High Yield Strategy

Drawdown Scenarios Through the Cycle

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Oleg Melentyev, CFA
Credit Strategist
BofAS
+1 646 855 6379
oleg.melentyev@bofa.com

Eric Yu
Credit Strategist
BofAS
+1 646 855 8663
eric.x.yu@bofa.com

Lower quality and cyclicals drive further index gains

HY market was stable over the week as equities inched up to a fresh record high, crude prices faltered and 10yr Tsy rallied 7bps. This came as US-China phase-one deal was signed and the BoE issued a dovish outlook. HY spreads tightened 5bps to 345bps as CCCs narrowed another 15bps on top of the 20bps the week before.

The index added 35bps in total returns and 10bps in excess returns, taking MTD figures to 70bps and 35bps, respectively. Loans had similar total returns both on weekly and MTD basis, while IG outperformed this week helped by longer duration along with longer duration segments in HY. Within rating segments, CCCs continued to lead the charge for the sixth week in a row, adding 55bps this week and 130bps MTD.

Cyclical/global sectors continued to outperform for the second week with top three gainers – retail, transportation and financials – all adding in excess of 50bps in returns. Energy sector appears to have lost steam for the moment, giving up a negligible 4bps of total return; recent new issues from the sector were also going sideways.

About $5.8bn new issues came to the market since our last update with about $4.8bn meant primarily to refinance existing bonds; another $1.8bn of refi-deals is expected to get priced this week. Energy sector accounted for $2bn and another $1bn expected this week. Judging from the performance of new issues in the sector, market's appetite for this risk may be reaching its limits. At current pace, we are on track to see $22bn priced in January, materially ahead of what is normally a seasonally slow month for HY issuance. February is likely see $15bn in issuance.

On the demand side, we had $5.5bn in calls/maturities this week, $2.3bn in funds inflows and $1.7bn net buying from dealers, generating net cash of around $10bn, in addition to a heavy coupon of $6.0bn. Next week, we are looking for light cash generation of $1.6bn from calls/maturities and only $0.3bn from coupons.

What do we think here

With this being the eleventh year of what normally is an 8-10 year credit cycle, questions around potential scenarios of the next cyclical turn are as pertinent as ever. And while timing the exact point of such turn is a highly uncertain exercise, the effort spent towards understanding pressure points of the next cycle is key to proper risk management.

Here we update our work published a little over a year ago in comparing expected credit losses across different segments of US lev fin space, including HY bonds, broadly syndicated loans, and private debt. Figure 1 presents our current views on the scenarios for credit loss experience in these segments, with one important change: instead of estimating peak annual credit losses, we focus on their cumulative value through the whole credit cycle.

To do so, we start with actual realized cumulative credit losses in HY in both of the two previous credit cycles. We define the starting and ending points of each cycle as those coinciding with HY spreads crossing 600bps on the upside and downside respectively. For the two cycles in question, those dates happen to be May 2000 – June 2003, and Nov 2007 – Aug 2009. Defined this way, the two cycles lasted 37months and 22 months respectively.

During the first cycle, 356 issuers have defaulted, producing a 22.3% cumulative default rate at 27% average recovery for 16.2% cumulative credit loss. In the second cycle, 279 issuers have defaulted for 19.9% cumulative default rate, 34% average recovery, and 13.2% cumulative credit loss. Such credit losses have wiped out 2.7x and 2.2x of expected annual spread income just before those cycles have turned.

Figure 1: Credit Loss scenarios through the next credit cycle

Credit losses	2000-2002	2007-2009	HY	Loans	Private
Current leverage			5.0x	5.8x	5.8x
Recessionary leverage			6.7x	7.7x	8.2x
Assumed default rate multiple			1.0x	1.4x	1.5x
Default rate, cumulative	22.3%	19.9%	21.1%	28.5%	31.6%
Recovery rate, average	27.0%	34.0%	30.5%	50.0%	40.0%
Credit Loss, cumulative	16.2%	13.2%	**14.7%**	**14.2%**	**19.0%**
OAS	6.0%	6.0%	3.6%	4.0%	5.0%
Credit loss, multiple of OAS	2.7x	2.2x	**4.1x**	**3.6x**	**3.8x**

Source: BofA Global Research

Given that HY leverage today, at 5.0x, is roughly in line with the two points in time when previous cycles have turned, we assume the next credit cycle is going to produce a similar credit loss experience in this asset class. So the assumed default rate multiple in Figure 1 for HY is 1.0x, and the expected credit loss of 14.7% is a simple average of the previous two cyclical experiences.

