Junior-Subordinated Capital Securities Markets

March 2022 Updates

The fixed income markets came under continued pressure in March, which completed the 3rd worst quarter for the US bond markets since the financial crisis recovery in 2010. There have been 5 double digit quarterly declines for the 30yr US government bond since then ranging from -10.8% (4q10) to -16.4% (1q21) -- this past quarter, the bond was down 11.9%. So as painful as the quarter has been, there have been worse. During the challenges of the European sovereign debt crisis the Fed did twist operations with its QE-2 balance sheet and then did QE-3 in 2012-2013 – this led to a series of 6 straight quarterly declines for 30yr bond prices after yields were bought down to 2.5% (the PCE deflator was 1.5% on average) which led into the infamous taper tantrum of 2013. Overall, the 30yr bond price fell about 21% between June 2012 and December 2013, which was primarily related to the taper plan (not the taper action). The Fed subsequently waited 2 years after the taper was done to cut its balance sheet in 2017 and then (of course) went too far on its policy rate by 4q18 – by November of 2018 the 30yr bond had reached 3.5% (the PCE was 2%). This time with a materially elevated concern about higher immediate inflation (the PCE is 6.4%), yet still contained longer run expectations, the 30yr bond closed March yielding 2.45% (27bps higher). The 10yr note closed yielding 2.33% (49bps higher) -- the yield differential between the two longer US treasuries flattened 26bps to +8bps. Real rates on the front end of the curve (e.g., UST 5yr TIPS) ended the month 50bps higher at -0.92%; the 5yr implied breakeven inflation rate (i.e., the difference in yields between the 5yr UST and the 5yr Treasury Inflation Protected Security) zoomed 28bps higher to close at 3.43%. The VIX (i.e., Chicago Board Options Exchange Volatility Index) plunged 32% to 20.56 as the S&P 500

finished the month up 3.6% and over its 200-day moving average after closing below it in February for the first time in two years.

Before we talk hybrids, let's look at performance in some of the more senior corporate credit sectors for comparative references on returns and yield changes:

- The junk market (measured by the ICE BofA High Yield ***h0a0*** index) fell 1.40% to close yielding 6.03% (39bps higher).
- Global bank credit (measured by ICE BofA ***e0ba*** index) fell 2.43% to close yielding 3.40% (63bps higher).
- The BBB rated 5-10yr corporate sector (measured by ICE BofA ***c6a4*** index) fell 3.65% to close yielding 3.73% (59bps higher).

Review of Market Structure:

The market for hybrids or **global junior-subordinated capital securities** (*i.e.,* "**Jsubs**") as we call them is comprised of two core sectors:

1. Preferred Securities, and
2. Contingent Capital Securities

Each sector has evolved with unique technical, structural, and fundamental features that are discussed and updated below:

Global junior subordinated capital securities are comprised of two sub-sets that represent a broad group of global junior-subordinated capital securities, which can be referenced by two ICE BofA indexes: 1) The ICE BofA US All Capital Securities Index (***i0cs***) and 2) The ICE BofA US Dollar Contingent Capital Index (***cdlr***).

Our litmus test for hybrids satisfies two core characteristics:

1) any non-payment of distributions would not accelerate an event of default (i.e., distributions are “junior-subordinated” to ordinary interest obligations) and,
2) balance sheet classification is something other than common stock under GAAP disclosure.

The US All Capital Securities (***i0cs***) benchmark of preferred securities represents $354 billion (face amount) of investment grade and below investment grade instruments in both the retail $25par market (33%) and the institutional $1,000par market (67%). The USD Contingent Capital Index of US dollar denominated junior-subordinated capital securities ***(cdlr)*** represents $150 billion (face amount) of investment grade and below investment grade fixed-rate instruments with contractual triggers that could subordinate them to common stock in a reorganization that would not fall into a receivership after the bail-in. These two benchmarks combine for a $504 billion universe of fixed-rate junior-subordinated USD capital securities with preferred securities (measured by ***iocs***) being a 69% subset and contingent capital securities (measured by ***cdlr****)* being a 31% subset of the total global USD junior subordinated group.

