3Mx30Y straddles | 06/01/18 | 07/06/18 | 3.8 |
| Buy 5Y expiry 2s/10s straddle | 10/27/17 | 07/27/18 | 8.0 |
| Aug RX vs TY ATM delta-neutral straddles | 07/06/18 | 07/27/18 | 18.3 |
| 3M caps on 2s/10s in EUR vs USD | 06/08/18 | 09/10/18 | 1.0 |
| Long 20Yx10Y vs 5Yx25Y vega-neutral straddles | 05/18/18 | 10/19/18 | 1.7 |
| Long 10Yx10Y vs 2Yx1Y delta-neutral straddles | 04/20/18 | 10/19/18 | 2.2 |
| Sell 3Mx10Y ATMF straddles | 10/12/18 | 11/09/18 | 12.0 |
| Buy 2-year forward 3Yx30Y FVAs | 10/20/17 | 12/07/18 | (1.6) |
| **Total number of trades** | | | **51** |
| **Number of winners** | | | **38** |
| **Hit rate** | | | **79%** |

Source: J.P. Morgan

- **Stay short H9 versus Z9 FRA/OIS**

– Stay short $100k/bp of H9 FRA/OIS versus buying the same in Z9 FRA/OIS @ a spread of 1.25 bp (*Funding markets diverge in a yellow wood*, J. Younger et al., 12/3/18). Profit since inception: -1.0bp.

- **Stay received H9x3M EUR/USD cross-currency basis**

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– Continue receiving $25k/bp of EUR/USD H9x3M cross-currency basis at -7.25bp (*Funding markets diverge in a yellow wood*, J. Younger et al., 12/3/18). Profit since inception: -1.6bp.

- **Stay long 10Y versus TY invoice swap spreads**

– Stay short 1,000 contracts of TYH9 versus receiving in $125mn notional of a 9/30/2025 maturity swap @ an invoice spread of 9.2 bp, and buy $90mn notional of the current 10-year note (3.125% of Nov-28) versus paying in $89mn notional of a spot starting 11/15/2028 maturity swap @ a spread of 5.2 bp (*Funding markets diverge in a yellow wood*, J. Younger et al., 12/3/18). Profit since inception: +0.6bp.

- **Stay short OTM USD vs AUD 6Mx2Y payers**

– Stay short US$200mn notional of 6Mx2Y ATMF+20bp payers (notification 5/9/19, strike 3.44%, premium 12.87c) vs buying A$282mn notional of 6Mx2Y ATMF+10bp (notification 5/9/19, strike 2.29%, premium 12.8c; Fixed Income Markets Weekly 11/9/18). P/L since inception: -1.6bp.

- **Stay received 1Yx1Y HKD versus USD swaps**

– Pay fixed on $1bn notional of 3.29% 1Yx1Y USD swap (swap start 11/6/19, swap end 11/6/20), versus receiving 7.8bn HKD of 3.05% 1Yx1Y HKD swap (swap start 11/6/19, swap end 11/6/20) at an initial spread of -26.2bp. 3-month rolldown on this trade is 6bp (Fixed Income Markets Weekly 11/2/18). P/L since inception: +0.6bp.

- **Stay long 2s versus OIS**

– Stay in $500mn notional of 2.75% Sep 2020s and pay fixed in $499mn notional of a 9/30/2020 OIS @ a matched maturity Treasury/OIS spread of -13.875bp. Carry and slide on this trade are both roughly flat over a 1-month horizon (Fixed Income Markets Weekly 9/28/18). Profit since inception: -7.2bp.

- **Stay short EDZ1 versus EDZ0 Eurodollars**

– Stay short 1000 contracts of EDZ1 vs EDZ0 @ -4 bp (Fixed Income Markets Weekly 9/28/18). Profit since inception: +1.0bp.

- **Stay in Reds/Blues conditional bear steepeners**

– Stay long $1bn notional of a 3Mx(3Yx1Y) ATMF OTC midcurve payer (notification 12/11/18, swap start 12/13/21, maturity 12/13/22, ATMF strike @ 2.98%, premium 11.7c) versus selling $990mn notional of a 3Mx(1Yx1Y) ATMF OTC midcurve payer (notification 12/11/18, swap start 12/11/19, maturity 12/11/20, ATMF strike @ 3.08%, premium 11.8c). This trade is structured to be premium neutral at inception (Fixed Income Markets Weekly 9/7/18). Profit since inception: -0.3bp.

