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North America Fixed Income Strategy
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# Interest Rate Derivatives

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- We are bullish the weighted calendar spread for US, TY, FV and TU, and bearish WN and UXY
- Benchmark reform liquidity conditions remain subdued, particularly in the OTC market
- A bimodal distribution of daily trade volumes since March points to bifurcated liquidity in OTC, while futures volumes on the exchange have picked up
- Pre-cessation triggers should align fallbacks on ISDA derivatives with cash products, mitigating basis risk between securities and derivatives hedges under a non-representativeness event
- mREIT duration gaps continued to narrow in 1Q20 as yields declined, pushing further into negative territory…
- … and with P/B ratios languishing at multi-year lows, they are more likely biased to add duration via derivatives

**US Fixed Income Strategy**

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**See page 14 for analyst certification and important disclosures.**

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## Revisiting cheap gamma in Treasury/futures basis

After the mania of last week, which saw many Fed funds futures contracts trade above par, as well as a likely very impactful Quarterly Refunding announcement from Treasury, markets appeared to take a breather this week. That said, the improvement in liquidity conditions has stalled somewhat, with several measures (price impact, HFT activity) pointing to modest deterioration. Price impact, for example, has moved higher across the various trading sessions and remains noticeably above its longer-run averages (**Exhibit 1**).

Whereas in the past we have focused on the implications of liquidity dynamics for option pricing, they continue to have an outside impact on cash/futures basis in some contracts. This specifically relates to the post-close session, where higher levels of realized volatility imply significant wildcard optionality that in theory should be priced in as a discount to the futures contract versus the cash CTD (see *Wild at heart*, H. St John et al., 4/30/20 and references therein). Taking current elevated price impact levels points to a post-close vol regime, particularly at the long-end, notably higher than recently realized post-close vol levels, and well above recent historical averages (**Exhibit 2**).

That said, wildcard optionality is not equally impactful across all contracts. The Ultra-long futures, with their low conversion factor and long duration, have typically been the most sensitive. This time is no exception: WN basis looks modestly cheap even assuming recent volatility levels are sustained, and there is considerable upside

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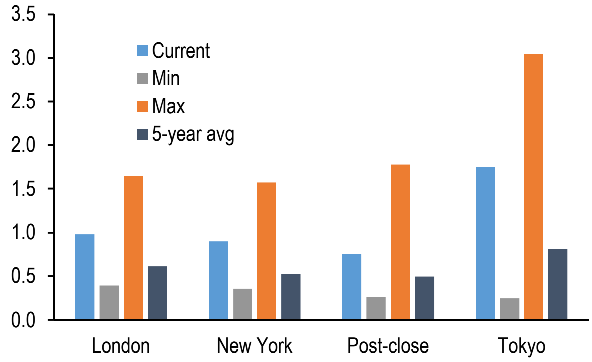
if future moves are consistent with current price impact in the post-close session (**Exhibit 3**). There is also the potential for upcoming increased long-end supply, including the introduction of a larger than expected 20-year benchmark, amidst more challenging liquidity in that sector relative to other tenors to support higher post-close volatility as well (see After the flood, *US Government Bond Strategy Weekly*, J. Barry & P. White et al., 5/8/20). In the meantime, the Fed backstop makes the risk of another delevering event along the lines of last March (see *All eyes on Treasury futures basis*, J. Younger & H. St John, 3/13/20) exceedingly unlikely—especially over the next couple of weeks. On balance, given significant wildcard optionality, and the tail-risk of further spikes in price impact in the 30-year sector, **we recommend selling the WNM0/U0 weighted calendar spread** (see trade recommendations).