Preferred Securities

In the preferred securities sleeve, there are four sub-component indexes in the US All Capital Securities Index (***i0cs****)* – this entire index is comprised of global “preferred securities”. A **“preferred security”** can represent a capital security issued either through charter amendment (i.e., as a stock) or through indenture (i.e., as a bond) typically within the context of a “gone-concern” statutory authority (*e.g.,* US banks). As a gone concern, a company reorganization would be processed through a bankruptcy court. Preferred security payments are in priority to common stock dividends, yet can be deferred (i.e., payments are cumulative) or eliminated (i.e., payments are non-cumulative) without

causing an immediate event of default; any principal loss absorption on a preferred security would be forced only *ex-post* through a statutory resolution in a bankruptcy proceeding.

The four sub-components of the *i0cs* benchmark that consolidate into the retail and institutional sectors of rated preferred securities are:

1. **ICE BofA Fixed Rate Preferred Index (*p0p1*) @ 43% *of i0cs***
   - Comprised of IG $25par and IG $1,000par (incl. US AT1)
     - The *p0p1* fell 1.17% this month to close yielding 4.53% (+23bps)
     - Headcount was fell by 1; face value fell by $50million
2. **ICE BofA US Capital Securities Index (*c0cs*) @ 23% of *i0cs***
   - Comprised of dated IG $1,000par dated hybrids (excl. US AT1)
     - The *c0cs* fell 1.57% this month to close yielding 4.43% (+45bps)
     - Headcount rose by 1; face value rose by $500million
3. **ICE BofA High-Yield Capital Securities Index (*h0cs*) @ 5% of *i0cs***
   - Comprised of BIG $1,000par legacy Tier1 and BIG $1,000par hybrids
     - The *h0cs* fell 1.87% this month to close yielding 5.49% (+49bps)
     - Headcount was unchanged; face value rose by $400million
4. **ICE BofA High Yield Fixed Rate Preferred Index (*p0hy*) @ 29% of *i0cs***
   - Comprised of BIG $25par and BIG 1,000par (incl. US AT1)
     - The *p0hy* fell 1.11% this month to close yielding 5.42% (+18bps)
     - Headcount was unchanged; face value rose by $12million

Overall, the ICE BofA All US Capital Securities Index (***i0cs***) fell 1.29% in March to close yielding 4.80%, which was 28bps higher than last month's closing yield and a spread of +246bps over comparable US Treasury securities (20bps tighter).

Contingent Capital Securities

A **"contingent capital security"** (i.e., a "CoCo") represents a capital security issued through indenture typically within the context of a "going-concern" type regulatory regime for banking, which would reorganize a potentially insolvent bank through the contracts of its capital before falling into a conservatorship proceeding. CoCos payments are non-cumulative and *pari passu* to common stock dividends and can be reduced or eliminated without causing an event of default. Principal loss absorption on a CoCo could be forced ex-ante through a regulatory action in advance of any bankruptcy proceeding (note that an actual bankruptcy may not happen because enough loss absorbing bail-in capital, including tier-2 capital, could be available through the "living will" of the entity's core capital). The ICE BofA USD Contingent Capital Index (***cdlr***) is comprised of US dollar denominated constituents (exclusively), which represent 59% of the mature master multi-currency benchmark (*coco*). We will utilize the USD benchmark (*cdlr*) as it more meaningfully reflects the contingent capital currency primarily held in our portfolios. The ICE BofA USD Contingent Capital Index (***cdlr***) fell 1.95% this month to close yielding 5.52%, which was 7bps higher from last month and a spread of +323bps over comparable US Treasury securities (52bps tighter).

