Collateral Thinking

How will loans and CLOs fare in a soft-landing?

Top of the stack

Given the mounting evidence against a recession, we think leveraged loans could deliver >10% returns, outperforming across fixed income this year. We are tactically bullish and expect the loan market to grind tighter toward our $95 soft landing target. We think BBs and Bs could gain a 1pt each, while CCCs may have 3pts of upside. Even so, we expect higher quality loans to outperform on a risk-adjusted basis this year and next. This will be similar to the MTD rally where CCCs have staged an underwhelming performance.

We expect CLO CCC baskets and JR OC ratios to remain manageable. CLO demand is projected to decline by year end as 38% of CLOs exit their reinvestment period. We estimate this will expose 6% of the outstanding loan market to refinancing risk.

Longer-term, the loan market trajectory remains predicated on fundamentals. In the face of higher for longer rates, we expect defaults to increase and downgrades to remain elevated in 2024, as these structures right size their businesses and balance sheets. An economic soft landing is not a panacea for fundamental woes emerging from untenable capital structures – it primarily solves for lower mark-to-market losses on an index level even as default pressures increase disproportionately amongst lower quality issuers.

In this report we discuss prospects of loans and CLOs in a soft-landing. We update our 2023/24 spread, return, default and downgrade forecasts. We detail the impact of downgrades on CLO CCC baskets, provide projections of JR OC cushion erosion under various scenarios, and discuss the impact of CLOs coming out of RP on the loan market.

Market Technicals

In the three weeks ending June 9th, demand for loans totaled $9.8bn, a decline from $14.4bn demand seen in the prior three weeks. Coupon payments and CLO creation decreased $3.9bn and $2.7bn respectively, while retail flows increased $1.9bn.

Rating Actions

In the past month, we have seen rating actions across 30 distinct issuers. A total of 18 issuers were downgraded by 25 notches and 12 issuers upgraded by 16 notches. In terms of sectors, Chemicals and Healthcare each contributed 20% and 14% of total downgrades in the past month whereas Food Producers and Retail contributed 41% and 19% to upgrades respectively. Overall we see a net upgrade of $6.8bn.

Return Performance

Loans in the LCD index returned 1.58% in three weeks ending June 16th, up from the -0.12% cumulative return seen in the prior three weeks. Across asset classes, YTD loan returns are at 5.8%, YTD HY returns are at 5.5% and YTD IG returns are at 3.0%.

Primary Activity

YTD global and US issuance totals $111bn and $100bn, with a total of 192 and 147 loans launched respectively in the primary market thus far. In total, they trail YTD 2022 issuance by 41% and 40% respectively.

22 June 2023

Leveraged Loan Strategy
United States

BofA
Data Analytics

Neha Khoda
Credit Strategist
BofAS
+1 646 855 9656
neha.khoda@bofa.com

Dong Ba
Credit Strategist
BofAS
+1 646 855 7118
dong.ba@bofa.com

Exhibit 1: Loan performance

YTD Loan return is at 5.8%

Index	Level	1wk Δ	2wk Δ	YTD Rtn
All Loan	93.9 pts	+0.2	+0.8	5.8%
BBs	98.1 pts	+0.2	+0.6	4.3%
Bs	95.1 pts	+0.3	+0.9	6.4%
CCCs	78.9 pts	+0.1	+0.5	8.0%

Source: S&P LCD

BofA GLOBAL RESEARCH

Exhibit 2: HY performance

YTD HY return is at 5.5%

Index	Level	1wk Δ	2wk Δ	YTD Rtn
US HY	415 bps	-19	-24	5.5%
BBs	270 bps	-15	-14	4.2%
Bs	435 bps	-21	-28	5.8%
CCCs	966 bps	-36	-68	9.8%

Source: BofA Global Research

BofA GLOBAL RESEARCH

Exhibit 3: Fund flows ($mn)

YTD loan inflows are at -44,496mn

Asset	1wk	2wk	YTD	LTM
Loans	-4	+451	-13,308	-44,496
US HY	+253	+2,623	-4,709	-21,966
US IG	+2,652	+2,262	+92,292	-25,524

Source: EPFR Global

CLO: Collateralized Loan Obligation
RP: Reinvestment Period
JR OC: Junior Overcollateralization
WAL: Weighted Average Life

BofA GLOBAL RESEARCH

Refer to important disclosures on page 14 to 16.
12571624

Timestamp: 22 June 2023 06:00AM EDT

Top of the stack

A renewed sense of optimism has gripped the markets, forging a path toward a soft landing. A few factors are responsible for this uptick – contained spillover from risk agents (debt ceiling, regional bank woes), stream of strong economic data (labor market, housing, autos), and investor enthusiasm about the future of artificial intelligence. MTD SPX has rallied 5%, HY is up 1.5% while loans have generated 1.6% in total returns.

The Fed's hawkish pause this month was a contrived effort by them to keep all options open. The higher dot plot reflects their belief that the underlying economy remains strong and able to withstand high rates. Yet, the pause demonstrates a necessary restraint. The markets now have aligned with our view of a higher for longer rates environment and priced out cuts until December. From our vantage point, we think even December is unlikely to materialize. Outside of the economy slipping into a recession, there is little incentive for the Fed to cut rates and risk entrenched inflation, in our view.

In our report (The rolling blackout) we discussed the two most likely paths for the economy: "decreasing inflation paired with a recession, or sticky inflation paired with high rates". Since then, the economic data, markets and now the Fed have converged towards the latter. As a result, our economics team has postponed their recession call to 2024, and also downsized its likely severity (see report: Resilient expansion brings a higher terminal rate). This has implications for the loan and CLO markets.

A true risk rally?

Dissecting the MTD rally reveals that performance thus far has been driven by higher quality loans. For perspective, initially BBs and Bs were up +1pt while CCCs were down -0.2pts. Only in June second week did CCCs rally 1pt while BBs/Bs also advanced. We find that the recent CCC rally was driven by deeply distressed names while the performing CCCs only advanced 0.25pts, revealing undercurrents of a dead cat bounce. Such CCC underperformance, even on an absolute level, is uncharacteristic of a true risk rally. We have previously discussed how low-quality issuers stand to endure high cost of debt in either economic scenario: high spreads (hard landing) or high base rates (soft landing). The current price action is in agreement with this narrative.

Looking ahead

Given the mounting evidence against a hard landing scenario, we think this rally has legs. We expect the loan market to grind tighter toward our $95 soft landing target. BBs and Bs could gain 1pt each, while CCCs may have 3pts of upside. We are tactically bullish and expect fringe issuers to benefit, relieving some liquidity pressures. Even so, we expect higher quality to outperform on risk-adjusted basis, similar to MTD performance.

The course is not without its obstacles, however. CLO demand is projected to decline meaningfully as CLOs exit their reinvestment period (RP). We estimate this will expose 6% of the outstanding loan market to refinancing risk. Details inside.

Longer-term, the loan market trajectory is squarely predicated on fundamentals and remains unchanged. In Q1, we continued to see debt service and revenue pressures amongst low-quality issuers. Our analysis of forward-looking metrics isn't constructive either. A higher for longer rates environment is most punitive for low quality highly levered issuers, and we still expect elevated downgrades and defaults over the next 2-3 years, as these structures right-size their businesses and balance sheets. In our view, the only way to change this narrative is if we see widespread evidence of either 1) improving real earnings or 2) private equity capital injections to support issuer deleveraging.

In this report we discuss how loans and CLOs are likely to fare in a soft-landing scenario. We update our 2023/24 spread, return, default and downgrade forecasts. We detail the impact of downgrades on CLO CCC baskets, provide projections of JR OC cushion erosion under various scenarios, and discuss the impact of CLOs coming out of RP on the loan market.

