Interest Rate Derivatives

Vega supply outlook and reviewing the U0/Z0 Treasury futures roll

US Fixed Income Strategy
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- For the first time in roughly a decade, foreign asset demand from Taiwanese life insurance companies appears to be slowing relative to the current account
- Increased holdings on unhedged overseas assets left these investors exposed to increased FX volatility in March …
- … and after some profit-taking, they appear to have been forced by dwindling FX reserves to hedge with increasingly expensive NDFs; most high-grade USD credit hedged in this way is now negative carry
- Without additional onshore USD liquidity from the central bank, which to date appears not to have been forthcoming, it will be difficult for life insurers in Taiwan to grow their overseas holdings
- At best, we expect foreign asset allocations to be maintained over the medium-term, though continued growth of the insurance industry in Taiwan should support demand overall
- A record year for Formosa-style callable issuance was nearly matched by redemptions; YTD and going forward demand for yield-enhancement product should be driven almost entirely by reinvestment
- We expect a relatively heavy year of redemptions in 2021 as well, but note the contraction of existing callables has taken back several years of vega supply and we continue to like expiry curve steepeners in the bottom right of the grid as a medium-term trade
- This U0/Z0 Treasury futures roll was characterized by earlier than normal rolling behavior, but relatively muted price action along most of the complex, with the exception of WN.

See page 14 for analyst certification and important disclosures.

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Vega supply outlook and reviewing the U0/Z0 Treasury futures roll

As we head towards the fall issuance season, Taiwanese demand is once again in focus for credit and volatility markets. Before delving into the details and medium-term outlook, we consider the secular evolution of this investor group. As we have noted in the past (see *An update on Taiwanese demand for fixed income in 2020*, J. Younger et al., 1/10/20 and references therein), fundamentally the growth of non-official foreign currency holdings can be viewed as the partial outsourcing of FX management to the private sector. Accordingly, **roughly two-thirds of the more than $800bn increase in net foreign assets held in Taiwan over the past 10 years can be accounted for in the growth of local life insurance overseas portfolios (Exhibit 1)**. This stands in sharp contrast to other export-driven economies with comparable BOP imbalances, where the vast majority of foreign assets are held by the public sector and invested primarily in Treasuries and agency MBS (see *Life comes at you pretty fast*, J. Younger et al., 5/8/19). Most of those dollars are invested in fixed income, specifically callable and regular-way corporates, which makes this channel a key source of demand for long-end high-grade paper as well as still by far the largest supply of vega risk in interest rate options markets.

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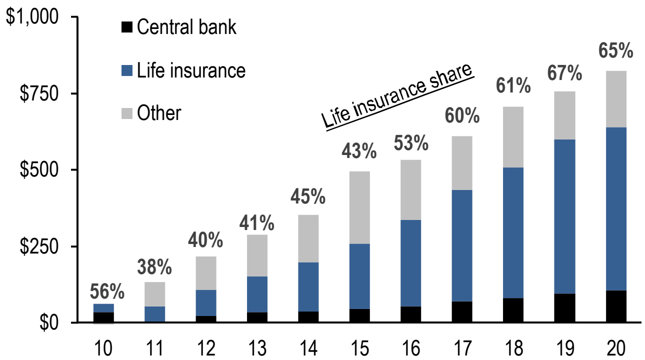
Exhibit 1: For the first time in a decade, life insurance overseas assets dropped as a fraction of cumulative inflows of USD to Taiwan

Cumulative change in net foreign asset position* for Taiwan split into central bank FX reserves, life insurance overseas holdings†, and other; $bn



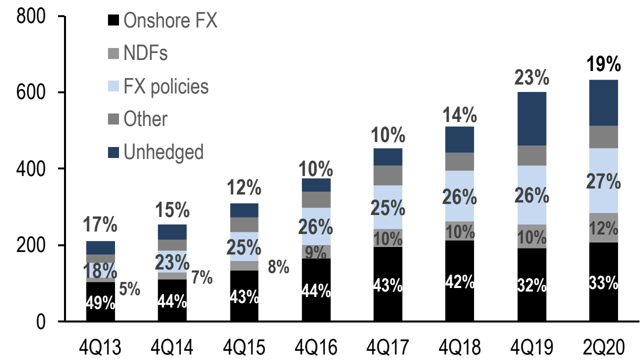
* Official data provided annually through 2019, and extrapolated to Q2 2020 using TWD NEER performance and Q1 and Q2 cumulative current account surplus.

† Data through June 2020, including onshore ETFs holding foreign currency assets owned predominantly by life insurance companies.

Source: J.P. Morgan, CBC, FSC

Exhibit 2: ... though onshore FX swaps remain the most important source of USD liquidity for Taiwanese life insurers, they came into this year with historically high unhedged holdings

Life insurance overseas assets, split by hedging instrument; $bn



Note: Unhedged includes onshore ETFs with foreign currency assets. Data from corporate filings covers 60% of total overseas assets held by life insurance companies. We scale those numbers to get an industry-wide estimate.

