BofA SECURITIES

Credit Market Strategist

Apr ’25 Credit Investor Survey: Positioning defensively

25 April 2025

Credit Strategy
United States

BofA Data Analytics

Yuri Seliger
Credit Strategist
BofAS
+1 646 855 7209
yuri.seliger@bofa.com

Sohyun Marie Lee
Credit Strategist
BofAS
+1 646 855 7217
sohyun.lee@bofa.com

Apr ’25 Credit Investor Survey: Positioning defensively

Our fresh US credit investor survey shows investors have positioned defensively. That’s not surprising given the unrelenting volatility and headline risk. Moreover, 89% expect tariff related volatility to continue or to get worse from here. In response, investors took credit positioning down, increased cash balances significantly and expect up in quality trades to outperform. Inflows to credit have slowed but are expected to recover over the next 3M.

On a more positive note, investors now see better value in spreads, expect less supply and project only a moderate pickup in defaults. Interest rate and re-leveraging risks are moderating.

Cheap 5yr spreads

Market volatility and a steeper Treasury yield curve have significantly cheapened 5yr IG spreads on the curve. We can see that in notably steeper 3s5s and flatter 5s10s IG spread curves. 5s10s curve is screening 15-20bps too flat. We screen for IG 5s10s spread curves trading near the flattest levels YtD.

The race to retrace

We track laggards based on how much prices have re-traced the widening through Apr 8. Within IG, high quality back-end has led the rally, while front-end BBBs have lagged. At the sector level, Autos, REITs, Finance and Industrial Products have lagged the rally in IG.

Tracking IG outflows

HG mutual funds and ETFs have reported sizable outflows between April 4th and 17th. Flows typically follow returns, but the outflows so far in April have instead been much larger than expected. The MtD flows pace implies a -$30bn outflow for the full month of April - similar to the peak outflows in 2022.

Weekly technicals

Supply: $25.8bn of issuance this week, expect $25 - $30bn next week. **Flows**: -$3.53bn inflow this past week ending on Apr 23. **Weekly technicals**: expect $10.0bn of coupon payments. $3.2bn of calls and $0.3bn tender offer are expected to become effective next week. Bond maturities: $24.1bn this week, $27bn next week. **Dealer inventories**: +$2,364mn past week ended Thu. Details inside.

We published the weekly CMS data and charts in the Situation Room report.

Recent credit strategy research

Publication	Name
Situation Room	Situation Room: Outflows from HG funds and ETFs
Situation Room	Situation Room: The race to retrace
Situation Room	Situation Room: Cheap 5yr spreads
Situation Room	Situation Room: Tracking IG outflows
Monthly HG Market Review	Monthly HG Market Review: Mar ’25: Tariff and growth shocks
Credit Market Strategist	Credit Market Strategist: Jan ’25 Credit Investor Survey: Bullish on America
Credit Market Strategist	Summer ‘24 snapshot of the US IG market

US IG key views

- **US IG spread view.** We are constructive on spreads given that we avoid a recession in the base case, the direct impact of tariffs on IG is small, stagflation means not much impact on nominal US GDP growth. Supply volumes could be impacted by the heavy maturities in April and May. On the flip side, less M&A and more conservative balance sheet management should subtract from supply. IG credit quality continues to improve based on ratings. We expect IG spreads to trade in 90 – 130ps range for the remainder of 2025.

- **Quality.** BBBs remain relatively compressed to single-As, which is inconsistent with the recently wider spreads and elevated risks to US growth. We suggest investors increase allocation to single-As Industrials to position for decompression (see Situation Room: Buy cheap single-As 07 April 2025).

- **Sectors.** We seek to outperform in a relatively tight spread environment by being overweight yieldier sectors. At the same time, we hedge growth and tariff risks by positioning in non-cyclical and more US domestic sectors. For more details, see Credit Market Strategist: Sector outlook 21 March 2025.

- **Curve.** 5s10s IG spread curve flattened on the back of volatility and a steeper Treasury yield curve. 5yr bonds now screen cheap (see Situation Room: Cheap 5yr spreads 22 April 2025).

- **Sector view matrix.**

Exhibit 1: High Grade Sector Views Summary
US IG credit strategy sector views matrix

Overweight	View	Market weight	View	Underweight	View
Aerospace/Defense	**Over**	**Automobiles**	**Market**	**Basic Materials**	**Under**
Banks/Brokers	**Over**	**Food, Bev, & Bottling**	**Market**	Metals & Mining	Market
Energy	**Over**	**Life Insurance**	**Market**	Chemicals	Under
Oil & Gas	Over	**Media & Entertainment**	**Market**	**Consumer Products**	**Under**
Pipelines	Over	**Tobacco**	**Market**	**Industrial Products**	**Under**
Health Care	**Over**			**Retail**	**Under**
Railroads	**Over**			Discounters	Under
REITs	**Over**			Non-Discounters	Under
Telecom	**Over**			**Technology**	**Under**
Utilities	**Over**				

Source: BofA Global Research

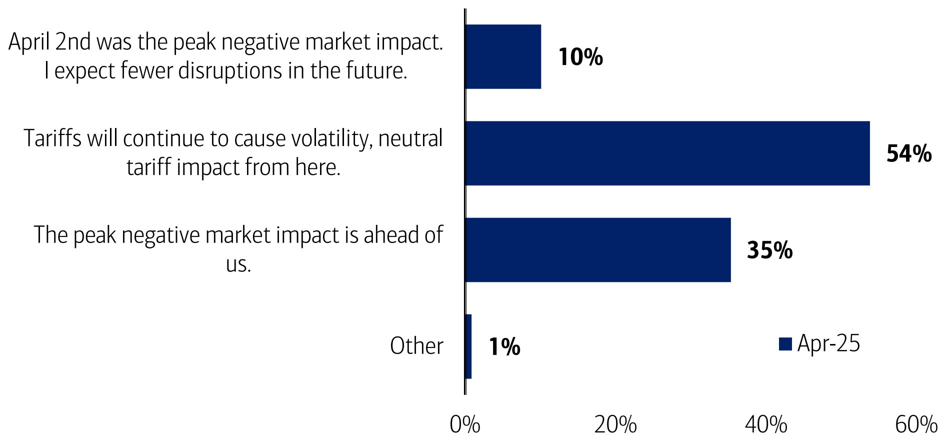
BofA GLOBAL RESEARCH

Apr '25 Credit Investor Survey: Positioning defensively

Our fresh US credit investor survey shows investors have positioned defensively. That's not surprising given the unrelenting volatility and headline risk. Moreover, 89% expect tariff related volatility to continue or to get worse from here (Exhibit 2). In response, investors took credit positioning down, increased cash balances significantly and expect up in quality trades to outperform. Inflows to credit have slowed but are expected to recover over the next 3M.

On a more positive note, investors now see better value in spreads, expect less supply and project only a moderate pickup in defaults. Interest rate and re-leveraging risks are moderating.

Exhibit 2: What's your view on the market impact of tariffs for the rest of 2025?
The majority (54%) expect a neutral market impact from tariffs going forward, while 35% expect it to get worse.



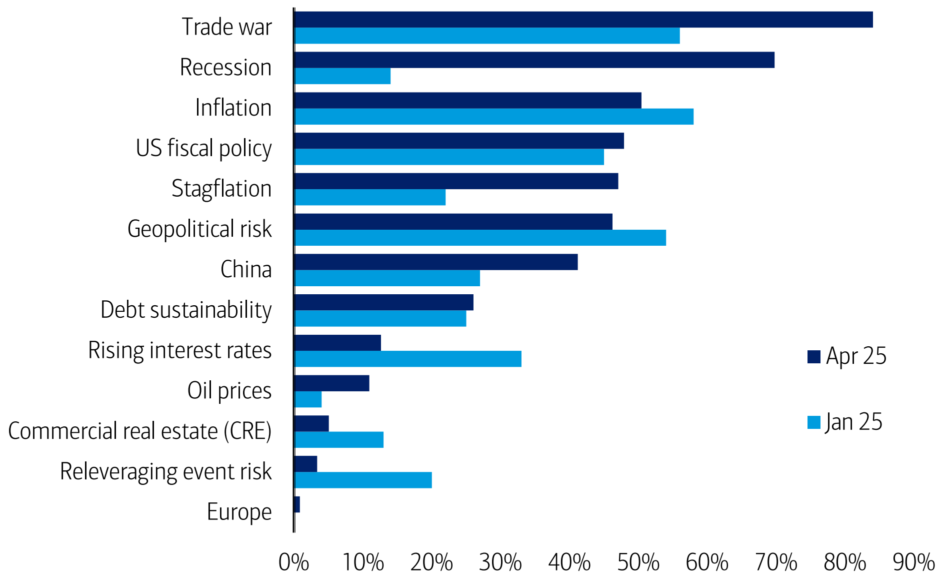
Source: BofA US Credit Investor Survey

BofA GLOBAL RESEARCH

Biggest risks: trade war, recession

Not surprisingly, Trade war was the biggest investor concern in April, followed by Recession, Inflation, US fiscal policy and Stagflation. Notably the share concerned about recession jumped from 14% (#10) in January to 70% (#2) in April. Still, recession concerns remained below 2023 levels (Exhibit 4), while Trade war concerns have matched the 2019 peak (Exhibit 5). On the flip side, investors were less concerned about Rising interest rates, Re-leveraging event risk, and Commercial real estate (CRE, Exhibit 3).

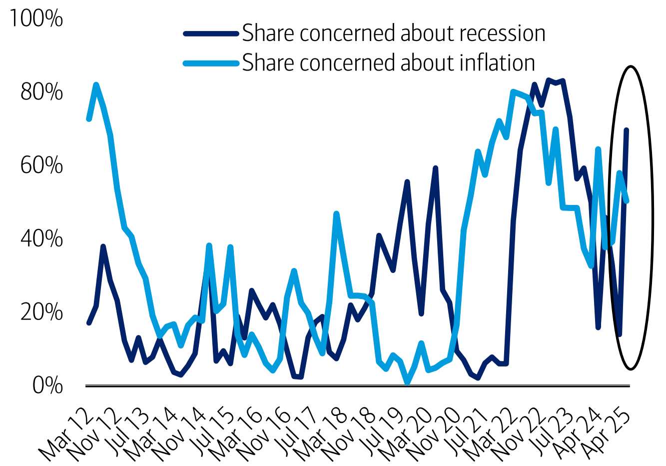
Exhibit 3: Credit investors: What are your biggest concerns?
Trade war and Recession jumped to #1 and #2 top credit investor concerns in April, followed by Inflation and US fiscal policy.



Source: BofA US Credit Investor Survey

BofA GLOBAL RESEARCH

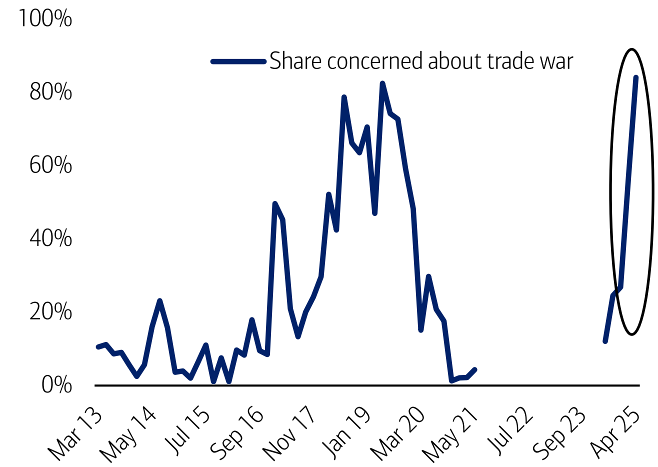
Exhibit 4: Recession concerns remained below 2023 levels
Currently 70% of US credit investors are concerns about Recession, below 83% peak from 2023.



Source: BofA US Credit Investor Survey

BofA GLOBAL RESEARCH

Exhibit 5: Trade war concerns have reached 2019 peak
84% are concerned about Trade war currently, similar to 82% peak reached in May 2019.



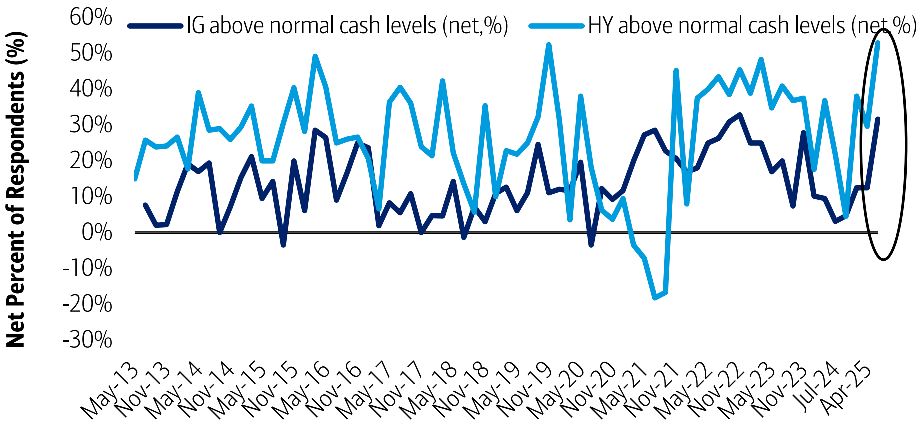
Source: BofA US Credit Investor Survey

BofA GLOBAL RESEARCH

Defensive positioning

Perhaps the biggest change in the April survey was a big move to more defensive positioning by credit investors. Cash levels jumped near record high levels since 2013 (Exhibit 6). Positioning turned underweight for both IG and HY investors. The IG underweight reached levels similar to those during 2022 / 2023 Fed hiking cycle (Exhibit 9, Exhibit 10).

