Junior-Subordinated Capital Securities Markets

September 2022 Updates

The fixed income credit markets continued to weaken as yields rose along the same trendline as August. The impetus for the price declines was the Fed's strong messaging that it will continue to raise interest rates until it gets the job done on inflation. The Federal Open Market Committee's most important goal is to bring inflation back down close to its 2% objective. In support of achieving that goal, the Committee raised the target funds rate another 75bps in September to 3-3 ¼ percent and elevated the dot plot to show that there is more work to do. Equity fell to new lows on the year by closing down 9.34% in September and down 25.25% from its highs set on January 3rd. Credit prices declined across the board not only from duration risks that prevail when US Treasury yields rise, but also from widening spreads due to heightened equity volatility.

The 30yr bond closed the month yielding 3.75% (49bps higher) and the 10yr note closed yielding 3.80% (67bps higher). Real rates on the front end of the treasury curve (e.g., UST 5yr TIPS) zoomed higher by 121bps (to 1.97%) after being negative in early August: the 5yr implied breakeven inflation rate (i.e., the difference in yields between the 5yr UST and the 5yr Treasury Inflation Protected Security) declined 47bps to close at 2.17%. The VIX (i.e., Chicago Board Options Exchange Volatility Index) rose 22.2% to 31.62 as the S&P 500 finished the month at 3586, down 369 points and below the 3800 line which is indicative of a foretelling a recession.

Before we talk hybrids, the performance in some of the more senior corporate credit sectors for comparative references on returns and yield changes is shown below:

- The junk market (measured by the ICE BofA High Yield ***h0a0*** index) fell 4.02% to close yielding 9.49% (104bps higher).

- Global bank credit (measured by ICE BofA ***e0ba*** index) fell 4.19% to close yielding 5.68% (95bps higher).
- The BBB rated 5-10yr corporate sector (measured by ICE BofA ***c6a4*** index) fell 5.20% to close yielding 6.19% (91bps 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 $341 billion (face amount) of investment grade and below investment grade instruments in both the retail $25par market (34%) and the institutional $1,000par market (66%). The USD

Contingent Capital Index of US dollar denominated junior-subordinated capital securities ***(cdlr)*** represents $151 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 $498 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*) @ 45% *of i0cs***
    - Comprised of IG $25par and IG $1,000par (incl. US AT1)
        - The *p0p1* fell 3.41% this month to close yielding 6.93% (+94bps)

- ❖ Headcount was down 4; face value down $2.080 bil.

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 4.52% this month to close yielding 6.83% (+96bps)
     - ❖ Headcount was up 1; face value up $4.858 bil.
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 5.30% this month to close yielding 7.90% (+97bps)
     - ❖ Headcount up 1; face value up $708mm
4. **ICE BofA High Yield Fixed Rate Preferred Index (*p0hy*) @ 27% of *i0cs***
   - Comprised of BIG $25par and BIG 1,000par (incl. US AT1)
     - ❖ The *p0hy* fell 3.86% this month to close yielding 7.72% (+64bps)
     - ❖ Headcount was unchanged; face value down $804mm

Overall, the ICE BofA All US Capital Securities Index (***i0cs***) fell 3.91% in September to close yielding 7.16%, which was 78bps higher than last month's closing yield and a spread of +337bps over comparable US Treasury securities (21bps wider).

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 65% 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 2.30% this month to close yielding 8.82%, which was 118bps higher than last month and a spread of +507bps over comparable US Treasury securities (67bps wider).

Discussion of Retail and Institutional Sectors:

We report on the retail and institutional sectors 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 provide measures of inflation coverage in a *Purchasing Power Matrix*; and a table for yield-to-worst, net of inflation and of historical default in a *Real Yield Matrix* that compares hybrids, investment grade corporates and high yield bonds. Finally, we show data on prior credit cycles for each sector 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 relative to prior down credit cycles, but not necessarily an outlook to that direction. 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 vs. Global Financials:

Capital Securities Spread Value Matrix	p0p4 (a) Retail	p0p4-e0ba (b) Retail	stb8 (a) NoCo	stb8-e0ba (b) NoCo	cdlr (a) CoCo	cdlr-e0ba (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	486	205	660	313
Low	-178	-267	176	60	223	143
Range	766	518	310	145	437	170
Average	57	-52	248	139	328	220
Stdev	121	105	47	27	61	34
Monthend	167	7	315	155	428	268
Spread Scores:						
(monthend-ave)/stdev	0.91	0.56	1.43	0.59	1.64	1.41
Δ from Last Month	-0.20	-0.43	0.60	0.27	0.77	0.74

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*

The way we interpret the above option adjusted spread table is by the statistical positioning of the *Spread Scores* where, **zero** = "*fair value*", **+/- 1stdev.** = "*undervalued*"/ "*overvalued*", respectively and **+/- 2stdevs** = "*very undervalued*"/ "*very overvalued*", respectively.