Source: J.P. Morgan, company filings, FSC

How that foreign currency finds its way to the private sector remains a key determinant of the outlook for their overseas demand. Based on recently released Q2 disclosure from the four largest publically listed life insurers, onshore FX swaps are still the largest source of USD liquidity at 35% of the total overseas portfolio (**Exhibit 2**). That is, however, notably down relative to a few years ago when it was closer to 45%. This can only be partially explained by increased issuance of USD policies, which currently stand at 27% of the overseas portfolio (compared to 25-26% since 2015). Rather, **it reflects a material pick-up in unhedged holdings (both as foreign currency assets and in local ETF format), which made up nearly a quarter of the total as of the end of last year**.

This increase in unhedged holdings left insurers more exposed as FX volatility picked up starting in March. Initially, they benefited from both the rapid appreciation of the U.S. dollar and outperformance of fixed income. This likely led to some profit-taking, which shows up in their income statement in the form of increased realized gains from that portfolio (**Exhibit 3**). **It is unlikely, however, that all of the reduction in the portion of overseas assets left unhedged came from such sales**. Thus it stands to reason that the extended decline in USD/TWD starting from late-May to present was rather painful. **The impact is clear in the depletion of FX reserves held against these positions, which are now at their lowest level in quite a while relative to (already reduced) unhedged overseas investments (Exhibit 4)**. This likely incentivized life insurers to increase their hedge ratio via the NDF market[1], which led to a sharp rise in carry costs relative to onshore FX swaps. At this point, hedging overseas fixed income in this way is likely negative carry.

Going forward, this means overseas demand from Taiwanese life insurance will be tied even more closely to provision of USD liquidity via onshore FX swaps.

[1] Regulations allow for more tactical NDF-based hedges, but onshore FX swaps are paired with a particular overseas asset as of purchases and rolled until it is sold or redeemed.

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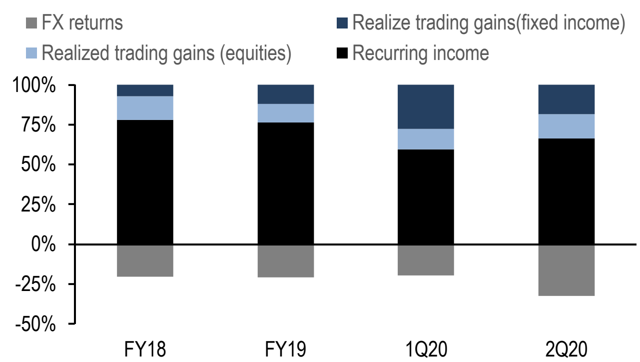
Based on recent comments and disclosure, the Central Bank of China (CBC) is likely on one side of a significant fraction of this market: as of earlier this year, they were providing around $100bn in direct lending and an additional $33bn via the local banking system (i.e., foreign currency deposits). **If all these dollars found their way to life insurance companies, this would represent roughly two-thirds of their onshore FX swaps**. Since then, however, the official sector FX swap position appears to have been quite static, and if anything shows modest declines over the past few months. Though this notably does not include foreign currency deposits at local banks, it does suggest **CBC has not likely significantly increased onshore U.S. dollar liquidity—at least via the FX swap channel**.

Exhibit 3: We see some evidence of profit-taking in the first quarter, as realized gains on fixed income investments made up a larger than usual share of net income

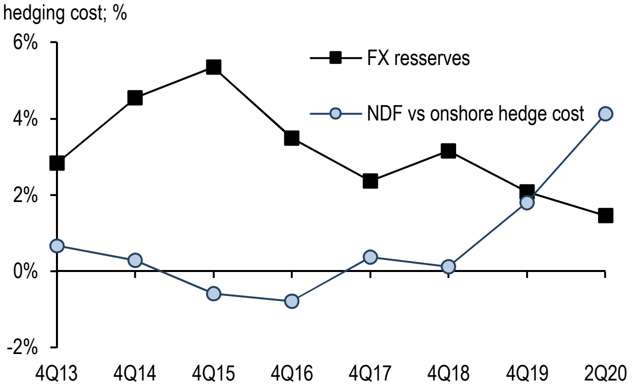
Fraction of net income by component and period; %



Note: Covers Cathay, Fubon, Shn Kong, and China Life.
Source: J.P. Morgan, company filings

Exhibit 4: As TWD appreciation cut into FX reserves, life insurers were likely forced to manage their overall hedge ratio with NDFs, resulting in much more punitive carry compared to onshore

FX reserves as a % of unhedged overseas assets (excluding onshore ETFs) and average difference between NDF and onshore FX swap USD/TWD annualized hedging cost; %



