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Behind the J-Curve

Tracking recent vintage performance and cash flow patterns in PE

PitchBook is a Morningstar company providing the most comprehensive, most accurate, and hard-to-find data for professionals doing business in the private markets.

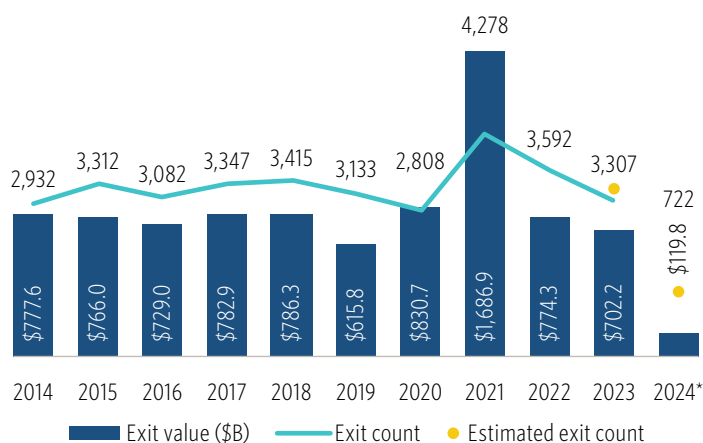
Key takeaways

1. The impacts of higher interest rates on exit conditions have filtered through to private market performance, putting immense strain on fund cash flows. This note investigates which segments of PE have been hit hardest by macroeconomic and exit difficulties by comparing how the J-curves of recent vintages are tracking against historical J-curves. We examine the J-curves through the lenses of buyout versus growth/expansion strategies, various fund sizes, and specialists versus generalists.
2. Generally speaking, 2016 vintage funds across different PE segments are performing well, boosted by the fact that this cohort of funds made investments before the extravagant valuations of 2021. Vintages beyond 2016 are showing varied performance depending on the segment and how much exposure these funds had to overvalued 2021 assets during their investment periods.
3. While specialist funds have tended to reach net cash flow positive values more quickly than generalist funds historically, current distributions as a percentage of NAV flip that narrative on its head, with generalist funds returning 16.1% and specialist funds returning just 9.8% through 2023. Exits have slowed for healthcare and IT buyout funds in particular.

Introduction: Falling behind

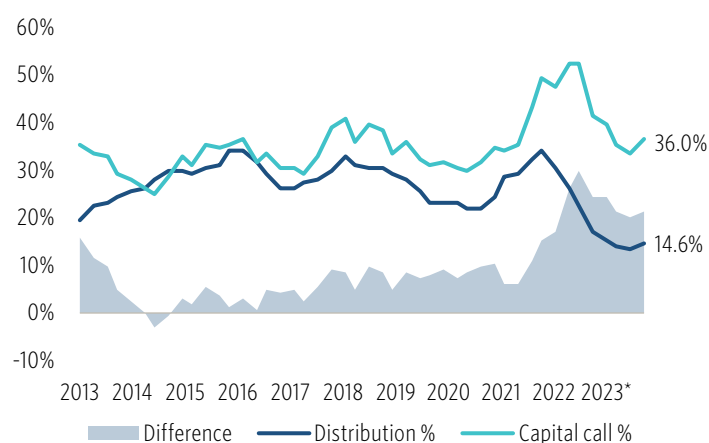
Following the COVID-19 pandemic, PE exit and deal activity skyrocketed in 2021, as GPs got to work simultaneously calling down capital to deploy upon pent-up investment opportunities and distributing record-breaking returns to LPs. PE deal values surged to \$2.2 trillion across more than 20,000 deals as compared to 2020's \$1.1 trillion generated by roughly 13,000.¹ Exit values soared from \$830.7 billion in 2020 to \$1.7 trillion in 2021, a YoY increase of 104.6%.

Global PE exit activity



Source: PitchBook • Geography: Global • *As of March 31, 2024

Aggregated PE distribution vs. capital call rates



Source: PitchBook • Geography: Global • *As of December 31, 2023

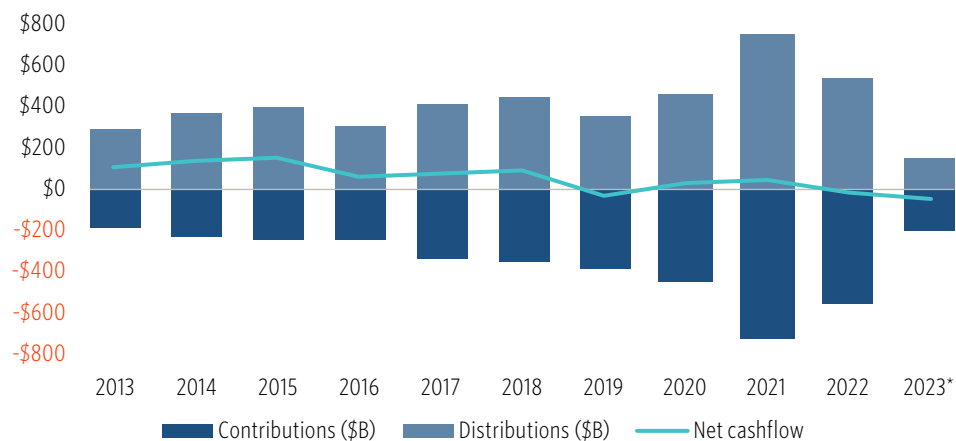
This unparalleled exit activity facilitated increases in 12-month distributions as a percentage of NAV for PE, culminating in a distribution rate of 33.7% in 2021, much higher than the historical average distribution of 24.4%.² However, this spike did not result in a substantial payout of distributions to paid-in capital (DPI) back to the LPs of PE funds of recent vintages. To take advantage of the 2021 dealmaking frenzy, GPs ramped up their capital call activity, withdrawing capital from LPs at a much faster rate than was typical. The 12-month capital calls as a percentage of dry powder in 2021 came to 48.8%,³ a margin 14.1% higher than historical averages. As a result of these dynamics, although nominal net cash flows were marginally positive through 2021, they have been negative since the music stopped in 2022.

1: "Global PE First Look," PitchBook, April 2, 2024.

2: Historical averages are based on a Q4 2006 to Q4 2023 timeline.