Spread performance for hybrids was mixed again September as the OAS on retail paper tightened 22bps (i.e., -0.20 stdevs) helping the sector outperform institutional product this month. The OAS for the institutional $1,000par preferred securities sector ("NoCos") widened by 29bps which is why the spread score change from last month is red (i.e., 0.60 stdevs). The OAS for the CoCo sector widened by 48bps giving it the biggest move (i.e., +0.77 stdevs). From an OAS valuation perspective, the retail sector moved from the *undervalued* zone into the *fair value* zone at 0.91 standard deviations. Both the NoCo and CoCo sectors moved from *fair value* to *undervalued* with CoCos having the biggest moves in the absolute and relative to more senior financials.

Implications of Market Activity:

$25par Retail Preferred Securities Sector

The retail preferred securities sector measured by *p0p4* fell $3.28 in September to $84.30, adding a 7th negative month to the sector this year. The following table illustrates the retail sector's three prior credit cycles compared to month end 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%**	3.80%	1.35%	
PCE DEFY	1.48%	0.59%	1.86%	**1.31%**	6.20%	4.89%	
Real UST10yr	1.50%	1.05%	0.88%	**1.14%**	-2.40%	-3.54%	
$25Coupon	6.64%	6.46%	6.05%	**6.38%**	5.46%	-0.92%	
$25Price	$94.06	$98.66	$93.09	**$95.27**	$84.48	-$10.79	
$25Current Yield	7.06%	6.55%	6.50%	**6.70%**	6.46%	-0.24%	
Mdur Worst	9.52	10.44	10.95	**10.30**	12.63	2.33	
CY Spread vs. T10yr	4.08%	4.91%	3.76%	**4.25%**	2.66%	-1.59%	
Source: Bloomberg; ICE BofA Bond Indices						-3.00%	Est. Price Risk to AveCY
				Comprehensive Risk Est.		3.46%	Est. Price Risk + CY
				Recapture Rate (yrs.)		0.46	Est. Price Risk / CY
					Memo:	-16.85%	Total Return YTD

The current yield of the retail sector closed September at 6.46%, which was 6bps higher than last month and 24bps lower than the average current yield at the bottom of the last three credit cycles. The current yield spread to the 10yr is 159bps less than the average spread of the last three credit cycle bottoms so retail preferred yields are high, but spread is squeezed a bit by UST yields being so high (e.g., the UST 10yr yield is 135bps higher now than it was on average over the past three credit cycle bottoms) – the offset to this is that the dollar price of the retail sector is $10.79 lower than the average of the prior bottoms, which means that there is significantly more convexity to the retail market during this cycle than there was during the prior cycles. The implication of a 0.24% current yield increase to 6.70% (the average current yield of the prior bottoms) is an estimated 3.00% price decline using the current modified duration of 12.63; then adding back a current book yield (assuming a 12month path) of 6.46% makes the *Comprehensive Risk Estimate* for the retail sector positive again at 3.46% after also being positive at the end of April, June, and August. It would take 0.46yrs to recapture this assumed capital loss with book income, which implies that there is more opportunity than risk in the retail sector.

$1,000par Institutional Preferred Securities Sector

The $1,000 par institutional sector of the preferred securities market fell $4.48 as yields rose 94bps to 7.45% by the end of September. The following table illustrates the institutional preferred securities sector's three prior credit cycles compared to closing valuations this month:

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%**	3.80%	1.32%	
PCE DEFY	1.17%	0.59%	1.86%	**1.21%**	6.20%	4.99%	
Real UST10yr	1.77%	1.16%	0.88%	**1.27%**	-2.40%	-3.67%	
Coupon	6.77%	6.43%	5.88%	**6.36%**	5.17%	-1.19%	
Price	$103.96	$99.62	$97.23	**$100.27**	$88.92	-$11.35	
Current Yield	6.51%	6.45%	6.05%	**6.34%**	5.81%	-0.52%	
Mdur Worst	5.90	5.23	4.64	**5.26**	4.02	-1.24	
CY Spread vs. T10yr	3.57%	4.70%	3.31%	**3.86%**	2.01%	-1.85%	
Source: Bloomberg; ICE BofA Bond Indices						-2.11%	Est. Price Risk to AveCY
				Comprehensive Risk Est.		3.71%	**Est. Price Risk + CY**
				Recapture Rate (yrs.)		0.36	Est. Price Risk / CY
					Memo:	-13.76%	Total Return YTD