**Exhibit 1: Price impact remains far lower than the March highs, but has crept slightly higher over the past week...**

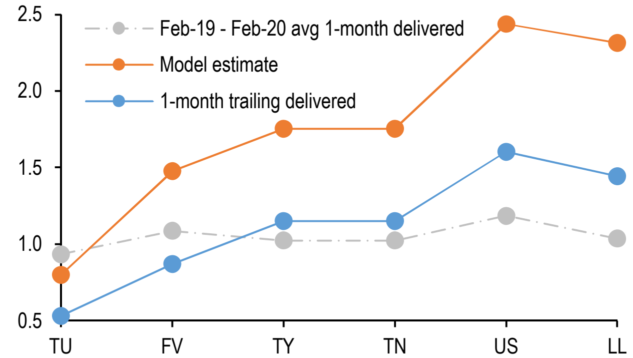
5-day average price impact, averaged across hot-run Treasuries, current, local (3-month) min and max, and 5-year average ending February 2020; ticks




Source: J.P. Morgan, BrokerTec

**Exhibit 2: ... and higher price impact points to more volatile conditions in the post-close period**

1-month realized and forward-looking post-close vol as well as the 1-year average ending February 2020; bp/2hrs




Fitted values come from a 2-year regression of monthly post-close realized vol on price-impact in the relevant hot run Treasury. Levels for US reflect the average of 10-year and 30-year vol and price impact.

Source: J.P. Morgan, BrokerTec

**This brings us to the rollover of the M0/U0 futures complex more broadly.** Positioning is worth dwelling on given significant shifts in the wake of March events. Among asset managers, net longs have moderated across the complex over recent months, consistent with profit taking behavior, as yields have fallen and futures outperformed cash (**Exhibit 4**). This pullback in positioning is most acute in FV, TY, and WN—where asset manager positioning has historically driven the calendar spreads around the roll. The change in positioning among leveraged funds, however, was more dramatic. We see ample evidence to suggest significant short-covering in the UXY and WN contracts, two places in which they have been mostly net short in recent years, particularly as opportunities to monetize wildcard optionality have emerged (**Exhibit 5**). Indeed, this shift in positioning in these contracts is notable given that this is also where futures richness to Treasuries has remained most stretched.

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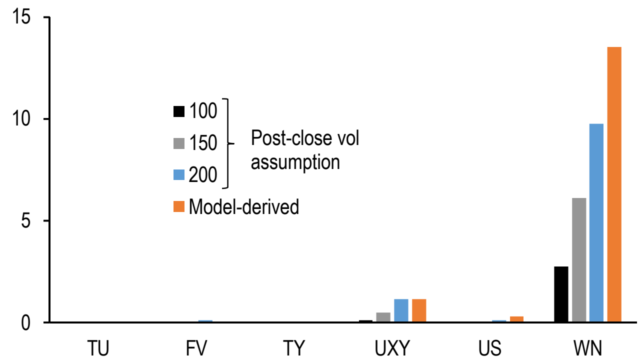
**Exhibit 3: ...which implies some upside to the wildcard option in UXY and WN**

Wildcard mispricing under standard pricing assumptions, and fitted to current post-close vol levels implied by price impact*; ticks

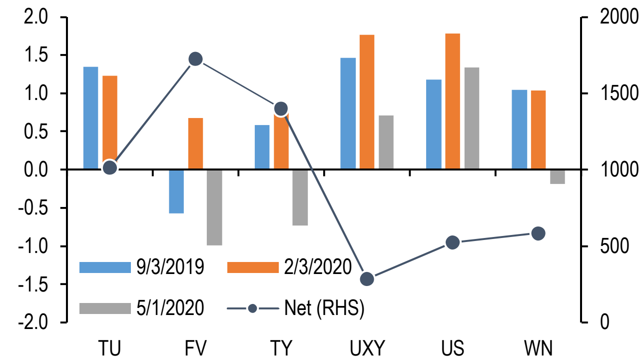



* See Exhibit 8 for detail.