Exhibit 6: Cash levels are increasing for IG investors, are already high for HY investors
Net 32% of IG investors are reporting above normal cash levels, up from net 5% in July. Currently net 53% of HY investors are reporting above normal cash levels.



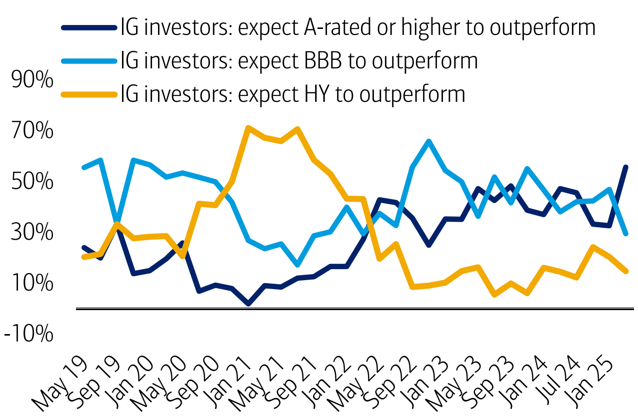
Source: BofA US Credit Investor Survey

BofA GLOBAL RESEARCH

A bearish outlook

The outlook is bearish. Currently a net 61% of IG investors and a net 38% of HY investors expect wider spreads over the next three months (Exhibit 13, Exhibit 14). The net share expecting lower credit quality trends jumped from relatively low levels in January to close to 2022/2023 levels in this April survey (Exhibit 27, Exhibit 28). In sectors, investors are rotating from a higher beta Energy into a more defensive Telecom (Exhibit 29, Exhibit 30). Finally, the majority (56%) of IG investors expect the higher quality A-rated issuers to outperform over the next 12M (Exhibit 7). Similarly, a larger share of HY investors now expects BBs to outperform (Exhibit 8).

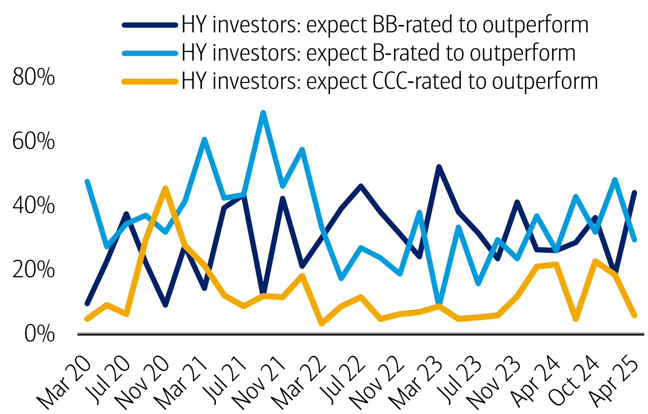
Exhibit 7: IG: Which corporate bond ratings category do you think will provide the highest risk-adjusted excess return over the next 12 months?
30% of IG investors expect BBB-rated bonds to outperform, vs 56% for single A-rated bonds and 15% for HY.



Source: BofA US Credit Investor Survey

BofA GLOBAL RESEARCH

Exhibit 8: HY: Which corporate bond ratings category do you think will provide the highest risk-adjusted excess return over the next 12 months?
29% of HY investors expect single-Bs to outperform. Currently 44% expects BBs to outperform.



Source: BofA US Credit Investor Survey

BofA GLOBAL RESEARCH

Silver lining: less supply, better valuations

It's not all doom and gloom. One of the biggest investor complaints – rich valuations – has moderated in April (Exhibit 11, Exhibit 12). Importantly, despite elevated recession concerns, default expectations remain relatively benign at +3.1%, below +4.1% peak in

September 2023 (Exhibit 38). Finally, companies typically use balance sheet more conservatively during periods of higher risks to growth. Hence, supply expectations dropped significantly in this latest survey compared to January (Exhibit 25, Exhibit 26).

Weak flows

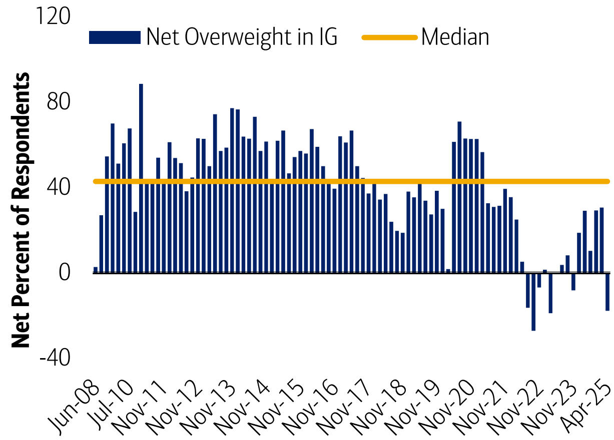
Strong demand has been a big driver of spreads for both IG and HY credit. Hence it's notable that investors reported close to flat flows in over the prior 3M in April, down from strong inflows in January and during 2024 (Exhibit 21, Exhibit 23). However, HY and especially IG investors expect the flows to rebound over the next three months (Exhibit 22, Exhibit 24).

Detailed responses

Market positioning

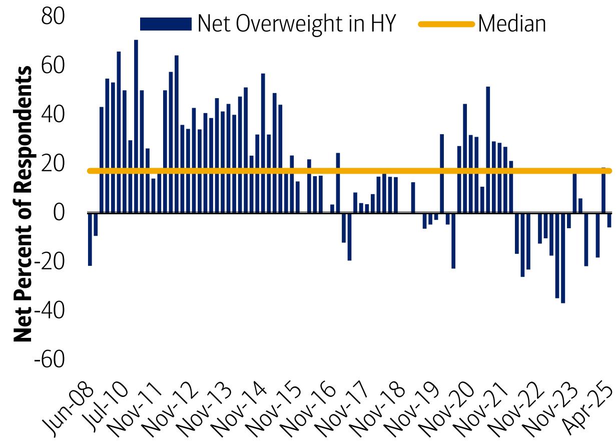
For IG investors, net positioning[1] declined to -18% net overweight in April from a +31% net overweight positioning in January. Net credit positioning for HY also declined to a -6% net underweight in April from 19% net overweight in January.

Exhibit 9: Investment Grade: market positioning
-18% net overweight in April from +31% net overweight in January.



Source: BofA US Credit Investor Survey
BofA GLOBAL RESEARCH

Exhibit 10: High Yield: market positioning
High Yield net positioning in April was a -6% net underweight.



Source: BofA US Credit Investor Survey
BofA GLOBAL RESEARCH

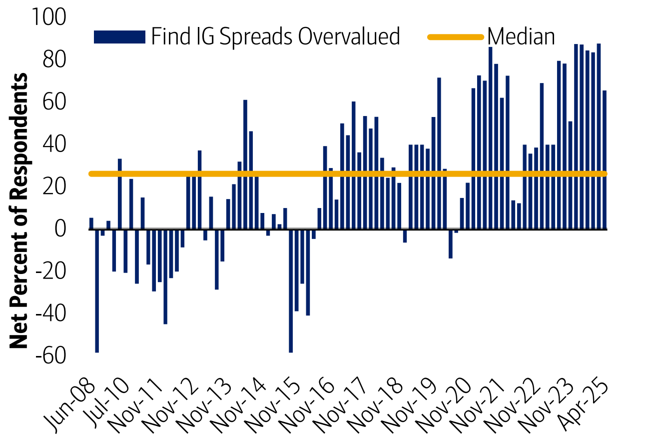
Views on valuation

The net share of IG investors who found spreads overvalued decreased to 66% in April, down from 88% in January. For high yield investors, the net share who found spreads overvalued declined to 38% in April from 67% in January.

[1] Net overweight is computed by subtracting the percent of respondents who report being underweight or significantly underweight credit from the percent of respondents reporting being overweight or significantly overweight credit.

CR

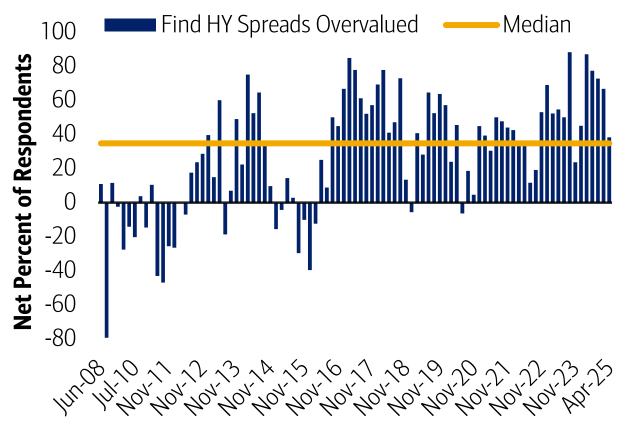
Exhibit 11: Investment Grade: are spreads overvalued?
The net share who found spreads overvalued declined to 66% in April.



Source: BofA US Credit Investor Survey

BofA GLOBAL RESEARCH

Exhibit 12: High Yield: are spreads overvalued?
The net share who found spreads overvalued declined to 38% in April.



Source: BofA US Credit Investor Survey

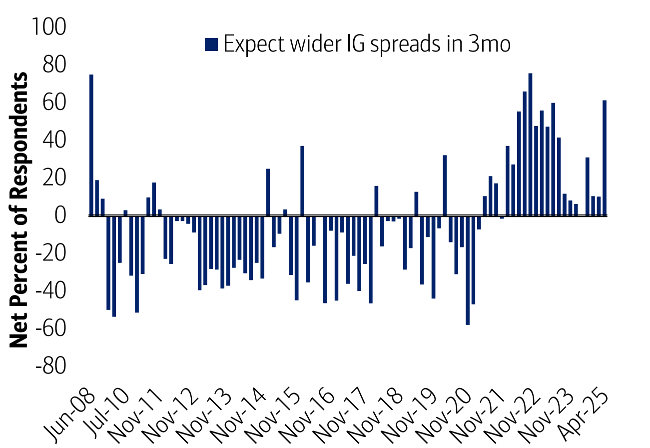
BofA GLOBAL RESEARCH

Spread views

IG investors turned notably more bearish on spreads in 3M and 6M, and turned more bullish in 12M time horizon. The net share of IG investors expecting wider spreads rose sharply for 3M (to 61% from 10%) relative to January, highest since September 2022, rose for 6M (to 52% from 44%) and declined for 12M (to 24% from 60%).

Similarly, HY investors turned more bearish on spreads in 3M, but more bullish on spreads in 6M and 12M. The net share of HY investors expecting wider spreads in 3M rose sharply to 38% in April from 4% in January. However, the net share expecting wider spreads in 6M and 12M declined to 35% (from 56%) for 6M and to -6% (from 63%) for 12M.

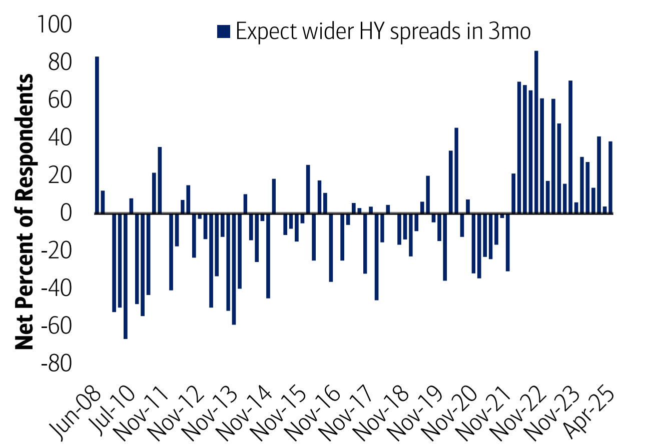
Exhibit 13: Investment Grade: expect wider spreads in 3mo?
A net share of 61% IG investor expected wider spreads in 3M.



Source: BofA US Credit Investor Survey

BofA GLOBAL RESEARCH

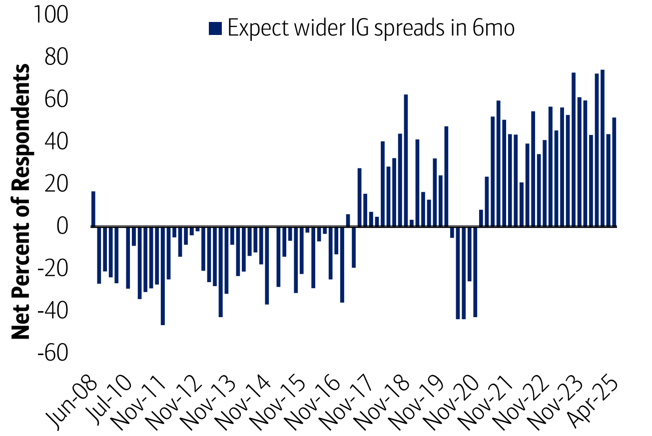
Exhibit 14: High Yield: expect wider spreads in 3mo?
The net share of HY investors expecting wider spreads rose to 38% in April from 4% in January.



Source: BofA US Credit Investor Survey

BofA GLOBAL RESEARCH

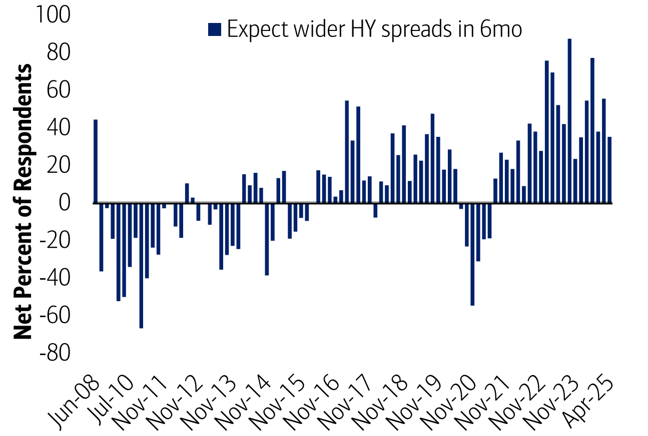
Exhibit 15: Investment Grade: expect wider spreads in 6mo?
The share expecting wider spreads in 6M rose to 52% since our last survey.