3: As discussed in the PitchBook analyst note [Surfing Turbulent Cash Flow Waves: Analyzing cash flow patterns across asset classes](#), capital calls are pooled over rolling 12-month periods and taken as a percentage of aggregate dry powder at the beginning of the respective horizon. Distributions are similarly pooled and compared against aggregate NAVs. These calculations provide the pace of cash flow occurring relative to the available source from which capital calls and distributions are drawn, enabling us to compare those amounts to create a net cash flow percentage. Even though nominal NAV is often much larger than outstanding dry powder, equal weighting the distribution and capital call percentages provides a consistent metric for historical comparison that is less affected by the maturation of private markets. These figures tell us how much GPs have called down and distributed back to a hypothetical LP that has invested in funds in a given strategy with \$1 in uncalled commitments and \$1 in NAV.

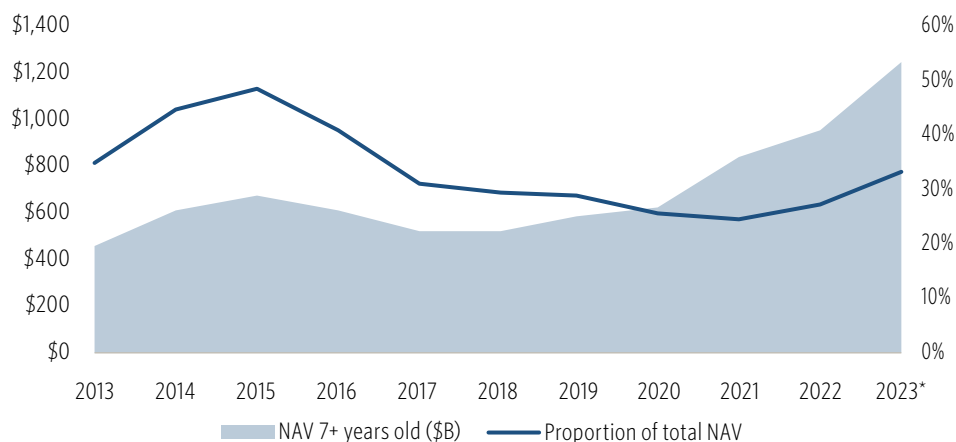
PE cash flows (\$B) by year



Source: PitchBook • Geography: Global • *As of June 30, 2023

As such, PE funds of recent vintages have fallen behind the J-curve—that is, are on track to be much slower to return capital to LPs than those LPs had underwritten. The stalled exit environment means that roughly one-third of NAV currently trapped in PE funds—or around \$1.2 trillion—is now more than seven years old as of Q2 2023. In 2021, this figure was \$838.3 billion, showing an increase of 43.1% in just 18 months.

NAV 7+ years old (\$B) held in PE funds



Source: PitchBook • Geography: Global • *As of June 30, 2023

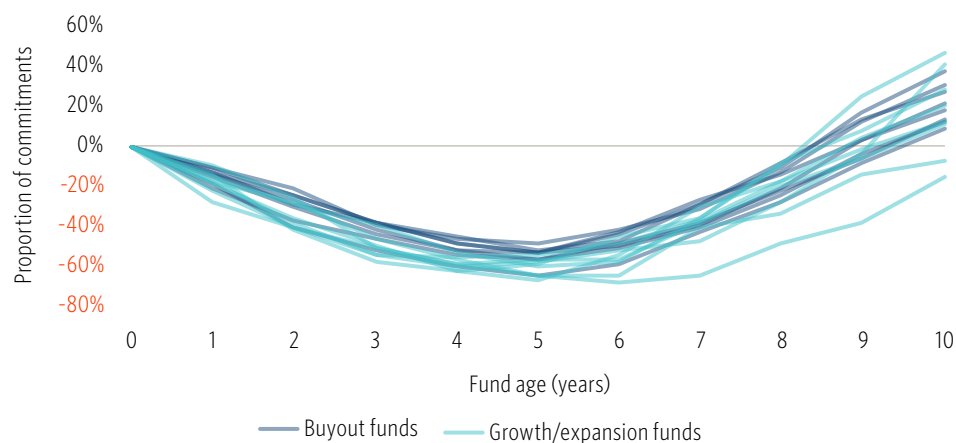
This note analyzes which segments of PE have been hit hardest by stagnant exit conditions by examining how recent vintage PE funds are performing against the J-curves of previous vintages. For the comparison, we include older vintages where we had at least 10 years of cash flow information and sufficient fund counts to ensure robustness of data. As such, we have included comparisons of recent vintages—those between 2016 and 2021—against funds launched from 2006 to 2013. We examined various breakouts of PE, including buyout and growth strategies, smaller to larger fund sizes, and specialists versus generalists.

Where are LPs seeing the liquidity crunch?

Buyout vs. growth/expansion

To explore J-curves across different PE segments, we looked at the average cash flows of funds included in each vintage within the respective segment, and then normalized the cash flow curves by aligning all funds to the same starting timeframe to plot the various vintage time series on the same x-axis. Doing so enabled us to inspect the average cash flow curve by vintage year, allowing us to directly compare how a \$1 commitment is drawn down and returned over time on average.

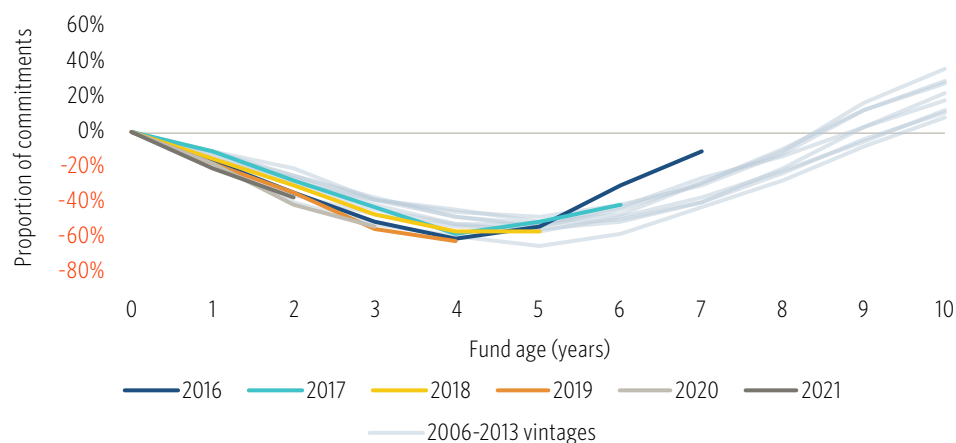
Buyout and growth/expansion funds (2006-2013)*



Source: PitchBook • Geography: Global • *As of September 30, 2023

The chart above illustrates the paths that 2006 to 2013 vintage buyout and growth/expansion (growth) funds forged on their way to net cash flow positive values. Except for two growth vintages—2006 and 2008—there is not much discernible difference in J-curve performance between the strategies. Both strategies have tended to reach net cash flows within a similar time frame—between year eight and just beyond year nine. It is interesting to note that the two best-performing vintages—those that reached the highest positive values by year 10—were the growth 2009 and 2010 vintages, which likely managed to purchase assets at the trough of the GFC at tremendous discounts, engage in operational improvements, and exit these assets before the perplexing market conditions that arose through and beyond the pandemic.

