SPECTRUM
Asset Management

Junior-Subordinated Capital Securities Markets

October 2022 Updates

The fixed income credit markets continued to weaken as yields rose along the same trendline as September, August & July. The term of this negative trend in 30yr US Treasury long bonds is now 6.0 standard deviations long and fed more recently by the Fed's strong messaging that it will continue to raise interest rates until it gets the job done on inflation. The 30yr bond closed the month yielding 4.17% (42bps higher) and the 10yr note closed yielding 4.06% (26bps higher). Real rates on the front end of the treasury curve (e.g., UST 5yr TIPS) declined by 41bps (to 1.56%); the 5yr implied breakeven inflation rate (i.e., the difference in yields between the 5yr UST and the 5yr Treasury Inflation Protected Security) increased by 50bps to close at 2.67%. The implication is that the bond market got more skittish on the Fed's inflation resolve this month. The VIX (i.e., Chicago Board Options Exchange Volatility Index) slipped 18.2% to 25.88 as the S&P 500 rose to 3872, up 286 points and back above 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) rose 2.86% to close yielding 8.95% (63bps lower).
- Global bank credit (measured by ICE BofA ***e0ba*** index) fell 0.89% to close yielding 6.03% (32bps higher).
- The BBB rated 5-10yr corporate sector (measured by ICE BofA ***c6a4*** index) fell 0.61% to close yielding 6.38% (16bps 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 $339 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 $490 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 1.99% this month to close yielding 7.91% (+35bps)
     - Headcount was down 2; face value down $1.083 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 1.83% this month to close yielding 6.83% (+96bps)
     - Headcount was down 1; face value down $0.201 bil.
3. **ICE BofA High-Yield Capital Securities Index (*h0c*s) @ 5% of *i0cs***

- <u>Comprised of BIG $1,000par legacy Tier1 and BIG $1,000par hybrids</u>
    - The *h0cs* fell 1.27% this month to close yielding 7.90% (+97bps)
    - Headcount unchanged; face value unchanged

4. **ICE BofA High Yield Fixed Rate Preferred Index (*p0hy*) @ 27% of *i0cs***
    - <u>Comprised of BIG $25par and BIG 1,000par (incl. US AT1)</u>
        - The *p0hy* fell 3.64% this month to close yielding 7.72% (+64bps)
        - Headcount was down 2; face value down $1.218bil.

Overall, the ICE BofA All US Capital Securities Index (***i0cs***) fell 2.35% in October to close yielding 7.66%, which was 47bps higher than last month's closing yield and a spread of +349bps over comparable US Treasury securities (12bps wider).

<u>Contingent Capital Securities</u>

A **"contingent capital security"** (i.e., a "CoCo") represents a capital security issued through indenture typically within the context of a "<u>going-concern</u>" 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***) rose 1.40% this month to close yielding 9.13%, which was 22bps higher than last month and a spread of +493bps over comparable US Treasury securities (19bps tighter).

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:

	p0p4	p0p4-e0ba	stb8	stb8-e0ba	cdlr	cdlr-e0ba
Capital Securities Spread Value Matrix	(a)	(b)	(a)	(b)	(a)	(b)
	Retail	Retail	NoCo	NoCo	CoCo	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	59	-50	249	139	330	220
Stdev	121	105	47	27	61	34
Monthend	216	45	321	150	419	248
Spread Scores:						
(monthend-ave)/stdev	1.30	0.90	1.53	0.41	1.46	0.82
Δ from Last Month	0.39	0.34	0.11	-0.19	-0.18	-0.59

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 in October as the OAS on retail paper widened 49bps (i.e., -0.39 stdevs) adding additional pressure to the sector. The OAS for the institutional $1,000par preferred securities sector ("NoCos") widened by 6bps which is why the spread score change from last month is light red (i.e., 0.11 stdevs). The OAS for the CoCo sector tightened by 9bps giving it positive move toward center (i.e., -0.18 stdevs). From an OAS valuation perspective, all three sectors appear *undervalued* and converging toward one another, statistically.