Source: BofA US Credit Investor Survey

BofA GLOBAL RESEARCH

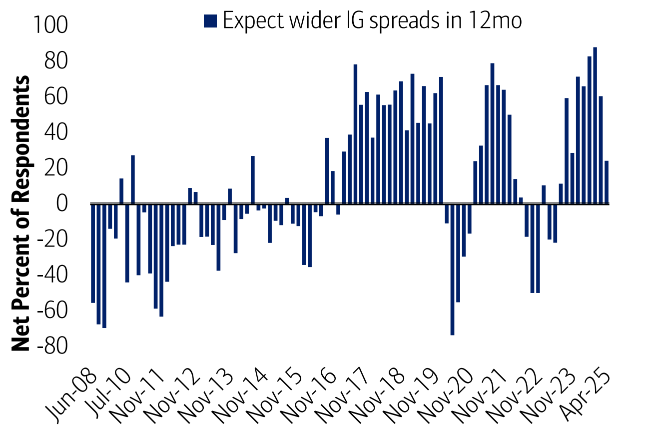
Exhibit 16: High Yield: expect wider spreads in 6mo?
The net share of HY investors expecting wider spreads in 6M declined to 35%.



Source: BofA US Credit Investor Survey

BofA GLOBAL RESEARCH

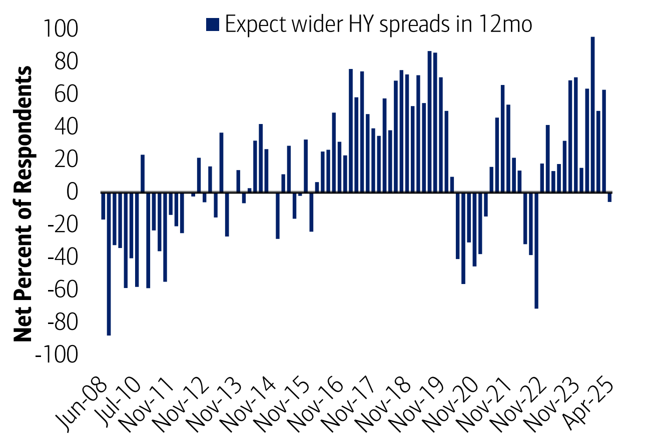
Exhibit 17: Investment Grade: expect tighter spreads in 12mo?
The share expecting wider spreads in 12M declined to 24% since our last survey.



Source: BofA US Credit Investor Survey

BofA GLOBAL RESEARCH

Exhibit 18: High Yield: expect wider spreads in 12mo?
The net share of HY investors expecting wider spreads in 12M declined to -6%, from 63% in our last survey



Source: BofA US Credit Investor Survey

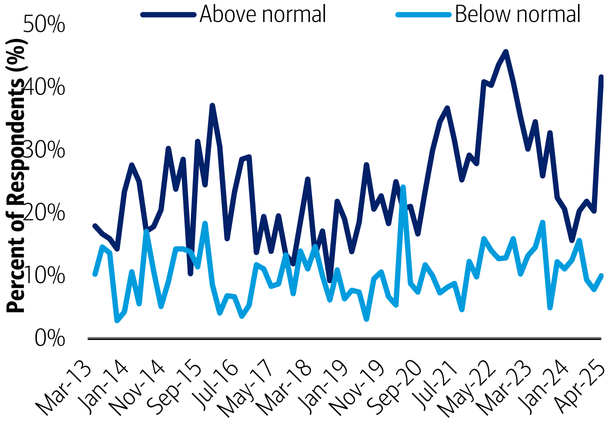
BofA GLOBAL RESEARCH

Cash levels

Among IG investors, the share reporting above normal cash levels rose sharply to 42% in April from 20% in January, highest since September 2022. The share reporting below normal cash also rose to 10% in April from 8% in January.

The share of HY investors reporting above normal cash rose to 56% in April from 33% in January, and the share reporting below normal cash dropped slightly to 3% from 4% over the same period.

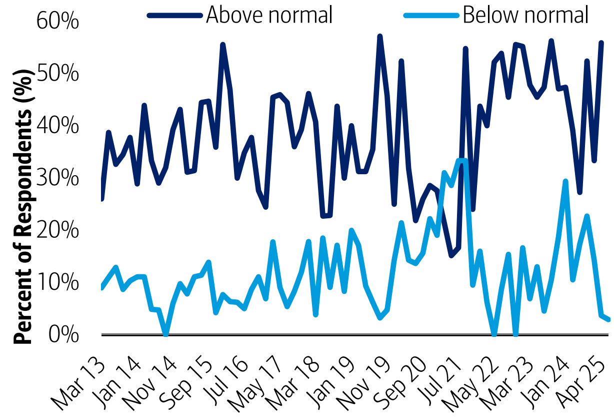
Exhibit 19: Investment Grade: What are your current cash levels?
Net cash level (share above normal less share below normal) rose to 30% in April from 17% in January.



Source: BofA US Credit Investor Survey

BofA GLOBAL RESEARCH

Exhibit 20: High Yield: What are your current cash levels?
Net cash level (share above normal less share below normal) rose to 53% in April from 19% in January.



Source: BofA US Credit Investor Survey

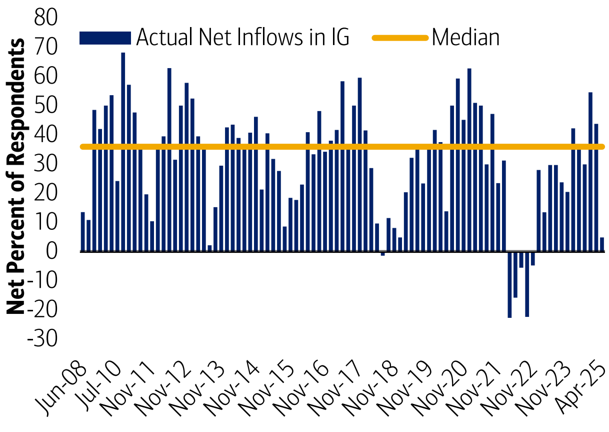
BofA GLOBAL RESEARCH

Realized and expected net flows

A net 5% of IG investors reported inflows over the past three months – down significantly from net 44% in January. The net share expecting inflows over the next three months also decreased to flat in April from 48% in January.

Among HY investors, a net 3% reported inflows over the past three months, down from net 44% reporting inflows in January. A net 21% of HY investors expect inflows over the next three months, also down from a net 56% expecting inflows in January.

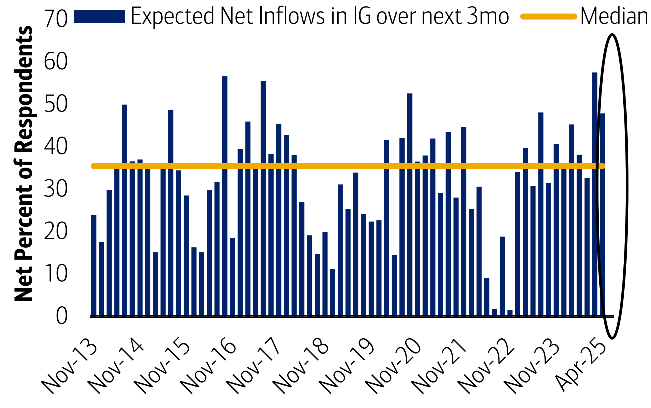
Exhibit 21: IG investors: Over the last three months, have you seen net inflows/outflows to the credit funds that you manage?
On net, 5% of IG investors reported inflows over the last 3 months.



Source: BofA US Credit Investor Survey

BofA GLOBAL RESEARCH

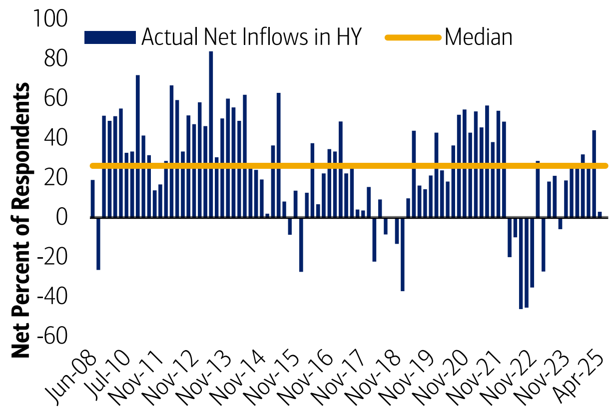
Exhibit 22: Investment Grade: expect net inflows over the next three months.
The net share of IG investors expecting inflows decreased to flat this month.



Source: BofA US Credit Investor Survey

BofA GLOBAL RESEARCH

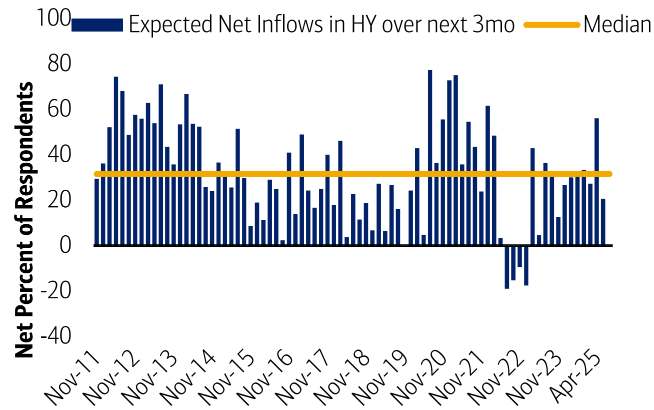
Exhibit 23: HY investors: Over the last three months, have you seen net inflows/outflows to the credit funds that you manage?
A net 3% of HY investors reported inflows over the past three months.



Source: BofA US Credit Investor Survey

BofA GLOBAL RESEARCH

Exhibit 24: High Yield: expect net inflows over the next three months
A net 21% of HY investors expect inflows over the next three months.



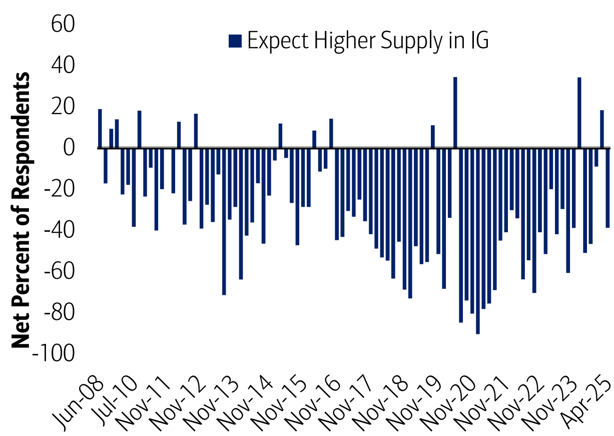
Source: BofA US Credit Investor Survey

BofA GLOBAL RESEARCH

Supply expectations

A net -39% of IG investors expected lower supply over the next 12 months, down from net +18% in January. Among HY investors, a net -71% expected lower supply in April, down from net 37% in January.

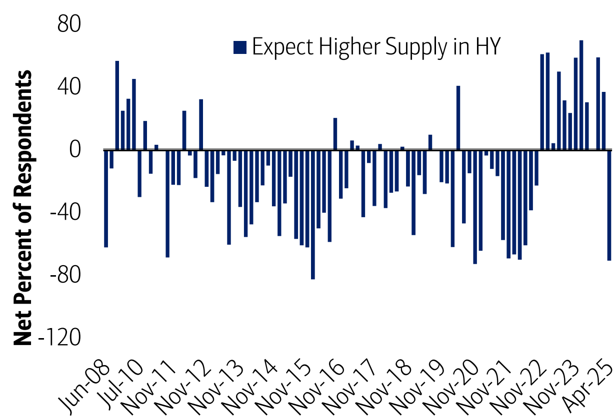
Exhibit 25: Investment Grade: supply expectations over the next 12 months relative to the previous 12 months
39% expects a lower supply in IG over the next 12M.



Source: BofA US Credit Investor Survey

BofA GLOBAL RESEARCH

Exhibit 26: High Yield: supply expectations over the next 12 months relative to the previous 12 months
71% expects a lower HY supply over the next 12M.



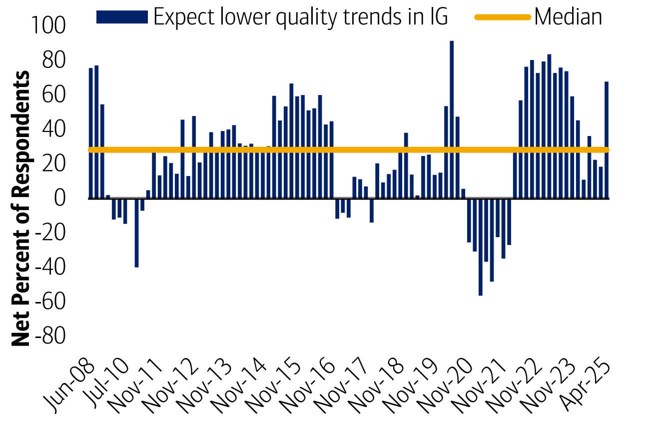
Source: BofA US Credit Investor Survey

BofA GLOBAL RESEARCH

Credit quality trends

Net 68% of IG investors now expects credit quality to worsen over the next six months, a big increase from a net 18% in our January survey. High yield investors were also remarkably more negative on credit quality trends, with net 79% expecting lower credit quality over the next 6 months, up from net 4% in January.

