BofA SECURITIES

Global Convertibles Chartbook

The postmortem: 24 charts for 2024

02 January 2024

Convertibles
Global

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Data
Analytics

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It was a bumpy ride, but all CB regions gained in 2023...

As we say goodbye to 2023, we take this time to review 24 takeaways, themes, and trends to consider as we enter 2024. Overall, while last year threw CB investors a number of curveballs, all regions ended the year on a high-note (topped by the US), catalyzed by the year-end collapse in rates and boost in rate-cutting sentiment. Tech, consumer, and "busted" CBs outperformed, though still converts struggled to keep pace with equities, which soared amid the rally in large-cap tech—indeed, the smaller-cap issuer and lower-delta profile of CBs proved to be meaningful hurdles in 2023.

...and we remain constructive on the asset class in 2024

Recent softer data and dovish Fed commentary has convinced markets that rate cuts are coming in early 2024. While this has propelled year-end gains for risk assets (including CBs), we fear the market may be getting ahead of itself (in 2023 markets also priced-in cuts that were ultimately never delivered). If rates do remain higher-for-longer, it may weigh on the high-growth, long-duration names that comprise the CB market. However, our equity strategists are constructive on stocks for 2024, and historically soft landings have been supportive of CB returns. CBs also offer managers some unique opportunities, including pockets of relative value and refi-driven alpha. All considered, we're calling for modest, mid- to upper- single-digit returns across regions next year, led by the US.

Despite softer data, still-elevated rates support issuance

Global CB issuance volumes doubled in 2023 relative to 2022, though still totals fell short of lofty manager hopes heading into the year. In 2024, we think global primary volumes will rise 20% to $90-100bn as still-elevated borrowing costs compel CFOs to seek alternative means of refinancing maturing debt—a particular concern as the maturity wall looms. Even if several cuts are delivered, borrowing costs are unlikely to return to the lows we've seen since the GFC, supporting CBs versus traditional bonds.

Repriced rates expectations fueled year-end rally in CBs

Extending November's surge, CBs rallied into year-end as investors believe the Fed will begin trimming rates early next year. Overall, global CBs gained +4.1%, led by the US's +6.2%. By year-end, global CBs added +11.3%, ahead of global IG and sovereign bonds.

Issuance totals for 2023 landed in-line with forecasts

Global CB issuance totaled $4.4bn in December, a bit below seasonal trends, predominately driven by the US's $3.7bn. In total, global volumes ended 2023 at $79.4bn, in line with our forecast, with $53.4bn from the US and $13.4bn from Europe.

Chartbook access

To view the Excel Chartbook, which includes a variety of data, tables, and charts focused primarily on returns, markets characteristics, and supply and demand, among other topics, please refer to our Global Convertibles Chartbook.

Chartbook access:

Access the Chartbook here.

Exhibit 1: Global convertible performance
Local currency terms

Region	Code	Dec '23	YTD
G300	VG00	4.09%	11.33%
US	VXA0	6.17%	12.99%
Europe	VE00	2.01%	7.30%
Asia-ex Japan	VASI	1.85%	9.20%
Japan Domestic	VJDM	--	-0.18%
Japan Euro	VJEU	-1.27%	7.06%
Emerging Markets	VEMK	1.62%	9.04%

Source: ICE Data Indices, LLC
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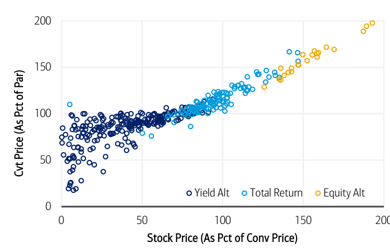
Exhibit 2: Global convertibles Tableau visualization tool
Click the chart to access the tool



Source: BofA Global Research, ICE Data Indices, LLC. Universe capped at names which are trading at less than 200% of par. Mandatories are excluded.
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We include a list of abbreviations at the end of this report.

Refer to important disclosures on page 21 to 23.
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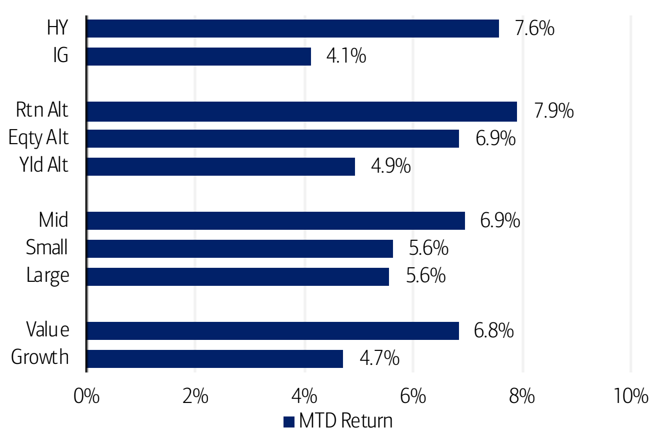
Repriced rates expectations fuel year-end rally among convertible bonds

Following on from November's surge, global convertibles and broader risk-assets rallied in December (the ICE BofA Global G300 returned +4.1%) as dovish Fed commentary crystalized investor sentiment that the central bank will begin to cut borrowing costs in early 2024. In fact, our economists interpreted the recent FOMC statement as a "dovish pivot", and while they have maintained their call for the cutting cycle to begin in June, they concede that March is a close call (see their 14-December US Watch). However, we also caveat that the market may be getting ahead of itself, and rates may stay higher-for-longer—in 2023, markets also priced-in cuts that were ultimately never delivered.

Regionally, the US led (+6.2%), followed by Europe (+2.0%) and Asia (+1.8%). Japan-Euro (-1.3%) declined (Exhibit 1). Convertible arbitrage performance, as measured by the HFR CB Arb index, was +4.1%. As of year-end 2023, global convertibles gained +11.3% on an outright basis, while the US added +13.0% (Exhibit 1). CB arbitrage returned +10.4%. In terms of buckets and sectors, nearly all gained last month, led by materials (+14.8%), consumer discretionary (+10.2%), and mid-delta balanced CBs (+7.9%). In contrast, the energy (-0.3%) and telecoms (+2.1%) sectors lagged behind (Exhibit 3 and Exhibit 4).

Exhibit 3: US convertible bond performance by bucket

All US convertible bond market buckets gained last month...



Source: ICE Data Indices, LLC

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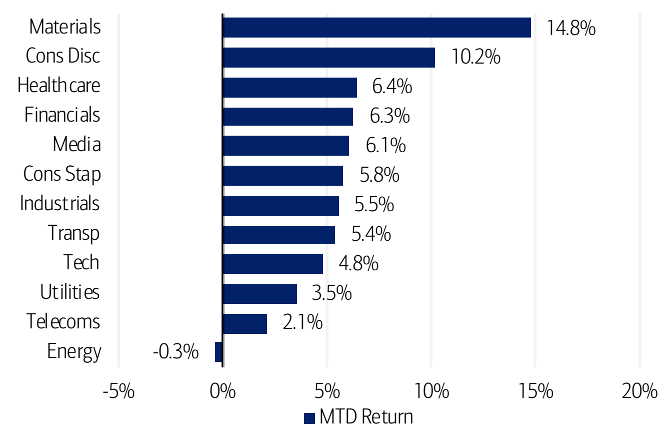
Exhibit 4: US convertible bond performance by sector

...while the materials and consumer discretionary sectors led



Source: ICE Data Indices, LLC

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On a cross-asset basis, global convertible bonds gained more than all other asset classes we track in December. Indeed, global broad-market stocks, as represented by the MSCI World index, gained just under +4.1% (very slightly below global CBs), while global IG, HY, and government bonds returned +3.6%, +3.4%, and just below +3.0%, respectively. As of year-end 2023, global CBs landed in the middle of the pack, ahead of global IG and sovereign bonds, but below global HY bonds and equities (Exhibit 5).

Exhibit 5: Global cross asset returns

Both USD and local currency terms

Asset Class	Code	Dec '23 USD	Dec '23 LOC	YTD USD	YTD LOC
Global Govt Bonds	W0G1	4.47%	2.97%	3.61%	3.92%
Global IG Index	G0BC	4.14%	3.62%	9.48%	8.23%
Global HY Index	HW00	3.74%	3.44%	13.41%	12.46%
MSCI World Equity Index	GDUEACWF	4.84%	4.09%	22.81%	22.22%
Global Convertibles (G300)	VG00	4.53%	4.09%	11.87%	11.33%

Source: ICE Data Indices, LLC

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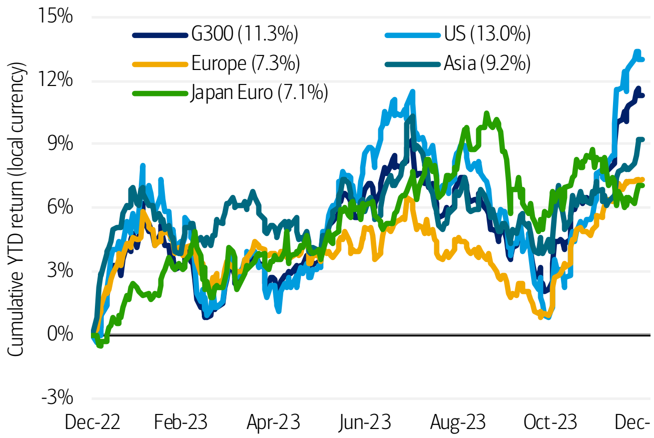
For comprehensive data on returns, including detailed breakouts by structure and sector, heat maps, and single names, please refer to section 1 of the attached Excel Chartbook.