For broadly syndicated loans, the current overall debt leverage of 5.8x according to estimates from S&P LCD, where it is approaching peak leverage levels experienced by HY in previous cycles. At such leverage, the loan market resembles the quality composition somewhere between low single-B and high-CCC level, according to Moody's[1]. Such a rating mix implies potential default rates that are 1.4x that of overall HY market, a multiplier we use to estimate cumulative loan default rates in the next cycle. We also assume a 50% average recovery rate in loans during the next credit cycle, a low level by historical standards, which is a reflection of prevalence of loan-only cap structures, loose covenants, aggressive EBITDA add-backs and other factors.

In private debt, we estimate the current leverage to be also around 5.8x, whoever we assume a stronger cyclical impact on earnings of smaller and less-diversified issuers in that space. We assume a 30% drop in their EBITDAs, compared to 25% in HY and loans. This produces a higher peak leverage of 8.2x and a higher default multiplier of 1.5x.

Next, we relate expected credit losses to the current spread levels offered by each asset class, which out at 4.1x in HY, 3.6x in loans, and 3.8x in private debt[2].

Investors stand to lose 3-4 years of their expected current spread income to credit losses once the cycle turns.

[1] See Moody's key ratios by rating for global nonfinancial corporates, Dec 16, 2019
[2] In loans, we use spread to maturity under assumption that most loans are not going to be refinanced in the environment of a cyclical turn, which makes shorter-tenor DMs less relevant.

Credit losses are only one part of the total risk assumed by investors in corporate credit; the other part is mark-to-market drawdown. The former is irreversible and *relatively* moderate; the latter is reversible but carries much higher magnitude of initial impact. Consider the fact that while HY averaged 14.7% in direct credit losses in the last two credit cycles, it also experienced 37.3% in average excess return drawdowns[3]; much of those were subsequently reversed as risk appetite recovered.

Figure 2 shows such historical excess returns (ERs) drawdowns in HY along with other asset classes and rating categories[4] in the first three columns. Assumed future excess return for the next credit cycle is a function of historical average times the multiplier. We use 1.0x multiplier for HY categories, 1.4x for loans based on the same reasoning applied to credit losses above. For IG categories, we use 1.2x as a function of elevated leverage there[5].

Figure 2: Drawdown scenarios through the next credit cycle, excess and total returns (ERs and TRs)

	Actual past ERs, %			Assumed Next Cycle						
	2000-2002	2007-2009	Average	Multiple	ERs, %	OAS	ERs/OAS	TRs	YTM	TRs/YTM
HY	-35.6%	-39.1%	-37.3%	1.0x	-37.3%	3.6%	-10.4x	-26.1%	5.9%	-4.4x
Loans		-35.6%	-35.6%	1.4x	-48.1%	4.0%	-12.0x	-43.6%	6.0%	-7.2x
IG	-3.2%	-24.3%	-13.7%	1.2x	-16.5%	1.0%	-16.5x	-0.3%	2.9%	-0.1x
BBB	-9.3%	-25.7%	-17.5%	1.2x	-21.0%	1.3%	-16.2x	-4.9%	3.2%	-1.5x
BB	-24.3%	-29.0%	-26.7%	1.0x	-26.7%	2.0%	-13.3x	-14.7%	4.3%	-3.4x
B	-38.3%	-41.2%	-39.8%	1.0x	-39.8%	3.5%	-11.4x	-28.7%	6.0%	-4.8x
CCC	-52.1%	-54.6%	-53.4%	1.0x	-53.4%	9.9%	-5.4x	-43.0%	12.1%	-3.6x

Source: BofA Global Research

Under these assumptions we arrive at estimated excess return drawdown scenarios for the next credit cycle, ranging from -16.5% in IG to -37% in HY and -48% in loans.