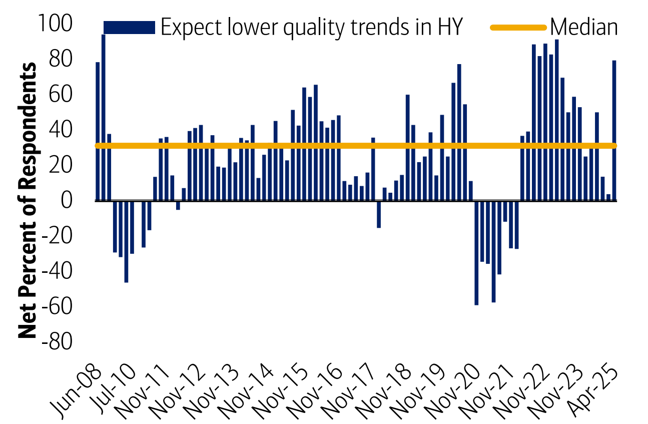
Exhibit 27: Investment Grade: six-month views on credit quality
IG investors on net expected lower credit quality over the next 6 months since March 2022.



Source: BofA US Credit Investor Survey

BofA GLOBAL RESEARCH

Exhibit 28: High Yield: six-month views on credit quality
HY investors on net expected lower credit quality over the next 6 months since March 2022.



Source: BofA US Credit Investor Survey

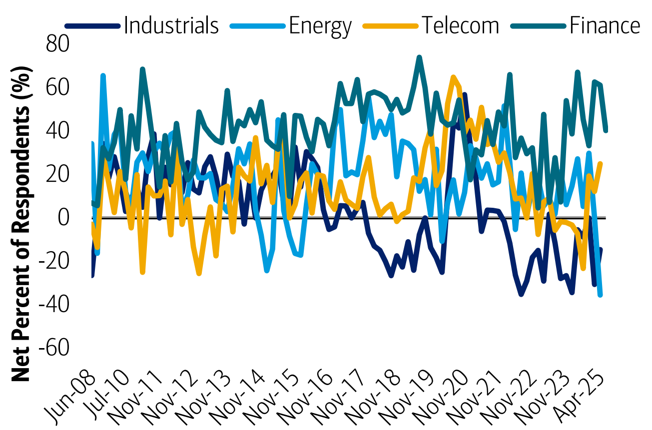
BofA GLOBAL RESEARCH

Sector positioning

Relative to our last survey in January, IG investors increased their positioning for Industrials to -15% net underweight from -31% net underweight, decreased their positioning for Energy to -35% net underweight from flat, increased their overweight for Telecom to +25% net overweight from +12% net overweight, and decreased their overweight for Finance to +40% net overweight from +61% net overweight.

HY investors decreased their positioning for Industrials to -21% net underweight from 33% net overweight, decreased their positioning for Energy to -39% net underweight from -4% net underweight, increased their positioning for Telecom to 18% net overweight from -4% net underweight, and decreased their overweight for Finance to -3% net underweight from +30% net overweight.

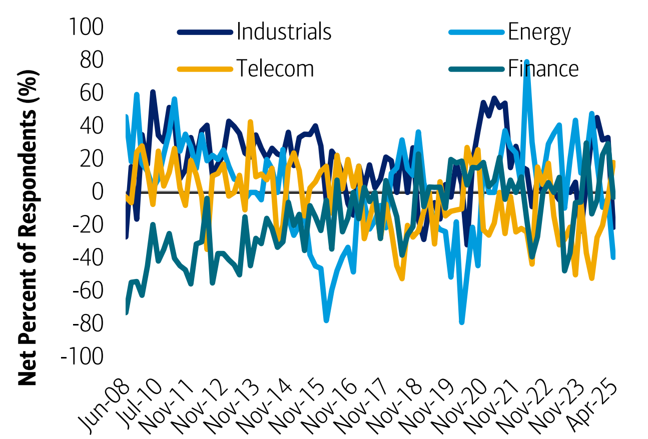
Exhibit 29: High grade sector positioning
IG investors are overweight Finance and Telecom.



Source: BofA Global Research.

BofA GLOBAL RESEARCH

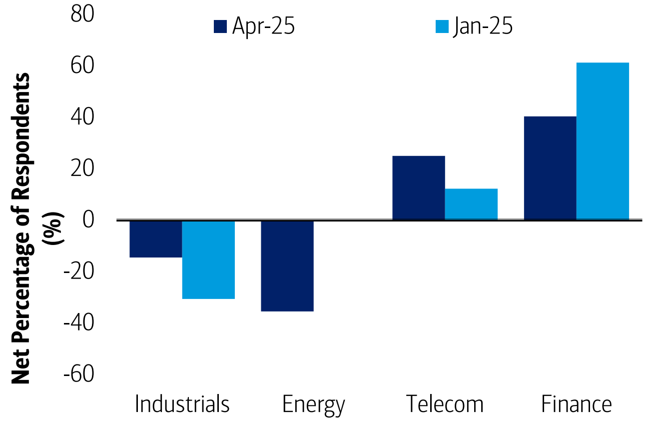
Exhibit 30: High yield sector positioning
HY investors are overweight Telecom.



Source: BofA Global Research.

BofA GLOBAL RESEARCH

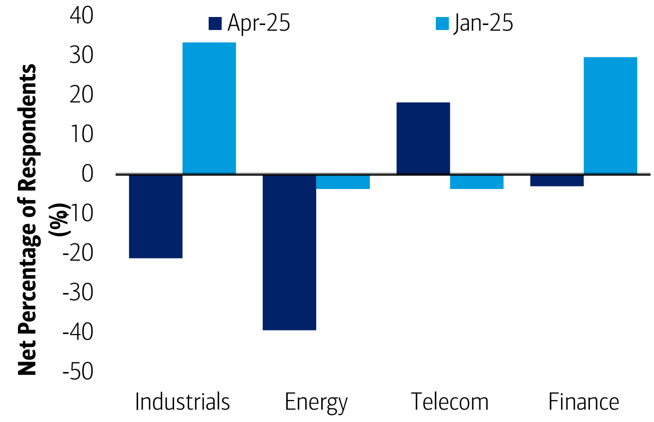
Exhibit 31: High grade sector positioning
IG investors remain most overweight Finance and most underweight Energy.



Source: BofA US Credit Investor Survey.

BofA GLOBAL RESEARCH

Exhibit 32: High yield sector positioning
HY investors are now most overweight Telecom and most underweight Energy.



Source: BofA US Credit Investor Survey.

BofA GLOBAL RESEARCH

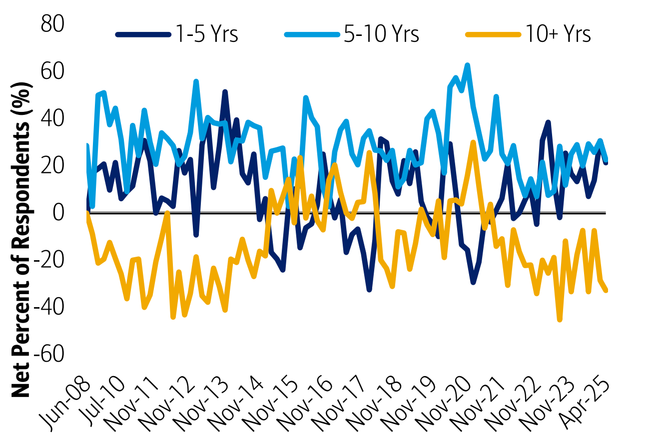
Maturity positioning

IG investors decreased front-end positioning, while HY investors increased front -end positioning.

IG investors decreased net positioning to 21% from 31% for 1-5yr, decreased net positioning to 23% from 31% for 5-10yr, and decreased net positioning to -33% from -29% for 10+yr.

HY investors increased net positioning to 45% from 42% for 1-3yr, increased net positioning to 33% from 7% for 3-7yr and decreased net positioning to -58% from -54% for 7+yr.

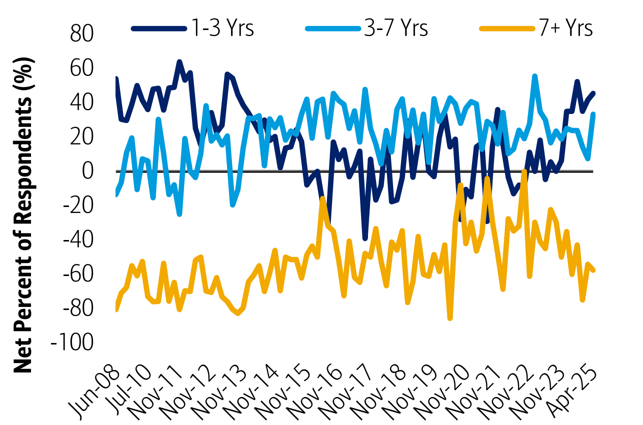
Exhibit 33: High grade maturity positioning
IG investors are net underweight back-end, overweight front-end and the belly.



Source: BofA Global Research.

BofA GLOBAL RESEARCH

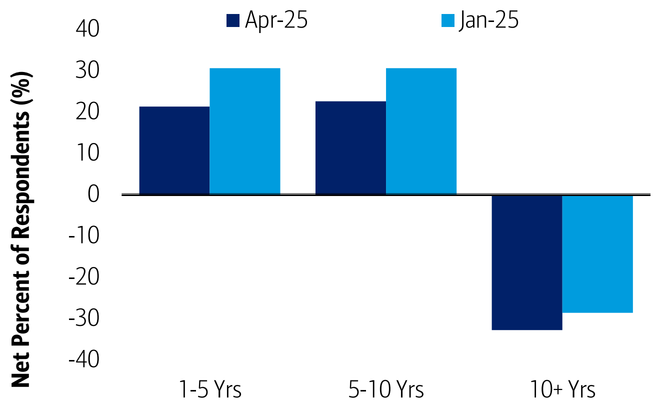
Exhibit 34: High yield maturity positioning
HY investors are also overweight front-end and the belly, underweight the back-end.



Source: BofA Global Research.

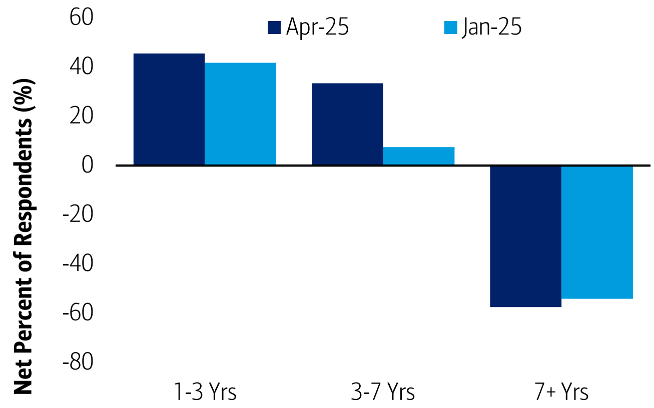
BofA GLOBAL RESEARCH

Exhibit 35: High grade maturity positioning
Underweight back-end, overweight front-end and the belly.



Source: BofA US Credit Investor Survey
BofA GLOBAL RESEARCH

Exhibit 36: High yield maturity positioning
Into the front end for HY in April .

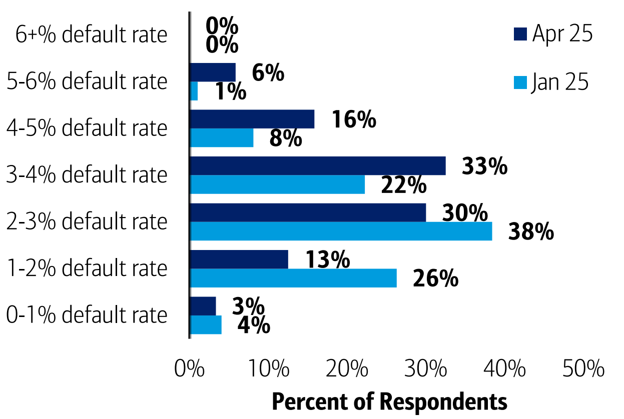


Source: BofA US Credit Investor Survey
BofA GLOBAL RESEARCH

Default rate expectations

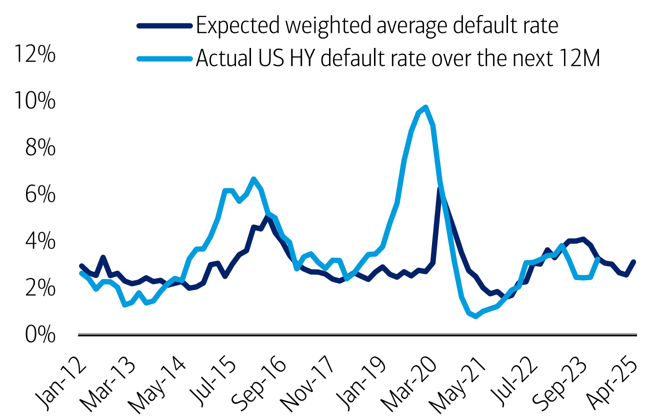
The average default rate expectations for the next 12 months increased to 3.1% in April from 2.6% in January. Most respondents (63%) expected defaults across the following two ranges: 2-3% (30%) and 3-4% (33%).

Exhibit 37: Expectations of corporate default rate (LTM issuer scale) in 12 months
Most credit investors look for default rates in the 2-4% range



Source: BofA US Credit Investor Survey
BofA GLOBAL RESEARCH

Exhibit 38: Expectations of default rate
Default rate expectations for the next 12 months declined since Sep '23.