Note: Wildcard mispricing determined by the difference between the wildcard net basis, the net basis level at which the wildcard is fairly valued for a given post-close vol assumption, and the current market net basis.
Source: J.P. Morgan, BrokerTec

**Exhibit 4: As the market has rallied, asset manager net longs across the futures complex have moderated**

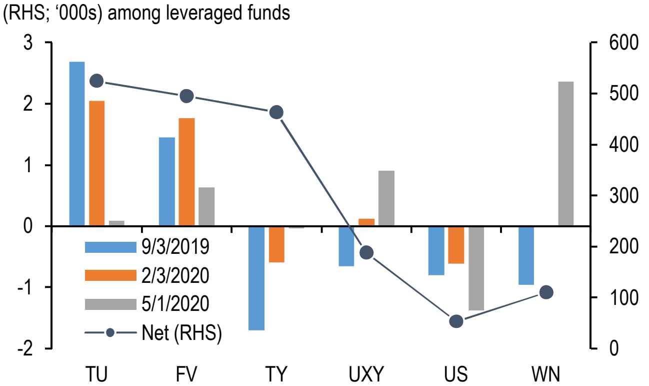
Rolling 2-year z-score as of each date (LHS; std devs) and the current net long position (RHS; '000s) among asset managers




Source: J.P. Morgan, CFTC

**Exhibit 5: ... while we see evidence of short-covering among leveraged funds in UXY and WN**

Rolling 2-year z-score as of each date (LHS; std devs) and the current net long position (RHS; '000s) among leveraged funds




Source: J.P. Morgan, CFTC

**Exhibit 6: Summary of key views across contracts**

| | Front Price | Calendar Spread | HR* | CTD Front | CTD Back | View | Main drivers |
|---|---|---|---|---|---|---|---|
| **WN** | 222-06 | 1-18 /32nds | 1002 | 3 Nov 45 | 3 Nov 45 | Bearish | Wildcard |
| **US** | 180-21 | 1-17 /32nds | 1001 | 4-1/2 Feb 36 | 4-1/2 Feb 36 | Bullish | Issuance |
| **UXY** | 156-30 | -0-11+/32nds | 962 | 1-3/4 Nov 29 | 1-1/2 Feb 30 | Bearish | AM positioning, wildcard |
| **TY** | 139-07 | 0-07+/32nds | 952 | 2-1/4 Feb 27 | 2-3/8 May 27 | Bullish | AM positioning, issuance |
| **FV** | 125-22 | 0-04+/32nds | 929 | 1-1/4 Aug 24 | 1-1/2 Nov 24 | Bullish | AM positioning, micro-curve RV |
| **TU** | 110-08 | -0-05 /32nds | 865 | 2-3/8 Mar 22 | 1-3/4 Jun 22 | Bullish | Micro-curve RV |

* hedge ratio: recommended number of back contracts per 1000 Front contracts. Levels as of COB 5/13/20.
Source: J.P. Morgan

A more detailed discussion of the M0/U0 Treasury futures roll is available on J.P. Morgan Markets. **To summarize:**

Significant wildcard optionality and the prospect for even higher realized post-close vol at the long-end of the Treasury curve point towards a **bearish** bias for the weighted calendar spread in **WN**.

Positioning has scaled back considerably, and the wildcard option appears close to fairly valued for higher post-close vol. With coming hot-run 20-year issuance a potential source of cheapening for forward 20-year yields, we are biased toward being **bullish** the weighted calendar spread in **US**.

While asset manager positioning has scaled back, it continues to impart a bearish bias, as does a slightly undervalued wildcard option. Moreover, residual futures richness in this contract should play a role, and the curve should steepen. We are therefore **bearish** the weighted calendar spread in **UXY**.

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While asset manager net longs have contracted significantly, they remain outright net long. Despite persistent cyclicals pushing the other way, new supply effects are likely to dominate, so we are **bullish** the **TY** calendar spread.

Positioning offers a small bullish bias to the weighted calendar spread, and with the wildcard option fairly valued, micro-curve RV is likely to be a dominant driver. We are **bullish** the weighted calendar spread for **FV**.

Positioning is unlikely to impart a significant bias, but a steeper curve and wider GC/OIS are mildly **bullish** factors for the weighted calendar spread in **TU**.