Discussion of Retail and Institutional Sectors:

We are going to report on the retail and institutional sectors differently going forward using statistical tables in a *Spread Value Matrix* to provide readers with data on absolute and relative spread positionings. The data samples are sourced from ICE BofA benchmarks starting in March 2017, which is when retail benchmark calculations on yield-to-worst for currently callable $25par preferred securities were improved to reflect actual yields even if negative. We'll provide measures of inflation coverage in a *Purchasing Power Matrix*; and a table for yield-to-worst, net of inflation and historical default in a *Real Yield Matrix* that compares hybrids, investment grade corporates and high yield bonds. Finally for each

sector, we'll show data on prior credit cycles to give you a *Comprehensive Risk Estimate* to the average bottom of the last 3 credit cycles (2013, 2016 and 2018) -- the rationale here is to illustrate risk measures, but not an outlook to that end. Ultimately by following these tables monthly (and sometimes as "pop-outs" in flash reports), investors should gain consistent insights to assist in making more informed and supportive asset allocation decisions using junior subordinated capital securities.

Snapshot of Junior Subordinated Spread Sector Moves:

	p0p4	p0p4-e0ba	stb8	stb8-e0ba	cdlr	cdlr-e0ba
Capital Securities Spread Value Matrix	(a) Retail	(b) Retail	(a) NoCo	(b) NoCo	(a) CoCo	(b) CoCo
Sample Periods	03/31/2017 to Date		03/31/2017 to Date		03/31/2017 to Date	
Jr-Subs	***Absolute**	****Relative**	***Absolute**	****Relative**	***Absolute**	****Relative**
High	588	251	485	205	660	313
Low	-178	-267	175	60	223	143
Range	766	518	310	145	437	170
Average	44	-62	244	138	325	219
Stdev	119	104	44	28	62	35
Monthend	**130**	**22**	**235**	**127**	**288**	**180**
Spread Scores:						
(monthend-ave)/stdev	0.72	0.81	-0.20	-0.39	-0.60	-1.11
Δ from Last Month	-0.53	-0.59	-0.44	-0.62	-1.00	-1.71

Source: Bloomberg; ICE BofA Bond Indices

** Absolute = Option Adjusted US Government Spread; (current-ave)/stdev*

*** Relative = spread to global financials measured by e0ba ICE Bond Index; (current-ave)/stdev*

Implications of Market Activity:

$25par Retail Preferred Securities Sector

The retail preferred securities sector measured by *p0p4* fell $0.94 in March to $95.83, continuing the sector's discount dive which started last month after trading at a premium since December 2018 (i.e., excluding the COVID Crisis). The investment grade benchmark of the retail market (i.e., *p0p2; which we need to use to look back 12yrs*) each of the 3 months this quarter totaling -9.65% -- this decline was beaten just once over the past 12yrs. To give a perspective on the magnitude of the quarter's move, the 2 worst declining series over the past 12yrs were a 2month string in 2020 totaling -10.31% (the COVID lockdowns) and a 5month string totaling -11.10% (the taper tantrum). The two worst annual declines were in 2013 (-10.80%) and in 2018 (-9.04%), so statistically this quarter's drawdown is certainly significant. Here's a look at the retail sector's 3 prior credit cycles compared to end of month valuations:

Retail Pfds.	Valuation Implosions			Average		Diff. to	
Credit Cycle Bottoms >	2013	2016	2018	Prior Bottoms	Current	Average	
GA10	2.98%	1.64%	2.74%	**2.45%**	2.33%	-0.12%	
PCE DEFY	1.48%	0.59%	1.86%	**1.31%**	6.40%	5.09%	
Real UST10yr	1.50%	1.05%	0.88%	**1.14%**	-4.07%	-5.21%	
$25Coupon	6.64%	6.46%	6.05%	**6.38%**	5.46%	-0.92%	
$25Price	$94.06	$98.66	$93.09	**$95.27**	$95.82	$0.55	
$25Current Yield	7.06%	6.55%	6.50%	**6.70%**	5.70%	-1.00%	
Mdur Worst	9.52	10.44	10.95	**10.30**	10.22	-0.08	
CY Spread vs. T10yr	4.08%	4.91%	3.76%	**4.25%**	3.37%	-0.88%	
Source: Bloomberg; ICE BofA Bond Indices						-10.30%	Est. Price Risk to AveCY
				Comprehensive Risk Est.		-4.60%	**Est. Price Risk + CY**
				Recapture Rate (yrs.)		1.81	Est. Price Risk / CY
					Memo:	-8.16%	Total Return YTD