While cumulative credit losses are likely to range 14-19% in various credit segments, the mark-to-market reaction could be about 2-3x stronger.

The key difference of course is that credit losses are permanent, while the drawdowns are temporary and reversible. In rating categories, investors could face drawdowns ranging from 21% in BBBs to 53% in CCCs.

Next we show current spread levels across all these segments of credit, and relate expected credit losses to the current spread income (ERs/OAS column). Effectively, this column translates into the number of years of expected spread income to be wiped out by the drawdown scenarios outlined above; this could range from 10 years in HY to 16 years in IG. Interestingly, lower quality stands out as a relative outperformer based on this metric given comparatively wide spread levels there today.

Finally we add a column to show total returns taking into account potential rates offset, which is based on assumption that the whole US yield curve goes to zero in the next recession. We take the duration of each respective credit category times the expected move in related Treasury security from current levels to zero to arrive at these estimates. Finally, we show total return multiple over yield to maturity[6] for each

[3] We use Oct 2002 and Mar 2009 to measure the low-tick values in each cycle.
[4] We add IG here, which was previously excluded from the credit loss analysis. For loans the first credit cycle of 2000-2002 carries low substance given its early development stage. Private debt is excluded from this analysis completely.
[5] IG leverage is 2.5x today, compared to 1.8x in 2006-2007 based on estimates from our IG strategists. This implies that the IG market weighted average default probability has shifted away from AA/A level in 2006-2007 to A/BBB level today. The 1.2x multiplier reflects incremental default probability vs historical IG averages.
[6] YTM is used here as opposed to YTW or OAY measures given that refinancing volumes are likely to collapse in a cyclical turn scenario.

segment. Rates naturally provide a significant offset to longer-duration segments such as IG, BBBs, and BBs, while offering virtually no relief in loans.

So what are the key takeaways from these scenarios? Starting with simplest conclusions, current valuations provide little cushion against a cyclical turn scenario.

> Given that most credit categories stand to face 10+ years of wiped out excess returns, it becomes an inevitability that long-term holders of credit risk will realize losses from current levels. The question is when.

The paradox is that simply being "higher quality" in your portfolio is not a good way to mitigate this risk, given that valuations in those segments are particularly tight. Taking extremely tight higher-quality valuations into account, it actually makes more sense to have above-benchmark exposure to lower quality segments, while managing overall risk lower with a cash position.

Loans are a particular standout in terms of their poor risk-return profile based on these scenarios. While estimates of their drawdowns exceeding those in HY could be a surprise to some, we note that their negative excess returns nearly matched those of HY even in 2007-2009 cycle, as shown in Figure 2. In recent years, with the establishment of liquid proxies such as HYG and BKLN, we can also see how loan beta in selloffs gets close to that of HY, as was the case in 2015-2016 or Q4 2018 episodes, despite the fact that these volatility shocks had little to do with loans as such. The next credit cycle, to the contrary, is likely to be heavily influenced by debt restructurings in loans, as we argued above. In such a scenario, a greater extent of an excess return drawdown is to be expected, in our opinion. Somewhat similar logic applies to IG, although here rates provide a very significant and important cushion.

Positioning recommendations

The evidence and scenarios presented above further reinforce our existing positioning recommendations, which are summarized in Figure 3 below. The table provides relative weights of each position in the context of overall model portfolio (Delta % column) scaled to $1bn notional. The bottom line summarizes the weighted impact of all these positions on key metrics such as effective duration, OAS, YTW, dollar price, and excess return beta against the broad DM USD HY index (H0A0).

We continue to view overall HY market as being 100bps too tight as described here. This view is reflected in a 15% cash position against zero benchmark weight. We use cash surrogates (1yr IG AA/A rated corporates) to pick up 30bps of OAS on that position.

We continue to view BBs as being the most overvalued quality segment in HY, reflected in a 10% underweight in that category. Note that all percentages here are in terms of overall portfolio weight, i.e. BBs are 49.4% of the benchmark, and we reduce them by 10% to 39.4% with this step alone. We keep our broad single-B exposure flat and add 2.5% to CCCs on the back of discussion in our last report here. Note that while 2.5% may not sound like a lot, it is a 24% boost to their benchmark weight of 11.8%.