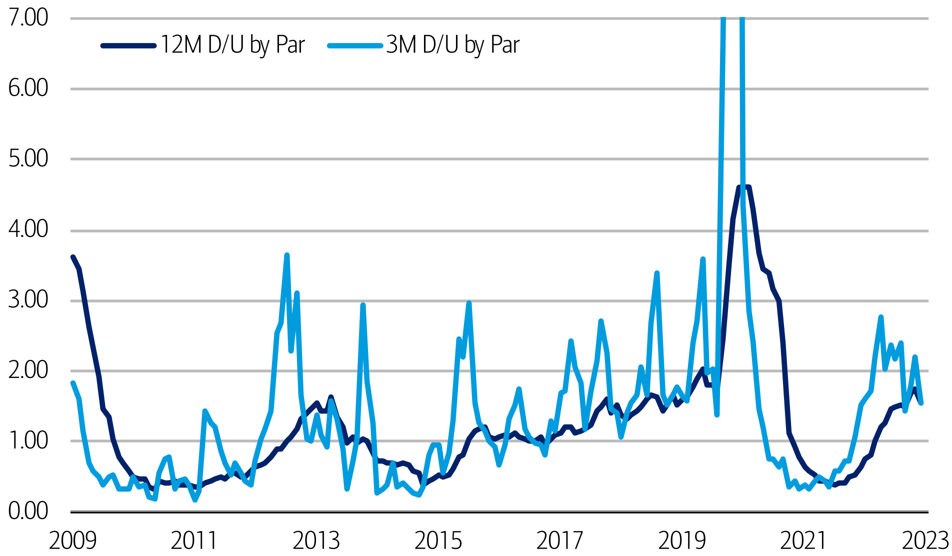
Topical: How will loans and CLOs fare in a soft landing

Given the incredibly resilient economy, job market and financial conditions, we think leveraged loans could deliver >10% returns this year, outperforming most other asset classes within fixed income. The combination of significantly higher income courtesy of floating rate coupons, yet low default rates courtesy of the rolling blackout scenario (see report: The rolling blackout) means that this year could eventually end-up as a goldilocks period for loans.

This will play out in the secondary (higher prices) and the primary (lower rise in margins), thus prompting a higher number of B3s to refinance, relieving some near-term liquidity pressure. We can see initial signs in the form of downgrade ratios which have eased recently. So far this month, upgrades have outpaced downgrades by $7bn, representing highest net upgrades since March '22. Rolling 3M Downgrade/Upgrade (D/U) ratio has also declined to 1.5x.

Exhibit 4: Downgrade/Upgrade ratio by par

Rolling 3M D/U ratio has declined to 1.5x



Source: BofA Global Research, LCD

BofA GLOBAL RESEARCH

Keep in mind that though returns will be high, they will not be commensurate to rating wise risk profiles. This is because as rates and coupons grind higher, so will default rates and credit losses amongst the lower quality cohort. As such, higher quality loans will continue to deliver the best risk-adjusted returns for the year. In that sense, an economic soft landing is not a panacea for fundamental woes emerging from untenable capital structures – it mostly solves for lower mark-to-market losses on an index level even as default pressures increase disproportionately amongst lower quality issuers.

Fast forward into 2024, and one more year of punitively high interest costs later, the picture is expected to deteriorate. Growth will be slower and cash balances lower. As the realization dawns that we could be stuck in a 4-5% rate regime for an extended period of time, this could offset any advantage offered by a stronger than expected economy. Rise in cost of capital could well exceed any benefit from lower material/labor costs or even higher revenues. This will put pressure on prices and defaults, driving total returns lower – in the 6% context.

The burden of this deterioration will likely be carried by the lowest quality issuers where mark-to-market as well as credit losses are expected to be the highest. In fact, we could have CCCs make an about turn over the next 12 months, going from double digit returns in 2023 to negative next year. This is in a nutshell how we reconcile a tactically bullish position with a strategic bearish one.

2023: 10+% total returns; CCCs outperform

On the back of diminishing prospects of a hard landing this year, we have raised our loan spread and return forecasts. We now expect US loans to tighten to 560bps ($95) from current 590bps ($94) levels on a 3yr DM (discount margin) basis, delivering ~11% in total returns this year. This is a function of a high current income (+9% on average), capital gains from 80bps of tightening (+2.7%), paired with still low credit losses (0.8%).

Exhibit 5: Return expectations for loan index

We expect US loans to deliver ~11% total returns this year in the absence of a recession

	2022 YE	YTD	2023	Remaining Year	Next 12m	Breakevens
Price, pts	**93.0**	**94.3**	**95.0**	**95.0**	**93.0**	**89**
DM 3yr, bps	**638**	**586**	**558**	**558**	**641**	**820**
Avg index Libor, bps	408	512	550	550	500	500
Coupon equivalent, bps	766	875	913	913	863	863
Current Yield, bps	**824**	**928**	**961**	**961**	**928**	**970**
Spread change, bps		-51	-80	-29	55	182
Key Rate change, bps		104	142	38	-12	92
Capital gain, bps		**164**	**273**	**92**	**-175**	**-583**
Default Rate, pct		1.6	2.5	3.5	5.0	7.0
Recovery Rate, pct		60	55	55	55	44
Assumed current price of future defaults, pts		80	80	80	80	80
Credit Loss, bps		**19**	**78**	**58**	**156**	**315**
Total return, pct		**5.6**	**11.0**	**5.4**	**6.0**	**0.0**

Source: BofA Global Research

BofA GLOBAL RESEARCH

In terms of calendar distribution of returns, we are at about the halfway point, with 5.6% already realized and 5.4% to go for the rest of the year. However, the bulk of the remaining annual returns are poised to come from higher quality loans as credit losses amongst B3s/CCCs increase.

We have also marginally lowered our default expectations to a range of 2.5-3.5% this year from our prior expectation of 3-4% given the easing economic backdrop. Current rate is 1.6%. Note that cumulative default pressures in the loan market remain unchanged. We still expect ~15% of the market to restructure over the entirety of this default cycle should rates remain high. However, we think the timing of a meaningful increase in defaults has now likely been pushed to next year. Notably, the default experience is now likely to come as a few years of moderately high default rates, rather than a steep bell curve.

Exhibit 6 shows the ratings wise breakdown of return expectations for 2023 full year and 2H, as well as next 12 months expectations. The ~11% return on the index comes from 9.4% returns on BBs, 12.2% on Bs and 10.5% on CCCs. Notably, for CCCs majority of the annual returns are behind us. Going forward we expect to see 5.9% and 2.5% for Bs and CCCs respectively. Whereas for BBs, we still anticipate a healthy 5.2% in 2H '23.

In terms of prices, we think BBs and Bs could grind up another 1pt, with CCCs having 3pts of upside. However, a year from now we expect a large portion of these price gains to reverse. Only BBs may be higher vs their current price levels, whereas CCCs could dip below current levels as we move into the thick of the default cycle.

Exhibit 6: Return expectations by rating
Healthy returns across the board for 2023; but in 2024 BBs outperform while CCCs endure high credit losses

	2023			Remaining year			Next 12m		
	BBs	**Bs**	**CCCs**	**BBs**	**Bs**	**CCCs**	**BBs**	**Bs**	**CCCs**
Year end 2022 Prices	97.6	92.2	71.2						
Current Prices	98.2	94.5	77.4						
Target Price, pts	**99.0**	**95.5**	**80.0**	**99.0**	**95.5**	**80.0**	**98.5**	**93.0**	**75.0**
Target DM 3yr, bps	**311**	**556**	**1421**	**311**	**556**	**1421**	**330**	**661**	**1738**
Avg index Libor, bps	550	550	550	550	550	550	500	500	500
Coupon equivalent, bps	825	931	1020	825	931	1020	775	881	970
Current Yield, bps	**833**	**975**	**1275**	**833**	**975**	**1275**	**787**	**947**	**1293**
Spread change, bps	-56	-129	-588	-30	-41	-160	-11	63	157
Key Rate change, bps	142	142	142	38	38	38	-12	-12	-12
Capital gain, bps	**158**	**324**	**940**	**83**	**103**	**256**	**31**	**-158**	**-252**
Default Rate, pct	0.0	1.0	23.0	0.1	1.3	25.7	0.1	4.0	30.0
Recovery Rate, pct	55	55	40	55	55	40	55	55	40
Credit Loss, bps	**0**	**30**	**1150**	**2**	**22**	**683**	**3**	**125**	**1500**
Target Total return, pct	**9.4**	**12.2**	**10.5**	**5.2**	**5.9**	**2.5**	**8.2**	**6.6**	**-4.7**