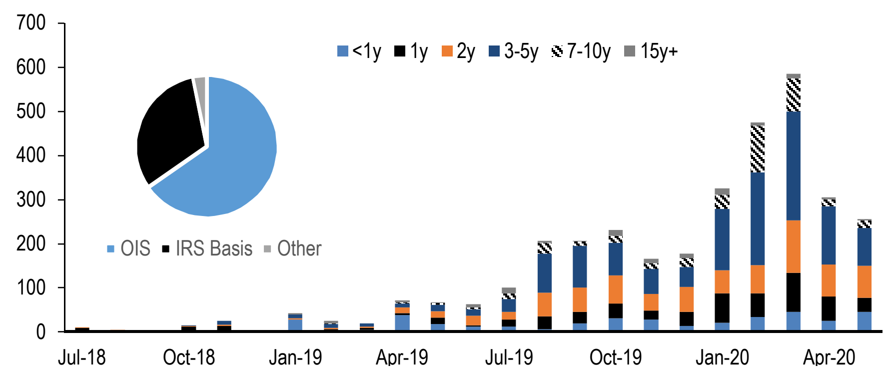
**To summarize, we are bullish the weighted calendar spreads for US, TY, FV and TU and bearish the weighted calendar spreads for WN and UXY –** see **Exhibit 6** for a summary of key views.

## Incremental progress on benchmark reform, though OTC derivatives liquidity remains impaired

Next, we turn to an update on the benchmark reform process. As volatility has subdued, attention has started to focus towards the planned transition away from Libor, and the possibility for delays to parts of this process to accommodate for recent market dysfunction, an area we highlighted in late March (see *Benchmark reform hits a roadblock*, H. St John & J. Younger, 3/27/20). As of now, the public stance of essentially all involved is no change to the schedule of events, with a target Libor cessation of early-2021.

**Exhibit 7: The OTC SOFR derivatives market has continued to languish, with traded notional yet to pick back up in the intermediate and longer tenors**

Monthly notional traded in SOFR OTC derivatives by original maturity (LHS; $bn) and breakdown of trade type (inset; %)




Note: May data is converted into a monthly value assuming a steady run-rate
Source: J.P. Morgan, DTCC

Even as it appears to be full steam ahead, turnover in the SOFR OTC derivatives market remains low, falling to $304bn over the month of April, closer to the average levels seen in late 2019 (**Exhibit 7**). Tellingly, the maturity of trades has slipped, with much of the decline coming from the 3-5y and 5-10y sectors, where liquidity had been building more steadily over the previous months as dealer hedging flows of differential discounting risk picked up. We also see signs of subdued market depth in the SOFR OTC market. In late 2019 and early this year, traded notional over the course of the trading day in SOFR derivatives had been remarkably stable (**Exhibit 8**). Over the past couple months, however, we have seen a noticeably more bimodal distribution of trade activity, with the bulk of trading pushed later into the day.

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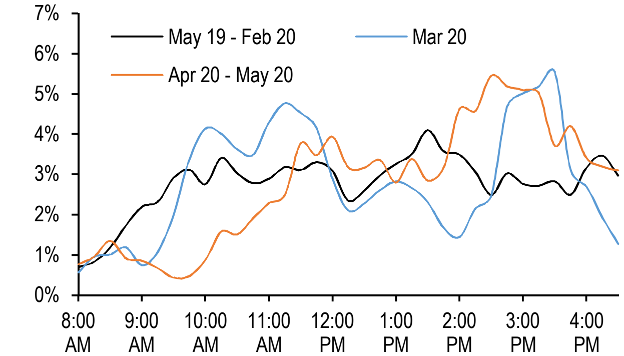
Activity in exchange-traded derivatives also declined in March, though by much less than the OTC market. That said, this occurred at a time when volumes in Fed funds and Eurodollar contracts was increasing. Looking over a longer period, turnover in SOFR futures has not increased much in either absolute terms or relative to other contracts since early-2019 (**Exhibit 9**).