The postmortem: 24 charts for 2024

As we say goodbye to 2023, we take this time to review 24 takeaways, themes, and trends to consider as we enter 2024:

1. CBs faced many ups and downs in 2024, though all regions logged gains in 2023 **(Exhibit 6)**
2. Economic resilience and lack of recession led to outperformance versus forecasts **(Exhibit 7)**
3. Rallying tech and high growth consumer names drove top-line index performance **(Exhibit 8)**
4. Returns were concentrated among software names, semis, retailers, and cruise lines **(Exhibit 9)**
5. "Busted" CBs also outperformed on improved macro and low interest expenses **(Exhibit 10)**
6. While US CB funds saw the best returns, managers globally trailed our benchmarks **(Exhibit 11)**
7. CBs trailed stocks last year, though risk-adjusted performance was comparable **(Exhibit 12)**
8. Absent large-cap tech, CB issuer equities underperformed broader stock indices **(Exhibit 13)**
9. Historically low equity sensitivity also weighed on convertible versus stock returns **(Exhibit 14)**
10. CB funds saw net outflows, but improved returns and issuance may drive demand **(Exhibit 15)**
11. Investors can find pockets of cheapness in Asia, among new deals, and in "busted" **(Exhibit 16)**
12. Sharply higher refi rates plus upcoming maturities will challenge distressed issuers **(Exhibit 17)**
13. Despite the pressure, we think the CB default rate will be little changed versus 2023 **(Exhibit 18)**
14. Global and regional CB issuance totals were aligned with our expectations last year **(Exhibit 19)**
15. Primary volumes were driven by a more mature and higher-quality set of borrowers **(Exhibit 20)**
16. Deal terms were optically attractive, but issuers have regained some pricing power **(Exhibit 21)**
17. The bulk of the financing activity was driven by refis, a trend we expect to persist **(Exhibit 22)**
18. Still-elevated borrowing costs may compel straight-credit issuers to consider a CB **(Exhibit 23)**
19. The looming maturity wall suggests that borrowers can no longer wait to refinance **(Exhibit 24)**
20. CB issuers can also leverage improved share performance to price convertible debt **(Exhibit 25)**
21. Coupon savings are greatest for issuers in the media, telecoms, and tech sectors **(Exhibit 26)**
22. All considered, we're forecasting $90-100bn globally in new CB issuance in 2024 **(Exhibit 27)**
23. Improved issuance plus fewer redemptions may yield first net-expansion since 2021 **(Exhibit 28)**
24. The global convertibles market size remains $350bn, still above pre-pandemic levels **(Exhibit 29)**

Exhibit 6: Cumulative CB performance by region in 2023
Global convertible bonds ended 2023 near year-to-date highs, though the year was marked by numerous ups-and-downs and leadership shifts



Source: BofA Global Research, ICE Data Indices, LLC. Data as of 31-Dec-2023.
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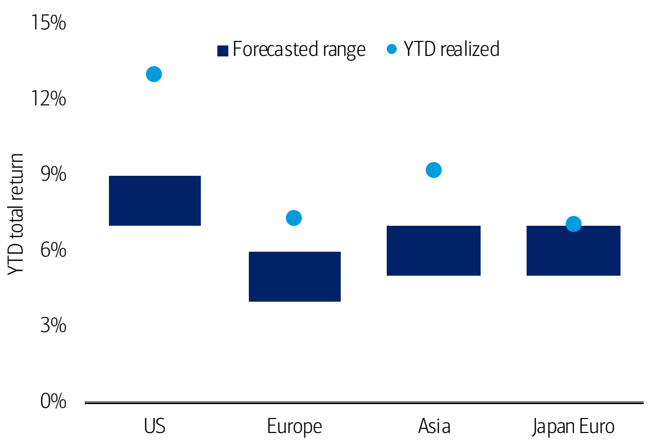
2023 proved to be a year of many ups and downs. However, by year-end, global convertibles (+11.3%) ended very close to year-to-date highs, led by the US (+13.0%). Notably, nearly every region led year-to-date performance at one point during the past 12 months—a testament to how challenging the year was for managers (Exhibit 6).

Next year, we expect global convertibles will see modest, mid- to upper- single-digit returns. Specifically, we believe US and European CBs will return +7-9% and +3-5%, respectively, while Asia and Japan will add +6-8% and +5-7% (refer to our 20-November 2024 year ahead outlook for the details of our forecasts).

Exhibit 7: Global convertible bond forecasted versus realized returns
By year-end, CBs across all regions realized performance that exceeded our forecasted ranges



Source: BofA Global Research, ICE Data Indices, LLC. Data as of 31-Dec-2023.
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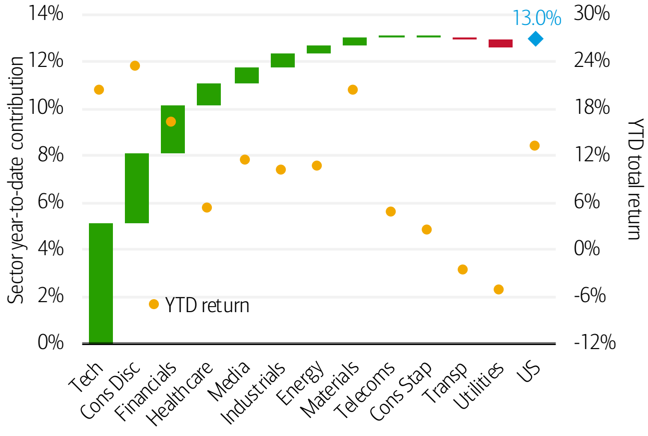
Heading into 2023, we expected global converts performance would be positive, yet modest, given the elevated likelihood of an economic downturn, risks surrounding inflation and central bank policy, and potential for more credit events. However, in light of the economy's resilience, the tech/AI boom, and light positioning, we upped our return forecasts mid-year (see our 03-July Global Convertibles Chartbook).

The revision proved to be well-timed. Indeed, relative to our forecasts, CB performance across regions exceeded our targeted ranges (Exhibit 7). Much of the gains were had in November and December, when investor sentiment shifted sharply to reflect accelerated rate cut expectations.

Exhibit 8: US convertible bond sector contribution for 2023
Higher-growth sectors, including tech and consumer discretionary, were the leading contributors to last year's rally



Source: BofA Global Research, ICE Data Indices, LLC. Data as of 31-Dec-2023.
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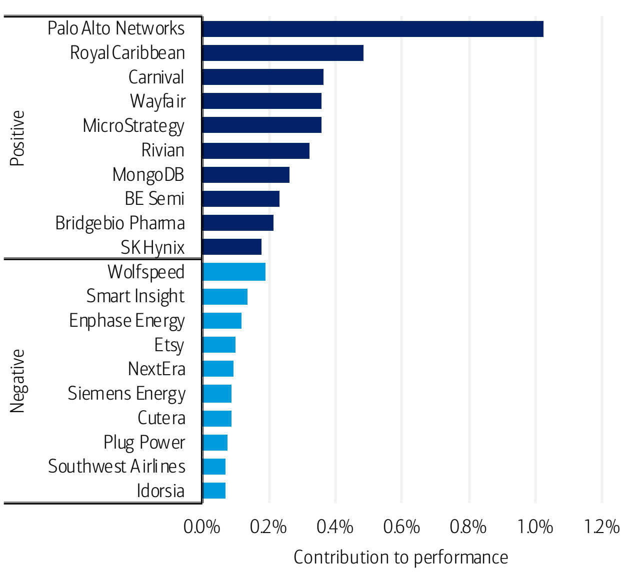
2023's top contributing sectors were tech (mostly software and semis) and consumer discretionary (in particular online retailers and cruise lines). Indeed, the high-growth sectors rebounded sharply following 2022's underperformance, and their gains were amplified in top-line index performance given their large weights in the CB market. In contrast, the leading negative contributor to returns was the utilities sector, in which many names were newly issued just this past year (Exhibit 8).

In our appendix, we include a breakdown of sector and bucket performance in each region (see Exhibit 30).

Exhibit 9: Top and bottom contributors to global CB performance
Globally, 2023's leading positive contributors to returns were Palo Alto Networks, Royal Caribbean, Carnival, and Wayfair



Source: BofA Global Research, ICE Data Indices, LLC. Data as of 31-Dec-2023.
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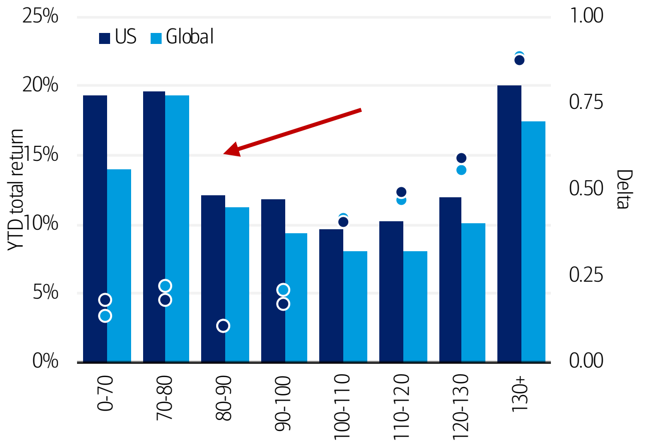
Single-name attribution of global performance underscores the sector contribution as the leading contributors were mostly tech and consumer names. Examples include Palo Alto Networks (+102bps), Royal Caribbean (+48bps), Carnival (+37bps), and Wayfair (+36bps). On the other hand, the most negative contributors to the global return were Wolfspeed, Smart Insight (Country Garden), and Enphase Energy (Exhibit 9).

In our appendix, we include a breakdown of top and bottom single-name contributors to each region's 2023 performance (see Exhibit 31, Exhibit 32, Exhibit 33, and Exhibit 34).