Source: BofA Global Research

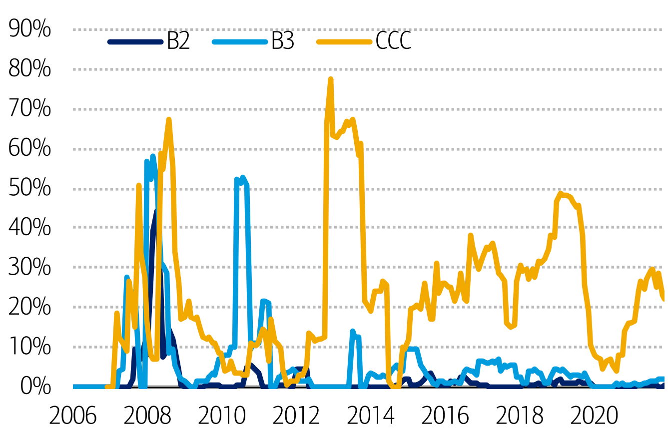
BofA GLOBAL RESEARCH

2024 1H: CCC returns fizzle, defaults rise

Over the next 12 months, as corporate cash balances fall, and prospects of rate cuts decline, unviable levered structures without sponsor support will likely languish across leveraged finance. We expect this to surface in the form of lower prices and higher default rates especially amongst low quality issuers. Our next-12m spread target is at 640bps ($93), +55bps from current levels. Price target is $93, down 2pts from what we think will be 2023 peaks.

We expect default rates to increase to 5% over the course of the next year with a disproportionate contribution from CCCs which could see up to 30% in par defaults in 2024. Additionally, we expect the CCC complex to recover lower than the rest of the market based on our work on past default and loss rates. Exhibit 7 calculates a timeseries of default rates on a 12m rolling basis across ratings and shows how CCC default rates rise to 30-50% levels in default cycles. Exhibit 8 shows the most recent loss rates experienced across ratings on an LTM (last-12m) basis.

Exhibit 7: Rolling 12M default rates across ratings
CCC has much higher default rates historically



Source: BofA Global Research, LCD

BofA GLOBAL RESEARCH

Exhibit 8: Rolling 12M loss rates across ratings
CCCs have higher loss rates vs Bs

	Rolling 12M Loss Rate
B2	59%
B3	43%
CCC	59%

Source: BofA Global Research, LCD

BofA GLOBAL RESEARCH

In terms of downgrades, we now expect $135bn to move down across broad ratings, representing 10% of the index. The bulk of it is from BBs ($43bn) and Bs ($78bn). Including intra-rating downgrades across narrow ratings, impact increases to an additional 6% of the index. Meanwhile, we expect upgrades to total $82bn or 6% of the index, with a majority of them coming from Bs (42bn) and BBs/CCCs split equally ($18-$19bn). Intra rating upgrades could add another 10% in impacted notional.

Exhibit 9 shows the net migration rates that result from these movements, and how this translates to the size of each rating category over the next one year. Importantly, we expect $46bn of migrations into CCCs net of all downgrades, upgrades and defaults. This will increase the size of the index CCC cohort by 42% over the next year, pushing the CCC proportion to 11% from current 8% levels. Note that in the hard landing scenario, we could have seen CCCs reach 15% of the index.

Exhibit 9: Net migration forecasts by rating

CCC proportion of index could increase from 8% to 11% over the next one year

Rating	Curr Size	Index %	D/G To	D/G From	Defaults From	U/G From	U/G To	Net Migration	Impact	New Index %
BB	338	24%	12	43	2	19	40	(13)	-4%	23%
B	802	58%	40	78	30	42	16	(93)	-12%	51%
CCC	109	8%	82	-	19	18	-	46	42%	11%

Source: BofA Global Research, LCD, Moody's

BofA GLOBAL RESEARCH

CLOs: CCC baskets, OC ratios and RP impact

CCC baskets and JR OC ratios manageable in a soft landing

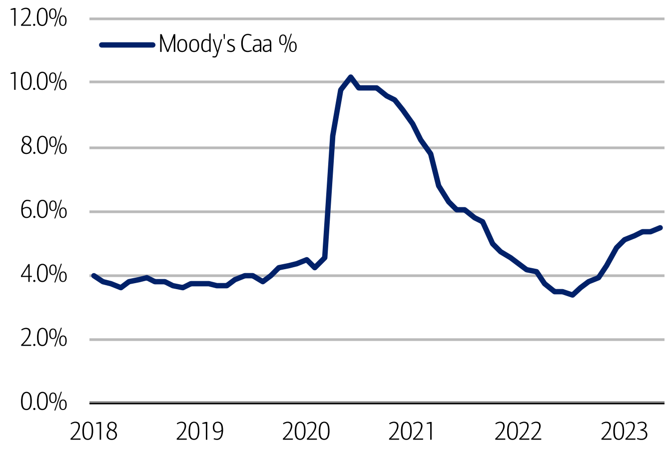
In the backdrop of a soft landing, our projection for CCC percentage of index is now lower at 11% vs 15% in our prior hard landing scenario. This means relatively lower CCC breaches and pressure on JR OC ratios amongst CLOs this year.

The percentage of CCCs in CLOs generally tends to be lower than the index. Exhibit 10 below shows current CCC proportion at ~6% vs broader index at 8%. This is because active management of CLO portfolios allows managers to rotate out of CCCs ahead of time to position themselves effectively.

In our base case, CLOs are likely to migrate to ~9% CCCs on average over the next year. This will result in relatively minor erosion of the JR OC cushion, 40bps, assuming a CCC haircut of 30% (Exhibit 11). The larger OC impact comes from defaults. Exhibit 11 shows that with our base case of 5% defaults and a 55% recovery, OC cushions could decrease by 2.3%, creating an aggregate erosion of 2.7%. Today CLOs JR OC median cushions are at 4.8% so in our base case, they may drop to 2.1%, still higher than levels they troughed at during COVID (1.8%).

It's a hard landing scenario which could take a large toll on the CLO structure. Mounting defaults alone are enough to dent JR OC cushions by 4.2%. Including the additional impact from downgrades takes the total OC cushion erosion to 7%. There will always exist mitigating factors including managers preferring to take a par hit instead of shutting down cashflows, but nevertheless, we could see widespread JR OC test failures should the economy inch towards a recession.

Exhibit 10: Proportion of CCCs in CLOs
CLO share of CCCs tends to be lower than the index



Source: Moodys

BofA GLOBAL RESEARCH

Exhibit 11: JR OC erosion under various economic scenarios
Under a soft landing scenario, loss of JR OC cushion is manageable

	Soft Landing	Hard Landing
CCC bucket	11.0%	15.0%
Bucket Overage	1.5%	5.5%
CCC markdown	30%	50%
Downgrades impact	**0.4%**	**2.8%**
Default Rate	5%	7%
Recovery	55%	40%
Defaults impact	**2.3%**	**4.2%**
Total loss of cushion	**2.7%**	**7.0%**

Source: BofA Global Research

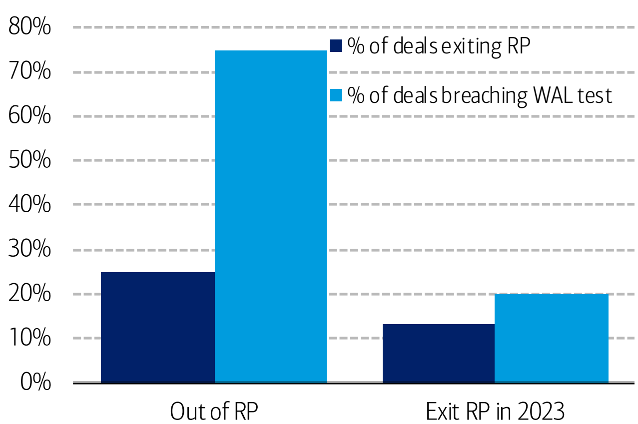
BofA GLOBAL RESEARCH

Impact of CLOs exiting RPs on the loan market

The biggest challenge for loans in the near term is the impact of 38% of CLOs coming out of their reinvestment period (RP) at the end of this year. Of these, 25% have already exited, and another 13% will exit over the next six months. Here we size the impact of this imminent risk for the loan market.