**Exhibit 8: Following the breakdown in trade volumes, turnover through the day looks significantly more bimodal than it did prior to the crisis, consistent with subdued liquidity**

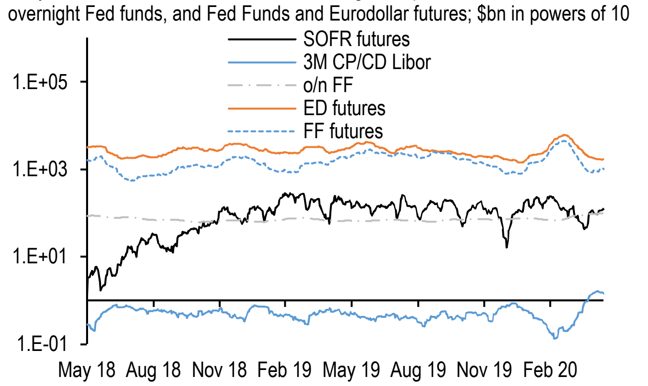
Fraction of daily SOFR OTC volume occurring by 30-minute increment; %




Source: J.P. Morgan, Bloomberg

**Exhibit 9: SOFR futures volume has rebounded off its March lows, as volumes have moderated in Eurodollar and Fed fund futures**

Daily transaction volume in 3M CP/CD among Libor panel banks, SOFR futures*, overnight Fed funds, and Fed Funds and Eurodollar futures; $bn in powers of 10




* Consistent with their matched DV01s to ED and FF futures, we assume $1mn and $5mn for quarterly and monthly CME SOFR futures, respectively; contract size for ICE SOFR futures is $12mn.

Source: CME, ICE, NY FRB, J.P. Morgan

Elsewhere, we have seen some news flow of note in recent weeks that is worth taking stock of as part of the broader transition:

- The ARRC released its final recommendation regarding legacy swaptions discounted to FF-OIS. The ARRC recommends that counterparties transition to new SOFR-OIS discounting curves on October 16th, in line with the cleared swap transition, and agree to a cash transfer to compensate for valuation differences. Swaptions represent a growing share of the universe of outstanding OTC interest rate derivatives (**Exhibit 10**), and an outsized proportion in terms of mark-to-market, meaning the potential cash adjustments under a change in discounting curves could be relatively large in aggregate (**Exhibit 11**)
- The ARRC opened a supplemental consultation into Libor fallbacks for cash products, raising the option of fallback spreads mimicking the ISDA fallback spreads for derivatives across the various Libor tenors. Importantly, it also raises the question of whether pre-cessation triggers should be added to cash products, since differences in cessation timelines or spread adjustments could introduce basis risks to participants hedging cash Libor exposures with derivatives
- The ARRC issued a statement clarifying the use of New York Fed average SOFR indexes for referencing in FRNs. With progress on term SOFR having stalled, suggesting floating rate debt is likely to converge on a backward-looking compounding convention, this announcement is useful in ensuring uniformity in standards across issuers, which in turn should also help facilitate liquidity on the hedging side for SOFR OIS.

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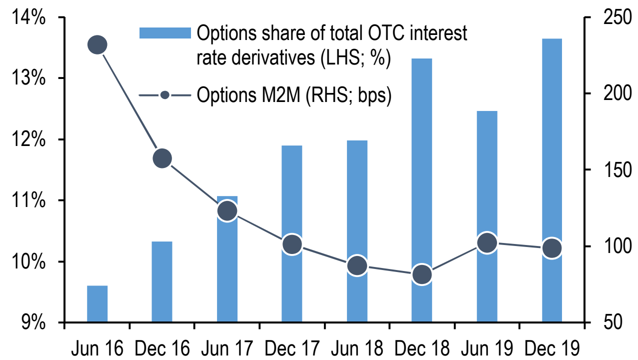
**Exhibit 10: Options have been a growing share of the outstanding notional of OTC interest rate derivatives in recent years…**

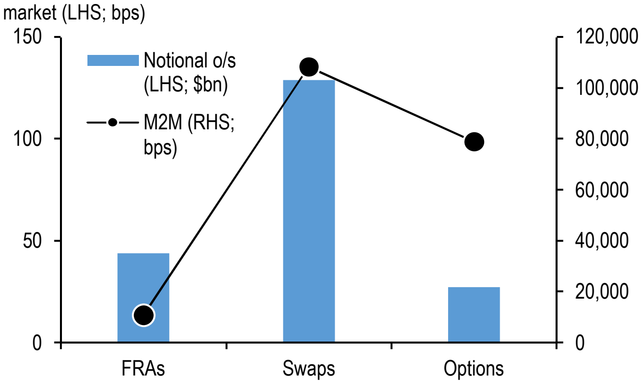
OTC interest rate option mark to market value (RHS; bps), and options share of total OTC interest rate derivatives notional outstanding (LHS; %)