Note: Covers Cathay, Fubon, Shn Kong, and China Life. FX swap hedges are annualized from 3M forward points.
Source: J.P. Morgan, company filings

Given very punitive carry on NDFs and already low levels of FX reserves, without access to significant additional onshore liquidity provided by the central bank, life insurers looking to increase their overseas allocation are left with few attractive options. They could attempt to source more retail funding by writing more foreign currency policies, which would offer the added benefit of creating more room relative to regulatory caps. But this segment of the market has proven difficult to grow in recent years relative to other sources. Lower carry proxy hedges (e.g., SGD, JPY, KRW) are another option, but maintaining effectiveness can be a challenge. **Even onshore ETFs, which are treated as domestic assets for regulatory purposes, have struggled to grow this year**, likely reflecting in part risk management considerations, since the underlying currency mismatch cannot be hedged and leads to significant tracking error.

Given the underperformance of callables as rates rallied, it comes as no surprise that there has been relative little interest to increase allocations. That is not to say flows in this space have been light; it has, in fact, been the busiest year on record for the Formosa bond market. This is, however, almost entirely replacement demand, with gross issuance nearly matched by cash returned as outstanding deals are called—reinvestments are a component of demand most years, this is in sharp contrast to other low-rate periods like 2016 (**Exhibit 5**).

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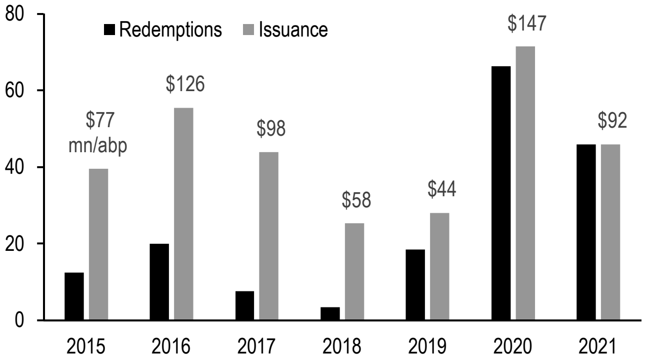
Ongoing redemptions have kept demand for Formosa-style callables robust all year. At this point we have seen more than $60bn YTD ($127mn per abp in dollar vega risk) and should exceed $70bn ($148mn per abp) by year-end, the heaviest issuance calendar in the admittedly short history of this market. That said, in contrast to the 2015-17 period, this was nearly matched by redemptions as outstanding deals reach their call dates deeply in the money (**Exhibit 5**). **Considering a likely preference for more liquid structures and names amidst the above-discussed limitations on increasing foreign asset allocations more generally, this suggests issuance of Formosa-style callables should continue to be dominated by investment demand going forward**.

Exhibit 5: Though 2020 saw the heaviest gross supply of Formosa-style callables on record, this was nearly matched by redemptions, making those purchases and should remain true next year …

Redemptions* and gross issuance of Formosa-style callables by year; $bn

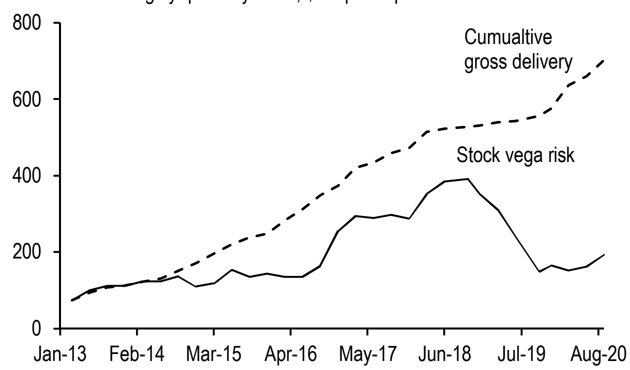


* Redemptions for 2020 based on actual through August, and model estimates for September through year-end by call date. All zero coupon redemptions are adjusted for accretion assuming indicative JULI Financial credit spreads. Those projections include a credit spread adjustment along the lines of previous work (see Interest Rate Derivatives, *US Fixed Income Markets Weekly*, 4/17/20). We model Formosa-style callables as a Bermudan style cancelable swap struck at par as of the announcement date.

Source: J.P. Morgan, Bloomberg

Exhibit 6: … but even as supply is likely to stay heavy the rally in rates and contraction in the outstanding stock of callables has opened up quite a bit of space to add new risk

Cumulative gross vega supply and the overall vega risk of the outstanding stock of callables on a roughly quarterly basis; $mn per abp



Source: J.P. Morgan, Bloomberg

Looking further ahead, we expect 2021 to be another year of heavy redemptions: roughly $46bn in total supply ($92mn per abp). This is furthermore only modestly sensitive to moves in yields: even a 100 bp sell-off (due to rising risk-free rates or wider high-grade spreads) would only reduce this figure by ~25%. That said, **it is important to bear in mind that the decline in rates has led to a contraction in the overall stock of callables as well**. This means short vega delivery to the street. In aggregate, we find the last few months have offset years of heavy callable supply (**Exhibit 6**). Assuming capacity among dealer and the buy side has not been reduced by a similar amount, this would imply ample room to absorb this new supply. **Thus even with a relatively heavy calendar next year we have a bullish outlook for the vega sector, and continue to recommend expiry curve steepeners in the bottom right of the grid**.