The current yield of the institutional preferred sector closed the month at 5.81%, which was 26bps higher than last month. This brings the current yield of the sector to 52bps less than the average current yield at the bottom of the last three credit cycles. The implication of an 0.52% current yield increase to 6.34% (the average current yield of the prior bottoms) is an estimated 2.11% price decline using the modified duration of 4.02; then adding back a current book yield (assuming a 12month path) of 5.81% makes the *Comprehensive Risk Estimate* for the NoCo sector equal to a 3.71% horizon return to accept the risk. It would take 0.36yrs to recapture this capital loss estimate with book income. The combination of higher yields despite some spread tightening has moved the NoCo sector into an improved cushioned valuation than last month.

Contingent Capital Securities Sector

The CoCo sector fell $5.87 as even as the European bank stocks were quite volatile but, more or less, sideways this month. The rise in the sovereign yields of the UK, Italy and Greece have outpaced the already significant rise in the Europe overall, as markets are repricing a significant economic slowdown next year. Despite the banking sector being well capitalized and adequately reserved, the general economic outlook does not bode well for earnings momentum anytime soon. At 6.64% net of default and inflation expectations, the CoCo sector has a 179bp advantage over high yield (i.e., junk) bonds.

The following table illustrates the contingent capital securities sector's three prior credit cycles compared to closing valuations this month:

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%**	3.80%	1.25%	
PCE DEFY	1.48%	0.59%	1.86%	**1.31%**	6.20%	4.89%	
Real UST10yr	1.53%	1.16%	1.02%	**1.24%**	-2.40%	-3.64%	
Coupon	7.63%	6.40%	6.78%	**6.94%**	6.18%	-0.76%	
Price	$105.04	$89.12	$96.21	**$96.79**	$84.93	-$11.86	
Current Yield	7.26%	7.18%	7.05%	**7.16%**	7.28%	0.11%	
Mdur Worst	4.76	5.30	3.95	**4.67**	2.73	-1.94	
CY Spread vs. T10yr	4.25%	5.43%	4.17%	**4.62%**	3.48%	-1.14%	
Source: Bloomberg; ICE BofA Bond Indices						0.31%	Est. Price Risk to AveCY
				Comprehensive Risk Est.		7.58%	**Est. Price Risk + CY**
				Recapture Rate (yrs.)		-0.04	Est. Price Risk / CY
					Memo:	-17.28%	Total Return YTD

The current yield of the CoCo sector closed September at 7.28%, which was 48bps higher than last month and 11bps higher than the average current yield at the bottom of the last three credit cycles (i.e., 7.16%) – and higher than the worst current yield (i.e., 7.26%), as well. The current yield spread to treasury 10yr notes is 114bps lower than the average of the last three credit cycle bottoms because absolute treasury yields are high but the average CoCo price of $84.93 is lower than any of the past three cycles. The implication of a 0.11% current yield decline to 7.16% (the average current yield of the prior bottoms) is an estimated 0.31% price increase using the modified duration of 2.73; then adding back the current book yield (assuming a 12month path) of 7.28% makes the *Comprehensive Risk Estimate* for the CoCo sector 7.58% -- 181bps higher (i.e., a lower risk) than last month. The recapture rate is negative because the price risk is positive. CoCo prices have underperformed performed NoCo prices by 4.65pts this year even though CoCos have 1.29yrs less duration. CoCos are not only *undervalued* on spread statistically, but in the absolute they are cheaper now than at any other credit cycle bottom since their issuance.