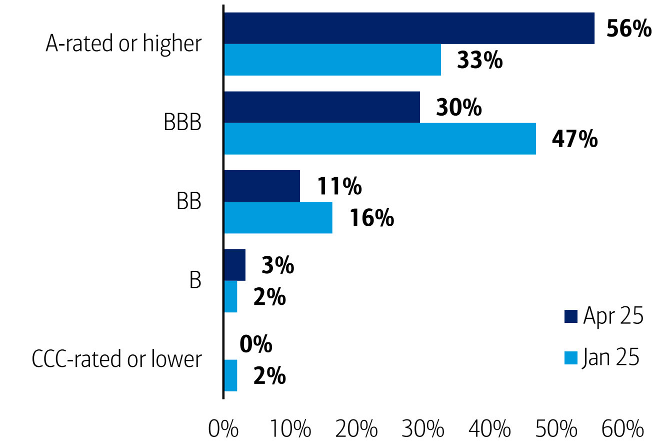
Note: The expected weighted average default rate is calculated by equating 0-2% to 1%, 2-4% to 3%, 4-6% to 5% and 6+% to 8%, and then weighting the average based on the share of survey responses.
Source: BofA US Credit Investor Survey
BofA GLOBAL RESEARCH

Excess return by ratings

56% of IG investors expect bonds rated A or higher to deliver the highest risk-adjusted returns over the next 12 months, followed by BBBs (30%) and BBs (11%).

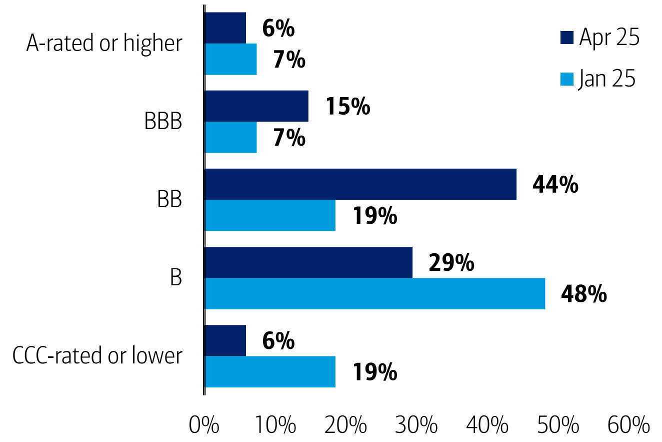
44% of HY investors (compared to 19% in January) expect BBs to outperform, followed by Single Bs (29%) and BBBs (15%).

Exhibit 39: Investment Grade: which corporate bond ratings category do you think will provide the highest risk-adjusted excess return over the next 12 months?
56% of IG investors expect bonds rated A or higher to deliver the highest risk-adjusted returns over the next 12 months, followed by BBBs.



Source: BofA US Credit Investor Survey
BofA GLOBAL RESEARCH

Exhibit 40: High yield: which corporate bond ratings category do you think will provide the highest risk-adjusted excess return over the next 12 months?
HY investors expect BBs to deliver the highest risk-adjusted returns over the next 12 months.

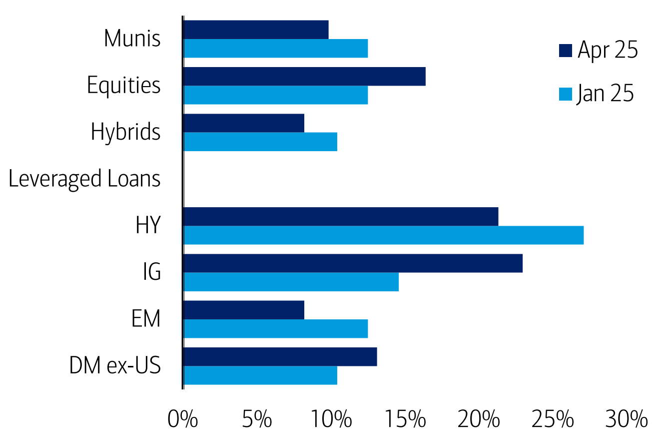


Source: BofA US Credit Investor Survey
BofA GLOBAL RESEARCH

Heaviest allocation outside of primary focus

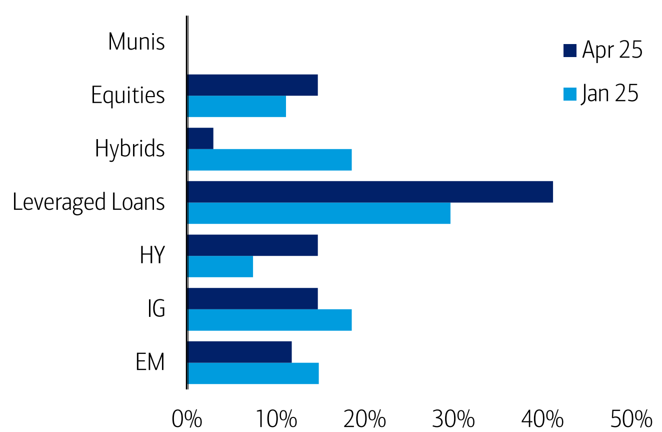
IG investors favored HY (21%) as the primary focus outside of their primary asset class. For high yield, the most popular options were Leveraged Loans (41%).

Exhibit 41: Investment Grade: Outside of your primary focus asset class, what is heaviest allocation in your portfolio?
IG investors still favor HY the most outside of their primary focus.



Source: BofA US Credit Investor Survey
BofA GLOBAL RESEARCH

Exhibit 42: High yield: Outside of your primary focus asset class, what is heaviest allocation in your portfolio?
HY investors favor Leveraged Loans the most outside of their primary focus.

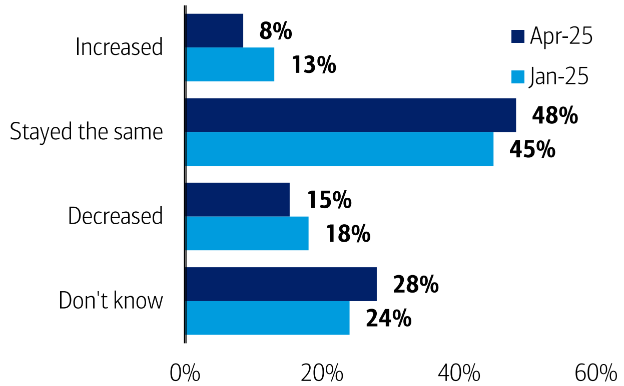


Source: BofA US Credit Investor Survey
BofA GLOBAL RESEARCH

Emerging Market credit allocation

The share of investors keeping EM credit allocation unchanged rose to 48% in April, up from 45% in January. 15% of investors decreased EM allocation and 8% increased allocation in April, compared to 18% and 13% respectively in January.

Exhibit 43: Over the last three months, how has your Emerging Markets credit allocation changed?
48% of investors kept EM credit allocation unchanged in April, up from 45% in January.



Source: BofA US Credit Investor Survey

BofA GLOBAL RESEARCH

About the April 2025 BofA US Credit Investor Survey
The April 2025 BofA US credit investor survey was conducted from April 21 to April 24, 2025, with 120 investors participating. Respondents by asset class included: investment grade (62), high yield (34), leveraged loans (6), and cross-credit (18). The respondents also identified themselves as money manager (66), insurance company (18), hedge fund (24), pension fund (6), and bank (6).

See here for the full report:
[Situation Room: Tracking IG outflows 21 April 2025]

Tracking IG outflows

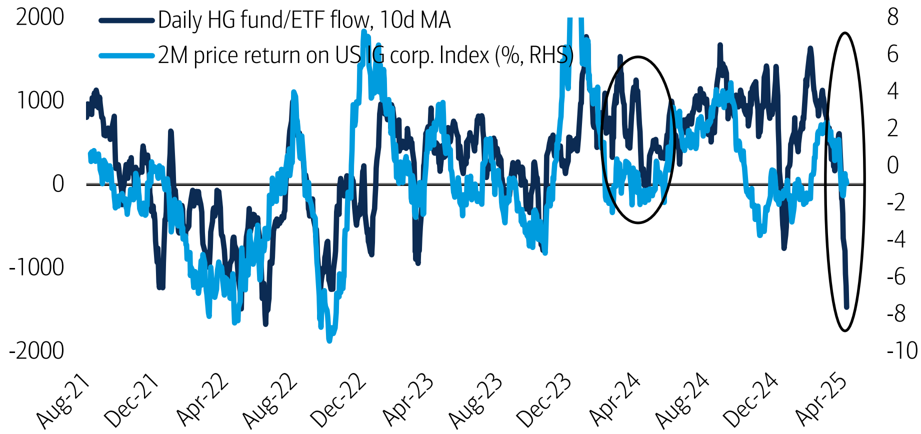
HG mutual funds and ETFs have reported sizable outflows on each day between April 4th and April 17th. As a result, we are now tracking an average daily outflow of -$1.6bn for April, down from a +$0.5bn average daily inflow in March and +$1.6bn average daily inflow in February (Exhibit 45, Exhibit 46). This pace of outflows implies a -$30bn outflow for the full month of April – similar to the peak outflows during May and June 2022.

Outflows are much bigger than expected

Flows typically follow returns, and the large outflows in 2022 were roughly in line with the big drop in bond prices. The outflows so far in April have instead been much larger than implied by the returns (Exhibit 44). That likely means that the outflows are now driven by the news flow instead. More volatility could, therefore, support further outflows even if Treasury yields stabilize. This risk of prolonged outflows certainly matters as mutual funds and ETFs are the second largest holder of corporate bonds (~25%), only behind foreign investors.

Exhibit 44: April outflows have been much bigger than expected

The outflows from HG funds / ETFs over the past two weeks have been much larger than expected based on bond returns. In contrast, the big outflows in 2022 were roughly in line with returns.

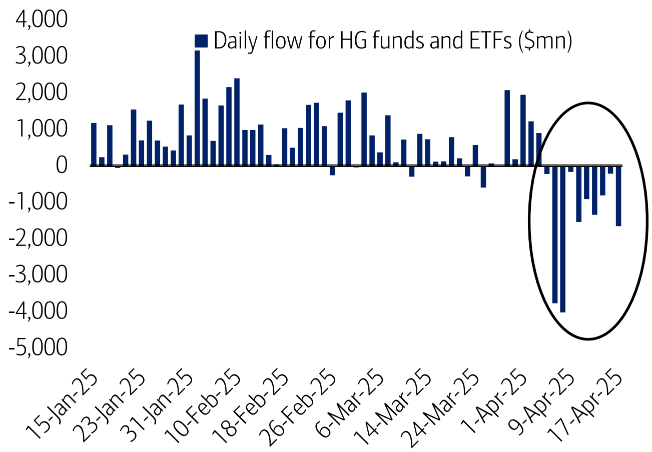


Source: BofA Global Research, EPFR Global, ICE Data Indices, LLC

BofA GLOBAL RESEARCH

Exhibit 45: HG flows were negative each day since April 4th.

Outflows from ETFs peaked on April 7 and 8, while outflows from funds have been more steady since April 7th.

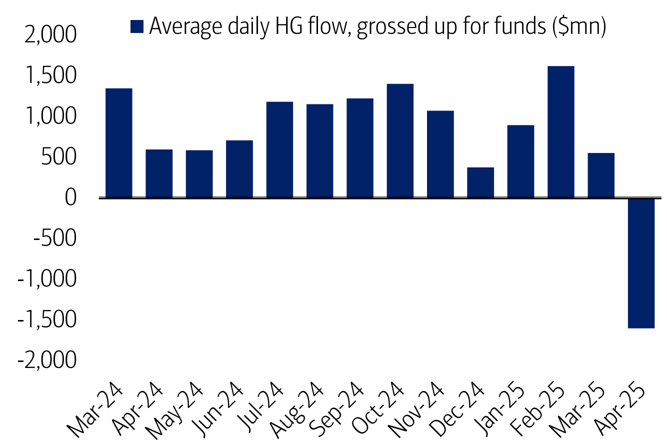


Source: BofA Global Research, EPFR Global

BofA GLOBAL RESEARCH

Exhibit 46: Average daily flow for April: -$1.6bn

That's down from +$0.6bn average daily inflow in March and +$1.6bn average daily inflows in February.



Source: BofA Global Research, EPFR Global

BofA GLOBAL RESEARCH

Previously published here:

Situation Room: Cheap 5yr spreads 22 April 2025

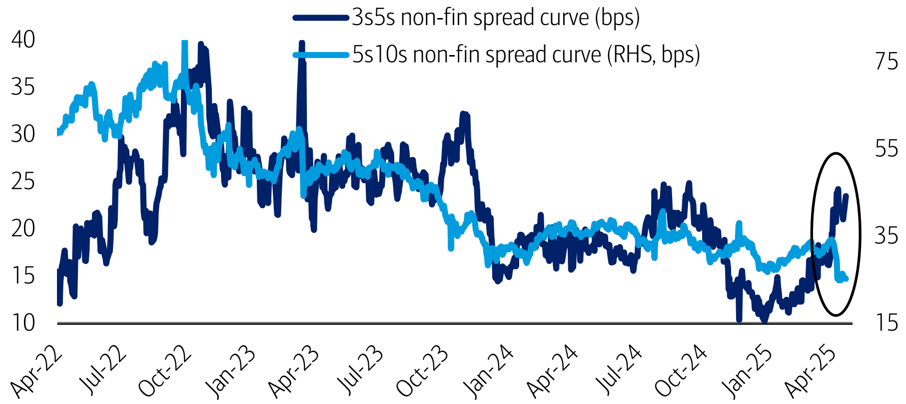
Cheap 5yr spreads

The combination of the recent volatility and a steeper Treasury yield curve has significantly cheapened 5yr IG spreads on the curve. We can see that in notably steeper 3s5s and flatter 5s10s IG spread curves (Exhibit 47). The steepening in 3s5s makes sense in the environment of wider spreads. The flatter 5s10s IG spread curve, in contrast, is inconsistent with the recent market weakness (Exhibit 48). As a result, 5yr spreads have been the worst performer on the curve so far in April (Exhibit 49).