Source: J.P. Morgan, BIS

**Exhibit 11: … and they tend to have a higher mark to market relative to their aggregate market size, implying a larger cash adjustment under changed discounting curves**

OTC interest rate derivatives notional outstanding by type (RHS; $bn) and mark-to-market (LHS; bps)




Source: J.P. Morgan, BIS

Finally, ISDA published detailed results of their consultation into pre-cessation fallbacks for derivatives referencing Libor. Consistent with an earlier prelimary publication, respondents were overhwelmingly in favor of pre-cessation triggers, particularly as fallback provisions on cash products also appear to be drifting in the same direction. At this stage, ISDA have flagged their intention to introduce amendements to the existing 2006 ISDA definitions to reflect pre-cessation triggers going forward as of July, and an accompanying protocol to include these in legacy instruments.

**Exhibit 12: Market tenor basis levels remain fairly tight to the likely fallbacks**

Estimated ISDA fallback spread and market levels for FF/Libor and Libor tenor basis; bps

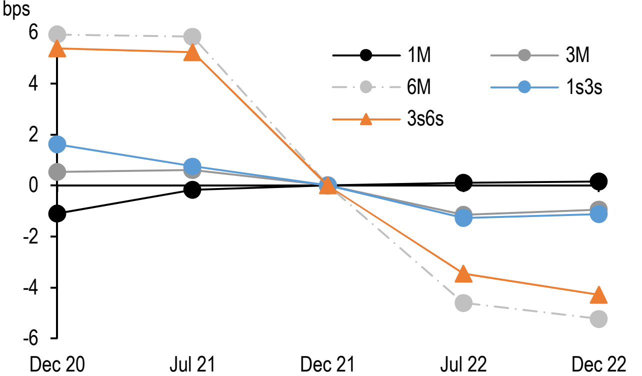
| | | 1M | 3M | 6M | 1s3s | 3s6s |
|---|---|---|---|---|---|---|
| Fallback | 5Y Median | 13.3 | 26.1 | 37.8 | 12.7 | 11.7 |
| Fallback | 10Y Mean | 11.3 | 25.9 | 40.1 | 14.6 | 14.1 |
| 5Yx5Y | Current | - | 26.5 | - | 8.0 | 11.8 |
| | Min | - | 17.8 | - | 3.5 | 8.0 |
| | Max | - | 28.0 | - | 10.9 | 20.8 |

Note: Fallback estimate and market levels as of 5/14/20.

Source: J.P. Morgan, ISDA

**Exhibit 13: Early cessation would push fallback estimates for 1s/3s and 3s/6s tenor basis wider still**

Change in 5Y median fallback estimate relative to baseline cessation date for Libor; bps




Source: J.P. Morgan, ISDA

In terms of implementation, the fallback spread calculation would be frozen as of the announcement of Libor being designated non-representative by the FCA, but fixings could in theory still be referenced and used to calculate cashflows for some time, a matter of weeks or months, before the benchmark is formally discontinued. As we have noted of late, both 1s/3s and 3s/6s tenor basis have been trading fairly narrow relative to Libor fallbacks, and while this gap has certainly corrected in recent weeks for the latter, it remains quite stark for the former (**Exhibit 12**). Under a scenario of early cessation, 1s/3s and 3s/6s would be wider still, reflecting a 5-year median window capturing more of the tail end of MMF reform in 2016 (**Exhibit 13**).

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However, the impact on the actual 3M Libor set of changes in cessation date would be minimal, with most of the change coming from 1M and 6M spread estimates.