Across the 38% coming out of RP, CLOs that are already failing their weighted average life (WAL) test represent ~22% of the deals outstanding. Such CLOs have limited ability to roll into loan extensions given their negative WAL cushions. CLOs currently hold ~52% of the loan market, which implies that 11% of loan market outstanding is within CLO portfolios that will face problems extending their loans.

Exhibit 12: Distribution of CLOs exiting RP and failing WAL tests
75% of CLOs out of RP are failing their WAL test



Source: BofA Global Research, Intex

BofA GLOBAL RESEARCH

Exhibit 13: We estimate 6% of loan market could face refi risk
Loans with near-term maturity within out-of-RP CLOs face refi risk

	CLOs out of RP	CLOs failing WAL test
	40%	22%
Loan market held by all CLOs	52%	52%
Loan market held by impacted CLOs	21%	11%
Loans maturing '24 -'26	30%	30%
Loan market with refi risk	**6%**	**3%**

Source: BofA Global Research, Intex

BofA GLOBAL RESEARCH

This is a red-flag for issuers with near-term maturities as chances are that a significant amount of their par outstanding will be held in such CLOs. About 30% of the market is coming due between today and 2026. The overlap between these two cohorts – CLOs already in WAL test failure, and loans maturing by '26 – is where true extension risk resides, and forms 3% of the index.

However, problems aren't limited to CLOs that are failing the WAL test. As soon as a CLO exits its RP, it can no longer freely reinvest and has to make accommodations to preserve its WAL cushion. These could lead to forced sales of loans it can no longer hold, or sales of other long dated loans to accommodate an extension.

From an issuer perspective this can lead to situations where they are able to roll over only a portion of their loans, and either need to delever or find other investors at relatively higher spreads (private debt/hedge funds) to plug the hole. Even extending the severity of the situation to this group of loans, limits the impact to 6% of the index.

In reality, the subset of low quality issuers within this group will see the most impact. CLOs outside of RP but not yet in breach of their WALs have a finite ability to reinvest, and would rather use their WAL cushions to roll into issuers with low credit risk, precluding a fair number of B3 and below issuers. Such issuers face a high likelihood of being passed over in the face of requesting maturity extensions, and should be thinking of incremental sources of liquidity in terms of private debt, HY bonds or sponsor equity.

Market Technicals

In the three weeks ending June 9th, demand for loans totaled $9.8bn, a decline from the $14.4bn of demand seen in the prior three weeks ending May 19th. This decline was mainly driven by a $3.9bn decrease in coupon payments and a $2.7bn decrease in CLO creation between the two three-week periods, while retail flows increased $1.9bn. YTD net demand has outweighed supply by $87.6bn versus the $33.3bn of net demand seen this time last year. Note that this table does not account for demand channels such as SMAs and alternate asset vehicles.

Exhibit 14: Weekly Technicals ($mns)
Demand net of supply is at 88bn

	YTD as of 6/9/2023	6/9/23	6/2/23	5/26/23	5/19/23
Retail flows (a)	-14,220	276	123	-901	-1,239
CLO creation (b)	49,113	476	2,879	1,263	2,941
Coupons (c)	51,895	1,438	3,015	1,218	2,760
Demand (a+b+c)	86,788	2,189	6,017	1,581	4,462
Issuance Ex-repricings (d)	97,360	8,685	1,490	2,365	3,294
Repayments (e)	98,202	4,143	3,424	7,766	3,051
Supply (d-e)	-842	4,542	-1,934	-5,401	243
Demand net of Supply	87,630	-2,353	7,951	6,982	4,219

Source: BofA Global Research, LCD

BofA GLOBAL RESEARCH

Rating Actions

In the past month, we have seen rating actions across 30 distinct issuers. A total of 18 issuers were downgraded by 25 notches ($16.2bn total notional) and 12 issuers upgraded by 16 notches ($23bn total notional). Of the downgrades, Parkway Generation had two loans downgraded by two notches, totaling $1.1 Bn. Of the upgrades, Aramark Corp had three loans upgraded by one notch, totaling $3.5bn.

In terms of sectors, Chemicals and Healthcare each contributed 20% and 14% of total downgrades in the past month by notional respectively. Of the upgrades, by notional amount, 41% was in Food Producers followed by 19% in Retail. Eight distinct sectors experienced upgrades while eleven distinct sectors experienced downgrades. Overall, we see net upgrade activity of $6.8bn.

Exhibit 15: Recent downgrades and upgrades
There was net upgrade activity of $6.8bn

Issuer	Ticker	Margin	Notional	Maturity	Sector	Rating Action	Current Rating	Previous Rating	Notches
Cincinnati Bell Inc	CBB	325	650	11/22/2028	Telecoms	Downgrade	B-	B+	-2
Parkway Generation	PYGRON	475	1,000	2/18/2029	Energy	Downgrade	B+	BB	-2
Parkway Generation	PYGRON	475	140	2/18/2029	Energy	Downgrade	B+	BB	-2
Shutterfly Inc	SFLY	500	890	9/25/2026	Retail	Downgrade	CC	CCC	-2
Win Waste Innovations	WHETEC	275	1,000	3/24/2028	Utilities	Downgrade	CCC+	B	-2
Aegion	AEGN	475	675	5/17/2028	Real Estate	Downgrade	B-	B	-1
Ascend Performance Materials LLC	ASCMAT	475	1,086	8/27/2026	Chemicals	Downgrade	B+	BB-	-1
Astra	ASTACQ	525	1,300	10/25/2028	Financials	Downgrade	B-	B	-1
Careismatic Brands	STAPAR	325	605	1/6/2028	Retail	Downgrade	CCC+	B-	-1
Catalent Pharma Solutions	CTLT	200	1,000	2/22/2028	Healthcare	Downgrade	BB+	BBB-	-1
Constant Contact	CONSCO	400	670	2/10/2028	Technology	Downgrade	B-	B	-1
Kofax	KOFAX	525	1,346	7/20/2029	Technology	Downgrade	B-	B	-1
LaserShip, Inc.	LASSHI	450	675	5/7/2028	Transportation	Downgrade	CCC+	B-	-1
Pitney Bowes	PBI	400	450	3/17/2028	Services	Downgrade	BB+	BBB-	-1
Plaskolite	PLASKO	400	645	12/15/2025	Chemicals	Downgrade	B-	B	-1
Radiology Partners, Inc	RADPAR	425	1,340	7/9/2025	Healthcare	Downgrade	CCC+	B-	-1
Styron	TSE	250	750	5/3/2028	Chemicals	Downgrade	B	B+	-1
Styron	TSE	200	697	9/6/2024	Chemicals	Downgrade	B	B+	-1
Xplornet Communications Inc	BARXPL	400	995	10/2/2028	Telecoms	Downgrade	CCC+	B-	-1
Zywave Inc	ZYWAVE	450	340	11/12/2027	Financials	Downgrade	CCC+	B-	-1
Aramark Corp	ARMK	175	1,780	3/11/2025	Food Producers	Upgrade	BBB-	BB+	1
Aramark Corp	ARMK	175	900	1/15/2027	Food Producers	Upgrade	BBB-	BB+	1
Aramark Corp	ARMK	250	833	4/6/2028	Food Producers	Upgrade	BBB-	BB+	1
Bass Pro Shops Inc	BASSPR	375	4,466	3/6/2028	Retail	Upgrade	BB	BB-	1
Flora Food Group	SIGBID	300	875	7/2/2025	Food Producers	Upgrade	B	B-	1
Froneri	ICECR	225	2,670	1/29/2027	Food Producers	Upgrade	BB-	B+	1
Inmarsat Ventures	IMASF	350	1,737	12/11/2026	Telecoms	Upgrade	BB-	B+	1
Live Nation Entertainment Inc	LYV	175	950	10/19/2026	Travel	Upgrade	BB	BB-	1
Merlin Entertainments Group	MERLLN	325	1,162	11/12/2026	Travel	Upgrade	B+	B	1
Merlin Entertainments Group	MERLLN	325	173	11/12/2026	Travel	Upgrade	B+	B	1
Monotype Imaging	TYPE	500	488	10/9/2026	Technology	Upgrade	B	B-	1
Prime Security Services Borrower/ADT	PRSESE	275	2,779	9/23/2026	Services	Upgrade	BB	BB-	1
RxBenefits	RXBENE	450	299	12/20/2027	Healthcare	Upgrade	B	B-	1
Station Casinos Inc	RRR	225	1,533	2/8/2027	Gaming	Upgrade	BB	BB-	1
US Foodservice Inc	USFOOD	200	1,500	9/13/2026	Food Producers	Upgrade	BB+	BB	1
US Foodservice Inc	USFOOD	275	900	11/22/2028	Food Producers	Upgrade	BB+	BB	1

Source: BofA Global Research, LCD

BofA GLOBAL RESEARCH

Return Performance

Loans in the LCD index returned 1.58% in the three weeks ending June 16th, up from the -0.12% cumulative return seen in the prior three weeks ending May 26th. LL100 delivered the best performance during the three-week window, returning 1.98%. B loans (175bps) outperformed both BBs (138bps) and CCCs (152bps). Across asset classes, YTD loan returns are at 5.8%, YTD HY returns are at 5.5% and YTD IG returns are at 3.0%.