How flat is the 5s10s curve?

Relative to the level of spreads and the 3s5s spread curve, the 5s10s IG spread curve is screening 15 – 20bps too flat. That makes 5yr spreads attractive on the curve. In Exhibit 51 below we screen for IG 5s10s spread curves trading near the flattest levels YtD.

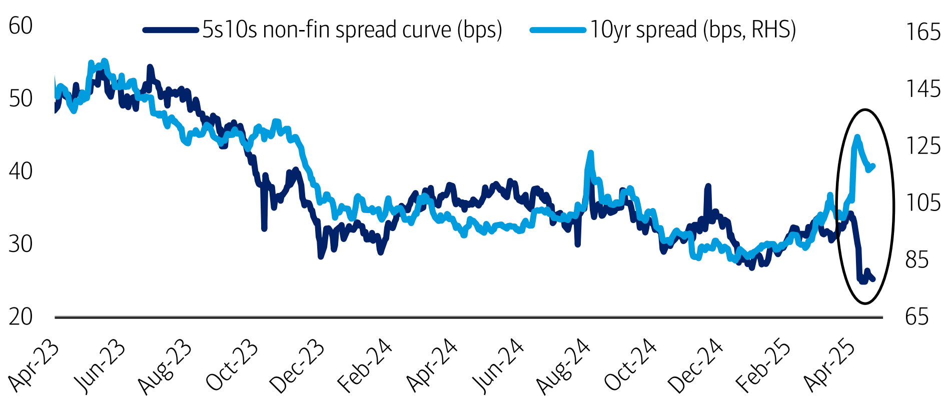
Exhibit 47: Steeper 3s5s, flatter 5s10s IG spread curve
That suggests the 5yr point has underperformed on the IG spread curve.



Source: BofA Global Research, ICE Data Indices, LLC

BofA GLOBAL RESEARCH

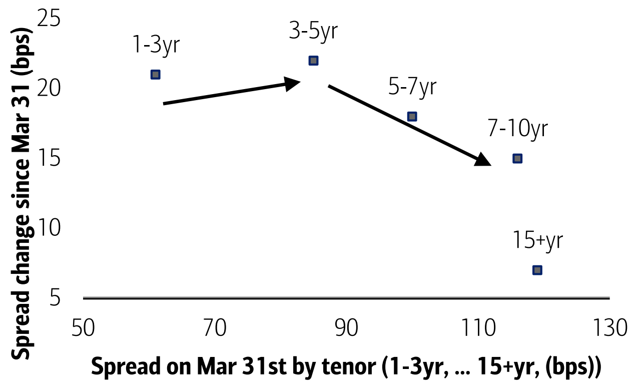
Exhibit 48: 5s10s IG spread curve is screening flat vs. spreads
It's unusual for the 5s10s IG spread curve to flatten when spreads are wider, which is what happened so far in April.



Source: BofA Global Research, ICE Data Indices, LLC

BofA GLOBAL RESEARCH

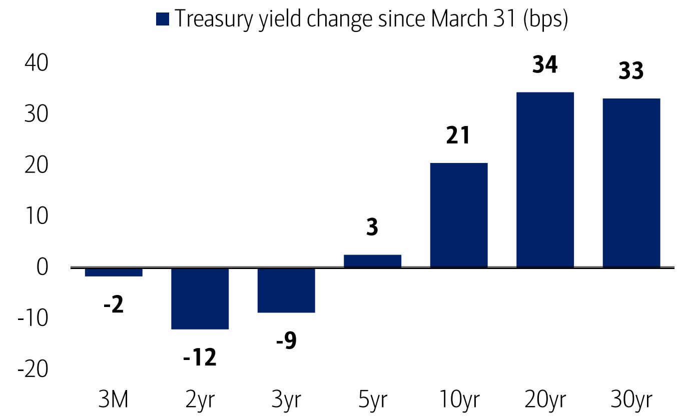
Exhibit 49: 5yr IG spreads underperforming
Looking at maturity-based IG index spreads shows a big 5yr spread underperformance so far in April.



Source: BofA Global Research, ICE Data Indices, LLC

BofA GLOBAL RESEARCH

Exhibit 50: The Treasury yield curve has steepened
5yr Treasury yield is up 3bps MtD, while 10yr yield is up 21bps.



Source: Bloomberg

BofA GLOBAL RESEARCH

Exhibit 51: Flat 5s10s IG spread curve screen
We screen for DM 5s10s IG spread curves that are near the flattest levels YtD.

Issuer	5yr bond	10yr bond	Index rating	Sector	5yr spread (bps)	10yr spread (bps)	5s10s curve (bps)	5yr price ($)	10yr price ($)	5s10s curve, share of 5yr spread	Curve percentile YtD
T-MOBILE USA INC	TMUS 4.2 10/01/29	TMUS 4.7 01/15/35	BBB2	Telecom	86	109	23	97.5	94.3	**23.9%**	**0.0%**
AMERICAN HONDA F	HNDA 4.8 03/05/30	HNDA 5.2 03/05/35	A3	Automobiles	97	123	26	99.2	96.7	**27.3%**	**0.0%**
GEORGIA POWER	SO 4.55 03/15/30	SO 5.1 04/02/35	A2	Utilities	71	82	11	99.5	98.9	**11.2%**	**0.0%**
IMPERIAL BRANDS	IMBLN 5 1/2 02/01/30	IMBLN 5 7/8 07/01/34	BBB2	Tobacco	116	155	39	101.3	99.5	**32.9%**	**0.0%**
BECTON DICKINSON	BDX 5.081 06/07/29	BDX 5.11 02/08/34	BBB2	Health Care	87	106	20	100.7	97.8	**18.7%**	**0.0%**
CHEVRON USA INC	CVX 4.687 04/15/30	CVX 4.98 04/15/35	AA3	Energy	60	79	19	100.4	98.6	**31.2%**	**0.0%**
TARGA RESOURCES	TRGP 6.15 03/01/29	TRGP 5.55 08/15/35	BBB2	Energy	113	158	45	103.4	96.3	**30.5%**	**0.0%**
TEXAS INSTRUMENT	TXN 4.6 02/08/29	TXN 4.85 02/08/34	A1	Technology	47	67	20	100.5	98.5	**28.8%**	**0.0%**
TOYOTA MTR CRED	TOYOTA 4.95 01/09/30	TOYOTA 5.35 01/09/35	A1	Automobiles	81	94	13	100.6	100.0	**13.8%**	**0.0%**
PHILIP MORRIS IN	PM 4 5/8 11/01/29	PM 4.9 11/01/34	A2	Tobacco	75	104	29	99.7	96.5	**35.8%**	**2.6%**
BP CAP MKTS AMER	BPLN 4.868 11/25/29	BPLN 5.227 11/17/34	A2	Energy	73	105	32	100.6	98.4	**41.1%**	**2.6%**
HOME DEPOT INC	HD 4 3/4 06/25/29	HD 4.95 06/25/34	A2	Retail	52	74	22	101.0	98.6	**34.3%**	**3.9%**
CARDINAL HEALTH	CAH 5 11/15/29	CAH 5.35 11/15/34	BBB2	Health Care	97	120	24	100.3	98.4	**21.9%**	**3.9%**
OCCIDENTAL PETE	OXY 5.2 08/01/29	OXY 5.55 10/01/34	BBB3	Energy	183	218	35	97.7	93.0	**19.9%**	**3.9%**
FORD MOTOR CRED	F 5 7/8 11/07/29	F 6 1/2 02/07/35	BBB3	Automobiles	281	295	14	96.3	94.0	**4.9%**	**5.6%**
BROADCOM INC	AVGO 5.05 04/15/30	AVGO 4.8 10/15/34	BBB1	Technology	93	108	15	100.4	95.2	**20.9%**	**5.9%**
MITSUBISHI CORP	MITCO 5 07/02/29	MITCO 5 1/8 07/17/34	A2	Industrial Products	64	87	23	101.3	99.3	**30.5%**	**6.5%**
GEN MOTORS FIN	GM 5.35 01/07/30	GM 5.9 01/07/35	BBB2	Automobiles	179	189	10	98.4	97.0	**5.5%**	**7.4%**
GILEAD SCIENCES	GILD 4.8 11/15/29	GILD 5.1 06/15/35	BBB1	Health Care	76	92	16	100.5	98.2	**12.0%**	**7.8%**
JOHN DEERE CAP	DE 4.85 06/11/29	DE 5.45 01/16/35	A1	Industrial Products	57	78	21	101.3	101.8	**24.2%**	**11.1%**

Source: BofA Global Research, ICE Data Indices, LLC

BofA GLOBAL RESEARCH

Previously published here:
Situation Room: The race to retrace 23 April 2025

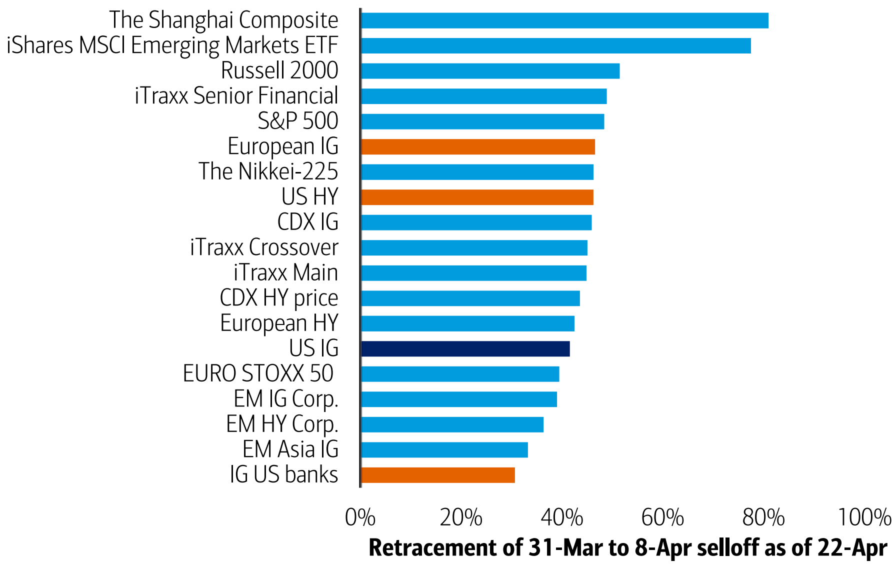
The race to retrace

Risk assets have rallied on headlines on potentially lower China tariffs, tariffs exemptions for auto parts, steel and aluminum, and that Trump was not planning to fire Chair Powell. As markets are moving quickly, we track potential laggards by looking at how much prices have re-traced the widening between March 31st and April 8 (based on the ratio of spread tightening since April 8 over spread widening up to April 8).

IG lagging a bit

Through April 22nd, IG spreads have retraced 42% of the widening, lagging US HY (46% retracement) and European IG (47% retracement). Notably, US banks have retraced just 31% (Exhibit 52). Within IG, high quality back-end has led the rally, while front-end BBBs have lagged (Exhibit 53). At the sector level, Autos, REITs, Finance, and Industrial Products have lagged the rally in IG and screen attractive. On the flip side, Telecom, Food, Bev & Bottling, Tobacco, and Retail have outperformed (Exhibit 54).

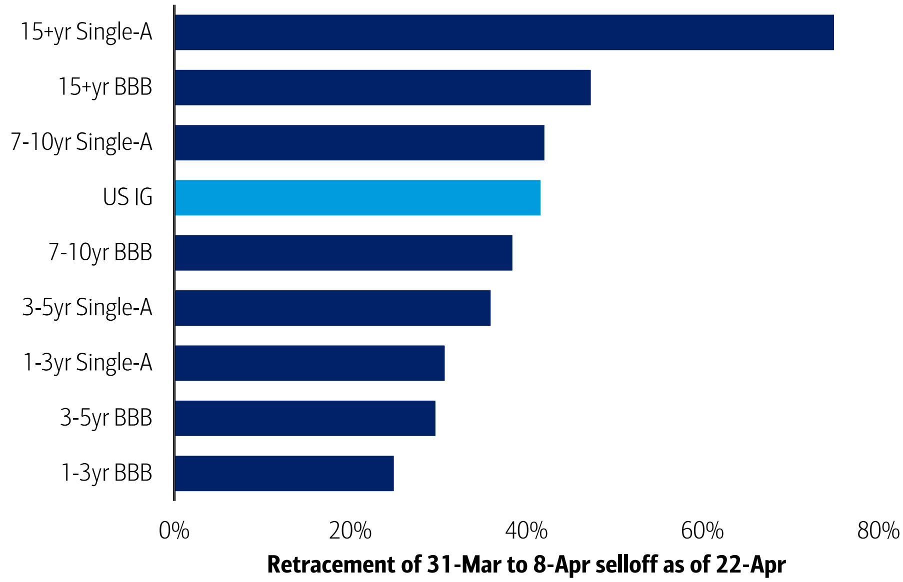
Exhibit 52: IG spreads have lagged a bit in the rally since April 8
The IG cash index spread retraced 42% of the prior spread widening by April 22, lagging US HY and Euro IG.