Futures rollover post-mortem

This U0/Z0 Treasury futures roll was characterized by earlier than normal rolling behavior, but relatively muted price action along most of the complex. Early rolling by asset manager net longs imparted a small bearish bias on weighted calendar spreads (**Exhibit 7**). Most benchmark yield curves were unchanged throughout the roll period. The one standout exception was the WN contract, with traded 2 ticks bullish over the roll period, and continued to richen significantly more after the bulk

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of contracts had been rolled. Ultimately, post-close price impact remained low over the course of the roll period, providing little incentive to hold front shorts to monetize wildcard optionality. Meanwhile, the 10s/30s curve steepened notably over the course of the week, including 2bp after the Jackson Hole conference.

Exhibit 7: Summary of Treasury Futures calendar spread performance

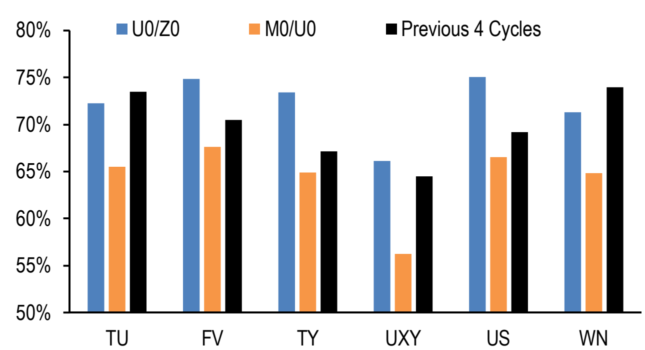
	Front Price	Calendar Spread	HR*	View	Main drivers	Chg in wtd. cal. sprd.**	Pub Price	Pub Sprd
WN	219-04	-3-13 /32nds	933	Bearish	Wildcard	1.970	218-12	-3-15 /32nds
US	178-05	1-21 /32nds	1001	Bearish	AM/OR positioning	0.046	177-26	1-21 /32nds
UXY	157-13+	-2-03 /32nds	913	Bullish	AM positioning, micro-curve RV	-0.479	156-30+	-2-03+/32nds
TY	139-10	0-04+/32nds	936	Bullish	AM positioning, micro-curve RV	0.148	138-31	0-04+/32nds
FV	125-24	-0-04 /32nds	899	Bullish	AM/OR positioning, micro-curve RV	-0.427	125-20	-0-03+/32nds
TU	110-12+	-0-01+/32nds	809	Bullish	AM/OR positioning	-0.042	110-12	-0-01 /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. Futures rollover publication date: 8/14/20, roll performance date: 8/27/20.
Source: J.P. Morgan, Bloomberg

Across the futures complex, every contract was rolled faster than the previous roll period, and rolling was in line with or faster than recent historical averages (**Exhibit 8**). Over the actual roll period, asset manager net longs drifted lower in the front contracts, with open interest being most heavily reduced in FV (**Exhibit 9**). One notable development was the reduction in asset manager net shorts in TY over the roll period, particularly since the net short position in this contract has already been trimmed noticeably since March.

Exhibit 8: The roll progressed somewhat faster this quarter compared to last across the complex

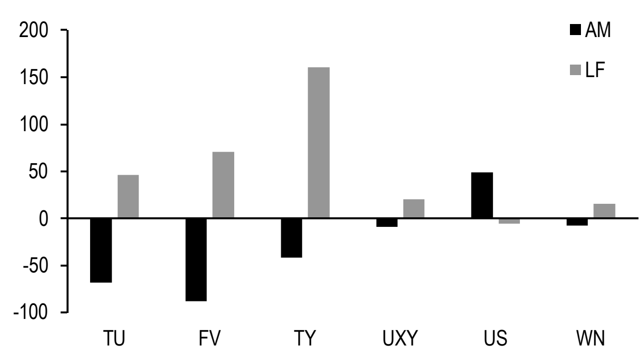
Open interest rolled into the back contract as of 4 days prior to first notice; %



Source: J.P. Morgan, CME

Exhibit 9: Asset managers became less net long in the front end over the roll period while the longer end was mixed

Change in positioning from rollover publication to 80%+ rolled; '000s of contracts



Source: J.P. Morgan, CFTC

A plausible argument for earlier than usual rolling behavior could be a desire to have rolled prior to the Jackson Hole conference. This could conceivably just amount to conservatism around the potential for large outright curve moves, which might drive price moves in the weighted calendar spread, along with a lack of conviction as to the direction of these curve moves. It might also allude to a more general concern around liquidity being worse off the back of close-outs in outright futures positions around the event date. In fact, we find that open interest between 4 and 3 days before the first notice date did decline much more than usual in the longer maturity US and WN contracts, while the decline was actually smaller for TU and FV (**Exhibit 10**). This suggests there is some support for the idea that liquidity in aggregate was weaker out of the conference date, and that some early rolling activity was motivated by this.