Recent buyout funds vs. 2006-2013 vintages*



Source: PitchBook • Geography: Global • *As of September 30, 2023

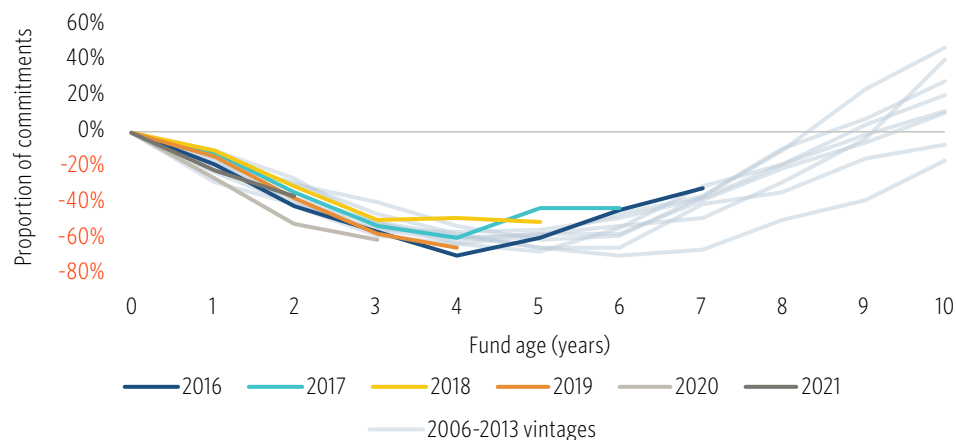
In comparing the most recent buyout fund vintages to previous ones, vintages 2016, 2017, 2018, and 2021 are traveling within the bounds set by the 2006 to 2013 vintage cohort. In fact, 2016 is trending far above even the 2013 vintage, the best performer of the older cohort. Despite the difficult exit environment through 2022 and 2023, it appears that this vintage has been able to generate impressive distributions. This offers a case study of how entry points can matter significantly in investing. Funds of the 2016 and 2017 vintages had the advantage of purchasing assets and companies at much more moderate valuations during their investment periods than the exorbitant valuations seen between 2020 and 2021. This was undoubtedly an important driver of these funds' ability to generate exit opportunities.

However, 2016's current outperformance could also be a result of having exited the most profitable or promising companies first. Depending on the quality of what is remaining in the 2016 vintages' portfolios, there may be some softening in the steepness of the upward curve between years seven and eight or beyond unless these funds choose to generate exits through the use of [continuation funds](#). Many private market players are exploring continuation funds as a way to provide distributions to existing LPs, facilitate exits from aging funds, restart the clock for metrics such as IRR for certain companies, and create more time for assets that may return heftily in better exit conditions. Along similar lines, fund managers are increasingly looking into structured liquidity solutions, such as [NAV loans](#) or preferred equity, to stabilize and bolster their remaining assets so that when exit markets do open, these assets will be in strong positions to return distributions. A recent example of a fund manager considering such creative liquidity solutions is Blackstone, which is weighing the option of borrowing \$1 billion through a NAV loan based against its \$18.0 billion 2016 vintage Blackstone Capital Partners VII.⁴

4: "Blackstone Plans to Borrow \$1 Billion Against Its Own Investments to Free Up Cash," Bloomberg, Allison McNeely and Dawn Lim, April 9, 2024.

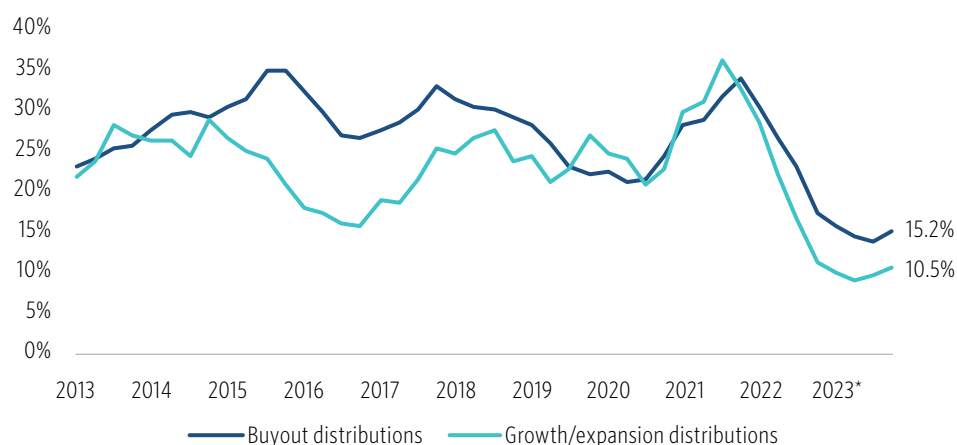
Buyout funds of vintages 2019 and 2020 are traveling slightly outside the curves of 2006, the buyout vintage that took the longest to reach cash flow positive values. These vintages have been hit with the triple whammy of the pandemic occurring early on in their fund lives, spending the first or second year of their investment periods investing in companies at soaring 2021 valuations, followed by the interest-rate-hike cycle during their respective fourth and fifth years, which has tested the validity of those valuations.

Recent growth/expansion funds vs. 2006-2013 vintages*



While the most recent growth vintages are generally traveling within the paths of previous vintages—except for 2020, which is likely suffering for similar reasons outlined above—vintages 2017 and 2018 are behaving unusually. All vintages outside of 2017 and 2018 follow the pattern of only traveling upward after reaching their respective troughs. In contrast, 2017's J-curve remains at the same level between years five and six, while 2018's rose only slightly between years three and four before dipping below year three's value in year five. Examining the strategy's distribution rates hints at why the 2017 and 2018 J-curves were interrupted. Growth distributions as a percentage of NAV fell to 10.5% in 2023, well below its historical average of 20.3%, corresponding with the inertia seen in the two vintages. Growth distributions were hit harder than buyout distributions due to the nature of growth investments. Because these funds target high-growth companies that may not yet have reached profitability, the interest rate shock had a major widening effect on bid-ask spreads, likely deterring growth funds from selling their minority stakes in assets at discounted prices. In this way, the strategy resembles VC, which also suffered more heavily than strategies targeting more mature companies.