Source: BofA Global Research, Bloomberg, ICE Data Indices, LLC

BofA GLOBAL RESEARCH

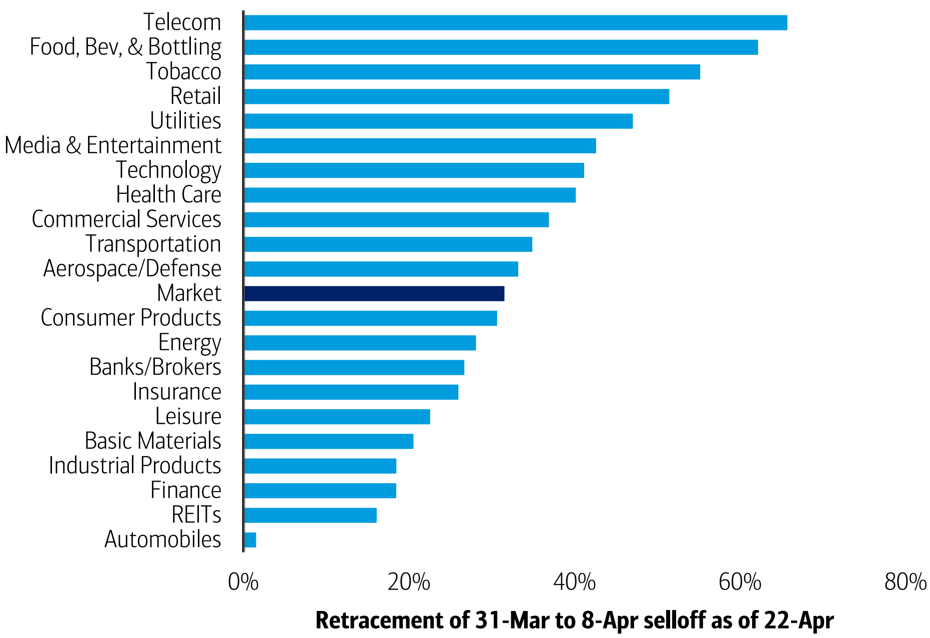
Exhibit 53: Back-end high quality spreads outperformed, BBB front-end has underperformed
15+yr Single-A retraced 75% of the prior spread widening, while 1-3yr BBBs retraced just 25%.



Source: BofA Global Research, ICE Data Indices, LLC

BofA GLOBAL RESEARCH

Exhibit 54: IG spread retracement by sector
Autos, REITs, Finance and Industrials have lagged the rally.



Source: BofA Global Research, ICE Data Indices, LLC

BofA GLOBAL RESEARCH

For the full report see:
Situation Room: Outflows from HG funds and ETFs 24 April 2025

Flows

Outflows from HG funds and ETFs

Strong outflows continued from HG driven by both HG funds and ETFs, while outflows slowed for HY and loans this past week ending on April 23.

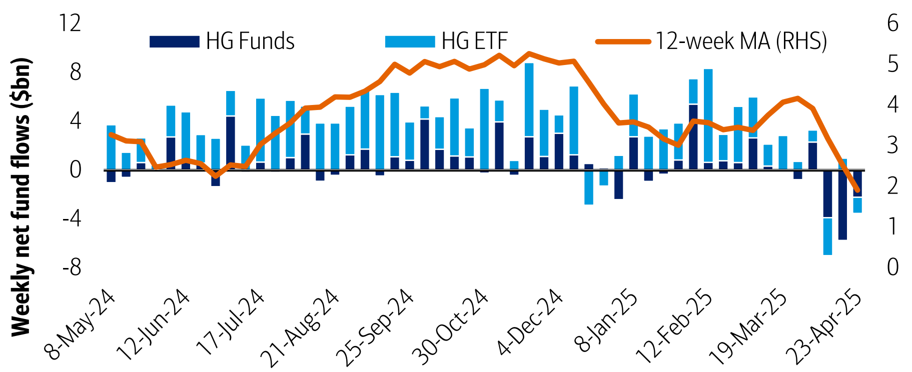
Outflows moderated but remained large for US HG bond funds and ETFs this, with a -$3.53bn outflow up from a -$4.76bn outflow in the prior week. Flows turned negative for HG ETFs (to -$1.31bn from +$0.99bn), while outflows slowed for HG Funds (to -$2.22bn from -$5.75bn). We saw a sizable inflow to short-term HG (to +$2.21bn, the biggest inflow in 10 weeks, up from -$0.92bn), while outflows accelerated ex. short-term (to -$5.73bn, the biggest outflow since June 2022, from -$3.83bn).

Slower outflows from HY, loans

Outflows slowed further for equities (to -$3.23bn from -$10.68bn), for HY (to -$1.16bn from -$1.64bn), and for loans (to -$0.33bn from -$1.33bn). Outflows also moderated for munis (to -$0.32bn from -$0.88bn). On the other hand, money markets saw the biggest inflow in 8 weeks at +$47.29bn, following a -$88.34bn outflow a week earlier. Finally, flows turned positive for global EM bonds (to +$0.25bn from -$3.09bn).

Exhibit 55: Weekly high grade fund flows, $bn

HG ETF -$1.31bn, HG Funds -$2.22



EPFR Global. Note: data are for US-domiciled funds only.

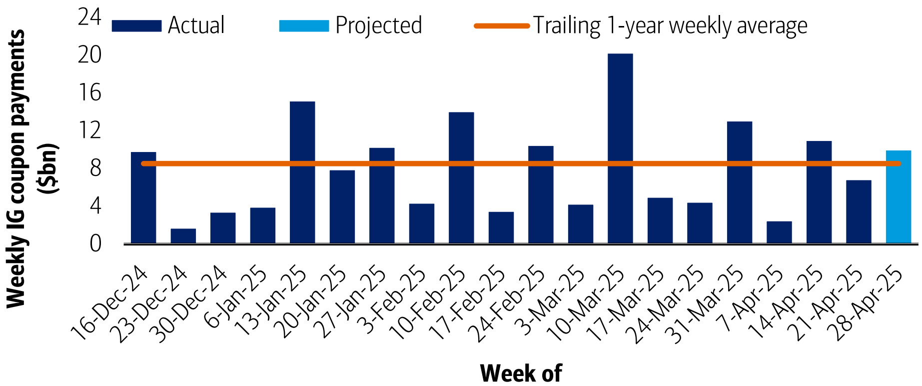
BofA GLOBAL RESEARCH

Weekly technicals

The US IG corporate bond market is expected to generate $10.0bn in coupon payments next week, below the trailing 1-year weekly average of $8.5bn (Exhibit 56).

In addition, $3bn of calls and $0bn tender offer were settled and paid this week, while $3.2bn of calls and $0.3bn tender offer are expected to become effective next week. Bond maturities: $24.1bn this week, $27bn next week.

Exhibit 56: Weekly US IG coupon payments
Expect $10.0bn of coupon payments next week, above the $8.5bn trailing 1-year weekly average.



Source: ICE Data Indices, LLC, BofA Global Research

BofA GLOBAL RESEARCH

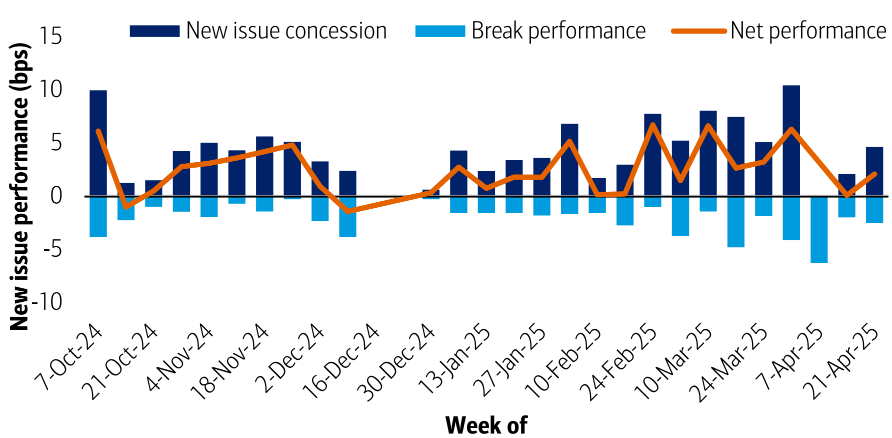
Supply

US IG gross issuance was $25.8bn this week (Exhibit 58). This week's supply consisted of $16.3bn financials, $4.0bn high-quality industrials and $5.5bn BBB industrials.

Given $616.4bn of gross issuance, $348.7bn of maturities and $52.9bn of additional redemptions, net issuance is tracking $214.8bn YTD. Lower rates and moderating volatility should push supply higher next week to $25-30bn range.

New issue performance worsened this week compared with the week of April 14 as the average new issue concession increased to 4.7bps from 2.1bps last week, while the average break performance improved at -2.6bps tighter this week versus -2.1bps tighter last week. As a result, the overall new issue performance, which we measure as new issue concession plus break performance, widened to 2.1bps this week from 0.1bps last week. This week's new issues are trading 3bps tighter on average from pricing.

Exhibit 57: Weekly new issue supply performance
For the week of Apr 21 2025: new issue concession = 4.7bps; break performance = -2.6bps; net performance = 2.1bps.

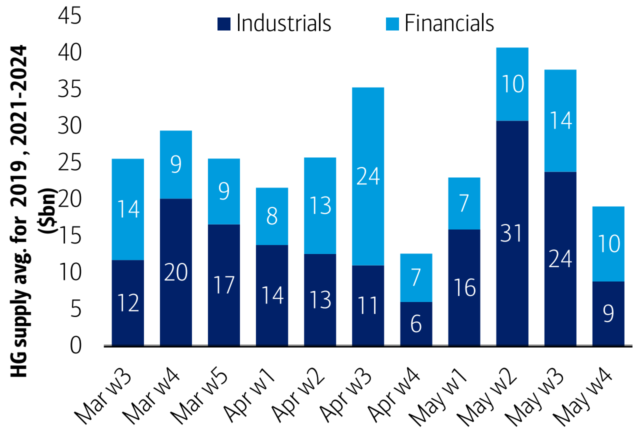


Source: BofA Global Research

BofA GLOBAL RESEARCH

Exhibit 58: Weekly Supply seasonality

Supply tends to be relatively steady in April and accelerate in May.

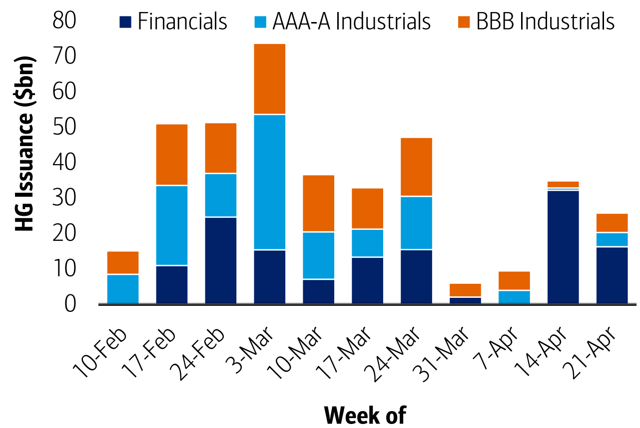


Source: Bloomberg, BofA Global Research

BofA GLOBAL RESEARCH

Exhibit 59: Weekly Supply

This week's supply consisted of $16.3bn financials, $4.0bn high-quality industrials and $5.5bn BBB industrials.



Bloomberg, BofA Global Research

BofA GLOBAL RESEARCH

Exhibit 60: Recent new issue pricing and new issue concessions

List of new issues in the IG corporate bond market today along with performance metrics.

Date	Ticker	Name	Tenor	Size ($mn)	Moody's/S&P	Cpn (%)	Px Spd	NIC	* Brk Perf	Cur Spd
2025-04-21	AXP	American Express Co	4NC3	400	A2/A-	FRN	SOFRRATE+126	n.a.	n.a.	n.a.
2025-04-21	AXP	American Express Co	4NC3	1,600	A2/A-	4.731	98	6	-2	96
2025-04-21	AXP	American Express Co	6NC5	1,500	A2/A-	5.016	108	10	-1	107
2025-04-21	AXP	American Express Co	11NC10	1,500	A2/A-	5.667	128	5	-2	126
2025-04-22	BAMCN	Brookfield Asset Management Ltd	10	750	NA/A	5.795	140	n.a.	n.a.	n.a.
2025-04-22	KMI	Kinder Morgan Inc	5	1,100	Baa2/BBB	5.15	120	5	-6	113
2025-04-22	KMI	Kinder Morgan Inc	10	750	Baa2/BBB	5.85	150	2	n.a.	n.a.
2025-04-22	NYLIFE	New York Life Global Funding	3	400	Aaa/AA+	FRN	SOFRRATE+88	n.a.	n.a.	n.a.
2025-04-22	NYLIFE	New York Life Global Funding	3	700	Aaa/AA+	4.4	60	n.a.	-1	59
2025-04-22	STT	State Street Corp	3NC2	300	Aa3/A	FRN	SOFRRATE+95	n.a.	n.a.	n.a.
2025-04-22	STT	State Street Corp	3NC2	700	Aa3/A	4.543	73	5	-5	62
2025-04-22	STT	State Street Corp	5	1,000	Aa3/A	4.834	85	4	-5	77
2025-04-23	BCP	Banco de Credito del Peru S.A.	10NC5	750	Baa2/BB+	6.45	249	n.a.	n.a.	n.a.
2025-04-23	GUARDN	Guardian Life Global Funding	5	700	Aa1/AA+	4.798	80	0	-4	76
2025-04-23	HWFPCO	Hanwha Futureproof Corp	3	400	NA/NA	4.75	95	n.a.	n.a.	n.a.
2025-04-23	RTOLN	Rentokil Terminix Funding LLC	5	750	NA/BBB	5	115	n.a.	n.a.	114
2025-04-23	RTOLN	Rentokil Terminix Funding LLC	10	500	NA/BBB	5.625	135	n.a.	2	134
2025-04-23	WMT	Walmart Inc	2	750	Aa2/AA	FRN	SOFRINDX+43	n.a.	n.a.	43
2025-04-23	WMT	Walmart Inc	2	750	Aa2/AA	4.1	22	n.a.	n.a.	21
2025-04-23	WMT	Walmart Inc	5	1,000	Aa2/AA	4.35	37	4	n.a.	36
2025-04-23	WMT	Walmart Inc	10	1,500	Aa2/AA	4.9	52	n.a.	n.a.	51
2025-04-24	BAC	Bank of America Corp	PERP NC5	3,000	Baa2/BBB-	6.625	268	n.a.	n.a.	n.a.
2025-04-24	HNTOIL	Hunt Oil Co of Peru LLC Sucursal Del Peru	14	615	Ba1/NA	7.75	344	n.a.	n.a.	n.a.
2025-04-24	MU	Micron Technology Inc	8	500	Baa3/BBB-	5.65	158	3	n.a.	n.a.
2025-04-24	MU	Micron Technology Inc	11	1,250	Baa3/BBB-	6.05	175	9	n.a.	n.a.
2025-04-24	NIPLIF	Nippon Life Insurance Co	30	1,500	A3/A-	6.5	219	n.a.	n.a.	n.a.
2025-04-24	PACLIF	Pacific Life Global Funding II	3	600	Aa3/AA-	4.45	65	n.a.	-3	62
2025-04-24	WSFIN	Western-Southern Global Funding	5	500	Aa3/AA-	4.9	100	n.a.	n.a.	n.a.