The current yield of the retail sector closed March at 5.70%, which was still 100bps lower than the average current yield at the bottom of the last three credit cycles. The current yield spread is 88bps lower than the average of the last three credit cycle bottoms. The implication of a 1.00% yield increase to 6.70% (the average current yield of the prior bottoms) is an estimated 10.30% price decline using the average modified duration of 10.30; then adding back the current yield (assuming a 12month path) makes the comprehensive risk estimate for the retail sector -4.60%. It would take 1.81yrs to recapture this capital loss with book income of 5.70%. There is no question that the retail sector is a better relative value now than it was at premium prices, but the sector has the highest duration of the three sectors and the most price volatility risk due to its predominant fixed-for-life structure.

Given the already significant price decline so far this year, there is building technical risk of accelerating tax loss selling in the retail sector which could further weigh on prices. In fact, in every year when there has been a price loss for the year (so, make that forecast up front), the last 2 months of the year have summed to be negative returns. During the last three tax-loss selling years (2018, 2016 and 2013), the last two months of the year summed to an average -4.14% for the retail sector. We'll keep this in the back of our minds as the year progresses. In the meantime, the outlook for the retail sector will likely be largely dependent on the stability of the equity sector because the move down this quarter is largely due to the big move up in US treasury yields.

$1,000par Institutional Preferred Securities Sector

The $1,000 par institutional sector of the preferred securities market fell $1.51 in March. Relative values to more senior financials are 11bps below average as spreads on junior subordinated paper tightened 20bps this month and more senior paper widened by 1bp. Overall, yields rose by 43bps in NoCos this month compared to a 59bp rise in yield for more

senior US financials. Here's a look at the institutional preferred securities sector's 3 prior credit cycles compared to end of month valuations:

Institutional Pfds.	Valuation Implosions			Average		Diff. to	
Credit Cycle Bottoms >	2013	2016	2018	Prior Bottoms	Current	Average	
GA10	2.94%	1.75%	2.74%	**2.48%**	2.33%	-0.15%	
PCE DEFY	1.17%	0.59%	1.86%	**1.21%**	6.40%	5.19%	
Real UST10yr	1.77%	1.16%	0.88%	**1.27%**	-4.07%	-5.34%	
Coupon	6.77%	6.43%	5.88%	**6.36%**	5.16%	-1.20%	
Price	$103.96	$99.62	$97.23	**$100.27**	$100.61	$0.34	
Current Yield	6.51%	6.45%	6.05%	**6.34%**	5.13%	-1.21%	
Mdur Worst	5.90	5.23	4.64	**5.26**	4.12	-1.14	
CY Spread vs. T10yr	3.57%	4.70%	3.31%	**3.86%**	2.80%	-1.06%	
Source: Bloomberg; ICE BofA Bond Indices						-4.98%	Est. Price Risk to AveCY
				Comprehensive Risk Est.		0.15%	Est. Price Risk + CY
				Recapture Rate (yrs.)		0.97	Est. Price Risk / CY
					Memo:	-5.25%	Total Return YTD

The current yield of the institutional preferred sector closed March at 5.13%, which was 121bps lower than the average current yield at the bottom of the last three credit cycles. The current yield spread is 106bps lower than the average of the last three credit cycle bottoms. The implication of a 1.21% yield increase to 6.34% (the average current yield of the prior bottoms) is an estimated 4.98% price decline using the modified duration of 4.12; then adding back the current yield (assuming a 12month path) makes the comprehensive risk estimate for the NoCo sector 0.15%. It would take 0.97yrs to recapture this capital loss with book income of 5.13%. The 5yr US treasury note yield has risen by 116bps in the 1st quarter, which has cut NoCo prices by 6.46% since the end of last year. The combination of higher rates and some spread widening has moved the NoCo sector into a slightly

cushioned valuation (evidenced by the recapture rate of less than 1.00) and a positive comprehensive risk estimate.