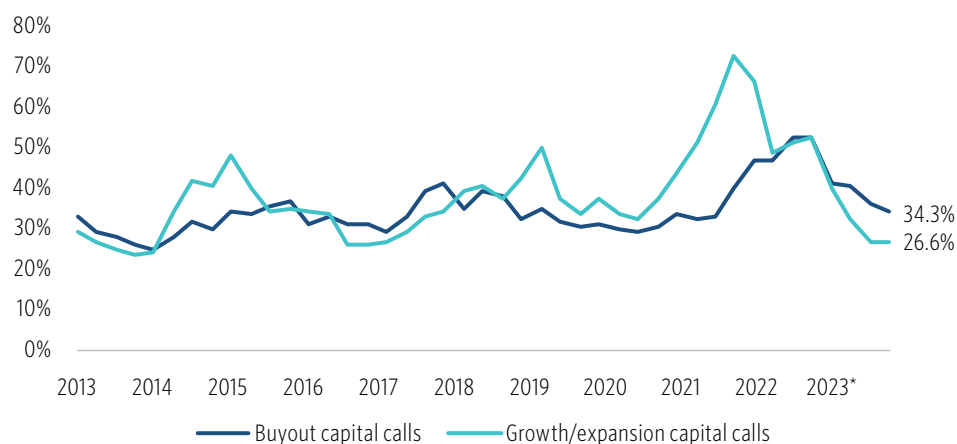
12-month distribution yield as a percentage of NAV (buyout vs. growth/expansion)



Source: PitchBook • Geography: Global • *As of December 31, 2023

It is worth noting the divergence between the 2020 and 2021 J-curves thus far, despite only being one year apart. As dealmaking accelerated in 2021, growth funds were calling down capital at a 72.7% rate to get investments done, magnitudes higher than the historical average of 37.6%. Right at the beginning of their investment periods, 2020 vintaged funds got caught up in the dealmaking frenzy, leading to the steepest slope in year one since 2010. On the other hand, 2021 vintages may have had less exposure to the feverish dealmaking environment, depending on when they launched during the year, and are thus tracking more similarly to the older fund cohort.

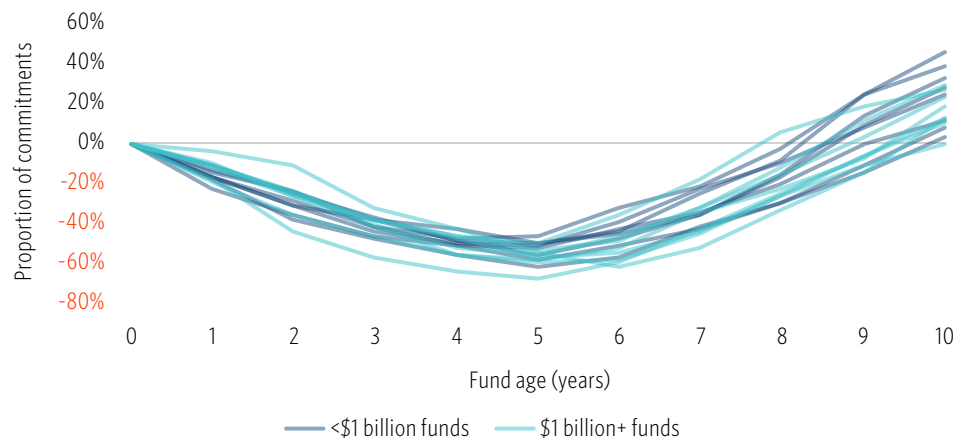
12-month capital call as a percentage of dry powder (buyout vs. growth/expansion)



Source: PitchBook • Geography: Global • *As of December 31, 2023

Fund sizes

Funds under \$1 billion vs. \$1 billion+ funds (2006-2013)*

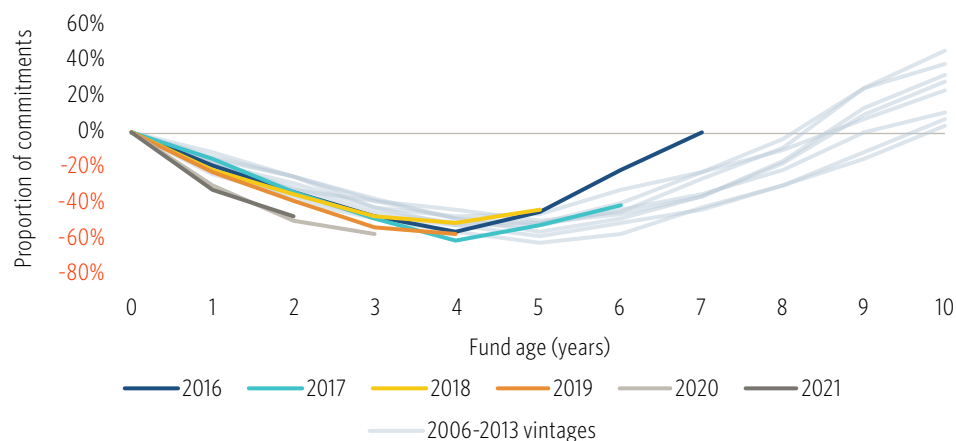


Source: PitchBook • Geography: Global • *As of September 30, 2023

The next breakout of PE we wanted to analyze was fund sizes, as megafunds perform and behave very differently from middle-market or small funds. To ensure sufficient cash flow and fund count data for the J-curve analysis, we split the PE fund universe between those over and under \$1 billion. Because distribution rates and capital call rates are not vintage-specific, we had adequate data to separate fund sizes more granularly into five buckets: funds under \$250 million, between \$250 and \$500 million, between \$500 million and \$1 billion, between \$1 billion and \$3 billion, and funds over \$3 billion.

As was the case with buyout and growth funds, there is no clear distinction between the performance of funds above or below the \$1 billion mark in the 2006 to 2013 cohort. While the 2010 \$1 billion+ fund vintage did not reach a net cash flow positive value by year 10, the rest of the vintages in both strategies did. Interestingly, the 2011 \$1 billion+ vintage reached cash flow positivity the quickest but did not reach the highest cash flow value by year 10. The top three performing vintages by year 10 were the 2009, 2010, and 2013 funds under \$1 billion.