Exhibit 10: US and global CB performance and delta by price bucket
Even despite their lower sensitivity to stocks, deep out-of-the-money and "busted" CBs outperformed in 2023, along with deep in-the-money names



Source: BofA Global Research, ICE Data Indices, LLC. Data as of 31-Dec-2023.
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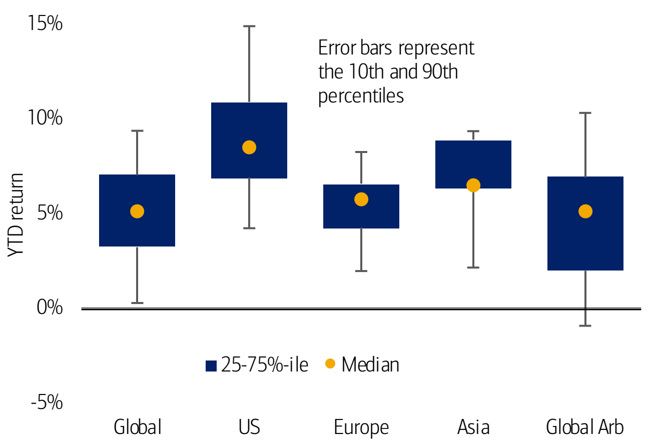
Though not top contributors to index-level gains given their smaller market-value weights, "busted" CBs, or those whose embedded warrants are so deep out-of-the-money that they are effectively worthless, outperformed most of the market in 2023. "Busted" CB gains were driven by rebounding share prices, tight credit spreads, and easy debt service—a function of their low interest obligations and little other debt on their balance sheets (Exhibit 10). Deep in-the-money names also outperformed amid the year-end growth rally.

We are less constructive on "busted" CBs for next year given much higher refi rates (see Exhibit 17) and the looming maturity hurdle (see Exhibit 24), which may ultimately result in further defaults if issuers are unable to find new financing solutions (refer to our 20-November 2024 year ahead outlook for details).

Exhibit 11: Distribution of global CB fund performance in 2023
US funds logged the highest median returns last year while global funds underperformed



Source: BofA Global Research, Bloomberg, Hedge Fund Research, Inc, EPFR Global. Data as of 31-Dec-2023.
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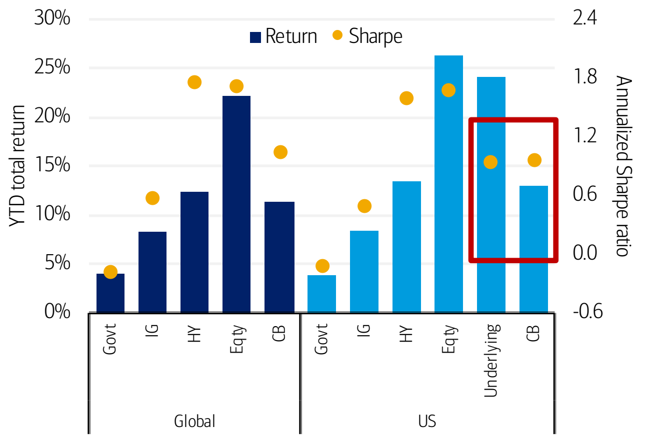
Global, US, European, and Asia-ex Japan outright CB funds (as determined by the universe of CB funds in EPFR Global) realized median returns of +5.2%, +8.5%, +5.8%, and +6.6% last year, respectively. Notably, while some US managers logged gains in excess of +15%, the ranges of performance among European and Asian CB managers were much tighter.

Notably, this data suggests that managers across regions underperformed benchmark gains in 2023 (see Exhibit 6 from above). This may be a reflection of both outflows (see Exhibit 15 below) and the investor focus on mid-delta balanced CBs (see our 01-Septebmer Global Convertibles Chartbook), while higher-delta, deeper in-the-money names actually led index contribution last year (see Exhibit 9).

Outside of outright managers, global convertible arbitragers saw gains ranging from about -5% to +10%, though the median return was +5.2% (Exhibit 11).

Exhibit 12: Cross-asset performance and Sharpe ratios
Though they underperformed broad market stocks and HY bonds, CBs led IG and government bonds on both an absolute and risk-adjusted basis in 2023



Source: BofA Global Research, ICE Data Indices, LLC. Data as of 31-Dec-2023.
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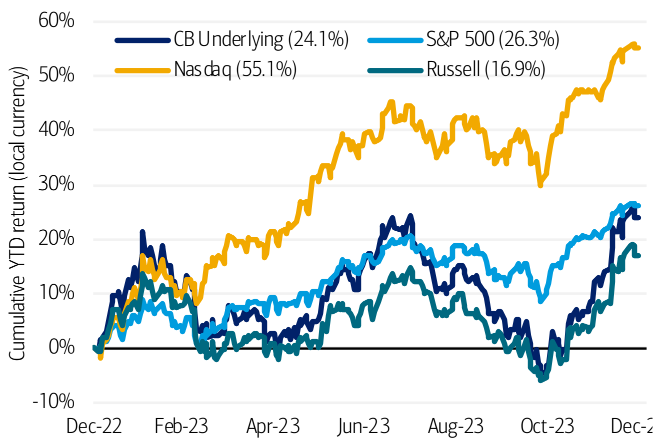
On both an absolute and risk-adjusted basis, both global and US CBs topped government bonds and IG bonds last year, though they underperformed broad-market stocks (as determined by the MSCI All Country World index and the S&P 500) and HY bonds. Indeed, in light of both their lack of large-cap tech issuers (see Exhibit 13) and low deltas (see Exhibit 14), the converts market failed to capture most of the snapback in equities.

Notably, however, while US CBs trailed their underlying stocks on an absolute basis last year, they logged nearly identical Sharpe ratios. To us, this demonstrates that bond values were more supportive than they were in 2022 and underscores the benefit of CBs' asymmetric risk profile with respect to their underlying share performance (Exhibit 12).

Exhibit 13: US CB underlying versus broad equity cumulative returns
US convertible bond underlying stocks behaved more like the Russell 2000 during 2023 than either the Nasdaq or the S&P 500



Source: BofA Global Research, ICE Data Indices, LLC, Bloomberg. Data as of 31-Dec-2023.
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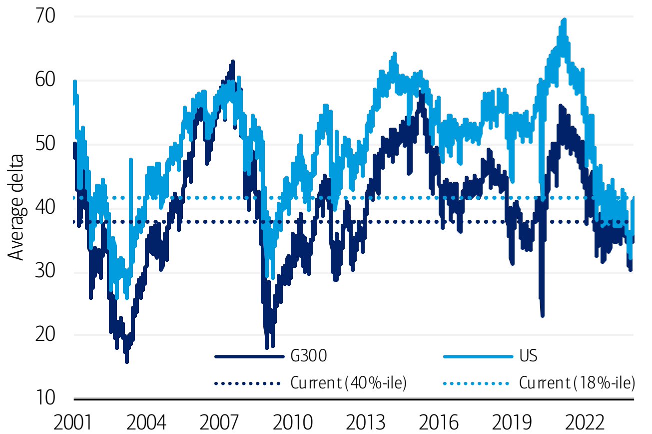
A big story in 2023 was the rally in tech, driven by AI hype—indeed, the Nasdaq added over 55% on a total return basis, heavily skewed by the "Magnificent 7" large-cap issuers.

Though a tech-heavy market (see our [Global Convertibles Primer]), CB issuers are largely earlier-stage and smaller in size (their median equity market cap is just over $5bn), and they generally reflect the smaller-cap issuers that comprise the Russell 2000 more than those in the S&P 500 or Nasdaq.

As a result, convert underlying shares failed to capture most of that large-cap tech-powered upside, which helped to keep a lid on CB market returns for most of the year relative to large-cap equity indices, particularly the Nasdaq (Exhibit 13). However, CB issuers and small-caps meaningfully caught up late in the year, driven by repriced rates expectations.

Exhibit 14: Global G300 CB and US CB average delta history
CB market deltas have declined significantly since the pandemic-era bubble has deflated



Source: BofA Global Research, ICE Data Indices, LLC. Data as of 31-Dec-2023.
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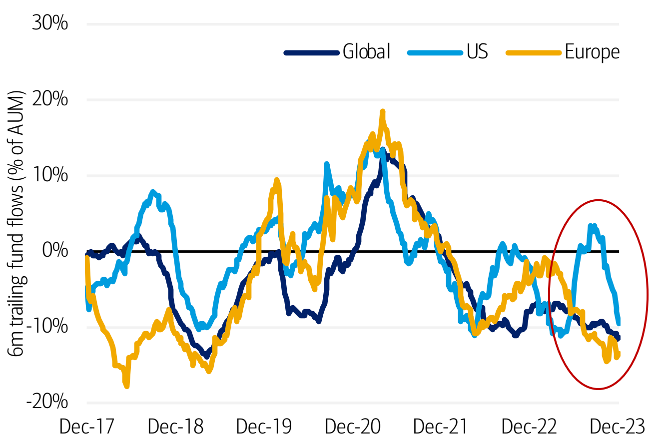
What's more, a byproduct of last year's dramatic selloff in pandemic-era aggressively priced deals, today's CB market trades much closer to bond levels as CB embedded options remain deep out-of-the-money, on average. As a result, CB average conversion premiums are very wide, and deltas are low versus history.

In particular, the US CB market average delta is now just 42, in its 18th percentile since 2001, though the other regions are a bit closer to historical medians (Exhibit 14). Deltas were even lower prior to the late-year rally.

Besides the smaller-cap issuer-base, this relative lack of equity sensitivity has also made it more challenging for CB outright performance to keep pace with the rally in stocks.

Exhibit 15: Global, US, and European 6-month trailing fund flows
Convertible bond funds, particularly those that invest globally and in Europe, saw consistent outflows throughout 2023



Source: BofA Global Research, EPFR Global. Data as of 27-Dec-2023.
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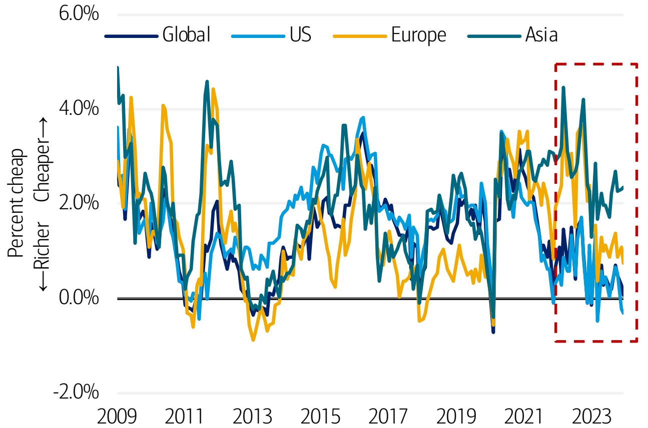
Additionally, continued lackluster retail demand also challenged CB performance this past year. Convertible bond mutual funds and ETFs, particularly those which invest in global and European CBs, have suffered consistent outflows throughout 2023, making it more difficult for managers to deploy capital and seek alpha opportunities (Exhibit 15).