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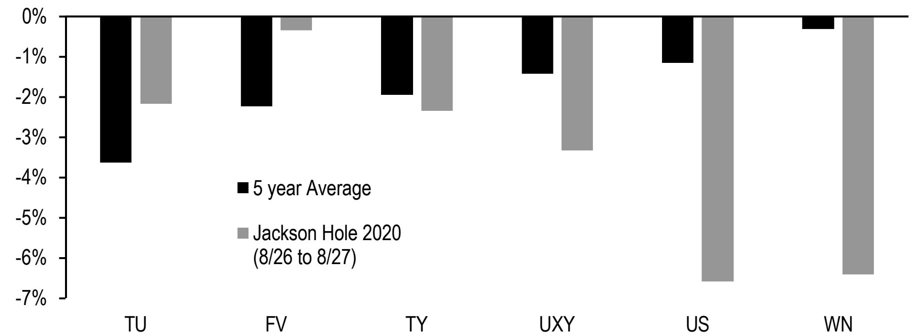
Exhibit 10: Aggregate open interest declined much more than usual in the long end following Jackson Hole this year

Change in open interest between 4 and 3 days before the first notice date (%)



Source: J.P. Morgan

The **WN** weighted calendar spread traded **bullish**. We had advocated for bearish positioning to monetize what appeared to be a particularly attractive wildcard option.

In **US**, the weighted calendar spread traded **neutral**. Asset managers became more net long despite already being quite long.

In **UXY** the weighted calendar spread traded **slightly bearish**. Positioning was little changed by the end of the roll period, and more contracts were rolled early compared to the previous roll period.

The **TY** weighted calendar spread traded **neutral**, with the decline in AM net longs being offset by an increase in Other Reportable longs.

The **FV** weighted calendar spread traded **slightly bearish**, reflecting reduced asset manager net longs and only modest micro curve steepening.

In **TU,** the weighted calendar spread traded **neutral**, consistent with our view. Absent clear signals via repo or other relative value considerations, we held a mildly bullish view for this contract.

Trading recommendations

- **Stay received 6M CHF/USD cross currency basis**
  - Stay received $25k/bp of 6M CHF/USD cross currency basis (swap end: 3/01/21) at -15.25bp (Fixed Income Markets Weekly 8/28/2020, P/L since inception: +0.6bp).

- **Stay paid 2Yx1Y versus 10Yx10Y Libor/SOFR**
  - Stay paid $25k/bp of 2Yx1Y (swap start: 6/25/22, swap end: 6/25/23) versus received $25k/bp of 10Yx10Y (swap start: 6/25/30, swap end: 6/25/40) Libor/SOFR basis at a spread of 3.75bp. (An important week for benchmark reform 6/24/20,P/L since inception: +5.1bp)

- **Stay short 2Yx30Y vs 5Yx30Y ATMF vega-neutral straddles**
  - Stay short $25mn 2Yx30Y ATMF straddles (notification: 6/6/22, maturity: 6/8/52, strike: 1.33) at 2078c versus buying 5Yx30Y ATMF straddles (notification: 6/6/25, maturity: 6/10/55, strike: 1.4) at 2840c. This trade requires frequent delta hedging. (Fixed Income Markets Weekly 6/5/20). P/L since inception: +0.7abp.

- **Stay long 2Yx1Y vs 5Yx5Y 3s/6s tenor basis**

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– Pay 100k/bp 2Yx1Y 3s/6s (swap start: 5/5/22, swap end: 5/5/23) receiving 100k/bp 5Yx5Y (swap start: 5/5/25, swap end: 5/5/2030) at a spread of 5bp (Fixed Income Markets Weekly 5/1/2020, P/L since inception: +2.7bp)

- **Stay received 2s versus matched SOFR**

– Stay short $500mn current 2s (0.375% Mar-22s) versus receiving $502mn maturity-matched SOFR OIS at 16.5bp (Fixed Income Markets Weekly 4/24/2020, P/L since inception: -6.5bp)

- **Stay long 5Yx5Y 1s/3s basis**

– Initiate $250k/bp of 5Yx5Y 1s/3s wideners @ 7 bp (Unpacking the collapse in intermediate 1s/3s tenor basis 4/20/20, P/L since inception: +4.0bp)

- **Stay received maturity-matched 10-year swap spreads**

– Buy $100mn of the Feb 2030s versus paying fixed in $101mn notional of an 2/15/30 swap @ a matched maturity swap spread of -6.5bp (Fixed Income Markets Weekly 3/27/20). P/L since inception: -8.6bp.