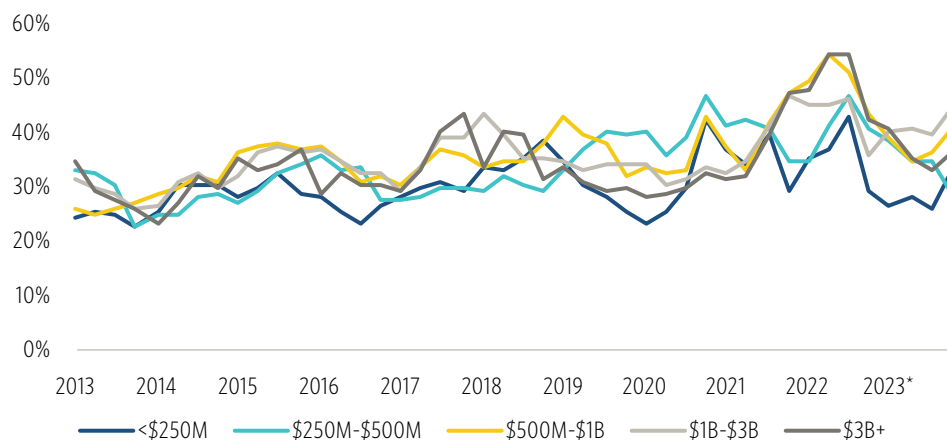
Recent funds under \$1 billion vs 2006-2013 vintages*



Source: PitchBook • Geography: Global • *As of September 30, 2023

Comparing recent vintages below \$1 billion to older ones, we see that similar dynamics are at play with this strategy as with buyout funds. The 2016 vintage has made distributions faster than any vintage in the 2006-2013 cohort, reaching a net cash flow positive between years six and seven. As mentioned, should the remaining assets in the 2016 vintage portfolios be high-quality, it will be a strong contender for a top-performing vintage—if not the best performer. Vintages 2017 and 2018 are progressing within the confines of paths of the older vintage cohort, and while the path of the 2019 vintage is slightly outside these confines, it is not doing so to the same degree that 2021 and 2022 are.

12-month capital call as a percentage of dry powder by buyout fund size



Source: PitchBook • Geography: Global • *As of December 31, 2023

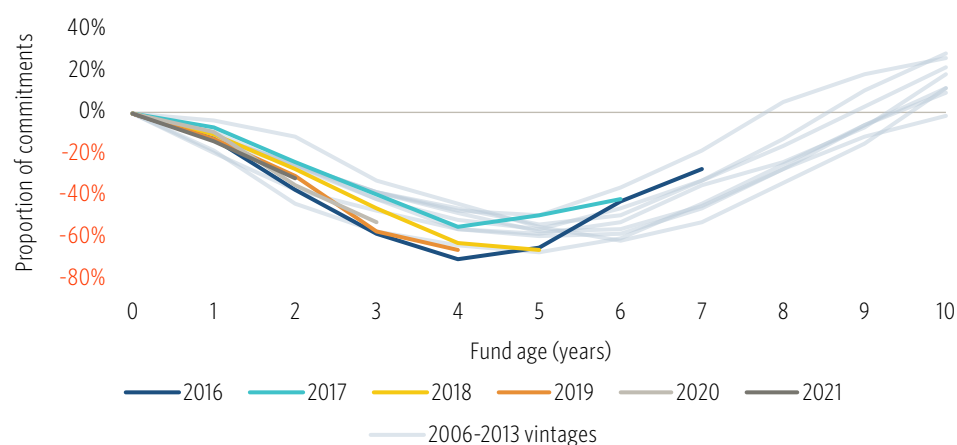
Capital call rates across buyout fund sizes*

	<\$250M	\$250M-\$500M	\$500M-\$1B	\$1B-\$3B	\$3B+
2023 capital call rate	33.1%	28.9%	41.1%	44.5%	36.4%
Historical average	29.9%	33.7%	35.6%	35.8%	34.4%

Source: PitchBook • Geography: Global • *As of December 31, 2023

As demonstrated by the charts above, although capital calls as a proportion of aggregate dry powder are down from their peaks, for each fund grouping, excluding the \$250 million to \$500 million bracket, capital calls in 2023 were trending up and were higher than each bracket's respective historical average between a range of 2.0% to 8.7%. Even with regards to the \$250 million to \$500 million bracket, the most recent capital call rate was below its historical average by just 4.8%, indicating that deal activity across fund sizes is generally strong. This is echoed by the [Q1 2024 US PE Breakdown](#), which demonstrates 2023 deal value and counts are above all years before 2021, pointing to healthy levels of dealmaking in the largest regional PE market. It is thus not surprising that the 2020 and 2021 vintages are following steeper downward curves than previous vintages, as funds both under and above \$1 billion continue to actively deploy capital for investments and add-on acquisitions.

Recent \$1 billion+ funds vs 2006-2013 vintages*



Source: PitchBook • Geography: Global • *As of September 30, 2023

For the reasons described above, vintages 2018, 2019, and 2020 in the over \$1 billion category are following deeper curves than most of the cohort of older vintages, except for 2006, which forged a similarly deep path. Despite the depths the 2006 vintage sank to, it managed to reach net positive cash flows not too long after the nine-year mark. There is potential for more recent vintages to do the same, especially if the exit environment recovers.

Distribution rates across buyout fund sizes*

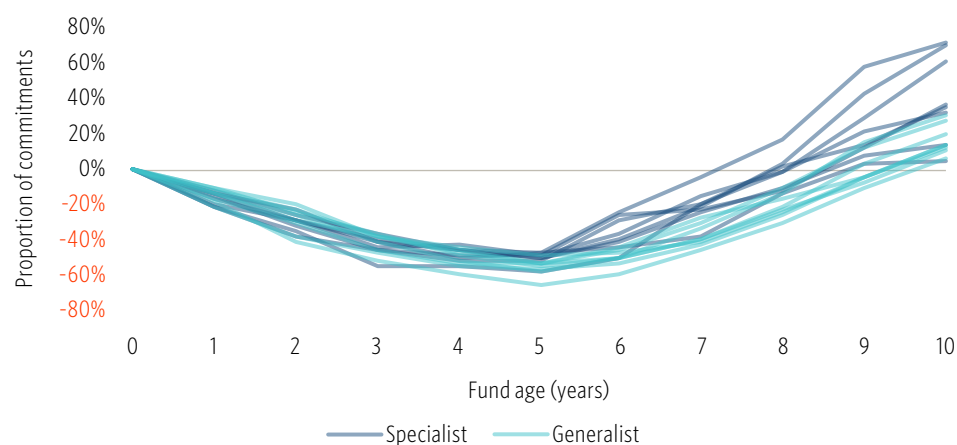
	<\$250M	\$250M-\$500M	\$500M-\$1B	\$1B-\$3B	\$3B+
2023 distribution rate	16.6%	12.5%	15.7%	13.9%	15.4%
Historical average	21.4%	25.5%	24.8%	24.8%	24.9%