Indeed, CB managers, especially those domiciled in Europe, are concerned that outflows will persist in the near-term (see our latest Global Convertibles Investor Survey in our 01-November Global Convertibles Chartbook for more details). However, we're hopeful that improved CB performance and issuance will help to drive inflows in 2024 (refer to our 20-November 2024 year ahead outlook).

Exhibit 16: Global CB discount premium to fair value by region

CBs across regions saw richening this past year, and most now trade at a small average discount to fair value (though Asia screens cheap)



Source: BofA Global Research, ICE Data Indices, LLC. Data as of 31-Dec-2023.

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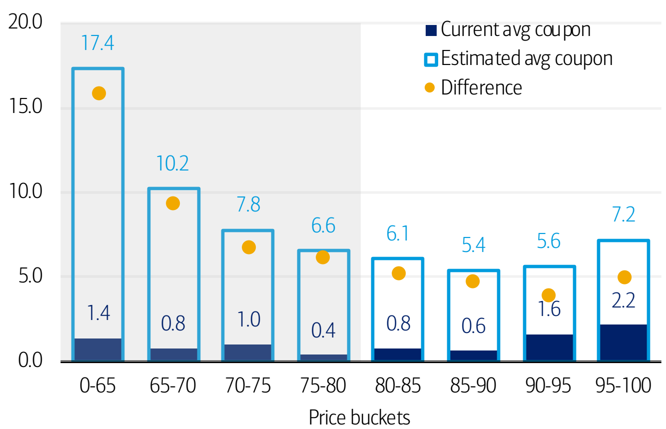
A consequence of the ongoing decline in net-new supply we saw in 2023 (see Exhibit 28) and positive returns, converts across regions richened last year, particularly those with a "balanced" mid-delta profile. Regionally, the US saw the most richening in 2023 (and currently screens as the most expensive), though Europe, too, richened somewhat in 2023.

Where can investors find pockets of cheapness next year? Asia screens notably cheaper that other CB regions (now about 2.3% cheap to fair value, on average), which we think is a consequence of relatively weaker liquidity, the hangover from distressed Chinese property developers, and elevated geopolitical tension (Exhibit 16). Other relatively cheap pockets of the CB market include new deals, low-delta and "busted" CBs, and longer-dated names further out the curve.

Exhibit 17: Estimated refi rates of US CBs versus their current price

Based on current market conditions, "busted" US CB issuers would likely need to pay at least 600bps more in coupon than they did previously



Source: BofA Global Research, ICE Data Indices, LLC. Data as of 31-Dec-2023. Excludes the most distressed names that will likely be unable to refi and excludes 2023 new deals.

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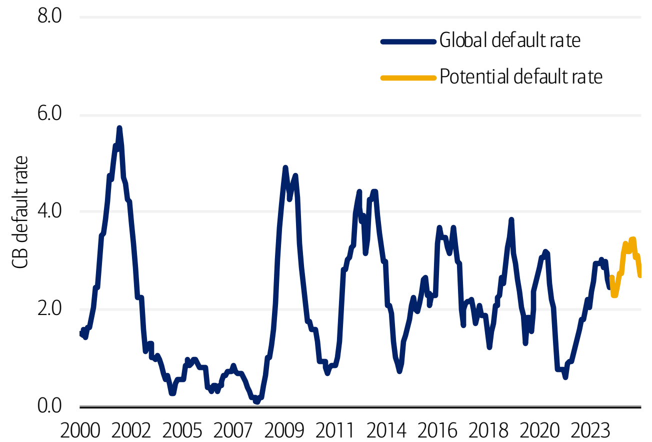
Credit remains top of mind heading into next year. Though "busted" CBs outperformed in 2023 (see Exhibit 10), we believe the backdrop will be less supportive in 2024. With the maturity hurdle quickly approaching (see Exhibit 24), "busted" CB issuers will need to consider refinancing, but the costs to do so are now much higher than what they currently pay.

Specifically, based on current benchmark rates and each outstanding name's credit spread (OAS), we think "busted" names would likely need to pay at least 600bps more in coupon, and the most distressed names would have to pay about 1,600bps more—effectively pricing them out of the market (Exhibit 17).

Exhibit 18: Global CB default rate if all "at-risk" names default

If all "at-risk" names default when they would run out of cash, the global CB default rate may remain around 3% next year



Source: BofA Global Research, ICE Data Indices, LLC, Bloomberg. Data as of 31-Dec-2023.

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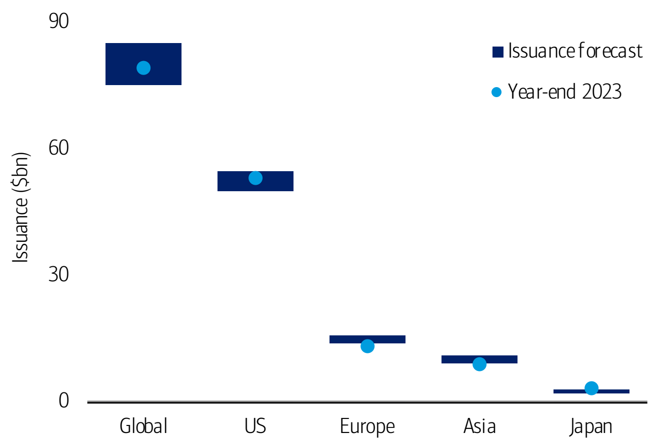
Despite the pressure from higher-cost refis, a bottom's up analysis of CB names we think are most at-risk of default (see our 20-November 2024 year ahead outlook for details) doesn't suggest a particularly large pickup in the CB issuer default rate in 2024.

Indeed, if we assume that each of these names were to default when they are due to run out of cash, our global CB default rate would remain around 3%, on par with current levels (Exhibit 18). This compares to our HY strategists' call of a 3.4% default rate among US HY names.

However, we may see upward pressure on the CB default rate if ongoing inflationary pressures require a tighter central bank policy response (though recent softer data and dovish Fed commentary makes scenario seem more remote).

Exhibit 19: 2023 global convertibles issuance forecast versus realized

Globally, CB issuance totals in 2023 either met or exceeded our targets (though Europe was just shy of our lower bound)



Source: BofA Global Research. Data as of 31-Dec-2023.

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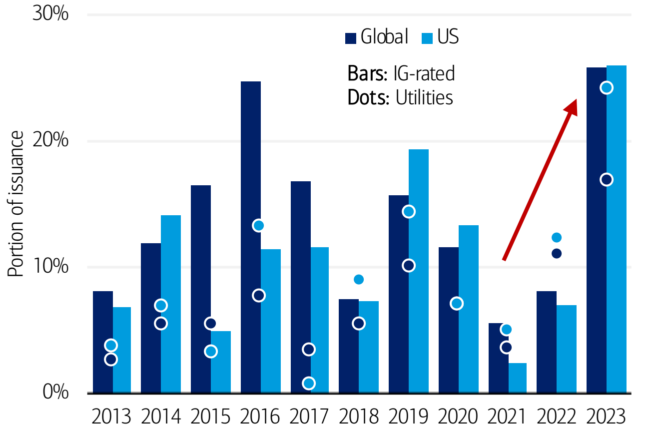
As of year-end, global CB issuance totaled $79.4bn, in-line with our call for $75-85bn (see our 03-July Global Convertibles Chartbook for the details of our forecast). The total was about double 2022's $39.6bn, though still well-below the pandemic-era years, which averaged over $150bn (see Exhibit 27).

The US saw $53.4bn, aligned with our $50-55bn target, while Asia and Japan saw $9.0bn and $3.6bn, respectively, in-line and ahead of our forecasted ranges of $9-11bn and $2-3bn. Only Europe slightly underperformed with a $13.4bn total versus our call for $14-16bn (Exhibit 19).

Exhibit 20: IG and utilities portions of global and US CB issuance
About 26% of global issuance was IG-rated last year, and about 17% was from utilities issuers, each a record since at least 2023



Source: BofA Global Research. Data as of 31-Dec-2023.
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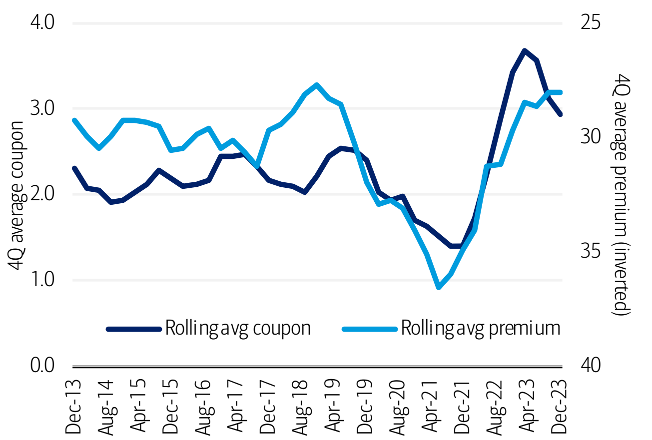
Notably, a hefty portion of 2023's new deals have been IG-rated (about 26% globally, a record since at least 2013), driven heavily by utilities, which comprised a record 17% of all new paper globally and 24% in the US (Exhibit 20). What's more, only a small portion of US CB issuance volumes were from young companies and first-time issuers in the CB market.