Implications of Market Activity:

$25par Retail Preferred Securities Sector

The retail preferred securities sector measured by *p0p4* fell $4.62 in October to $79.85, adding an 8th 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%**	4.06%	1.61%	
PCE DEFY	1.48%	0.59%	1.86%	**1.31%**	6.20%	4.89%	
Real UST10yr	1.50%	1.05%	0.88%	**1.14%**	-2.14%	-3.28%	
$25Coupon	6.64%	6.46%	6.05%	**6.38%**	5.44%	-0.94%	
$25Price	$94.06	$98.66	$93.09	**$95.27**	$79.57	-$15.70	
$25Current Yield	7.06%	6.55%	6.50%	**6.70%**	6.84%	0.14%	
Mdur Worst	9.52	10.44	10.95	**10.30**	12.09	1.79	
CY Spread vs. T10yr	4.08%	4.91%	3.76%	**4.25%**	2.78%	-1.47%	
Source: Bloomberg; ICE BofA Bond Indices						1.70%	Est. Price Risk to AveCY
				Comprehensive Risk Est.		8.54%	**Est. Price Risk + CY**
				Recapture Rate (yrs.)		-0.25	Est. Price Risk / CY
					Memo:	-21.05%	Total Return YTD

The current yield of the retail sector closed September at 6.84%, which was 38bps higher than last month and 13bps higher than the average current yield at the bottom of the last three credit cycles. The current yield spread to the 10yr is 147bps less than the average spread of the last three credit cycle bottoms so retail preferred yields are high, but spread is squeezed by UST yields being so high (e.g., the UST 10yr yield is 161bps 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 $15.70 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 0.13% current yield increase to 6.84% (the average current yield of the prior bottoms) is an estimated 1.70% price increase using the current modified duration of 120.9; then adding back a current book yield (assuming a 12month path) of 6.84% makes the *Comprehensive Risk Estimate* for the retail sector significantly positive again at 8.54% after also being positive at the end of April, June, August and September. There is a negative recapture rate because the current yield is higher than the average of the last three credit cycles, which implies that there is more opportunity (e.g., 1.70% in capital) than risk in the retail sector.

There was one new issue this month in the retail sector:

- $700 million (Baa2/BBB+) Reinsurance Group of America 7.125% fixed-to-refixed 30yr junior subordinated debt

$1,000par Institutional Preferred Securities Sector

The $1,000 par institutional sector of the preferred securities market fell $0.99 as yields rose 35bps to 7.91% by the end of October. 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%	4.06%	1.58%	
PCE DEFY	1.17%	0.59%	1.86%	1.21%	6.20%	4.99%	
Real UST10yr	1.77%	1.16%	0.88%	1.27%	-2.14%	-3.41%	
Coupon	6.77%	6.43%	5.88%	6.36%	5.18%	-1.18%	
Price	$103.96	$99.62	$97.23	$100.27	$87.98	-$12.29	
Current Yield	6.51%	6.45%	6.05%	6.34%	5.89%	-0.45%	
Mdur Worst	5.90	5.23	4.64	5.26	3.92	-1.34	
CY Spread vs. T10yr	3.57%	4.70%	3.31%	3.86%	1.83%	-2.03%	
Source: Bloomberg; ICE BofA Bond Indices						-1.77%	Est. Price Risk to AveCY
				Comprehensive Risk Est.		4.12%	Est. Price Risk + CY
				Recapture Rate (yrs.)		0.30	Est. Price Risk / CY
					Memo:	-14.37%	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 45bps less than the average current yield at the bottom of the last three credit cycles. The implication of a 0.45% current yield increase to 6.34% (the average current yield of the prior bottoms) is an estimated 1.77% price decline using the modified duration of 3.92; then adding back a current book yield (assuming a 12month path) of 5.89% makes the *Comprehensive Risk Estimate* for the NoCo sector equal to a 4.12% horizon return to accept the risk. It would take 0.30yrs 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.

The story this month in NoCos was the introduction of dated 60yr Canadian AT1 otherwise known as Limited Recourse Capital Notes (LRCNs):

- $1.75 billion (Baa1/BBB) Toronto Dominion 8.125% due 10/31/82
- $750 million (Baa3/BBB-) Bank of Nova Scotia 8.625% due 10/7/82

Contingent Capital Securities Sector

The CoCo sector rose $0.70 as this month after falling over 9% over the last two months. The 11.4% rise in the European bank sector helped the CoCo sector go up in addition to a Credit Suisse strategic reset of its investment bank that was well received by markets. Despite the banking sector being well capitalized and adequately reserved, the general economic outlook does not bode well for earnings momentum of European banks though balance sheets are in good shape to weather a recession. 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%**	4.06%	1.51%	
PCE DEFY	1.48%	0.59%	1.86%	**1.31%**	6.20%	4.89%	
Real UST10yr	1.53%	1.16%	1.02%	**1.24%**	-2.14%	-3.38%	
Coupon	7.63%	6.40%	6.78%	**6.94%**	6.17%	-0.77%	
Price	$105.04	$89.12	$96.21	**$96.79**	$85.49	-$11.30	
Current Yield	7.26%	7.18%	7.05%	**7.16%**	7.22%	0.05%	
Mdur Worst	4.76	5.30	3.95	**4.67**	2.68	-1.99	
CY Spread vs. T10yr	4.25%	5.43%	4.17%	**4.62%**	3.16%	-1.46%	
Source: Bloomberg; ICE BofA Bond Indices						0.14%	Est. Price Risk to AveCY
				Comprehensive Risk Est.		7.36%	**Est. Price Risk + CY**
				Recapture Rate (yrs.)		-0.02	Est. Price Risk / CY
					Memo:	-16.12%	Total Return YTD