Source: PitchBook • Geography: Global • *As of December 31, 2023

Concerning distribution rates, all size brackets returned less through 2023 than their historical averages. Curiously, despite having the lowest historical average of 21.4%, the smallest fund size group of below \$250 million managed to return the highest distributions of 16.6% through the most recent period. This is driven by the fact that larger sponsors, which previously targeted acquisitions along the deal-size spectrum, are now feeling the squeeze of costly leverage and may be struggling to exit assets from their own portfolios, making them reluctant to spend capital on companies that require significant investments to scale them up for the next buyer. According to data from the [Q1 2024 US PE Breakdown](#), US sponsor-to-sponsor exit values and counts have declined acutely, falling from 2021 highs of \$289.3 billion across 955 exits to just \$109.9 billion through 464 exits, respectively. Where sponsor-to-sponsor exits are happening, larger sponsors are participating in smaller deal-size acquisitions. The median US sponsor acquisition value dropped from \$597.1 million in 2021 to \$375.0 million in 2023. Although the distribution rate data is based on a global scale, the trends within the US market likely represent trends occurring within other regions.

Specialists vs. generalists⁵

Generalist vs. specialist funds (2006-2013)*

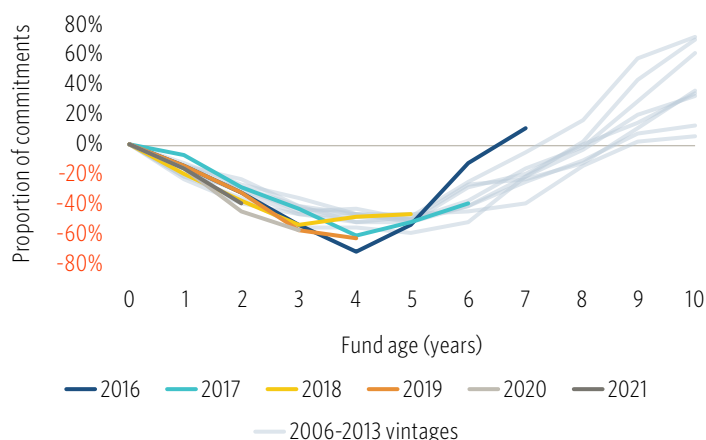


Source: PitchBook • Geography: Global • *As of September 30, 2023

⁵: We apply our investor-style summary methodologies to fund families to create these "specialist" and "generalist" tags. For more information, read the PitchBook analyst note [Introduction to PitchBook Private Manager Style](#).

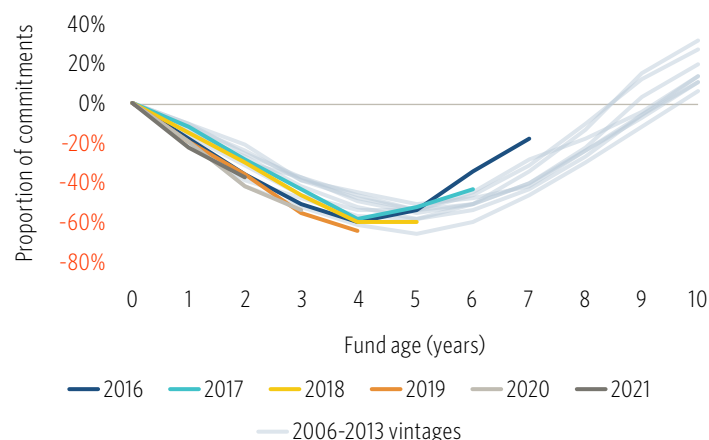
In contrast to buyout versus growth funds and below versus above \$1 billion fund comparisons, where there was no clear distinction in J-curve performance in the 2006 to 2013 cohort, specialists and generalists do demonstrate a distinction in the time it takes to reach positive net cash flows. Generalist vintages achieved positive cash flows between years eight and 10, while specialists tended to reach them earlier, between years seven and nine. However, there appears to be more variance in specialists' performance. While the specialist strategy encompasses some of the best-performing vintages showcased by 2009, 2012, and 2013, the J-curves of two vintages—2007 and 2010—flatten considerably once hitting net cash flows, with 2010 performing below 2006, the worst-performing vintage of generalist funds. Although the curves of generalist funds hit positive net cash flows more slowly, they also progress more uniformly upward beyond the points of cash flow positivity.

Recent specialist funds vs 2006-2013 vintages*



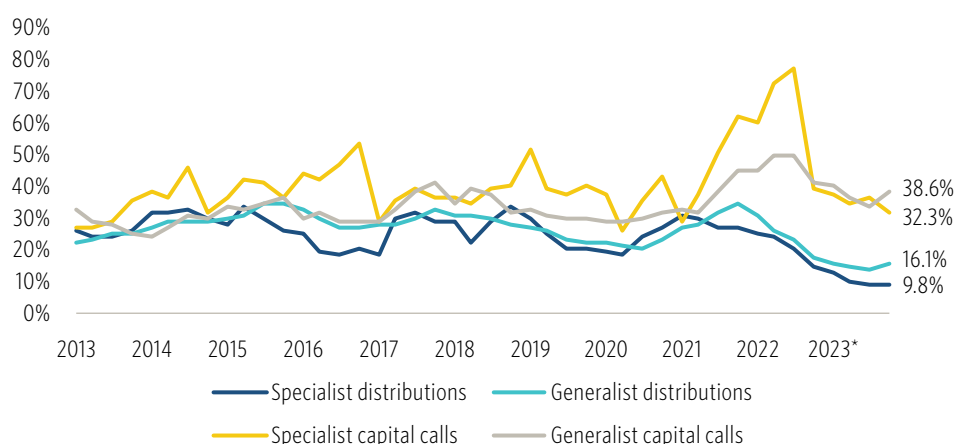
Source: PitchBook • Geography: Global • *As of September 30, 2023

Recent generalist funds vs 2006-2013 vintages*



Source: PitchBook • Geography: Global • *As of September 30, 2023

Distribution vs. capital call rates (specialists vs. generalists)