Exhibit 16: Total Returns (price plus coupon return) bps
Loans returned 0.55% in the week ending June 16th

	6/16/2023	6/9/2023	6/2/2023	5/26/2023
All Loans	55	72	31	-13
BB	42	64	32	-5
B	60	81	34	-23
CCC	90	50	11	22
2nd Lien	93	52	27	23
LL100	68	96	34	-32

Source: BofA Global Research, LCD

BofA GLOBAL RESEARCH

Primary Activity

YTD global and US issuance totals $111bn and $100bn, with a total of 192 and 147 loans launched respectively in the primary market thus far. In comparison, YTD '22 brought in $188bn global issuance across 258 loans, and $166bn US issuance across 215 loans. In total, YTD 2023 Global and US issuance trails YTD 2022 issuance by 41% and 40% respectively. In terms of the composition of the types of deals financed in the past 30 days, 65% by notional amount was for refinancing, followed by 17% for acquisition and 14% for LBO.

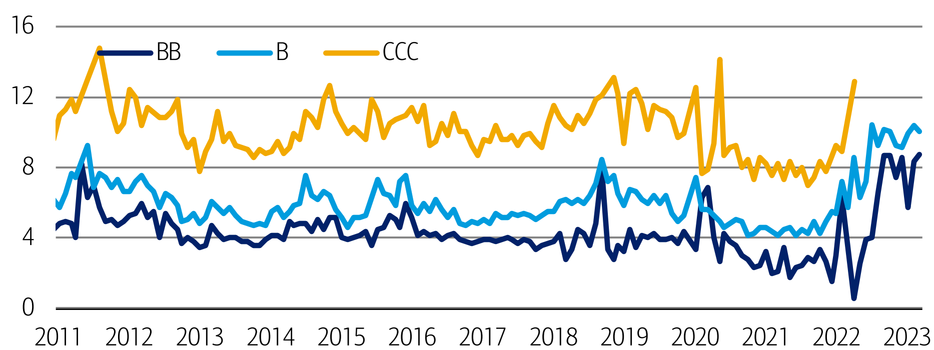
Exhibit 17: Recent new loan issues
The largest recent new issue came from HUB International Ltd's $4.75bn deal

Launch Dt	Issuer	New Inst. Money	Moody's	S&P	ABL	Cov Lite	Proceeds	Sector	Country
6/15/2023	Cyanco Company	420	B2	B	No	YES	Refinancing	Chemicals	United States
6/13/2023	Hostess Brands	985	B1	BB	No	YES	Refinancing	Food & Beverage	United States
6/13/2023	Ineos Group Ltd	325	NR	BB		YES	Refinancing	Chemicals	United Kingdom
6/13/2023	Ineos Group Ltd	349	Ba3	BB	No	YES	Refinancing	Chemicals	United Kingdom
6/12/2023	Cardenas Markets	460	B2	B	No	YES	Acquisition	Retail Food & Drug	United States
6/8/2023	Univar Solutions Inc	513	B2	B+		YES	LBO	Chemicals	United States
6/8/2023	Univar Solutions Inc	1,750	B2	B+	No	YES	LBO	Chemicals	United States
6/6/2023	Samsonite International SA	600	Ba1	BB+	No	YES	Refinancing	Textile & Apparel	Luxembourg
6/6/2023	Aramark Corp	1,100	Ba2	BBB-	No	YES	Refinancing	Services & Leasing	United States
6/6/2023	Bowlero Corp	250	B1	B	No	YES	Acquisition	Entertainment & Leisure	United States
6/5/2023	NGPL PipeCo LLC	235	Ba3	B+	No	NO	Bridge to IPO	Oil & Gas	United States
6/5/2023	HUB International Ltd	4,750	B2	B	No	YES	Refinancing	Insurance	United States
6/1/2023	RxBenefits	150	B3	B	No	YES	Refinancing	Insurance	United States
6/1/2023	CH Guenther & Son	250	B1	B		YES	Refinancing	Food & Beverage	United States
6/1/2023	Covanta Energy Corp	430	Ba2	BB	No	YES	Acquisition	Environmental	United States
6/1/2023	Fortrea	570	Ba3	BB	No	YES	Acquisition	Services & Leasing	United States
5/30/2023	Qualtek USA	65	NR	NR	No	NO	DIP	Building Materials	United States
5/29/2023	Venator Materials Corp	275	NR	NR	Yes	NO	DIP	Chemicals	United States
5/26/2023	Square Inc	175	NR	NR	No	NO	GCP	Computers & Electronics	United States
5/24/2023	Emerald Expositions Holdings	415	B2	B	No	YES	Refinancing	Services & Leasing	United States
5/23/2023	Affidea Kft	170	B2	B		YES	Acquisition	Healthcare	Netherlands
5/23/2023	Phinia Inc	425	Ba1	BB+	No	YES	Acquisition	Automotive	United States
5/23/2023	UKG Inc	400	B1	B-	No	YES	Acquisition	Computers & Electronics	United States
5/22/2023	Socotec Group	150	B2	B		YES	Refinancing	Services & Leasing	France
5/22/2023	Inmar Inc	950	B3	B-	No	YES	Refinancing	Computers & Electronics	United States

Source: BofA Global Research, LCD

BofA GLOBAL RESEARCH

Exhibit 18: Average new issue yields by month
BB and B currently yield 8.7% and 10.1% respectively while there is not enough sample size for CCC



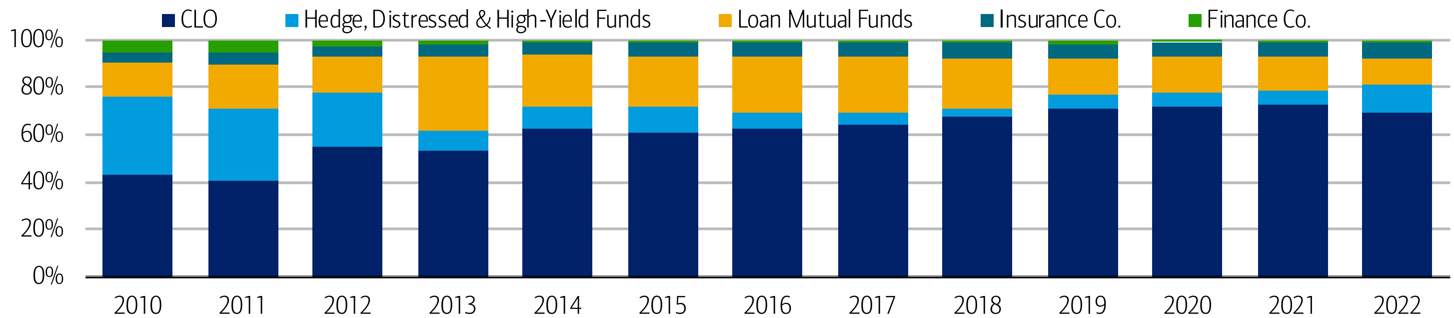
Source: BofA Global Research, LCD

BofA GLOBAL RESEARCH

CLO Update

CLOs are the largest buyers of loans and today represent close to 70% of the primary demand within this asset class. Loan retail funds are the second largest buyers – their participation has shrunk since the peaks of 2013 but has been increasing recently, coinciding with the rate move. At the same time, hedge, distressed & high yield funds have played a lesser role in the primary market.