We continue to advocate for our "two-corners" trade, albeit to a lesser extent given that it has performed so well since October. This trade is reflected with several line items in the table, where we underweight BBs, domestic/defensive sectors, short duration, and large/liquid capital structures. On the opposite side, we add to single-B cyclicals, long duration, and smaller cap structures.

Figure 3: Summary of our positioning recommendations

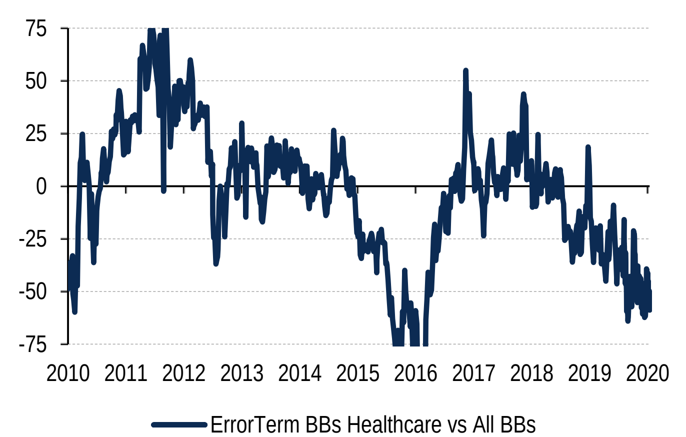
Index market value (MV) is scaled to $1bn; delta MV column adds up to zero, i.e. model portfolio value is also $1bn

	Index %	Index MV	Delta %	Delta MV	OAD	OAS	YTW	Price	Beta
Cash	0.0%	0	15.0%	150	1.0	30	1.89	100.0	0.00
BBs	49.4%	494	-10.0%	-100	3.7	192	3.68	105.1	0.89
Bs	38.8%	388	0.0%	0	2.9	344	5.23	102.7	0.98
CCCs	11.8%	118	2.5%	25	2.9	980	11.45	84.5	1.33
Two corners									
BBs Cable/Media	6.4%	64	-3.0%	-30	3.4	163	3.42	105.2	0.87
BBs Gaming	1.1%	11	-3.0%	-30	4.2	163	3.27	109.3	0.83
BBs Real Estate	3.5%	35	-1.0%	-10	3.7	174	3.52	105.8	0.60
BBs Healthcare	4.5%	45	-1.0%	-10	3.1	138	3.17	106.6	0.74
BBs Food Producers	1.1%	11	-1.1%	-11	3.2	154	3.23	106.6	0.71
Bs Capital Goods	2.3%	23	1.5%	15	2.8	295	4.59	104.9	0.87
Bs Chemicals	1.2%	12	1.0%	10	3.1	435	6.11	101.5	0.95
Bs Autos	1.7%	17	1.0%	10	3.0	363	5.35	101.5	0.96
Bs Retail	2.3%	23	2.0%	20	3.5	356	5.35	101.5	0.78
Bs Telecoms	4.0%	40	1.7%	17	3.5	324	4.94	106.3	1.19
BBs.OAD:0..2yrs	13.8%	138	-2.0%	-20	0.9	120	2.80	103.5	0.29
BBs.OAD:4..6yrs	13.1%	131	2.0%	20	4.9	230	4.13	105.8	1.01
Bs.OAD:0..2yrs	12.8%	128	-2.0%	-20	1.0	230	4.06	103.3	0.34
Bs.OAD:4..6yrs	9.4%	94	2.0%	20	4.6	456	6.40	100.2	1.19
Largest Issuers	90.7%	907	-10.0%	-100	3.9	268	4.16	103.5	0.83
Smallest Issuers	7.1%	71	10.0%	100	2.9	480	6.36	100.0	0.43
High quality energy overweight									
BBs ex-Energy	43.4%	434	-5.0%	-50	3.6	173	3.48	105.8	0.84
BBs Energy	6.0%	60	5.0%	50	3.9	330	5.08	100.3	1.21
Capital allocation cycle underweigths									
HY Healthcare	10.1%	101	-3.0%	-30	2.7	297	4.92	102.9	0.83
HY Technology	4.5%	45	-2.0%	-20	2.9	274	4.39	103.1	0.89
Valuations-driven adjustments									
Bs Chemicals	1.2%	12	2.0%	20	3.1	435	6.11	101.5	0.95
BBs Healthcare	4.5%	45	-2.0%	-20	3.1	138	3.17	106.6	0.74
H0A0 (benchmark)			-0.6%	-6	**3.3**	**344**	**5.20**	**101.2**	**1.00**
Portfolio vs benchmark		**1,000**		**0**	**-0.3**	**+45**	**+0.44**	**-2.2**	**-0.10**