To us, this suggests a more mature and higher-quality set of issuers—especially compared to the young and opportunistic names that drove the pandemic-era boom.

Exhibit 21: Global CB average new deal coupons and premiums
Global CB new deal coupons have remained elevated relative to history, while average initial premiums are still very narrow compared to the past



Source: BofA Global Research. Data as of 28-Dec-2023. Excludes mandatories.
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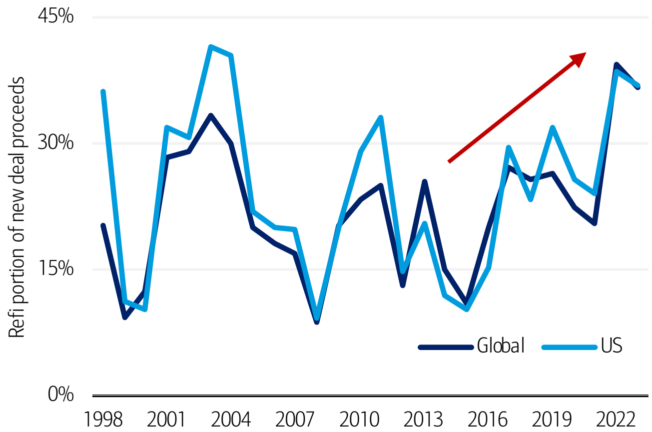
Besides higher quality issuers, CB managers have also enjoyed more optically improved new issue pricing than in the past. Indeed, global new deal coupons have averaged about 2.9% over the past year, compared to the pandemic-era lows of sub-1.5% (and many deals paid zero coupon), while initial coupons have narrowed to about 28%, on average, versus the pandemic-era era wide of almost 37%.

However, CB issuers have regained some pricing power in recent months—a function of both the improved macro picture (equities higher and credit spreads tighter) and negative net-new supply. Regardless, we've found that new deals are still inexpensive compared to the broader convertible bond market (particularly the balanced names), and we think they remain a source of relative value within the space.

Exhibit 22: Refi portion of global and US CB new deal proceeds

In 2023, nearly 40% of both global and US new deals were used to refinance existing debt



Source: BofA Global Research. Data as of 31-Dec-2023.

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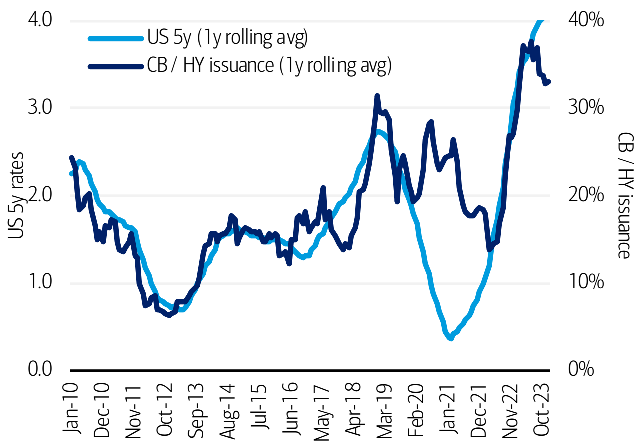
The bulk of these higher-quality and better-priced new deal volumes have been driven by refinancing activity—indeed, close to 40% of global proceeds year-to-date have been used to refinance debt, a near-record since 1998.

As we discussed previously, we've found companies have been more eager to repurchase and refinance existing CBs to capitalize on their depressed secondary market pricing and to preempt the impending maturity wall (see Exhibit 24).

Exhibit 23: CB v. HY issuance with respect to interest rates

Historically, CB issuance rises versus HY issuance during periods when borrowing costs are elevated



Source: BofA Global Research, Bloomberg. Data as of 31-Dec-2023.

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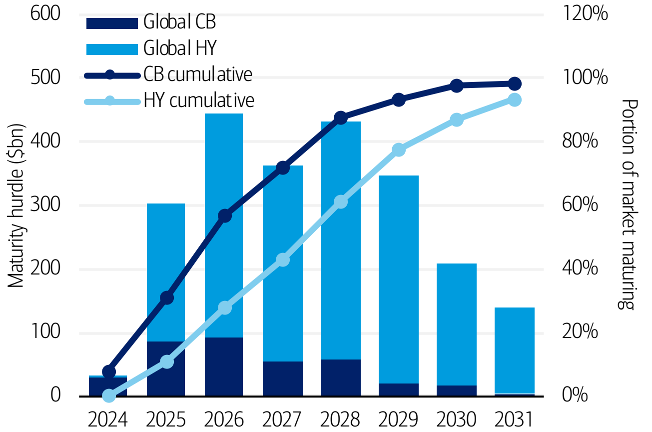
In 2024, we expect this refi trend will continue, not only from existing CB issuers but also from crossover issuers from straight credit markets as higher-for-longer interest rates paired with the looming maturity walls in both convertible bonds and straight bonds will compel borrowers to seek out cheaper alternatives to raise capital.

As we've belabored in past research, historically a backdrop of more expensive borrowing costs has favored CB over straight credit financing given CBs provide issuers savings on their interest expenses versus non-convertible debt (Exhibit 23).

Though softer data and more dovish Fed commentary of late has convinced markets that borrowing costs will fall into next year, it remains unlikely that rates return to sub-3% average (on the 10y) we've seen since the Global Financial Crisis (GFC).

Exhibit 24: Global convertibles and high yield maturity hurdles

The majority of the converts market and a sizable portion of the high yield market are set to mature in 2025 and 2026



Source: BofA Global Research, ICE Data Indices, LLC. Data as of 31-Dec-2023.

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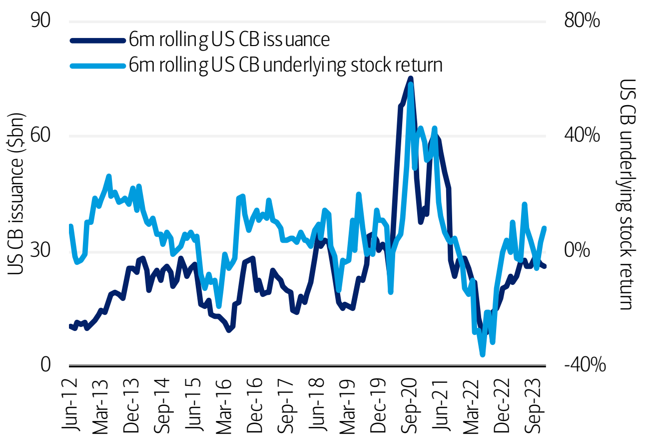
We believe this argument that borrowers will look to CBs to save on costs of capital is particularly compelling today given a significant chunk of paper is set to retire by 2025 and 2026 (over $200bn of global CBs and nearly $600bn of global HY) which may prompt imminent refis (Exhibit 24).

In fact, 2025 maturities will "go current" on balance sheets next year, and issuers typically prefund 12-months and 18-months before maturity, respectively.

In contrast to what we've experienced in 2023, when CFOs had the luxury of time to wait for a period of lower costs before pulling the trigger, the impending maturity hurdle suggests that they may be more compelled to act, especially now that rates are unlikely to return to 2020-2021 lows in the near term.

Exhibit 25: US CB issuance versus underlying stock returns

CB issuers can attain better terms when their stock is performing well, which explains why volumes are higher amid equity market rallies



Source: BofA Global Research, ICE Data Indices, LLC. Data as of 31-Dec-2023.

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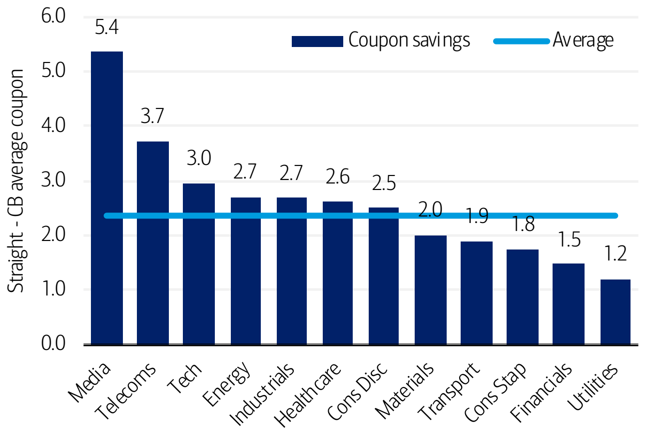
The reason that converts provide issuers a cost advantage is that they offer investors a warrant (effectively a call option) on the issuer's underlying stock in exchange for lower coupon payments (see our Global Convertibles Primer for a more detailed discussion).

As a result, our strategists' expectations for more constructive equities in 2024, particularly among smaller-cap names, (see their 21-November US Equity Strategy Year Ahead) magnifies CBs' cost benefits—CB issuers can attain better terms when their stock is performing well. Indeed, we've found a close link between equity returns and CB issuance volumes (Exhibit 25).

Exhibit 26: Global straight bond v. CB average coupon differential

Based on issuer-level comparisons of outstanding global bonds, cyclicals (media, telecoms, and tech) realize the top coupon savings from CBs



Source: BofA Global Research, ICE Data Indices, LLC. Data as of 31-Dec-2023.

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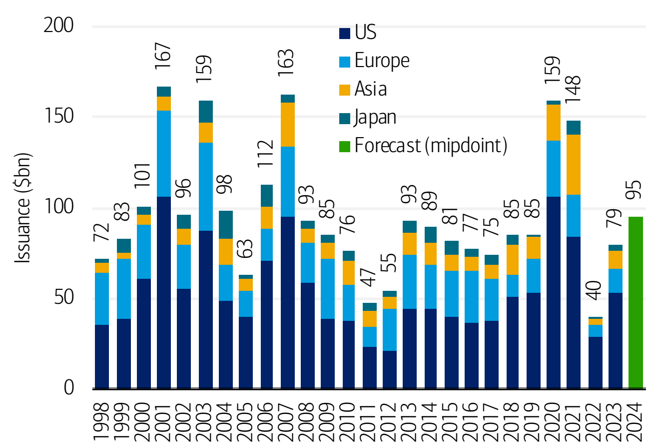
How much can borrowers save? We've found that based on outstanding bonds in the global CB, HY, and IG secondary markets, CB coupons are about 2.4 percentage points lower, on average, than straight debt coupons.