Exhibit 19: Distribution of investors across loan market
CLOs make up 69% of the primary institutional market

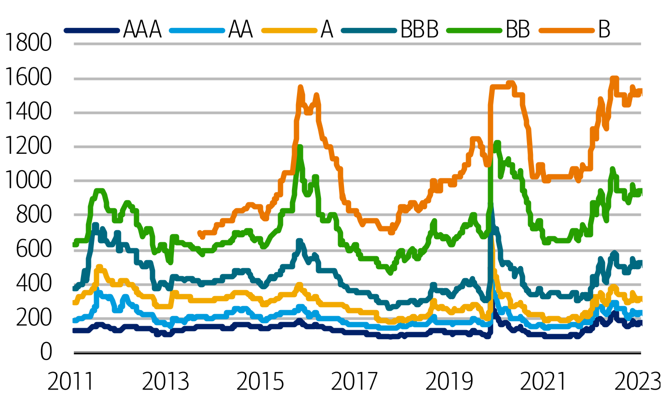


Source: BofA Global Research, LCD

BofA GLOBAL RESEARCH

Exhibit 20 shows CLO spread levels by tranches. CLO arbitrage is a widely followed statistic in the loan market, and represents the theoretical spread that managers can capture by issuing CLOs. Exhibit 21 compares CLO asset (loan) spreads to the weighted average spreads of CLO liabilities. The difference between these two values is the theoretical arbitrage and represents the current attractiveness of creating new CLOs. A higher arbitrage number means a greater incentive for managers to bring new CLOs to the market, and thus provide incremental loan demand, and vice versa. Importantly, this arbitrage calculation puts more weight on the primary loan market.

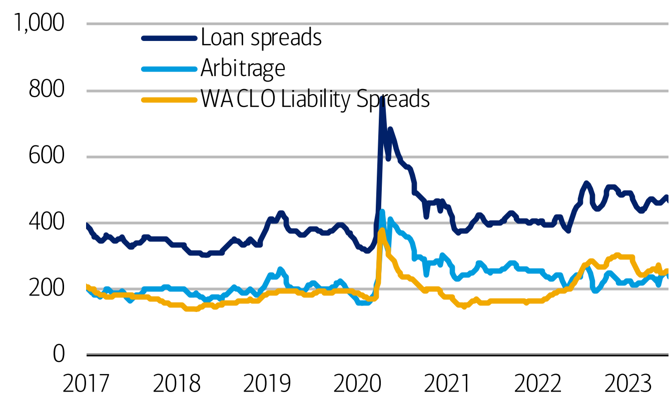
Exhibit 20: US CLO 2.0/3.0 indicative spread level (bps)
Secondary CLO spreads have increased materially



Source: BofA Global Research

BofA GLOBAL RESEARCH

Exhibit 21: CLO Arbitrage (bps)
CLO arbitrage has been declining

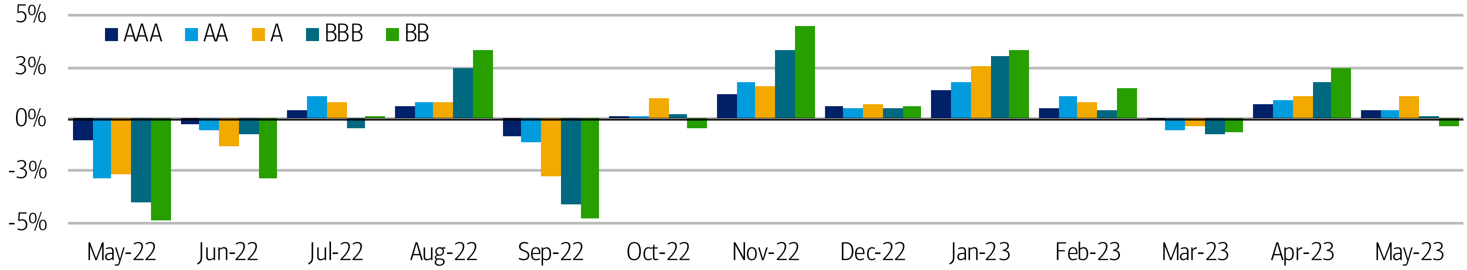


Source: BofA Global Research, LCD
Arbitrage: Loan asset spread – WA CLO spread X Liability %
Loan spreads (running avg 4wks): 60% sec BB, 40% sec B
Until 3/4/22 Loan spreads (running avg 4wks): 50%new issue B+/B, 30% pri BB, 10% sec BB, 10% sec B

BofA GLOBAL RESEARCH

Exhibit 22 shows monthly CLO returns as defined by the Palmer Square CLO index (price plus coupon returns).

Exhibit 22: Monthly CLO 2.0 returns by rating
CLOs returned 0.4% in May

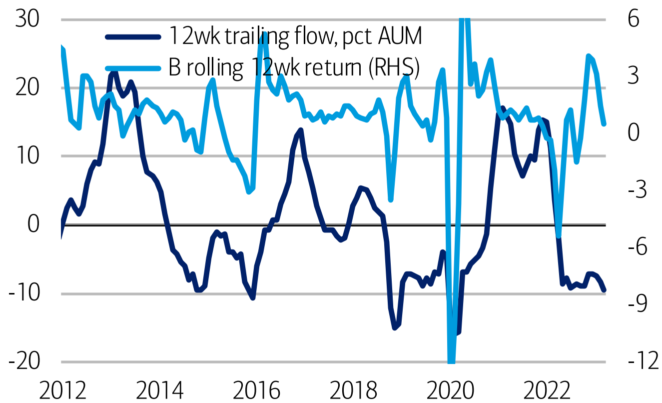


Source: BofA Global Research, PriceServe, Palmer Square CLO Indices, Bloomberg

BofA GLOBAL RESEARCH

The following charts show demand trends within the loan market, correlated with returns within rating buckets. Exhibit 23 shows a measure of retail flows (12 week trailing retail flows as a percentage of outstanding AUM) vs. monthly BB Loan total returns, while Exhibit 24 depicts monthly CLO issuance vs. monthly B Loan total returns.

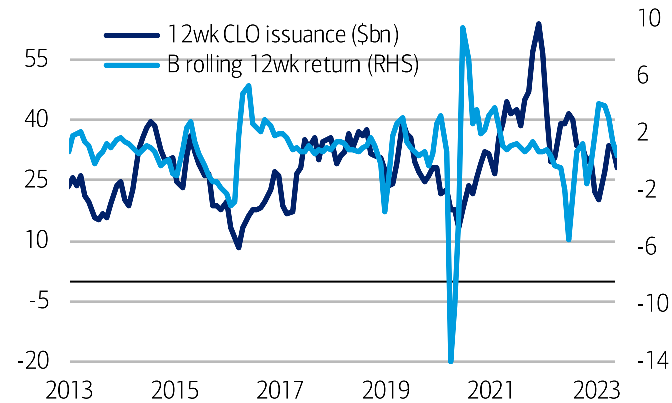
Exhibit 23: BB performance vs Loan retail flows
12wk trailing flow % of AUM with BB rolling 12k return



Source: LCD, EPFR Global

BofA GLOBAL RESEARCH

Exhibit 24: B performance vs CLO creation
12wk CLO issuance with B rolling 12wk return



Source: LCD, EPFR Global

BofA GLOBAL RESEARCH

Disclosures

Important Disclosures

BofA Global Research Credit Opinion Key

BofA Global Research provides recommendations on an issuer's bonds (including corporate and sovereign external debt securities), loans, capital securities, equity preferreds and CDS as described below. Convertible securities are not rated. An issuer level recommendation may also be provided for an issuer as explained below. BofA Global Research credit recommendations are assigned using a three-month time horizon.

Issuer Recommendations: If an issuer credit recommendation is provided, it is applicable to bonds and capital securities of the issuer except bonds and capital securities specifically referenced in the report with a different credit recommendation. Where there is no issuer credit recommendation, only individual bonds and capital securities with specific recommendations are covered. Loans, CDS and equity preferreds are rated separately and issuer recommendations do not apply to them.