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			
Sell 6Mx3M 1s/OIS basis	12/14/18	03/08/19	3.6
Buy SERH9 versus FFH9	01/25/19	03/08/19	1.5
H9/M9 FRA/OIS steepeners	01/25/19	03/08/19	1.5
Buy 2s versus OIS	09/28/18	05/10/19	(0.3)
Buy 5-year maturity matched swap spreads	01/04/19	05/10/19	(3.7)
2Yx5Y Treasury/OIS wideners	05/17/19	05/31/19	(3.9)
Buy M9 vs Z9 FRA/OIS	03/22/19	06/19/19	(5.0)
Sell current 5s vs OIS	05/31/19	07/26/19	7.3
Receive 3Mx1Y OIS vs paying 3Yx1Y IRS	07/12/19	09/06/19	(31.0)
3s/7s Tsy/OIS/spread switch vs SOFR/FF futures	08/02/19	09/06/19	2.2
10Y swap spread wideners	09/13/19	10/04/19	2.7
5s/OIS narrower	10/18/19	11/01/19	4.0
Pay 4Yx1Y FF/Libor	01/04/19	12/13/19	(7.1)
Sell 10Yx10Y versus 1Yx1Y 3s/6s	05/17/19	12/13/19	0.8
FF/Libor narrowers 10Yx20Y vs Greens	07/26/19	12/13/19	0.4
Receive EUR/USD 3Mx3M OIS/OIS basis	09/06/19	12/13/19	9.0
Sell 2-year Treasury/OIS	11/22/19	12/13/19	(3.5)
Sell M0 FRA/OIS	01/03/19	02/07/20	5.5
Buy H0x6M 3s/6s	01/03/20	03/06/20	3.1
Sell M0 vs U0 FRA/OIS	01/31/20	03/06/20	(17.2)
Short TU vs SOFR OIS	02/26/20	03/27/20	8.0
TYH0 invoice spread narrowers	01/31/20	03/27/20	10.1
Long SERK0 vs FFK0	02/07/20	03/27/20	2.0
Receive 2Yx1Y EUR/USD cross currency basis	02/20/20	04/23/20	6.3
Pay 1Yx1Y FF/SOFR basis	03/18/19	04/24/20	0.1
Receive CAD/USD 3Mx3M FX/OIS basis	04/23/20	05/08/20	7.0

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Receive JPY/USD 1Yx1Y OIS/OIS basis	04/23/20	05/08/20	6.0
Sell the WN M0/U0 futures roll	05/15/20	05/29/20	0.1
Buy M0 3s/6s tenor basis	05/01/20	06/19/20	(3.1)

Source: J.P. Morgan

- **Stay long 10Y SOFR/FF basis**
  – Pay $50k/bp 10Y SOFR-float versus receiving FF at 1.625bp (Fixed Income Markets Weekly 1/31/20). P/L since inception: +0.7bp.

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
1Yx 2s/10s/30s conditional rec fly (term premium)	02/08/19	06/07/19	0.2
Sell the ATM strike of 1x2 call spreads on EDU0	01/04/19	06/07/19	0.9
15Y/25Yx15Y swap yield curve flatteners	04/26/19	07/26/19	4.1
1Y5Y/5Y vs 35Y/5Y swap yield curve flatteners	08/23/19	01/10/20	7.9
Sell FFJ1	05/08/20	05/29/20	2.4
3M Expiry 2s/10s conditional bear steepeners	01/31/20	05/08/20	(2.5)
6M Expiry 5s/30s conditional bull steepeners	06/05/20	8/28/20	7.8
Options relative value	**Entry**	**Exit**	**P/L**
Sell 3Mx10Y ATMF straddles	04/05/19	05/03/19	3.3
Buy 3Mx(2s/10s) ATMF caps vs bull steepeners	02/08/19	05/09/19	5.5
Buy 3Mx10Y 1x2 payer spreads	04/05/19	05/10/19	1.3
Buy 3Mx30Y 1x2 receiver spreads	05/10/19	05/31/19	10.2
Buy 25-delta receivers vs selling OTM TYN9 calls	05/31/19	06/21/19	3.9
Sell 3Mx2Y volatility	06/06/19	06/28/19	0.8
Sell straddles versus strangles in 3Mx2Y	06/28/19	07/26/19	0.2
Sell 1Yx(2s/10s) corr'tn w/ vega hedged straddles	07/12/19	09/06/19	(16.0)
Sell 25-delta strangles in 1Yx1Y	08/16/19	10/04/19	(3.6)
Add shifted 1x2 receiver spread in 1Yx1Y	06/21/19	10/25/19	1.9
Sell 25-delta 1Yx1Y vs 6Mx30Y receivers	08/16/19	10/25/19	1.6
Sell 3Mx2Y ATMF swaption straddles	10/25/19	11/15/19	3.6
Sell 3Mx10Y payer spreads	01/03/20	01/31/20	5.0
Buy 6Mx(10/20/30Y) fly via OTM payers	09/13/19	02/24/20	(0.1)
30Y/10Yx10Y swap yield curve flattener	01/24/20	03/06/20	21.3
Buy 1Yx(2/10/30Y) fly via OTM receiver	01/31/20	03/27/20	4.4
Short 1x2 OTM EDZ1 call spreads	09/27/19	03/27/20	7.4
Short 3Yx27Y vs 5Yx25Y B/E switch	03/29/19	04/17/20	2.8
Buy 3Mx5Y vs 5Yx5Y ATMF straddles	04/17/20	05/29/20	(9.5)
10Y/20Yx10Y vol flatteners	12/13/19	06/05/20	3.7
Total number of trades			**56**
Number of winners			**42**
Hit rate			**75%**