Notably, interest savings are even greater for names in more cyclical sectors, which can monetize their higher equity vol and upside potential for more attractive pricing. Specifically, we've found that CBs provide the largest coupon savings in the media, telecoms, and tech sectors, whereas savings are less meaningful in utilities and financials (Exhibit 26).

Still, this hasn't precluded utilities from offering new CBs—as we discussed earlier, utilities have trailed only tech primary volumes year-to-date globally (see Exhibit 20).

Exhibit 27: Global convertible bond new issuance by year plus forecast

The midpoint of our global CB issuance forecast for 2024 suggests a post-pandemic high next year ($95bn)



Source: BofA Global Research. Data as of 31-Dec-2023.

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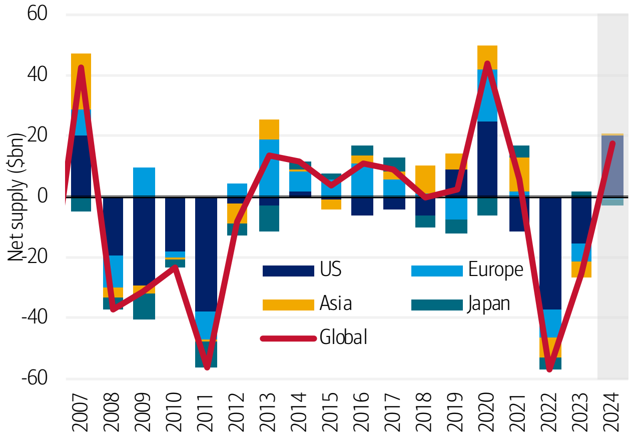
All considered, in 2024 we're forecasting $90-100bn globally with $60-65bn from the US, $16-18bn from Europe, $10-12bn from Asia, and $4-5bn from Japan.

This global total (+20% year-over-year versus 2023's total) would represent a post-pandemic high, and in fact, would be the most new supply since 2007, excluding the pandemic-era boom years of 2020 and 2021 (Exhibit 27).

Exhibit 28: Global net new supply history (new issuance - redemptions)

In light of light new issuance and many redemptions, the global CB market has contracted $25bn in 2023 year-to-date, about 7% of total market value



Source: BofA Global Research. Data as of 31-Dec-2023.

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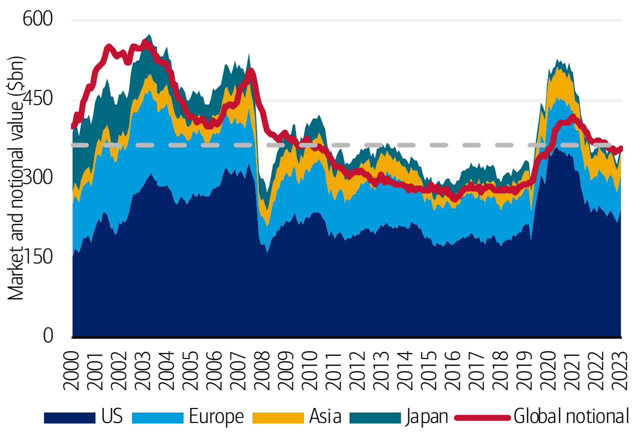
Taking into account upcoming maturities, the expected lifetime for each name in the outstanding universe (which encompasses expectations for refis, conversion likelihood, calls, and puts), and M&A trends that result in converts coming out of the market, we expect global redemptions in 2024 will total $70-85bn (refer to our 20-November 2024 year ahead outlook for details).

Bearing this and our issuance forecasts, in 2024 we expect that while Europe (-1.7%) and Asia (+1.2%) will land around net flat, the US market will realize considerable net expansion (+9.2%). On the other hand, Japan may realize net contraction (-15.1%).

Altogether, this indicates modest global net expansion of +5.3%, implying the first net pickup since 2021 (Exhibit 28).

Exhibit 29: Global convertibles market value and notional value history

The global CB market is now $364bn in market value, up slightly year-over-year, as the net-new supply contraction was offset by positive performance



Source: BofA Global Research, ICE Data Indices, LLC. Data as of 31-Dec-2023.

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Despite 2023's net-new supply contraction (see Exhibit 28), the global CB space's total market value increased to around $364bn as the net-contraction was more than offset by performance gains, particularly those at year-end. Regardless, the market's size remains well-below the pandemic-era high of over $500bn (Exhibit 29).

Regionally, the US, Europe, Asia, and Japan now have market values of $245bn, $65bn, $40bn, and $15bn, respectively—each either little changed or slightly up versus last year.

Overall, the convertibles market remains larger than it was during the pre-pandemic period.

Appendix

All appendix data as of 31-Dec-2023.

Exhibit 30: 2023 global convertibles heat map
Both USD and local currency performance depicted

USD

Region

	Global	US	Europe	Asia	Japan
Region	11.87%	12.99%	10.94%	9.49%	0.26%

Credit Quality

	Global	US	Europe	Asia	Japan
IG	6.38%	5.74%	9.11%	11.28%	
HY	13.21%	7.23%	11.52%	8.29%	0.26%

Investment Objective

	Global	US	Europe	Asia	Japan
Eqty Alt	26.93%	24.62%	29.18%	12.25%	-15.95%
Rtn Alt	6.55%	6.93%	6.46%	5.81%	11.87%
Yld Alt	11.58%	12.35%	10.70%	10.76%	-4.83%

Company Size

	Global	US	Europe	Asia	Japan
Small	18.80%	6.72%	15.42%	21.08%	-9.32%
Mid	14.93%	17.00%	9.88%	9.83%	-2.69%
Large	10.04%	12.50%	9.93%	8.46%	2.55%

Sector

	Global	US	Europe	Asia	Japan
Cons Disc	12.07%	23.37%	9.17%	6.47%	1.74%
Cons Stap	3.23%	2.31%	5.08%	5.21%	-3.11%
Energy	9.35%	10.47%	18.19%		
Financials	10.19%	16.23%	11.36%	-4.22%	-1.15%
Healthcare	7.90%	5.24%	0.11%	16.04%	-12.05%
Industrials	18.15%	10.09%	16.65%	9.54%	0.19%
Materials	17.97%	20.12%	4.30%	15.32%	11.65%
Media	7.91%	11.24%	6.34%	13.52%	-12.96%
Tech	19.75%	20.20%	24.31%	18.52%	3.74%
Telecoms	6.27%	4.79%	1.98%	13.96%	
Transp	1.92%	-2.77%	12.70%	3.36%	-3.48%
Utilities	2.73%	-5.26%	4.63%		-6.41%

Local

Region

	Global	US	Europe	Asia	Japan
Region	11.33%	12.99%	7.30%	9.20%	7.02%

Credit Quality

	Global	US	Europe	Asia	Japan
IG	5.34%	5.74%	5.68%	11.29%	
HY	12.79%	7.23%	7.75%	7.95%	7.02%

Investment Objective

	Global	US	Europe	Asia	Japan
Eqty Alt	25.22%	24.62%	24.67%	12.26%	-10.20%
Rtn Alt	6.54%	6.93%	3.59%	5.45%	19.53%
Yld Alt	10.97%	12.35%	6.98%	10.27%	1.49%

Company Size

	Global	US	Europe	Asia	Japan
Small	18.21%	6.72%	10.27%	21.45%	-2.79%
Mid	14.31%	17.00%	5.96%	10.16%	3.56%
Large	9.61%	12.50%	6.86%	8.07%	9.57%

Sector

	Global	US	Europe	Asia	Japan
Cons Disc	11.19%	23.37%	5.29%	6.28%	8.71%
Cons Stap	2.25%	2.31%	1.52%	5.21%	3.52%
Energy	8.01%	10.47%	12.66%		
Financials	9.70%	16.23%	7.19%	-4.87%	5.61%
Healthcare	7.98%	5.24%	-2.45%	15.57%	-6.03%
Industrials	16.39%	10.09%	12.64%	9.25%	5.60%
Materials	17.86%	20.12%	0.69%	13.09%	19.29%
Media	8.32%	11.24%	4.77%	13.49%	-6.99%
Tech	19.49%	20.20%	21.12%	18.52%	10.83%
Telecoms	4.34%	4.79%	-1.48%	13.96%	
Transp	1.73%	-2.77%	8.62%	2.85%	3.13%
Utilities	1.55%	-5.26%	1.22%		0.00%

Source: ICE Data Indices, LLC. Data as of 31-Dec-2023. Ticker list available upon request.