BofA Global Research credit recommendations are assigned using a three-month time horizon:
Overweight: Spreads and /or excess returns are likely to outperform the relevant and comparable market over the next three months.
Marketweight: Spreads and/or excess returns are likely to perform in-line with the relevant and comparable market over the next three months.
Underweight: Spreads and/or excess returns are likely to underperform the relevant and comparable market over the next three months.

BofA Global Research uses the following rating system with respect to **Credit Default Swaps (CDS):**
Buy Protection: Buy CDS, therefore going short credit risk.
Neutral: No purchase or sale of CDS is recommended.
Sell Protection: Sell CDS, therefore going long credit risk.

Due to the nature of strategic analysis, the issuers or securities recommended or discussed in this report are not continuously followed. Accordingly, investors must regard this report as providing stand-alone analysis and should not expect continuing analysis or additional reports relating to such issuers and/or securities.

BofA Global Research personnel (including the analyst(s) responsible for this report) receive compensation based upon, among other factors, the overall profitability of Bank of America Corporation, including profits derived from investment banking. The analyst(s) responsible for this report may also receive compensation based upon, among other factors, the overall profitability of the Bank's sales and trading businesses relating to the class of securities or financial instruments for which such analyst is responsible.

BofA Securities fixed income analysts regularly interact with sales and trading desk personnel in connection with their research, including to ascertain pricing and liquidity in the fixed income markets.

Other Important Disclosures

Prices are indicative and for information purposes only. Except as otherwise stated in the report, for any recommendation in relation to an equity security, the price referenced is the publicly traded price of the security as of close of business on the day prior to the date of the report or, if the report is published during intraday trading, the price referenced is indicative of the traded price as of the date and time of the report and in relation to a debt security (including equity preferred and CDS), prices are indicative as of the date and time of the report and are from various sources including BofA Securities trading desks.

The date and time of completion of the production of any recommendation in this report shall be the date and time of dissemination of this report as recorded in the report timestamp.

This report may refer to fixed income securities or other financial instruments that may not be offered or sold in one or more states or jurisdictions, or to certain categories of investors, including retail investors. Readers of this report are advised that any discussion, recommendation or other mention of such instruments is not a solicitation or offer to transact in such instruments. Investors should contact their BofA Securities representative or Merrill Global Wealth Management financial advisor for information relating to such instruments.

Rule 144A securities may be offered or sold only to persons in the U.S. who are Qualified Institutional Buyers within the meaning of Rule 144A under the Securities Act of 1933, as amended.

SECURITIES OR OTHER FINANCIAL INSTRUMENTS DISCUSSED HEREIN MAY BE RATED BELOW INVESTMENT GRADE AND SHOULD THEREFORE ONLY BE CONSIDERED FOR INCLUSION IN ACCOUNTS QUALIFIED FOR SPECULATIVE INVESTMENT.

Recipients who are not institutional investors or market professionals should seek the advice of their independent financial advisor before considering information in this report in connection with any investment decision, or for a necessary explanation of its contents.

The securities or other financial instruments discussed in this report may be traded over-the-counter. Retail sales and/or distribution of this report may be made only in states where these instruments are exempt from registration or have been qualified for sale.

Officers of BofAS or one or more of its affiliates (other than research analysts) may have a financial interest in securities of the issuer(s) or in related investments.

This report, and the securities or other financial instruments discussed herein, may not be eligible for distribution or sale in all countries or to certain categories of investors, including retail investors.

Information relating to Affiliates of BofAS, MLPF&S and Distribution of Affiliate Research Reports:

Refer to BofA Global Research policies relating to conflicts of interest.

"BofA Securities" includes BofA Securities, Inc. ("BofAS") and its affiliates. Investors should contact their BofA Securities representative or Merrill Global Wealth Management financial advisor if they have questions concerning this report or concerning the appropriateness of any investment idea described herein for such investor. "BofA Securities" is a global brand for BofA Global Research.

BofAS and/or Merrill Lynch, Pierce, Fenner & Smith Incorporated ("MLPF&S") may in the future distribute, information of the following non-US affiliates in the US (short name: legal name, regulator): Merrill Lynch (South Africa): Merrill Lynch South Africa (Pty) Ltd., regulated by The Financial Service Board; MLI (UK): Merrill Lynch International, regulated by the Financial Conduct Authority (FCA) and the Prudential Regulation Authority (PRA); BofASE (France): BofA Securities Europe SA is authorized by the Autorité de Contrôle Prudentiel et de Résolution (ACPR) and regulated by the ACPR and the Autorité des Marchés Financiers (AMF). BofA Securities Europe SA ("BofASE") with registered address at 51, rue La Boétie, 75008 Paris is registered under no. 842 602 690 RCS Paris. In accordance with the provisions of French Code Monétaire et Financier (Monetary and Financial Code), BofASE is an établissement de crédit et d'investissement (credit and investment institution) that is authorised and supervised by the European Central Bank and the Autorité de Contrôle Prudentiel et de Résolution (ACPR) and regulated by the ACPR and the Autorité des Marchés Financiers. BofASE's share capital can be found at www.bofaml.com/BofASEdisclaimer; BofA Europe (Milan): Bank of America Europe Designated Activity Company, Milan Branch, regulated by the Bank of Italy, the European Central Bank (ECB) and the Central Bank of Ireland (CBI); BofA Europe (Frankfurt): Bank of America Europe Designated Activity Company, Frankfurt Branch regulated by BaFin, the ECB and the CBI; BofA Europe (Madrid): Bank of America Europe Designated Activity Company, Sucursal en España, regulated by the Bank of Spain, the ECB and the CBI; Merrill Lynch (Australia): Merrill Lynch Equities (Australia) Limited, regulated by the Australian Securities and Investments Commission; Merrill Lynch (Hong Kong): Merrill Lynch (Asia Pacific) Limited, regulated by the Hong Kong Securities and Futures Commission (HKSFC); Merrill Lynch (Singapore): Merrill Lynch (Singapore) Pte Ltd, regulated by the Monetary Authority of Singapore (MAS); Merrill Lynch (Canada): Merrill Lynch Canada Inc, regulated by the Investment Industry Regulatory Organization of Canada; Merrill Lynch (Mexico): Merrill Lynch Mexico, SA de CV, Casa de Bolsa, regulated by the Comisión Nacional Bancaria y de Valores; Merrill Lynch (Argentina): Merrill Lynch Argentina SA, regulated by Comisión Nacional de Valores; BofAS Japan: BofA Securities Japan Co., Ltd., regulated by the Financial Services Agency; Merrill Lynch (Seoul): Merrill Lynch International, LLC Seoul Branch, regulated by the Financial Supervisory Service; Merrill Lynch (Taiwan): Merrill Lynch Securities (Taiwan) Ltd., regulated by the Securities and Futures Bureau; BofAS India: BofA Securities India Limited, regulated by the Securities and Exchange Board of India (SEBI); Merrill Lynch (Israel): Merrill Lynch Israel Limited, regulated by Israel Securities Authority; Merrill Lynch (DIFC): Merrill Lynch International (DIFC Branch), regulated by the Dubai Financial Services Authority (DFSA); Merrill Lynch (Brazil): Merrill Lynch S.A. Corretora de Títulos e Valores Mobiliários, regulated by Comissão de Valores Mobiliários; Merrill Lynch KSA Company:

Merrill Lynch Kingdom of Saudi Arabia Company, regulated by the Capital Market Authority.
This information: has been approved for publication and is distributed in the United Kingdom (UK) to professional clients and eligible counterparties (as each is defined in the rules of the FCA and the PRA) by MLI (UK), which is authorized by the PRA and regulated by the FCA and the PRA - details about the extent of our regulation by the FCA and PRA are available from us on request; has been approved for publication and is distributed in the European Economic Area (EEA) by BofASE (France), which is authorized by the ACPR and regulated by the ACPR and the AMF; has been considered and distributed in Japan by BofAS Japan, a registered securities dealer under the Financial Instruments and Exchange Act in Japan, or its permitted affiliates; is issued and distributed in Hong Kong by Merrill Lynch (Hong Kong) which is regulated by HKSFC; is issued and distributed in Taiwan by Merrill Lynch (Taiwan); is issued and distributed in India by BofAS India; and is issued and distributed in Singapore to institutional investors and/or accredited investors (each as defined under the Financial Advisers Regulations) by Merrill Lynch (Singapore) (Company Registration No 198602883D). Merrill Lynch (Singapore) is regulated by MAS. Merrill Lynch Equities (Australia) Limited (ABN 65 006 276 795), AFS License 235132 (MLEA) distributes this information in Australia only to 'Wholesale' clients as defined by s.761G of the Corporations Act 2001. With the exception of Bank of America N.A., Australia Branch, neither MLEA nor any of its affiliates involved in preparing this information is an Authorised Deposit-Taking Institution under the Banking Act 1959 nor regulated by the Australian Prudential Regulation Authority. No approval is required for publication or distribution of this information in Brazil and its local distribution is by Merrill Lynch (Brazil) in accordance with applicable regulations. Merrill Lynch (DIFC) is authorized and regulated by the DFSA. Information prepared and issued by Merrill Lynch (DIFC) is done so in accordance with the requirements of the DFSA conduct of business rules. BofA Europe (Frankfurt) distributes this information in Germany and is regulated by BaFin, the ECB and the CBI. BofA Securities entities, including BofA Europe and BofASE (France), may outsource/delegate the marketing and/or provision of certain research services or aspects of research services to other branches or members of the BofA Securities group. You may be contacted by a different BofA Securities entity acting for and on behalf of your service provider where permitted by applicable law. This does not change your service provider. Please refer to the Electronic Communications Disclaimers for further information.
This information has been prepared and issued by BofAS and/or one or more of its non-US affiliates. The author(s) of this information may not be licensed to carry on regulated activities in your jurisdiction and, if not licensed, do not hold themselves out as being able to do so. BofAS and/or MLPF&S is the distributor of this information in the US and accepts full responsibility for information distributed to BofAS and/or MLPF&S clients in the US by its non-US affiliates. Any US person receiving this information and wishing to effect any transaction in any security discussed herein should do so through BofAS and/or MLPF&S and not such foreign affiliates. Hong Kong recipients of this information should contact Merrill Lynch (Asia Pacific) Limited in respect of any matters relating to dealing in securities or provision of specific advice on securities or any other matters arising from, or in connection with, this information. Singapore recipients of this information should contact Merrill Lynch (Singapore) Pte Ltd in respect of any matters arising from, or in connection with, this information. For clients that are not accredited investors, expert investors or institutional investors Merrill Lynch (Singapore) Pte Ltd accepts full responsibility for the contents of this information distributed to such clients in Singapore.

General Investment Related Disclosures:

Taiwan Readers: Neither the information nor any opinion expressed herein constitutes an offer or a solicitation of an offer to transact in any securities or other financial instrument. No part of this report may be used or reproduced or quoted in any manner whatsoever in Taiwan by the press or any other person without the express written consent of BofA Securities.
This document provides general information only, and has been prepared for, and is intended for general distribution to, BofA Securities clients. Neither the information nor any opinion expressed constitutes an offer or an invitation to make an offer, to buy or sell any securities or other financial instrument or any derivative related to such securities or instruments (e.g., options, futures, warrants, and contracts for differences). This document is not intended to provide personal investment advice and it does not take into account the specific investment objectives, financial situation and the particular needs of, and is not directed to, any specific person(s). This document and its content do not constitute, and should not be considered to constitute, investment advice for purposes of ERISA, the US tax code, the Investment Advisers Act or otherwise. Investors should seek financial advice regarding the appropriateness of investing in financial instruments and implementing investment strategies discussed or recommended in this document and should understand that statements regarding future prospects may not be realized. Any decision to purchase or subscribe for securities in any offering must be based solely on existing public information on such security or the information in the prospectus or other offering document issued in connection with such offering, and not on this document.
Securities and other financial instruments referred to herein, or recommended, offered or sold by BofA Securities, are not insured by the Federal Deposit Insurance Corporation and are not deposits or other obligations of any insured depository institution (including, Bank of America, N.A.). Investments in general and, derivatives, in particular, involve numerous risks, including, among others, market risk, counterparty default risk and liquidity risk. No security, financial instrument or derivative is suitable for all investors. Digital assets are extremely speculative, volatile and are largely unregulated. In some cases, securities and other financial instruments may be difficult to value or sell and reliable information about the value or risks related to the security or financial instrument may be difficult to obtain. Investors should note that income from such securities and other financial instruments, if any, may fluctuate and that price or value of such securities and instruments may rise or fall and, in some cases, investors may lose their entire principal investment. Past performance is not necessarily a guide to future performance. Levels and basis for taxation may change.
BofA Securities is aware that the implementation of the ideas expressed in this report may depend upon an investor's ability to "short" securities or other financial instruments and that such action may be limited by regulations prohibiting or restricting "shortselling" in many jurisdictions. Investors are urged to seek advice regarding the applicability of such regulations prior to executing any short idea contained in this report.
This report may contain a trading idea or recommendation which highlights a specific identified near-term catalyst or event impacting a security, issuer, industry sector or the market generally that presents a transaction opportunity, but does not have any impact on the analyst's particular "Overweight" or "Underweight" rating (which is based on a three month trade horizon). Trading ideas and recommendations may differ directionally from the analyst's rating on a security or issuer because they reflect the impact of a near-term catalyst or event.
Foreign currency rates of exchange may adversely affect the value, price or income of any security or financial instrument mentioned in this report. Investors in such securities and instruments effectively assume currency risk.
BofAS or one of its affiliates is a regular issuer of traded financial instruments linked to securities that may have been recommended in this report. BofAS or one of its affiliates may, at any time, hold a trading position (long or short) in the securities and financial instruments discussed in this report.
BofA Securities, through business units other than BofA Global Research, may have issued and may in the future issue trading ideas or recommendations that are inconsistent with, and reach different conclusions from, the information presented herein. Such ideas or recommendations may reflect different time frames, assumptions, views and analytical methods of the persons who prepared them, and BofA Securities is under no obligation to ensure that such other trading ideas or recommendations are brought to the attention of any recipient of this information.
In the event that the recipient received this information pursuant to a contract between the recipient and BofAS for the provision of research services for a separate fee, and in connection therewith BofAS may be deemed to be acting as an investment adviser, such status relates, if at all, solely to the person with whom BofAS has contracted directly and does not extend beyond the delivery of this report (unless otherwise agreed specifically in writing by BofAS). If such recipient uses the services of BofAS in connection with the sale or purchase of a security referred to herein, BofAS may act as principal for its own account or as agent for another person. BofAS is and continues to act solely as a broker-dealer in connection with the execution of any transactions, including transactions in any securities referred to herein.

Copyright and General Information:

Materials prepared by BofA Global Research personnel are based on public information. Facts and views presented in this material have not been reviewed by, and may not reflect information known to, professionals in other business areas of BofA Securities, including investment banking personnel. BofA Securities has established information barriers between BofA Global Research and certain business groups. As a result, BofA Securities does not disclose certain client relationships with, or compensation received from, such issuers. To the extent this material discusses any legal proceeding or issues, it has not been prepared as nor is it intended to express any legal conclusion, opinion or advice. Investors should consult their own legal advisers as to issues of law relating to the subject matter of this material. BofA Global Research personnel's knowledge of legal proceedings in which any BofA Securities entity and/or its directors, officers and employees may be plaintiffs, defendants, co-defendants or co-plaintiffs with or involving issuers mentioned in this material is based on public information. Facts and views presented in this material that relate to any such proceedings have not been reviewed by, discussed with, and may not reflect information known to, professionals in other business areas of BofA Securities in connection with the legal proceedings or matters relevant to such proceedings.
This information has been prepared independently of any issuer of securities mentioned herein and not in connection with any proposed offering of securities or as agent of any issuer of any securities. None of BofAS any of its affiliates or their research analysts has any authority whatsoever to make any representation or warranty on behalf of the issuer(s). BofA Global Research policy prohibits research personnel from disclosing a recommendation, investment rating, or investment thesis for review by an issuer prior to the publication of a research report containing