Source: BofA Global Research

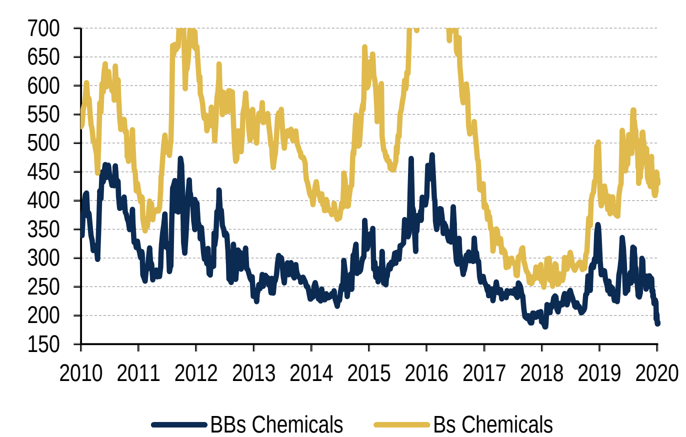
We continue to like and advocate for high-quality energy overweight, given the ongoing dislocation in valuations, although again to a lesser extent given the degree of outperformance in recent months.

Figure 4: Healthcare BBs vs all BBs, OAS error term, bps



Source: BofA Global Research

Figure 5: Chemicals Single-Bs vs Chemicals BBs, OAS, bps



Source: BofA Global Research

Our structural underweights in healthcare and technology sectors are driven by capital allocation considerations as described in our year-ahead report.

Finally, Figure 4 above supports an incremental underweight in healthcare BBs based on extremely tight valuations there. Similarly, we find chemical single-Bs priced very attractive against BBs as shown in Figure 5. Both of these positions are reflected as separate line items in Figure 3.

Note that all positioning recommendations together add up to net -0.6% which is balanced out to zero by selling generic HY risk. All positions are market-value (MV) weighted and add +45bps of OAS, +0.44% of YTW, -2.2pts of dollar price and -0.3yrs of effective duration.

Additionally, we show each position's beta to the HY index based on weekly excess returns since Jan 2010. Our model portfolio beta is 0.10x below the benchmark, at 0.90x.

HY Market Performance Recap

Rating actions on HY issuers this past week were dominated by upgrades for a change and concentrated in sectors such as retail and energy as shown in Figure 1. We didn't observe any crossover actions and there was one default reported by agencies.

Moody's appended limited default to Chesapeake on the issuer's distress exchange of $3.2bn senior unsecured notes for $2.2bn of second lien notes in December. The issuer had previously been downgraded by 4 notches across rating agencies in the last 3 months. Its benchmark bond maturing in 2025 widened by 33bps over the week and widened 411bps over the last 3 months. According to our screen, the issuer previously entered into additional equity for debt exchanges, which were captured by S&P as selective default back in September last year. In previous years, CHK missed interest payment in 2008 and had distress exchanges in 2015.

S&P upgraded Avon to B+ on acquisition by Natura while Fitch affirmed Avon's rating at B+ with the positive watch removed. Its benchmark bond maturing in 2020 tightened by 98bps over the week.