Source: PitchBook • Geography: Global • *As of December 31, 2023

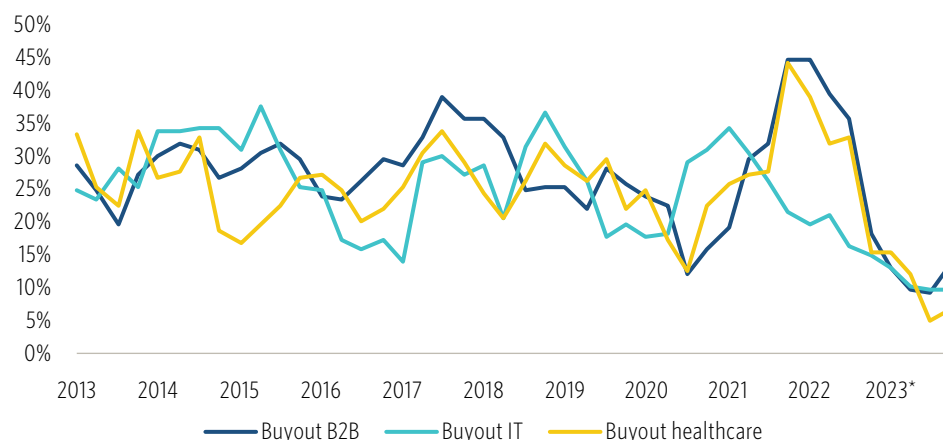
Through 2023, capital call rates among specialists and generalists remained at similar levels. Distributions, however, were markedly different, with generalists returning 16.1%—higher than aggregated PE distributions of 14.6%—and specialists distributing just 9.8%. While generalists have likely benefited from having diversified portfolios of assets that are less impacted by the closed IPO market or decline in large M&A transactions, there are several factors affecting specialist funds given the industries on which these funds have tended to focus.

Distribution rates across buyout specialist sectors*

	Buyout B2B	Buyout IT	Buyout healthcare
2023 distribution rate	13.9%	9.7%	6.9%
Historical average	25.7%	22.3%	21.3%

Source: PitchBook • Geography: Global • *As of December 31, 2023

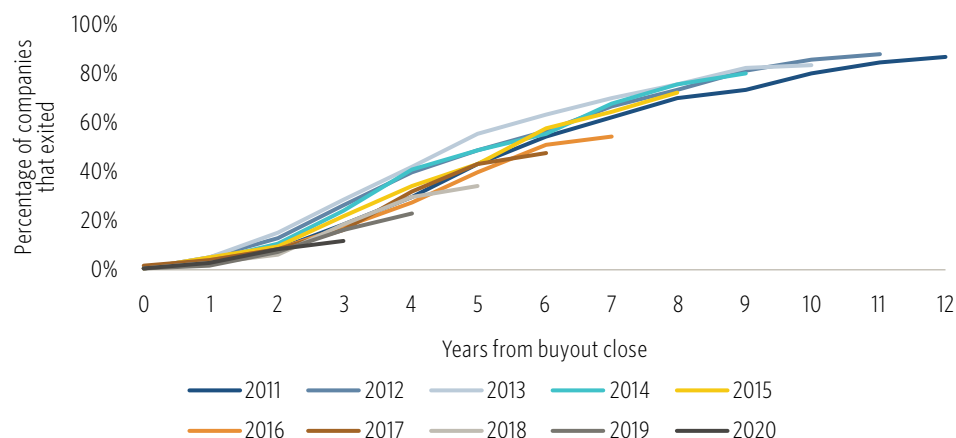
12-month distribution yield as a percentage of NAV by specialist sector



Source: PitchBook • Geography: Global • *As of December 31, 2023

Although all sectors that compose our specialist data set are distributing capital well below their historical averages, it is evident that the IT and healthcare sectors have been the heaviest weights on overall specialist fund distributions. To visualize how exits have been faring in these sectors, we compiled the number of IT and healthcare companies that underwent LBOs each year between 2011 and 2022 and measured the percentage of companies that have been exited between the time at which they were bought out through 2023. The healthcare sector most clearly showed how exits have been slowing over recent years.

Healthcare company inventory*

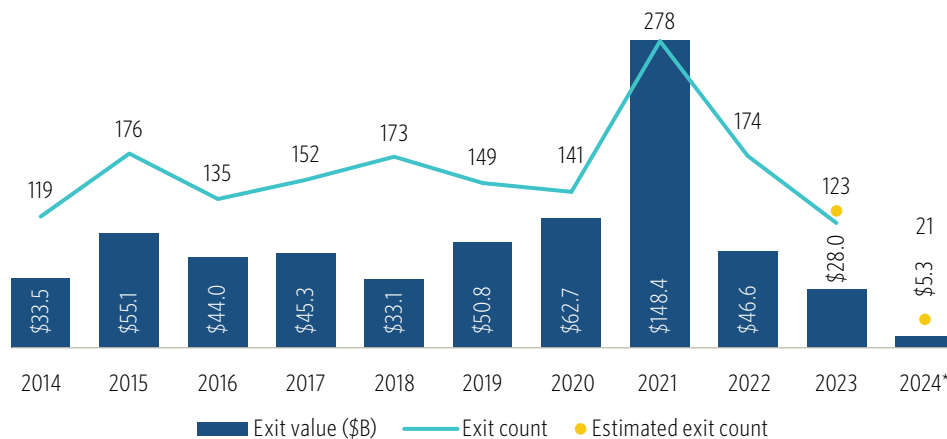


Source: PitchBook • Geography: Global • *As of December 31, 2023

Starting with the 2016 vintage, we see the beginnings of a significant bifurcation forming between exit rates of the older and more recent vintages. Through the first six years of 2016's path, the vintage seemed to be keeping pace with older vintages, although its trendline had not been rising as sharply and fell slightly below the 2011 curve. However, between years six and seven, the slope of progress flattened considerably, as is reflected by the corresponding percentage values: The percentage of companies that had been exited only jumped from 51.2% in year six to 54.7% in year seven. In contrast, previous vintages had made leaps between 6.7% and 12.1% between year six and seven. A similar dynamic is observable in every vintage following 2016.