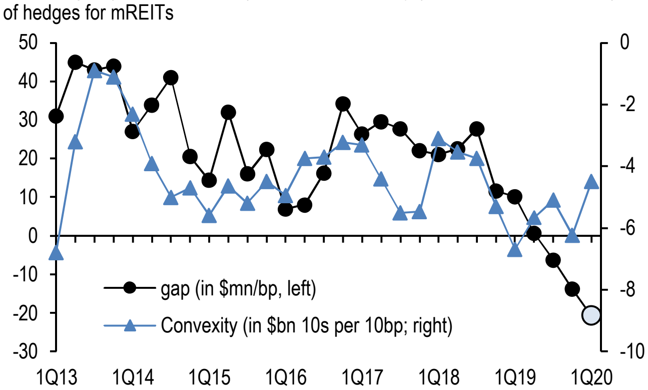
## 1Q20 mREIT update: Duration gaps continue to narrow

With 1Q20 filings at hand, we turn our attention to the mREIT sector. Unsurprisingly, mREITs continued to lose duration at a steady pace over the quarter as yields declined measurably (**Exhibit 14**). We noted several months back that the mREIT duration gap had flicked into negative territory, a consequence of steadily declining yields through the second half of 2019, and suggestive of a lack of duration-adding among these investors. Duration gaps for the top-15 largest mREITs now stand at around -$21 mn/bp, a $7 mn/bp contraction from 4Q19. Interestingly, our estimate of aggregate convexity showed a relatively small decline, from $6.5 to $4.5bn 10s per 10bp. As we have shown in past research (see *Markets struggle to feed to the convexity beast*, J. Younger & H. St John, 2/28/20), at such low absolute rate levels, the convexity profile is largely burnt out to the downside.

Perhaps the more important data point to note this quarter is the position of mREIT price-to-book (P/B) ratios. Even as broader equities have rebounded, the listed real estate sector has languished, and is likely to continue to lag the broader market given the nature of the recession and its implications for household balance sheets. Having traded just above 100% in late 2019, the average P/B ratio of the largest 12 US listed REITs is now around 60% (**Exhibit 15**). With equity issuance quite unattractive, new asset purchases are an unlikely channel through which to add duration over the near-term, suggesting they are far more likely to meet hedging demands via derivatives. On balance, this is an additional bias towards more deeply negative swap spreads at the intermediate and long-end of the curve, with mREIT investors likely biased to receive fixed via swap opportunistically.

**Exhibit 14: mREIT duration gaps continued to contract further into negative territory in 1Q20…**

Duration gap (LHS; $mn per bp) and dollar convexity (RHS; $bn 10s per 10 bp) net of hedges for mREITs

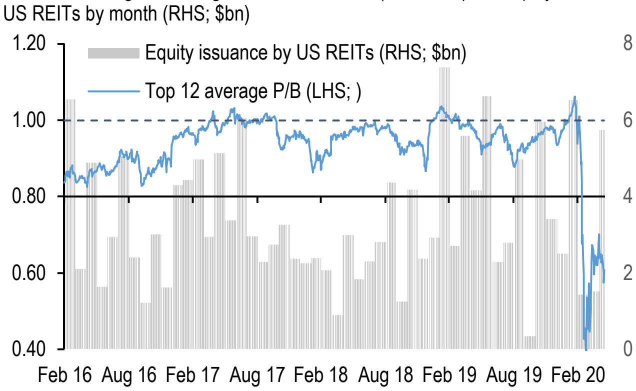



Note: Based on a quadratic fit to reported interest rate sensitivities for NLY, AGNC, CMO, and CYS using quarterly disclosure.

Source: J.P. Morgan, company filings

**Exhibit 15: … and with P/B ratios having been hit hard, the outlook for new capital raisings is downbeat**

P/B ratio among the 12 largest US-listed REITs (LHS; ratio) and equity issuance by US REITs by month (RHS; $bn)




Source: J.P. Morgan, Bloomberg

## Trading recommendations

- **Sell the WN M0/U0 futures roll**
  Higher price impact in the 30-year sector implies scope for upside on post-close vol and suggests that the wildcard option is cheap
  – Sell 1000 contracts of WNM0 versus buying 1002 contracts of WNU0 at 1-18