- **Stay short Z9 Eurodollar vs. selling Z8xReds ATM midcurve puts**

– Sell 4000 Z9 Eurodollar contracts @ a price of 96.96 versus selling a matched notional of Z8xReds midcurve puts (OTM strike 96.875, expiry 12/14/18, premium 10bp). (Fixed Income Markets Weekly 8/3/18). Profit since inception: +2.5 bp.

- **Continue using OTM 3s/10s/30s flies to monetize richer term premium in a rally**

– Stay short $100mn notional of a 1Yx10Y 22-delta receiver (notification 4/29/19, maturity 5/1/29, strike @ 2.537%, premium 69.6c) versus buying $172mn notional of a 1Yx3Y 25-delta receiver (notification 4/29/19, maturity 5/1/22, strike @ 2.620%, premium 28.0c) and $12.4mn notional of a 1Yx30Y 25-delta receiver (notification 4/29/19, maturity 5/1/49, strike @ 2.582%, premium 175c). This trade is constructed to be premium neutral at inception (U.S. Fixed Income Markets Weekly, 4/20/18). P/L since inception: +0.8bp.

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| Recent Weeklies | |
|---|---|
| 9-Nov-18 | Weekly: Like sands through the hourglass |
| 2-Nov-18 | Weekly: Where have all the hedgers gone? |
| 26-Oct-18 | Weekly: Red October |
| 19-Oct-18 | Weekly: Libor is at it again, but have the forwards gone too far? |
| 12-Oct-18 | Weekly: Stay thirsty my friends |
| 28-Sep-18 | Weekly: The Fed funds market tip-toes into the Rubicon |
| 21-Sep-18 | Weekly: Team of rivals |
| 14-Sep-18 | Weekly: Issuance, pensions, and long-end spreads |
| 7-Sep-18 | Weekly: All low vol markets are alike ... |
| 24-Aug-18 | Weekly: Apogee |
| 17-Aug-18 | Weekly: Beach Reads |
| 3-Aug-18 | Weekly: The long and short of it |
| 27-Jul-18 | Weekly: Lost in translation |
| 13-Jul-18 | Weekly: Revisiting basis positioning |
| 6-Jul-18 | Weekly: Cloudy with a chance of meatballs |
| 22-Jun-18 | Mid-year Outlook: We're all front-end traders now |
| 15-Jun-18 | Weekly: Hello… Jerry |
| 8-Jun-18 | Weekly: What a day that was |
| 1-Jun-18 | Weekly: Maledetta Primavera |
| 18-May-18 | Weekly: Free fallin' |
| 11-May-18 | Weekly: We are never ever (ever) getting back together |
| 4-May-18 | Weekly: The new normal for convexity hedgers |
| 27-Apr-18 | Weekly: Cover your tail |
| 20-Apr-18 | Weekly: Hot, flat, and crowded |
| 13-Apr-18 | Weekly: Libor, deficits, deregulation, and the swap spread curve |
| 23-Mar-18 | Weekly: What's the next leg of the U.S. dollar funding trade? |
| 16-Mar-18 | Weekly: Life is demanding, without understanding |
| 9-Mar-18 | Weekly: Zen and the art of gamma maintenance |
| 2-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 |
| 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 |
| **Annual Outlooks** | |
| 20-Nov-18 | Interest Rate Derivatives 2019 Outlook: Powaqqatsi |
| 20-Nov-18 | Outlook: Fast and furious: The link between rapid trading and volatility in U.S. rates markets |
| 20-Nov-18 | Outlook: An update on global interest rate benchmark reform |
| 20-Nov-18 | Outlook: The Fed's undoing project: an update |
| **Recent Special Topic Pieces** | |
| 3-Dec-18 | Funding markets diverge in a yellow wood |
| 21-Sep-18 | #SquadGoals: Stacking and voting with machine learning classifiers |
| 29-Aug-18 | Cash, corporate cash, and Libor |
| 17-Aug-18 | Revisiting Taiwanese insurance demand |
| 16-Aug-18 | TradeRunner: Ensemble learning-driven systematic trading in rate markets |
| 1-Jun-18 | Stutter step: What the Fed's IOER adjustment means for FRA/OIS |

| | |
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| 18-May-18 | Repatriation manifestation: A cross-market update on repatriation and the TCJA |
| 18-May-18 | Good things come to those who wait: Wildcard option |
| 3-May-18 | Hedging 1s/3s Libor basis exposure in US CLO equity |
| 6-Apr-18 | Liquid lunch: Exploring drivers of liquidity in the U.S. Treasury market |
| 4-Apr-18 | Hello, SOFR!: FAQs on the new benchmark |
| 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 |

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