Source: J.P. Morgan

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- **Stay paid 10Yx10Y AUD/USD cross currency basis**
  – Pay $25k/bp of 10Yx10Y AUD/USD cross currency (swap start: 1/27/30, swap end: 1/27/40) at a spread of +41.5bp (Fixed Income Markets Weekly). P/L since inception: -12.8bp.
- **Stay long 2Yx1Y 1s/3s basis**
  – Stay long $100k/bp 2Yx1Y 1s/3s basis at 10.75bp (swap start: 9/17/2021, swap end: 9/17/2022) (Fallback to earth 9/16/19). P/L since inception: -2.3bp

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

Recent Weeklies	
28-Aug-20	Weekly: Looking ahead to year-end in funding markets
21-Aug-20	Weekly: Liquidity holding in well, but seasonals point to narrower spreads
14-Aug-20	Weekly: Roll over, Beethoven
31-Jul-20	Weekly: The COVID-19 Crisis: Collected Works
24-Jul-20	Weekly: A deeper dive into discounting flows
10-Jul-20	Weekly: A machine learning approach to classifying feature importance in short-term spread models
26-Jun-20	Weekly: You can't stand the heat
19-Jun-20	Weekly: What comes after the once in a billion years flood?
12-Jun-20	Weekly: Microstructure is holding in amidst choppy price action
5-Jun-20	Weekly: Revisiting the Ides of March as vol picks up
29-May-20	Weekly: Liquidity in 20s is off to a good start, and points to a steeper tail curve
15-May-20	Weekly: Revisiting cheap gamma in Treasury/futures basis
8-May-20	Weekly: The fox, the hedgehog, and the Fed funds futures market
1-May-20	Weekly: 3mL may be headed lower, but the term structure of Libor should remain steep
24-Apr-20	Weekly: 2s are rich—oh IOER they?
17-Apr-20	Weekly: What next for volatility?
3-Apr-20	Weekly: Liquidity or bust! But will it save the bond?
27-Mar-20	Weekly: Revisiting the front end, benchmark reform and bank duration demand
20-Mar-20	Weekly: Out of the frying pan, into the fire
13-Mar-20	Weekly: All eyes on Treasury futures basis
6-Mar-20	Weekly: Impossible to walk in this muck. No footing at all.
28-Feb-20	Weekly: Markets struggle to feed the convexity beast
21-Feb-20	Weekly: Renewed Formosa supply continues to flatten the long end
7-Feb-20	Weekly: Bills, bonds and basis... oh my
31-Jan-20	Weekly: The return of convexity hedging
24-Jan-20	Weekly: Cow tools
10-Jan-20	Weekly: Spreads are a bit narrower, but stay focused on FRA/OIS
3-Jan-20	Weekly: What can we learn from year-end 2019?
13-Dec-19	Weekly: Taking stock as year-end approaches
1-Nov-19	Weekly: Liquidity is never what it seems to be
25-Oct-19	Weekly: Where, if anywhere, is year-end overpriced?
18-Oct-19	Weekly: A preliminary estimate of Q3 GSIB scores points to a disorderly year-end
4-Oct-19	Weekly: Elevated volatility is two parts political uncertainty, two parts flows, and one part liquidity
27-Sep-19	Weekly: Derivatives are too skeptical of the Fed intervention
20-Sep-10	Weekly: Don't fear the repo
13-Sep-19	Weekly: Dynamic hedgers are long, banks are short, and both are buyers of spreads
6-Sep-19	Weekly: Room for USD funding to tighten further at year end