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- **Stay received FFJ1**
  - Stay short 1,000 contracts of FFJ1 at 100.005 (Fixed Income Markets Weekly 5/8/2020; P/L since inception: 0.0bp)
- **Stay long M0 3s/6s tenor basis**
  - Pay 100k/bp of M0 3s/6s basis at 15.9bp (Fixed Income Markets Weekly 5/1/2020, P/L since inception: +3.7bp)
- **Stay long 2Yx1Y vs 5Yx5Y 3s/6s tenor basis**
  - 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: +0.9bp)
- **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: -1.5bp)
- **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: +0.5bp)
- **Stay long 3Mx5Y vs 5Yx5Y ATMF straddles**
  - Buy $250mn of 3Mx5Y ATMF straddles (notification: 22-Jul-20, expiry: 22-Jul-25, strike: 0.446%, premium 118c) vs selling $60mn of 5Yx5Y ATMF straddles (notification: 24-Apr-25, expiry: 24-Apr-30, strike: 0.915%, premium 554c). This trade requires frequent delta hedging (Fixed Income Markets Weekly 4/17/20, P/L since inception: -5.8abp)
- **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: -3.5bp.

### 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 |

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|---|---|---|---|
| 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 |
| Receive JPY/USD 1Yx1Y OIS/OIS basis | 04/23/20 | 05/08/20 | 6.0 |

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 -0.3bp.

### 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 |
| **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 |

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|---|---|---|---|
| Short 3Yx27Y vs 5Yx25Y B/E switch | 03/29/19 | 04/17/20 | 2.8 |
| **Total number of trades** | | | **49** |
| **Number of winners** | | | **38** |
| **Hit rate** | | | **78%** |

Source: J.P. Morgan

- **Stay paid 10Yx10Y AUD/USD cross currency basis**
  - Pay $25k/bp of 10Yx10Y AUD/USD cross currency basis (swap start: 1/27/30, swap end: 1/27/40) at a spread of +41.5bp (Fixed Income Markets Weekly). P/L since inception: -24.2bp.
- **Stay in 10Y/20Yx10Y vol flatteners via vega-neutral ATMF swaption straddles**
  - Stay short $50mn 20Yx10Y ATMF straddles (notification date 12/13/39, maturity date 12/15/49, ATMF and strike @ 1.967%, premium 1230c) versus buying $58.4mn 10Yx10Y ATMF straddles (notification date 12/13/29, maturity date 12/19/39, ATMF and strike @ 2.067%, premium 1185c). This trade requires frequent delta hedging. (Fixed Income Markets Weekly 12/13/19). P/L since inception: +2.9abp.
- **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: -3.1bp

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

| Recent Weeklies | |
|---|---|
| 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 |

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| | spreads |
| 6-Sep-19 | Weekly: Room for USD funding to tighten further at year end |
| 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**

| | |
|---|---|
| 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 |
| 30-May-20 | Wild at Heart |
| 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? |
| 27-Mar-20 | Will mortgages bail banks out of their duration short? |
| 27-Mar-20 | Benchmark reform hits a roadblock |
| 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 |

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| 5-Nov-19 | Rates market liquidity through data releases |
| 1-Nov-19 | A systematic approach to GSIB dynamics and year-end implications |
| 31-Oct-19 | What is preventing banks from policing repo? |
| 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 |
| 01-Oct-19 | What does impeachment mean for volatility?: Traditional and non-traditional sources of uncertainty |
| 18-Sep-19 | HKD/USD cross currency basis: Markers of divergent bank funding conditions and tail risks of further liquidity stress |
| 16-Sep-19 | Fallback to earth: Estimating the likely fallback spread adjustments for Libor |
| 6-Sep-19 | Introducing the Volfefe Index: Quantifying the impact of presidential |
| 5-Sep-19 | The market implications of Libra and other stablecoins: A primer and stability analysis |
| 28-Aug-19 | One more shot at redemption for callable bond supply |
| 14-Aug-19 | Where have all the cowboys gone? |
| 25-Jul-19 | The case for term SOFR |
| 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 |

Source: J.P. Morgan

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