Figure 1: Rating agency HY actions and related performance this week

Issuer Name	Agency		New	Old	L3mo[1]	Country	Industry	Total Debt	Bond ID	OAS	vs. Bmrk[2]	L1wk[3]	L3mo[4]
Rating Actions													
Sable International Finance Ltd	Moody's	▲	Ba3	B2	2x▲	KY	Telecoms	3,760	CWCLN 6.875 2027	299	-41	-11	-137
Avon International Operations Inc	S&P	▲	B+	B *+	1x▲	US	Retail	3,719	AVP 7.875 2022	119	-71	-98	61
Booz Allen Hamilton Inc	S&P	▲	BB+	BB	1x▲	US	Technology	2,139	BAH 5.125 2025	157	-183	-45	58
Avon Products Inc	S&P	▲	B+	B *+	1x▲	GB	Retail	1,893	AVP 7.875 2022	119	-71	-98	61
Bruin E&P Partners LLC	S&P	▼	CCC+	B-	1x▼	US	Energy	1,675	BRUINE 8.875 2023	2059	1719	-43	206
Dun & Bradstreet Corp/The	Fitch	▲	BB-	B-	3x▲	US	Technology	1,333	DNB 10.25 2027	312	-657	-4	-253
PDC Energy Inc	Moody's	▲	Ba2	Ba3 *+	1x▲	US	Energy	1,291	PDCE 5.75 2026	402	62	24	-87
Callon Petroleum Co	S&P	▲	B+	B *+	1x▲	US	Energy	1,215	CPE 6.125 2024	384	44	19	-166
Aston Martin Capital Holdings Ltd	Moody's	▼	Caa1	B3	1x▼	JE	Autos	947	ASTONM 6.5 2022	832	-137	-116	-334
Jagged Peak Energy LLC	S&P	▲	BB	B *+	3x▲	US	Energy	715	JAG 5.875 2026	258	-82	2	-150
FTS International Inc	Moody's	▼	Caa1	B3	3x▼	US	Energy	489	FTSINT 6.25 2022	2638	1669	101	792
Defaults													
Chesapeake Energy Corp	Moody's	▼	Caa1/LD	Caa1	4x▼	US	Energy	9,386	CHK 8 2025	2002	1033	33	411
Outlooks													
Avon International Operations Inc	Fitch	▼	B+	B+ *+	1x▲	US	Retail	3,719	AVP 7.875 2022	119	-71	-98	61
Avon Products Inc	Fitch	▼	B+	B+ *+	1x▲	GB	Retail	1,893	AVP 7.875 2022	119	-71	-98	61
Avon International Capital PLC	Fitch	▼	BB+	BB+ *+		GB	Retail	1,653	AVP 7.875 2022	119	-71	-98	61
WESCO Distribution Inc	Moody's	▼	B1 *-	B1		US	Capital Goods	718	WCC 5.375 2021	349	159	262	292

Note: column L3mo1 measures the cumulative rating actions by notches per issuer within the last 3-month window. Empty value under the column indicates either no rating actions (excluding outlook) or the cumulative rating actions netted out for the issuer within the period. The performance metrics are based on the bond with biggest notional under each ticker and benchmarked against the quality-specific subindex (ex. H0A1 for BB-rated bonds). L1wk3 and L3mo4 measure the spread changes for the week and the last 3-month.

Source: BofA Global Research, Fitch, Moody's, S&P

Across sectors, retail outperformed the broad index by 30bps while energy underperformed by 40bps. Within retail, Party City's 6.625% bond due 2026 gained 5.3pts for the week following the retailer's announcement on debt payment during the ICR conference. Among the gainers in retail, Pyxus International's 9.875% due 2021 gained 10.3pts. Pacific Drilling was one of the top contributors to the energy underperformance on the back of its disclosure on unfavorable arbitration decision that might result an impairment loss. Other losers within energy included WLL, GPOR, CHK.

Within the backdrop of the phase one trade deal between US and China, time will tell how much of the dramatic increase of imports from the US will actually be implemented and digested. We previously wrote on China's ample fiscal/monetary capacity to boost its economy – according to the China Special Committee on Budget Performance, the tax cut of the manufacturing sector has reached certain scale and fee reduction should be the next focus.

As mentioned in our last weekly, we've adopted to use sub-80pts index exits to track defaults. Rating/sector specific default rates will now be used in our HY Monthly Chartbook and HYDL.

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