Outlook:

This month began with the backdrop of a hardened policy narrative from the US Federal Reserve bank. Here's a recap from Chairman Powell's Jackson Hole speech:

> *"The Federal Open Market Committee's (FOMC) overarching focus right now is to bring inflation back down to our 2 percent goal. Price stability is the responsibility of the Federal Reserve and serves as the bedrock of our economy. Without price stability, the economy does not work for anyone. Restoring price stability will take some time and requires using our tools forcefully to bring demand and supply into better balance. Reducing inflation is likely to require a sustained period of below-trend growth. Moreover, there will very likely be some softening of labor market conditions. While higher interest rates, slower growth, and softer labor market conditions will bring down inflation, they will also bring some* ***pain*** *to households and businesses. These are the unfortunate costs of reducing inflation. But a failure to restore price stability would mean far greater* ***pain****."*

The use of the word "pain" is not a message of a Fed that would be quick to reverse course on interest rates. In fact, the chairman reiterated the force of this statement in the press conference that followed September's policy move by saying, "*My main message has not changed at all since Jackson Hole*." The surprise out of the Fed's meeting was the bump in the dots to 4.625% next year from 3.75% and staying elevated through 2024 at 3.875%. Powell views that rates have a "*ways to go*" and that federal funds are on a "*plausible path*" for the Fed to achieve its battle goal against inflation. But the "pain" the Fed speaks of will likely come from quick risk repricings from diminishing liquidity as the full force of the balance sheet reductions gets further entrenched over the near term. The fact that real rates have zoomed almost 200bps higher in just 2 months is anecdotal to the market's concern about clearing prices without the Fed's bid side presence like there has been in the past. But as real yields are repricing higher because the Fed's balance sheet is running off, breakeven inflation rates implied by treasuries is repricing lower too – albeit too low it seems, unless this is foretelling a meltdown in stocks and a meltup in credit spreads. Does a 2.16% implied inflation rate over the next 5yrs on average make sense with the PCE deflator at 6.2% today? We think not because that would mean if the PCE runs at 6.2% over the next year, that the PCE would have to drop to 1.15% over the 4yrs that follow to average 2.16% on average – this suggests a very hard landing for the US economy. Perhaps the low breakeven inflation rate on the UST5yr is foretelling a hard landing by a Fed gone too far -- time will tell, but if true then equity should decline more. In the meantime, it is important for fixed income investors to get as much inflation (and default) coverage as possible in credit yields today to help cushion risks – the hybrid sector can be a constructive way to do this. Here's a look at the multiples of 5yr average implied inflation that are available in hybrids compared to more senior financials:

	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)	12.63	6.61	2.16	3.06	0.24
NoCos (stb8)	4.02	7.56	2.16	3.50	0.87
CoCos (cdlr)	2.73	8.91	2.16	4.13	1.51
More Sr. Fins (e0ba)	4.84	5.71	2.16	2.64	0.55

Source: Bloomberg; ICE BofA Bond Indices

The coverages are 30-40% higher this month than they were in August. The contingent convertible sector (CoCos) is still the winner on *Inflation Coverage* and risk adjusted coverage when factoring in duration. The Noco sector wins the silver medal again on both scores. The retail sector measures up too, but one must accept the highest duration risk to get the better than 3x coverage.

Defense continues to be our primary investment objective year and positive real yields for hybrids helps us run the playbook. Real yields are quite attractive in hybrids and even more so when we adjust historical default risks from real yields. Below we assess a more comprehensive view of real yields net of inflation and net of default in a *Real Yield Matrix* to double risk adjusted yield comparisons in hybrids, investment grade corporates and below investment grade corporates (i.e., junk bonds):

Real Yield Matrix	Hybrids		Corporates	
	Preferreds	CoCos	IG Corps	BIG Corps
Bloomberg Index	*cips+hips*	*cdlr*	*c6c0*	*h0a0*
Mod.Duration	4.02	2.73	6.22	4.40
Yield-to-Worst	7.56	8.91	5.95	9.58
Inflation[1] Adjustment	2.16	2.16	2.16	2.16
Real Yields	5.40	6.75	3.79	7.42
Default[2] Adjustment	-0.11	-0.11	-0.04	-2.57
YTW, net, net adj.	**5.29**	**6.64**	**3.75**	**4.85**
Composite Rating	*BBB2*	*BB1*	*BBB1*	*B1*
Last Month End:	Hybrids		Corporates	
	Preferreds	CoCos	IG Corps	BIG Corps
YTW, net, net adj.	3.76	4.89	2.33	3.24
Change from Last	☆ 1.53	☆ 1.75	☆ 1.42	☆ 1.61

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 double-net real yield opportunity in credit – about 35% more now than in June (the prior lows) because prices broke lower this month than they had in June. As the Fed accelerates the balance sheet moves to cruise control, yields are likely to elevate somewhat more as spreads retrace into yearend with equity expected to be under pressure from downward earnings revisions. The Fed will focus more on labor (i.e., one of its policy objectives) than it will on recession and will keep at its restrictive policy until its job is done.

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