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23-Aug-19	Weekly: For cheap gamma, look to the long end
16-Aug-19	Weekly: Lognormality is coming… but convexity hedging is here
26-Jul-19	Weekly: The big bang and the basis
12-Jul-19	Weekly: The best defense is a good offense
28-Jun-19	Weekly: So fly - like a G20
21-Jun-19	Weekly: The Summer of discontent
14-Jun-19	Weekly: Second verse, same as the first
7-Jun-19	Weekly: Simmer down now
31-May-19	Weekly: Is bank convexity hedging lying in wait?
17-May-19	Weekly: Don't call it a fallback
10-May-19	Weekly: What's past is prologue
3-May-19	Weekly: Do not attempt to adjust the picture
26-Apr-19	Weekly: The long and the short of it
Annual Outlooks	
26-Nov-19	Interest Rate Derivatives 2020 Outlook: Walk the line
Recent Special Topic Pieces	
1-Sep-20	Volatility Risk and the U.S. Presidential Election
11-Aug-20	All that you can't leave behind: Thinking about drivers of the Treasury futures roll
24-Jul-20	The lasso you know, the better: Nowcasting GSIB scores with high frequency economic and financial time series
14-Jul-20	If it's not one thing, it's another: The payment system risks of a repo shock
29-Jun-20	Scary stories to tell in the dark: How COVID-19 nearly took down one of the safest trades, and global markets with it
24-Jun-20	An important week for benchmark reform: Dealing with tough legacy contracts and the risk of early fallback triggers
12-Jun-20	Considering convexity flows in a peculiar market: Mortgages, variable annuities, and pension funds
12-Jun-20	Cryptocurrency takes its first stress test : Digital gold, pyrite, or something in between?
11-Jun-20	Say Hello, Wave Goodbye: The fading influence, sooner or later, of Fed swap lines
5-Jun-20	The Life Aquatic : Deeper depth in the Treasury market microstructure
3-Jun-20	Interest rate derivatives: 1Q20 GSIB filings point to pressure coming from almost every corner
29-May-20	The inadvertent regulatory pressure of Fed interventions: Scope for turn funding premia to build absent further relief
22-May-20	What if repo is not in-scope for SLR relief?: Interpreting the interim final rule through the lens of U.S. GAAP accounting terminology
21-May-20	You say you want a revolution: Considering central bank digital currency
18-May-20	The spice must flow: SLR relief, war finance, and swap spreads
14-May-20	US Treasury Futures Rollover Outlook: June 2020/September 2020
12-May-20	Last week tonight: A further look at the role of flows and microstructure in pricing negative rates
7-May-20	Le deluge: Revisiting the impact of Treasury supply on long-end swap spreads
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23-Apr-20	FX swap lines and revealed preference for dollar liquidity
23-Apr-20	BattleBots: Regime change edition
20-Apr-20	Unpacking the collapse in intermediate 1s/3s tenor basis
13-Apr-20	Flattening the (bid/offer) curve
7-Apr-20	What if GSIB rules are relaxed as well?
2-Apr-20	What about bonds?

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20-Mar-20	Funding market interventions, done 3 ways
16-Mar-20	Turning the liquidity intervention to 11
12-Mar-20	Why we should all care about Treasury futures basis
10-Mar-20	When market risk meets operational risk: Potential consequences of widespread work-from-home on funding and interest rate markets
10-Mar-20	FRA/OIS takes ISDA fallback spreads for a ride: Funding market volatility raises the prospect of a shift in fallback methodology
5-Mar-20	Did US rates markets just experience a mini 'Flash Rally'?
5-Mar-20	This spike in SOFR should be very short-lived
3-Mar-20	Market punditry catches up to the market
26-Feb-20	A dollar funding market riddle: What is bullish for SOFR and bearish for 2s?
20-Feb-20	There is one market where USD funding stress could reemerge
24-Jan-20	New benchmarks, same old cross currency basis?
10-Jan-20	The long and winding road to positive long-end spreads
10-Jan-20	Taiwanese demand for US fixed income in 2020
6-Dec-19	How does year-end affect the equity market?: The risk of a funding squeeze
4-Dec-19	Special delivery: How delivery options can substantially distort rich/cheap metrics for US Treasury futures
22-Nov-19	3Q19 GSIB scores imply a high likelihood of significant pullback in exposures into year-end
5-Nov-19	Rates market liquidity through data releases
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21-Oct-19	Automated Navel Gazer 1.0: Trading signals and a Research Duration Sentiment Index (RDSI) from NLP modeling of sell-side research
07-Oct-19	Blazing trails, breaking chains: The FHLB system's exit from Libor
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16-Jul-19	Quick thoughts on the big bang
28-Jun-19	Wherefore art thou, Libor? Recruiting deep learning to improve forecasts
28-Jun-19	Fallback to the Future: XCCY basis implications of Libor fallbacks
18-Jun-19	Big Little Turns
20-May-19	An update on Libor discontinuation and SOFR development
13-May-19	U.S. Interest Rates: Market Structure Update 2Q19
26-Apr-19	The SOFR they come, the harder they fallback
12-Apr-19	Far from the shallow now?: Liquidity provision by high frequency participants in U.S. rates

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