Contingent Capital Securities Sector

The CoCo sector declined $1.95 as European bank stocks fell 3.43% as the Ukraine war is the region's back yard worsened. At the end of the month, the ICE BofA indexes removed all Russian domiciled credit from their benchmarks including the contingent convertible securities benchmarks. The impact of the *cdlr* benchmark was to remove 1.08% of Russian bank capitalization from the benchmark. In other news for CoCos, the European Central Bank is suggesting that the capital rules for CoCos be "enhanced" to provide for more going-concern loss absorption – it suggests allowing calls only if replaced by common equity tier1 of more economic CoCos. It will take months for this review to make any meaningful determinations on rules changes. It could be that there is a new age of "legacy" AT1 coming much like the step-up AT1 became legacy (i.e., phased out with call term certainty), but we'll have to wait until further guidance comes months from now. Here's a look at the contingent capital securities sector's 3 prior credit cycles compared to end of month valuations:

CoCo Securities	Valuation Implosions			Average		Diff. to	
Credit Cycle Bottoms >	2013	2016	2018	Prior Bottoms	Current	Average	
GA10	3.01%	1.75%	2.88%	**2.55%**	2.33%	-0.22%	
PCE DEFY	1.48%	0.59%	1.86%	**1.31%**	6.40%	5.09%	
Real UST10yr	1.53%	1.16%	1.02%	**1.24%**	-4.07%	-5.31%	
Coupon	7.63%	6.40%	6.78%	**6.94%**	6.16%	-0.78%	
Price	$105.04	$89.12	$96.21	**$96.79**	$99.30	$2.51	
Current Yield	7.26%	7.18%	7.05%	**7.16%**	6.20%	-0.96%	
Mdur Worst	4.76	5.30	3.95	**4.67**	3.18	-1.49	
CY Spread vs. T10yr	4.25%	5.43%	4.17%	**4.62%**	3.87%	-0.74%	
Source: Bloomberg; ICE BofA Bond Indices						-3.05%	Est. Price Risk to AveCY
				Comprehensive Risk Est.		3.15%	Est. Price Risk + CY
				Recapture Rate (yrs.)		0.49	Est. Price Risk / CY
					Memo:	-6.68%	Total Return YTD

The current yield of the institutional preferred sector closed March at 6.20%, which was 96bps lower than the average current yield at the bottom of the last three credit cycles. The current yield spread is 74bps lower than the average of the last three credit cycle bottoms. The implication of a 0.96% yield increase to 7.16% (the average current yield of the prior bottoms) is an estimated 3.05% price decline using the modified duration of 3.18; then adding back the current yield (assuming a 12month path) makes the comprehensive risk estimate for the NoCo sector 3.15%. It would take 0.49yrs to recapture this capital loss with book income of 6.20%. CoCo prices are 1.59% lower than NoCo prices this year as CoCo spreads were separately impacted by the Russian bank exposures in the benchmark. The combination of higher rates and CoCo yields rising 26bps more than NoCos has moved the CoCo sector into the best cushioned valuation between the two institutional sectors a

positive comprehensive risk estimate almost equivalent to the 5yr breakeven inflation rate in US treasuries.