Rising interest rates and the difficult exit environment partially explain this divergence in performance. However, there are several additional factors at play specific to the healthcare sector. As discussed in PitchBook's [Q4 2023 Healthcare Services Report](#), from the 2010s through 2021, PE healthcare deal activity had been on a steady upward trajectory. Many investors thought healthcare was an attractive play due to the essential nature of medical services. As such, the sector became supersaturated by market participants, including PE managers, that relied on significant amounts of leverage to buy healthcare platform companies—at a time when interest rates were low and the debt manageable—and spent significant capital to make add-on acquisitions to these platform companies. These roll-ups resulted in massive portfolio companies that could exit through IPOs or strategic and corporate sales at incredibly high entry valuations for the buyer. Although many point to 2021 as the year in which private market valuations catapulted and peaked, those in the healthcare space had been seeing exorbitant valuations much earlier. 2018 in particular saw several high-profile and high-priced strategic acquisitions, some reaching close to 20 to 30 times EBITDA.

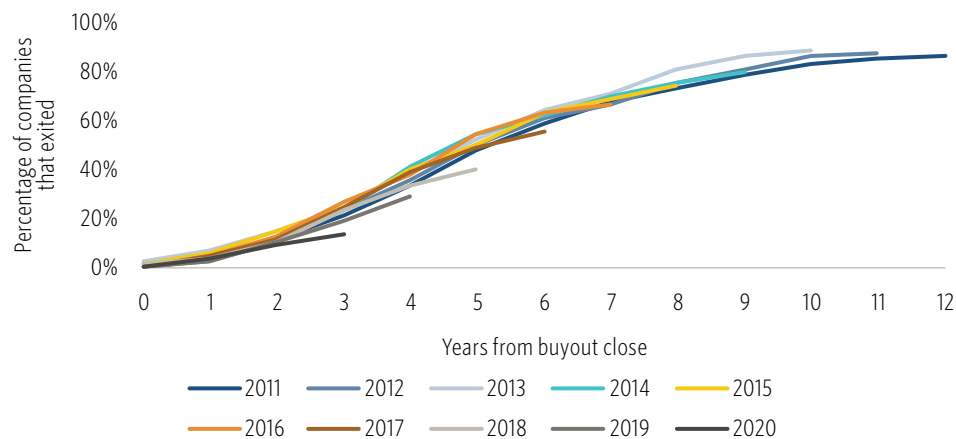
US PE healthcare exit activity



Source: PitchBook • Geography: US • *As of March 31, 2024

While the pandemic affected many business sectors, it slammed the healthcare sector. A significant portion of the labor force that was the backbone of these businesses left, exacerbating hiring costs and staffing shortages and putting pressure on their ability to render services. 2021 seemed to promise a return to relative normalcy until the interest-rate-hike cycle threw a subsequent wrench into the fray. Suddenly, fund managers that had overindulged in using debt to finance these massive portfolio companies were stuck with rising interest payments. Adding to the pain was the lack of exit routes. The number of strategic and corporate players that can accommodate companies of such size in current market conditions are few and far between. Conducting large healthcare acquisitions has also fallen out of favor due to associated PR risks, as public opinion has soured on the privatization of healthcare. Finally, although IPOs had also been an exit route for healthcare companies previously, it seems that the time still is not right for many of these companies to go public. In January 2024, KKR completed an IPO process for BrightSpring, which provides in-home and community care for patients that require professional care, but the share price fell short of expectations. Although a single disappointing IPO will not fully deter market players from the exit option, it did not inspire confidence.

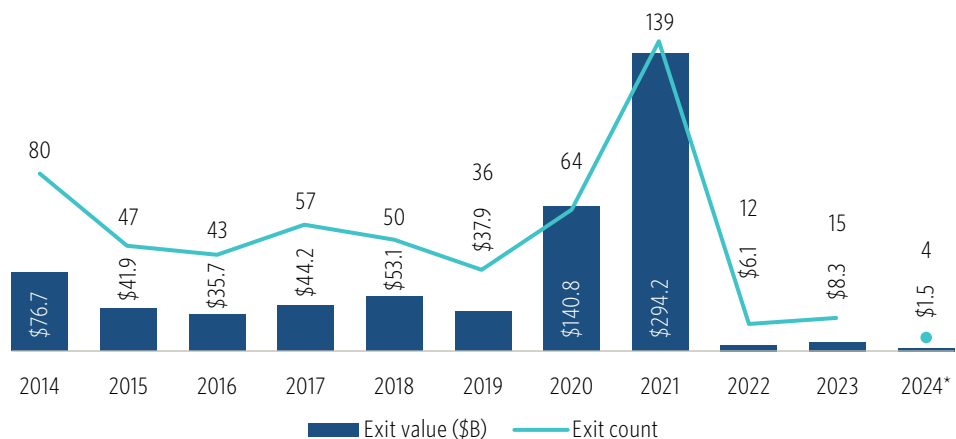
IT company inventory*



Source: PitchBook • Geography: Global • *As of December 31, 2023

IT company exits are also starting to decelerate compared to previous years, albeit to a lesser degree than healthcare company exits. Companies acquired through LBOs in 2016 are generally keeping on track with older vintages, although there has been a flattening of exits between years four and five. The divergence that began to emerge last year stems from vintages 2017 and later. Through most of 2023, the IPO window—the cornerstone exit route for technology companies—remained shut. According to the [Q1 2024 US PE Breakdown](#), IPO exit value plummeted from \$294.2 billion across 139 public listings in 2021 to just \$8.3 billion across 15 in 2023.

US public listing PE exit activity



Source: PitchBook • Geography: US • *As of March 31, 2024

When might J-curves bounce back?

Across PE strategies, some pre-GFC vintage J-curves provide an ominous warning of what the combination of steep J-curves and long break-even times can look like. With that said, there have been instances in which certain vintages with steep J-curves have rebounded in time to reach positive cash flows by or before year 10. Fortunately, there is some hope on the horizon and reasons to believe that this latter case may occur for some of these more recent vintages. As public market valuations have rebounded, the IPO market has slowly but surely begun to open. Conditions are strong enough that there is growing optimism about the potential for the economy to undergo the coveted soft-landing scenario, which seemed nearly impossible around this time last year. US inflation has remained sticky, and it is still unclear whether the Federal Reserve will cut rates sometime in 2024 or hold off on doing so. On the other hand, the European Central Bank has signaled it will likely cut interest rates in June, so exit rates may start to recover in Europe. Paired with the liquidity solutions that have emerged, such as continuation funds, NAV loans, and preferred equity, overall, there is far less gloominess around market conditions compared to last year.

In due time we shall see whether recent vintages can make remarkable recoveries to get ahead of the curve rather than remaining behind it.