The current yield of the CoCo sector closed October at 7.22%, which was 6bps lower than last month and 5bps higher than the average current yield at the bottom of the last three credit cycles (i.e., 7.16%) – and higher than the average current yield (i.e., 7.16%), as well. The current yield spread to treasury 10yr notes is 146bps lower than the average of the last three credit cycle bottoms because absolute treasury yields are high. The CoCo price average of $85.49 is lower than any of the past three cycles, which (like the other hybrid sectors) highlights that the term structure of interest rates (i.e., high real US Treasury yields) being the primary reason for deeply discount prices. The implication of a 0.05% current yield decline to 7.16% (the average current yield of the prior bottoms) is an estimated 0.14% price increase using the modified duration of 2.68; then adding back the current book yield (assuming a 12month path) of 7.22% makes the *Comprehensive Risk Estimate* for the CoCo sector 7.36%. The recapture rate is negative because the price risk is positive. CoCo prices have underperformed performed NoCo prices by 2.32pts this year even though CoCos have 1.24yrs less duration. CoCos are not only *undervalued* on spread statistically, but in the absolute they are among the cheapest of the three credit cycle bottoms we reference.

Outlook:

This month was focused on the Fed Minutes from the September meeting that were released in October. The primary takeaways were:

1. All members voted in favor of the 75bps hike to 3.25% (top of the "bound"), which affirms a commitment to restrictive measures and keeping its current path.
2. There is a clear focus on the Fed's read into the TIPS market netting out a "market view" of expected inflation compensation through the treasury breakeven rates.

The Fed minutes noted (as we have too) that the rise in US Treasury yields was primarily the result of a rise in real yields while "inflation compensation measures declined substantially at short horizons and remained relatively little changed at medium and longer-term horizons." As we said last month, the fact that real rates have zoomed higher is anecdotal to the market's concern about clearing prices without the Fed's bid side presence. Basically, markets get to clear the fundamentals of sovereign rates risk without the meddling of central banks. But as real yields reprice higher as the Fed's balance sheet runs off, breakeven inflation rates implied by treasuries had been repricing lower until October. We had mentioned last month that a 2.16% implied inflation rate over the next 5yrs did not make sense with the PCE deflator at 6.2% today; and this month the inflation breakevens turned up significantly? The 5yr breakeven went up 60bps in October to 2.66% and the 2yr breakeven went up 87bps to 2.86%. No doubt 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)	12.09	7.26	2.66	2.73	0.23
NoCos (stb8)	3.92	7.95	2.66	2.99	0.76
CoCos (cdlr)	2.68	9.15	2.66	3.44	1.29
More Sr. Fins (e0ba)	4.79	6.07	2.66	2.29	0.48

Source: Bloomberg; ICE BofA Bond Indices

The inflation coverages are a bit tighter this month, but nonetheless hybrids cover inflation by over twice as much – even after the breakeven bump this month. 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 coverage.

Defense continues to be our primary investment objective this 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	3.92	2.68	6.18	4.34
Yield-to-Worst	7.95	9.15	6.16	9.06
Inflation[1] Adjustment	2.66	2.66	2.66	2.66
Real Yields	5.29	6.49	3.50	6.40
Default[2] Adjustment	-0.11	-0.11	-0.04	-2.57
YTW, net, net adj.	**5.18**	**6.38**	**3.46**	**3.83**
Composite Rating	*BBB2*	*BB1*	*BBB1*	*B1*
Last Month End:	Hybrids		Corporates	
	Preferreds	CoCos	IG Corps	BIG Corps
YTW, net, net adj.	5.29	6.64	3.75	4.85
Change from Last	☆ -0.11	☆ -0.26	☆ -0.29	☆ -1.02

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 – though a bit less than last month due to the yield rally in the inflation breakevens. As the Fed's balance sheet reduction operates on high-speed 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, but no doubt the markets will anticipate the complete job in advance. But for now, the Fed is still putting on the pressure with leaning into the potential for an even higher terminal federal funds rate than the September dots suggested.

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