Note: We calculate new issue concessions (NIC, bps) by estimating the difference between new issue bond spread and interpolated G spread from comparable liquid secondary bonds of the same issuer prior to the new issue deal announcement, adjusted for the spread impact of dollar prices deviating from par. Break performance is computed as the difference between new issue pricing and secondary closing spread on the first day of trading. Current spread of each new issue is abbreviated as Cur Spd (bps).

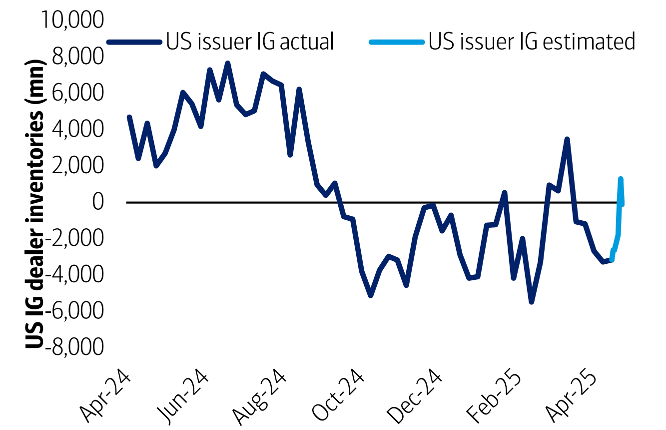
Source: BofA Global Research, Bloomberg

BofA GLOBAL RESEARCH

Dealer inventories

Below we estimate dealer inventories for the IG corporate bonds based on TRACE data. The actual inventories of US issuer bonds based on NY Fed survey, as well as the estimated change since the latest Fed report are plotted in Exhibit 61 and Exhibit 62. We estimate the corresponding DV01 equivalent in Exhibit 62. More details by sector and maturity are available in Exhibit 63 and Exhibit 64. Finally, note that the data for the current date is through about 4:40 p.m. Eastern Standard Time.

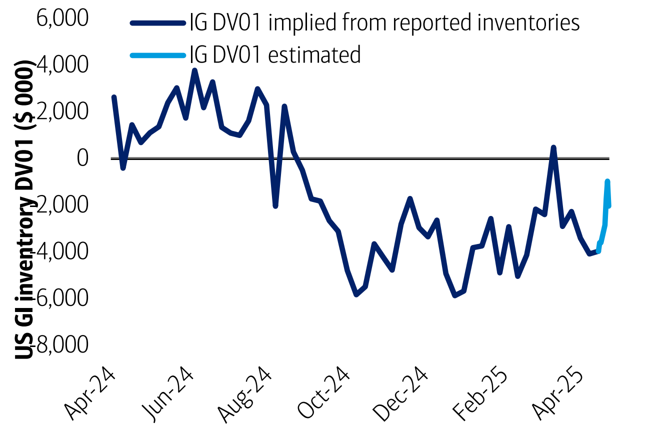
Exhibit 61: Estimated dealer inventories of IG corporate bonds.
We estimate IG dealer inventories of US issuer bonds increased to -$0.1bn currently from -$3.2bn on Apr-16.



Note: data for US issuer bonds only, maturities 13M or longer. Actual dealer inventory data is from Primary Dealer Statistics survey by the NY Fed. The subsequent change in inventory is estimated based on TRACE and IG ETFs.
Source: BofA Global Research, FINRA, TRACE, Federal Reserve

BofA GLOBAL RESEARCH

Exhibit 62: Estimated dealer inventory DV01 for IG corporate bonds.
We estimate IG dealer inventory DV01 of US issuer bonds increased to -$2.0mn currently from -$4.0bn on Apr-16.



Note: data for US issuer bonds only, maturities 13M or longer. Actual dealer inventory data is from Primary Dealer Statistics survey by the NY Fed. The subsequent change in inventory is estimated based on TRACE and IG ETFs.
Source: BofA Global Research, FINRA, TRACE, Federal Reserve

BofA GLOBAL RESEARCH

Exhibit 63: Estimated changes in IG dealer inventories by maturity and broad sector.
We estimate IG dealer inventories declined -$1,693mn on April 24 and increased $2,364mn over the prior week.

	Net dealer buy ($mn)					Net dealer DV01 change ($thousand)					Trading volumes on 24-Apr-25 ($mn)			
Sector	24-Apr	23-Apr	1 W	2 W	4 W	24-Apr	23-Apr	1 W	2 W	4 W	Buy	Sell	Dealer	Total
High grade (TRACE + ETFs)	**-1,693**	**1,080**	**2,364**	**5,018**	**3,140**	**-1,191**	**756**	**1,539**	**4,171**	**456**	**12,806**	**14,638**	**10,499**	**37,943**
ETF flow	**-139**	**-1,017**	**-2,269**	**-3,191**	**-4,420**	**-46**	**-677**	**-1,388**	**-2,070**	**-2,543**	-	-	-	-
TRACE net dealer buy	**-1,832**	**63**	**95**	**1,827**	**-1,280**	**-1,237**	**79**	**151**	**2,101**	**-2,087**	**12,806**	**14,638**	**10,499**	**37,943**
<3yr	-575	-230	-1,296	-1,387	-987	-111	-25	-204	-164	-255	1,389	1,963	1,172	4,524
3-5yr	-298	538	1,143	590	-794	-87	218	436	124	-547	2,750	3,048	2,210	8,009
5-11yr	-189	-336	435	1,587	2,734	-109	-173	343	967	1,545	4,221	4,410	3,823	12,455
11+yr	-770	91	-187	1,037	-2,233	-931	59	-424	1,174	-2,830	4,446	5,216	3,294	12,956
Fin	-933	-249	-467	724	2,416	-306	-42	336	791	827	4,102	5,035	3,289	12,426
Non-Fin	-899	312	562	1,103	-3,696	-931	121	-185	1,310	-2,914	8,704	9,602	7,211	25,517
Fixed	-1,832	154	217	1,829	-1,117	-1,237	106	186	2,051	-2,016	12,806	14,638	10,499	37,943
Floating	0	-91	-122	-1	-163	0	-26	-36	50	-71	0	0	0	0
US issuers	-1,554	223	241	2,320	-1,134	-1,114	103	180	2,575	-624	10,466	12,020	8,655	31,141
DM Yankees	-279	-123	-118	-322	-48	-108	-4	21	-309	-1,214	2,202	2,481	1,764	6,448
EM Yankees	1	-37	-28	-171	-97	-15	-20	-51	-166	-249	137	136	80	354

Note: data for maturities 13M or longer. Changes in inventories are estimated based on TRACE and IG ETF flows.
Source: BofA Global Research, FINRA, TRACE, Bloomberg.

BofA GLOBAL RESEARCH

Exhibit 64: Estimated changes in IG dealer inventories by sector.
We estimate as of April 24 IG dealer inventories declined -$660mn for Banks/Brokers and declined -$94mn for Energy.

	Net dealer buy ($mn)					Net dealer DV01 change ($thousand)					Trading volumes on 24-Apr-25 ($mn)			
Sector	24-Apr	23-Apr	1 W	2 W	4 W	24-Apr	23-Apr	1 W	2 W	4 W	Buy	Sell	Dealer	Total

Exhibit 64: Estimated changes in IG dealer inventories by sector.
We estimate as of April 24 IG dealer inventories declined -$660mn for Banks/Brokers and declined -$94mn for Energy.

	Net dealer buy ($mn)					Net dealer DV01 change ($thousand)					Trading volumes on 24-Apr-25 ($mn)			
Aerospace/Defense	17	94	254	168	163	33	56	280	256	93	289	272	219	779
Automobiles	70	-57	-26	-71	-429	47	-11	22	-10	-240	343	272	510	1,125
Banks/Brokers	-660	-458	-868	484	2,788	-128	-94	149	877	1,324	2,697	3,357	2,097	8,150
Basic Materials	14	97	31	-262	-1,135	9	63	49	-149	-787	409	395	277	1,080
Commercial Services	-48	50	-31	-207	-486	-64	8	-80	-126	-403	293	341	190	823
Energy	-94	178	653	656	-91	-98	110	400	474	-17	1,159	1,253	990	3,402
Finance	-78	37	353	680	513	-19	-40	170	388	250	816	894	675	2,384
Food, Bev, & Bottling	-73	-13	-207	-129	-1,176	-134	-35	-338	-171	-1,025	509	582	416	1,507
Health Care	-162	-212	-336	-23	-98	-158	-120	-424	-24	-265	1,388	1,550	1,170	4,109
Industrial Products	-63	50	-44	-119	-78	-39	24	-90	-87	-133	178	241	194	613
Insurance	-52	57	-49	-66	-454	-78	41	-88	-273	-456	347	399	287	1,034
Media & Entertainment	-15	-7	100	360	569	22	2	115	313	459	775	790	471	2,036
REITs	-143	115	96	-375	-430	-81	51	104	-201	-291	243	386	230	859
Retail	-96	195	-205	-382	-422	-85	125	-134	-97	-174	423	519	369	1,312
Technology	-72	-251	-120	116	393	-105	-250	-178	239	601	944	1,016	988	2,948
Telecom	23	-82	73	104	-235	47	-22	128	265	22	563	540	275	1,378
Tobacco	-18	16	33	-53	-90	11	7	31	-37	-65	98	116	107	321
Transportation	-107	64	-91	-132	-62	-97	40	-80	-105	-131	208	315	151	674
Utilities	-250	249	540	1,198	-456	-299	164	186	672	-774	910	1,160	760	2,831
Other	-25	-58	-64	-121	-62	-21	-39	-73	-102	-76	214	239	124	577

Note: data for maturities 13M or longer. Changes in inventories are estimated based on TRACE.
Source: BofA Global Research, FINRA, TRACE.

BofA GLOBAL RESEARCH

Common abbreviations:
IG: Investment Grade
HG: High Grade
LQD: iShares iBoxx $ Investment Grade Corporate Bond ETF
DV01: Dollar value of a basis point
CDX IG: The Markit CDX North America Investment Grade Index
CDX HY: Markit CDX North America High Yield Index
ECB: European Central Bank
QE: Quantitative Easing
CSPP: corporate sector purchase programme
CPI: Consumer Price Index
FOMC: The Federal Open Market Committee

Disclosures

Important Disclosures

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 Sector Conduct Authority; 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 Canadian Investment Regulatory Organization; Merrill Lynch (Mexico): Merrill Lynch Mexico, SA de CV, Casa de Bolsa, regulated by the Comisión Nacional Bancaria y 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 such rating, recommendation or investment thesis.

Any information relating to sustainability in this material is limited as discussed herein and is not intended to provide a comprehensive view on any sustainability claim with respect to any issuer or security.

Any information relating to the tax status of financial instruments discussed herein is not intended to provide tax advice or to be used by anyone to provide tax advice. Investors are urged to seek tax advice based on their particular circumstances from an independent tax professional.

The information herein (other than disclosure information relating to BofA Securities and its affiliates) was obtained from various sources and we do not guarantee its accuracy. This information may contain links to third-party websites. BofA Securities is not responsible for the content of any third-party website or any linked content contained in a third-party website. Content contained on such third-party websites is not part of this information and is not incorporated by reference. The inclusion of a link does not imply any endorsement by or any affiliation with BofA Securities. Access to any third-party website is at your own risk, and you should always review the terms and privacy policies at third-party websites before submitting any personal information to them. BofA Securities is not responsible for such terms and privacy policies and expressly disclaims any liability for them.

All opinions, projections and estimates constitute the judgment of the author as of the date of publication and are subject to change without notice. Prices also are subject to change without notice. BofA Securities is under no obligation to update this information and BofA Securities ability to publish information on the subject issuer(s) in the future is subject to applicable quiet periods. You should therefore assume that BofA Securities will not update any fact, circumstance or opinion contained herein.

Certain outstanding reports or investment opinions relating to securities, financial instruments and/or issuers may no longer be current. Always refer to the most recent research report relating to an issuer prior to making an investment decision.