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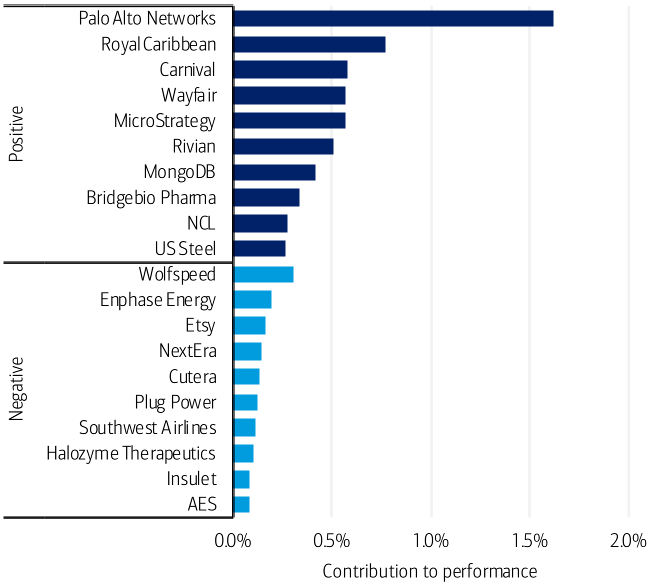
Exhibit 31: Top and bottom contributors to US CB performance
Local currency basis, based on VXA0



Source: ICE Data Indices, LLC. Data as of 31-Dec-2023.
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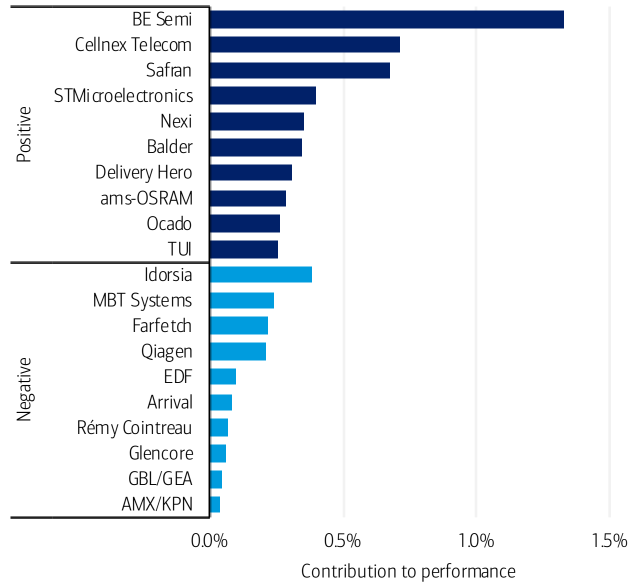
Exhibit 32: Top and bottom contributors to European CB performance
Local currency basis, based on VE00



Source: ICE Data Indices, LLC. Data as of 31-Dec-2023.
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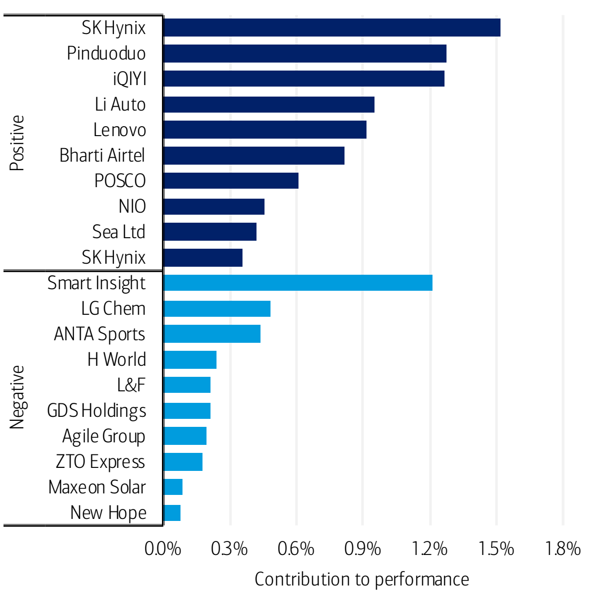
Exhibit 33: Top and bottom contributors to Asian CB performance
Local currency basis, based on VASI



Source: ICE Data Indices, LLC. Data as of 31-Dec-2023.
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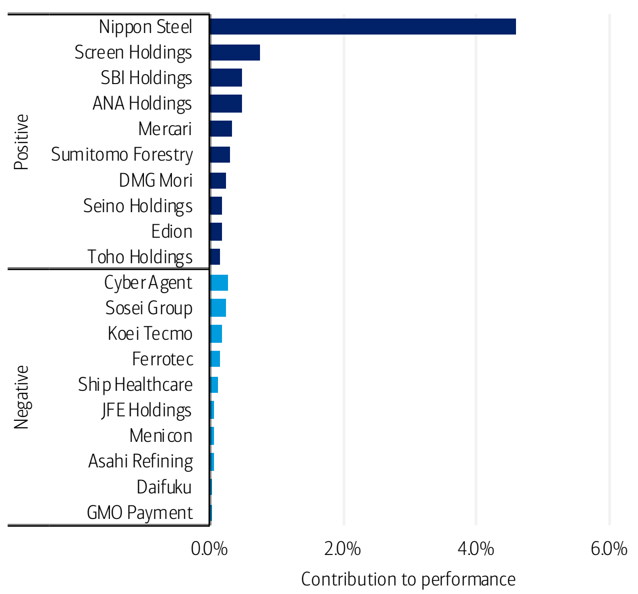
Exhibit 34: Top and bottom contributors to Japanese CB performance
Local currency basis, based on VJEU



Source: ICE Data Indices, LLC. Data as of 31-Dec-2023.
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Issuance

Last month, global CB issuance totaled $4.4bn, among the quieter months of the year and below seasonal trends (Exhibit 35 and Exhibit 36). Regionally, volumes were overwhelmingly concentrated in the US ($3.7bn) followed by Europe ($326mn), Asia ($220mn), and Japan ($149mn). Issuance for 2023 ended with $79.4bn globally (at the midpoint of our $75-85bn forecast), led by the US's $53.4bn. Europe and Japan were the only regions to realize volumes outside of our forecasted ranges, and even then, only by slim margins. Europe saw an issuance total of $13.4bn (versus $14-16bn forecasted), while Japan realized $3.6bn (versus $2-3bn forecasted).

Exhibit 35: Global convertible issuance ($mn)
Global CB issuance totaled $4.4bn last month, led by the US

	US	Europe	Asia	Japan	Total
Dec	3,664	326	220	149	4,360
Nov	5,705	3,099	330	757	9,890
Oct	2,954	0	670	336	3,960
Sep	5,863	1,602	1,150	865	9,479
2023 YTD	53,400	13,381	9,019	3,634	79,434
2022 YTD	28,704	6,215	4,218	417	39,555
2022	28,704	6,215	4,218	417	39,555
2021	84,332	22,912	33,208	7,373	147,824
2020	105,809	31,113	20,059	1,723	158,704

Source: BofA Global Research

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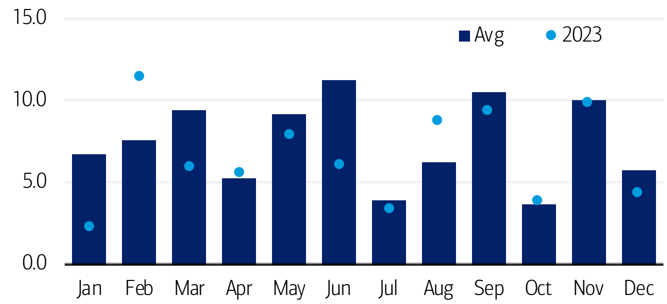
Exhibit 36: Average global issuance by month ($bn)
December's global total was below seasonal trends



Source: BofA Global Research

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December's largest offering was the $1.4bn 4-year 4.5% up 22.5% deal from Evergy. In a fitting end to 2023, the deal came from a utility company and carried an IG credit rating. The company will use the deal's proceeds to refinance outstanding straight debt—a particularly prominent theme throughout this past year (Exhibit 37).

Other large deals from last month include Merit Medical Systems' just under $750mn 5-year 3.0% up 32.5% notes (to be used for debt repayment, M&A, and other general corporate purposes) and Repligen Corp's $600mn 5-year 1.0% up 30% notes (to be used for general corporate purposes, potentially including M&A). Notably, the Repligen CBs were issued in exchange for a combination of outstanding CBs due in 2024 and cash.

Exhibit 37: Global convertibles issued during December
Last month's largest deal was the $1.4bn Evergy offering

Region	Date	Cusip	Issuer	Description	Coupon	Issue Amt (USD)	Issue Amt (LOC)	Currency	Initial Cv Prem	Seniority	Rating	Mandatory	Cvt Sector
US	12/4/2023	30034WAC0	EVERGY INC	EVRG 4 1/2 12/15/27	4.500	1,400.00	1,400.00	USD	22.50	Unsecured	IG	N	Utilities
US	12/6/2023	589889AA2	MERIT MEDICAL SYSTEMS IN	MMSI 3 02/01/29	3.000	747.50	747.50	USD	32.50	Unsecured	NR	N	Healthcare
US	12/7/2023	759916AC3	REPLIGEN CORP	RGEN 1 12/15/28	1.000	600.00	600.00	USD	30.00	Unsecured	NR	N	Healthcare
US	12/6/2023	30050BAG6	EVOLENT HEALTH INC	EVH 3 1/2 12/01/29	3.500	402.50	402.50	USD	42.50	Unsecured	NR	N	Healthcare
Europe	12/1/2023	ZG4783335	BECHTLE AG	BECHT 2 12/08/30	2.000	326.22	300.00	EUR	30.00	Unsecured	NR	N	Technology
US	12/6/2023	55826TAA0	SPHERE ENTERTAINMENT CO	SPHR 3 1/2 12/01/28	3.500	258.75	258.75	USD	25.00	Unsecured	NR	N	Consumer Discretionary
Asia	12/5/2023	ZG5648537	MICROPORT SCIENTIFIC	MSCNTF 5 3/4 12/19/28	5.750	220.00	220.00	USD	30.00	Unsecured	NR	N	Healthcare
US	12/8/2023	654110AG0	NIKOLA CORP	NKLA 8 1/4 12/15/26	8.250	175.00	175.00	USD	20.00	Unsecured	NR	N	Consumer Discretionary
Japan	12/5/2023	ZG5460628	OSG CORPORATION	OSGMFG 0 12/20/30	0.000	149.46	22,000.00	JPY	17.00	Unsecured	NR	N	Industrials
US	12/1/2023	03823UAC6	APPLIED OPTOELECTRONICS	AAOI 5 1/4 12/15/26	5.250	80.21	80.21	USD	15.00	Unsecured	NR	N	Technology