Outlook:

The ongoing Russian war against Ukraine continues to weigh negatively on our cautious outlook and defensive posture. The war is likely to anchor an inflection point that shifts globalism (a policy of ideological appeasement and economic cooperation) from a maturity phase into a decline phase. The implication of declining globalism should be a paradigm shift in the West's economic policies (among other things) that seek to strengthen individual sovereign weaknesses in production, supply, and defense – this means more immediate inflation as production and supply dependencies shift into strategies for more self-reliance and outsource shifting more to allied countries. The Fed recently (finally) hiked its policy rate for the first since 2018. Were it not for the uncertainties created by the war, the Fed said that the hike would have been 50bps rather than 25bps. The Fed minutes disclosed a decidedly hawkish commitment to take measures necessary to restore price stability and feared that if they don't move "*expeditiously*", that inflation expectations could become entrenched – especially if the public were to have reason to question the Fed's resolve. This month, the 5yr breakeven inflation rate climbed as high as 3.73%, and then pulled back to close at 3.43% -- 28bps higher. The following *Purchasing Power Matrix* helps us keep track of how attractive hybrids are relative to more senior financials in covering inflation with investment yields:

	A	B	C	D=B/C	E=D/A
Purchasing Power Matrix: Financials	Mdur	YTW%	5yrBE Inflation%	Inflation Coverage	Inflation Coverage/ Mdur
Retail $25par (p0p4)	10.22	4.76	3.43	1.39	0.14
NoCos (stb8)	4.12	4.80	3.43	1.40	0.34
CoCos (cdlr)	3.18	5.52	3.43	1.61	0.51
More Sr. Fins (e0ba)	5.27	3.40	3.43	0.99	0.19

Source: Bloomberg; ICE BofA Bond Indices

The contingent convertible sector (CoCos) is the winner on gross coverage and risk adjusted coverage when factoring duration. NoCos and retail paper offer similar inflation coverage to one another, but when factoring in duration risk the NoCo sector comes in 2nd place and retail paper slips into 3rd place – more senior financials fall short of the podium.

In keeping with the coverage theme, defense is our primary investment objective this year and positive real yields can be accretive to this playbook. But real yield alone does not tell the full story because credit risks should be assessed. Therefore, it is also important to track default risk and inflation risk for a more comprehensive or "net, net" view of real yields. Below we look at a *Real Yield Matrix* to consider not only inflation, but also historical default to double risk-adjust nominal yields down to real yields on comparative institutional sectors in hybrids and corporates:

Real Yield Matrix	Hybrids		Corporates	
	Preferreds	CoCos	IG Corps	BIG Corps
Bloomberg Index	*cips+hips*	*cdlr*	*c6c0*	*h0a0*
Mod.Duration	4.12	3.18	6.38	4.43
Yield-to-Worst	4.80	5.52	3.71	6.03
Inflation[1] Adjustment	3.43	3.43	3.43	3.43
Real Yields	1.37	2.09	0.28	2.60
Default[2] Adjustment	-0.11	-0.11	-0.04	-2.57
YTW, net, net adj.	**1.26**	**1.98**	**0.24**	**0.03**
Composite Rating	*BBB2*	*BB1*	*BBB1*	*B1*
Last Month End:	**Hybrids**		**Corporates**	
	Preferreds	CoCos	IG Corps	BIG Corps
YTW, net, net adj.	0.87	1.45	-0.07	-0.15
Change from Last	☆ 0.39	☆ 0.53	☆ 0.31	☆ 0.18

Source: Bloomberg; ICE BofA Bond Indices

[1] *Inflation assuption based on the UST5yr breakeven inflation rate*
[2] *Sprectrum's 10yr annual default study through 2020*

Hybrids offer the most positive real yield opportunities net of inflation and net of historical default -- investment grade corporates and junk bonds do too this month after being negative in February. Positive real yield opportunities for hybrids make them worthy inflation combatants and a tactical defensive adjunct for fixed income allocators. So, despite an overall stagflationary outlook that could still weigh some on fixed income prices, the hybrid sectors can, nonetheless, offer solid relative plays to mitigate risks and improve cashflows when compared to other fixed income sectors.

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