Source: BofA Global Research

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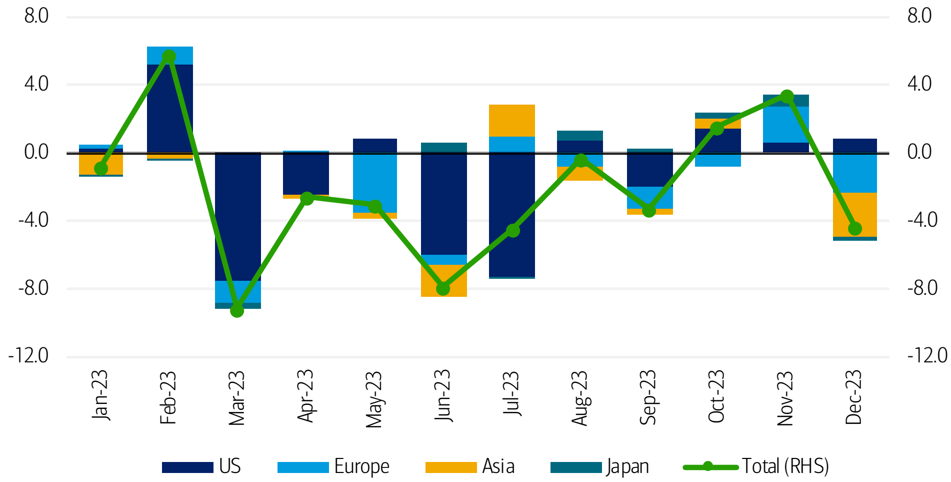
On redemptions, the global convertible bond market realized $8.7bn in December, with strong activity across all regions. The US and Asia each saw $2.8bn in redemptions, followed by $2.6bn in Europe, and $487mn in Japan. About 40% of global redemptions came from maturities and mandatory conversions, such as the NiSource 7.75% mandatory equity units and the BE Semiconductor 2.5% convertible bonds. The remaining redemptions where a mix of debt repurchases or conversions to shares, puts (the PDD Holdings CBs due in 2025 convertible into the company's ADRs and the Taiwan Cement zeroes due in 2026), exchanges, and tender offers.

On a net-new supply basis, the global CB market contracted $4.3bn last month, driven primarily by net-contraction in Asia (-$2.5bn) and to a lesser extent Europe (-$2.3bn) and

Japan (-$338mn). In contrast, the US (+$871mn) was the only region to net-expand in December (Exhibit 38). Overall, in 2023 the global CB market net-contracted $24.9bn, largely due to the US (-$15.1bn). However, this was an improvement from 2022's $57bn net contraction.

Exhibit 38: Global net supply by month (last 12 months)
Global net supply totaled -$4.3bn last month as redemptions outpaced new issuance



Source: BofA Global Research

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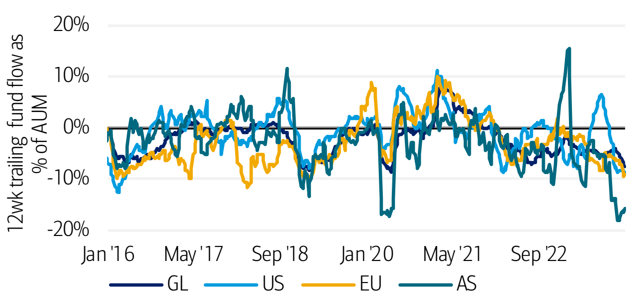
For comprehensive data on issuance and redemptions trends, including net supply totals, sector and structure trends, and use of proceeds information, please refer to section 3 of the attached Excel Chartbook.

Fund flows

Weekly fund flows aggregated to monthly totals show that convertible funds which invest globally (-$1.0bn, -3.1% of AUM), in the US (-$441mn, -2.3% of AUM), in Europe (-$195mn, -3.1% of AUM), and in Asia-ex Japan (-$7mn, -1.7% of AUM) all realized net outflows in December (Exhibit 40). Following last month's outflows, CB funds across all regions have continued to realize outflows on a 12-week trailing basis, with losses most acutely felt by Asian and European funds (Exhibit 39).

Exhibit 39: 12-week trailing flows as a percentage of AUM
On a trailing 12-week basis, CB funds in all regions have reported outflows



Source: EPFR Global

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Exhibit 40: Aggregated weekly flows from December
Weekly fund flows indicate that CB funds globally saw outflows last month

	Flows $mn	Flow % AUM	Total Assets	NAV %
Global	-1,033	-3.1	33,748	3.5
US	-441	-2.3	19,634	5.7
Europe	-195	-3.1	6,299	2.9
Asia-ex Japan	-7	-1.7	421	1.1

Source: EPFR Global

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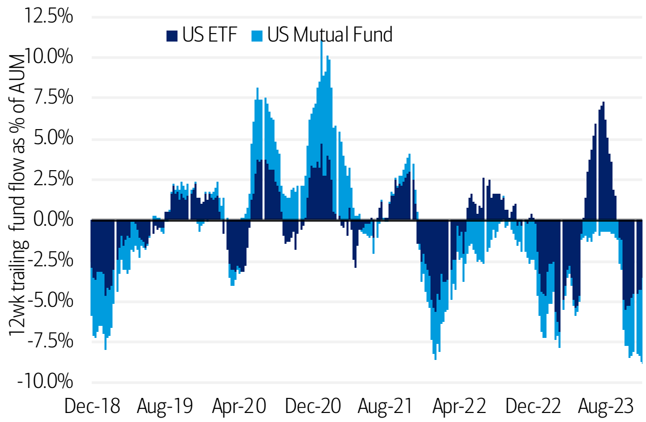
Digging into US CB flows in more detail, both convertible bond mutual funds and ETFs realized net outflows over the past 12 weeks (Exhibit 41). Notably, net outflows from US CB ETFs have begun to soften relative to the extremes of prior months (which we discussed in our 01-November Global Convertibles Chartbook report) while outflows from US CB mutual funds have maintained their pace (Exhibit 42).

Exhibit 41: US ETF vs. mutual fund breakdown of 12-week trailing flows
Over the past 12 weeks, both US convertible bond ETFs and mutual funds saw net outflows



Source: EPFR Global

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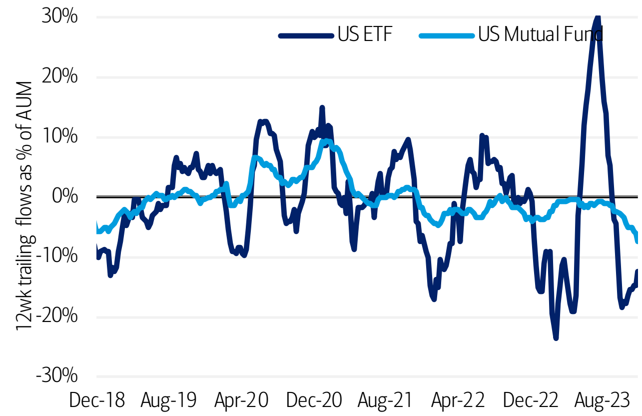
Exhibit 42: US ETF and mutual fund trailing 12-week fund flows
CB ETF net outflows have begun to soften, though mutual fund net outflows have maintained their pace



Source: EPFR Global

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Monthly fund flow data, which is reported on a one-month lag, indicates that funds which invest in CBs across all regions continued to see net outflows during November (Exhibit 43). In more detail, global funds lost over $1.0bn (-3.1% of AUM), US funds realized net outflows of $499mn (-2.1% of AUM), European CB funds suffered outflows of $160mn (-2.6% of AUM), and Asia-ex Japan funds contracted $22mn (-5.1% of AUM). In fact, the monthly net outflow from global CB funds was the largest since June 2022. Year-to-date, CB funds across all regions have seen net outflows. While global CB funds have lost the most in dollar terms, Asia funds have endured the most severe outflows as a percentage of total AUM. US funds have held up relatively well in comparison.

Exhibit 43: Monthly flow breakdown for 2023
Convertible bond funds across all regions saw net outflows during November

	Global		US		Europe		Asia-ex Jap	
	% AUM	Flows $mn	% AUM	Flows $mn	% AUM	Flows $mn	% AUM	Flows $mn
October	-2.7	-984	-0.6	-161	-0.8	-51	-2.5	-13
November	-0.3	-121	-0.7	-192	1.1	74	1.1	5
December	-1.3	-493	-2.7	-796	-0.9	-63	7.3	37
January	-0.3	-107	-4.5	-1,229	-1.0	-75	2.3	13
February	-1.4	-565	1.1	311	0.8	58	-0.4	-2
March	-2.3	-885	-3.9	-1,073	-2.2	-168	-9.4	-54
April	-1.7	-654	-0.7	-178	-0.7	-48	-1.4	-8
May	-1.3	-470	-0.3	-74	-1.4	-101	-0.7	-4
June	-2.2	-800	1.9	485	-3.8	-264	-1.4	-7
July	-1.7	-632	1.5	418	-2.2	-153	-3.8	-20
August	-1.9	-726	-0.2	-69	-2.5	-171	-0.5	-3
September	-1.5	-550	-1.4	-390	-1.4	-90	-4.8	-25
October	-1.8	-621	-4.5	-1,202	-3.5	-224	-9.8	-47
November	-3.1	-1,042	-2.1	-499	-2.6	-160	-5.1	-22
YTD	-18.6	-7,053	-12.7	-3,499	-19.0	-1,396	-31.5	-177

Source: EPFR Global

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For additional charts and data on flow trends, please refer to the Fund Flows slide on tab 3.01 to the attached Excel Chartbook.

Chartbook access

To view the Excel Chartbook, which includes a variety of data, tables, and charts focused primarily on returns, markets characteristics, and supply and demand, among other topics, please refer to our Global Convertibles Chartbook.

Abbreviations

- ADR: American depository receipt
- AI: Artificial intelligence
- AUM: Assets under management
- CB: Convertible bond
- CFO: Chief financial officer
- CPI: Consumer Price Index
- ETF: Exchange-traded fund
- FOMC: Federal Open Market Committee
- GFC: Global Financial Crisis
- HF: Hedge fund
- HY: High yield
- IG: Investment grade
- OAS: Option adjusted spread
- USD: US Dollar
- YTD: Year-to-date

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